User Guide

MOBOTIX MOVE NVR-64

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BeyondHumanVision

MOBOTIX MOVE

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Before You Start

This section contains the following information:

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Support

If you need technical support, please contact your MOBOTIX dealer. If your dealer cannot help you, he will contact the support channel to get an answer for you as quickly as possible.

If you have internet access, you can open the MOBOTIX help desk to find additional information and software updates. Please visit:

www.mobotix.com > Support > Help Desk

Legal Notes

Legal Aspects of Video and Sound Recording

You must comply with all data protection regulations for video and sound monitoring when using MOBOTIX AG products. Depending on national laws and the installation location of the cameras, the recording of video and sound data may be subject to special documentation or it may be prohibited. All users of MOBOTIX products are therefore required to familiarize themselves with all applicable regulations and to comply with these laws. MOBOTIX AG is not liable for any illegal use of its products.

Declaration of Conformity

The products of MOBOTIX AG are certified according to the applicable regulations of the EC and other countries. You can find the declarations of conformity for the products of MOBOTIX AG on www.mobotix.com under **Support > Download Center > Certificates & Declarations of Conformity**.

RoHS Declaration

The products of MOBOTIX AG are in full compliance with European Unions Restrictions of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS Directive 2011/65/EC) as far as they are subject to these regulations (for the RoHS Declaration of MOBOTIX, please see www.mobotix.com, **Support > Download Center > Documentation > Brochures & Guides > Certificates**).

Disposal

Electrical and electronic products contain many valuable materials. For this reason, we recommend that you dispose of MOBOTIX products at the end of their service life in accordance with all legal requirements and regulations (or deposit these products at a municipal collection center). MOBOTIX products must not be disposed of in household waste! If the product contains a battery, please dispose of the battery separately (the corresponding product manuals contain specific directions if the product contains a battery).

Disclaimer

MOBOTIX AG does not assume any responsibility for damages, which are the result of improper use or failure to comply to the manuals or the applicable rules and regulations. Our General Terms and Conditions apply. You can download the current version of the **General Terms and Conditions** from our website at www.-mobotix.com by clicking on the corresponding link at the bottom of every page.

FCC Disclaimer

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

2

Overview

Introduction

MOBOTIX MOVE NVR-64 premium H.265 Network Video Recorder built with Intel® Skylake platform along with Intel® HD Graphics 530. MOBOTIX MOVE NVR-64 provides great computing power and excellent graphic performance that support up to 4K resolution.

PoE Switch

With its Plug and Play (PnP) functionality, the integrated 24-port Power over Ethernet (PoE) switch of the MOBOTIX MOVE NVR-64 directly powers and displays 24 cameras. By connecting additional **external** high speed PoE switches, the MOBOTIX MOVE NVR-64 can display up to 40 more live view cameras simultaneously.

Software & Storage

With pre-installed software, MOBOTIX MOVE NVR-64 has great flexibility to configure both NVR and IP Camera settings based on users' needs. Moreover, MOBOTIX MOVE NVR-64 offers RAID 0/1/5/10 supporting to both expand storage and increasing the performance when user is working on multiple tasks (e.g. watching streaming videos & recorded videos through various browsers and setting up NVR configuration remotely).

NVR Data Security

MOBOTIX MOVE NVR-64 is compliant with the NDAA and can be used in US government-related deployments along with all surveillance products from MOBOTIX. MOBOTIX MOVE NVR-64 has been tested extensively to ensure every customer an affordable, reliable, and secure end-to-end surveillance solution.

Failover/Backup Server Functionality

Out of the box, the firmware of the MOVE NVR-64 supports its primary function as a Network Video Recorder.

By using an alternative firmware, the MOVE NVR-64 can be used as *Failover/Backup* server. Make sure to load this firmware on the target NVR **before setting up and configuring** the device. Open the MOBOTIX Download Center **www.mobotix.com > Support > Download Center > Software Downloads** and click on **MOVE NVR** to download the firmware.

If the MOVE NVR-64 is used as Failover/Backup server, it will no longer support the direct recording functionality.

For more information on the Failover/Backup server functionality, see the section NVR Failover Service, p. 143.

MOBOTIX Documentation

The MOBOTIX MOVE NVR-64 User Guide guide contains useful information for setting up this product. Make sure you have followed the instructions contained in this document.

To find the document, follow the link below or scan the QR code.

www.mobotix.com > Support > Download Center > Marketing & Documentation > Manuals > Video Management Systems > MOBOTIX MOVE NVR

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NVR Installation

This chapter describes the NVR installation procedure. Uninterruptable Power Supply (UPS) is highly recommended during system setup to prevent unnecessary data loss and system damage caused by power fluctuation.

Unit Placement

Before powering up the MOBOTIX MOVE NVR-64, please avoid placing the NVR in any space that reduces air-flow to or from the unit. This can help preventing the unit from overheating. DO NOT operate the unit in areas with temperatures over 40 °C/104 °F.

This NVR utilizes heat-conducting design to transfer internal heat to the case, especially to the bottom of the unit.

NOTE! DO NOT remove the rubber feet! Always leave an open space for air ventilation on the bottom of the unit.

Unit Setup

Make sure that your mouse, network connection, and display monitor are set up properly before powering up. Models with PoE ports need to connect IP Cameras. Any other external devices (e.g. external hard drive) should make connection to the unit only AFTER the system is completely powered-on.

System Startup

Power Up and Login

First Login

When logging in for the first time, you need to set the password for the Admin account. Make sure to store this password information in a safe place.

NOTE!

- Password length is 6 to 12 characters.
- These characters are allowed: A-Z, a-z, 0-9, !#$%&'-.@^_~

At this point, you can also choose your preferred user interface language.

Login

Once the NVR is powered on, a popup window will appear:

- Click on **OK** to continue as user **Guest**.

  NOTE! As guest user, you can only see live video. It is not possible to change any settings or to export data.

- Select a different user and enter the password.

Failover/Backup Server Functionality

NOTE!

Out of the box, the firmware of the MOVE NVR-64 supports its primary function as a Network Video Recorder.

By using an alternative firmware, the MOVE NVR-64 can be used as *Failover/Backup* server. Make sure to load this firmware on the target NVR **before setting up and configuring** the device. Open the MOBOTIX Download Center **www.mobotix.com > Support > Download Center > Software Downloads** and click on **MOVE NVR** to download the firmware.

If the MOVE NVR-64 is used as Failover/Backup server, it will no longer support the direct recording functionality.

For more information on the Failover/Backup server functionality, see the section NVR Failover Service, p. 143.

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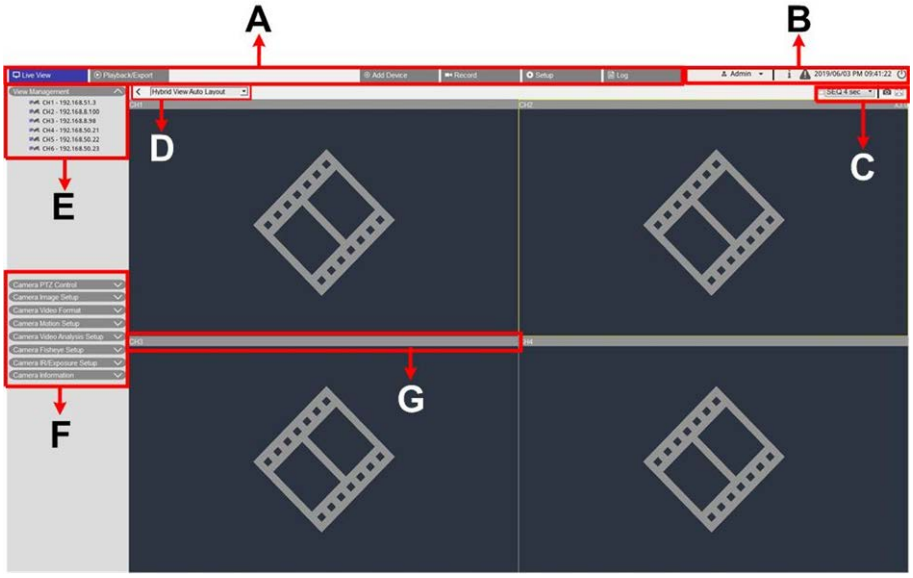
System User Interface Introduction

After system startup, the NVR **Live View** window will appear. The following sections describe the items on the user interface.

Live View Window Overview



A	Function Tabs	**B**	MISC.
C	Channel Viewing Function Keys	**D**	Hybrid View Layout Management
E	View Management	**F**	Camera Setup Panels
G	Camera Title Bar		

A - Function Tabs

Item	Description
Function Tabs	**Live View**, **Playback/Export**, **Add Device**, **Record**, **Setup** and **Log**.

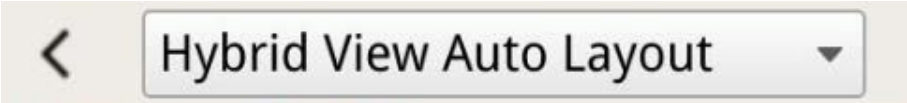
B - MISC.

Item	Description
Login/Logout (Admin/Guest)	Login the NVR system with an authorized user account or logout the currently logged-in account.
System Info	Click ℹ to display the NVR System Info Pane. Basic NVR information can be checked here, e.g. NVR software version, CPU status, RAM (memory) usage, etc. Click ℹ again to hide the System Info Pane.
Instant Notification	Click ⚠ to display the notification center. **System** ▪ When either read/write speed is slow, or CPU temperature is high, users will receive warning messages here. **Device** ▪ When an IP camera event is triggered, the alert messages will be listed here. **Edge** ▪ **Download Status:** Users can check the download status when the NVR is retrieving data from the edge recording device of a connected IP camera. ▪ **Upload Status:** Users can check the progress of file uploading to cloud storage here. **Alarm notification** When there is alarm, there will be notification shown here.
Date/Time	This shows the current date/time information.
Power Panel	Click ⏻ to display the Power Panel. Select the corresponding option to safely reboot or shutdown the NVR system.

C - Channel Viewing Function Keys

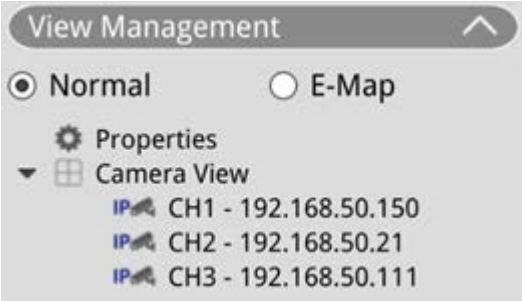
Item	Description
Sequence Display	This function is used to sequence the live view videos in single-channel mode from the connected IP cameras to avoid manual backtracking. Select the sequence dwell time (4 to 15 seconds) and check the box to enable sequence display in single-channel mode.
Snapshot	This function is used to capture the current viewing in Live View or Playback/Export tab.
Full-Screen	Click <>, and the NVR will go full-screen. Move the mouse cursor to the top-center of the monitor, and a float function bar will show up. Click <> to fix the function bar. Users can capture the current viewing image by clicking <>. To exit the full-screen mode, click <>, and the NVR will return to the previous viewing mode.

D - Hybrid View Layout Management



Item	Description
View Layout Setup	Users can choose or design their desired display layout by selecting **Hybrid View Auto Layout** or **Hybrid View Custom Layout**. ■ **Hybrid View Auto Layout:** The NVR automatically adjusts the layout to the suitable layout format when new IP devices are added.to the NVR. ■ **Hybrid View Custom Layout:** Users can self-define the display layout using this function. The NVR provides users at most 4 display layouts to setup. The following section will further describe how to setup a display layout.
Hide View Pane	Click < to hide the View Management Pane and Camera Setup Pane. Click > to show the pane.

E - View Management

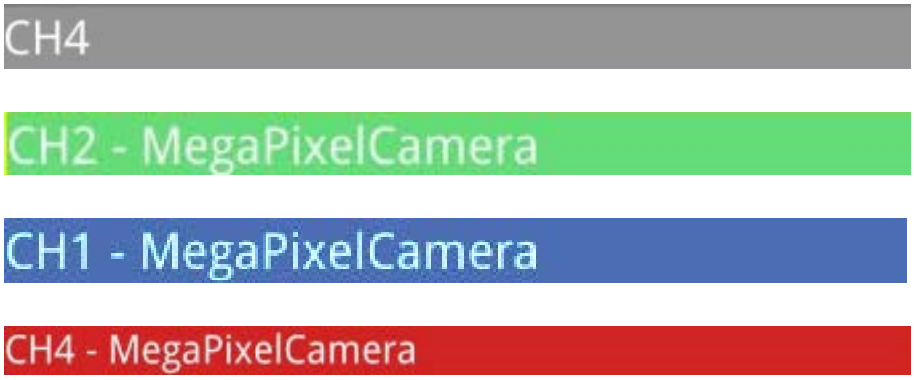


Item	Description
View Management	**Normal Mode** Here lists all IP cameras connected via network or the PoE switch under **Camera View**. **E-Map Mode** Users can import the layout of the monitoring area and place the locations of the cameras on the map. Refer to next section for further description.

F - Camera Setup Panels

Item	Description
Camera Setup Panels	When IP cameras are connected to the NVR either via PoE ports on the rear panel or via network, users can adjust several main settings of IP cameras. Also, basic information of the selected IP camera can be checked under **Camera Information**. Each setup pane will be described in later sections.

G - Camera Title Bar



Item	Description
Camera Title Bar	Camera title bar is above each channel grid. Users can check the connection status of the IP camera by its color. ■ **Gray:** When the NVR is ① started for the first time, or ② currently not connecting any IP cameras, the title bar is in gray, indicating no IP camera is connected to the channel grid. ■ **Green:** The green title bar suggests the NVR is connecting the IP camera. ■ **Blue:** The blue title bar indicates the connection between the NVR and the IP camera is in good condition. ■ **Red:** The red title bar indicates there is connection failure between the NVR and the IP camera.

View Layout Setup

Users can setup their preferred NVR window layout. Select **Hybrid View Custom Layout** and the available tools will be shown in the drop down menu.

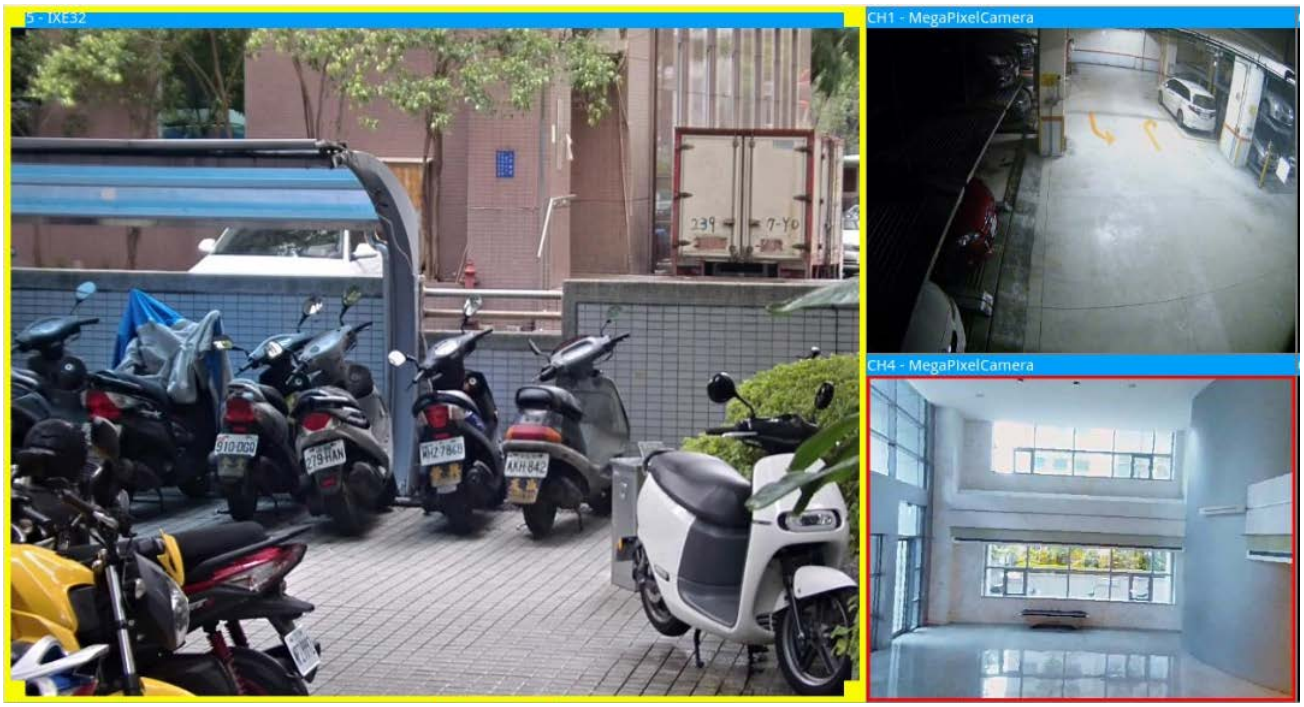
Follow the description below to add/edit/save/delete the layout.

Add/Rename a Display Layout

- Click Add to add new layout to the list. The maximum layout amount is four.
- To rename a layout, right click the layout button, click **Edit name** to rename the selected layout, and click **OK** to save the setting or click **Cancel** to discard changes.

Edit a Display Layout

1. Select a layout from the layout list.
2. Click Edit to enter its layout setup mode.
3. To resize a channel grid, first click on a channel grid. Then click and drag any corner of the yellow frame to draw a preferred grid layout. When finishing the drawing, release the mouse.



4. To add more channel grids, click Add Column / Add Row. To remove the added columns or rows, click Remove Column or Remove Row.

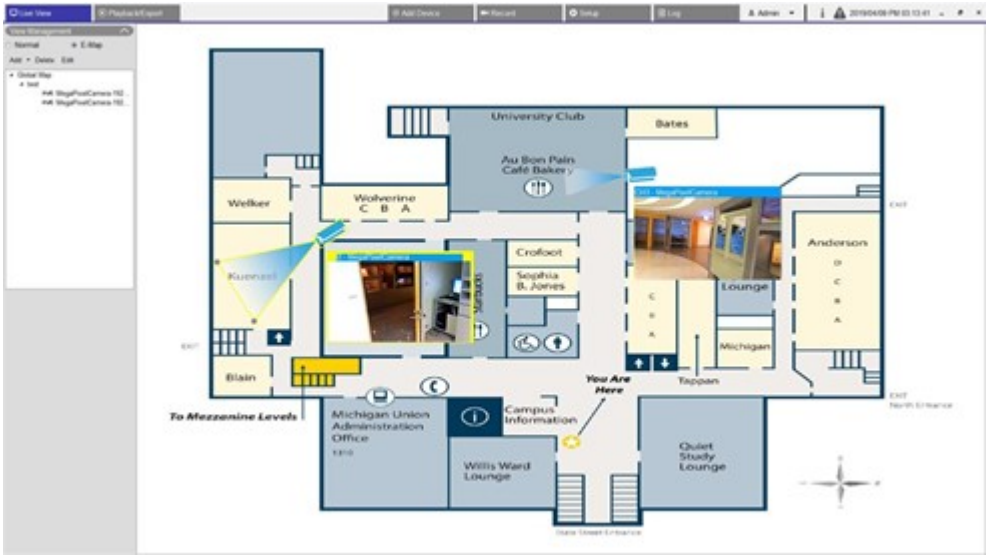
5. Two different channels can be swapped. Click and drag any channel from its original grid to the desired grid and drop the channel.
6. Click Save to save and apply the layout setting.

Delete a Display Layout

- To delete a layout, right click on the desired layout button and select **Remove**. The layout will be deleted from the list.

E-Map Setup

E-map function allows user to upload and illustrate the position of cameras on a user-selected image (e.g. floor plan). Select E-Map under View Management Panel to display the E-Map window and follow the instruction to setup E-Map.



Add Maps

Map files must be in any of the following formats BMP, JPG or GIF.

1. Right click Global Map and select **Add Map**.
2. Select the map image from an external storage.
3. Name the selected map.
4. Click Apply to add the map into the list.
5. Click and drag the Google Map location icon to the desired location.

Google Map Function

Users can add new map files and mark them on the geographic locations from Google Maps. Select a map file. To use this function, Internet connection to the NVR is required.

1. Click + / − to zoom in/out on the Google Map and find the desired location.
2. Click and drag the yellow Pegman icon to the desired location. Drop the icon on the map to see the street view.
3. Add a new map to the desired location/area. Once the map is added, the Google Map location icon will be shown on the map.
4. Move the mouse cursor to and users can preview the map.

5. Double click to display the map.
6. To re-locate the map, click and drag to the desired location and drop the icon.

NOTE! Other additional functions may vary depending on the applied version of Google Maps.

Update Selected Maps

1. Select any map from the E-map list, and click Edit, or select and right click on the map and click **Edit** to modify the map.
2. Upload new map and modify the name.
3. Click Apply to save the changes.

NOTE! Please make sure to adjust location of the camera icons after updating new map.

Add Cameras

Follow the steps to add the camera to the map.

1. Select the desired map from the map menu.
2. Click Add and select Add Camera.
3. Input the name of the camera.
4. Select a camera from the Select Camera drop-down list.
5. Select the camera type, **Normal** or **Fisheye**.
6. Click Apply. The camera will be added to the map.

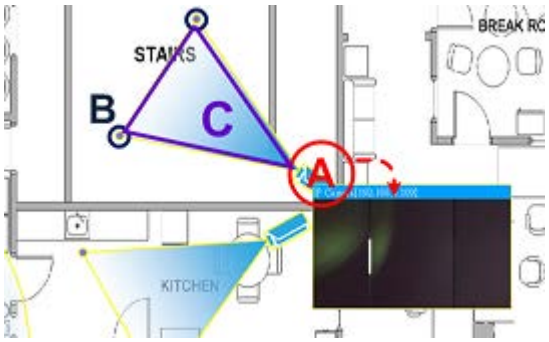
Edit Cameras

Users can revise the names of the added cameras.

1. Select any camera on the E-map menu, and click Edit. Alternatively, right click any camera in the map list and select **Edit**. The **Camera Setup** window will appear.
2. Reset the camera name.
3. Click Apply to save the settings.

Change Camera Location on E-Map

After cameras are added to the map, users can designate the camera to the desired areas on the map to show the exact location of the camera.



Icon	Description
	IP Camera/PTZ Camera
	Fisheye Camera

Item	Action	Description
A	Display Camera Live View	Double click the camera icon to display the live view of the camera. Double click again to hide the view.
	Re-locate the Camera Icon	Click and drag the icon to the desired location.
B	Adjust Camera Field of View	Click, hold and drag either point to adjust the camera's field of view.
C	Adjust the Camera Direction	C At the camera fields of view (triangle), click, hold and drag to rotate the direction of the camera icon.

Delete Cameras

Select any camera on the E-map menu, and click Delete. The selected camera will be removed from the list.

Delete Maps

Select any map on the E-map menu, and click Delete. Alternatively, right click any map from the map list and select **Delete**. The selected map will be removed from the list.

Snapshot

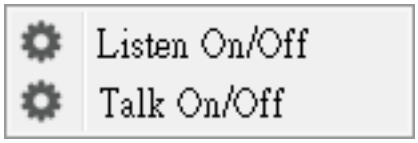
The NVR allows users to capture the current viewing image in Normal Viewing Mode or in Playback/Export tab.

1. Click at the top-right of the monitor, and the current viewing will be captured.
2. Click Save from the pop-up Snapshot Window to save the captured, or click Discard to cancel. Users can view and export the snapshots in the Playback/Export tab.

Audio (Talk/Listen) On/Off

Audio (Talk/Listen) is used to switch on/off the audio of the selected IP camera channel.
When both Listen and Talk functions are activated at the same time, users are able to make two-way audio transmission between the NVR and the selected camera which supports the audio function.

1. Move the mouse cursor to any channel grid, and an Audio icon will show up.
2. Click on the icon to display the drop-down menu as below.



Listen On/Off

1. Click **Listen On/Off** to enable the NVR to receive audio from the camera. A speaker icon will be at the bottom-left of the channel grid as a reminder.
2. Select again to disable the **Listen** function.

Talk On/Off

1. Select **Talk On/Off** to enable the NVR audio transmission to the camera site. Users can speak or send an audio via the microphone connected to the NVR to the selected camera.
2. Select again to disable the **Talk** function.

NOTE! Audio function can only be enabled one channel at a time.

Digital Zoom

Users can view the camera zoom-in images via digital zoom function.

1. Move the mouse cursor to any channel grid and scroll up/down the mouse wheel to zoom in/out. The zoom-in magnification will be displayed on the top left corner of the grid. The maximum magnification is 10x.
2. Click at any position to set the position as the center of the display screen.

Event Icons

When an alarm or event occurs, the icon corresponding to the event type will show up at the bottom-left of the channel grid.

Icon	Description
	Motion detection
	Alarm input triggered
	VA Event Detection

Image Adjustment Icons

Users can click following icons at the bottom-right of each channel grid to adjust the view image.

Icon	Description
	Rotate the View 90°
	Fill Up the Channel Grid
	Return to Original Aspect Ratio

Camera PTZ Control

The NVR supports PTZ control function. In Live View, select a camera channel that equips pan/tilt/zoom function and expand the Camera PTZ Control Pane on the left of the monitor.

PTZ Control Icons

The PTZ control icons are Focus Far/Near, Iris Open/Close, Zoom Out/In, Preset, Auto Focus and Direction Control Panel. The functions are described as below.

Icon	Description	Icon	Description	Icon	Description
	Focus Far Click to focus the lens of selected camera at a farther point.		Focus Near Click to focus the lens of selected camera at a nearer point.		Iris Close Click to shrink the Iris on the selected cam
	Iris Open Click it to open the Iris on the selected camera.		Zoom Out Click it to zoom out the lens of selected camera. This function is to shrink the current image and a larger viewing area can be displayed.		Zoom In Click it to zoom in the lens of selected camera. This function is to enlarge a certain area.

Icon	Description	Icon	Description	Icon	Description
	Set Tour This function is to setup at most 8 tour paths of the camera and execute the tour path for viewing.		Go Tour		Set Preset This function is to set up certain position as a preset point and go to the predetermined preset positions for viewing.
	Go Preset		Auto Focus Click this button to automatically adjust focus of the selected camera.		Delete Preset

Direction Control Panel

Click and drag the control button (in the center of the panel) to pan and tilt the lens of the selected camera. The pan/tilt speed depends on the distance between the control button and the Direction Control Panel. The farther the control button is dragged from the center of the panel, the faster the pan/tilt speed is, and vice versa.

Set Preset Points

The NVR allows users to record current positions for PTZ camera as preset. The amount of preset points may vary based on manufacturer's setting. Follow the steps to setup preset points:

1. Click a camera channel that equips preset point function.
2. Select a preset number from the preset list.
3. Use the Direction Control Panel to pan/tilt the camera to the desired position.
4. Click ✓ to save the position. The recording icon will turn green , indicating this preset point has been set.
5. To remove the preset point, select the preset point from the preset list. Then click 🗑. The recorded preset point will be cleared and the recording icon will turn grey.

Call Preset Points

Follow the steps to call preset points:

1. Click a camera channel that equips pan/tilt/zoom function.
2. Select a preset point number from the Preset Point List.
3. Click GO to call the preset point. The selected camera will automatically move to the preset position.

Set Camera Tour Path

Follow the steps to set tour paths:

1. Click a camera channel that equips pan/tilt/zoom function.
2. Select a tour path number from the Tour Path list.
3. Click to start recording the tour path.
4. Use the Direction Control Panel to pan/tilt the camera to set a tour path.
5. Click to save the position.

Run Camera Tour Path

Follow the steps to run the recorded camera tour path:

1. Click a camera channel that a camera tour path is already set.
2. Select a Tour Path number from the Tour Path List.
3. Click , and the camera will start touring as recorded.
4. Click Direction Control Panel to end the camera tour.

Camera Image Setup

Users can configure the image settings of the selected IP camera. The image settings include image adjustment, noise reduction, white balance, etc.

1. Select the desired IP camera channel and start setting. When adjusting image configuration, users can watch the channel grid to check the change of image setting.
2. Click Apply to keep the settings, or click Refresh to reload the settings.

NOTE! Some setting functions may not be available for certain IP camera models. The unavailable functions will remain gray.

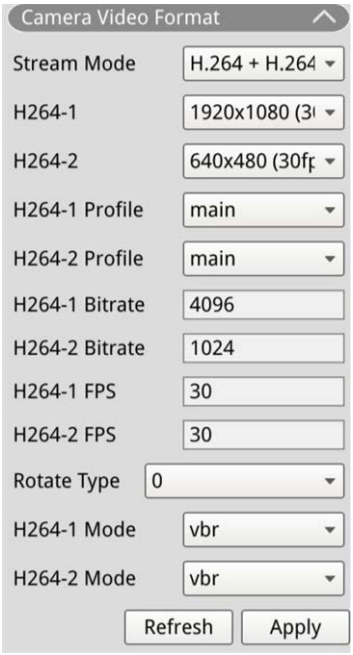
Camera Video Format

Users can configure the settings of video format, including video resolution, video rotate, CBR/VBR mode, etc.

