# 16 Channel PoE AI Network Video Recorder
# User Manual

**Version 1.0.0.**

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# Welcome

Thank you for purchasing a Helix NVR!

### Important Safeguards and Warnings

### Electrical Safety

Installation and operation should conform to your local electrical safety codes. The product must be grounded to reduce the risk of electric shock. We assume no liability or responsibility for any fires or electric shock caused by improper handling or installation.

### Transportation Security

Heavy stress, violent vibrations, and moisture are not allowed during transportation, storage, or installation.

### Installation

Always keep the device upright and handle it with care. Do not apply power to the device before completing the installation. Do not place objects on the NVR.

### Environment

The device should be installed in a cool, dry place away from direct sunlight, flammable materials, explosive substances, etc. This series product should be transported, stored, and used in the specified environments:

**Before operating, please read the following instructions carefully.**

Keep away from extremely hot places and sources of heat.
Avoid direct sunlight.
Keep away from extremely humid places.
Avoid any violent vibrations.
Do not put other devices on the top of the device.
Install it in a well-ventilated place; do not black the vents.

# Device Ports

### Device Ports

The ports and indicator LEDs may be different depending on the model of the NVR.

### Front Panel

| Port Name | Description |
|---|---|
| PWR Indicator | Power status indicator. When the NVR is on the indicator will be solid. When the NVR is off the indicator will be off. |
| HDD Indicator | Hard drive status indicator. This indicator flashes when data is being transmitted. |

| | |
|---|---|
| USB 2.0 | Supports a connection for a USB mouse or back up flash drive. |
| USB 2.0 | Supports a connection for a USB mouse or back up flash drive. |

### Rear Panel

| | Description |
|---|---|
| PoE Ports | Built-in switch on certain compatible devices.<br>For PoE series products, you can use this port to provide power to a PoE camera. |
|  | Supports RJ45 100Mbps self-adaptive network Ethernet port. |
| Audio | External audio in or audio out ports (may differ model to model). |
| VGA | VGA video output port. Outputs analog video signal. This connects to the monitor to view analog video. |
| HDMI | High-definition audio and video signal output port. |
|  | Power switch. Turn the NVR on or off. |
| Power Input | Power adapter input (Please refer to the specs sheet for your specific model for more details on power requirements.) |
| USB 2.0 | Supports a connection for a USB mouse or back up flash drive. |

# Hardware Setup

Before setting up the NVR, you may require the following items. These items may not be included with your NVR:

A computer monitor, or TV with either an HDMI or VGA input.
A power strip with room for additional power adapters (if needed).
A hard drive for storing video recordings.
A USB flash drive formatted to FAT 32 to import/export config or image files (if needed).

It is recommended to connect all components *before* mounting any of the cameras. This is to ensure all components are working properly before they are physically installed.

### Hard Drive Installation

**A hard drive must be installed to record or save *any* footage.** If no hard drive is installed, you can only view the cameras from the NVR. If a microSD card is installed in the camera, you can still view the recordings from the microSD card using the Helix Pro application and accessing the camera directly over the network, however, no recordings will be retained in the NVR if a hard drive is not installed.

To install your hard drive, you will need the following items:

A medium sized (regular) Phillips-head screwdriver - *not included.*
A hard drive - *not included.*
Hard drive fastening screws – *included.*

**Note**: **Before installing the hard drive, make sure the NVR is turned off and disconnected from power.**

1. Use a Phillips head screwdriver to remove the screws on the NVR to remove the cover if necessary.
2. Attach the hard drive screws to the hard drive (sold separately). Do not overtighten, only turn a max of two to three times.
3. Place the hard drive into the NVR in accordance with the installation holes or any brackets.
4. Turn the NVR upside down and tighten the hard drive screws firmly to the casing of the NVR if needed.
5. Connect the hard drive cabling to the hard drives to provide power and data to the hard drives
6. Put the cover back onto the NVR and secure it back onto the NVR.

**Setting Up the Cables**

The following instructions will show you how to set up the cables for the NVR, cameras, as well as a monitor or TV screen.

1. Connect a monitor or TV screen to your NVR. The NVR is compatible with any monitor or screen that uses a VGA or HDMI connection. For the purposes of this guide, we will use an HDMI connection. Take a HDMI cable and connect one end to the HDMI port on your monitor/screen and the other end to the HDMI port on the back panel of your NVR.
2. Connect an Ethernet cable to your router.
   Then, connect the other end of the cable to the Ethernet port on the back of the NVR.
3. Connect the cameras to the same network as the NVR ensuring the cameras are properly connected and powered via the network. Please note, if using a model with POE connections on the back, connect the POE cameras directly to the back of the NVR using an Ethernet cable.
4. Connect the NVR's power adapter into the power port on the back of the NVR.
5. Connect the other end of the power cable into a wall outlet or power strip to turn on the NVR. Some models may feature a power switch on the back which may need to be turned on to power the device.

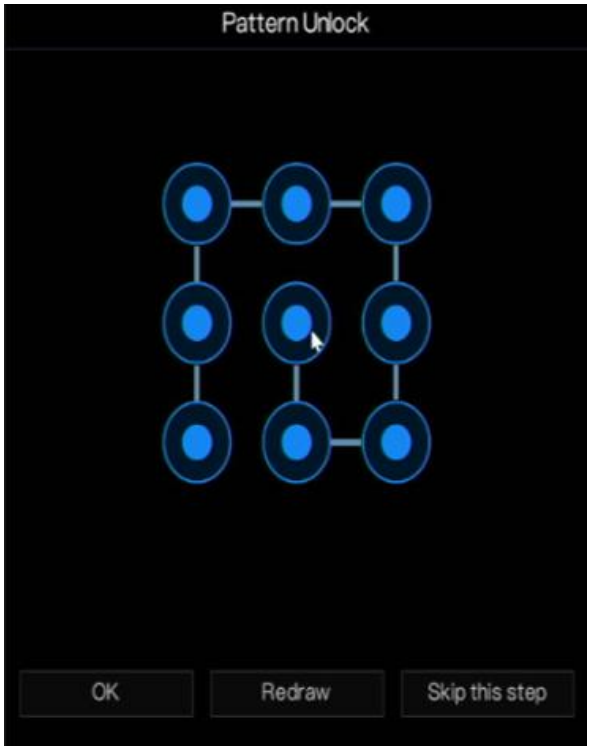
# NVR Activation

After applying power to the NVR, the system will turn on, allow the NVR to finish loading and the **Activation** screen to appear. Create a new admin password for your NVR. The password for your device should be between 8 and 32 characters. A combination of letters, numbers, and symbols are recommended when setting up your password. Click **OK**.

**Note: Please do not use special symbols like ' " ; : &**

### Pattern Unlock

This is an optional security measure for your device and is only available on the local user interface. To set an unlock pattern, use your mouse to draw a design that you will remember**.** Draw the pattern again to confirm. If you do not want to assign an unlock pattern, you can click '**Skip this step**' to skip the process.




If you have been assigned an unlock pattern, you will need to draw the pattern again to confirm your assigned unlock pattern. Click **OK** to continue.

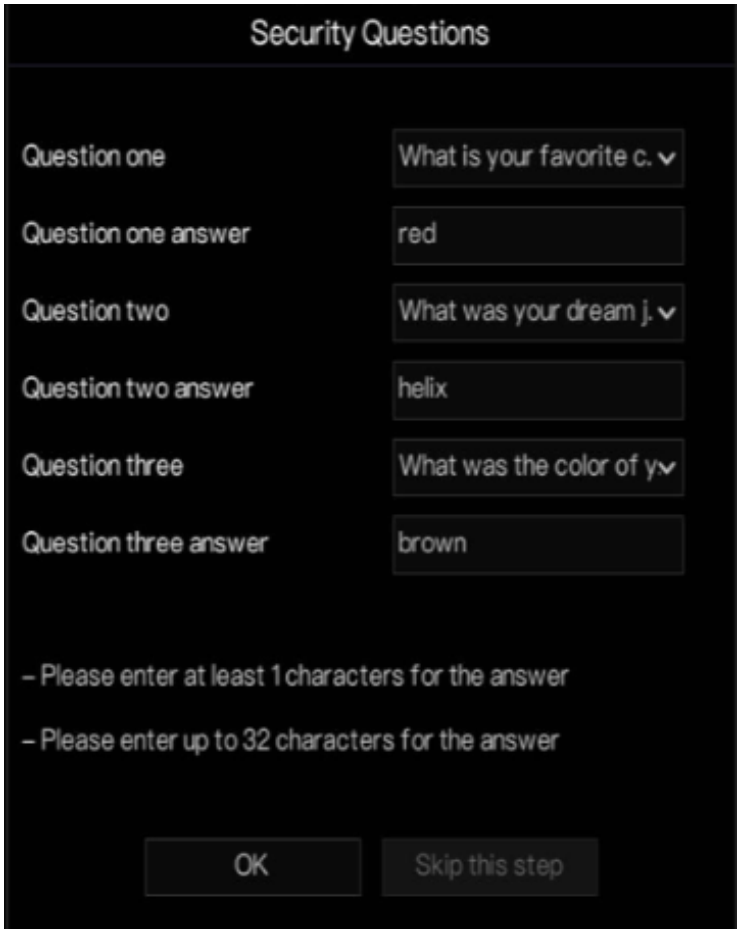
### Email For Password Recovery

If you would like to reset your password using your email, enter a valid email address in the **Email Address** field. The email address will be retained in the system and can be used to recover your password. Click **OK** to continue.

**Note:** If you do not want to use an email for password recovery, click **Skip this step**.

### Security Questions

As another means of recovering your password, you can apply security questions to your NVR. To add a question, select a question from the drop-down menus for each field and enter the answers to those questions in the answer fields. Click **OK** to continue.




**Note:** If you do not want to apply security questions, click **Skip this step**.

### Setup Wizard

The Startup Wizard allows you to set up any network, general info (date & time, time zone, DST), cameras, as well as manage any connected hard drives applied to the NVR.

### Network

By default, the NVR's network mode will be set to DHCP which means your network has automatically assigned an IP address to the NVR. For optimal performance it is highly recommended to set the device's IP to static to ensure the IP of the device does not change. To set the device to a static IP, click on the DHCP dropdown menu and select **Static**.

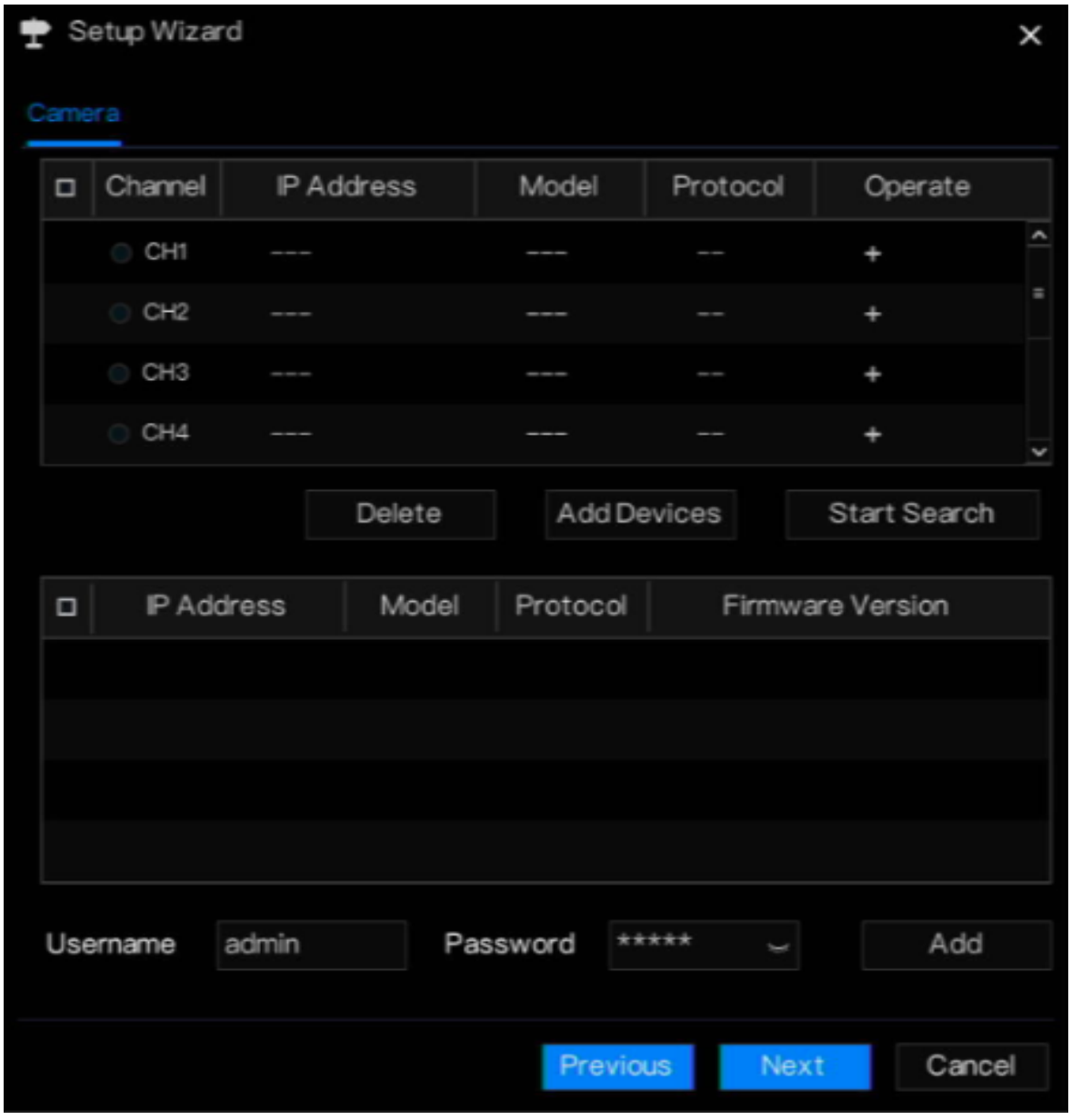
The NVR's IP address will be the address used to access your device using a web browser and use the web user interface. It is recommended to notate the IP address of your device if needed. Click **Next** to continue. Set the date, time, and any daylight-saving time (DST) details if needed, click **Next**.

### Camera

The next screen that appears is the **Camera** screen. This is where you can begin by adding cameras to the NVR. If the cameras are not directly connected to the PoE ports on the back of the NVR, please make

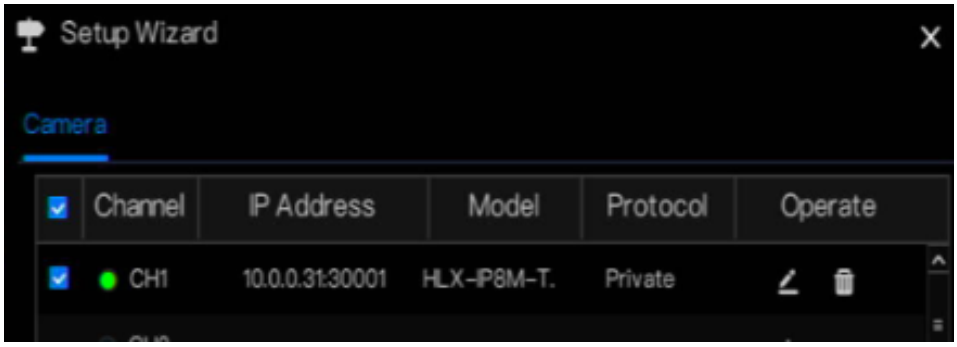
sure they are active and on the same network as the NVR before proceeding. The NVR can add third party cameras; however, most will use a separate protocol such as ONVIF with limited features.

To begin adding a device, click on **Start Search** to allow the NVR to scan for connected devices on your network. A list of applicable devices will be displayed, select your devices by clicking on the checkbox next to them and click **Add**.




If the status of your camera is red, it indicates the camera is not properly connected to the NVR. This could be because the password for the camera is not entered properly in the system. To modify the password for your camera, click on the edit icon (pencil) located in the **Operate** column next to the device.

Select the **Password** field and enter the password for your camera. Once the password has been entered, click **OK**. The status indicator will turn green, indicating the camera has been properly added and ready for use within the system.




Once all devices have been properly added to the system, click on **Next** to continue.

### HDD Manage

The **HDD Manage** menu allows you to view the status or format of any hard drives that are connected inside the NVR.

To format a hard drive, select a hard drive from the list and click **Format**. Click **OK** to allow the NVR to format the hard drive. Please note, all data on the hard drive will be lost after formatting. Click **OK** once formatting is complete. Click **Next** to continue.

### P2P

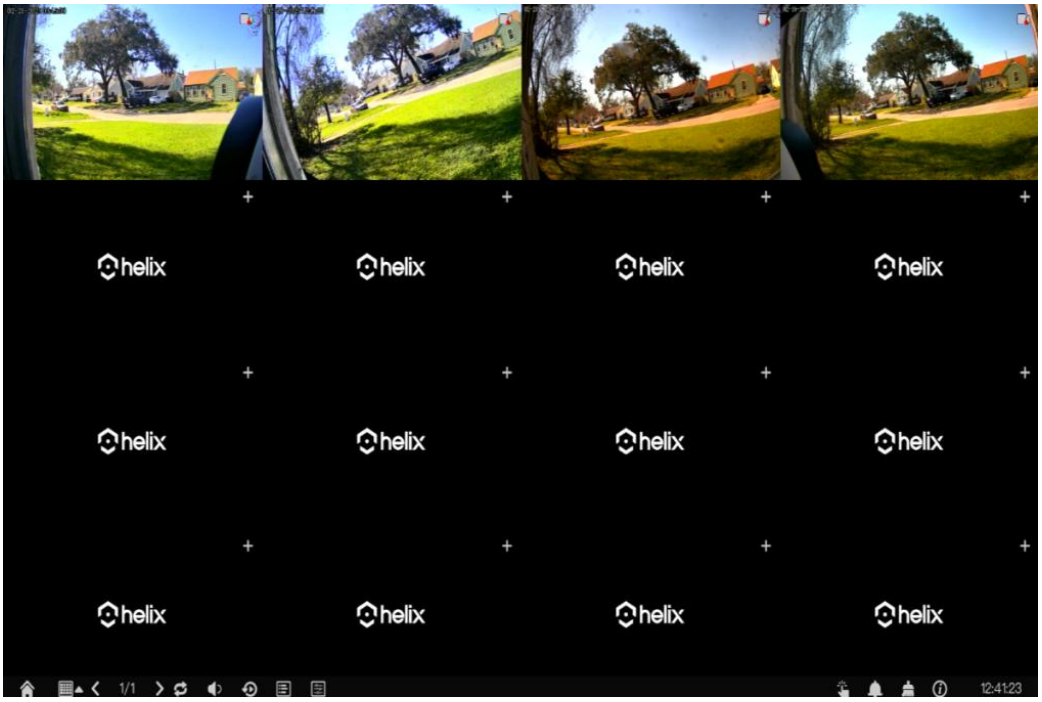
The P2P menu allows you to connect your NVR to your mobile device using the Helix mobile app. The P2P status should read as “Online”. The Helix mobile app is available on both the Google Play and App Store. When adding the device into the app, scan the provided QR code in this menu and follow the instructions in the mobile app. Click the **Next** to continue.

### Resolution

The resolution menu allows you to set the video output resolution of the NVR, from the device to the monitor. By default, this will be set to 1080p, however, it can be modified if needed. If you do not want the setup wizard to appear after restarting the NVR, click the checkbox next to the applicable option. Once done, click **Finish** to complete the setup wizard.

### Video Wall

Please note the displayed window amount may vary depending on how many channels your NVR can support. The following figure is for reference only.