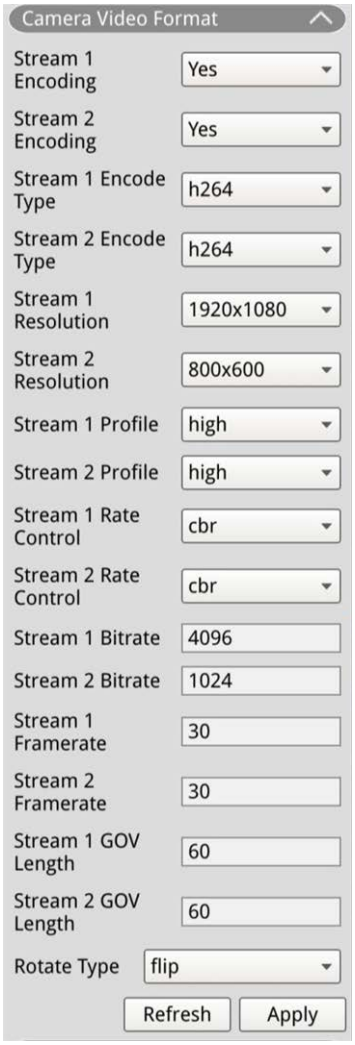
- Click Apply to keep the settings, or click Refresh to reload the settings.

NOTE! Some setting functions may vary based on the camera types (H.264/H.265 IP Camera). Refer to the figures below.

H.264 IP Camera



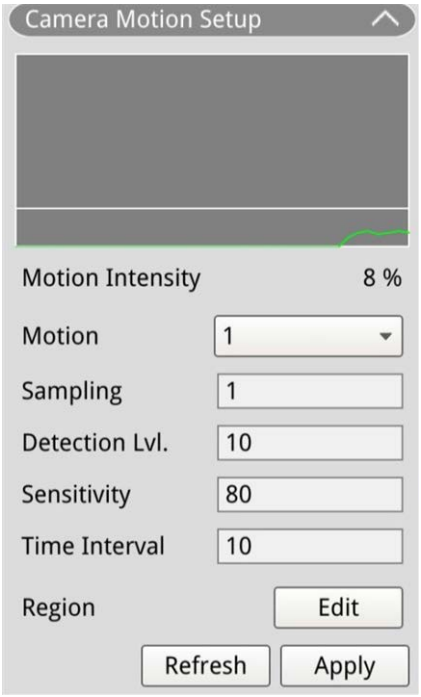
H.265 IP Camera



Camera Motion Detection Setup

Motion detection settings include Motion Index, Sampling, Detection Level, Sensitivity, Time Interval, and Motion Detection Areas. Click any IP camera channel and select **Camera Motion Setup** to enter the motion setup mode.

NOTE! To ensure the motion detection function is enabled for the NVR, go to **Setup** > **System** > **Event Management** to enable event trigger function (Refer to Event Management under System Setup for further instruction).



Motion Index

NVR supports each IP camera 4 sets of motion detection settings. Select from the drop-down menu next to **Motion**. In each motion index, users can set at most 10 sets of motion detection windows.

Sampling

Users can configure the interval of sampling pixel (e.g. if user set the interval as 5, IP camera will take 1 samplig pixel from every 5 pixels of each row and each column in detection area and compare). System will trigger the alarm when differences are detected.

Detection Level

Detection level is how much the camera can accept the same sampling pixel's difference within a short time. Lower detection level detects more minor motions.

Sensitivity

Sensitivity is used to set the motion detection intensity percentage. Higher sensitivity means system will trigger motion detection alert with lower motion intensity detected.

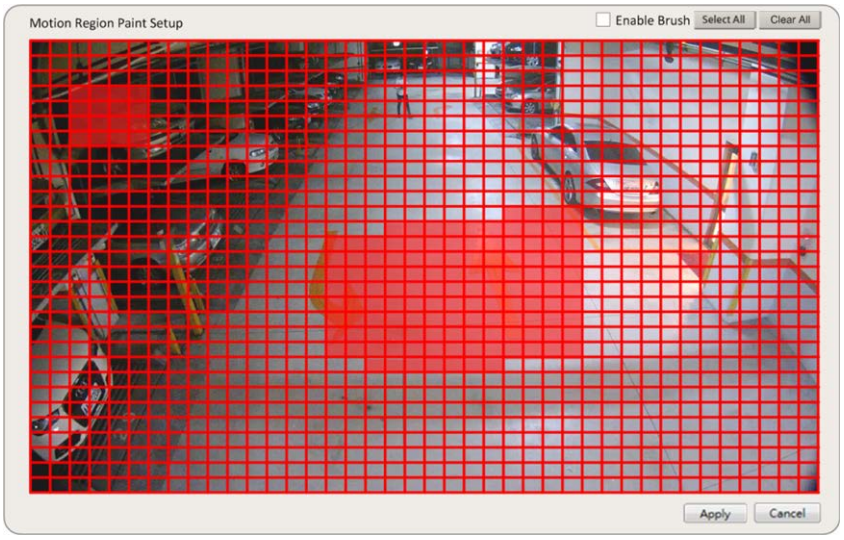
Time Interval

Users can adjust the interval between each detected motion.

Detection Area Setup

The setting methods for H.265 and H.264 IP cameras are different. The following individually describes how to set a detection area for both types of IP cameras.

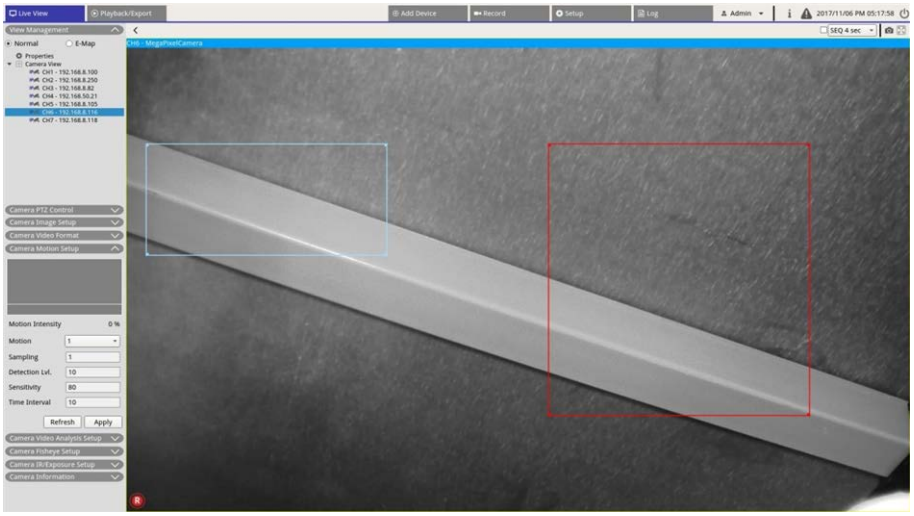
- H.265 IP Camera
  - Click Edit and the Motion Region Setup window will pop up as below. The detection area is divided into 1200 (40x30) detection grids; users can paint and select motion detection region with the mouse.



  - Check the **Enable Brush** box; left click and move the cursor to paint preferred motion detection region.
  - Click **Select All** to set the entire monitoring area as detection area.
  - To erase the detection region, un-check the **Enable Brush** box; left click and move the cursor to remove motion detection region.
  - Click **Clear All** to erase all selected motion detection region.
  - Click Apply to save the settings, or click Refresh to reload the settings.

- H.264 IP Camera

  In motion detection setup mode, a red outlined detection window will be displayed on the channel grid. Motion detection area may vary between different IP camera models. Follow the instructions to setup motion detection:



  - Click on the center of the motion detection window and move it to preferred location.
  - Click on the outline of the motion detection window and drag the edge to change the size of the motion detection window.
  - To add a new detection window, right click the channel grid and select **Add New Window**.
  - Click **Apply** to save the settings.

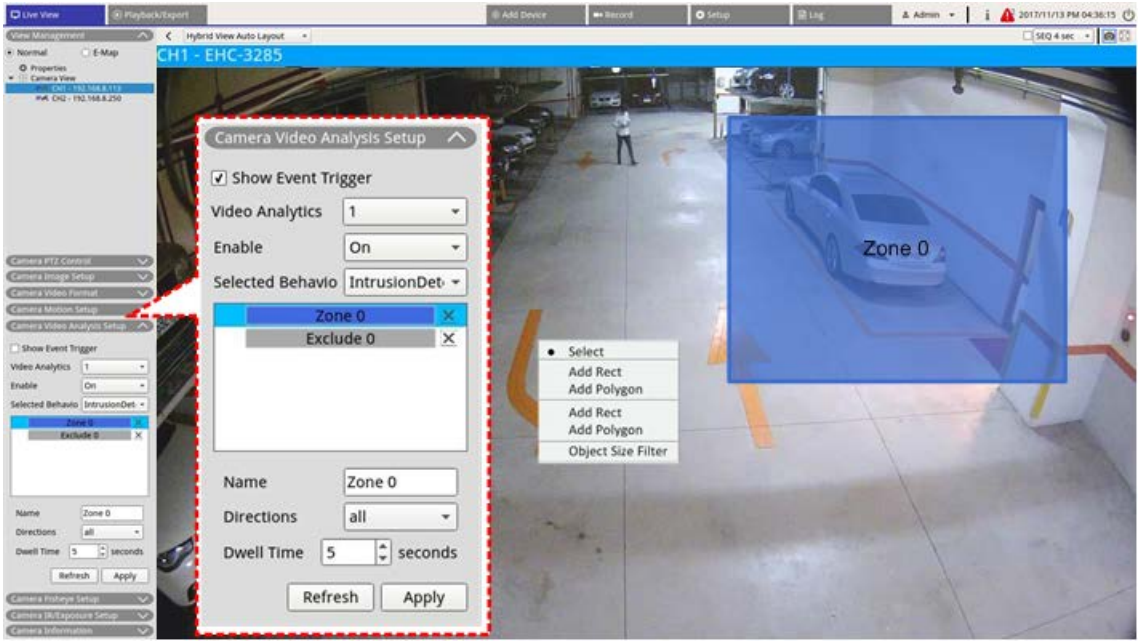
Edit the added detection window

1. To remove a motion detection window, right click on selected motion detection window and select **Remove Selected Window**.
2. To remove multiple motion detection windows, right click on anywhere within the channel grid and select **Remove All Window**.
3. Click Apply to save the settings for the selected IP camera, or click Refresh to reload the settings.

Camera Video Analysis Setup

The NVR allows users to connect and setup IP cameras implemented with Video Analytics function.

The following instructions briefly describe how to setup video analysis function; for more detail, please refer to Video Analytics Manual.



1. Go to **Setup** > **System** > **Event Management** to select the IP camera that contains VA function.
2. Click on Event Type drop-down menu to select Video Analysis and check the Event Trigger box to enable event notification. Refer to section Event Management under System Setup for more details.
3. Users can setup and implement two sets of video analysis functions simultaneously. Select Video Analytics **1**/**2** from the drop-down menu and select **On** from the enable drop-down menu to activate.
4. Select video analytics type from the Selected Behaviors drop-down menu and choose preferred VA function (VA options include: **Abandoned Object**, **Intrusion Detection**, **Camera Sabotage**, **Wrong Direction**, **Loitering Detection**, **Object Counting**, **Object Removal**, and **Stopped Vehicle**).
5. Click Apply to save the settings after finish configuration, or click Refresh to reload the settings.

Behavior Settings

Behavior settings may vary based on different Selected Behavior. Certain Video Analytic functions (intrusion, object misplace/removed) require zone settings. Zone settings allow the NVR to monitor if the detection zone is triggered.

NOTE! Behavior Settings may vary based on the event types of Video Analytics.

1. **Zone Setting Menu:** On the channel grid, right click to display the setting menu. Setting menu includes all zone setting functions.
2. Complete configuring all functions and click Apply to save the settings.
3. **Name:** Name the detection zone.
4. **Directions:** Set the direction of motion the camera should track. Alarms will only be triggered when the camera detects motion in the specific direction.
5. **Dwell time:** Set the amount of time that an alarm continues when the alarm is triggered. Dwell time ranges from 1 to 1000 seconds.
6. **Delay before alarm:** Alarm will trigger when selective motion past the set time (between 20 to 1800 seconds).
7. **Alarm at:** Alarm will trigger when the number of object reaches or exceeds the set number.
8. **Reset counter on alarm:** Check to reset object count, or un-check to restart object counting function from zero.
9. Click Apply to save the settings.

Camera Fisheye Setup

The NVR allows users to adjust dewarping type between Back End dewarping and Front End dewarping depending on the camera's DSP. Select fisheye camera channel and click **Camera Fisheye Setup** on the left to display the settings.

Fisheye Dewarping Type

Front End Dewarping

Front End dewarping is mainly for fisheye camera equipped with dewarping function. Select **Front End** and choose which installation method under **Installation** according to the camera mounting method.

- Click Apply to save the settings, or click Refresh to reload the settings.

The following includes dewarping view modes under **Stream 1 View Mode** and **Stream 2 View Mode** for Ceiling/Wall mount installation.

- Stream 1 View Mode

  Users can view the live streaming video without dewarping.

- Stream 2 View Mode

  For cameras installed on Ceiling Mount, users can choose the dewarping mode between **360 View** and **4PTZ View**.

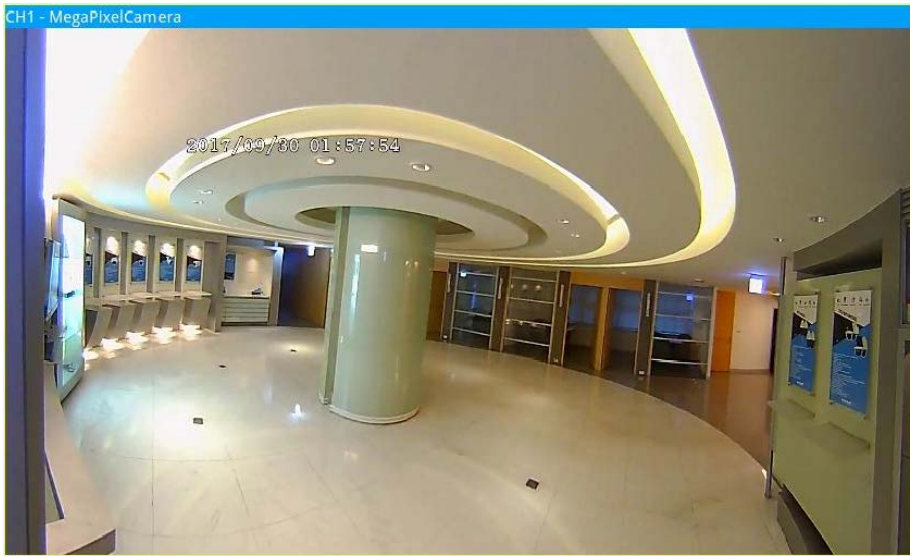
- 360 View

  This mode contains two 180° view dewarped live images.

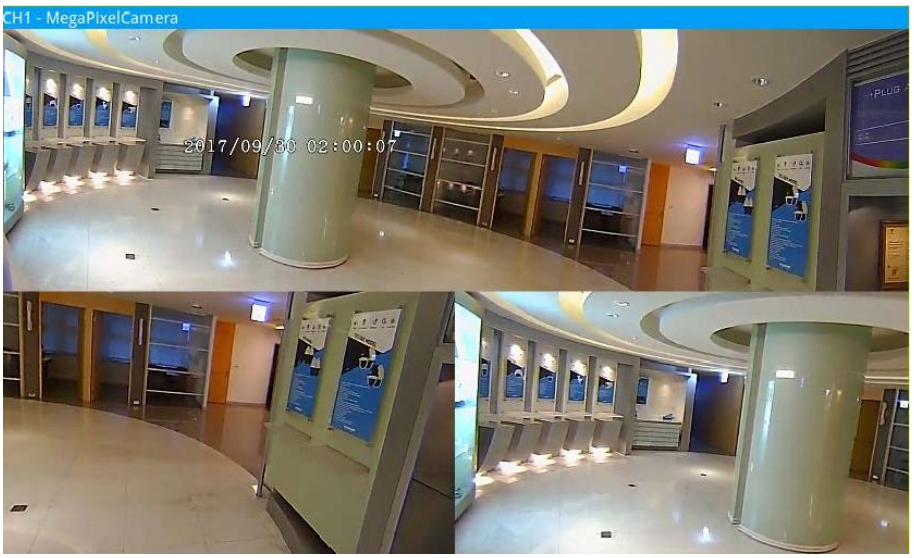
- 4PTZ View

  This mode contains four ePTZ view dewarped live images. For cameras installed on Wall Mount, users can choose the dewarping mode between **180 View** and **2PTZ View**.

- 180 View
  This mode contains one 180° view dewarped live image.

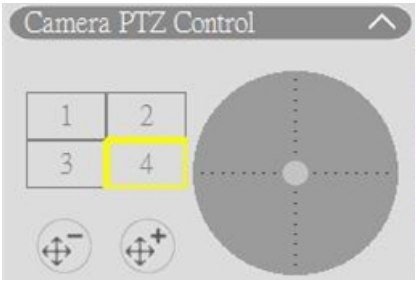


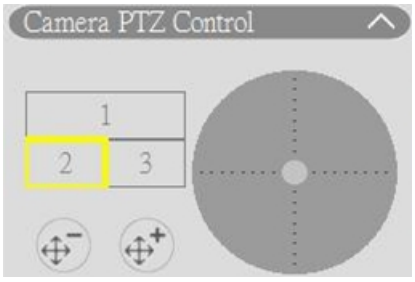
- 180 2PTZ View
  This mode contains one 180° view dewarped live image and two ePTZ views.



Fisheye ePTZ Function

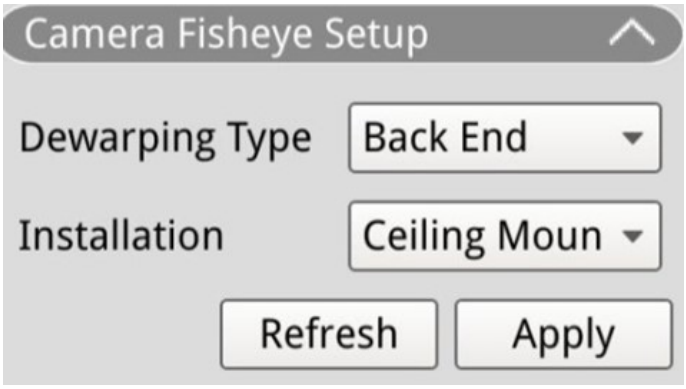
Under **4PTZ View** or **180 2PTZ View** mode, users can move the image around by using the Direction Control Panel and Zoom In/Out icons like normal PTZ functions (Pan/Tilt/Zoom) under **Camera PTZ Control** panel.





4PTZ View	180 2PTZ View

Back End Dewarping



Back End dewarping is designed for fisheye cameras which do not include dewarping function. The NVR will dewarp fisheye source images and provides several dewarping modes for users to choose. Select **Back End** and choose the installation type under **Installation**. Click Apply to save the settings, or click Refresh to reload the settings.

After switching to Back End dewarping mode, PANO icon will appear on the bottom-right corner of the channel grid. PANO includes **Normal View**, **PTZ View**, **360 View**, **Quad View**, O**PR View**, and **1O3R View**. Select preferred mode and the NVR will automatically dewarp the source images from fisheye.

The following includes details about dewarping view modes within PANO for Back End dewarping.

NOTE! Back End dewarping function is available for fisheye cameras with or without dewarping function.

- **Normal View**

Select to view the live videos without dewarping.

- **PTZ View**

Select to view the dewarped live images.

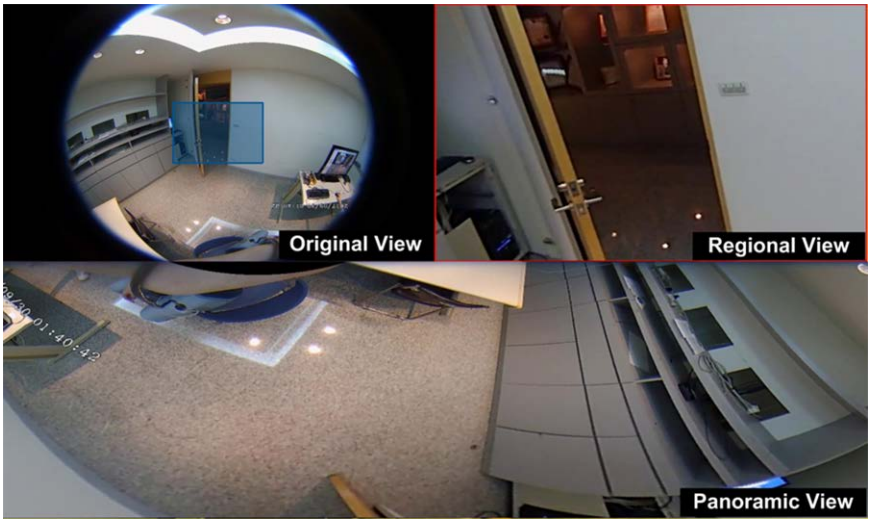
- **360 View**

Select to view two dewarped 180° live view images.

- **Quad View**

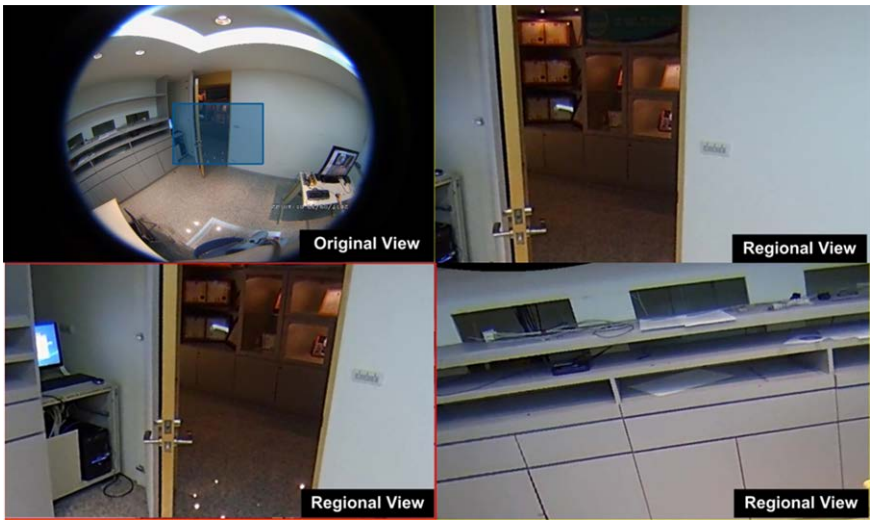
Select to view four dewarped regional live view images.

- **OPR View** (One Original View, One Panoramic View & One Regional View)



Select to view one original view, one panoramic view & one regional view.
OPR display mode allows users to check the dewarped live view in 180° display with a regional view. Users can also check the corresponding location of both views with a source image without dewarping.

- **1O3R View** (One Original View & Three Regional Views)



Select to view one original view & three regional views.
1O3R display mode provides users three ePTZ views with a source image without dewarping.

For both **OPR View** and **1O3R View**, users can utilize ePTZ function in any regional view to monitor different areas. Click on any regional viewing grid to select preferred view. Click and drag the cursor to change the location of the regional view. Users can also move the blue box on original viewing grid to change monitor area.

Camera IR/Exposure Setup

The NVR allows users to configure the IR function and exposure settings of the IP camera.

Exposure Settings

Exposure settings control the amount of light received by the image sensor. System changes the width of lens diaphragm, shutter speed, and other exposure parameters to achieve different result.

1. Select a suitable exposure mode for the selected camera from the Exposure Mode drop-down list. Exposure modes may vary accordingly with the IP camera model. Refer to the IP Camera's user manual for further information before setting up relevant parameters (e.g. shutter speed, max gain, etc).
2. Click Apply to save the settings, or click Refresh to reload the settings.

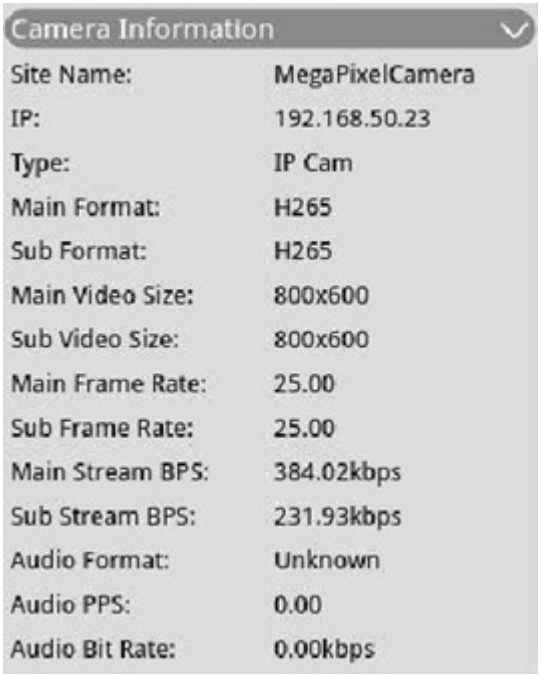
IR Function Setup

IR Function changes IR cut filter's reaction to allow/prevent infrared (IR) light reaching the image sensor.

- **IR Mode:** Defines the action of the IR cut filter. Refer to the descriptions of each option and select a suitable mode.
  - **Auto:** Allows the camera to decide the occasion to remove the IR cut filter. It will not process the received image or use light sensor to detect light resource.
  - **Manual On:** Removes the IR cut filter to deliver clear images in black and white under low light level.
  - **Manual Off:** Activates the IR cut filter to filter out the IR light and allow the camera to deliver colored high quality images.
  - **Smart:** Allows the camera to decide the occasion to remove the IR cut filter. Smart mode mechanism is judging whether the main light source is coming from IR illumination. This mode prevents camera from turning off night mode when secondary light source exists but was not enough to help the camera provide a clear image. For cameras with built-in IR LED module, three additional IR function modes are available: Light Sensor/Light On/Light Off.
  - **Light Sensor:** Light Sensor detects light source and judge if ambient illumination requires IR LED lights to provide clearer image.
  - **Light On:** Always turn on IR LED lights.
  - **Light Off:** Always turn off IR LED lights.
  - **IR Day/Night Threshold:** IR Day/Night Threshold is used as light level standard for cameras to switch between Day/Night mode. Threshold value represents the level of light for camera's ambient illumination. The range of the threshold value is from 0 to 10 (0=Dark; 10=Bright).
- **IR Day Threshold:** Camera switches to Day mode once ambient illumination light level reaches the set value. Default value is 7.
- **IR Night Threshold:** Camera switches to Night mode once ambient illumination light level reaches the set value. Default value is 3.

- Click Apply to save the settings, or click Refresh to reload the settings.

Camera Information



Users can check brief summary of the selected IP camera. Click on any IP camera channel from the View Management's Camera View list or from the display layout to see the basic information. Camera information should include site name, IP address, device type, video format, etc.

5

NVR Setup

Users can configure basic NVR settings such as language, factory default, date/time, network, user account, management, etc. Click **Setup** to access the general NVR configuration menu.

NOTE!

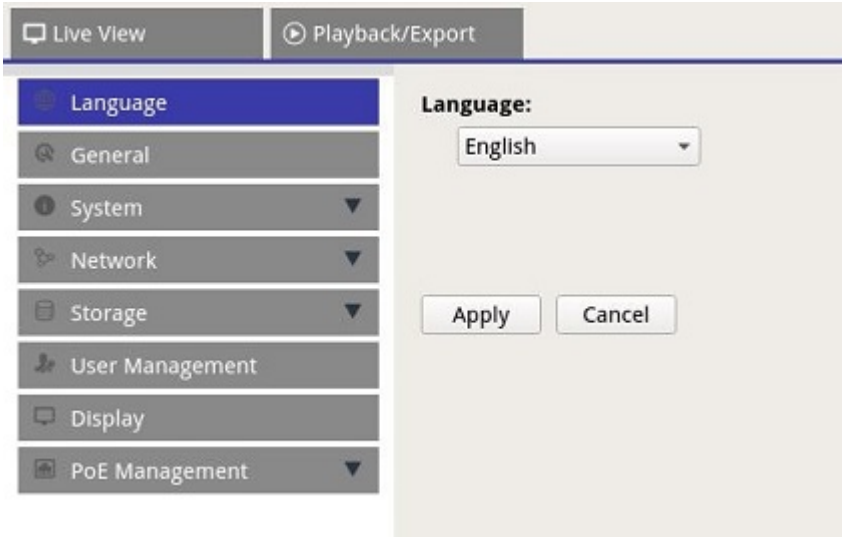
Out of the box, the firmware of the MOVE NVR-64 supports its primary function as a Network Video Recorder.

By using an alternative firmware, the MOVE NVR-64 can be used as *Failover/Backup* server. Make sure to load this firmware on the target NVR **before setting up and configuring** the device. Open the MOBOTIX Download Center **www.mobotix.com > Support > Download Center > Software Downloads** and click on **MOVE NVR** to download the firmware.

If the MOVE NVR-64 is used as Failover/Backup server, it will no longer support the direct recording functionality.

For more information on the Failover/Backup server functionality, see the section NVR Failover Service, p. 143.