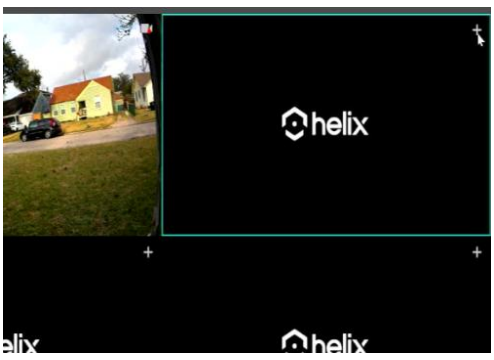



Hover your mouse on the bottom portion of the interface to view additional settings:

| | | | | | |
|---|---|---|---|---|---|
| **1** | | Recording status | **3** | | Add Camera |
| **2** | | Motion detection | **4** | | Modify a channel (if disconnected) |
| **5** | | Playback, Sys/Power | **6** | | Layout (Split Screen) |
| **7** | 1/1 | Scroll channels | **8** | | Auto Sequence |
| **9** | | Audio output volume | **10** | | Playback |
| **11** | | Channel Information | **12** | | Live View Strategy |
| **13** | | Manual Alarm | **14** | | Event List |
| **15** | | Clear Alarm | **16** | | Information |

**Recording Status:** Displays the current recording status of the NVR, video is being recorded.
**Add Camera:** Manually add a camera to a selected channel.

### Manually Add a Camera



Make sure the Helix camera is on the same network as the NVR or connected to the POE switch on the back of the NVR and click the "+" icon. Using the Helix IP config tool, or Helix mobile app, locate the IP address of the camera, select the "Private" protocol and enter the username and password for the camera. Click **OK** to manually add it into the NVR.

**Motion Detection:** Icon is displayed when motion is detected on a specific channel.
**Modify:** Edit disconnected camera settings.
**Home:** Provides quick access to the playback, system, and power settings of the NVR.
**Layout:** Customize or modify the channel layout

- 1 x 1: Full screen view of one selected channel.
- 2 x 2: Provides a 4-channel window layout.
- 1 x 7: Provides an 8-channel view with channel 1 beginning the larger view.
- 3 x 3: The default view provides a list of all channels in a 3-column view.
- + : Click this icon to customize and create a channel layout tour.

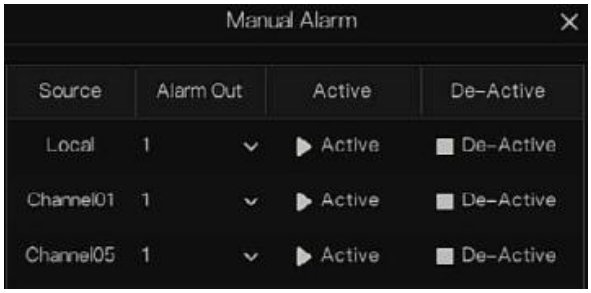
To customize a channel layout, enter a name for the layout in the Add Layout menu. Select the duration of the tour, by default, there will be 5 seconds before each switch. Select a window view (number of channels in the tour), then select the applicable channels from the channel list and import them into the custom layout. Click **OK** when done.
**Audio Output Volume:** Use the provided slider to adjust the audio volume output of the NVR (Audio Out).
**Playback:** Provides quick access to the playback interface to view continuous, motion, and IVS/Audio events. For a more detailed review of the playback interface, please review the *"Playback"* section of this document.
**Channel Information:** Enable or disable the channel number and resolution (stream info) overlay of a selected channel.
**Live View Strategy:** Click this option to set fluency, balanced, or real-time video stream qualities.

**Fluency:** Typically used for systems with lower bandwidth, viewing the sub stream for lower resolution and bitrate for smoother viewing and playback of events.

**Balanced:** This is the default video quality; it aims to provide a compromise between image quality and bandwidth. Typically has a higher resolution and bitrate than sub stream but lower than the mainstream.

**Real-Time:** This option uses the most bandwidth however It's primarily used in minimizing latency and ensuring the displayed video is as close to what's happening

Manual Alarm: This option provides quick access to external alarm settings. If an external alarm is applicable, it can be used to manually set, activate, or deactivate an external alarm of a channel.

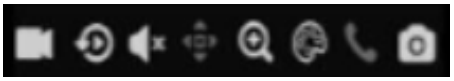


**Event List:** Provides a list of most recent events captured by the NVR, including, which channel captured the event, type, and start time.
**Clear Alarm:** Click this option to clear out any current alarm actions such as external alarm out actions.
**Information:** Click this option to view all general details of the NVR such as any, network, system, channel, or hard drive management settings.

**Network:** Provides current connectivity status, IP Address, MAC address and other network details of the NVR.
**System:** Provides the serial number, model number, current P2P status, as well as a QR code to easily add the device into the Helix mobile app.
**Channel:** Displays the status, video format, resolution, and bitrate of a connected camera.
**HDD Manage:** Displays the capacity, GBs used, serial number, model, and status of a hard drive.

### Preview Control Interface

To view additional settings for a specific channel, select the channel with your mouse to view the preview control interface.



### Record

Click this button to manually begin recording. The system will be recording by default, however, if recording has been disabled or would like to record manually, it can be enabled using this option.

### Instant Playback

Click this button to instantly view the last five minutes of the latest recordings captured by a selected channel. Use the time bar to play or pause the recording.



### Audio

Click this button to manually enable or disable the audio of a selected channel. This is only applicable if your Helix camera supports audio in or audio out features.

### PTZ

Click this button to view the pan/tilt/zoom options for a selected channel. This is only applicable if your Helix device supports PTZ.

### Zoom

Click this button to digitally zoom in on the interface, it can zoom in at a max of 400%, use the mouse to scan and pan the area. To exit zoom, click the mouse on the interface.

### Image

Click this button to manually adjust the brightness, sharpness, contrast, and saturation settings of a selected device. A scene can also be applied to allow for indoor or outdoor parameters, however, if set to default, the camera will automatically adjust to an optimal setting.

**Two Way Audio**
Click this button to manually enable the two-way talk feature on the NVR. This is only applicable for an external mic and speakers are applied to the system and the selected channel supports two-way audio.

**Manual Snapshot**
Click this button to manually capture a snapshot of a selected channel. To view snapshots, go to the "Capture Snapshot" tab located in the **Playback** menu.

# Main Menu

To access the main menu of the NVR, double click on the video wall to display the interface.

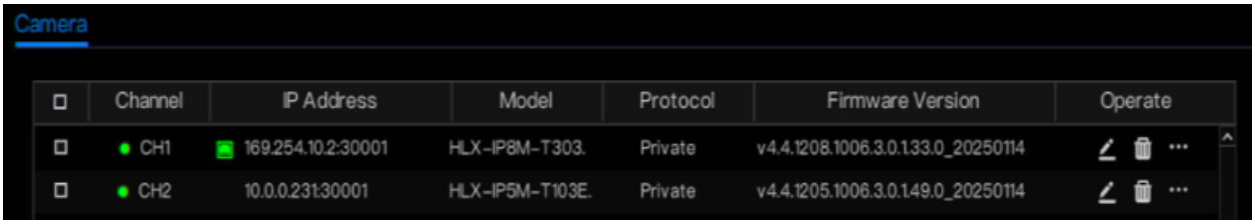



# Channel

The channel menu allows you to view and customize settings on a specific channel of the NVR including adding additional cameras, encode, image, and audio settings.

**Camera**
This menu allows the user to add, edit, modify, or remove cameras from the NVR. These can be cameras directly connected to the NVR (if POE) or cameras that need to be added over the network. If you are adding a camera over the network, please make sure the NVR is on the same network as the camera before adding it into the system. The top portion of the interface displays the connected devices while the bottom portion displays cameras that are ready to be added into the NVR.

To add a camera, click Start Search to allow the NVR to search for the camera. Select the camera from the camera list and click **Add**. If the camera does not have a default password (admin) click the **Edit** icon and enter the password for the camera into the interface and click **OK**. The status of the camera should be green indicating it is successfully registered to the NVR.




| Parameter | Description |
|---|---|
| Channel | Displays the connection status of a camera in the camera list.<br>: Successfully connected.<br>: Failed to connect. |
| IP Address | Displays the IP address of the camera that is connected to the NVR. |
| Model | Displays the model number of the camera. |
| Protocol | Displays the connection protocol (ONVIF, Private, custom) used to connect the camera to the NVR. |
| Firmware Version | Displays the current firmware version of the camera. |
| Operate | Use the provided icons to modify, delete, update, reboot, or factory reset a camera from the camera list.<br>Click the modify icon to update the username and password or apply any additional device parameters to the camera.<br>Click the delete icon to remove the camera from the NVR.<br>Click the icon to display additional options.<br>• **Update:** Upgrade the camera's firmware directly from the NVR. Insert a USB flash drive with the camera's firmware on it to the NVR. Click the refresh button select the firmware and click **OK**. The camera will go offline and after the upgrade is complete it will come back online.<br>• **Reboot:** Click this option to manually reboot the camera.<br>• **Factory Reset:** Click this option to reset the camera back to its original factory default settings. The system will reserve the camera's IP address by default; however, you can disable the "Reserve IP Address" option if needed. The default username and password of the Helix camera will be **admin.**<br>• **Modify IP:** Manually modify the IP Address or Subnet Mask of the camera. |
| Add Devices | Click to add all devices from the camera list into the NVR. |
| Delete | Select a channel and click this option to remove it from the NVR. |
| Update | Select a channel and manually upgrade the firmware from the NVR. |
| Start Seach | Click this option to search for cameras on the network. |
| Add | Use this option to manually add selected channels from the camera list. |
| Username | The applied username of the camera is adding multiple cameras. |
| Password | The applied password of the camera is adding multiple cameras. |

### Image

The image menu allows the user to adjust image settings such as brightness, sharpness, contrast, saturation, as well as other options such as exposure, white balance, night vision, etc.

**Channel:** Select a connected device from the channel dropdown list.
**Scene:** Select between a default, indoor, or outdoor scene. If it is default, the camera will automatically compensate for the scene.
**Brightness:** This is to adjust monitor window brightness. The value ranges from 0 to 100. The default value is 50. The larger the number, the brighter the video. When you input the value here, the bright section and the dark section of the video will be adjusted accordingly. You can use this function when the whole video is too dark or too bright. Please note the video may become hazy if the value is too high. The recommended value ranges from 40 to 60.
**Sharpness:** The value here is to adjust the edge of the video. The larger the value is, the clearer the edge is and vice versa. Please note there is noise if the value here is too high. The value ranges from 0 to 100. The recommended value ranges from 40 to 60. The default value is 50.
**Contrast:** This is to adjust monitor window contrast. The value ranges from 0 to 100. The default value is 50. The larger the number, the higher the contrast. You can use this function when the whole video's brightness is OK, but the contrast is not correct. Please note the video may become hazy if the value is too low. If this value is too high, the dark section may lack brightness while the bright section may overexpose. The recommended value ranges from 40 to 60.
**Saturation:** This is to adjust the monitor window saturation. The value ranges from 0 to 100. The default value is 50. The larger the number, the stronger the color. This value has no effect on the general brightness of the whole video. The video color may become too strong if the value is too high. For the grey part of the video, distortion may occur if the white balance is not accurate. Please note the video may not be attractive if the value is too low. The recommended value ranges from 40 to 60.

To revert to default settings, click the **Default** button. To confirm settings, click the **Apply** button.

### Scene

The scene menu allows the user to manually adjust scene details as well as mirror the image.

**Channel:** Select a connected device from the channel dropdown list.
**Scene:** Manually adjust outdoor and indoor scene details.
**Mirror:** Adjust or flip the image according to its orientation.

- **Normal:** Provides a 0° rotation (default)
- **Horizontal:** Mirrors the image. (Mirror)
- **Vertical:** Provides a 180° rotation. (Flip)
- **Horizontal + Vertical:** Flips and mirrors the image.

To revert to default settings, click the **Default** button. To confirm settings, click the **Apply** button.

### Exposure

The exposure menu allows the user to set the NVR to automatically adjust exposure time or have it manually adjusted.

**Channel:** Select a connected device from the channel dropdown list.
**Exposure Mode:** Set the NVR to automatically adjust exposure time or manually adjusted. To manually adjust the exposure time, click on Manual in the dropdown menu.
**Exposure Time:** The length of time the camera's image sensor is exposed to light.

To revert to default settings, click the **Default** button. To confirm settings, click the **Apply** button.

### White Balance

The white balance menu is designed to ensure that colors in your video footage appear natural and accurate, regardless of the lighting conditions.

**Channel:** Select a connected device from the channel dropdown list.
**Mode:** Select between an Auto or Manual mode.

**Auto:** The NVR will automatically compensate for white balance.
**Manual:** The user will use the red gain and blue gain sliders to customize white balance.

- **Red Gain:** Increasing the red gain will add more red to the image, making it warmer. This can be useful for correcting a bluish color cast.
- **Blue Gain:** Increasing the blue gain will add more blue to the image, making it cooler. This can be useful for correcting a reddish or yellowish color cast.

To revert to default settings, click the **Default** button. To confirm settings, click the **Apply** button.

### Night Vision

The night vision menu allows the user to adjust night vision setting modes. These night vision settings will be related to what is available on the camera.

**Channel:** Select a connected device from the channel dropdown list.
**Night Vision:** Select a night vision mode.

**Smart Illumination:** The IR LEDs will illuminate once the ambient light threshold is met, however, if using IVS settings, they will trigger a white LED deterrent.
**White Light:** Provides full color night vision using a camera's white light LEDs.
**IR Mode:** Provides black and white night vision using the camera's infrared LEDs.
**Schedule:** Create a night vision mode schedule that will allow the LEDs only to function at certain times of the night.

**Time (D -> N):** Start time of the schedule.
**Time (N -> D):** End time of the schedule.

To set a night vision schedule, enter the start and end times of the schedule and click **Apply**. The NVR will set the night vision mode to only occur at that set time.

To revert to default settings, click the **Default** button. To confirm settings, click the **Apply** button.

### Noise Reduction

The noise reduction menu allows the user to modify 2D or 3D noise reduction values. This is designed to improve the clarity of your video footage, especially in low-light conditions.
**Channel:** Select a connected device from the channel dropdown list.

**2D NR (2-Dimensional Digital Noise Reduction):** This older technology analyzes each frame of video individually to reduce noise. It's good for reducing static noise but can struggle with motion blur.

**Auto:** Automatically balance noise reduction, use the slider to adjust the max strength.

**Manual:** Manually adjust the fixed strength of the noise reduction in the image.

**3D NR (3-Dimensional Digital Noise Reduction):** This more advanced method compares multiple frames to identify and remove noise. It's more effective at reducing noise without sacrificing image detail and handles motion better.

**Auto:** Automatically balance noise reduction, use the slider to adjust the max strength.

**Manual:** Manually adjust the fixed strength of the noise reduction in the image

To revert to default settings, click the **Default** button. To confirm settings, click the **Apply** button.

### BLC Mode

The BLC mode menu allows the user to adjust wide dynamic range (WDR), highlight composition (HLC), back light compensation (BLC), and defog settings.

**Channel:** Select a connected device from the channel dropdown list.
**WDR (Wide Dynamic Range):** significantly improves image quality in scenes with a wide range of light levels, like those with both very bright and very dark areas. Use the slider to adjust the value.
**HLC (Highlight Compensation):** Used to improve image quality when there are very bright light sources in the scene, such as car headlights at night or direct sunlight reflecting off a shiny surface. Use the slider to adjust the value.
**BLC (Back Light Compensation):** A camera feature designed to improve image quality when a bright light source is behind the subject you're trying to view. Use the slider to adjust the value.
**Defog:** designed to improve image clarity in foggy or hazy conditions. It helps to make video footage more visible when visibility is poor due to atmospheric conditions. Use the slider to adjust the value.

To revert to default settings, click the **Default** button. To confirm settings, click the **Apply** button.

### Encode

The **Encode** menu allows the user to adjust video format, resolution, overlays, as well as privacy masking settings for a connected device within the NVR.

**Channel:** Select a connected device from the channel dropdown list.
**Stream Information:** Displays the Main Stream and Sub Stream column titles.
**Video Format:** Select a video compression algorithm, H.264, H.265 (if supported).

**Video Encode Level:** Refers to the compression level applied to your video recordings. It directly affects the quality of the video, the file size, and the bandwidth required for streaming and storage. It is recommended to keep this as default however it can range from high, medium, or low.
**Audio Encode Type:** Determines how the audio portion of your video recordings is compressed (AAC, G711A, G711U, etc.) Just like video encoding, audio encoding reduces the amount of data needed to store and transmit audio, but with different algorithms.
**Resolution:** Select a resolution for the main stream and sub stream of the camera.
**Frame Rate (fps):** Controls how many individual images, or "frames," are captured and recorded per second. It's measured in frames per second (fps) for both main stream and sub stream.
**I Frame Interval (Unit:Frame):** Controls how often a full, complete image (called an "I frame" or "key frame") is recorded in your video stream. It's a crucial setting that affects video quality, file size, and bandwidth usage.
**Bitrate Control:** Lets you manage the amount of data used to represent your video recordings. It's a critical setting that affects video quality, storage space, and network bandwidth usage.

**Constant Bitrate (CBR):** The NVR tries to maintain a consistent bitrate throughout the recording, regardless of the complexity of the scene. This is predictable for bandwidth but might not be the most efficient use of data.

**Variable Bitrate (VBR):** The NVR adjusts the bitrate dynamically based on the complexity of the scene. It uses a higher bitrate for complex scenes with lots of motion and detail, and a lower bitrate for simpler scenes. This can be more efficient in terms of storage space.

**Bitrate (kbps):** Directly controls the amount of data used to encode your video stream per second. It's a fundamental setting that affects video quality, storage space, and network bandwidth.
**Smart Encode:** Designed to optimize video compression, reducing file sizes and bandwidth usage without significantly sacrificing video quality. It's a way to get the best balance between storage efficiency and clear, usable footage.
**Copy:** The copy option allows you to copy encode settings and apply them to multiple channels within the system. To apply the settings to all channels, select **All**. Click **OK**.

To confirm settings, click the **Apply** button.

### Overlay

The **Overlay** menu allows the user to enable or disable the time and channel name overlays applied to a channel.

**Channel:** Select a connected device from the channel dropdown list.
**Time:** Enable or disable the date & time overlay on the live view stream.
**Channel Name:** Enable or disable the channel name overlay on the live view stream. The channel name can be modified when enabled.
**Copy:** The copy option allows you to copy settings and apply them to multiple channels within the system. To apply the settings to all channels, select **All**. Click **OK**.

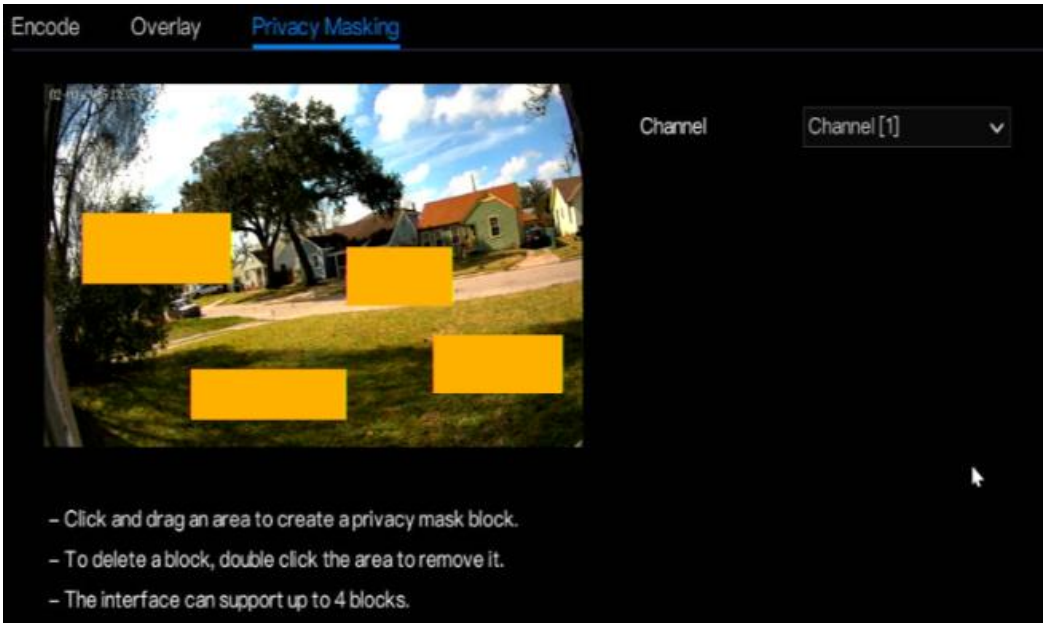
To confirm settings, click the **Apply** button.

## Privacy Masking

Privacy masking allows the user to apply customized privacy mask blocks on certain sections of the live feed. Below is an explanation of fields that can be modified on the overlay settings screen:

**Channel:** Select a connected device from the channel dropdown list.

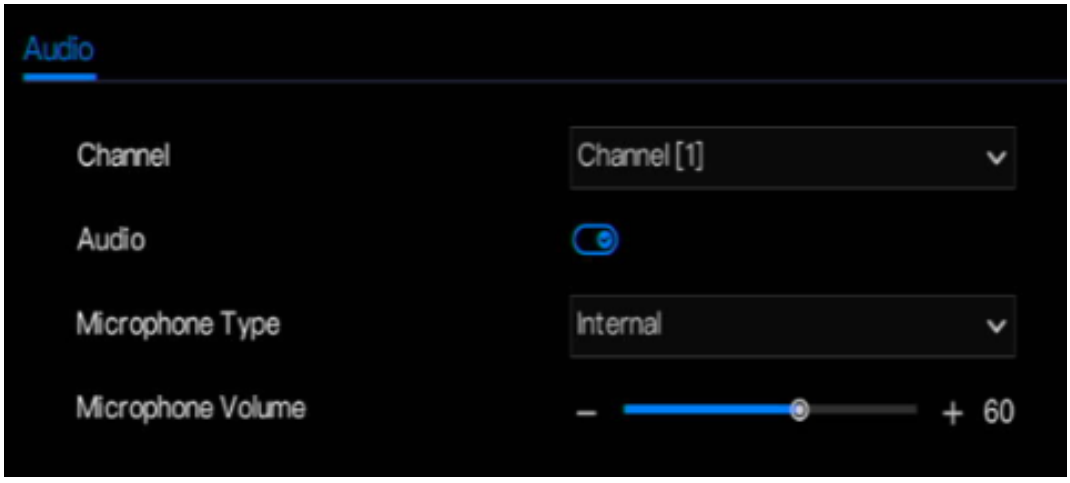
To set a privacy mask, use your mouse to click and drag an area you want to block out on the live view screen. A maximum of 4 privacy masks can be applied per channel. To delete a privacy mask block, double click on the block to remove it.




To confirm settings, click the **Apply** button.

## Audio

The **Audio** menu controls all the settings related to the audio input and output of your security camera system. It's where you configure how audio is recorded, played back, and managed.



**Channel:** Select a connected device from the channel dropdown list.
**Audio:** Enable or disable audio on a selected channel.
**Microphone Type:** Select between an internal or external microphone (if applicable).
**Microphone Volume:** Use this slider to raise or lower the camera's audio levels.

To confirm settings, click the **Apply** button.

# Storage

The **Storage** menu allows you to adjust recording schedules, access hard drive management, FTP and other storage options associated with your NVR.

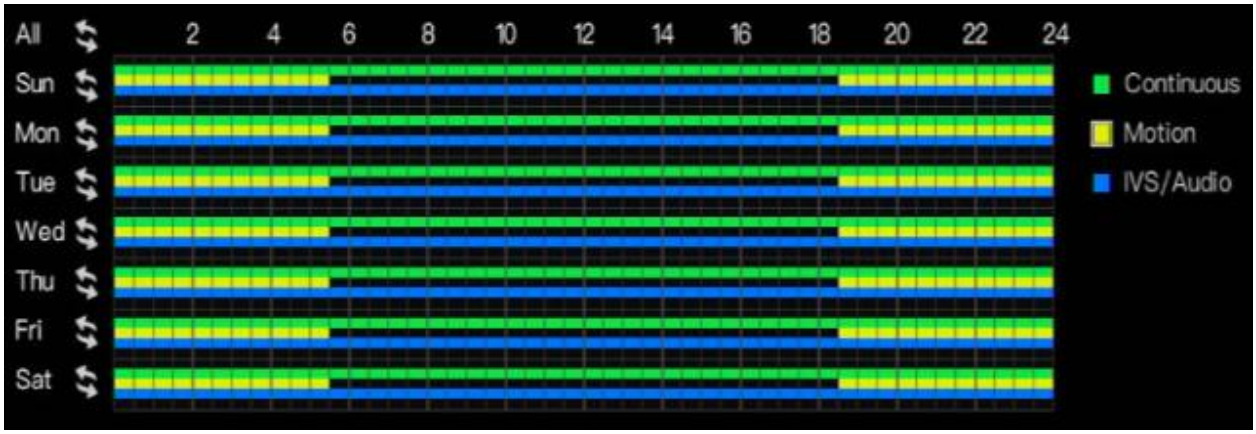
### Schedule

The **Schedule** menu allows you to create or customize a video recording or snapshot schedule.

**Channel:** Select a connected device from the channel dropdown list.
**Record:** Enable or disable the ability to record and store events on an installed hard drive.
**Record Audio:** Enable or disable audio in the recordings.
**ANR (Automatic Network Replenishment):** Designed to ensure continuous video recording even if the network connection between your IP cameras and the NVR is temporarily lost.
**Stream Type:** Provides the ability to record the main and sub stream of a selected channel.

### Creating a Recording Schedule

The NVR by default will be set to record events such as continuous recording, motion detection, and IVS/Audio events 24/7. Each record type within the schedule is color coded, green is for continuous recordings, yellow is for motion detection, and blue is for IVS and audio detection recordings.
To customize a schedule for a specific record type, select a color and use your mouse to customize the schedule for a specific date and time. For instance, in this example, we do not want to record motion detection between 6am and 6pm (18:00) all week. Select the record type (motion) and use your mouse to modify the areas between 6am and 18:00 for the specified days of the week.




The NVR will not record motion detection at the specified time, click **Apply** to save the settings. To apply the schedule to multiple channels, click the **Copy** option and set the applicable channels to the schedule.

To reset the schedule back to default (24/7) click the icon. When in default mode, to remove a record type entirely from the schedule, select the color-coded record type and click the icon.

To confirm settings, click the **Apply** button.

### Snapshot

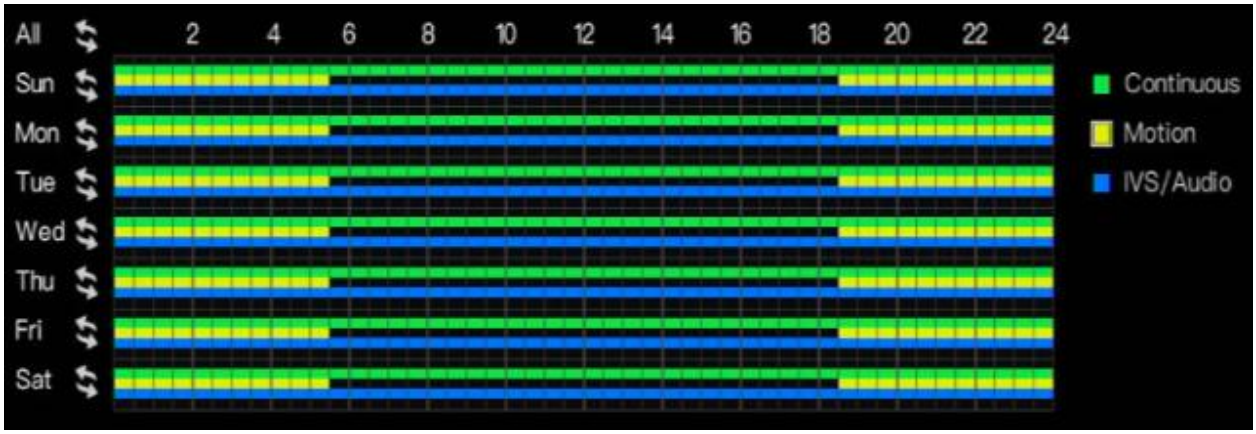
The Snapshot menu allows you to create and customize a schedule for snapshots. Snapshots are images of an event retained in the NVR.

**Channel:** Select a connected device from the channel dropdown list.
**Snapshot:** Enable or disable the ability to send and retain snapshots.
**Snap Interval (5-3600s):** Controls how frequently the NVR takes event snapshots from the connected cameras. The default interval is 10 seconds; however, it can be modified up to 3600 seconds.

### Creating a Snapshot Schedule

The NVR by default will be set to retain snapshot events from record types such as continuous recording, motion detection, and IVS/Audio events 24/7. Each record type within the schedule is color coded, green is for continuous recordings, yellow is for motion detection, and blue is for IVS and audio detection recordings like a video recording schedule.

To customize a schedule for a specific record type, select a color and use your mouse to customize the schedule for a specific date and time. For instance, in this example, we do not want to record motion detection between 6am and 6pm (18:00) all week. Select the record type (motion) and use your mouse to modify the areas between 6am and 18:00 for the specified days of the week.



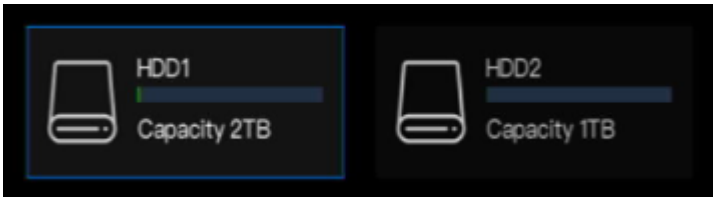

The NVR will not record motion detection at the specified time, click **Apply** to save the settings. To apply the schedule to multiple channels, click the **Copy** option and set the applicable channels to the schedule.

To reset the schedule back to default (24/7) click the icon. When in default mode, to remove a record type entirely from the schedule, select the color-coded record type and click the icon.

To confirm settings, click the **Apply** button.

### HDD Manage

The HDD Manage menu allows you to manage the hard drive (HDD) installed in the NVR. It's crucial for maintaining your storage and ensuring proper recording functionality. A connected hard drive will be displayed in the interface along with the status and other details.




**Format:** Allows you to initialize or format a new hard drive before it can be used for recording. **Warning:** formatting will erase all data on the drive.
**HDD Status:** Displays the current connection status of the hard drive to the NVR.
**HDD SN:** Displays the serial number of your hard drive.
**Used Space:** The amount of space currently used by recordings.
**HDD Group:** An HDD group is a way to combine multiple physical hard drives into a single logical unit that the NVR treats as one storage volume to simplify storage management. Only applicable to NVRs that support multiple hard drives.
**Recording Overwrite:** Controls what happens when your hard drive(s) are full. It determines whether new recordings will overwrite existing recordings or if the NVR will simply stop recording.
**Expiration Time (Days):** relates to how long recorded video footage is kept on the hard drive before it's automatically deleted, even if the drive isn't completely full. It's a way to enforce data retention policies, regardless of storage capacity. Please note, if the expiration time is set to 0, the recordings will not expire.

To confirm settings, click the **Apply** button.

### Record Mode

The **Record Mode** menu allows you to group or allow certain channels to record to a hard drive.

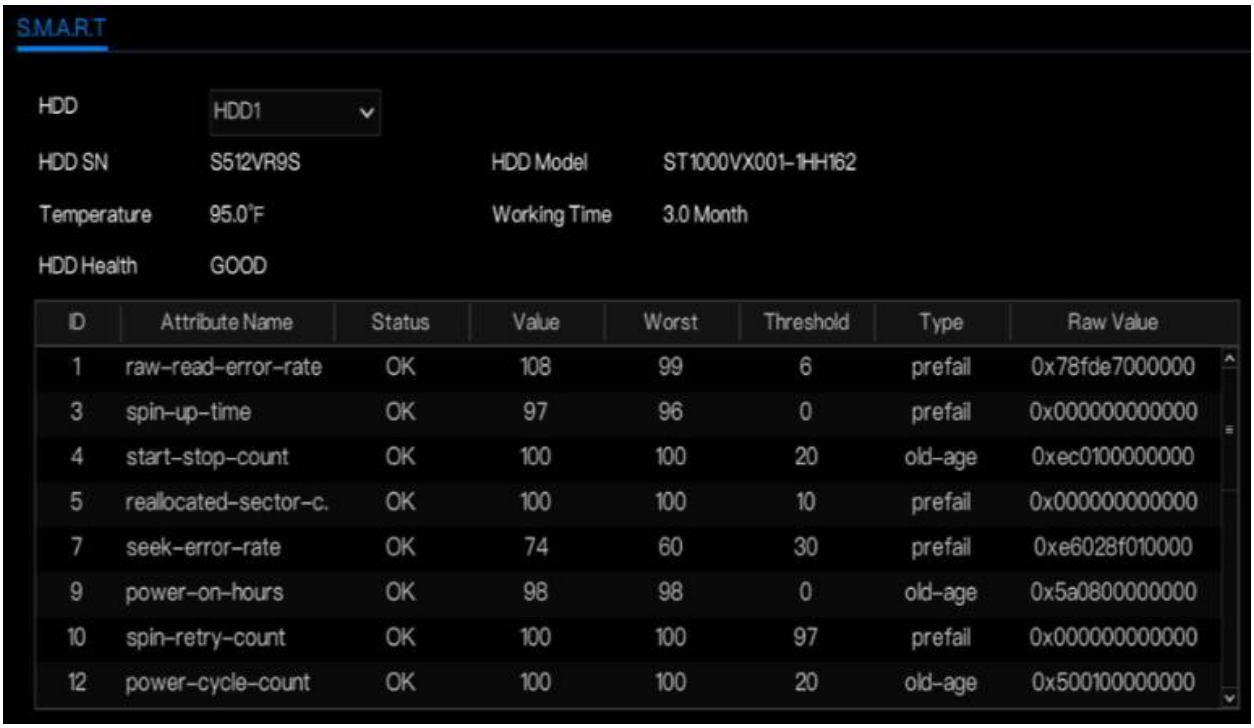
**HDD Group:** Use this drop-down menu to select a hard drive. This is only applicable to NVRs that support multiple hard drives.
**Channel:** The number of channels that can be applied to a hard drive group. All channels will be selected by default to the primary hard drive.

To set which channels record to a hard drive, select a channel from the provided menu and group it with a hard drive. If your NVR only supports 1 hard drive, multiple channels can be selected to record if needed.

To confirm settings, click the **Apply** button.

**S.M.A.R.T**

The **S.M.A.R.T** menu is used to monitor the health and status of a connected hard disk drive. S.M.A.R.T. stands for **Self-Monitoring, Analysis, and Reporting Technology**. It's a built-in feature in most modern hard drives that allows them to monitor their own condition and predict potential failures.




| ID | Attribute Name | Status | Value | Worst | Threshold | Type | Raw Value |
|---|---|---|---|---|---|---|---|
| 1 | raw-read-error-rate | OK | 108 | 99 | 6 | prefail | 0x78fde7000000 |
| 3 | spin-up-time | OK | 97 | 96 | 0 | prefail | 0x000000000000 |
| 4 | start-stop-count | OK | 100 | 100 | 20 | old-age | 0xec0100000000 |
| 5 | reallocated-sector-c. | OK | 100 | 100 | 10 | prefail | 0x000000000000 |
| 7 | seek-error-rate | OK | 74 | 60 | 30 | prefail | 0xe6028f010000 |
| 9 | power-on-hours | OK | 98 | 98 | 0 | old-age | 0x5a0800000000 |
| 10 | spin-retry-count | OK | 100 | 100 | 97 | prefail | 0x000000000000 |
| 12 | power-cycle-count | OK | 100 | 100 | 20 | old-age | 0x500100000000 |

**FTP**

The **FTP** menu allows you to configure the NVR to use **Secure File Transfer Protocol (SFTP)** or **File Transfer Protocol (FTP)** to upload video recordings or snapshots to a SFTP or FTP server.

**SFTP**

SFTP uses SSH (Secure Shell) to establish a secure connection between the NVR and the remote server. This means that all data transmitted, including your login credentials and the video files themselves, are encrypted. This prevents unauthorized access and protects your data from being intercepted.

**Enable:** Enable or disable the SFTP protocol
**IP Address:** Enter the server IP of the SFTP server.
**Port:** Enter the port number for SFTP, port 22.
**Username:** Enter the username associated with the SFTP server.
**Password:** Enter the password associated with the SFTP server.
**Remote Directory:** Enter the destination folder or path in which the events will be retained in the SFTP server.
**Upload File Size(0-64MB):** Designate the max file size of a recording in MB, 0 will be default.

To revert to default settings, click the **Default** button. To confirm settings, click the A**pply** button. To test the current settings, click **Test**.

**FTP**

FTP is a standard network protocol used to transfer files between computers. When you configure FTP on your Helix NVR, the NVR acts as an FTP client. It connects to a remote FTP server and uploads the specified files (video recordings or snapshots) according to your settings.

**Enable:** Enable or disable the FTP protocol
**IP Address:** Enter the server IP of the FTP server.
**Port:** Enter the port number for FTP, port 21.
**Username:** Enter the username associated with the FTP server.
**Password:** Enter the password associated with the FTP server.
**Remote Directory:** Enter the destination folder or path in which the events will be retained in the FTP server.
**Upload File Size(0-64MB):** Designate the max file size of a recording in MB, 0 will be default.

To revert to default settings, click the **Default** button. To confirm settings, click the A**pply** button. To test the current settings, click **Test**.

# Network

This menu controls all network related functions for the NVR and governs how the NVR interacts with a connected network.

**TCP/IP**

TCP/IP stands for **Transmission Control Protocol/Internet Protocol** and it is the language/protocol that allows communication between internet connected devices, whether on a local network, or on the Internet at large. This screen allows for TCP/IP settings to be modified for the NVR to establish connection to the network.

**Mode:** The current protocol that is being used on the device. This can be either static or DHCP.
**Static vs DHCP:** This dropdown menu allows you to choose between a static IP address, and a dynamic IP address. DHCP stands for **Dynamic Host Configuration Protocol**, and this enables the NVR to automatically obtain an IP address from another network device such as a server or more commonly, a router. When the DHCP function is enabled, the user cannot modify the IP address, Subnet Mask, or Gateway, as these values are obtained from the DHCP function. To view the current IP address, DHCP needs to be disabled.
**IP Address:** Displays the current IP address of the NVR assigned by the network.
**Subnet Mask:** The subnet mask is a 32-bit number (just like an IP address) that helps the NVR distinguish between the network ID and the host ID portions of an IP address. It essentially tells the NVR the size of the local network.
**Default Gateway:** This field allows the user to enter the default gateway for the network. The default gateway should be on the same IP subnet as the NVR's IP. The specified length of the subnet prefix

should have the same string. For example, if the IP address is 10.0.0.181, the default gateway should start with 10.0.0.1. The default gateway is usually the IP address of the router.
**Obtain DNS Automatically:** Tells the NVR to automatically get its DNS server addresses from your network's DHCP server (usually your router).
**Preferred DNS Server:** If not automatically obtained, it allows you to specify the IP address of the DNS server that the NVR should try to use.
**Alternate DNS Server:** Provides a backup DNS server address. It's used if the NVR can't reach the "Preferred DNS Server" to increase redundancy.

To confirm settings, click the **Apply** button.

### Connection

The **Connection** menu allows you to configure how the NVR connects to your network and the internet, as well as settings related to remote access. Please note, if any port numbers are modified, the NVR will reboot.