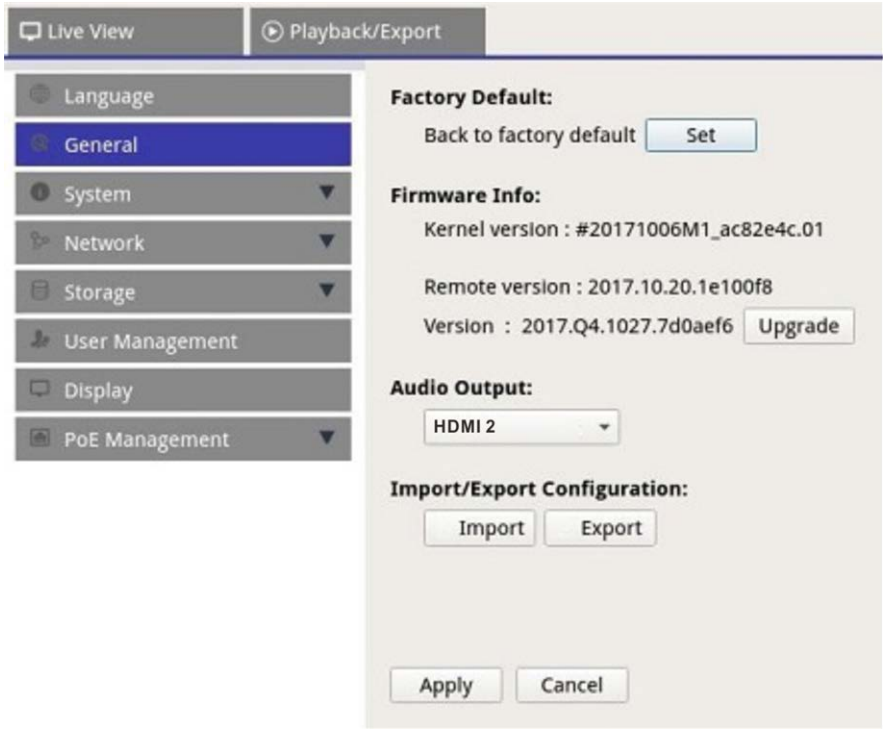
Language



1. In Setup, select **Language** to enter the language setting.
2. Select the preferred language from the language list to change display language.
3. Click Apply to save and apply the settings or click Cancel to reload current settings.

General

Select **General** to enter the basic NVR setting menu.



Factory Default

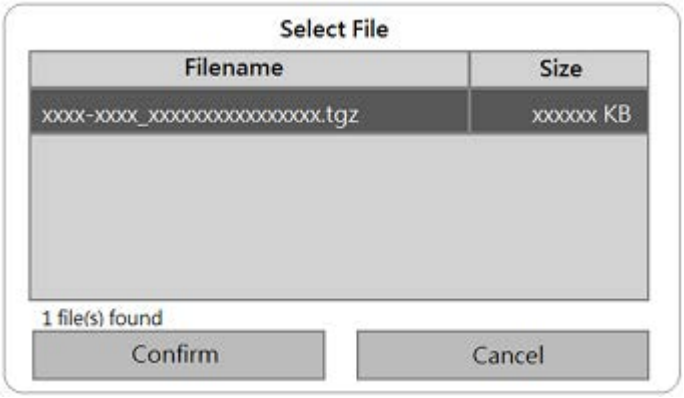
Users can load factory settings for the XMS software.

1. Click Set and read the warning message on the pop-up window.
2. Select **Yes** to proceed loading factory setting or click **No** to cancel.

Firmware Info

Current firmware version of the NVR can be viewed here. Users can also upgrade the firmware by uploading new firmware.

1. Connect an external storage with upgrade firmware for the NVR.
2. Click Upgrade and a Select File window will pop-up as below.



3. Select the preferred firmware (*.zip/txz/txz.sha512) file and click Confirm to start the firmware upgrade progress. The NVR will automatically reboot after the system finish firmware upgrade.

Audio Output

Users can change preferred audio output mode between **HDMI 1**, **HDMI 2, HDMI 3**, and **Line Out**.

- After selecting the preferred audio output mode, click **Apply** to save the settings, or click **Cancel** to reload current settings.

Import Configuration

Users can load NVR configuration file that was previously exported from another device through an external drive.

1. Connect the external drive that stores the configuration file to the NVR and click Import to display the Select File window.
2. After selecting the preferred configuration file, click Confirm to start importing the configuration, or click Cancel to stop. A warning message will appear to notify users that the XMS system will reboot after the configuration file is imported.

Export Configuration

Users can export the current XMS configuration to an external drive.

1. Make sure the external drive is connected to the NVR before exporting the configuration file. Click Export and select the preferred export file location.
2. Read the confirmation pop-up window to confirm the exporting file location.
3. Click Confirm to start exportation or click Cancel to stop.

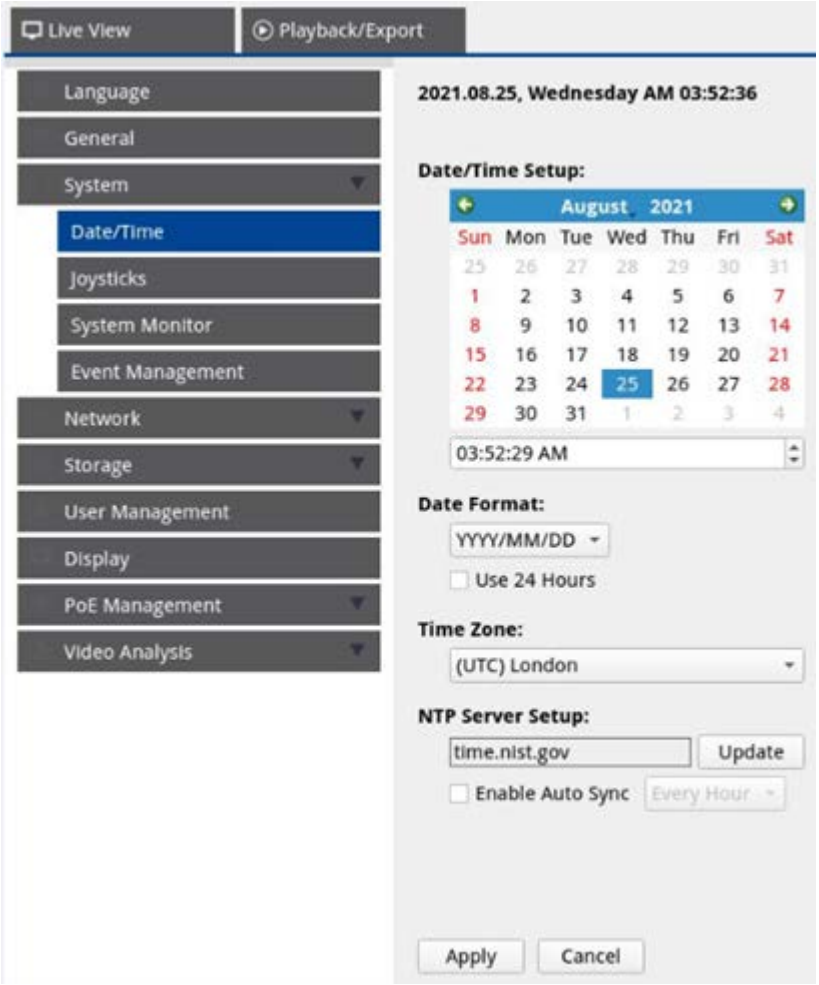
NOTE! Export the configuration file every time before upgrading the XMS system. In addition, backup the configuration file regularly to avoid unexpected conditions.

System

Users can configure the NVR system settings such as date/time, Joysticks, System Monitor, Event Management. Refer to each corresponding section before configuring the system setting.

Date/Time Setup

Users can set the system date, time and other OSD (On-Screen-Display) parameters in Date/Time setting menu.



Date/Time Setup

1. Click and select a date from the calendar to change the date on the system.
2. Click in the time field and press the UP/DOWN arrow buttons or scroll the mouse wheel to change the current time.
3. Click Apply to save the settings, or click Cancel to reload current settings.

Date Format

Users can choose the preferred date display type. Four display type includes: <YYYY/MM/DD>, <YYYY/DD/MM>, <MM/DD/YYYY> or <DD/MM/YYYY>. “Y” represents **Year**, “M” represents **Month** and “D” represents **Day**.

- After selecting preferred format, click Apply to save the settings, or click Cancel to reload current settings.

Time Zone

Users can select their own current time zone. Visit www.greenwichmeantime.com to find out the correct local time zone.

NTP Server Setup

Users can setup the NTP (Network Time Protocol) sever after selecting the preferred time-zone. The default NTP server is time.nist.gov. Users can change to any preferred NTP servers. A list of IP addresses for the NTP servers is provided below:

129.6.15.28	129.6.15.29	132.163.4.101
132.163.4.102	132.163.4.103	128.138.140.44
192.43.244.18	131.107.1.10	69.25.96.13
206.246.118.250	208.184.49.9	64.125.78.85
207.200.81.113	64.236.96.53	68.216.79.113

- After choosing the preferred NTP server, click Update next to the server to sync the time immediately.

In addition, time can be regularly synchronized.

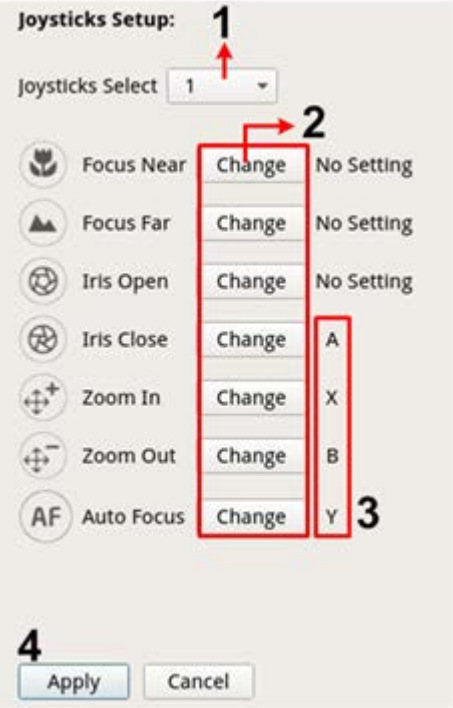
1. Check the **Enable Auto Sync** box, select preferred time from the drop-down menu.
2. Click Apply to save the settings. The time will be automatically synced every hour/day/week according to users’ preference.

Joystick Setup

The NVR allows users to control PTZ cameras or speed dome cameras using external USB joystick controller.

NOTE! This function is ONLY available for Xinput compatible joysticks.

Follow the steps below to set the joystick setting. Joystick must be connected to the NVR BEFORE the NVR starts up.



1. Select **1** from the **Joysticks Select** drop-down menu.
2. Click Change from any PTZ function.
3. Press any preferred push-button to bind the key to the function.
4. Click Apply to save and apply the settings.

Return to **Live View** and select any PTZ/speed dome camera channel. Press any push-button assigned with function to control the PTZ function. Users can control PTZ/Speed Dome camera connected to the NVR with pan function by moving the joystick controller left/right, and control the tilt function by moving the joystick controller up/down.

Select Unused from the Joysticks Select menu. Click Apply to save the settings.

System Monitor

Event Setup

Users can setup a full-screen event alert channel.

- Check/un-check "Enable Event Full View" and click Apply to enable/disable the function.

System Event Action

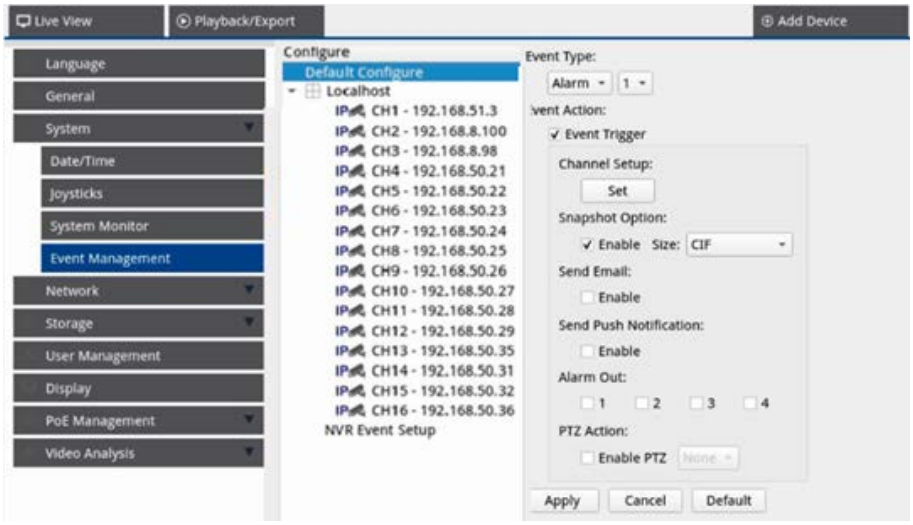
Users can setup the threshold for system examination, e.g. CPU temperature, fan speed, etc. If the system value is higher than the set threshold, the NVR will send out e-mails or alarms to give warning notice.

- **CPU Temperature Warning:** High CPU temperature may cause system defects. Users can fill in the preferred temperature value to prevent CPU from overheating (Default value is 80). Users may also select the warning type, e.g., **Send E-mail** or **Alarm Out 1 – 4**.
- **Fan Speed Warning:** High fan speed may cause system defects. Users can fill in preferred fan speed value to prevent fan speed from overload (Default value is 200). Users may also select the warning type, e.g., **Send E-mail** or **Alarm Out 1 – 4**.
- **Hard Disk Warning:** System can detect if the hard disk has unexpected errors or the read/write speed is slow and send warning notice to users. Users may also select the warning type, e.g., **Send E-mail** or **Alarm Out 1 – 4**.

Click Apply to save the settings, or click Cancel to discard changes.

Event Management

Users can set the event settings for each selected IP camera. The setting menu displays as follows:



Default Configure

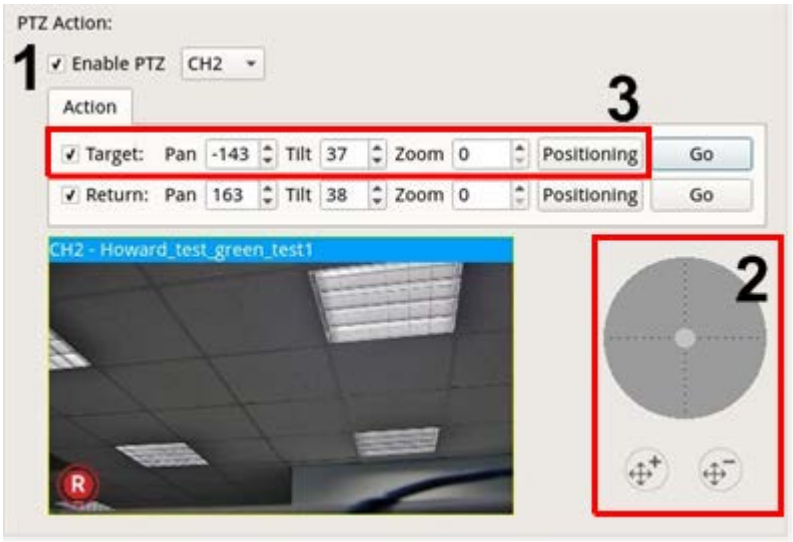
Users can setup the default event actions that can be apply to every camera.

1. Check the **Event Trigger** box to enable event trigger.
2. Set event actions, snapshot, e-mail sending, etc.
3. Click Apply to save the settings or click Cancel to reload the current settings.
4. Select any site from **Localhost** and click Default to load preset default settings.
5. Click Apply to save the loaded default configuration settings from **Default Configure**.

Event Action

- **Event Trigger:** Check the box to enable **Event Trigger** function.
- **Snapshot Options:** Check the box and select the snapshot resolution from the drop-down menu and click Apply to save the settings. System will capture the live event image once an event is triggered. Users can view all event snapshots under <Playback/Export> > **Snapshot By Event**.
- **Send Email:** Enable e-mail notification function and the NVR will send event notification to the preset email address under **Network**. Check the box and click Apply to save the settings.
- **Send Push Notification:** Enable Push Notification function and make sure to download the mobile app MOBOTIX NVR App in advance. The NVR will send event notification to user's mobile phone via the mobile app MOBOTIX NVR App. Check the box and click Apply to save the settings.

- **PTZ Action:** PTZ action enables the camera to turn to the target position when an event is triggered and return to the set position when the event is over. Follow the steps to configure PTZ actions:



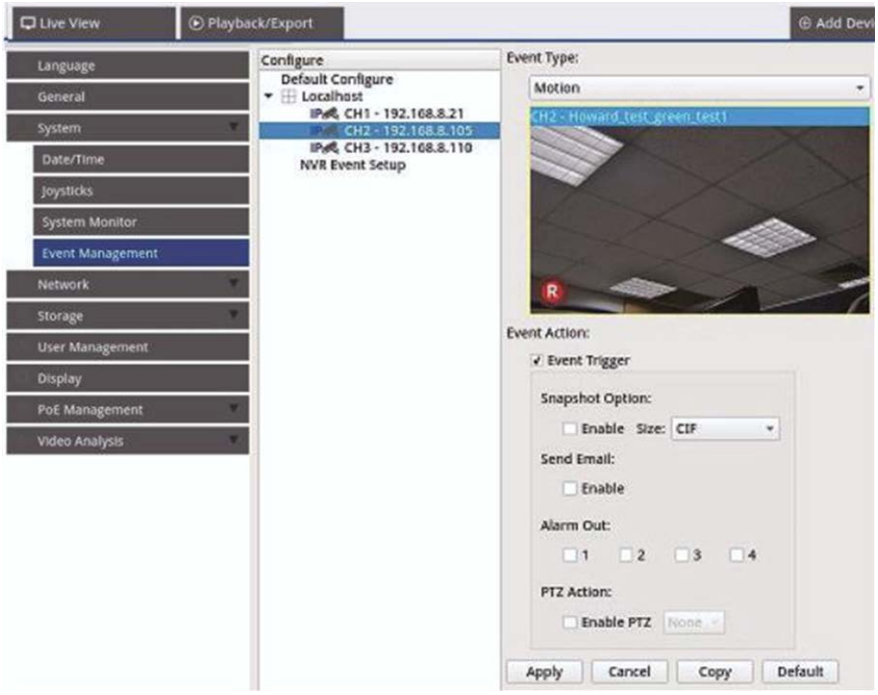
1. Check the **Enable PTZ** box and select the channel to perform Pan/Tilt/Zoom action from the drop-down list.
2. Click and move the control button to pan/tilt. Press the zoom in/out button to control the zoom ratio.
3. Check the **Target** box and click Positioning; the coordinates of the set position in Step 2 will be shown. Users can also manually setup the coordinates and zoom ratio by clicking the UP/DOWN buttons or typing.

Follow **Step 2 ~ Step 3** to setup the Return position.

After finishing setup, users can click Go to check if the camera turns to the preferred position as previously set.

Local Host

Users can setup event setting for each individual camera connected to the NVR.



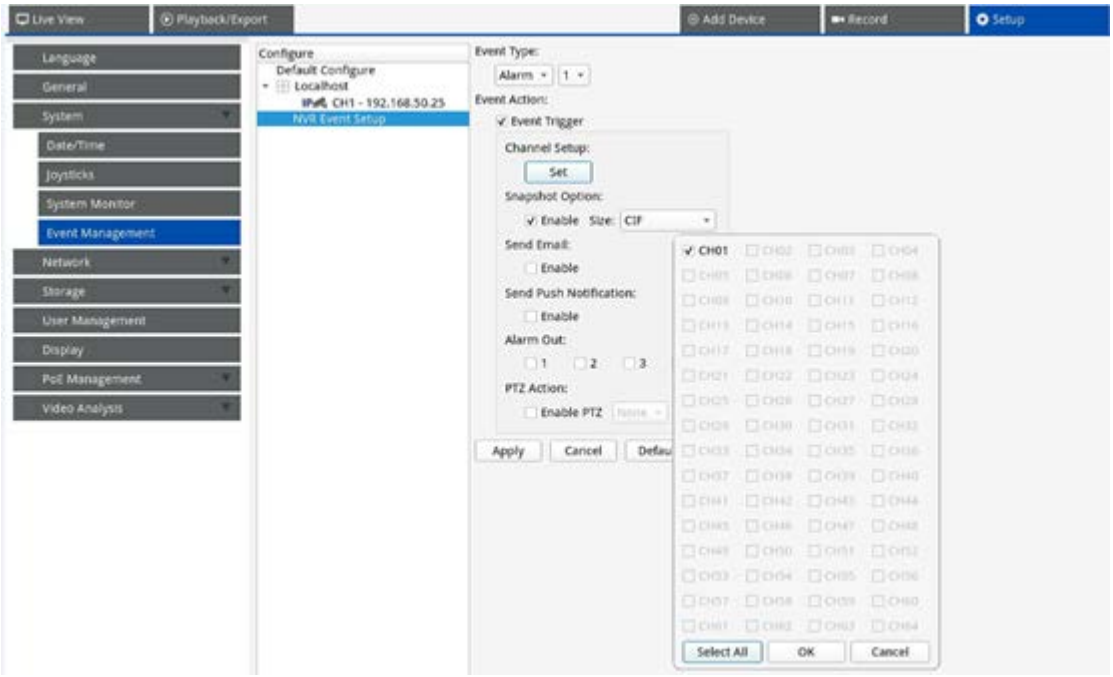
1. Select a camera site from **Localhost** list.
2. Check the **Event Trigger** box to enable event trigger.
3. Select the event type Video Loss, Motion, and Video Analysis (IP camera needs to support this feature to have the option)
4. Setup the event actions. Please refer to Default Configure under section Event Management for further instruction.
5. Click Apply to save the settings, or click Cancel to reload current settings.

Users can copy and apply same settings to multiple sites. Select any site from **Localhost** and click Default and Apply. The site will apply the Default Configure settings.

NOTE! Before setup the event action of Motion/Video Analysis in **Event Management**, please enable show event trigger and configure the settings in **Camera Motion Setup**/**Camera Video Analysis Setup** under Live View tab.

NVR Event Setup (Optional)

Users can setup NVR alarm type and event actions.



Follow the steps to setup event trigger for the NVR.

1. Select NVR Event Type (Alarm 1~4) from the drop-down menu.
2. Check the **Event Trigger** box to enable event trigger.
3. Click Set to apply the settings to the selected cameras.
4. Set the event actions.
5. Click Apply to apply the setting, or click Cancel to abort.

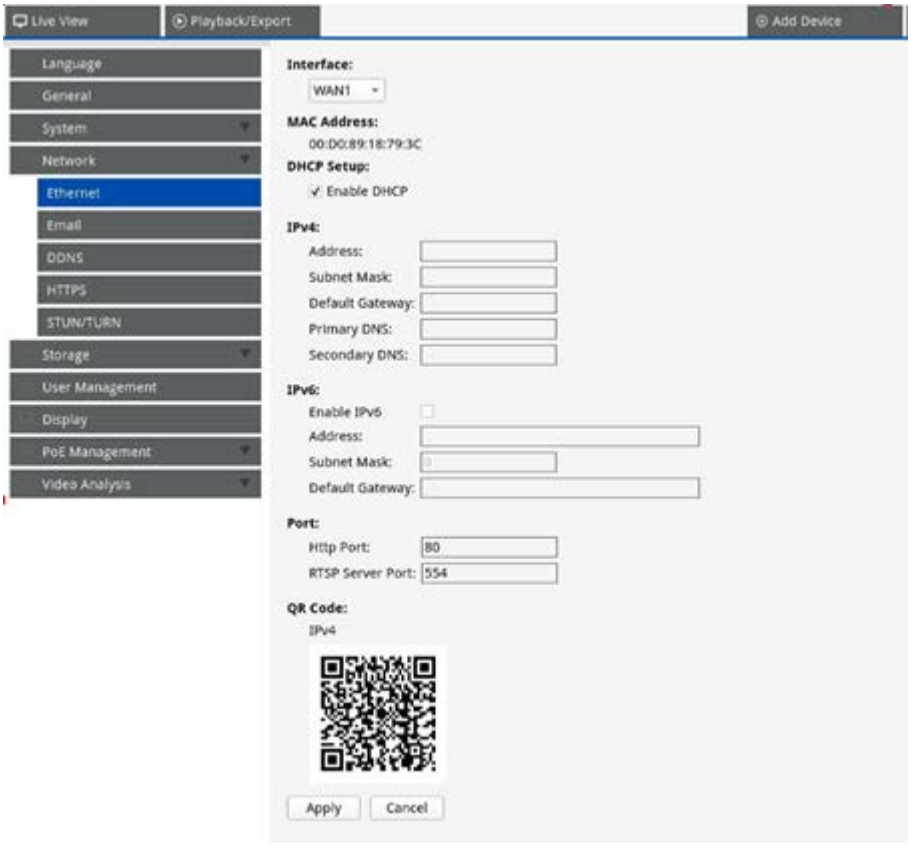
Users may also click Default to apply the configuration set in **Default Configure**.

Network

Network menu allows users to change the network interface settings such as IP address, Subnet mask, etc. Check with the network administrator and/or network service provider for more information.

NOTE!
Keep individual network interface under different IP address (e.g. 192.168.10.xxx & 192.168.11.xxx) to avoid interface conflict and failing to detect IP cameras.

Ethernet Setup



Interface

- **WAN1:** Select this to set WAN 1 configuration.
- **WAN2:** Select this to set WAN 2 configuration.
- **LAN1/2:** Select this to set LAN1 and LAN2 and the PoE switch's configuration.

> **NOTE!** LAN1 and LAN2 share the same network setting because they are combined to work as redundant network interfaces.

MAC Address

Users can see the selected interface's MAC Address.

DHCP Setup

DHCP function allows the NVR to obtain a dynamic IP address from DHCP (Dynamic Host Configuration Protocol) server when the NVR boots up. Using DHCP, the settings are dynamic and will change every time the NVR powers on or off, depending on the network setup.

NOTE! This setting only applies to a WAN port of the MOVE NVR itself. Camera IP addresses of the PoE ports will be assigned by the integrated DHCP server as explained in the sections PoE Management Setup, p. 85 and Add Device, p. 105.

1. Check the **Enable DHCP** box and click Restart, a dynamic IP address will be assigned to the NVR. In this setting, Ethernet configurations for IPv4 sections including IP address, subnet Mask, Default Gateway, and DNS will be applied automatically and cannot be modified by users.
2. If the NVR is expecting to be used under a fixed IP address, un-check the **Enable DHCP** box to manually configure the IP Address, Subnet Mask, Default Gateway, and DNS. Contact network system administrators or IT personnel for more details.

IPv4

1. In the WAN configuration menu, if users decide to set the NVR under a fixed IP address, users must complete all the related settings.
2. In the LAN configuration menu, users can setup LAN network IP address, subnet mask, etc. individually.
   - **Address:** Users can configure the IP (Internet Protocol) address of the NVR. IP address is the identifier for the NVR on a TCP/IP LAN.
   - **Subnet Mask:** A 32-bit netmask, is used to divide an IP address into subnets and specify the networks' available hosts. The value is defined by network administrator, and the form looks similar to 255.255.255.255.
   - **Default Gateway:** Gateway is a node on a network that serves as an entrance to another network. NVR can reach other devices on different network (AP/Hub/Switch).
   - **Primary DNS & Secondary DNS:** Users can specify the IP address of the Domain Name Space associated with the NVR. If the server is unavailable when using DHCP, the NVR will continue searching for the network server until it times out or finds a new available one.

IPv6

1. Under WAN configuration menu, if users decide to set the NVR under a fixed IP address, users must complete all the related settings. Check the **Enable IPv6** enable this function.
2. Under LAN configuration menu, users can setup LAN network IP address, subnet mask, etc. individually.

- **Address:** Users can configure the IP (Internet Protocol) address of the NVR. IP address is the identifier for the NVR on a TCP/IP LAN.
- **Subnet Mask:** A 128-bit netmask is used to divide an IP address into subnets and specify the networks' available hosts. The value is defined by network administrator.
- **Default Gateway:** Gateway is a node on a network that serves as an entrance to another network. NVR can reach other devices on different network (AP/Hub/Switch).

Port

- **HTTP Port:** The default HTTP Port is 80.
- **RTSP Server Port:** The default RTSP Port is 554.

QR Code

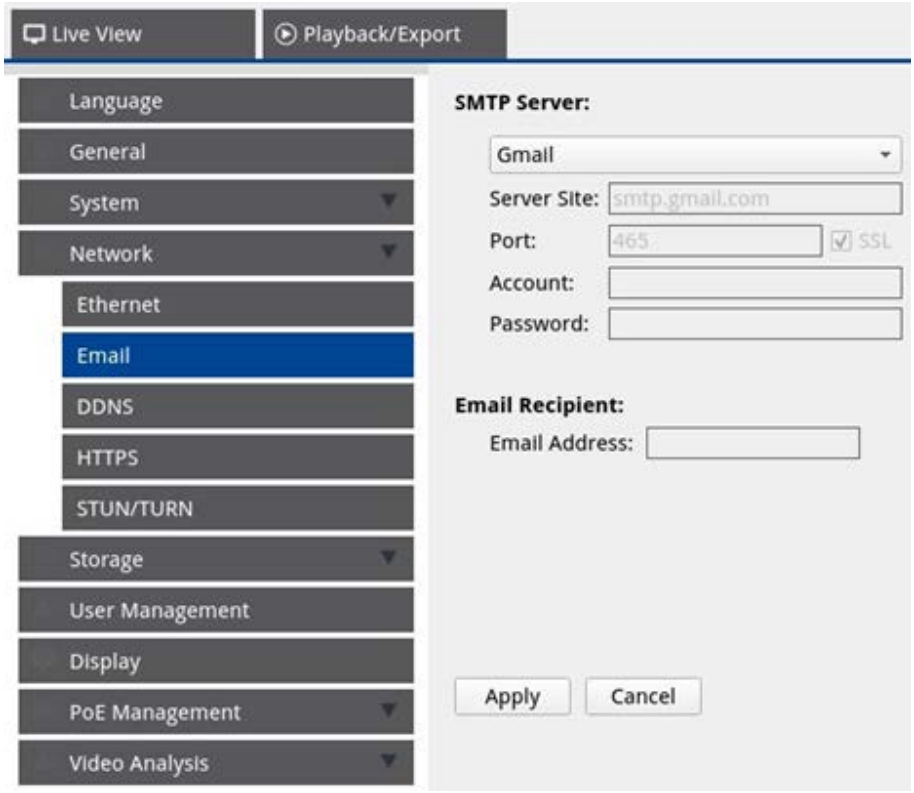
Scan the QR Code via the mobile app MOBOTIX NVR App to get the IPv4 information.