**HTTP Port:** This field designates the Hypertext Transfer Protocol (HTTP) port number. The default value is 80.
**HTTPS Port:** This field designates the Hypertext Transfer Protocol Secure (HTTPS) port number. The default value is 443.
**RTSP Port:** This field designates the Real Time Streaming Protocol (RTSP) port number. The default value is 554.
**Control Port:** Used for communication and control between the NVR and other devices or software. It's essential for certain functionalities, often related to device management, software integration, or specific Helix protocols. The default value is 30001.

**Note:** When port forwarding, please port forward the HTTP or HTTPS port as well as the control port (30001) in your router.

To confirm settings, click the **Apply** button.

### PPPoE

PPPoE stands for Point-to-Point Protocol over Ethernet. This screen allows users to configure PPPoE connections.

**Enable:** Used to enable the PPPoE function.
**Username:** The username used for a PPPoE connection.
**Password:** The password used for a PPPoE connection.
**IP Address:** The IP address used for a PPPoE connection.

To confirm settings, click the **Apply** button.

### DDNS

DDNS stands for Dynamic Domain Name Server. This technology is used to automatically update name servers in real time to help the NVR maintain a persistent address despite changes in location or configuration. What this means is that even when the NVR is restarted, moved, or reconfigured, it can keep the same IP address, thus allowing remote users uninterrupted access to the NVR, rather than having to request a new IP address to use for remote access anytime a change is made.

The NVR supports multiple DDNS protocols including, HelixDDNS, no_ip, as well as 3322. Please make sure your device is port forwarded on your network before using DDNS.

**Enable:** This option allows the user to enable DDNS.
**Protocol:** This dropdown box allows the user to select which DDNS service to use.
**Domain Name:** This field allows the user to enter the domain name of the DDNS service. For instance, if using HelixDDNS, the domain name will be formatted as "XXXXXXX.helixddns.com"

To apply the settings click **Apply**, to test DDNS connectivity, click **Test**.

### UPNP

UPnP (Universal Plug and Play) is a set of networking protocols that allow devices to automatically discover and connect to each other on a network. In the context of an NVR, UPnP can be used to automatically configure port forwarding on your router, which is necessary for remote access.

**Enable Port Mapping:** Enable or disable UPnP services.
**Mode:** Automatically or manually use UPnP.
- **UPnP(Auto):** Automatically sets the default port information.
- **Manual:** Allows you to manually enter and customize a port number.

**Note:** Port ranges can range between [1025 – 65534]

To confirm settings, click the **Apply** button.

### Email

This screen allows for the configuration of email settings to allow the NVR to send email notifications of an event when a connected camera detects motion or other events related to the system.

### Email Server

**SMTP Server:** Enter the SMTP server used by the email service.
**SMTP Server Port:** Enter the port that corresponds to the selected SMTP server. If using SSL encryption, the port will be 465, if using TLS, the port will be 587.
**Username:** Enter the username used to login to the selected SMTP server.
**Password:** Enter the generated password provided by your email service provider.
**Email Sender:** This field allows the user to enter the sender's email address. This email address will be the one that sends out all emails related to the alerts and alarm emails sent by the NVR.

**Receiver 1/2/3:** This field allows the user to enter the receiver email address. These email addresses are the ones that will receive any emails pertaining to alert and alarm emails sent by the NVR. Up to 3 email addresses can be entered in this field.
**SSL Encrypt:** This dropdown box allows the user to select an encryption type. There are two types of email encryption that are available.

**OFF:** Disables Encryption for email notifications.
**SSL:** Secure Socket Layer (less secure)
**TLS:** Transport Layer Security (more secure)

**Sending Interval(0-600s):** This field allows the user to define, in minutes, how often emails can be sent by the system. This helps to curb heavy load on the email server when multiple events are occurring.

To confirm settings, click the **Apply** button. Click the **Test** button to test the connection, a test notification will be sent to the receiver's email address.

### SNMP

The SNMP (Simple Network Management Protocol) option on a Helix NVR allows the NVR to be monitored and managed remotely using SNMP management software. It's a feature primarily used in larger or more complex network environments where network administrators need to keep track of various network devices.

The NVR features different versions of SNMP including SNMPV1, SNMPV2C, and SNMPV3.

### SNMPv1/2

This menu allows you to set SNMPv1 and SNMPv2c settings. SNMPv1 provides basic functions for monitoring and managing network devices. SNMPv2c offers some improvements over SNMPv1, but it still has the same fundamental security flaws due to the use of plain text community strings.

**Write Community:** Allows the SNMP manager to write (change) settings on the NVR.
**Read Community:** Allows the SNMP manager to read (retrieve) information from the NVR.
**Trap Address:** The IP address of the device or server that should receive SNMP traps from the NVR.
**Trap Port**: Specifies the UDP port number that the NVR uses to send SNMP trap messages.
**Trap Community:** Specifies the community string that is included in SNMP trap messages sent by the NVR. It is a basic form of authentication, but it has significant security limitations.

**Note:** If possible, it's strongly recommended to use SNMPv3 for its enhanced security features.

To confirm settings, click the **Apply** button.

### SNMPv3

SNMPv3 is the most recent and secure version of the Simple Network Management Protocol (SNMP). It is a significant upgrade from earlier versions (SNMPv1 and SNMPv2c) and is strongly recommended for any network where security is a concern.

**Read Security Name:** Refers to the username that an SNMP manager (monitoring software) will use when making read requests to the NVR.
**Security Level:** Determines the level of security applied to SNMPv3 communication. It dictates which security mechanisms (authentication and encryption) are used.

- **noauth:** This is the least secure level. It provides no authentication and no encryption. Data is transmitted in plain text, and there's no verification of the SNMP manager's identity. This level should generally be avoided.
- **auth:** This level provides authentication but no encryption. The SNMP manager's identity is verified, but the data transmitted is still in plain text. While better than noauth, it's still vulnerable to eavesdropping.
- **priv:** This is the most secure level. It provides both authentication and encryption. The SNMP manager's identity is verified, and the data transmitted is encrypted, protecting it from eavesdropping and tampering. This is the recommended security level for SNMPv3.

**Auth Algorithm:** Lets you choose the specific algorithm used for authentication in SNMPv3 communication. Authentication verifies the identity of the SNMP manager attempting to communicate with the NVR, ensuring that only authorized managers can access it.

- **MD5 (Message Digest Algorithm 5):** A relatively old hashing algorithm. While still functional, it's considered less secure than newer options. Generally, avoid MD5 if possible.
- **SHA (Secure Hash Algorithm):** A family of cryptographic hash functions. SHA algorithms are generally considered more secure than MD5. You might see variations like SHA-1, SHA-256, SHA-384, or SHA-512. SHA-256 or better is recommended.

**Auth Password:** Set the password used for authentication in SNMPv3. This password, combined with the username (Security Name) and the chosen authentication algorithm, is used to verify the identity of the SNMP manager attempting to communicate with the NVR.

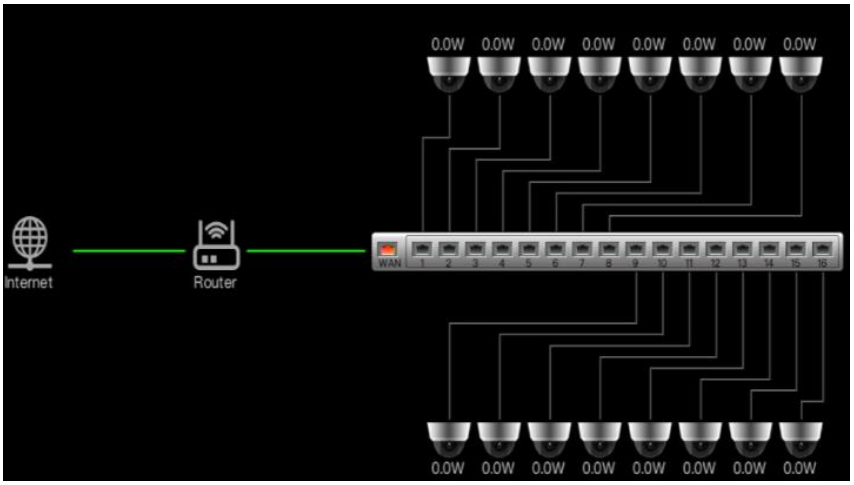
**Encry Password:** Sets the password used for encryption in SNMPv3 communication. This password, along with the chosen encryption protocol, protects the content of the SNMP messages from being read by unauthorized parties. It's a separate password from the authentication password, adding another layer of security.

**Write Security Name:** Specifies the username that an SNMP manager will use when making write requests to the NVR. "Write" in this context means changing settings on the NVR. Uses the same security level protocols, auth algorithm, auth password, and other options as the read security name.

To confirm settings, click the **Apply** button.

**Network Status**

Provides real-time information about the NVR's network connection and activity. It is a valuable tool for troubleshooting network issues and monitoring the health of your network connection.



### P2P

The **P2P** (Peer-to-Peer) menu on a Helix NVR provides a simplified method for remote access to your security cameras, often bypassing the need for complex port forwarding configurations on your router. This menu provides the current P2P status, the ability to enable or disable this feature, as well as a QR code that can be used to quickly add your device into the Helix mobile app.

**Enable:** Enable or disable P2P in the NVR.
**Status:** Displays the current P2P status of the NVR (Online or Disconnected).
**QR Code:** Scan this QR code to add the device P2P into the Helix mobile app.
**App Name:** Displays the current mobile app name. The latest version of the mobile app can be downloaded in the App Store or Google Play store.

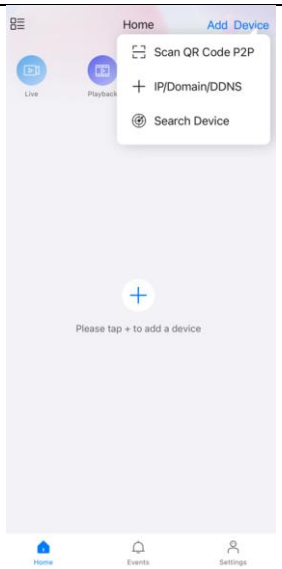
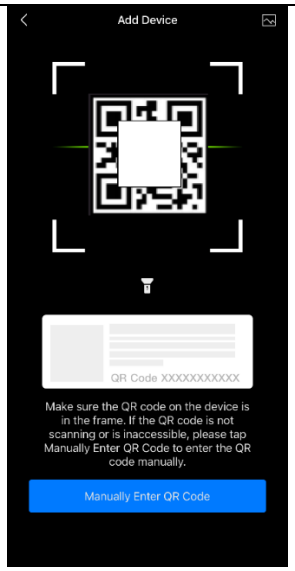
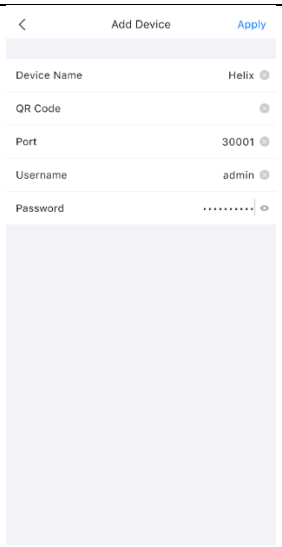
To confirm settings, click the **Apply** button.

# Helix Pro App Setup

The Helix Pro app allows instant access to all live camera streams from any location right from your mobile device. The app supports a multitude of features and includes both a P2P setup as well as a manual network setup. Before the NVR can be accessed through the app using the P2P setup, **P2P must be enabled in the NVR**.

### Helix Mobile App Setup

Download and install the Helix Pro app for the App Store or Google Play Store. Open the app on your mobile device and allow the app to load.

| | | |
|---|---|---|
|  |  |  |
| 1. Tap **Add Device** and select **Scan QR Code P2P**. | 2. Scan the QR code in the P2P menu or on the device. | 3. Enter a name as well as the username and password. Tap **Apply**. |

# Alarm

The **Alarm** menu allows the user to configure any general, motion detection, audio detection, IVS, or abnormality settings within the NVR.

### General

The **General** menu allows the user to set event durations as well as any buzzer duration settings for alarms triggered by the NVR.

**Event Duration Time (sec):** Allows you to set the length of time that the NVR will record video after an event is triggered.
**Buzzer Duration Time (sec):** Controls how long the NVR's built-in buzzer will sound when an alarm event is triggered.

To confirm settings, click the **Apply** button.

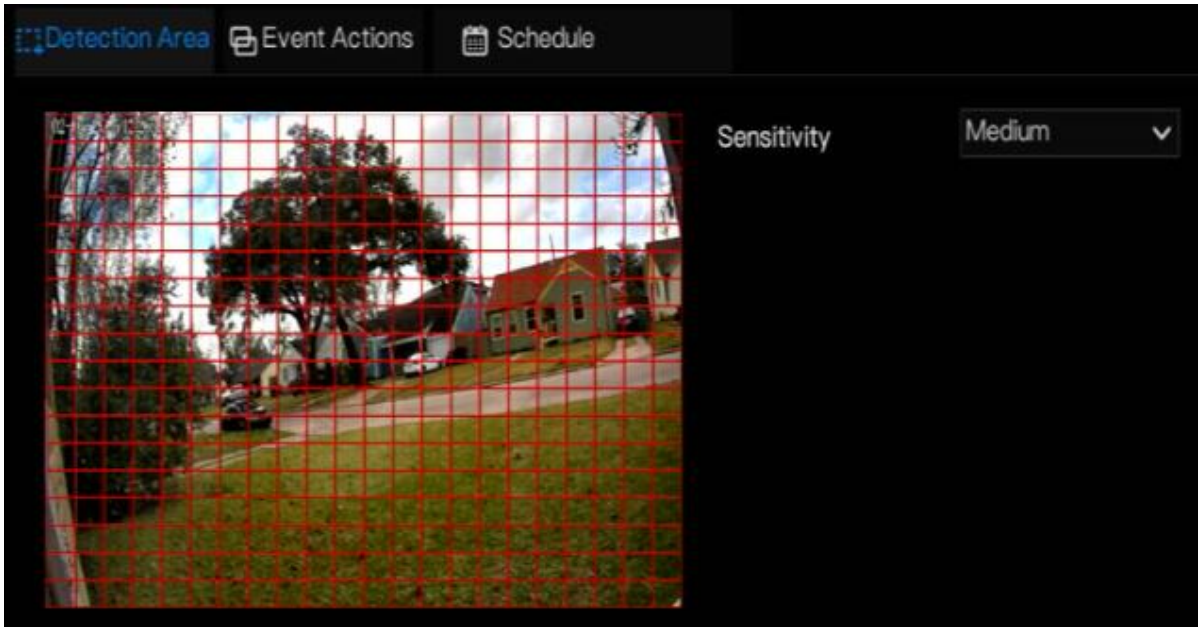
### Motion Detection

The **Motion Detection** menu allows the user to customize and modify general motion detection settings including detection areas, event actions, and schedules.

**Channel:** Select a connected device from the channel dropdown list.
**Enable:** Enable or disable motion detection on a selected channel.

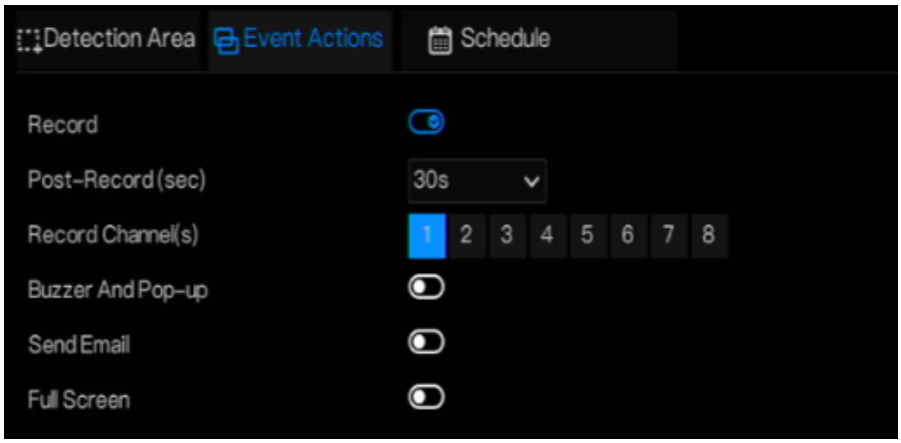
### Detection Area

Use your mouse to customize or exclude detection areas. Motion sensitivity can be set to high, medium, or low if needed, it is recommended to keep it as default (medium) to reduce false or repetitive alerts.



## Event Actions

The **Events Actions** menu allows you to set any additional action settings including recording, buzzer/pop up options, email notifications, etc.




**Record:** Enable or disable the ability to record the event to the NVR.
**Post-Record (sec):** Determines how long the NVR continues recording after motion is no longer being detected.
**Record Channel(s):** Lets you choose which camera channels will trigger recording when motion is detected.
**Buzzer and Pop-up:** Controls whether the NVR will activate its built-in buzzer and display a pop-up notification on the connected monitor when motion is detected. It's a dual-alert system.
**Send Email:** If email alerts are set up on the NVR, this option allows the NVR to automatically send an email notification when motion is detected by a camera.
**Full Screen:** When triggered by motion, it will cause the camera view that detected the motion to be displayed in full-screen mode on the monitor connected to the NVR.

## Schedule

The **Schedule** menu allows the user to set a motion detection schedule. This will allow the NVR to only record motion detection events during a specific time or day of the week.



To set a motion detection schedule, use your mouse to customize the schedule for a specific date and time. For instance, in this example, we **do not** want to record motion between 6am and 6pm (18:00) all week. Select the time bar and use your mouse to modify the areas between 6am and 18:00 for the specified days of the week.




The NVR will not record motion detection at the specified time, click **Apply** to save the settings. To apply the schedule to multiple channels, click the **Copy** option and set the applicable channels to the schedule.

To reset the schedule back to default (24/7) click the icon. When in default mode, to clear the schedule entirely, click the icon.

To confirm settings, click the **Apply** button.

### Video Loss

The **Video Loss** menu allows the user to configure how the NVR responds when it detects a loss of video signal from one or more of its connected cameras.

**Channel:** Select a connected device from the channel dropdown list.
**Enable:** Enable or disable motion detection on a selected channel.

### Event Actions

The **Events Actions** menu allows you to set any additional action settings including recording, buzzer/pop up options, email notifications, etc.

**Record:** Enable or disable the ability to record the event to the NVR.
**Post-Record (sec):** Determines how long the NVR continues recording after the feature is no longer being triggered.
**Record Channel(s):** Choose which camera channels will trigger recording when triggered.
**Buzzer and Pop-up:** Controls whether the NVR will activate its built-in buzzer and display a pop-up notification on the connected monitor when triggered.

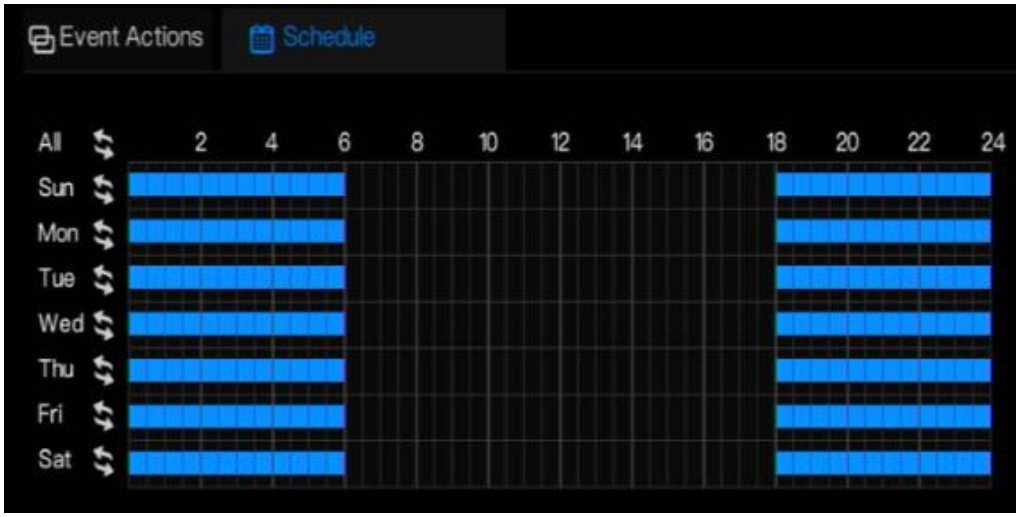
**Send Email:** If email alerts are set up on the NVR, this option allows the NVR to automatically send an email notification when the feature has been activated.

## Schedule

The **Schedule** menu allows the user to set a schedule that will allow the NVR to only use this function during a specific time or day of the week.




To set a schedule, use your mouse to customize the schedule for a specific date and time. For instance, in this example, we **do not** want the system to use this function between 6am and 6pm (18:00) all week. Select the time bar and use your mouse to modify the areas between 6am and 18:00 for the specified days of the week.




The NVR will not trigger the feature at the specified time, click **Apply** to save the settings. To apply the schedule to multiple channels, click the **Copy** option and set the applicable channels to the schedule.

To reset the schedule back to default (24/7) click the icon. When in default mode, to clear the schedule entirely, click the icon.

To confirm settings, click the **Apply** button.

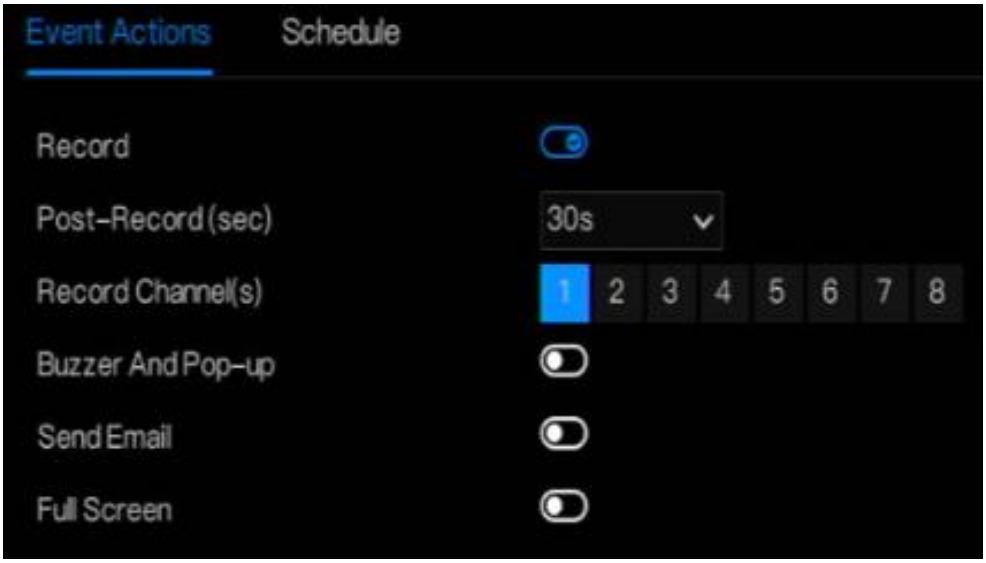
### Audio Detection

The **Audio Detection** menu allows you to configure settings related to audio monitoring and recording. The camera on the connected channel must have a built-in microphone or external microphone source to support this function.

**Channel:** Select a connected device from the channel dropdown list.
**Enable:** Enable or disable audio detection on a selected channel.

### Event Actions

The **Events Actions** menu allows you to set any additional action settings including recording, buzzer/pop up options, email notifications, etc.



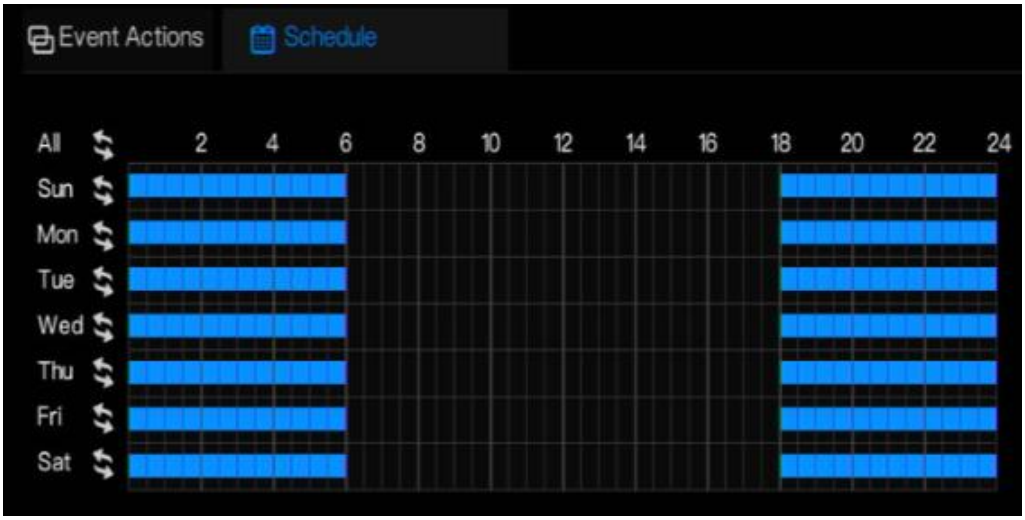

**Record:** Enable or disable the ability to record the event to the NVR.
**Post-Record (sec):** Determines how long the NVR continues recording after the feature is no longer being triggered.
**Record Channel(s):** Choose which camera channels will trigger recording when triggered.
**Buzzer and Pop-up:** Controls whether the NVR will activate its built-in buzzer and display a pop-up notification on the connected monitor when triggered.
**Send Email:** If email alerts are set up on the NVR, this option allows the NVR to automatically send an email notification when the feature has been activated.
**Full Screen:** When triggered, it will cause the camera view that detected the event to be displayed in full-screen mode on the monitor connected to the NVR.

### Schedule

The **Schedule** menu allows the user to set a schedule that will allow the NVR to only use this function during a specific time or day of the week.




To set a schedule, use your mouse to customize the schedule for a specific date and time. For instance, in this example, we **do not** want the system to use this function between 6am and 6pm (18:00) all week. Select the time bar and use your mouse to modify the areas between 6am and 18:00 for the specified days of the week.




The NVR will not trigger the feature at the specified time, click **Apply** to save the settings. To apply the schedule to multiple channels, click the **Copy** option and set the applicable channels to the schedule.

To reset the schedule back to default (24/7) click the icon. When in default mode, to clear the schedule entirely, click the icon.

To confirm settings, click the **Apply** button.

**IVS**

The **IVS** menu allows you to configure and manage advanced video analytics features, such as tripwire, intrusion, human/vehicle detection, as well as other IVS settings for enhanced perimeter protection and reduce false alerts within the system.

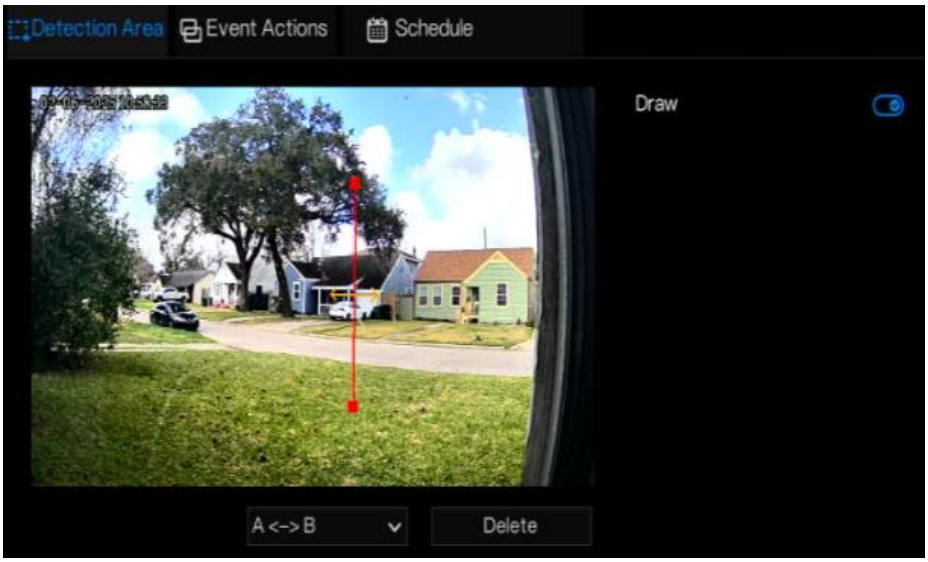
### Tripwire

The **Tripwire** feature allows the device to trigger an event if an object crosses a set detection line. Use your mouse to draw a detection line in the detection area and set any event actions as needed.

**Channel:** Select a connected device from the channel dropdown list.
**Enable:** Enable or disable the feature and apply it to a selected channel.

### Detection Area

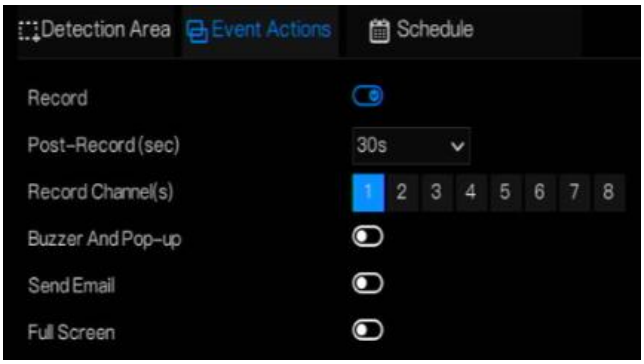
This section allows you to draw and customize detection lines and set directional options that allow you to choose which direction the object will be going for the rule to be triggered.




**Draw:** Enable or disable the ability to draw a detection line. A maximum of 4 detection lines can be applied to the interface.
**Directional options:** Set a direction in which the detection line will be triggered. A->B = right to left, B->A = left to right, A<->B an object will be detected from both directions.
**Delete:** Remove a detection line from the detection area.

### Event Actions

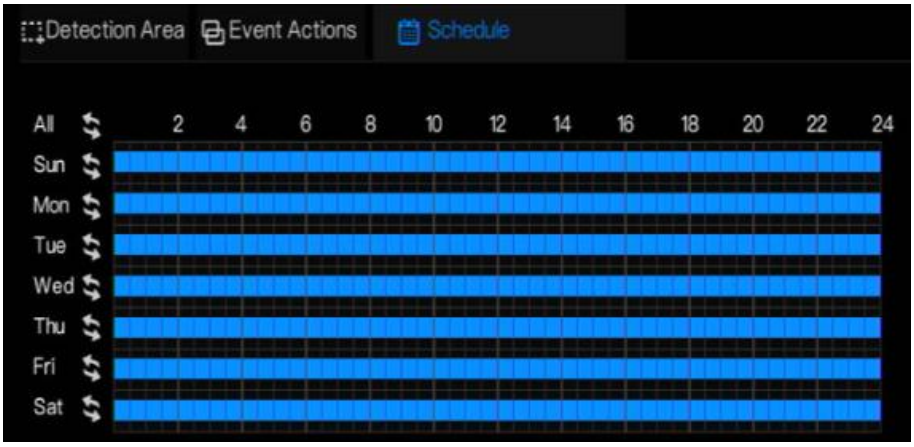
The **Events Actions** menu allows you to set any additional action settings including recording, buzzer/pop up options, email notifications, etc.



**Record:** Enable or disable the ability to record the event to the NVR.
**Post-Record (sec):** Determines how long the NVR continues recording after the feature is no longer being triggered.
**Record Channel(s):** Choose which camera channels will trigger recording when triggered.
**Buzzer and Pop-up:** Controls whether the NVR will activate its built-in buzzer and display a pop-up notification on the connected monitor when triggered.
**Send Email:** If email alerts are set up on the NVR, this option allows the NVR to automatically send an email notification when the feature has been activated.
**Full Screen:** When triggered, it will cause the camera view that detected the event to be displayed in full-screen mode on the monitor connected to the NVR.

### Schedule

The **Schedule** menu allows the user to set a schedule that will allow the NVR to only use this function during a specific time or day of the week.




To set a schedule, use your mouse to customize the schedule for a specific date and time. For instance, in this example, we **do not** want the system to use this function between 6am and 6pm (18:00) all week. Select the time bar and use your mouse to modify the areas between 6am and 18:00 for the specified days of the week.



The NVR will not trigger the feature at the specified time, click **Apply** to save the settings. To apply the schedule to multiple channels, click the **Copy** option and set the applicable channels to the schedule.

To reset the schedule back to default (24/7) click the icon. When in default mode, to clear the schedule entirely, click the icon.

To confirm settings, click the **Apply** button.

### Intrusion

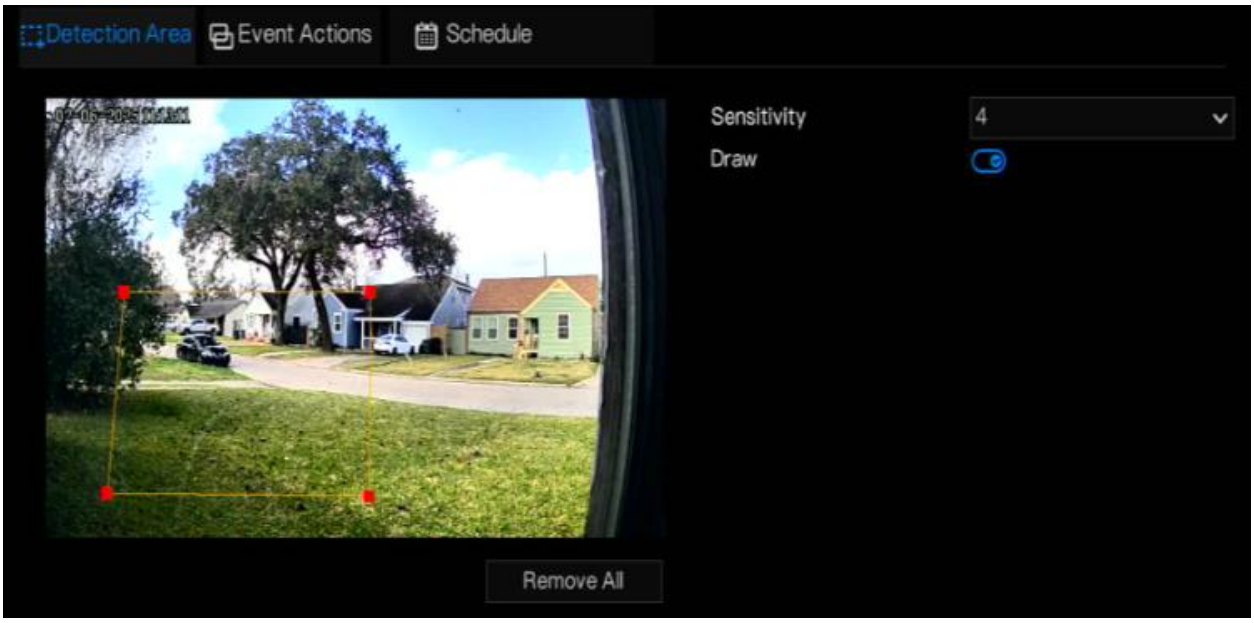
The **Intrusion** feature allows the device to trigger an event if an object crosses a set detection area. Use your mouse to draw a detection area in the interface and set any event actions as needed.

**Channel:** Select a connected device from the channel dropdown list.
**Enable:** Enable or disable the feature and apply it to a selected channel.

### Detection Area

This section allows you to draw and customize detection areas. Use your mouse to set the initial detection area on the screen, click and drag a corner of the detection overlay to customize the detection area.

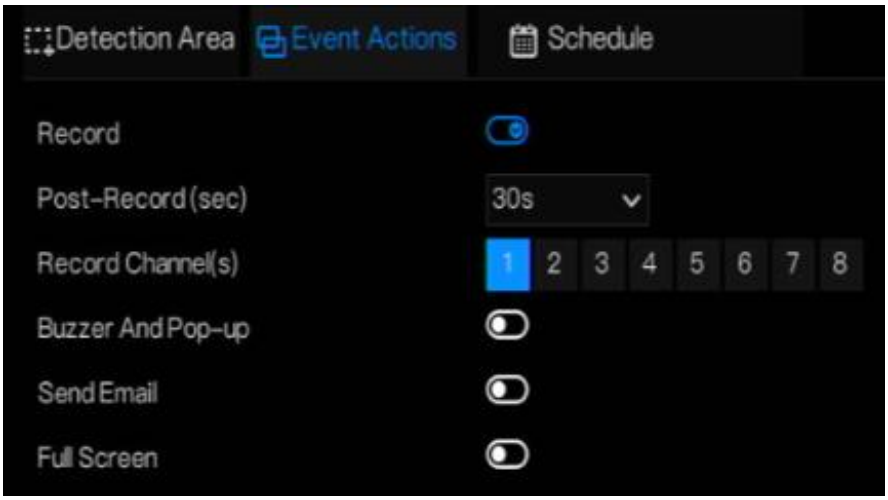
To remove the default or already set detection area, click the Remove All button. To set a detection area, click and hold the detection area interface and apply the four points on the screen to set the detection area overlay.




**Sensitivity:** Determines how easily the system triggers an intrusion alarm. It is recommended to keep the value as default, however, the higher the sensitivity, the more alerts you may receive.
**Draw:** Enable or disable the ability to draw a detection area.
**Remove All:** Remove a detection line from the detection area.

## Event Actions

The **Events Actions** menu allows you to set any additional action settings including recording, buzzer/pop up options, email notifications, etc.



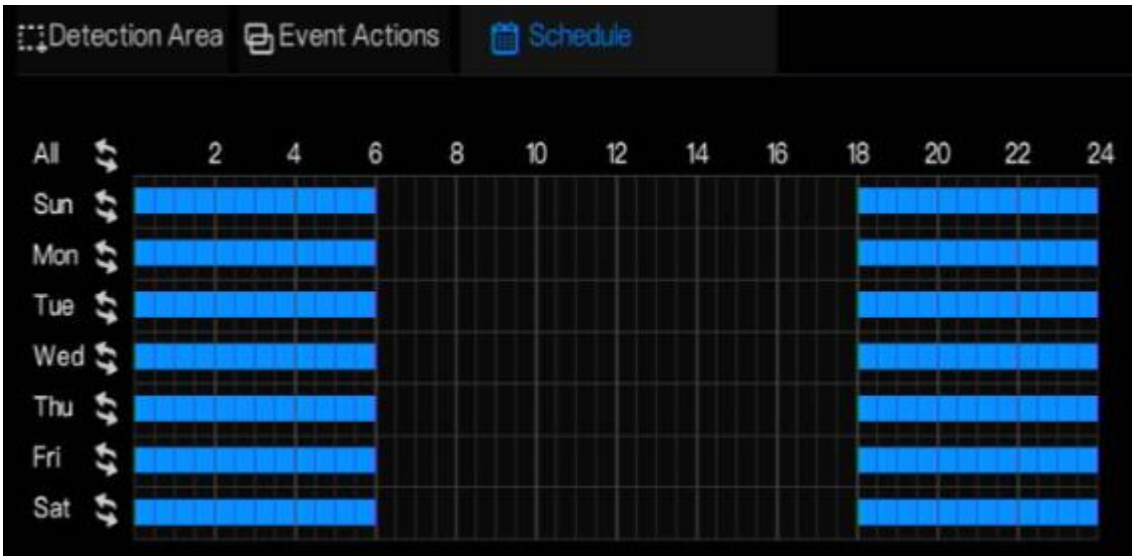

**Record:** Enable or disable the ability to record the event to the NVR.
**Post-Record (sec):** Determines how long the NVR continues recording after the feature is no longer being triggered.
**Record Channel(s):** Choose which camera channels will trigger recording when triggered.
**Buzzer and Pop-up:** Controls whether the NVR will activate its built-in buzzer and display a pop-up notification on the connected monitor when triggered.
**Send Email:** If email alerts are set up on the NVR, this option allows the NVR to automatically send an email notification when the feature has been activated.
**Full Screen:** When triggered, it will cause the camera view that detected the event to be displayed in full-screen mode on the monitor connected to the NVR.