Save Settings

Click Apply to save the settings, or click Cancel to reload current settings.

Email Setup

Users can define the e-mail for receiving event/alarm notices.



SMTP Server

Users can select preferred SMTP (Simple Mail Transfer Protocol) server. Default options are **Gmail** and **Yahoo Mail**, users can also choose **Custom** to setup personal SMTP server.

- **Server Site:** The NVR will automatically retrieve the server information from both **Gmail** and **Yahoo** SMTP server. Users can only change this field under **Custom**.
- **Port:** Users can change SMTP port to the preferred port. SMTP is commonly used for operating over Internet port 465.
- **SSL:** SSL (Secure Sockets Layer) provides communication security over the Internet. Check or un-check the box to enable or disable SSL connection. SSL is enabled by default.
- **Account:** Users can setup the SMTP account. Enter corresponding user name to the SMTP server. User account is usually e-mail address.
- **Password:** Enter the password related to above SMTP account.

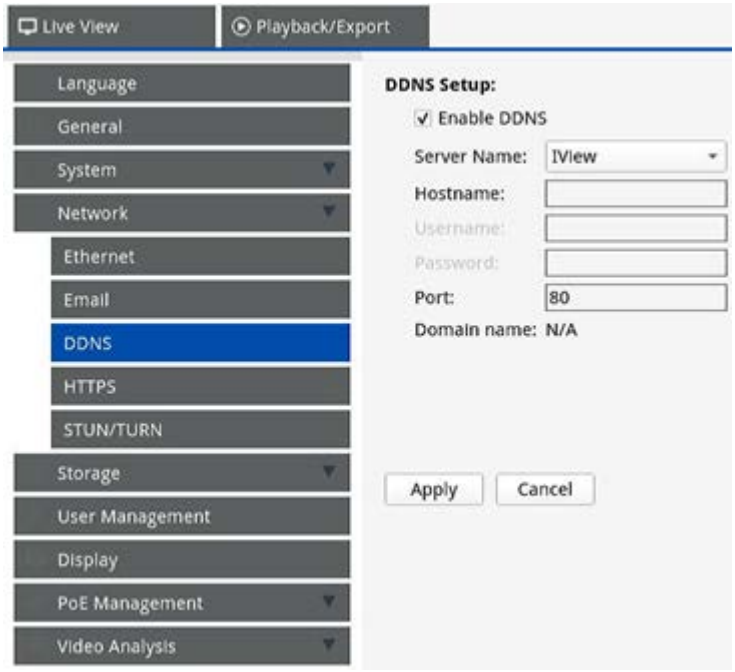
Email Recipient

Edit the e-mail address where event/alarm notification will be sent. Refer to the following to setup all the required information.

- **Email Address:** Enter preferred e-mail address for event or alarm notifications.

Click Apply to save the settings, or click Cancel to reload current settings.

DDNS Setup



1. **Enable DDNS:** Check the box to enable Dynamic Domain Name Service or un-check to disable.
2. **Server Name:** Choose the service provider, default options include: **DynDNS**, **ChangeIP** and **NoIP**.
3. Hostname Set up a domain name used for entering the NVR through internet on remote PC.
4. **Username:** Enter the DDNS user name here.
5. **Password:** Enter corresponding DDNS user's password here.
6. **Port:** Set up the port for DDNS.

- **Domain name:** The current domain name set for NVR will be displayed here.

Click Apply to save the settings, or click Cancel to reload current settings.

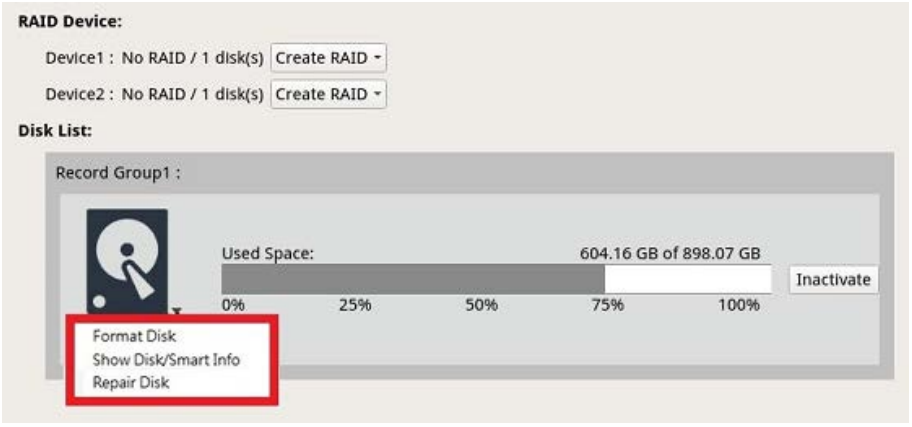
Storage Setup

Storage Setup provides users detailed information of the internal HDDs, format, repair the internal HDDs, etc. Cloud storage like NAS device is also included to store snapshots and recording videos.

NOTE! If HDD is removed during operation (hot-swappable), please click the refresh icon next to **Disk List** to display current workable HDDs.

Local Storage Setup

- Click the HDD icon and the drop-down list will be displayed as below including three options, **Format Disk**, **Show Disk/Smart Info** and **Repair Disk**.

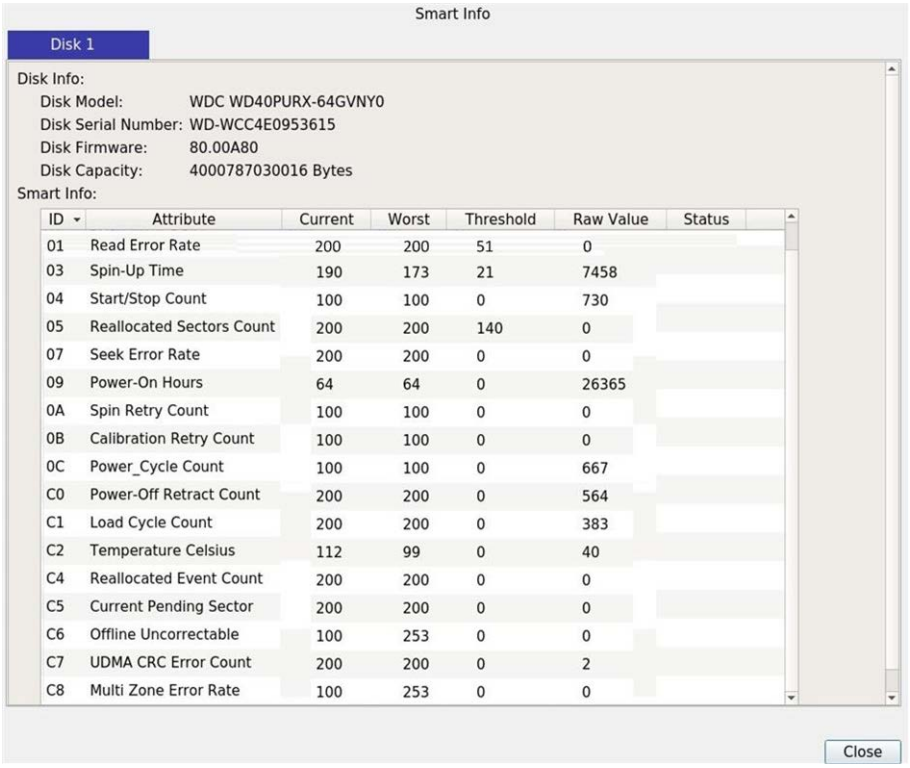


Format Disk

Users can format the selected HDD. Select this option and a warning window will pop up. Click **OK** to start formatting the HDD, or click **Cancel** to stop.

Show Disk/Smart Info

Users can view and check brief information and Smart (Self-Monitoring Analysis and Reporting Technology) information of the selected HDDs.



ID	Attribute	Current	Worst	Threshold	Raw Value	Status
01	Read Error Rate	200	200	51	0	
03	Spin-Up Time	190	173	21	7458	
04	Start/Stop Count	100	100	0	730	
05	Reallocated Sectors Count	200	200	140	0	
07	Seek Error Rate	200	200	0	0	
09	Power-On Hours	64	64	0	26365	
0A	Spin Retry Count	100	100	0	0	
0B	Calibration Retry Count	100	100	0	0	
0C	Power_Cycle Count	100	100	0	667	
C0	Power-Off Retract Count	200	200	0	564	
C1	Load Cycle Count	200	200	0	383	
C2	Temperature Celsius	112	99	0	40	
C4	Reallocated Event Count	200	200	0	0	
C5	Current Pending Sector	200	200	0	0	
C6	Offline Uncorrectable	100	253	0	0	
C7	UDMA CRC Error Count	200	200	0	2	
C8	Multi Zone Error Rate	100	253	0	0	

Repair Disk

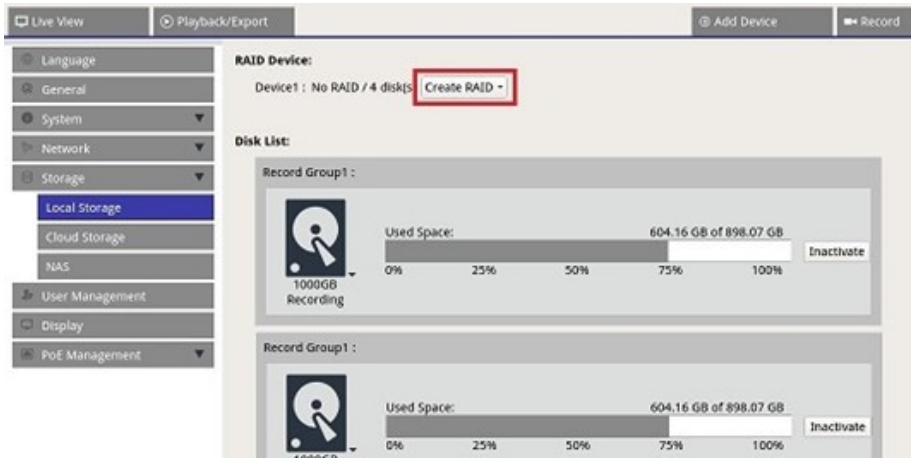
1. When error occurred on the selected disk, execute this function to repair the HDD before formatting. A warning window will pop up before repairing the HDDs.
2. Select **OK** to proceed, or click **Cancel** to stop.

Create RAID (Requires 2 or More HDDs)

The NVR includes RAID function to provide more efficient and secure use of storage space.

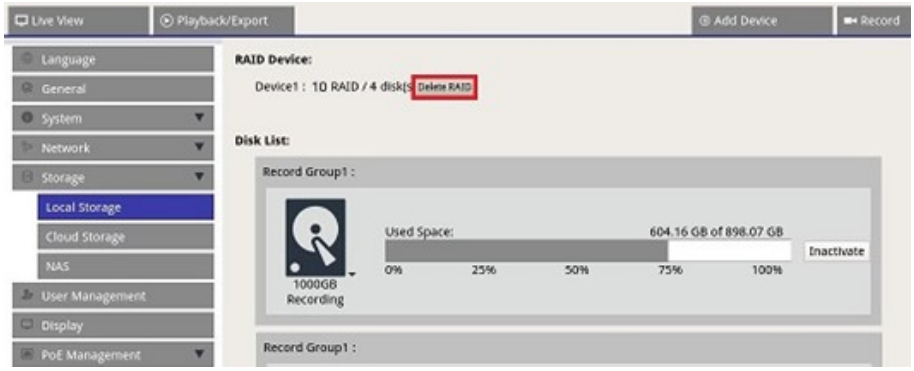
NOTE! DO NOT connect additional HDD after setting up RAID. Otherwise, please delete RAID and recreate.

Click **Create RAID** and select the preferred available configuration option. Click **OK** to continue or click **Cancel** to stop.



To remove the RAID configuration, click **Delete RAID** and select **OK** to continue or click **Cancel** to stop.

NOTE! All partitions and data stored on the HDD within the RAID will be deleted when RAID is deleted.



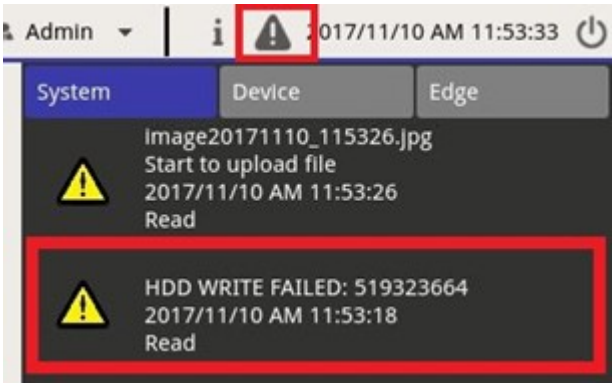
RAID Levels

NVR Type	Raid Level
8/16 channel models	■ **0:** Striping only, no redundancy ■ **1:** Mirroring
64 channel model	■ **0:** Striping only, no redundancy ■ **1:** Mirroring ■ **5:** Block-level striping with distributed parity ■ **10:** Combination of RAID levels 1 and 0

For more information on RAID levels, see Standard RAID levels (Wikipedia).

HDD Error

The NVR will send out warning notice of HDD Error when the data format of the HDD does not correspond to the setting of the NVR, or when the HDD is inactivated. Users can re-format the disk, activate the HDD recoding function, or replace a new HDD accordingly.



Replacing a Defective RAID HDD

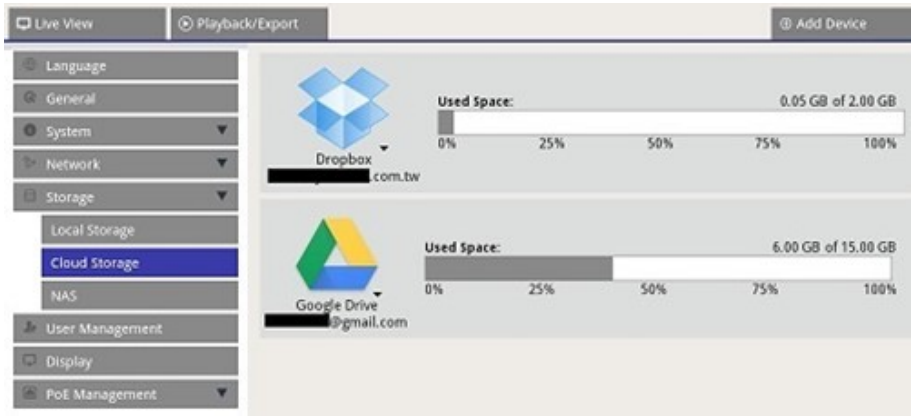
NOTE!
It is highly recommended to use a **new hard disk** when replacing a defective drive. If you want to use a hard disk that had been part of a RAID system, make sure to format the disk **before adding it to the RAID**.
If this step is omitted, the system will **not recognize the hard disk after rebooting**!

Proceed as follows to replace a HDD for which the system has thrown an HDD error (see section above).

- **Unmount** the defective hard disk (see section ***HDD Installation*** in the ***Quick Installation***).
- Unlock the hard disk tray, remove it and install a **new hard disk**, then insert and lock the hard disk tray at its original position (see section ***HDD Installation*** in the ***Quick Installation***).
- **Mount** the new hard disk.
- **If you installed a hard disk that had been used before, make sure to format the disk (see section Format Disk, p. 69).**
- Add the hard disk to the RAID.

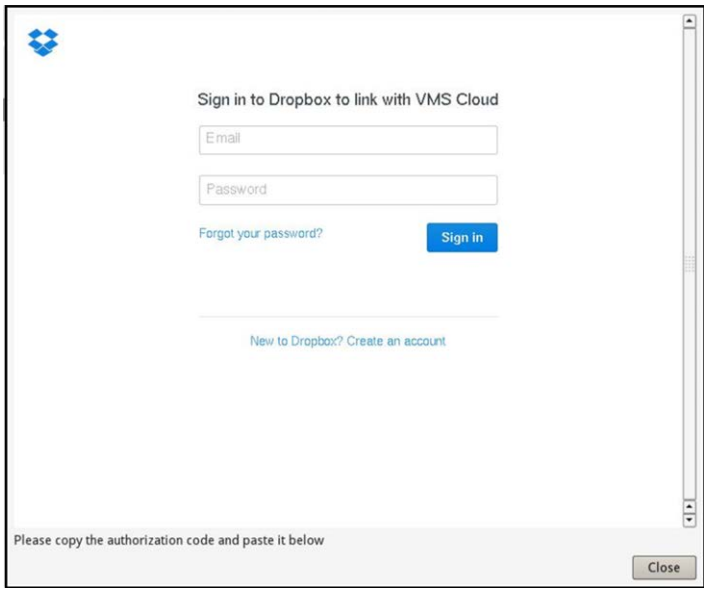
Cloud Storage Setup

Users can choose cloud storage like Dropbox or Google Drive to export recorded videos or captured images. Follow the instructions below to setup personal cloud storage on the NVR.



Setup Dropbox Cloud Storage

1. Click on Dropbox icon and select **Add Account**.
2. Enter the email address and password for the Dropbox account and click **Sign in**.



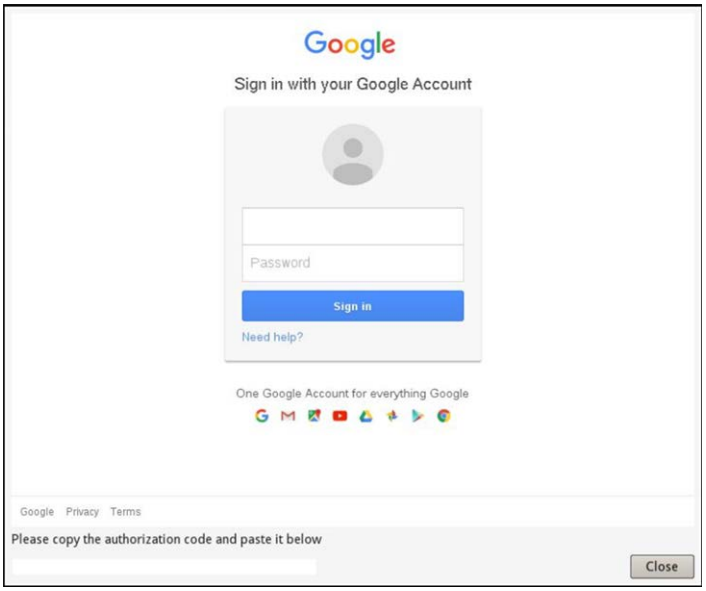
3. The NVR will ask for authorization to access Dropbox. Select **Allow**.

4. Click **Close** to exit the setting window.

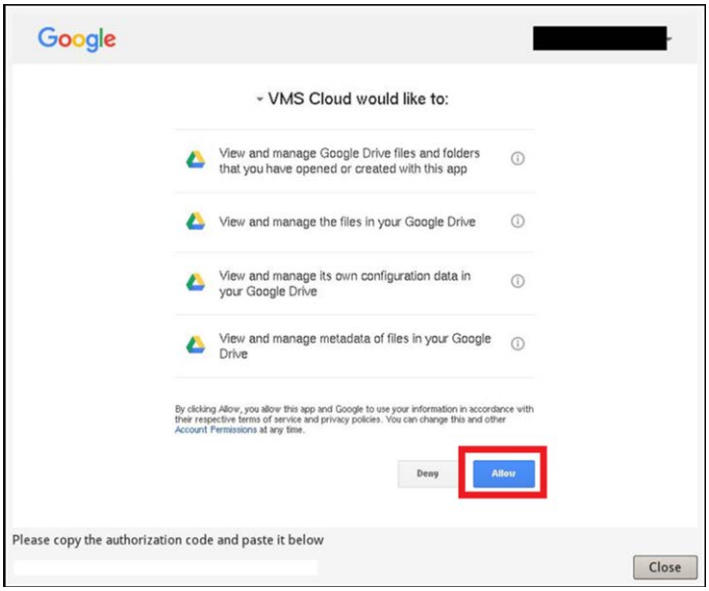
A message indicating authentication is successfully granted will appear. Click **OK** to confirm.

Setup Google Drive Cloud Storage

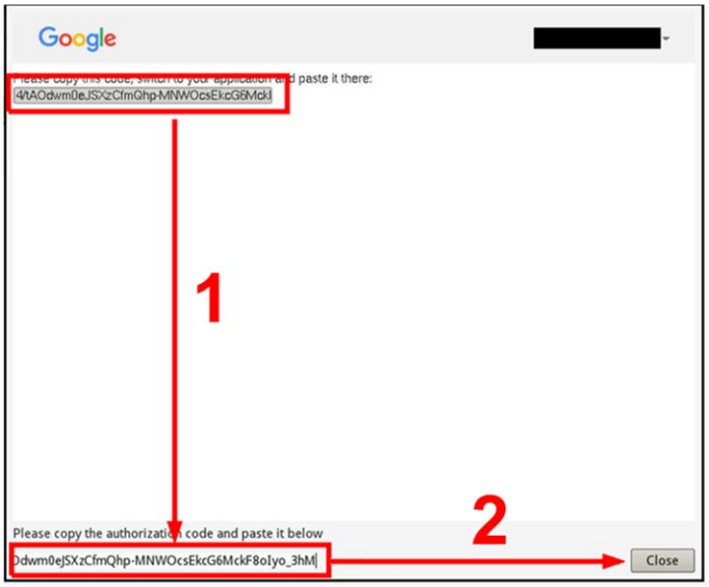
1. Click on Google Drive icon and select **Add Account**.
2. Enter the email address and password for the Google account and click **Sign in**.



3. The NVR will ask for authorization to access Google Drive. Select **Allow**.



4. Copy and Paste the code to the entry field at the bottom of the window.



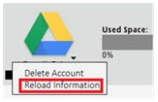
5. Click **Close** to exit after finish.

A message indicating authentication is successfully granted will appear. Click **OK** to confirm.

Refresh Cloud Storage Usage

Click the Dropbox/Google Drive icon and select **Reload Information**. Selected cloud storage information will be refreshed.

(Dropbox)

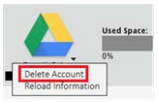


(Google Drive)

Stop Using Dropbox/Google Drive Cloud Storage

Click the Dropbox/Google Drive icon and select **Delete Account** to delete the account. Once account is removed on the NVR, system will no longer have access to personal cloud storage.

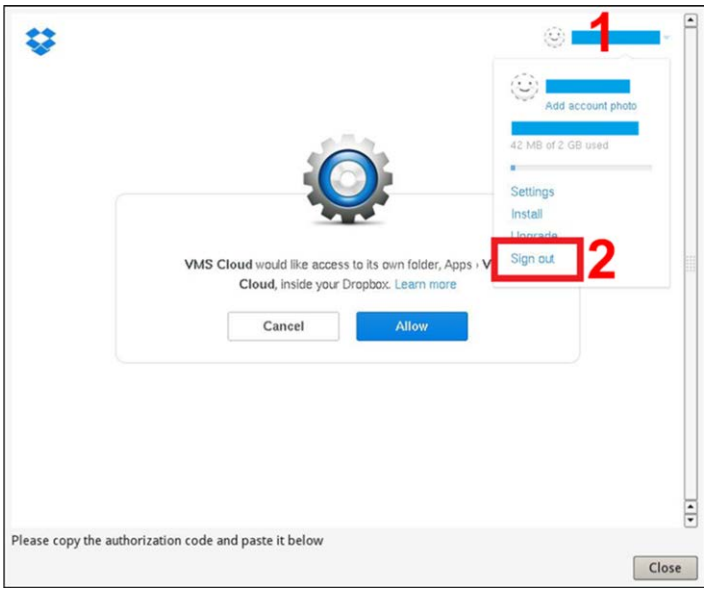
(Dropbox)



(Google Drive)

Login with another User Account using Dropbox

1. Select **Delete Account** to remove Dropbox account.
2. Select **Add Account** to add new Dropbox account.
3. Click the user account name after the pop-up window loaded previous login user information then click on ① username and select ② **Sign Out**.

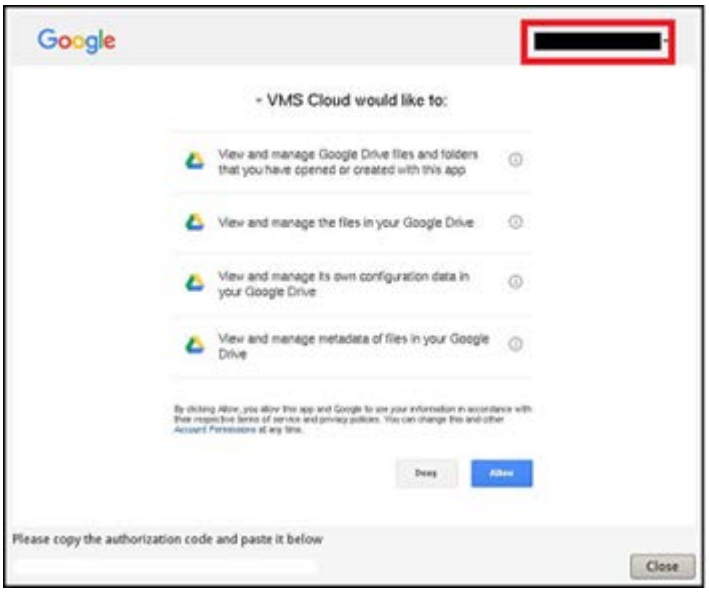


4. After successfully sign out current user, follow the instructions described under section Setup Dropbox Cloud Storage to login with another user account.

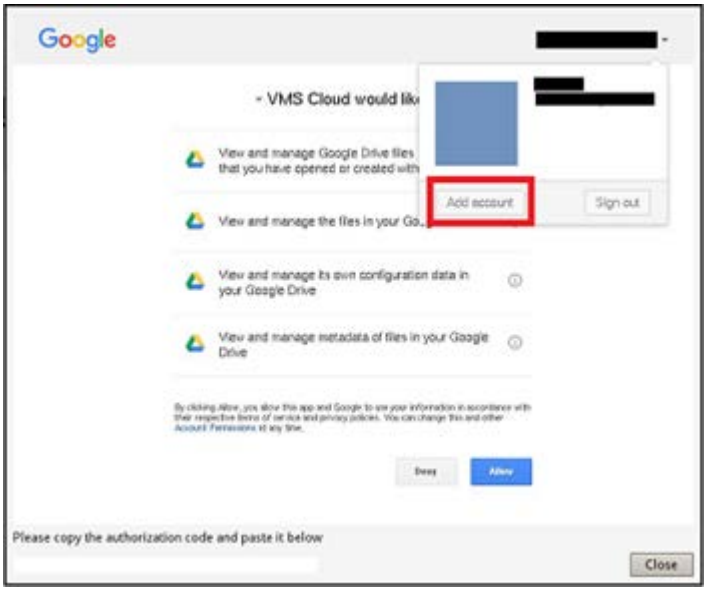
Login with another User Account using Google Chrome

1. Select **Delete Account** to remove Google Drive account.
2. Select **Add Account** to add new Google Drive account.

3. Click the user account name after the pop-up window loaded previous login user information as indicated in the following figure.