## Schedule

The **Schedule** menu allows the user to set a schedule that will allow the NVR to only use this function during a specific time or day of the week.



To set a schedule, use your mouse to customize the schedule for a specific date and time. For instance, in this example, we **do not** want the system to use this function between 6am and 6pm (18:00) all week. Select the time bar and use your mouse to modify the areas between 6am and 18:00 for the specified days of the week.




The NVR will not trigger the feature at the specified time, click **Apply** to save the settings. To apply the schedule to multiple channels, click the **Copy** option and set the applicable channels to the schedule.

To reset the schedule back to default (24/7) click the icon. When in default mode, to clear the schedule entirely, click the icon.

To confirm settings, click the **Apply** button.

### Human/Vehicle Detection

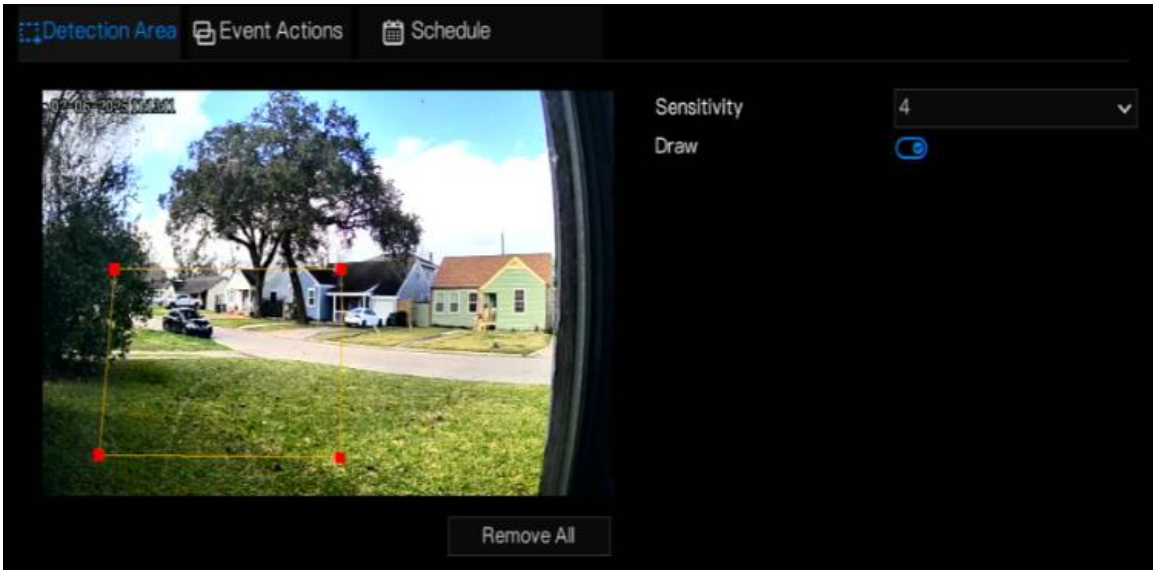
The **Human/Vehicle Detection** feature allows the device to trigger an event if an object such as a human or vehicle crosses a set detection area. Use your mouse to draw a detection area in the interface and set any event actions as needed.

**Channel:** Select a connected device from the channel dropdown list.
**Enable:** Enable or disable the feature and apply it to a selected channel.

### Detection Area

This section allows you to draw and customize detection areas. Use your mouse to set the initial detection area on the screen, click and drag a corner of the detection overlay to customize the detection area.

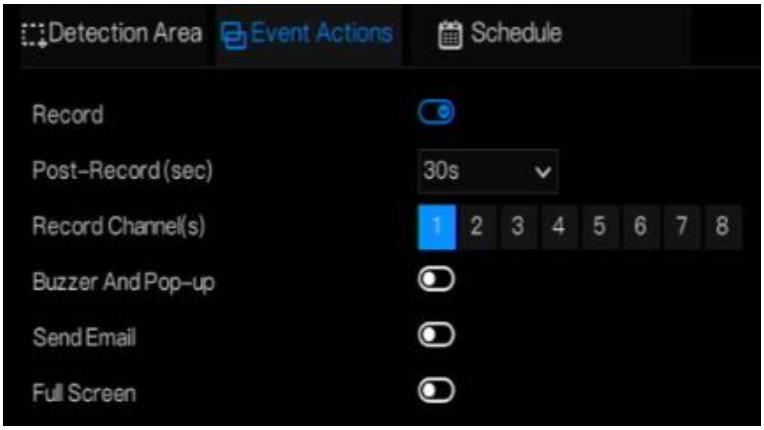
To remove the default or already set detection area, click the Remove All button. To set a detection area, click and hold the detection area interface and apply the four points on the screen to set the detection area overlay.




**Sensitivity:** Determines how easily the system triggers an alarm. It is recommended to keep the value as default, however, the higher the sensitivity, the more alerts you may receive.
**Draw:** Enable or disable the ability to draw a detection area.
**Remove All:** Remove a detection line from the detection area.

### Event Actions

The **Events Actions** menu allows you to set any additional action settings including recording, buzzer/pop up options, email notifications, etc.




**Record:** Enable or disable the ability to record the event to the NVR.
**Post-Record (sec):** Determines how long the NVR continues recording after the feature is no longer being triggered.
**Record Channel(s):** Choose which camera channels will trigger recording when triggered.
**Buzzer and Pop-up:** Controls whether the NVR will activate its built-in buzzer and display a pop-up notification on the connected monitor when triggered.
**Send Email:** If email alerts are set up on the NVR, this option allows the NVR to automatically send an email notification when the feature has been activated.

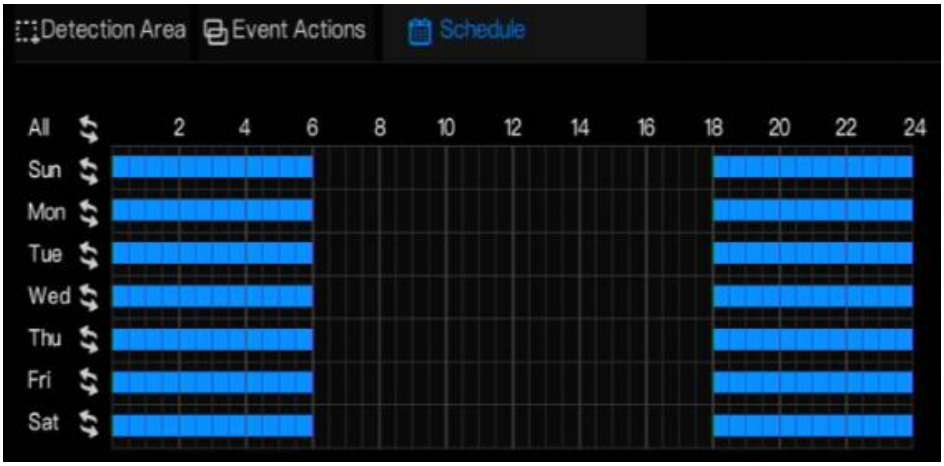
**Full Screen:** When triggered, it will cause the camera view that detected the event to be displayed in full-screen mode on the monitor connected to the NVR.

## Schedule

The **Schedule** menu allows the user to set a schedule that will allow the NVR to only use this function during a specific time or day of the week.




To set a schedule, use your mouse to customize the schedule for a specific date and time. For instance, in this example, we **do not** want the system to use this function between 6am and 6pm (18:00) all week. Select the time bar and use your mouse to modify the areas between 6am and 18:00 for the specified days of the week.




The NVR will not trigger the feature at the specified time, click **Apply** to save the settings. To apply the schedule to multiple channels, click the **Copy** option and set the applicable channels to the schedule.

To reset the schedule back to default (24/7) click the icon. When in default mode, to clear the schedule entirely, click the icon.

To confirm settings, click the **Apply** button.

### IVS Setting

The **IVS Setting** menu allows you to set active deterrent settings, such as a warning light, and overall sensitivity settings for IVS features within the system.

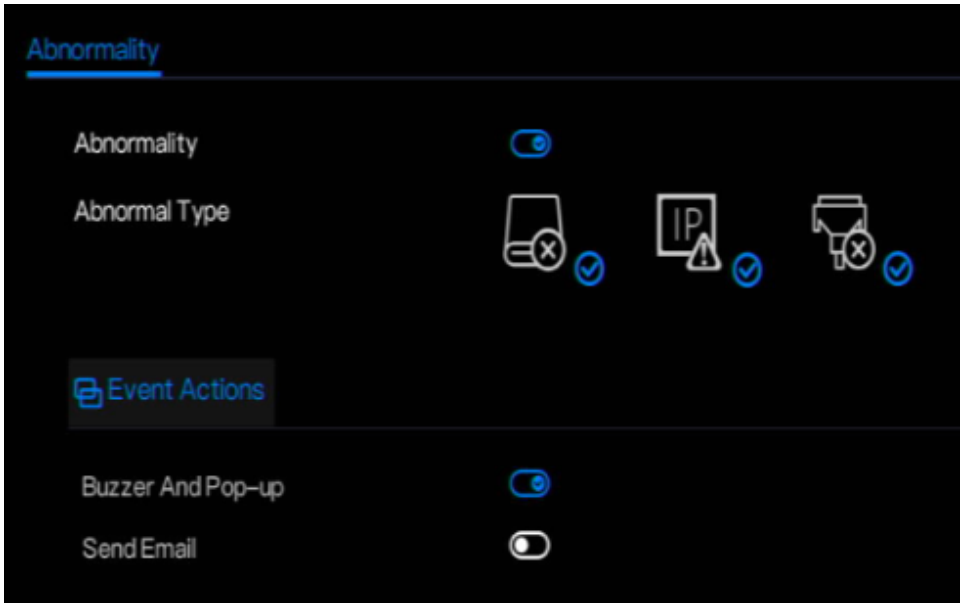



**Channel:** Select a connected device from the channel dropdown list.
**Sensitivity:** Use the provided slider to adjust overall IVS detection sensitivity. It is recommended to leave the sensitivity as default, however, the higher the sensitivity, the more alerts you may receive.
**Warning Light:** Enable or disable the white light deterrent LED. This is only applicable at night if using Smart Illumination as a night vision mode setting.

To confirm settings, click the **Apply** button.

### Abnormality

The **Abnormality** menu allows you to configure settings related to detecting and responding to unusual events or issues with the system itself or the connected cameras. It's about monitoring the health and functionality of your security setup.




**Abnormality:** Enable or disable all abnormality features.

**Abnormal Type:** Enable or disable specific abnormal events.

**Disk Alarm:** Notifies you if the hard drive is disconnected or not functioning.

**IP Conflict:** Notifies you if two or more devices on your network are using the same IP address.

**Network Disconnect:** Notifies you if the NVR becomes offline or disconnected.

### Event Actions

**Buzzer and Pop-up:** Controls whether the NVR will activate its built-in buzzer and display a pop-up notification on the connected monitor when triggered.

**Send Email:** If email alerts are set up on the NVR, this option allows the NVR to automatically send an email notification when the feature has been activated.

To confirm settings, click the **Apply** button.

# System

The **System** menu allows you to view and configure general system settings such as account, password, logs, and other vital settings related to your NVR.

### Information

The **Information** menu allows the user to view system details such as serial number, model number, network, channel, and hard drive information.

### System

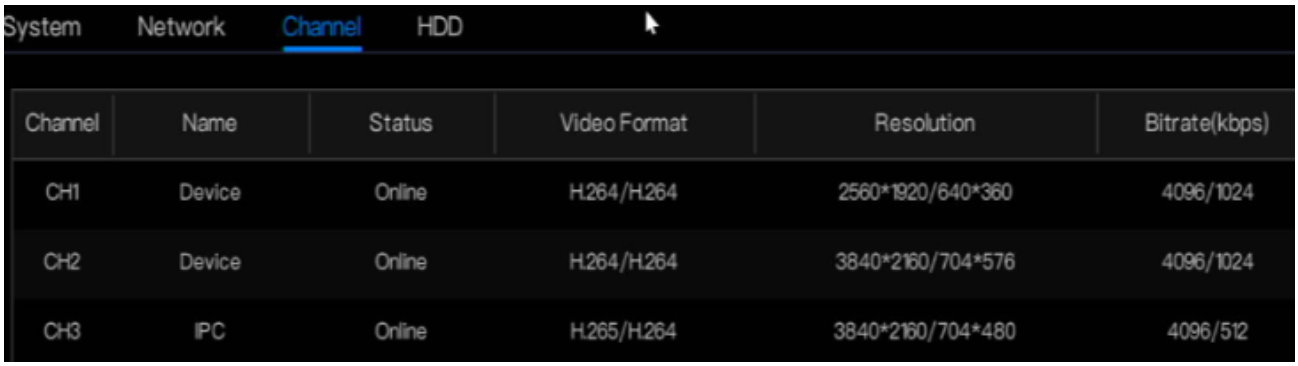
The **System** tab displays the serial number, device name, device type, model number, firmware version, and other details related to the NVR.

### Network

The **Network** tab displays the current connection status, IP address, MAC Address, and other details related to the network connection of your NVR.

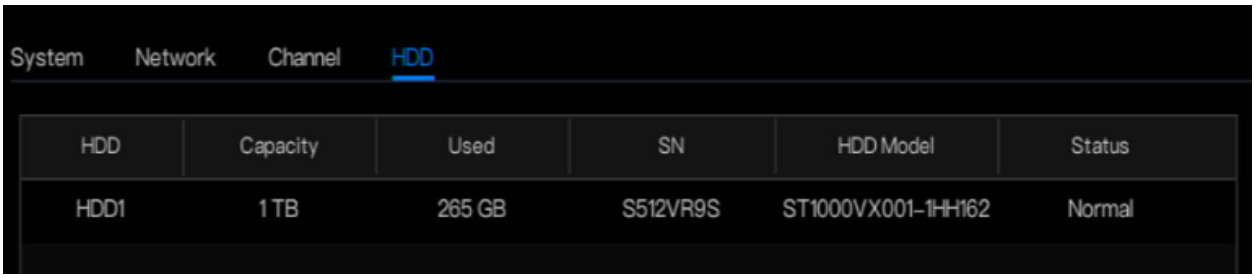
### Channel

The **Channel** tab displays all connected devices that are currently registered on your NVR, as well as the video format, resolution, and bitrate of each device.



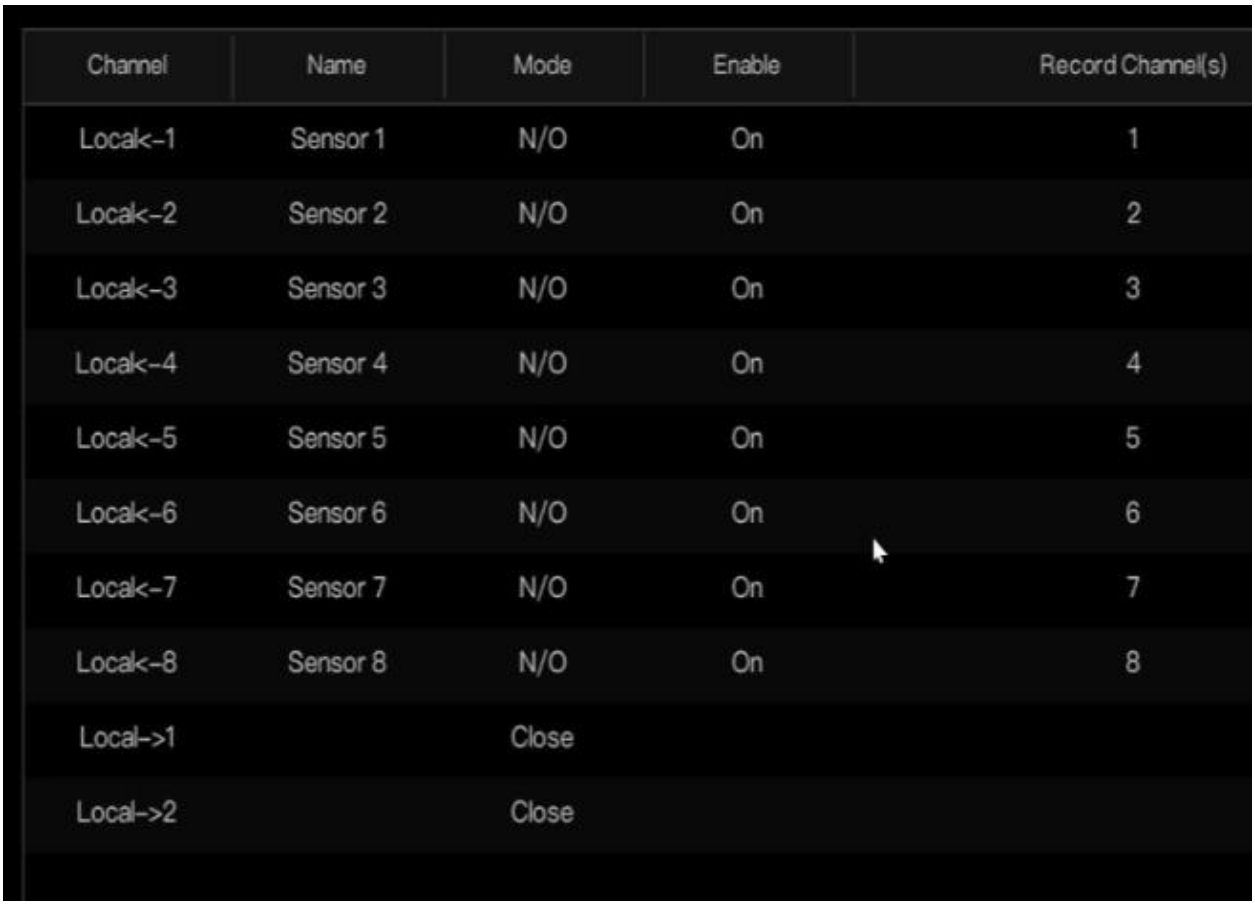
### HDD

The **HDD** tab displays the capacity, total amount of data used, serial number, model, and status of a connected hard drive.




### Alarm

The **Alarm** tab displays the current trigger status, modes, and general details related to external alarms set on the NVR.




### General

The **General** menu provides access to general device settings such as system, date & time, and camera time synchronization settings.

### System

The **System** tab displays the current name, output resolution, language, and temperature unit of the NVR.

**Device Name:** Displays the current name of the NVR as well as the ability to customize the name.
**Output Resolution:** Allows the user to change the resolution of the video output port. The default resolution is 1920 x 1080, please make sure the monitor supports a selected output resolution.
**Language:** Allows the user to adjust the language of the interface throughout the NVR.
**Temperature Unit:** Switch between Fahrenheit and Celsius temperature units.

To confirm settings, click the **Apply** button.

### Date And Time

The **Date And Time** menu displays the current time zone, format, and date & time settings of the NVR.

**Time Zone:** Use the dropdown menu to select the current time zone.
**Date Format:** Use this dropdown menu to select the format of the date & time overlay.
**Time Format:** Use this dropdown menu to select between a 24 hour or 12-hour format.
**NTP (Network Time Protocol):** This option allows the user to enable the use of an NST server to synchronize date and time to the NVR.

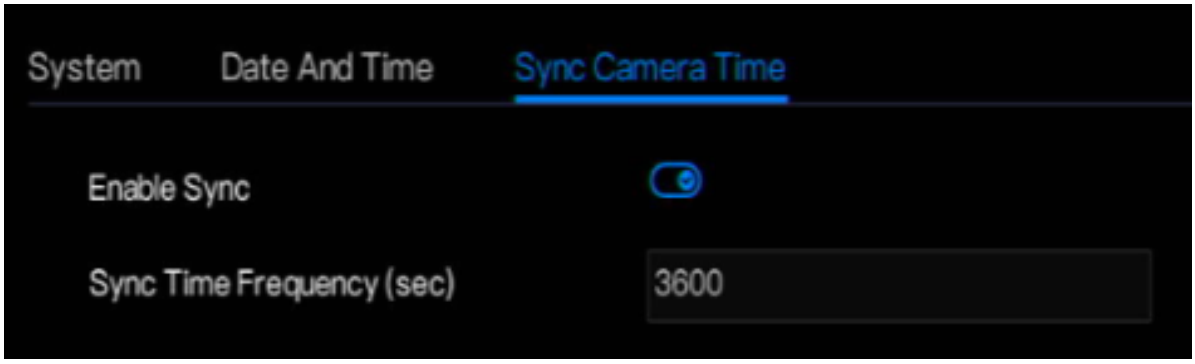
- **NTP Server:** Select an NTP server, default is time.windows.com
- **Sync Time Frequency (sec):** Controls how often the NVR checks and synchronizes its time with an NTP server.

**Date:** Display or modify the current date associated with the NVR.
**Time:** Display or modify the current time associated with the NVR.
**Update Time:** Click this option to apply the modified date and time to the system.
**Enable Daylight Savings Time:** This option allows the user to enable or disable daylight savings time. Use the provided start and end time options to update any DST settings.

To confirm settings, click the **Apply** button.

### Sync Camera Time

The **Sync Camera Time** menu controls how the NVR manages the time synchronization of its connected IP cameras.



**Enable Sync:** Enable or disable the ability to sync the camera time to the NVR.
**Sync Time Frequency:** Controls how often the NVR sends time synchronization signals to the connected IP cameras.

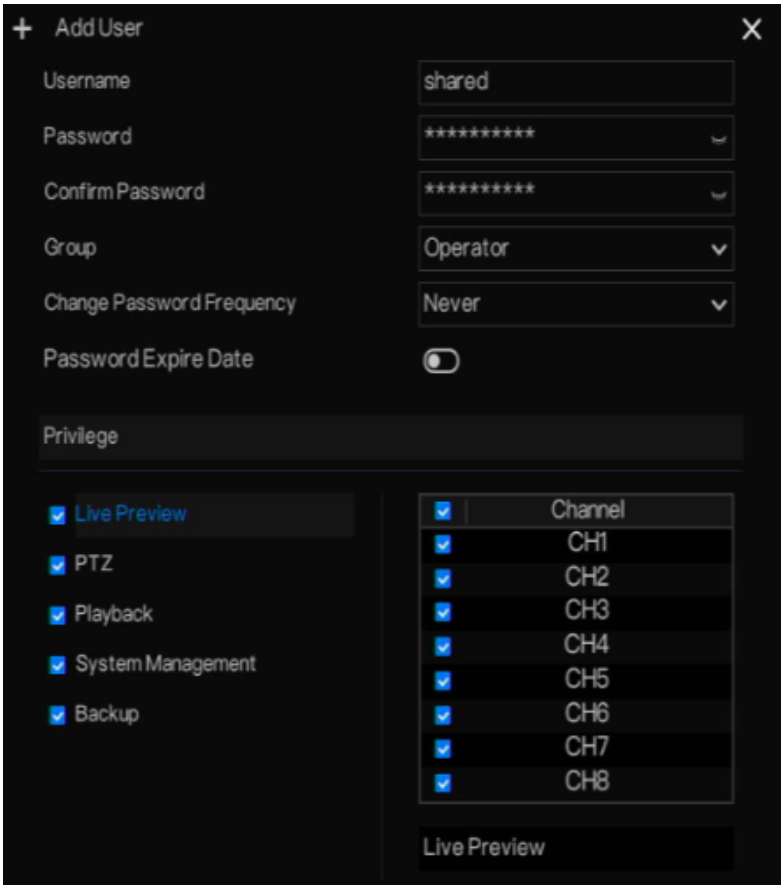
To confirm settings, click the **Apply** button.

### Account

The **Account** menu allows the user to add or customize user account settings or as well as any other advanced user settings related to the NVR. The admin user will control the main settings of this menu.

#### User

The **User** tab allows the admin user to customize and add a shared user as well as apply certain privileges to the shared user. To add a shared user, click the **Add** button.

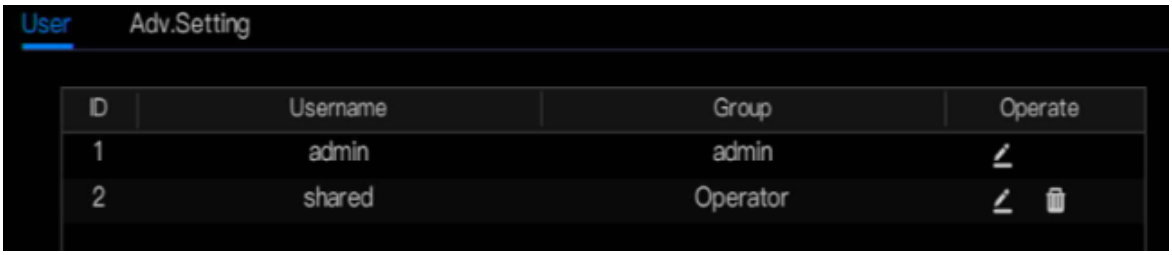



**Username:** The username of the shared user.
**Password:** The password assigned to the user. Enter and confirm the password.
**Group:** Grant the shared user a title such as administrator, operator, or media user.

**Administrator:** The greatest number of privileges such as device management, channel management, etc.
**Operator:** A moderate number of privileges such as playback, system management, etc.
**Media User:** The least number of privileges such as live view, playback, and back up.

**Change Password Frequency:** Set how often the NVR requires shared users to change their passwords.
**Password Expire Date:** Set a date on which the shared user's password will expire in the system.
**Privilege:** Manually selecting available privileges to a shared user.
**Channel:** Select which channels the shared user will have access to in the live view preview.

After all privileges have been set for the shared user, click **OK**. Click **Cancel** to not add the user.




To edit a user, click the modify icon to remove a shared user, click the delete icon .

### Adv. Setting

The **Adv. Setting** menu allows the user to modify additional account settings such as auto login, auto logout, etc.




**Enable Setup Wizard:** Enable or disable the set-up wizard to display after rebooting the NVR.
**Enable Auto Login:** Enable or disable the ability for a user to automatically log into the NVR.
**Auto Logout time (min):** The number of minutes the NVR can remain idle before the user is logged out. If the value is 0 the user will not be automatically logged out if the NVR is idle.
**Monitor channel(s) when logout:** Select which channels are displayed after the user is automatically logged out.

### Password

The **Password** menu allows the user to modify security settings for the NVR such as changing a password, setting a new unlock pattern, email, and security question settings.

### Change Password

The **Change Password** tab allows the user to modify an existing password for the NVR. To change the password, you will need to have the old password for the system. A valid password must have at least 6

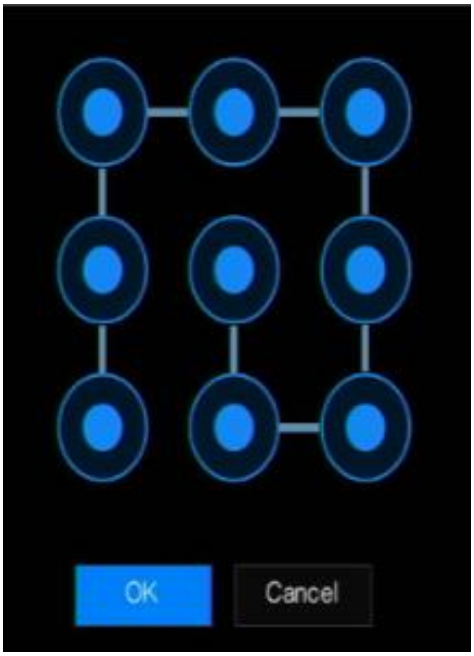
-32 characters, at least 2 kinds of numbers, lowercase/uppercase letters, or special characters. The following special characters are not permitted **!@#$*+-=_%&”(),/`.:;<>?|~[] or {}.**

To confirm settings, click the **Apply** button.

### Pattern Unlock

The **Pattern Unlock** tab allows the user to update or apply a pattern unlock which allows the system to use a pattern to access the NVR instead of a password. Please note, to update the pattern lock settings, the password for the NVR will be required.

**Password:** Enter the password of the NVR.
**Enable Pattern Unlock:** Enable or disable the ability to use a pattern to access the NVR.
**Pattern Unlock:** Click the **Pattern Setting** option to draw a unlock pattern. Draw the pattern twice and click **OK** to set the unlock pattern.




To confirm settings, click the **Apply** button.

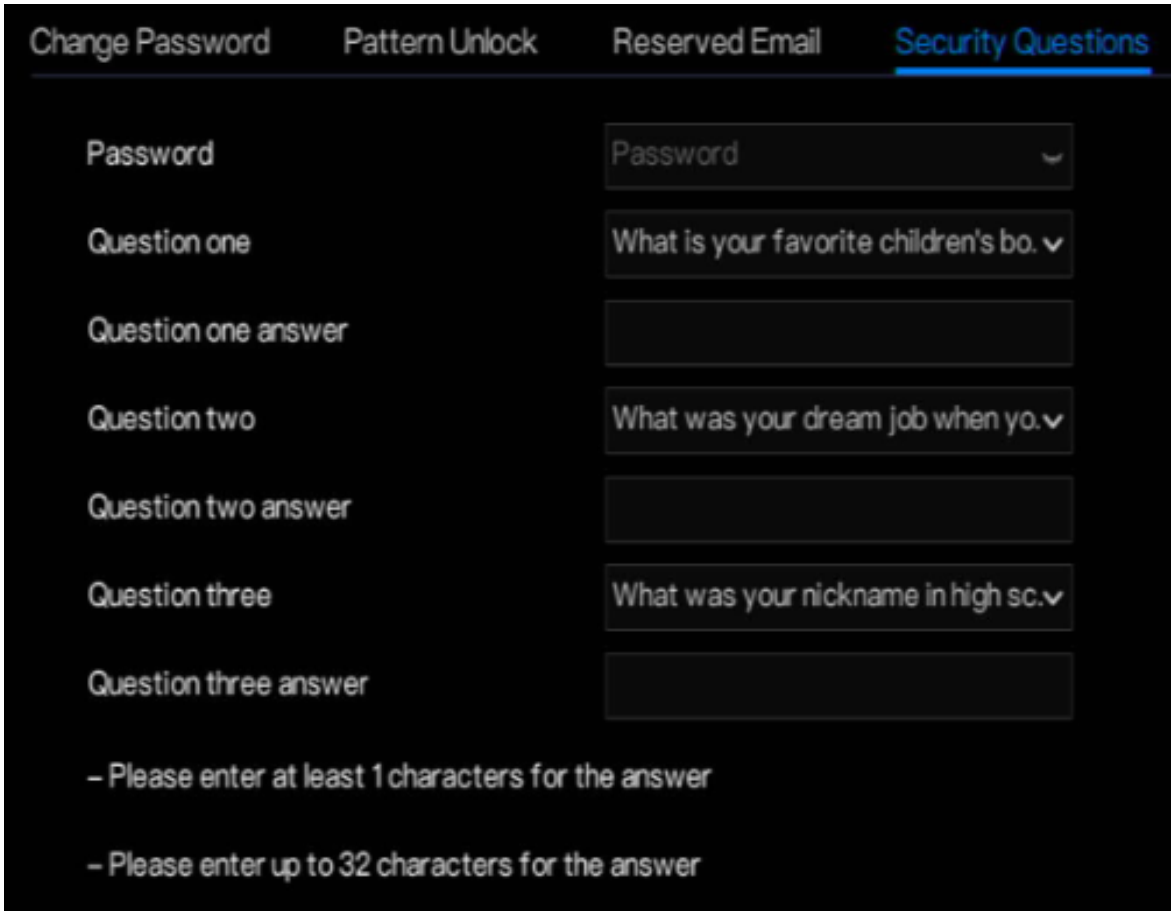
### Reserved Email

The **Reserved Email** tab allows the user to set or update the current system email address associated with the NVR. The current password for the NVR will be needed to update the reserved email.

To confirm settings, click the **Apply** button.

### Security Questions

The **Security Questions** tab allows the user to update the security questions associated with your NVR. The security questions provide an extra layer of security for password integrity. The current password for the NVR is required to change any security questions in the system.




To confirm settings, click the **Apply** button.

### Layout

The **Layout** menu allows the user to configure how the live video feeds from your cameras are displayed on the monitor connected to the NVR.

**Layout List:** Click the "+" to customize and create a channel layout tour.

- 1 x 1: Full screen view of one selected channel.
- 2 x 2: Provides a 4-channel window layout.
- 1 x 7: Provides an 8-channel view with channel 1 beginning the larger view.
- 3 x 3: The default view provides a list of all channels in a 3-column view.

**Layout Name:** The current layout that is applied to the interface.
**Duration(sec):** The amount of time the channel will be displayed in the tour before it switches.
**Edit:** Edit or customize a selected layout list.
**Delete:** Delete a selected layout list.

### Auxiliary Screen

The **Auxiliary Screen** menu allows the user to adjust or set a secondary screen video output device to the NVR. Click the **Enable Auxiliary Screen** option to display additional settings and enable the feature.




**VGA Output Resolution:** Provides a dropdown menu of all available resolutions for the VGA output port on the back the NVR. The recommended output resolution is 1920 x 1080.
**Maximum Channels for HDMI and VGA:** This dropdown menu allows the user to customize the maximum amount of a channel outputs that can be applied to each screen.
**Layout Mode:** Customize how the channels are configured on the screen.
**Display Page:** Specifically dictates what content is shown on that secondary, auxiliary monitor.
**Enable Auto Sequence:** Automatically switch between different camera feeds or display layouts on the secondary monitor.

**Note:** Enabling or disabling this feature will reboot the NVR.

### Import Export

The **Import Export** menu allows the user to export and import system settings using a USB flash drive. To export a current configuration, click the Export option and save it to a USB flash drive.

To import the settings back into the NVR, insert the USB flash drive with the exported config file on it to the NVR, and click Import, the NVR will import and apply the config settings.

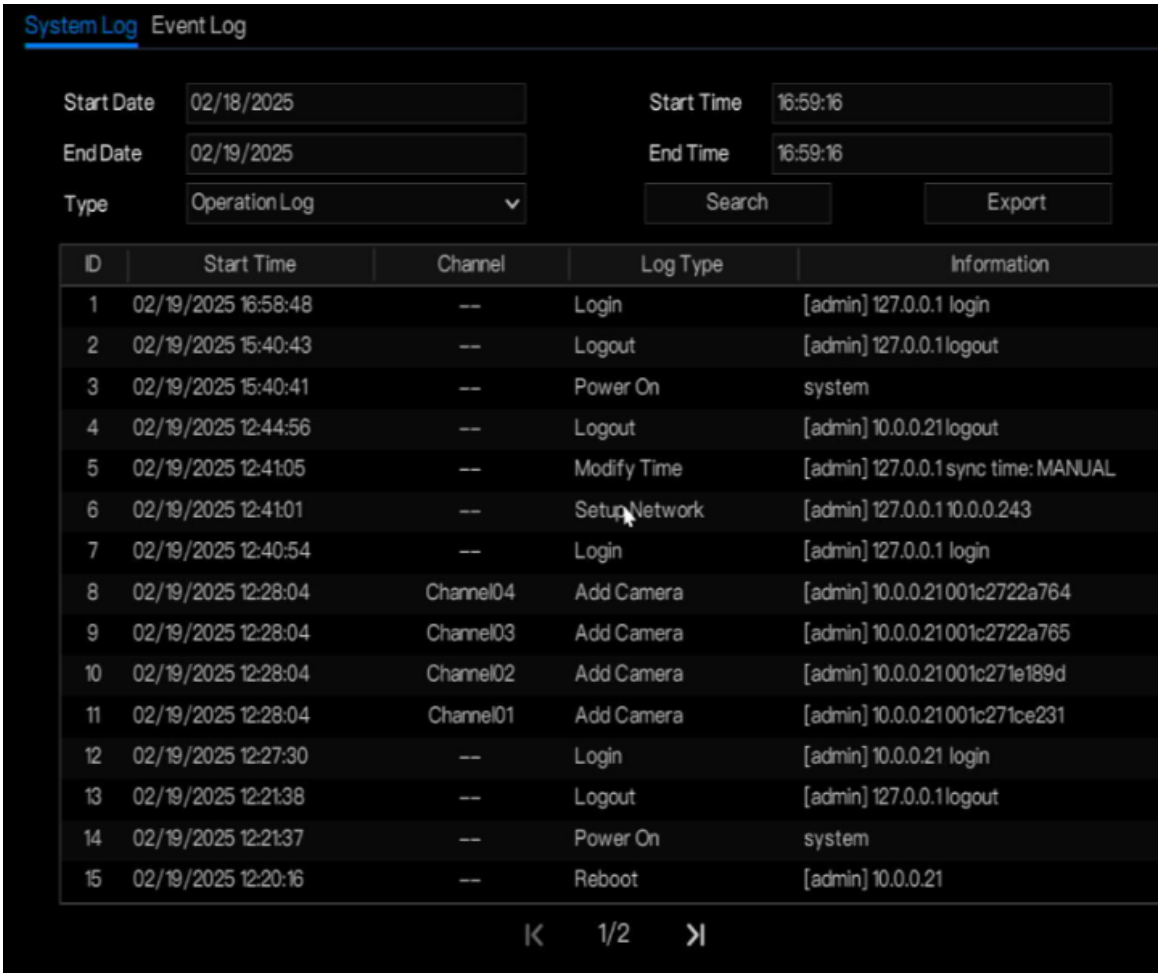
### Logs

The **Logs** menu provides a record of various events and activities that have occurred on the NVR and within the connected camera system.

### System Log

The **System Log** tab provides a record of system related logs including operational and system logs. To view a system log, enter the start and end date and use the Type dropdown menu to select between an operation or system log. Enter the start and end time of the log and click **Search**.

A record of the requested log details will be displayed. To export this information to an inserted USB flash drive, click **Export** and save it to your USB flash drive.




### Event Log

The **Event Log** tab provides a record of event related logs including operational and system logs. To view event logs, enter the start and end date and use the **Type** dropdown menu to select which events to view (select All if you want to view all events). Enter the start and end time of the log and click **Search**.

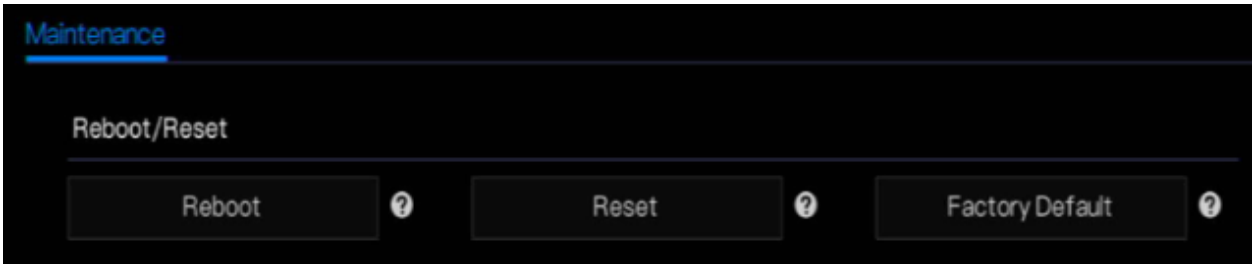
A record of the requested log details will be displayed. To export this information to an inserted USB flash drive, click **Export** and save it to your USB flash drive.