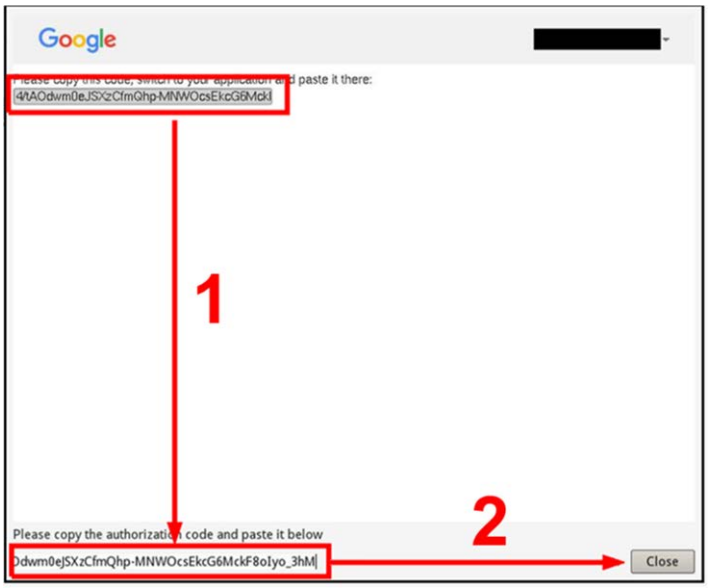


4. Select **Add account** to sign in with new user account and password, then select **Sign in**.



5. The NVR will request authorization to access Google Drive. Select **Allow**.

6. Copy and Paste the authorization code to the entry field at the bottom of the window.

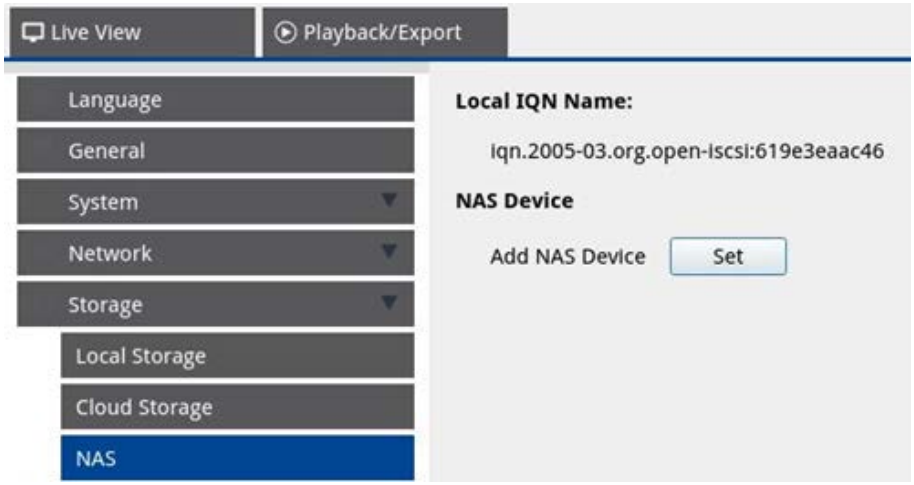


7. Click **Close** to exit the setting window.

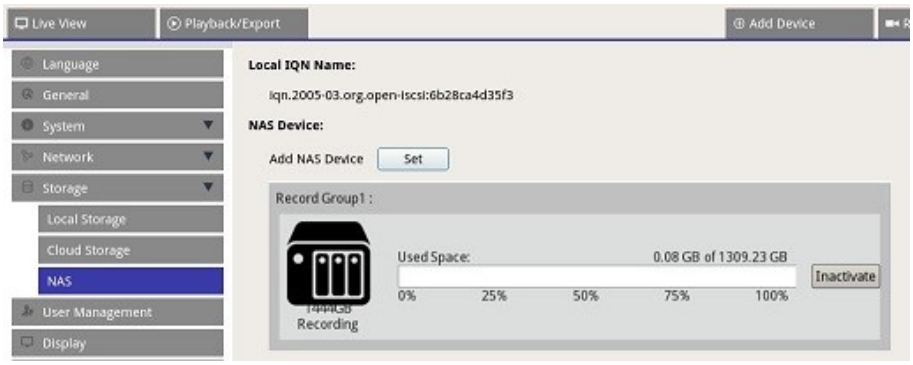
A message indicating authentication is successfully granted will appear. Click **OK** to confirm.

NAS Setup

The NVR allows ISCSI Protocol NAS (Network Attached Storage) device to store snapshots and recorded videos. Follow the steps below to setup NAS configuration.



1. Click **Set** to add NAS device after connecting to the NVR.
2. After login window pops up, choose **Anonymous** or enter **Account** and **Password** in the entry field to log in. Click **OK** to continue.
3. Enter the IP address of the NAS and click **Search**.

4. The NVR will search and display the NAS IQN name list. Select corresponded NAS IQN name and click **Connect**.
5. Once the NAS has connected successfully, click **Activate** and assign the NAS device to a record group from the drop-down list. To stop the recording of the NAS, click **Inactivate** of the selected NAS device.
6. 

NOTE! Multiple record groups are provided only for NVR models with more than 8GB RAM.

User Management Setup

Users can add/edit/delete user accounts with customized authority. Maximum additional user's number for the system is six.

Add a New User Account

Follow the steps below to create a new user account.

1. In User Authority Setup, click Add to create new user.
2. Setup new account with user name and password.
3. Click Ok to finish creating new user.

NOTE! To setup user name and password, refer to the form below for the NVR setting rule of user name and password length and character categories.

	Username	Password
Length	2-32 characters	6-20 characters
Character Categories	1. alphabets "A-Z"/"a-z" 2. numbers "0-9" 3. the ONLY special character available underscores “_” (except of the first character)	1. alphabets and numbers "A-Z"/"a-z" and "0-9" (at least one alphabet and one number) 2. special characters "!#$%&'-.@^_~"

Edit User Account

1. In User Authority Setup, select user account and click Edit to configure User Information setting.
2. Edit the user name.
3. Click change and enter new password to edit selected user’s password.
4. Click Ok to confirm changing password, or click Cancel to stop.
5. After changing selected user name and password, click Ok to save and apply the changes for selected user.

Delete User Account

- To delete user account, select the user name and click Delete.

NOTE!
Users cannot delete both default accounts **Admin** and **Guest**.

Setup User Permissions (Authorities)

1. Set access permissions to the functions listed in the User Management setting menu.
   - ✔ represents the user account is authorized to access the function.
   - ✖ represents the user account is not authorized to access the function.

NOTE!
The preset account **Guest** can only view live streaming channel under the Live View.

- **Device:** Access to the Add Device function tab
- **PTZ:** Access to control the Camera PTZ functions in Live View
- **Playback:** Access to the Playback/Export function tab to configure the videos/snapshots stored in the system
- **Setup:** Access to enter Setup function tab and change NVR system configurations
- **Covert IP Cameras:** Users can decide which channels to be seen or hidden when certain user accounts log in.

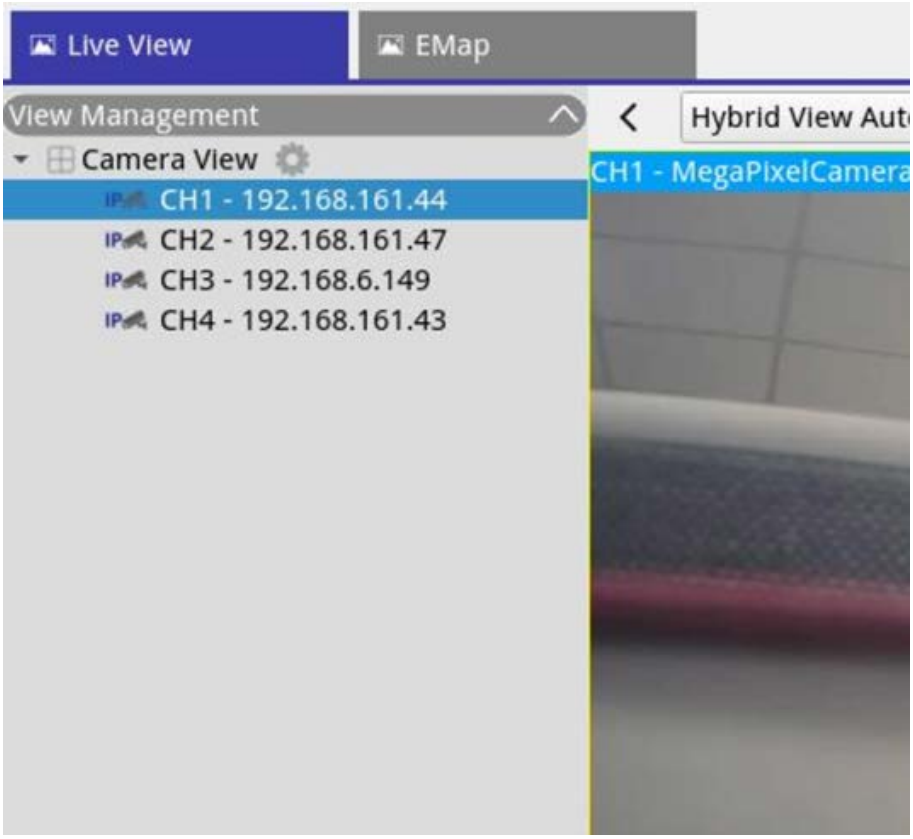
2. Click ⚙ (Covert Setting) corresponding to the desired user account to enter the setting menu.

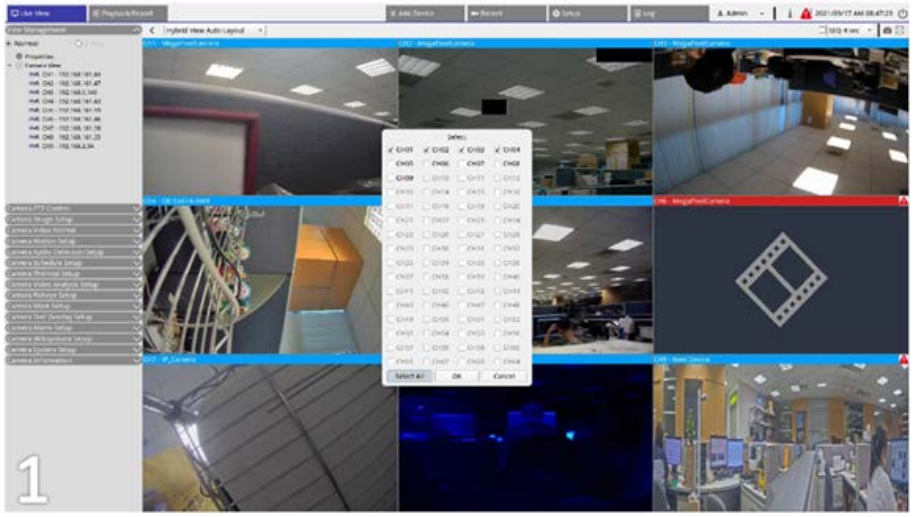
3. Check the channel box to reject user access.
4. Un-check the channel box to allow user access.
5. Click Select All to check or un-check all channels.
6. Click Ok to save and apply the setting, or click Cancel to discard the changes.

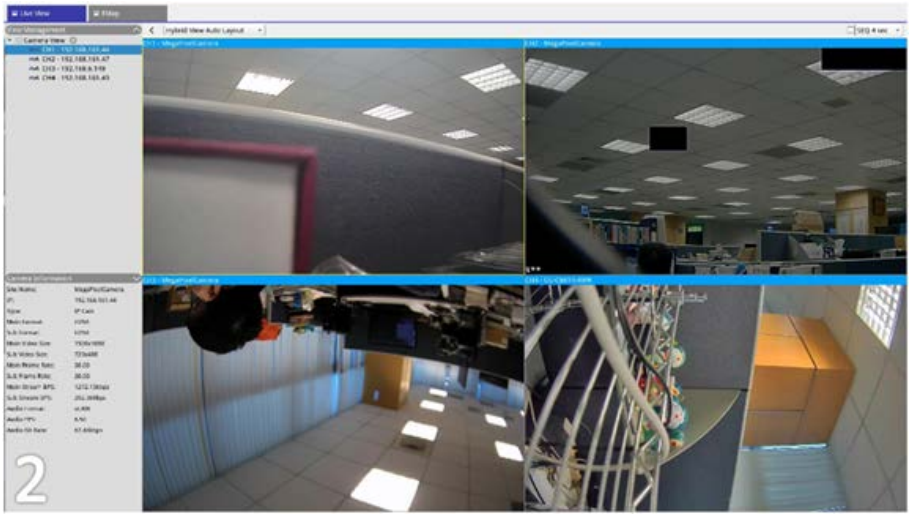
Display Setup

The NVR supports up to 2x 1080p displays, with the following display modes available:

1. **Live view (default):** On the second monitor, users could select important channels to focus. Users could configure what channels they would like to focus by clicking in the second monitor. A camera list will then displayed on monitor 1 for users to select.







2. **Normal:** The system will extend across two monitors.

Configuring the Monitors

Before powering up the NVR system, make sure the HDMI and/or DisplayPort cable is connected to both the monitor and the system. The NVR will automatically detect the display output and adjust display resolution upon startup. The NVR will define the DisplayPort monitor as the primary monitor and the HDMI monitor as the secondary monitor.

1. If users wish to change the order of the monitors, click and drag to drop selected monitor to preferred location.
2. Click Apply to save the settings and the NVR will reset the order of monitor display, or click Cancel to reload current settings.

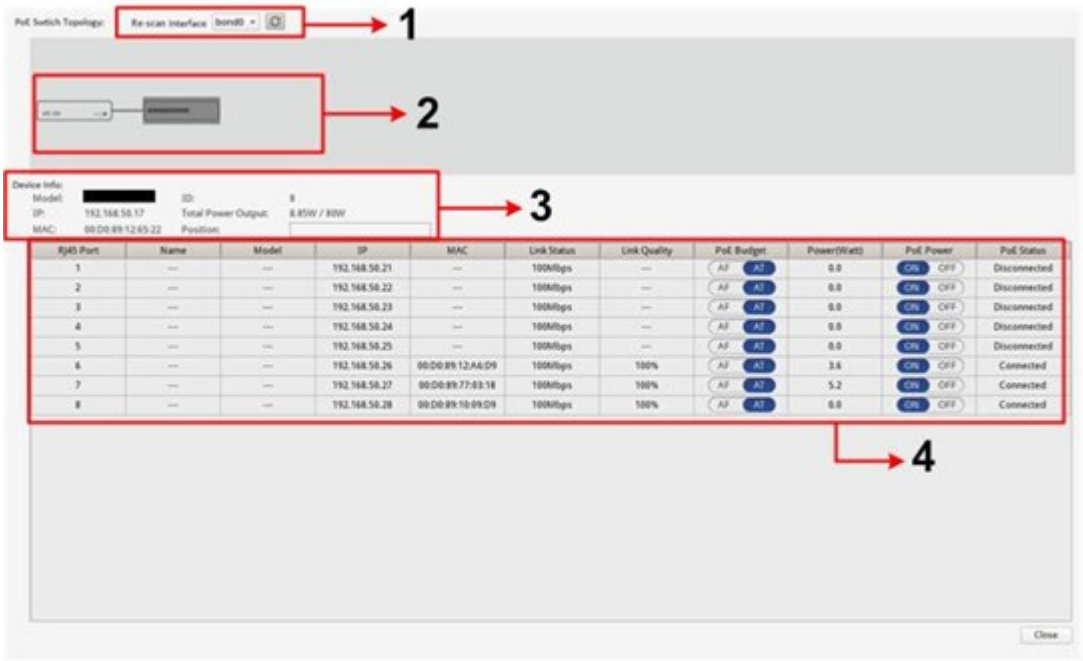
NOTE! System cannot extend display view on 4K monitor.
If user wants to upgrade from 1080p resolution display to 4K resolution display, system needs to reboot and rescale for best image quality.

PoE Management

Users can access PoE port status and manage PoE ports.

PoE Management Setup

Click Show PoE Data to display the PoE switch setting menu.



No.	Item	Description
1	Re-scan	Refresh and scan all ports to see if there is any new IP camera connected to the system. 1. Click and a warning message will appear. 2. Click **OK** to proceed or select **Cancel** to stop.
2	PoE Switch Topology	The number of connected PoE switches will be displayed here. The first icon (from left to right) represents the NVR and the second icon represents the PoE switch on the back of the NVR. Click on the device icon to select and display related information under **Device Info**.

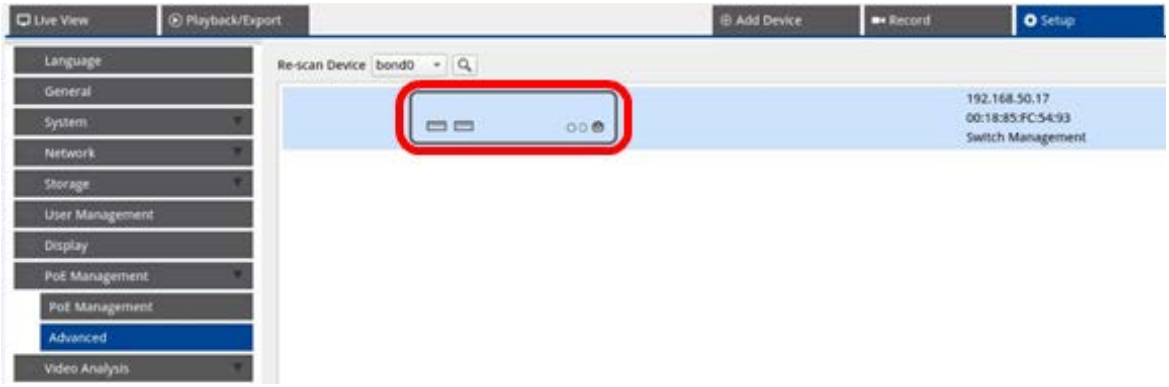
No.	Item	Description
3	Device Info	Users can check the basic information of the selected NVR or PoE switch. Model name, model IP, MAC, ID, and total power output of the selected device will be displayed.
4	PoE Port Management	■ **RJ45 Port:** List the number of PoE port ■ **Name:** The name of the IP camera connected to the port ■ **Model:** Model name of the IP camera ■ **IP:** The IP address of the connected IP camera is assigned by the NVR according to which PoE port the IP camera is connected to. **NOTE!** ■ By default, the DHCP server will automatically assign IP addresses in the range **192.168.51.2** to **192.168.51.25** for cameras connected to the integrated PoE ports (last number = PoE port number + 1). ■ To change the IP address range, see the section DHCP Server Settings, p. 90. ■ **MAC:** The MAC address of the IP camera ■ **Link Status:** Network connection speed of the IP camera ■ **Link Quality:** Network connection status of the IP camera ■ PoE Budget — **AF** represents PoE standard IEEE 802.3af. — **AT** represents PoE standard IEEE 802.3at. Users can switch to preferred PoE standard based on the needs. ■ Power (Watt): Power consumption status of the PoE port ■ **PoE Power:** Select **ON** to enable PoE for selected port. Select **OFF** to disable PoE for selected port. ■ **PoE Status:** Check if the PoE port is connected with an IP camera or not.

Advanced Settings

The Advanced page allows users to access the complete settings of the POE Switch.

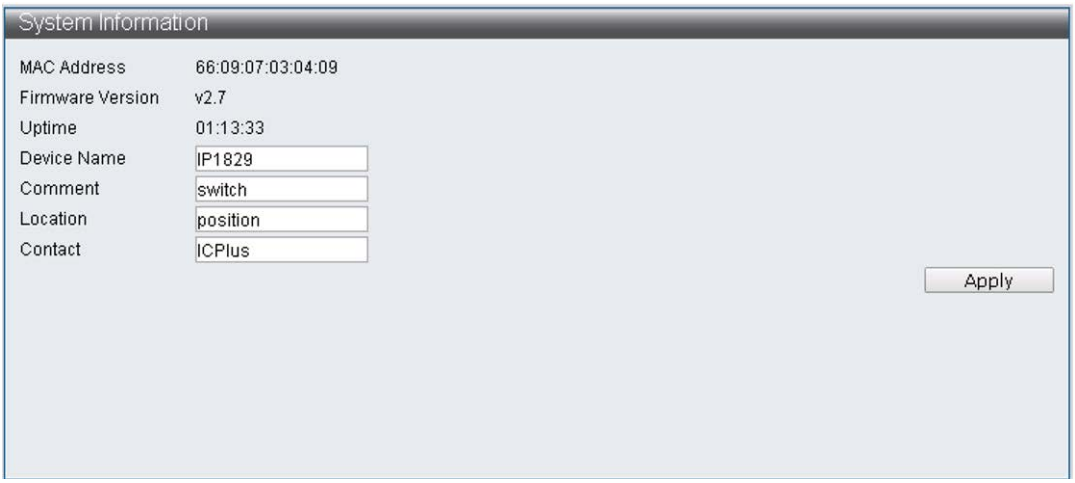
NOTE! It is suggested to consult the NVR suppliers BEFORE entering this page. Incorrect settings may cause malfunctions of the NVR.

Double click the NVR icon. Once the pop-up login window appears, enter the administrator account "admin", and enter the password to login as the Web Management system administrator.



System Information Settings

This page displays the system information including MAC Address, Firmware Version, Uptime, Device Name, Comment, Location and Contact. Users can configure the setting in **System Information** under **System**. See below for further setting instructions.



NOTE! The maximum character limit for each field is 15 characters.

Parameter	Description
MAC Address	Display the MAC Address of the PoE switch
Firmware Version	Display the firmware version of the PoE switch
Uptime	Display the last boot up time
Device Name	Enter the name of the PoE switch
Comment	Enter the purpose of the PoE switch

Parameter	Description
Location	Enter the location of the PoE switch
Contact	Enter the content of the PoE switch

IP Configuration Settings

Users can configure the IPv4 and IPv6 Address setting manually, or use the DHCP server to assign the IPv4 and IPv6 Address automatically under in I**System > IP Configuration**.

Load Factory Defaults

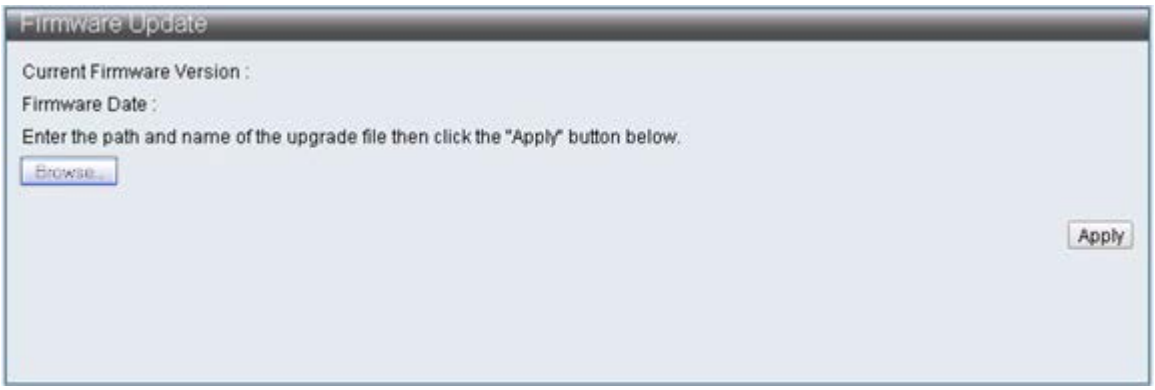
To return the setting to the factory default, click **Load Default** to recover switch default setting excluding the IP address, User name and Password. Users can configure the setting in **System > Load Factory Default**.

NOTE! The Load Factory Default function can only return this PoE switch to the default setting. The User Name, Password and IP Address setting would remain the same.

Parameter	Description
Load Default	Return to the default setting

Update Firmware

Users can update the firmware version of this PoE switch. Click Browse... to select the update file. Next, click Apply to update the firmware. Users can configure the setting in **System > Firmware Update**.

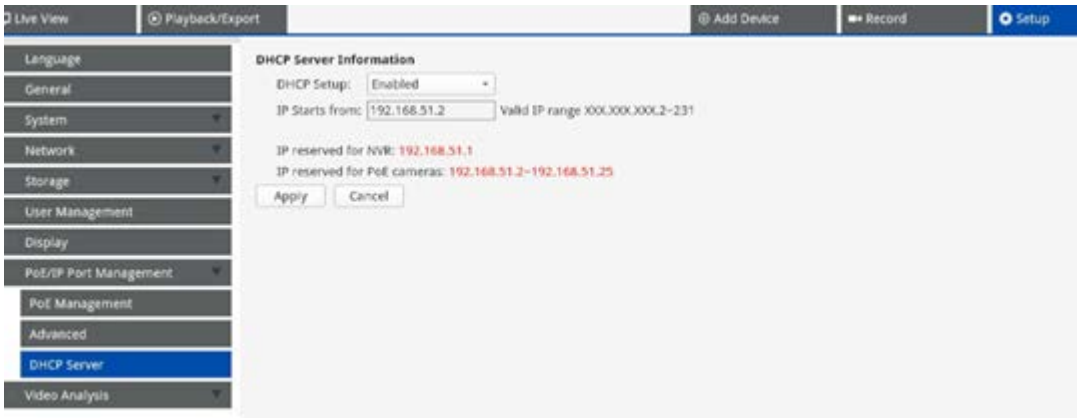


Parameter	Description
Select the File (Browse...)	Select the firmware file to update

DHCP Server Settings

To set up the DHCP Server, open **Advanced Features > DHCP Server**.

- By default, the DHCP server will automatically assign IP addresses in the range **192.168.51.2** to **192.168.51.25** for cameras connected to the integrated PoE ports (last number = PoE port number + 1).



Setting a Different IP Address Range

- Enter the first address of the IP address range in the **IP Starts from** field. The following rules apply:
  - You should only use addresses that start with either **10.xxx.xxx.**, **172.16.xxx.** or **192.168.xxx.** (with xxx being a number from 1 to 254) or else this may interfere with public IP network addresses.
  - The start IP address (the last number of the IP address you set above) can be any number from 2 to 231.
  - The last IP address before the start of the range will always be used by the MOVE NVR itself.

  EXAMPLE:
  If the start address of the range is **192.168.20.21**, the NVR would use **192.168.20.20** as its own IP address. The IP addresses of devices attached to the PoE ports would then start from **192.168.20.21** for port 1 and end with **192.168.20.44** for port **24**.
- Click Apply to configure the setting.

Disabling the DHCP Server

- Select **Disable** from the **DHCP Setup** dropdown.
- Click Apply to configure the setting.

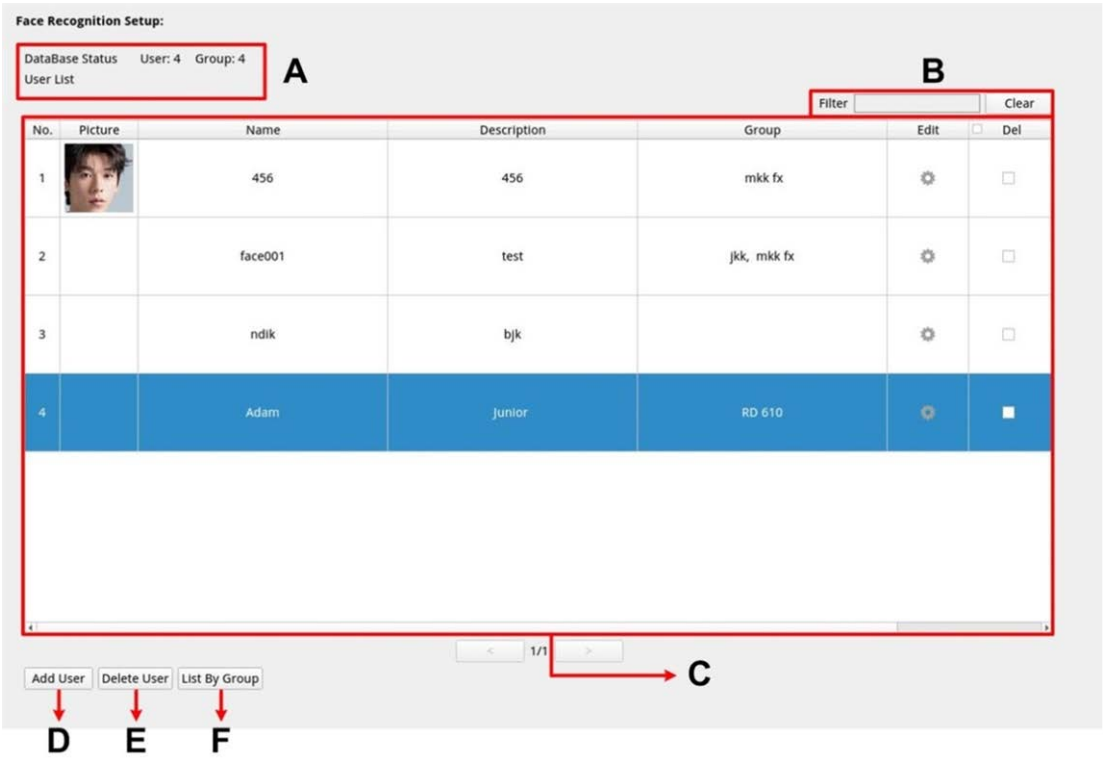
6

Video Analysis Setup

Two video analysis functions that can be set up on the NVR: Face Recognition and License Plate Recognition.

Face Recognition

Users can set up the database for **Face Recognition** here.

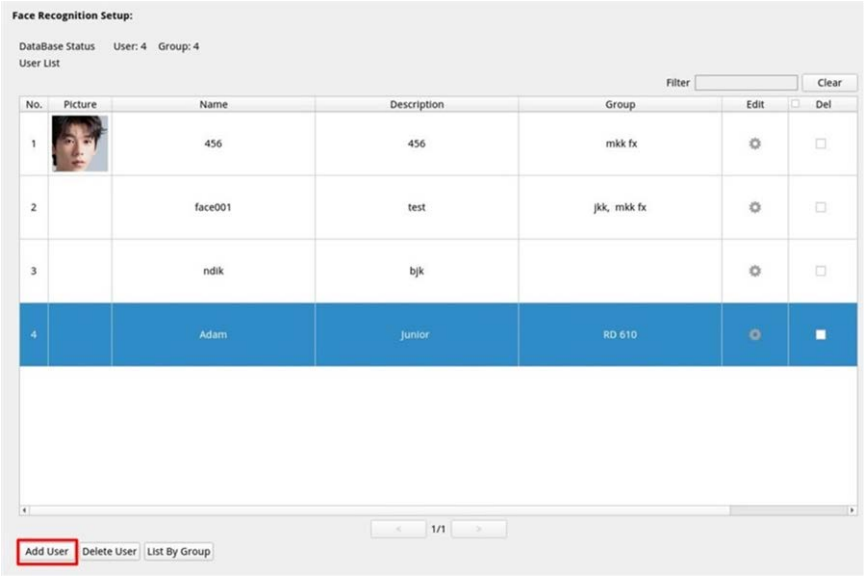


No.	Item	Description
A	Database Info	This shows the brief information of database (including total numbers of added users/groups).
B	Filter (User List Only)	Filter is used to search specific User from the database. Click **Clear** to clear the search results.
C	User List/ Group List Display	This shows the whole information of Users and Groups here. If needed, click to edit or check the **Delete** box of specific User/Group.
D	Add User/Group	Click to add specific User/Group data.
E	Delete User/Group	Click to delete specific User/Group data.
F	List By User/Group	Click the button to change the list viewing mode (By User or By Group).