### Reboot/Reset

The **Reboot/Reset** menu provides options to manually reboot, reset, or factory reset the NVR. An auto reboot option can also be enabled that will allow the NVR to automatically be rebooted at a set time.

### Maintenance

The **Maintenance** tab allows the user to reboot, reset, or factory reset the NVR.




**Reboot:** A reboot will turn the NVR off and on again. No settings will be affected during a reboot.
**Reset:** A reset of the NVR will reset all basic functions of the NVR however will maintain the same username and password.
**Factory Default:** A factory default will reset everything in the NVR, including username and passwords, back to its original factory default settings.

### Auto Reboot

The **Auto Reboot** tab allows the user to set a time and frequency in which the NVR will automatically reboot itself.

**Enable:** Enable or disable the auto reboot feature
**Reboot Time:** The frequency in which the auto reboot will occur, it can be per day, per week, or per month. Enter a time in which the reboot will occur.

To confirm settings, click the **Apply** button.

### Firmware

The **Firmware** menu provides an interface where users can manually upgrade NVR firmware. A USB flash drive will be required to upgrade the firmware using the local GUI.



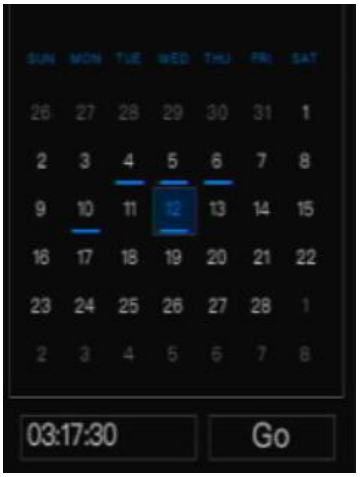

Insert the USB flash drive with the firmware file and click **Upgrade**. Select the file and upgrade.

# Playback

The **Playback** menu allows the user to access and review recorded events from a connected camera. To access the playback menu from the local GUI, click the playback icon in the bottom banner of the video wall to load the interface. The playback menu can also be accessed by clicking the home icon and selecting playback.

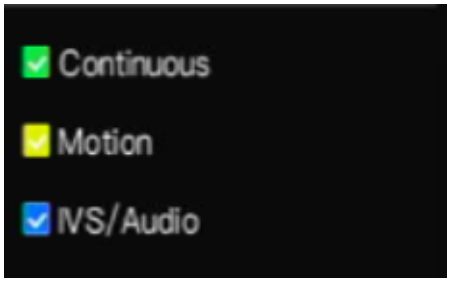



To view recordings, select a channel from the device list, if you want to view all channels, click **Select All**. Use the calendar provided to choose a specific month, date & time of the events. Days of the week with events will be underlined in blue. To view events that occurred at a specific time on the timeline, enter the time of the event into the provided field and click **Go**.






A timeline of all events will be displayed, the orange represents motion, IVS, and audio alarm events. Use the provided record type menu to filter between continuous, motion, or IVS/audio recordings.

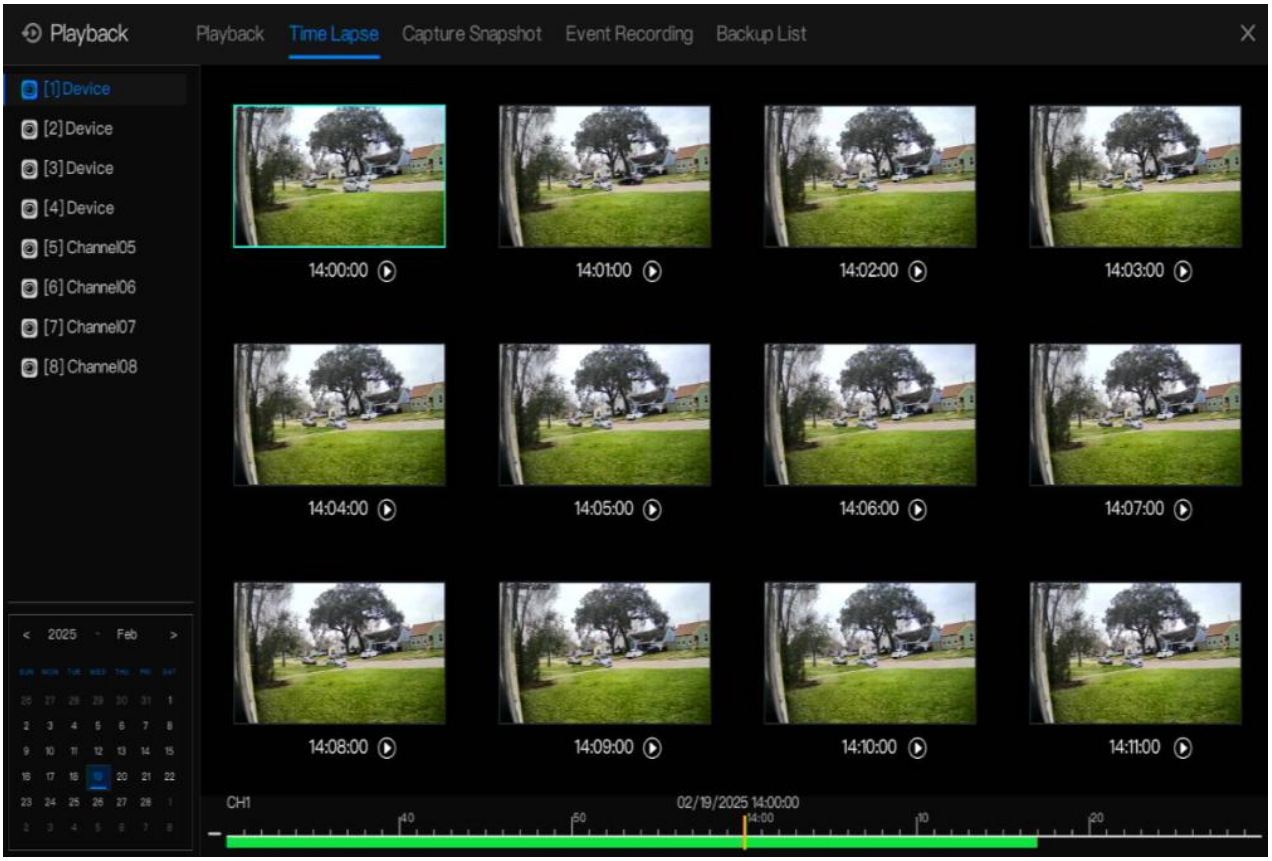



| Icon | Feature |
|---|---|
| | **Split Screen:** Choose between a 1, 4, or 9 windowed view. |
| | **Reversed:** Rewind the event being viewed. |
| | **Play/Pause:** Play or pause an event |
| | **Stop:** Stop an event from being played. |
| | **Next Frame:** Scroll through the recording frame by frame. |
| | **30s Backward:** Rewind the recording for 30 seconds. |
| | **30s Forward:** Fast forward the recording for 30 seconds. |
| | **- Speed +:** Increase or decrease the playback speed. |
| | **Zoom In:** Digitally zoom in while the recording is being played. |
| | **Audio:** Enable or disable the audio. |
| | **Start Clip:** Click this option to download a recording. Click the save icon, enter the start and end time of the clip and download it to an inserted USB flash drive. |
| | **Batch Backup:** Click this option to download recordings from multiple channels. |
| | **Manual Snapshot:** Manually take a screenshot of the recording of a channel. |
| | **Display:** Display a 1 hour, 6-hour, 12 hour, or 24 hours of recordings in the timeline. |

### Time Lapse

The **Time Lapse** tab creates a visual timeline of recorded video by displaying a grid of thumbnail images. Each thumbnail represents a snapshot of the video at a specific point in time. It is a smart playback feature that is used to save time by providing a fast and efficient way to review recorded events.

To use this feature, select a channel from the device list to display a thumbnail at each time point provided in the timeline. The interface will have 12 thumbnails at two-hour intervals by default, you can double click the left mouse button to reduce the interval to 30 minutes and double click the left mouse button again to reduce the thumbnail every minute. You can view every minute of the video, of course, if you want to change the time interval back to 30 minutes or two hours, just right-click.



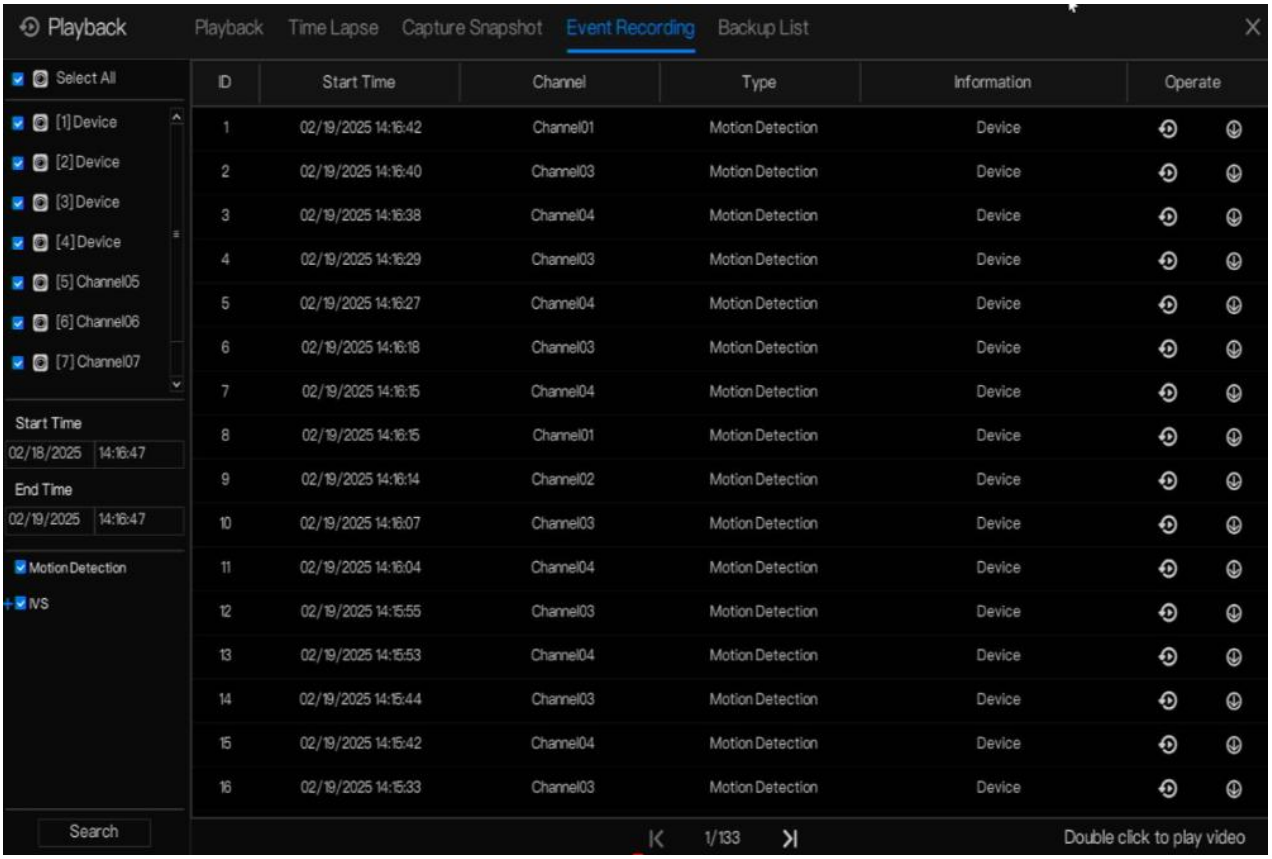

## Capture Snapshot

The **Capture Snapshot** menu allows you to take a still image from the recorded video footage. It essentially grabs a frame from the video and saves it as a picture file.

To use this feature, select a channel from the channel list, enter a start and end time date & time for the event, and select a snapshot mode, it can be a scheduled, motion, or all event mode, click **Search**. Use the arrow icons provided at the bottom of the interface to scroll through pages of snapshot events. To play a video of the event, select the thumbnail and click the play button. The recording can also be backed up using a USB flash drive. Insert the USB flash drive into the NVR and click the backup icon.

## Event Recording

The **Event Recording** tab provides a file list of each record type stored on the NVR. To use this feature, select a channel from the channel list, enter a start and end time date & time for the event, and select a record type (motion or IVS), click **Search**.




Use the icon arrows provided at the bottom of the interface to scroll through pages of events. To play a video of the event, select the thumbnail and click the play button in the **Operate** field. The recording can also be backed up using a USB flash drive. Insert the USB flash drive into the NVR and click the backup icon.

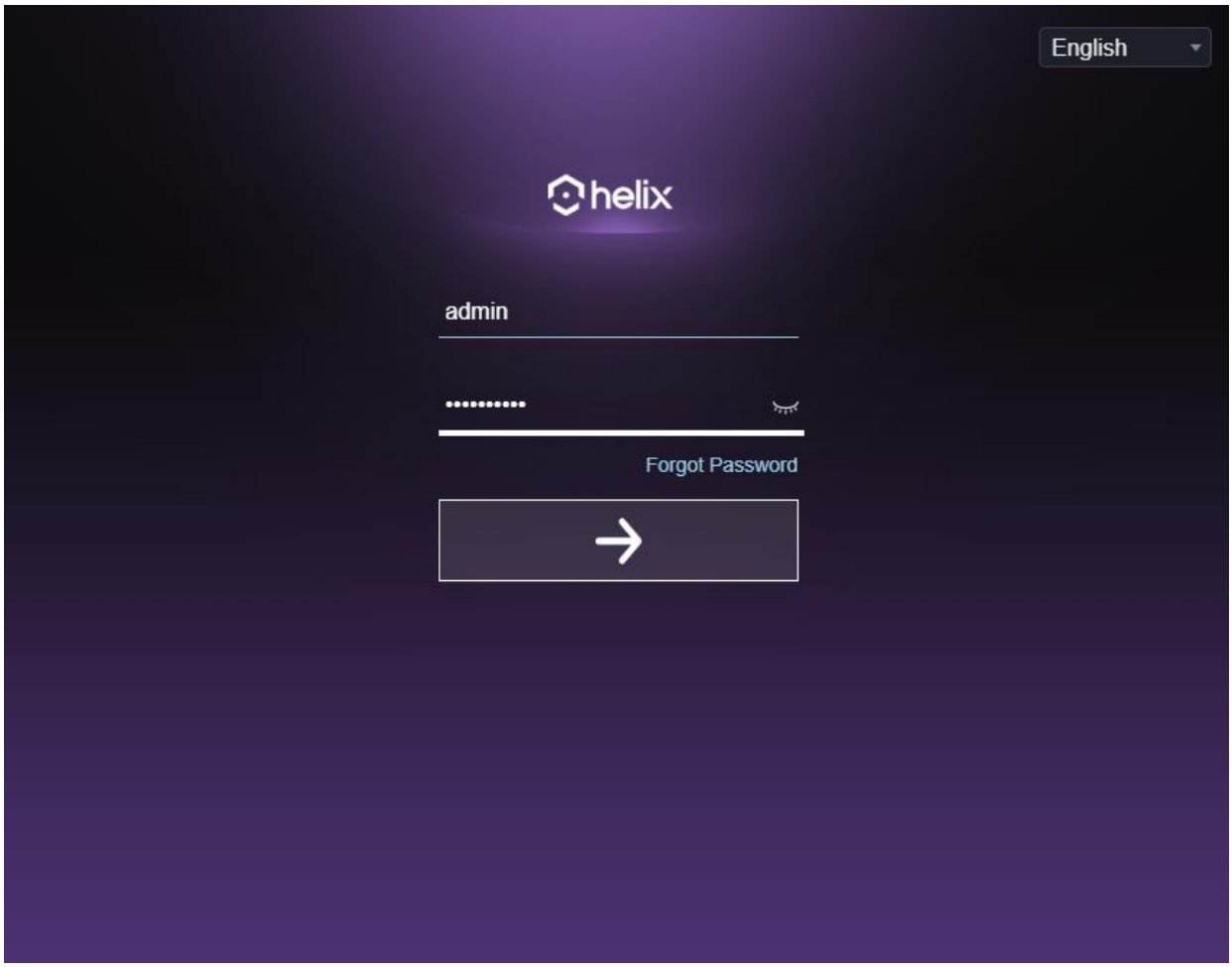
**Backup List**

The **Backup List** tab allows the user to track the details and progress of an event that is being backed up and downloaded to an inserted USB flash drive.

# Web Operation

This device features the latest in JS technology which allows you to access it on a wide variety of web browsers including Google Chrome, Firefox, Safari, and other mainstream web browsers. For more information on how to access your device from your computer please refer to the information below. To access your device from your computer in a web browser you will need to first locate the device's IP address. To locate the device's IP address, it is highly recommended to download our free Helix IP Config Tool software.

In the **All Downloads** menu, click on **Helix IP Config** software to begin the free download. Once the download has been completed installing, locate the IP address associated with the device you would like to view in the browser. Open the web browser and enter the IP address into your browser. Enter the username and password for your device and login to your device.




**Port Forwarding Your Helix NVR for Remote Access**

Port Forwarding is a required method of setting up remote access to your NVR. Remote access will allow you to view and manage your Helix NVR from a location other than where it is physically located. This process will require direct access to your router.

1. Open a web browser and enter the current IP address for the NVR. The IP address can be easily accessed by using the Helix IP Config tool on your computer.
2. In the main UI, click on the settings option, click Network, and select Connection.
3. Update the HTTP port from its default port number (80) to another port number. The recommended port range can be between 1028-65534, do not choose a port number that will conflict with any other devices port forwarded on your network. Click **Apply**.
4. Allow the NVR to reboot and reload in the browser. The IP address will now display the port number within the URL.
5. Access the router on your network and port forward the TCP/UDP (HTTP port) to the updated port number. The control port (30001) will also need to be port forwarded as well using the same protocol on your network.

6. Verify the NVR has been properly port forward, visit canyouseeme.org and enter the HTTP port number associated with your NVR. If properly forwarded, it will say Success.
7. To use DDNS, access the Settings>>Network>>DDNS and select a protocol.
8. Enter the domain name and click **Apply**. Click **Test** to test the DDNS domain. The domain will be DomainName.helixddns.com

# FCC Statement

1. This NVR complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this NVR may not cause harmful interference, and (2) this NVR must accept any interference received, including interference that may cause undesired operation.
2. The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes, or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.
3. (b) For a Class B digital NVR or peripheral, the instructions furnished by the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital NVR, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to the radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. -- Consult the dealer or an experienced radio/TV technician for help.

4. RF exposure warning

This equipment must be installed and operated in accordance with the instructions provided and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all people and must not be co-located or operated in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

## Appendix A: Toxic or Hazardous Materials or Elements

| Component Name | Toxic or Hazardous Materials or Elements | | | | | |
|---|---|---|---|---|---|---|
| | Pb | Hg | Cd | Cr VI | PBB | PBDE |
| Sheet Metal (Case) | O | O | O | O | O | O |
| Plastic Parts （Panel） | O | O | O | O | O | O |
| Circuit Board | O | O | O | O | O | O |
| Fastener | O | O | O | O | O | O |
| Wire and Cable/Ac Adapter | O | O | O | O | O | O |
| Packing Material | O | O | O | O | O | O |
| Accessories | O | O | O | O | O | O |

**Note**

O: Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T11363-2006 standard.

X: Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T11363-2006 standard. During the environmentally friendly use period (EFUP) period, the toxic or hazardous substance or elements contained in products will not leak or mutate so that the use of these (substances or elements) will not result in any severe environmental pollution, any bodily injury or damage to any assets. The consumer is not authorized to process such kind of substances or elements, please return to the corresponding local authorities to process according to your local government statutes.

**Slight differences may be found in the user interface based on specific model numbers.**
**All the designs and software here are subject to change without prior written notice.**
**All trademarks and registered trademarks mentioned are the properties of their respective owners.**