User List/Group List Setup

Follow the steps below to add Users/Groups information.

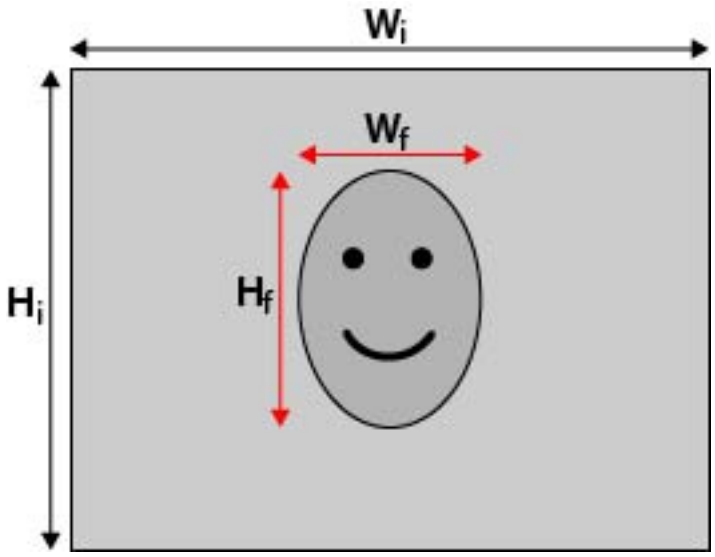
1. Click Add User from **User List**.



2. Enter the user's name into **Name**. Fill in **Description** if needed.

3. Click Save to apply the setting.

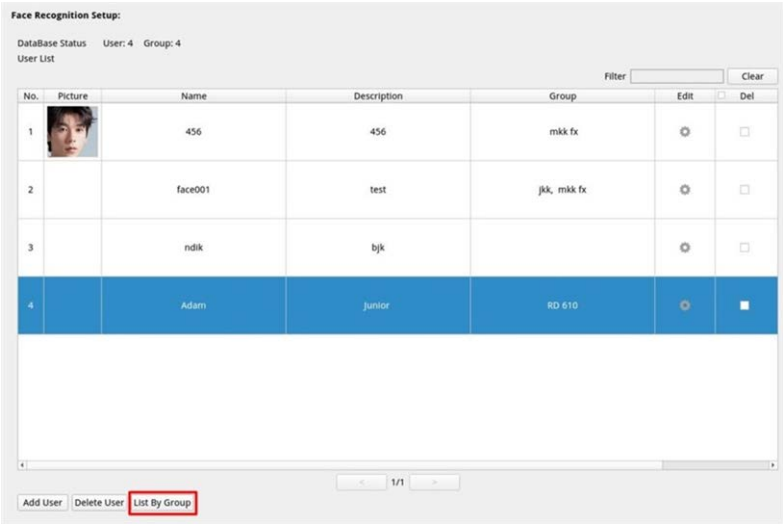
4. Click from **Face Image List**. Choose the image files of the user. Upload at least three images of the user's face. The face must take up at least 12% and at most 25% of the image. See the formula below for how the range of percentages is calculated. More images with multiple angles (both eyes should be revealed) or various looks of the user, e.g., with/without glasses, with different hairstyles, are preferred. Supported image formats are JPEG/PNG/BMP. Recommended image size is between 200x200 to 1920x1080 pixels.



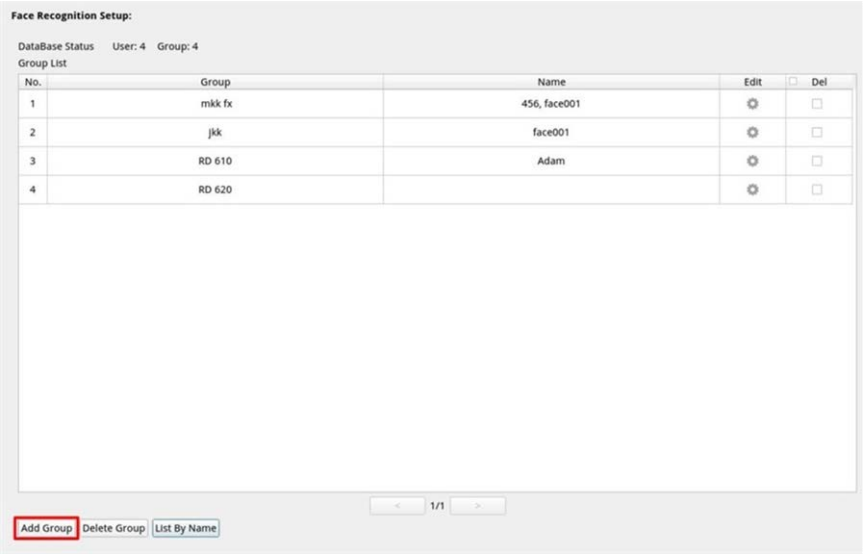
Formula:

$(Width_f \times Height_f)/(Width_i \times Height_i) =$
Percentage of the face (f) taking up space in an image (i)

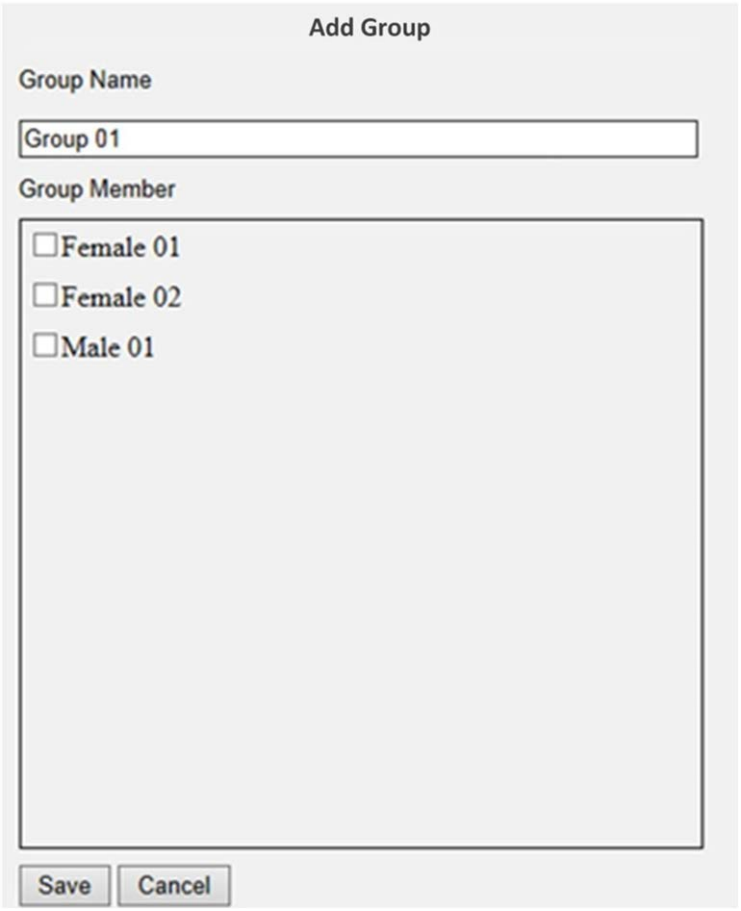
5. Click Save to apply the setting.
6. Click List By Group from **User List** after finishing adding the users.



7. Click Add Group from **Group List**.



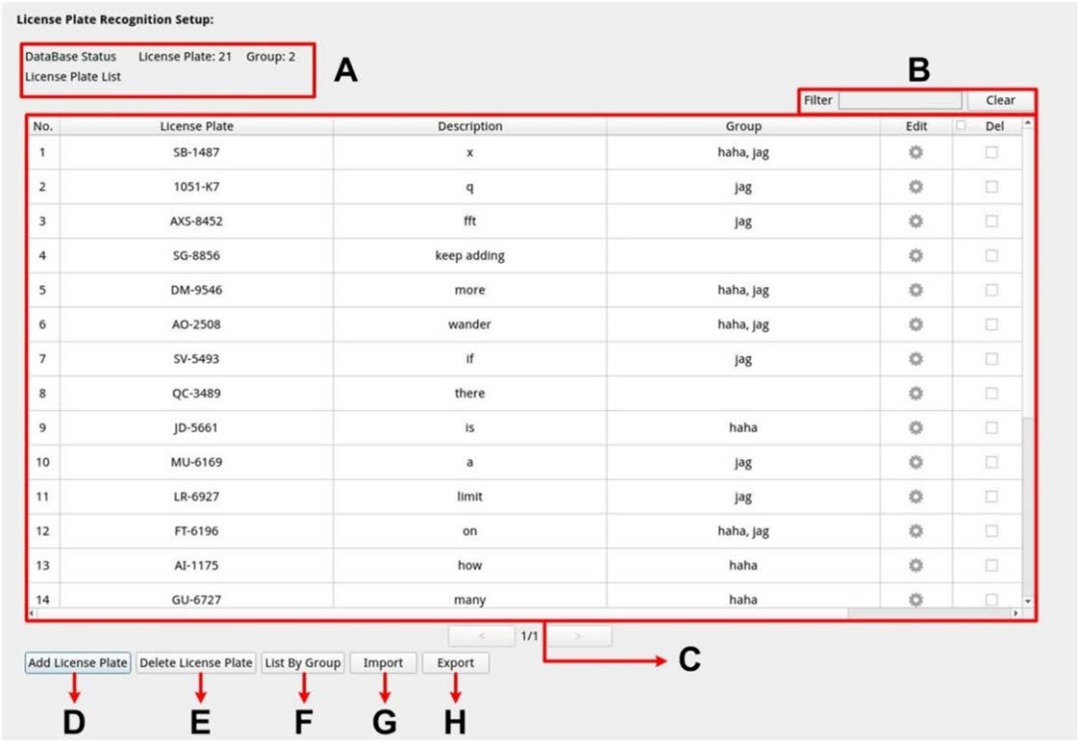
8. Enter the name of the group into **Group Name**.



9. Select the group member(s) into the group.
10. Click Save to apply the setting.

License Plate Recognition

Users can set up the database for **License Plate Recognition** here.



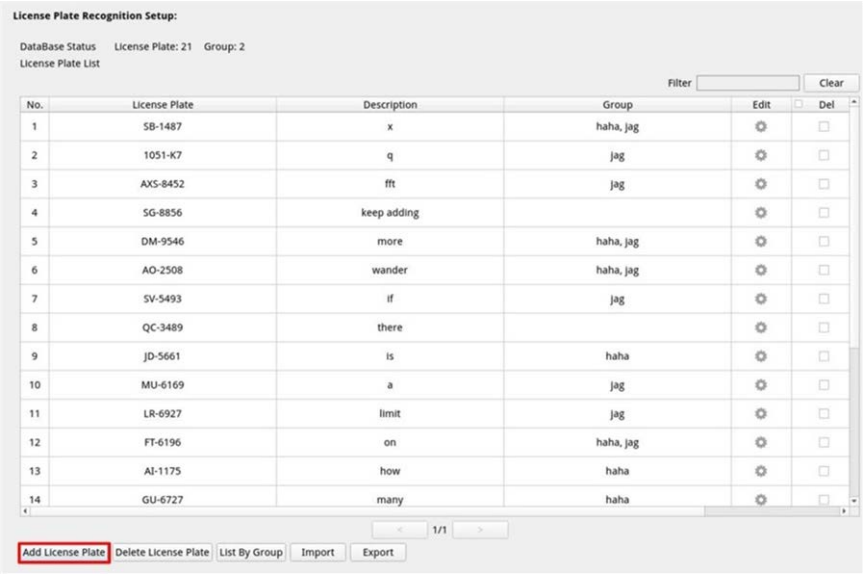
No.	Item	Description
A	Database Info	This shows the brief information of database (including total numbers of added users/groups).
B	Filter (License Plate List Only)	Filter is used to search specific User from the database. Click **Clear** to clear the search results.
C	License Plate List/ Group List Display	This shows the whole information of License Plates and Groups here. If needed, click ⚙ to edit or check the **Delete** box of specific License Plate/Group.
D	Add License Plate/Group	Click to add specific License Plate/Group data.
E	Delete License Plate/Group	Click to delete specific License Plate/Group data.

No.	Item	Description
F	List By License Plate/Group	Click the button to change the list viewing mode (By License Plateor By Group).
G	Import	Click to import License Plate data.
H	Export	Click to export License Plate data.

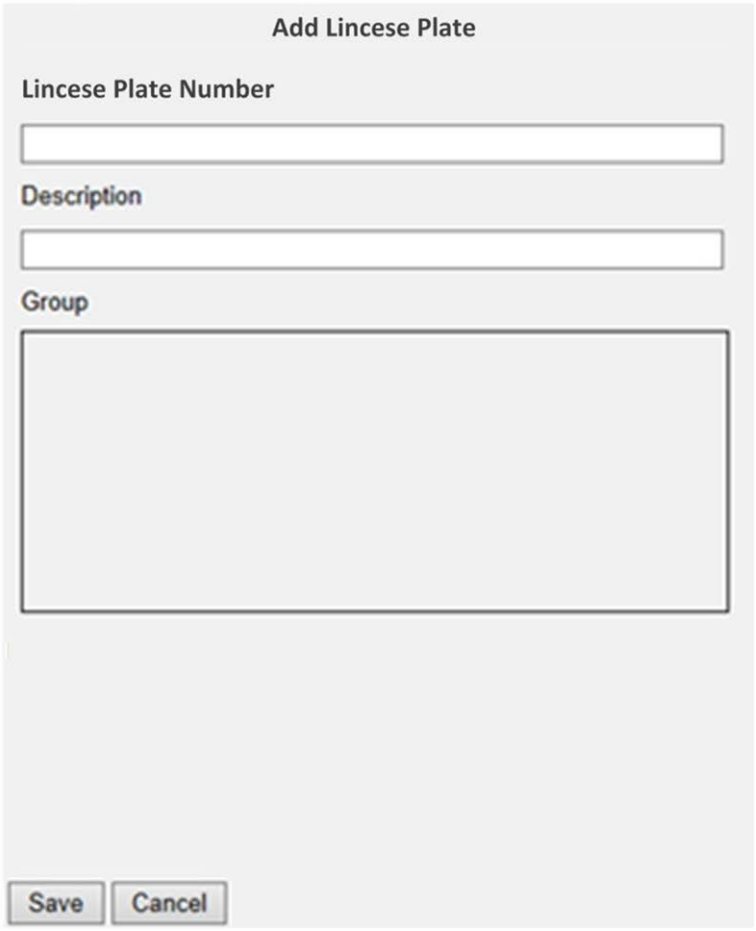
License Plate List/Group List Setup

Follow the steps below to add Users/Groups information.

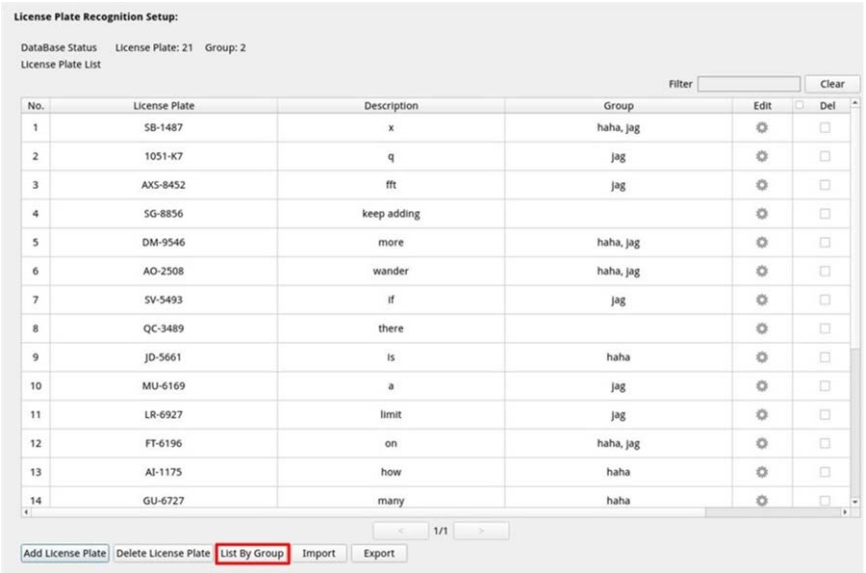
1. Click Add License Plate from **License Plate List**.



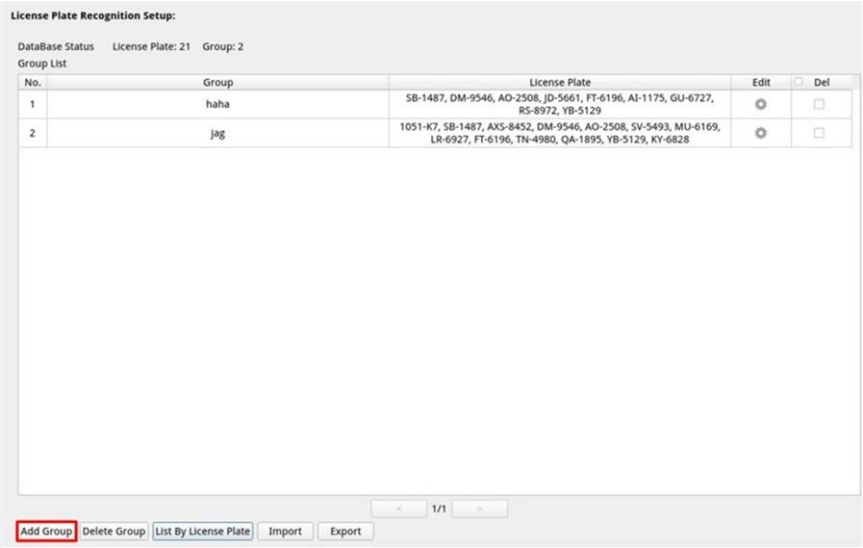
2. Enter the license Plate number into **License Plate Number**. Fill in **Description** if needed.



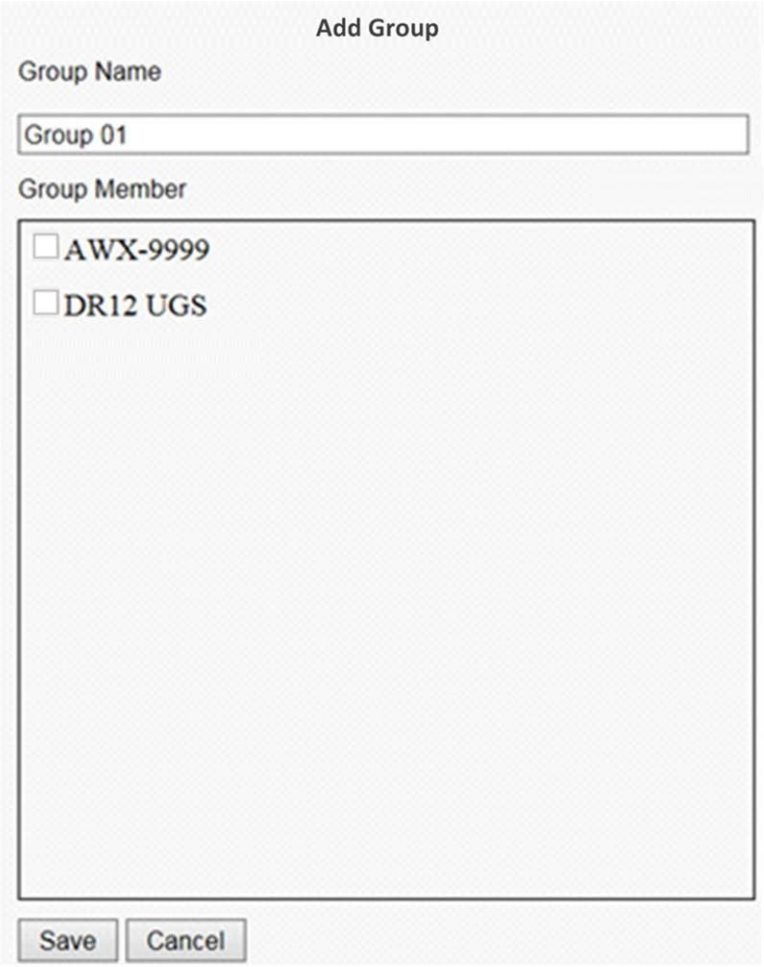
3. Click Save to apply the setting.
4. Click List By Group from **License Plate List** after finishing adding the license plate numbers.



5. Click Add Group from **Group List**.



6. Enter the name of the group into **Group Name**.



7. Select the group member(s) into the group.

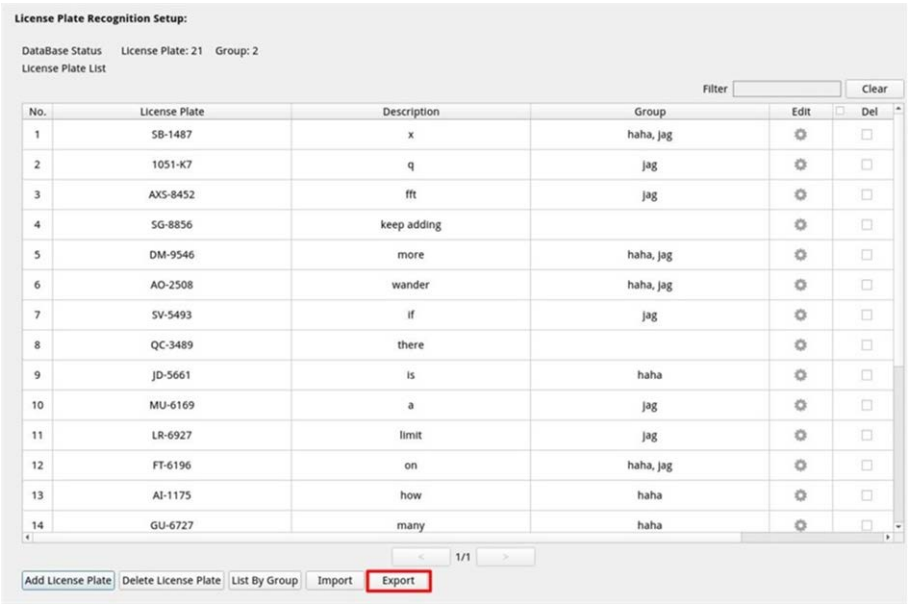
8. Click Save to apply the setting.

NOTE! The license plate and group data can be imported into other devices. For those who need to export the data into a database file or to import a database file, please refer to Export the Database/Import the Database.

Export the Database

To export the data, please follow the steps below after the user and group setup.

1. Make sure the external drive is connected to the NVR before exporting the configuration file.
2. Click Export and select the preferred export file location.



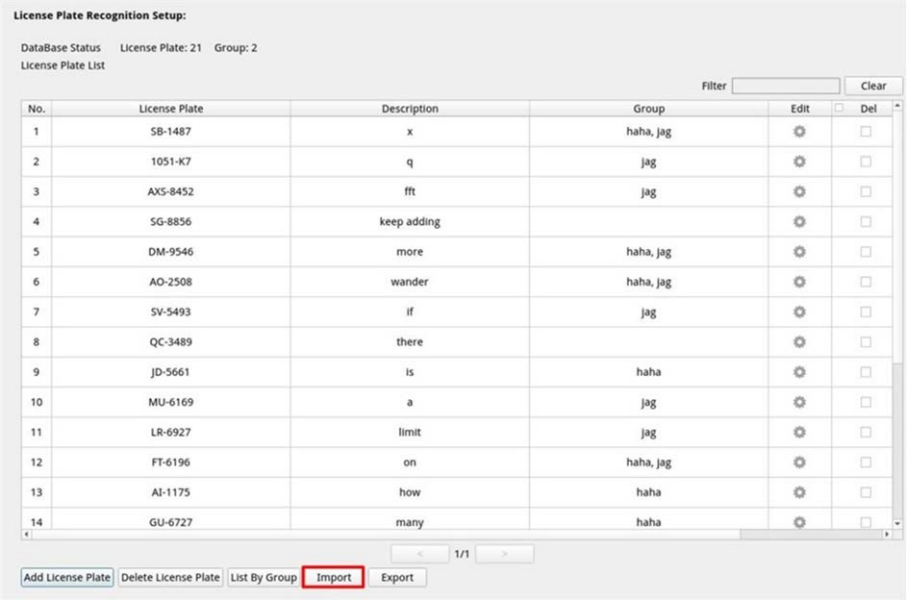
3. Read the confirmation pop-up window to confirm the exporting file location. Click Confirm to start exporting or click Cancel to stop.

NOTE! Please export the database file every time before upgrading the XMS system. In addition, please backup the database file regularly to avoid unexpected conditions.

Import the Database

To import a database file, please follow the steps below after the user and group setup.

1. Connect the external drive that stores the configuration file to the NVR
2. Click Import to display the **Select File** window.



3. After selecting the preferred database file, click Confirm to start importing the configuration, or click Cancel to stop.

7

Add Device

The NVR can search IP devices through either direct PoE connection or network connection. Please read the instructions for further information regarding how to connect the IP camera/encoder to the system.

NOTE!

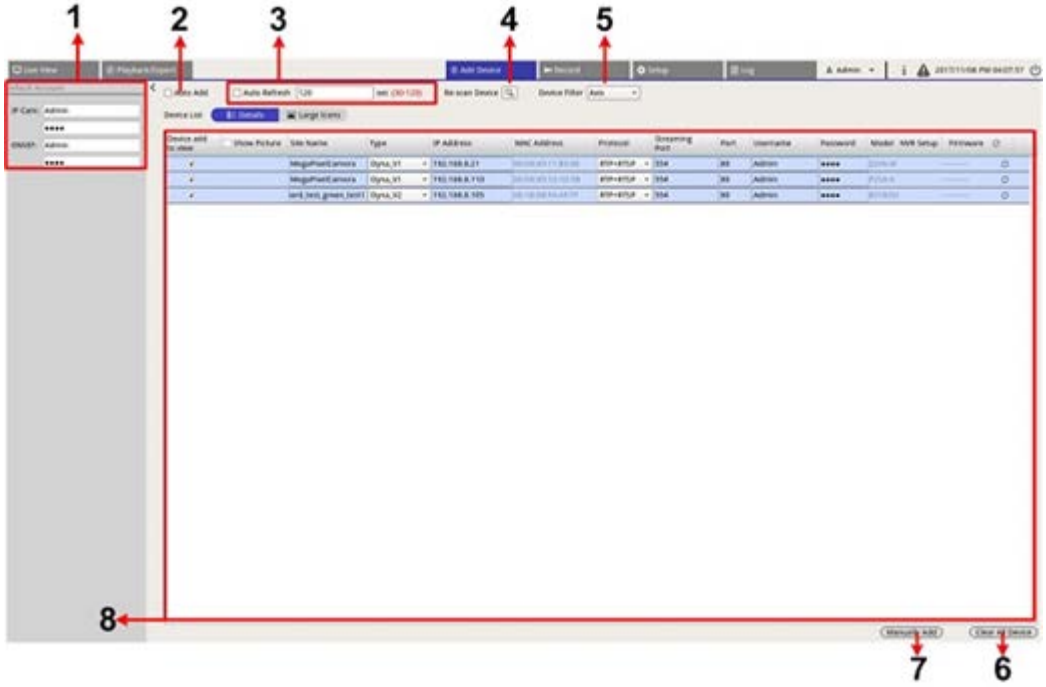
- **By default, the cameras will get their IP addresses from the integrated DHCP server.** The default IP address range is 192.168.51.x, network mask is 255.255.255.0, with the first IP address set to **192.168.51.2**.
- To edit the IP address range assigned by the NVR and the IP address of a particular camera, open **Setup > PoE/IP Port Management > DHCP Server**.
- For more details regarding camera IP addresses and the DHCP setup for the PoE ports, refer to the section PoE Management Setup, p. 85.

Adding a Camera

1. Activate the DHCP client of the camera (this is the default behavior on most cameras).
2. Attach the camera to a PoE port of the MOVE NVR-64 or to a PoE switch that is attached to a LAN port of the MOVE NVR.
3. Enter the **Add Device** function tab.
4. Select the preferred device type, e.g. MOBOTIX MOVE, Onvif, from the **Device Filter** drop-down list.
5. Click **Re-scan Device** icon and the NVR will start to search and list the connected devices meeting the searching criteria.
6. Check **Device add to view** box in front of the desired IP device(s) to add it to the MOVE NVR.
7. To see the camera IP, open **Setup > PoE/IP Port Management > DHCP Server**.

Add Device Window

The following introduces each function appeared on the interface within the Add Device tab.



No.	Item	Description
1	Default Account Pane	The NVR will apply preset username and password to the new IP device according to the protocol type. Users can modify the default username and password. Default username and password for IP devices:

IP Device	Username	Password
IP Camera	admin	meinsm
ONVIF	admin	meinsm

No.	Item	Description
2	Auto Add	The NVR system will automatically refresh and add detected IP devices to live view channel. Auto Add will also enable Auto Refresh function. Configure **Auto Refresh** before checking the **Auto Add** box to activate Auto Add function. **NOTE!** The system will not add new IP device when the number of connected devices reaches the limit.

No.	Item	Description
3	Auto Refresh	The NVR system will automatically refresh the Device List by every N seconds. The time duration “N” ranges from 30 to 120 seconds.
4	Re-scan Device	Click to begin searching or refresh the Device List and find all the IP devices that match Filter criteria.
5	Device Filter	Device Filter is used to select what type of IP device in device search and leave out other types to maintain the list.
6	Clear All Device	■ Click **Clear All Device** at the bottom-right corner of the monitor, and the NVR will remove all connected IP devices.
7	Manually Add	Users can manually add an IP device to the NVR. Further information will be listed next page.
8	Device List	The NVR will list the search result that fulfilled the requirement on the Device List. Further information will be listed on the next page.
9	Reboot Camera	Reboot the selected camera.

IP Device	Definition
MOBOTIX MOVE	MOBOTIX MOVE H.264 IP CAM/PTZ
Onvif	Onvif IP CAM/PTZ

Manually Add IP Camera to the NVR

Follow the steps to manually add connected IP camera to the NVR.

1. Click **Manually Add**; a blank new device column will be added to the Device List.
2. Provide required information for the IP device to corresponding fields. Required information includes: **Site Name**, **Type**, **IP Address**, **Protocol**, **Streaming Port**, **User Name** and **Password**.
3. Check the **Device add to view** box; System will display selected IP device to Live View.
4. To delete the manually added IP devices, click on corresponding to the IP device.

Device List

The NVR will list the IP devices installed in the LAN that meet the searching criteria in the Device List after device search. Users can view the brief settings of the found IP devices in Device List, such as MAC address, IP address, model type, username/password, etc.

1. To refresh the firmware version for selected IP devices, click and the system will reload firmware version information from all devices.
   - Details and Large Icons are both provided for users to switch views.
   - Details Details: The information of the IP cameras will be listed in columns and users can check the preview of the IP camera.
   - Large Icons Large Icons: System will display brief information of IP devices with preview.

     NOTE! If the preview grid shows **Not Supported** or **No snapshot**, the selected IP camera does not support the preview function.

Upgrade Firmware for the Connected IP Device(s)

Users can upgrade firmware for the connected IP device(s) through NVR system. Please follow the steps to upgrade firmware for selected IP device(s).

NOTE! Before upgrading firmware via NVR, make sure an external USB storage device with firmware file(s) is inserted to the NVR.

1. Click the firmware upgrade icon on the right side of selected device in the Device List. Upgrade window **Select File** will appear.
2. Select the firmware file from the list and click **Confirm**; an upgrade status bar will appear and show the firmware upgrade process.
3. Click OK to return to the **Add Device** function tab.

Alternatively, users can upgrade a firmware to multiple IP devices by following the steps below:

1. Click on the top-right of Device List to upgrade firmware to multiple IP devices. A firmware upgrade window will appear.
2. Click **Select** to choose a firmware file from the external USB storage device and click **Confirm**.

3. Select preferred IP cameras from **Select Upgrade Devices** list and click **Confirm**. The Notification center will show the upgrade status of the IP cameras.

4. To stop upgrading firmware to the devices, click **Cancel** from the firmware upgrade window to return to the **Add Device** function tab.

IP Device Connection

The NVR system is capable to add IP devices through network connection or PnP function. Please read the following instructions regarding how to connect IP devices through network connection or PnP function.

Add IP Cameras Connected through PoE Switch (LAN)

Connect IP cameras to the PoE ports located on NVR's rear panel, the IP cameras will be powered up and connected to the NVR's network. However, users must manually add the IP cameras to the NVR. Follow the steps to add the IP cameras to the live viewing.

1. Select the type of the camera next to **Device Filter**.
2. Click . The NVR will start to look for the supported IP cameras installed in the same LAN and show it on Device List, including the IP cameras that are directly connected to NVR's PoE ports.
3. To find the IP camera, users can check the IP address, MAC address, or preview picture of the IP camera.

   NOTE! When the IP camera is connected to NVR's PoE port, the IP camera will power up and connect to NVR's LAN. An IP address will be automatically assign to the IP camera based on which PoE port the IP camera is connected to. System assigns the IP address with the rule: 192.168.50.(2 x port number + 1). The IP address for PoE port 4 is **192.168.50.9**.

4. Check the **Device add to view** box to add the IP camera to the Live View.

Add IP Cameras through Network Connection (WAN)

Follow the steps to search and add IP cameras to the NVR via network.

1. Select the type of IP camera codec next to **Device Filter**.
2. Click . The NVR will start looking for the supported IP cameras installed in the same WAN and list them in the Device List.
3. Find a target IP camera from the Device List and check the **Device add to view** box. The NVR will automatically connect and retrieve the information of the IP camera.

8

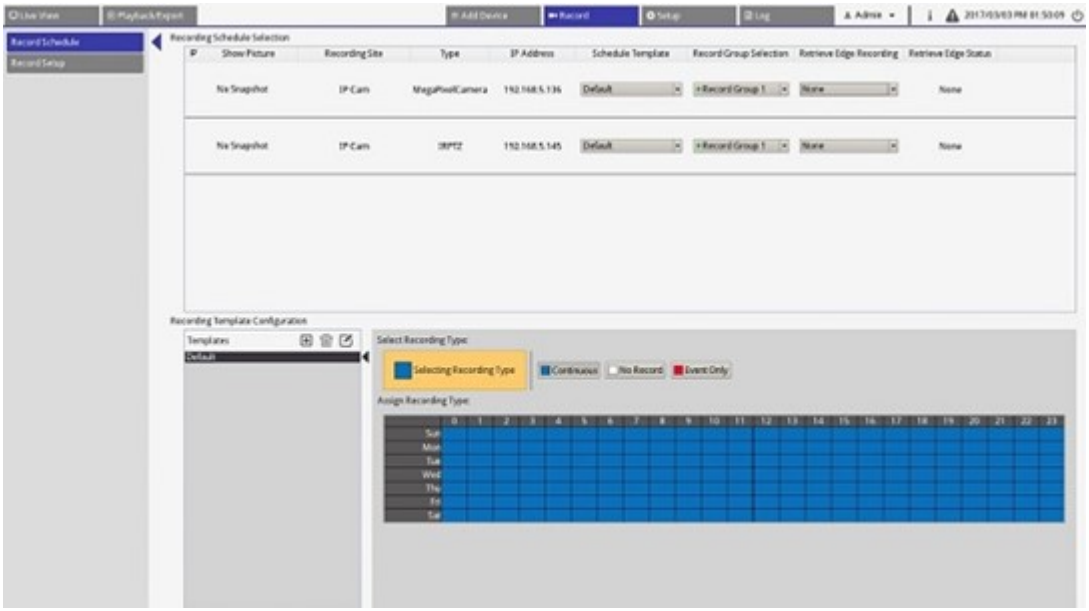
Record

The Record setup menu allows users to set recording schedules. Please read the instructions for further information regarding how to setup the recording schedule and event settings of each connected IP camera.

NOTE! Refer to the previous section Event Management for event setup.

Scheduled Recording

Users can create different recording templates and assign recording type for weekly schedule.

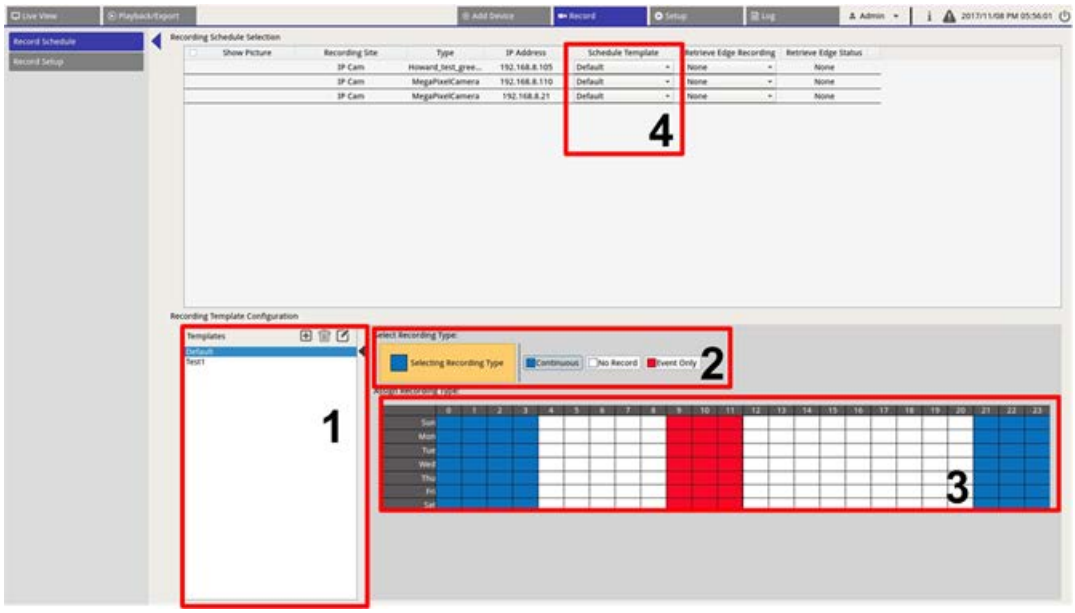


Add/Remove/Rename a Recording Template

1. Click ⊞ in the Recording Template Configuration to create new template in the template list.
2. Select new template and click ✎ or double click the template in the list to rename template.
3. Click **OK** on the virtual keyboard or press enter to save and apply the setting.
4. To delete recording template, select a recording template and click 🗑. The selected recording template will be removed from the template list.

Setup Recording Template for IP Camera

Follow the steps to setup a recording template for IP Camera.

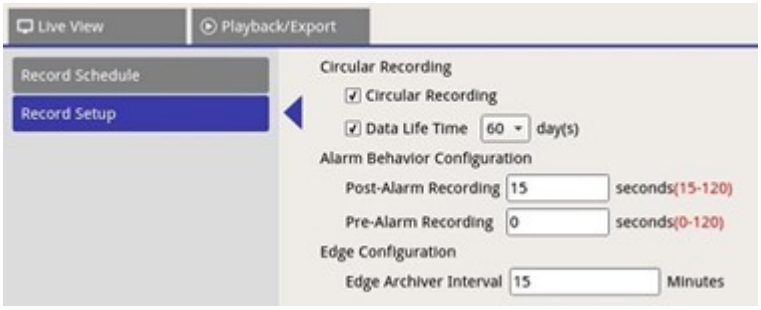


1. Select a recording template from the template list.
2. Three recording types are provided, Continuous, No Record and Event Only. Select the preferred recording type and modify the schedule.
   - **Continuous:** To keep recording in the specified time segment.
   - **No Record:** Not record and save any video data in the specified time segment.
   - **Event Only:** Only record when there is an event occurring in the specified time segment, including the Post-Alarm videos.
3. Make up recording type and schedule for selected template.
   - Click and circle to assign selected recording type to the circled time.
   - Click on the numbers (0-23 hour) on top to assign selected recording type to the column.
   - Click on weekly days on the left to assign selected recording type to the row.
   - Click the top left grid to assign selected recording type to all time.
4. Assign the template to an IP camera. Select a preferred template from the Schedule Template drop-down list. The NVR will record the site according to the applied template.

> **NOTE!** If the applied schedule template is removed from the template list, the system will automatically replace the schedule template with **Default**.

Recording Setup

User can configure the settings for circular recording, alarm behavior, and edge configuration.



Circular Recording

Circular Recording function is to adjust the HDD space usage for the NVR and to store new video data while overwriting the oldest recorded video.

- Check the box to enable circular recording. If the **Circular Recording** box is un-checked, the NVR will stop recording when HDD capacity is full.

Data Life Time

The Data Life Time indicates the duration that the data is saved and recallable in the HDD. Only those data recorded within Data Life Time will be available for search or playback. Once the video data exceeds Data Life Time, it will be hidden and cannot be retrieved for playback.

- Check the **Data Life Time** box to enable this function. Select preferred data life time from the drop-down list. Note that if users choose **0**, the Data Life Time function will be disabled.

NOTE! To playback a video exceeding current Data Life Time, please extend the life time until the recorded video is included.

Alarm Behavior Configuration

Users can setup the pre-alarm/post-alarm video duration to be a part of event videos.

1. **Post-Alarm Recording:** Continue recording video after alarm trigger ended. If alarm triggered again during the post-alarm period, system will continue recording and restart the counter after alarm ended. The setting duration is between 15 to 120 seconds.
2. **Pre-Alarm Recording:** Include recorded video before alarm triggers. The setting duration is between 0 to 120 seconds (0 will disable pre-alarm recording).

   NOTE! Normal video recording MUST be enabled to provide video data for the corresponding video when event triggered.

Edge Configuration

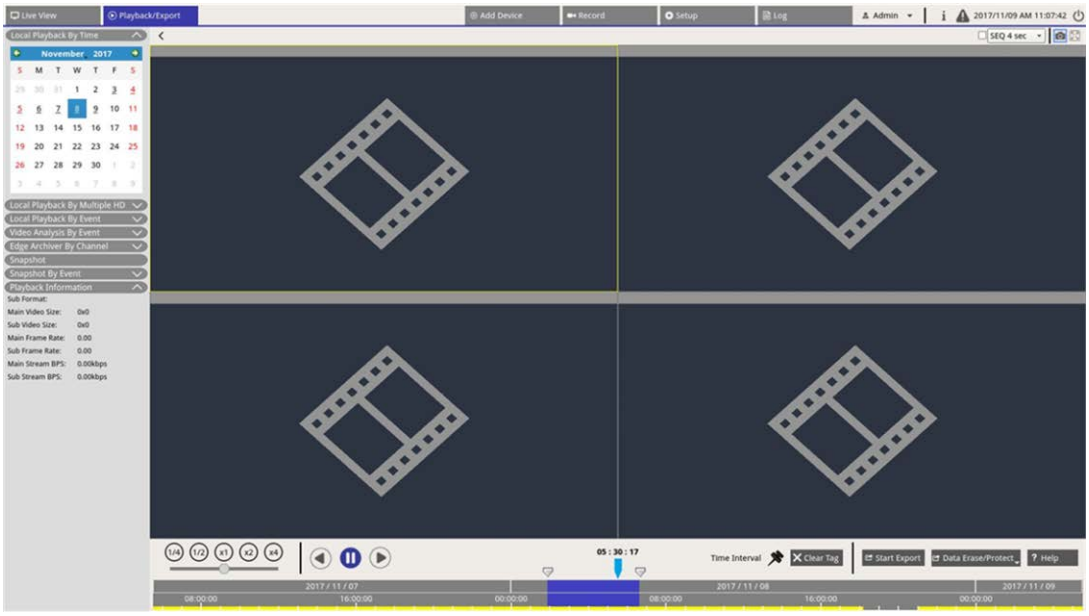
User can configure the channel edge archiver interval. If user enters *N* minutes in the entry field, the NVR will check the recorded data every *N* minute(s) to see if the system needs to activate edge recording retrieval. The default setting value is 15 minutes.

NOTE! This function is ONLY available when the IP camera is equipped with an edge recording device, e.g., SD card.

9

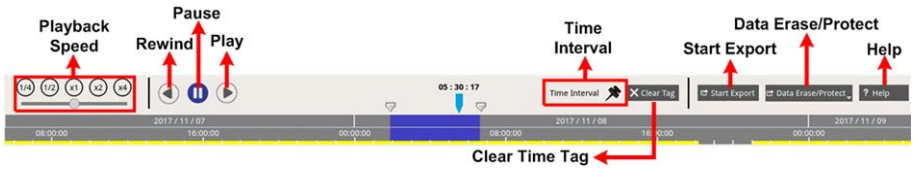
Playback/Export

Users can playback recorded videos, view snapshots, and export preferred videos or snapshots to external storage under **Playback/Export** function tab. Besides, users can view the snapshots and export the desired videos or snapshots in this function tab. On the top left side, users can select the preferred record group from the drop-down list for video playback and export functions.



Playback Control Bar

Playback control bar is displayed at the bottom of the screen.

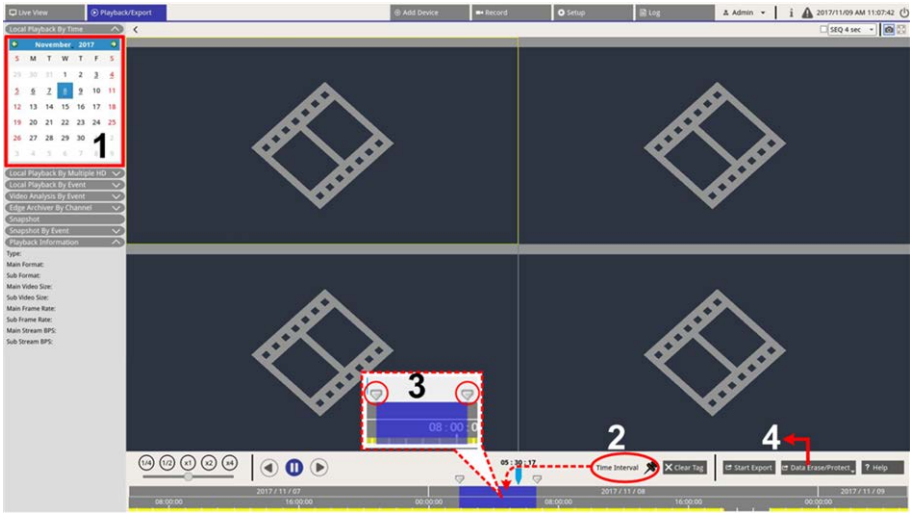


Item	Description
Playback Speed	Click and drag the slider control bar to select playback speed from x1/4, x1/2, x1, x2 or x4.
Rewind	Click ▶ to reverse playback recorded videos.
Pause	Click ⏸ to pause the playback.
Play	Click ▶ to start playback recorded videos.
Time Interval	Click and drag the icon to set preferred time interval (time tag) on the time bar. Refer to the following section for further information.
Clear Time Tag	Click ✕ Clear Tag to clear the time tag set on the time bar.
Start Export	Click Start Export to select and export recorded videos.
Data Erase/Protect	Functions to remove, protect, or bookmark certain parts of the videos. Further information will be provided in the following section.
Help	Time bar function picture instruction.

Data Erase/Protect/Bookmark

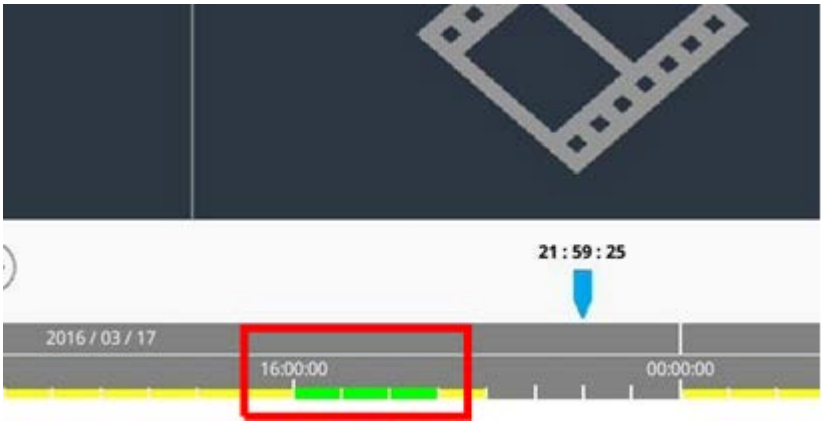
Users can assign preferred data to be protected from deletion or modifying and set specific sections of recorded data as bookmark. Alternatively, users can also delete certain recording data.

Set Data Protection



1. Select underlined date (recording data is available) from the calendar. The yellow stripe in the time bar indicates what time has recorded videos available.
2. Click and drag the Time Interval icon and drop it to the time bar to select preferred time interval.
3. Adjust preferred time segment by moving the Time Range Adjustment icon . Scroll up or down the mouse wheel to zoom in or out to adjust and select the exact time.
4. Click Data Erase/Protect and select Protection .
5. Click **OK** after the confirmation message for data protection pops up.

The Data Erase/Protect icon will turn light blue Data Erase/Protect, indicating data protection is under process. Once the system complete data protection, the icon will return grey. Besides, the time segment of the protected data will show in green under the time bar.



Cancel Data Protection

Two methods to cancel data protection:

- Time Bar
- Protection List

Time Bar

1. Select and adjust the time segment of the protected data in the time bar using Time Interval icon and Time Range Adjustment icon .
2. Click Data Erase/Protect and select Cancel Protection .
3. A confirmation window pops up, click **OK** to proceed, or click **Cancel** to stop. The selected time segment will return to yellow, indicating this part of recording data is not protected and can be deleted/modified.

Protection List

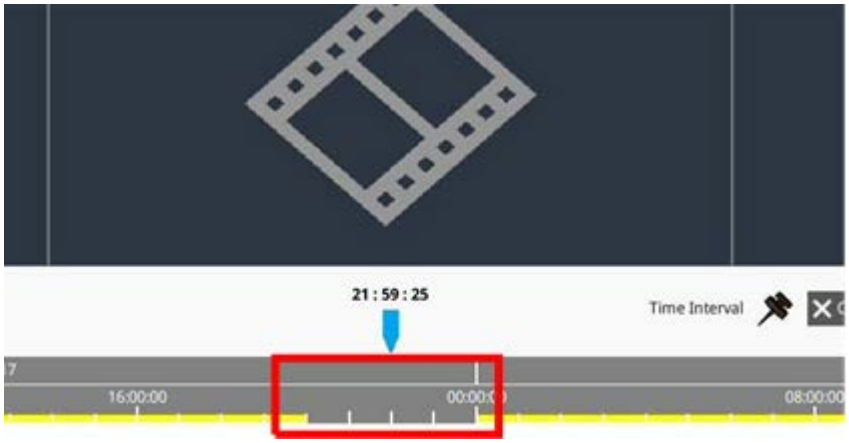
1. Click Data Erase/Protect and select Protection List . All protected data will be listed in the Protection List.
2. Click of the selected data item, and click **OK** after the confirmation window appears to cancel data protection.

Data Erasion

Follow the steps to remove the desired recording data from the NVR database.

1. Follow Step1 to 3 from Set Data Protection to select time segment of the recorded videos.
2. Click Data Erase/Protect and select Erasion .Click **OK** after the confirmation window pops-up to erase selected time segment of the recorded videos, or click **Cancel** to stop.

Selected time segment recorded videos will be removed from the time bar as below.



Set Data Bookmarked

Follow the steps to bookmark a section of recoded data.

1. Scroll the time bar and select preferred time to set data bookmark.
2. Click Data Erase/Protect and select Bookmark. The **Bookmark list** window will appear like the following picture.

3. Name the bookmark under **Describe the bookmark**.
4. Click Add and a confirmation dialog will pop up.
5. Click Ok to proceed, or click Cancel to stop.

Play/Delete Bookmarks

1. Click Data Erase/Protect and select Bookmark to display the Bookmark list.
2. Click ▶ to play bookmarked video.
3. To delete bookmark, click 🗑 and click Ok after confirmation window pops-up to delete the bookmark, or click Cancel to stop.

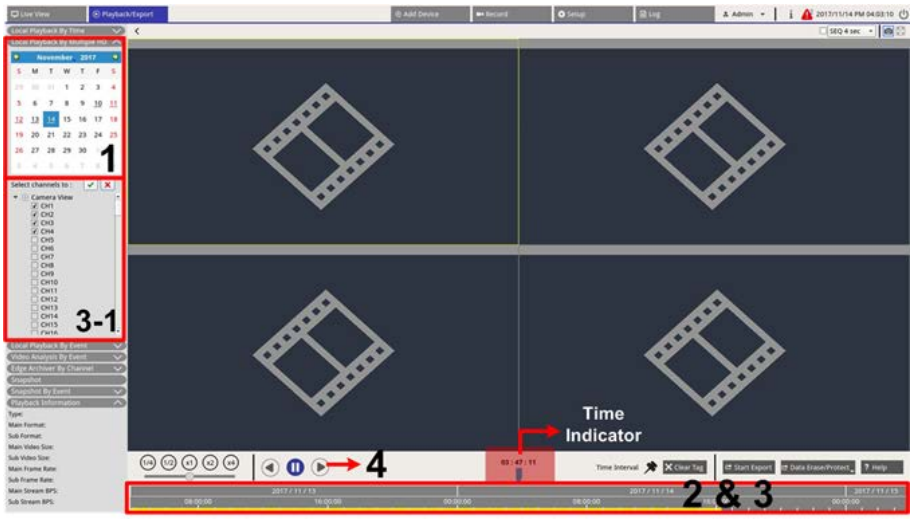
Search/Playback/Export Videos

The NVR system can search and playback preferred recorded videos by date and time. Refer to the following sections for further information.

Search and Playback Videos by Time/By Multiple HD

This section describes how to search and playback recorded videos. In **Local Playback By Multiple HD**, the NVR allows users to play back videos in up to 4-windows using 1080p resolution. Please make sure the video resolution of the recorded data is 1080p or above.

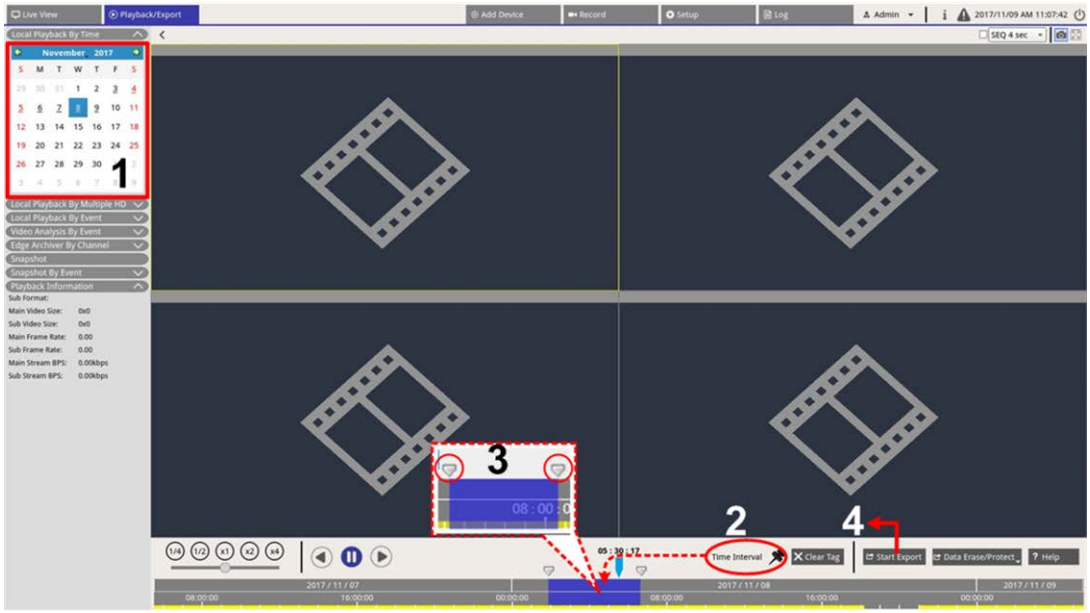
Select **Local Playback By Time** or **Local Playback By Multiple HD** and follow the steps to search and playback preferred recorded videos.



1. Select any underlined date (recording data is available) from the calendar. The yellow stripe in the time bar indicates what time has recorded videos available.
2. Click and drag the time bar to select preferred time from the time bar. The exact time will appear above the blue indicator.
3. Move the mouse cursor to the time bar. Scroll up/down the mouse wheel to adjust the time scale and locate accurate time.
    - 3.1: For users who select **Local Playback By Multiple HD**, select and check four channel boxes with recorded data from **Select channels to** list.
4. Click ▶ to playback selected channels' recorded video.

Export Videos by Time

Please make sure an external USB storage device is connected to the NVR before proceeding to export video files.



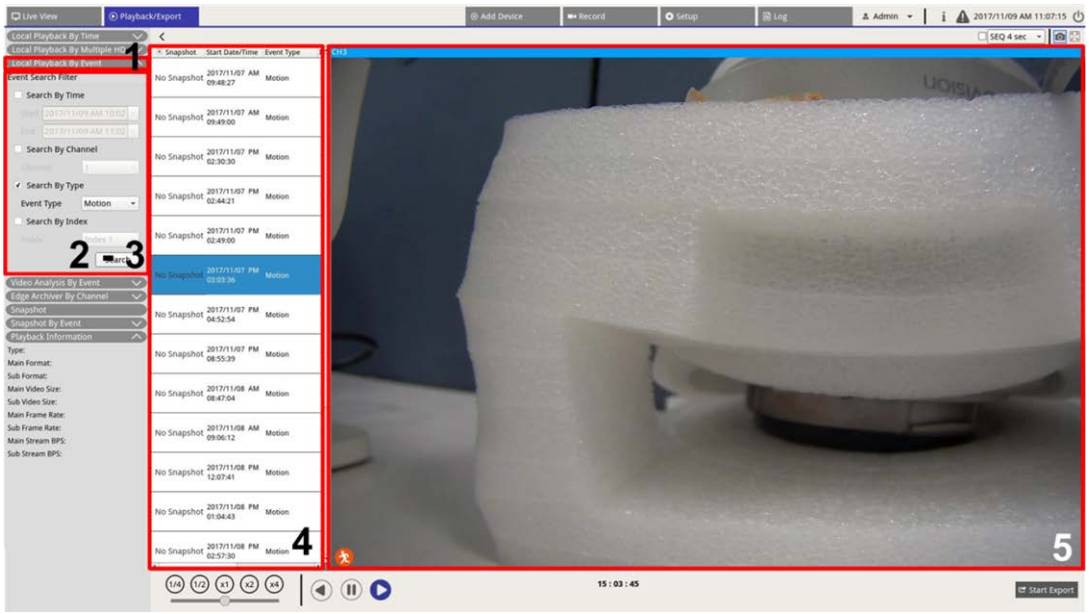
1. Select preferred underlined date from the calendar. The time bar will display the available recording data of each channel.
2. Click and drag the Time Interval icon and drop it to the time bar to select preferred time interval.
3. Adjust preferred time segment by moving the Time Range Adjustment icon. Scroll up/down the mouse wheel to zoom in/out to adjust and select the exact time.
4. Click Start Export, an Export window will appear.
   - Select and check preferred channel boxes to export videos.
   - Select preferred external storage device.
   - Choose the video format for exported video. The provided video formats include *.avi, *.raw, *.mp4, *.mkv and *.mov.
5. Click **Confirm** to export the video, or click **Cancel** to stop.
6. Click **OK** to confirm after the video is exported to external storage device.

Search/Playback/Export Event Videos

Users can find preferred videos recorded by events with advanced searching function. Refer to the following sections for further information.

Search and Playback Event Videos

Videos recorded by events include event time, channel or event type. Follow the steps to search event video.



1. Click the **Local Playback By Event** or **Video Analysis By Event** to display the Event Search Filter.
2. Under **Local Playback By Event**, select and check preferred searching tool(s) to get the best result:
   - Check **Search By Time** box and specify the Start/End time for the time range of the event search.
   - Check **Search By Channel** box to select the desired channels for the event search.
   - Check **Search By Type** box and select event type for the event search. The event types of Local Playback/VA are listed below:

Item	Event Type
Local Playback By Event	Motion, Video Loss, and Alarm
Video Analysis By Event	Intrusion Detection, Loitering Detection, Camera Sabotage, Wrong Direction, Object Abandoned, Object Counting, Object Removal, and Stopped Vehicle

   - Check **Search By Index** and select which motion index to be searched.
3. Click Search to list event videos that meets selected searching criteria.
4. The Event List will list search result in chronological order and includes video information (snapshot, date/time, event type, alarm index, alarm index, triggered camera, and notes).
5. Click and select an event to playback event video on the viewing display next to the Event List.

Export Event Videos

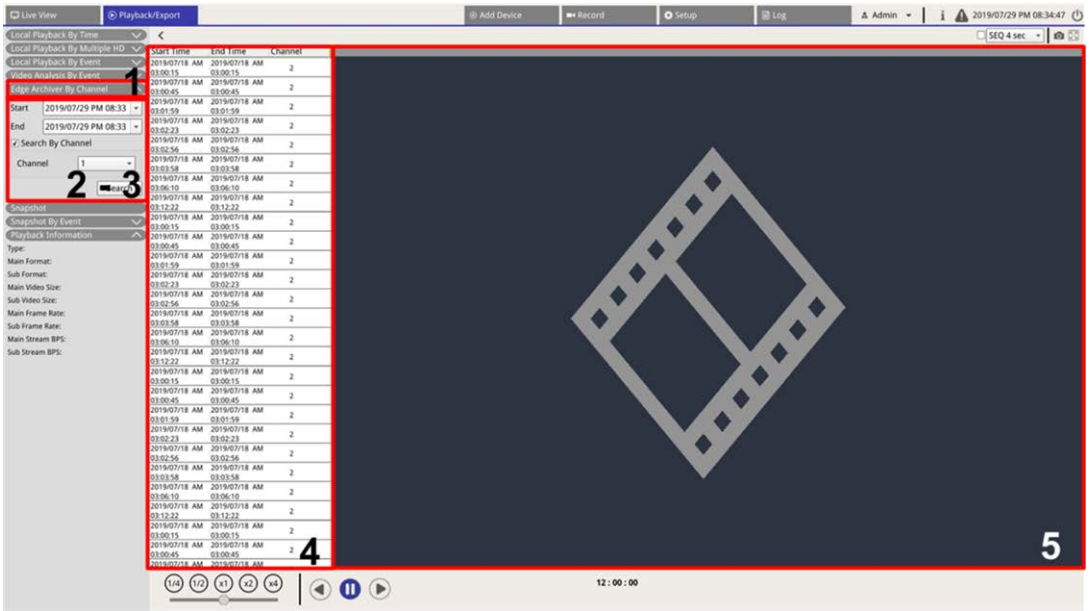
Follow the steps to export the event videos.

1. Make sure an external USB storage device is connected to the NVR.
2. Select preferred event videos from the Event List.
3. Click Start Export and an Export window will appear. The listed information includes available external storage devices for video exportation, the export data start/end time and the file estimated size.
4. Select preferred external storage device and choose the video format before exporting videos. The provided video formats include *.avi, *.raw, *.mp4, *.mkv and *.mov.
5. Click **Confirm** to start the video export process, or click **Cancel** to stop.
6. After the video export process is completed, click **OK** to confirm and finish export event videos.

Search and Playback Edge Recordings

The NVR system can search and playback selected channel's edge recordings (images during connection lost) from the IP camera(s). Follow the steps to search edge recording videos.

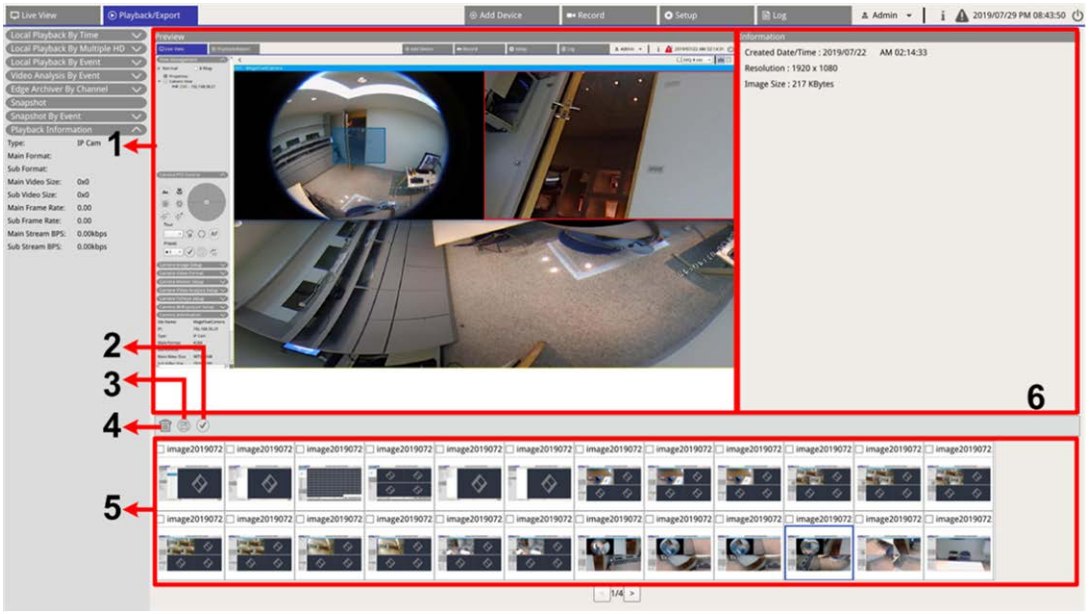
NOTE! Edge Archiver by Channel function is only available for the IP camera(s) equipped with edge recording device, e.g. SD card.



1. Click the **Edge Archiver by Channel** to display the Search Filter.
2. Under **Edge Archiver by Channel** , select **Start Date** and **End Date** to find edge recording videos within selected time range.
   - To search the videos from a specific IP camera, check **Search By Channel** box to filter out other channels' videos.
3. Click Search to list the videos that fulfills searching criteria.
4. Edge Recording List will display search results in chronological order and include video information (**Start Time**, **End Time**, and **Channel Number**).
5. Select an edge recorded video to playback video on the video display next to **Edge Recording** List.

View/Export Snapshots

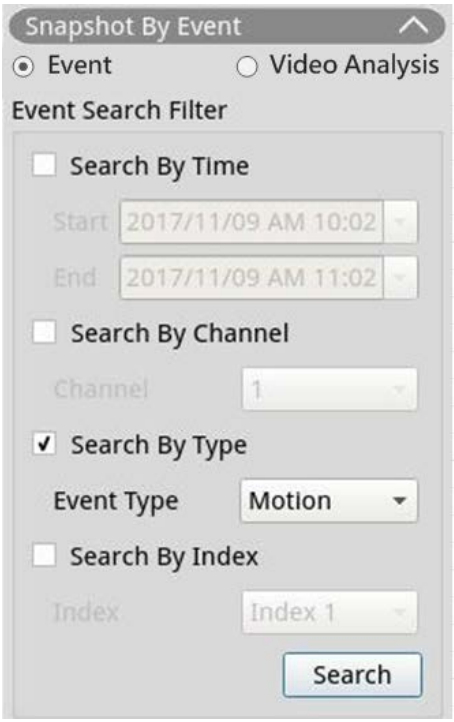
The NVR system can capture the current viewing either in Live View or during the playback. All captured images are available in **Snapshots** and event snapshots are available in **Snapshot By Event**.



No.	Item	Icon	Description
1	Preview	-	Displays the selected snapshot from the Snapshot List below.
2	Select All		Click to select all snapshots in the Snapshot List.

No.	Item	Icon	Description
3	Export		Select snapshot file(s) and click to export the selected file(s).
4	Delete		Select snapshot file(s) in the Snapshot List and click to delete selected file (s) (No confirmation message).
5	Snapshot List	-	All captured images will be listed here. Click to select image for image preview and snapshot's information will display in the Snapshot Information panel on the right.
6	Snapshot Information	-	Selected snapshot information including the captured date/time, image resolution and image size are listed here.

Search and View Event Snapshots



The NVR system can search event snapshots by, time, channel or type. Follow the steps to search event snapshots.

1. Click **Snapshot By Event** to display the Event Search Filter.
2. In **Snapshot by Event**, choose the event category (Event or Video Analysis).

3. Select and check preferred searching tool(s) to get the best result:
   - Check **Search By Time** box and specify the Start/End time for the time range of the event search.
   - Check **Search By Channel** box to select the desired channels for the event search.
   - Check **Search By Type** box and select event type for the event search. The event types of Event/Video Analysis are listed below:

Category	Event Type
Event	Motion, Video Loss, and Alarm
Video Analysis	Intrusion Detection, Loitering Detection, Camera Sabotage, Wrong Direction, Abandoned Object, Object Counting, Object Removal, and Stopped Vehicle

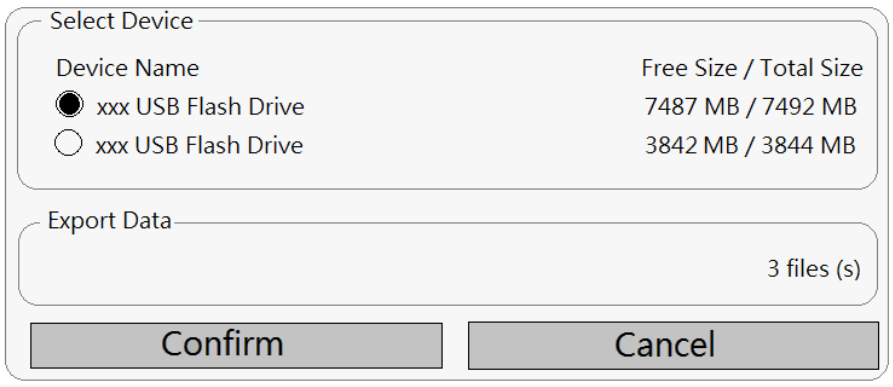
   - Check the **Search By Index** box and select which motion index to be searched (Event Category Only).
4. Click Search to list event snapshots that meet the searching criteria. Users can see the search result in the snapshot list.

Export Snapshots

Follow the steps to export captured image(s).

NOTE!
Make sure an external USB storage device is connected to the NVR before exporting image files.

1. Check the box to select snapshot file in the Snapshot List, or click ✓ to select all snapshot files.
2. Click 💾 and an Export confirmation window will pop up like the following picture.



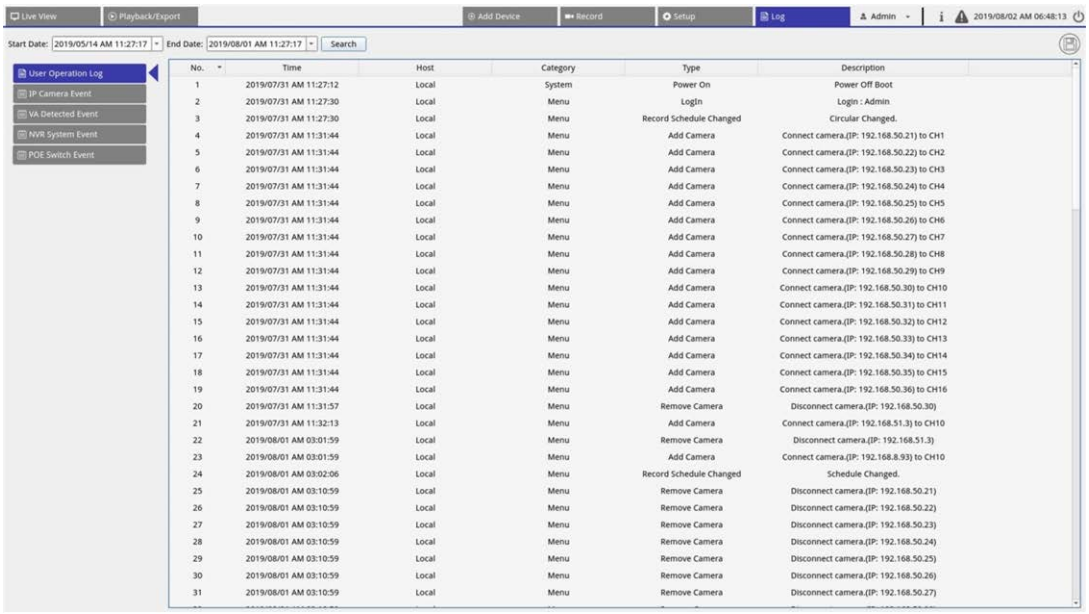
3. All connected USB external storage and Cloud Storage will be listed under Select Device for users to choose preferred file destination. Number of selected file(s) pending on export will be listed under Export Data.

4. Select
   - USB external storage and click **Confirm**. A message window will appear after the export process is complete. Click **OK** to confirm and finish exporting image.
   - Cloud Storage, click **Confirm** and **OK** from the pop-up window. The NVR will export image file(s) in the background. View the upload status by checking Instant Notification ⚠ - Edge.
5. Click **Close** in the Export window, the system will automatically return to **Playback/Export** function tab.

10

Log

Users can check, view, search and export the log data under **Log** function tab. Refer to the following sections for further information.



Search Log Data

The NVR divides log data into these categories:

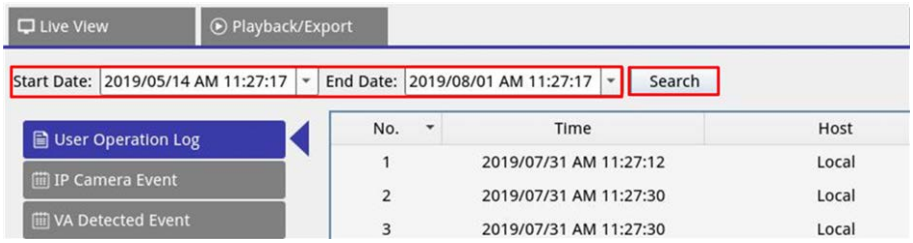
- User Operation Log
- IP Camera Event Log
- VA Detected Event Log
- NVR System Event Log
- POE Switch Event Log

Select preferred log category on the left of the **Log** tab to view corresponding log data. To search preferred log data, please refer to the following sections according to selected log category.

Search User Operation/NVR System Event/POE Switch Event Log

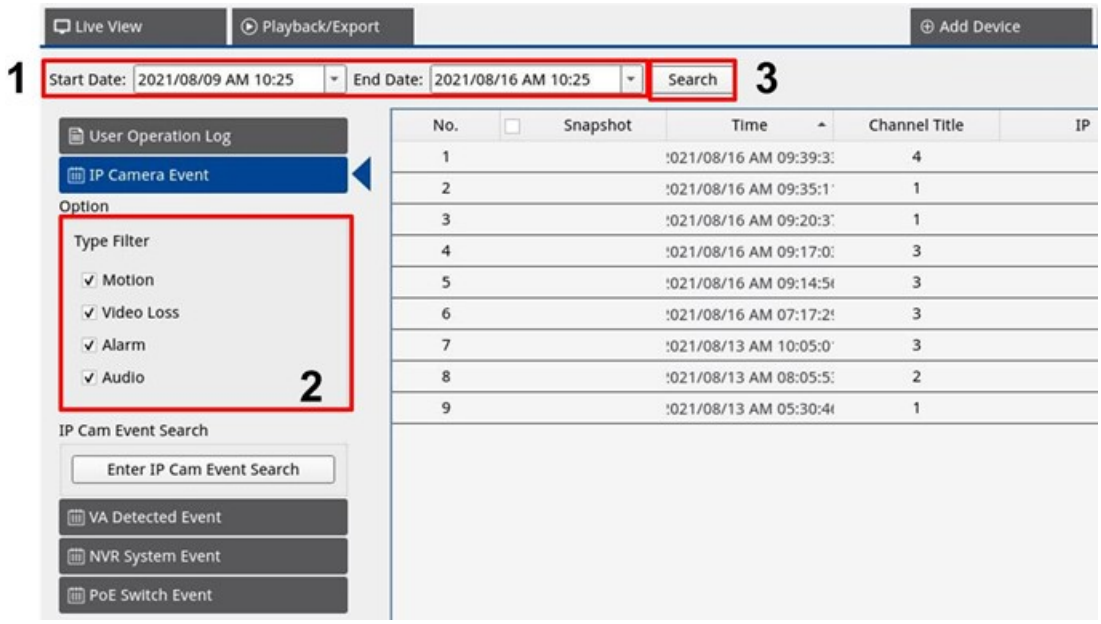
Follow the steps to search and view the preferred log data.

1. Assign Start and End Date on the top-left of the function tab to find the log data within selected time range.
2. Click Search and the system will search and list the log data within the set time.



Search IP Camera Event Log

Please follow the steps to search and view the preferred log data.

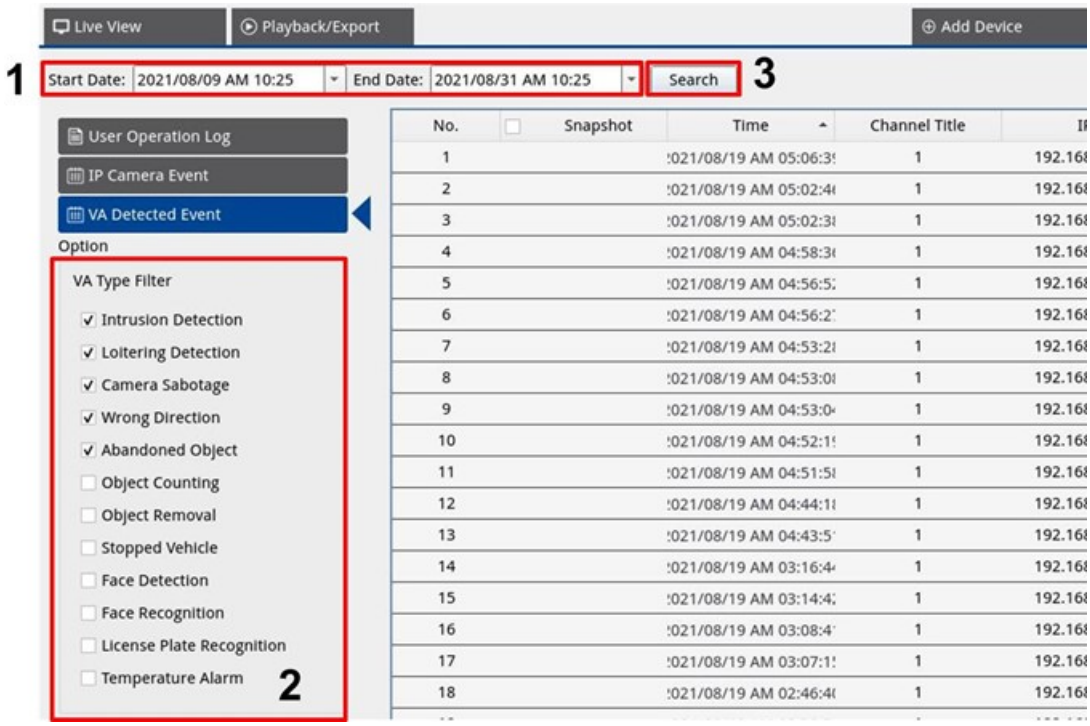


1. Assign Start and End Date on the top-left of the function tab to find the log data within selected time range.
2. Select IP camera Event type and enable the preferred type box to see related information. Event type options include: **Motion**, **Video Loss**, and **Alarm**.
3. Click Search, and the NVR will search and list the recorded event log data within the set time.

Click Enter IP Cam Event Search to enter the event search page to view the preferred log data in three chart types: **Bar**, **Line**, or **Pie** chart.

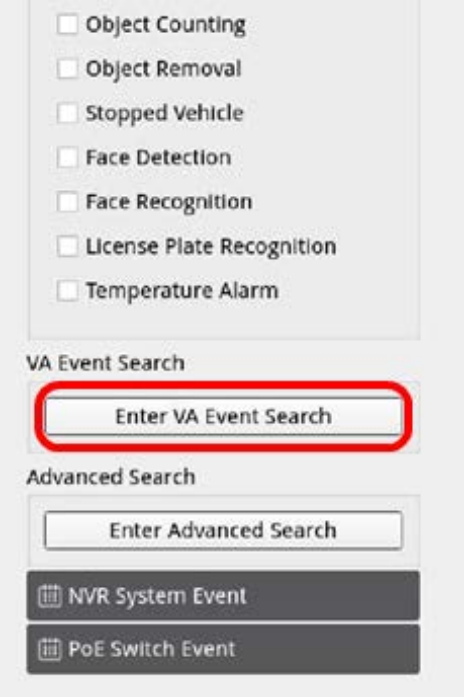
Search VA Detected Event Log

Please follow the steps to search and view the preferred log data.



1. Assign Start and End Date on the top-left of the function tab to find the log data within selected time range.
2. Select VA Detected Event type. Check preferred VA type box to see related information. VA event type options include: **Intrusion Detection**, **Loitering Detection**, **Camera Sabotage**, **Wrong Direction**, **Abandoned Object**, **Object Counting**, **Object Removal**, **Stopped Vehicle**, **Face Detection**, **Face Recognition**, **License Plate Recognition** and **Temperature Alarm**.

3. Click Search, and the NVR will search and list the recorded event log data within the set time.



4. Click Enter VA Event Search to enter the event search page to view the preferred log data in three chart types: **Bar**, **Line**, or **Pie**.

VA Event Search

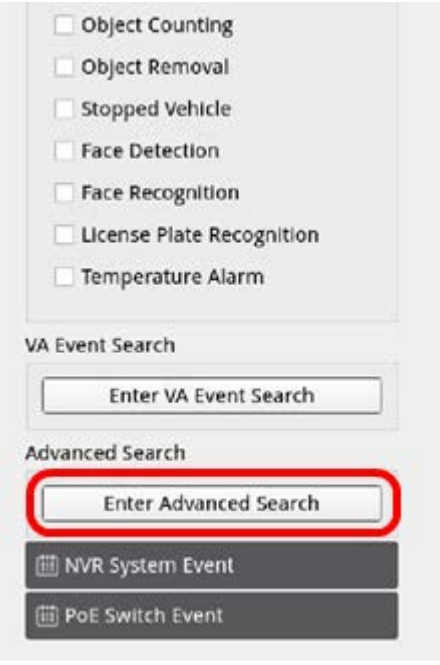
1. Select the chart type. Check preferred type box to see the log data. The chart type options include: Bar, Line, and Pie chart. If needed, users can check both Bar and Line type boxes to view a Bar-Line combination chart.
2. Assign Start and End Date on the top-left of the function tab to find the log data within selected time range (Maximum Time Range: 30 days).
3. Select VA Detected Event type. Check preferred VA type box to see related information. VA event type options include: **Intrusion Detection**, **Loitering Detection**, **Camera Sabotage**, **Wrong Direction**, **Abandoned Object**, **Object Counting**, **Object Removal**, **Stopped Vehicle**, **Face Detection**, **Face Recognition**, **License Plate Recognition** and **Temperature Alarm**.

Click Search, and the NVR will search and list the recorded VA detected event log data within the set time.

Advanced Search

To set up the advanced search function, please follow the instructions. The advanced search function is for searching and listing the VA data of **Face Recognition** and **License Plate Recognition**.

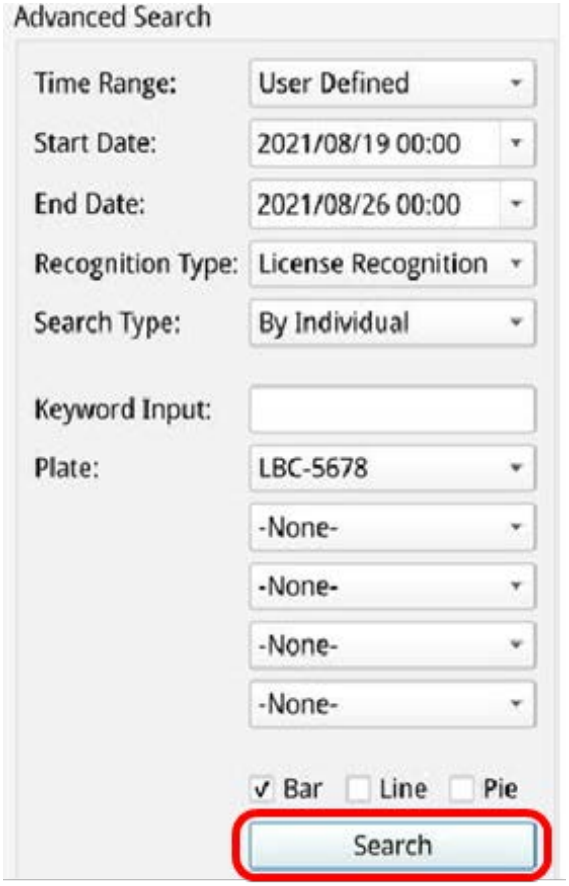
1. Click Enter Advanced Search to enter the event search page to view the preferred log data in three chart types: Bar, Line, and Pie chart.



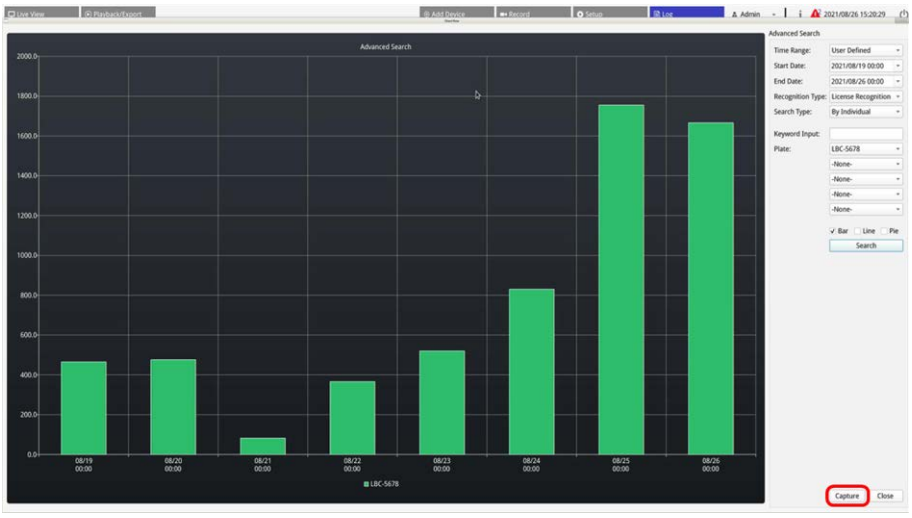
2. Fill in the information in each pull-down menu.

   (Maximum time range: 30 days; Recognition type: Face Recognition/License Recognition; Search type: by individual/by group) At least input one keyword about the user name/plate number data OR select the plate number from the VA database to activate the advanced search.

3. After filling in the information, click Search.



4. Click Capture to save the screenshot of the data listed.



Export Log Data

Make sure USB external storage is connected to the NVR before exporting log data.

1. Select preferred log and click export icon at the top-right corner of the Log tab. The Export confirmation window is displayed.
2. Click **Confirm** to export the log data, or click **Cancel** to stop.

11

NVR Failover Service

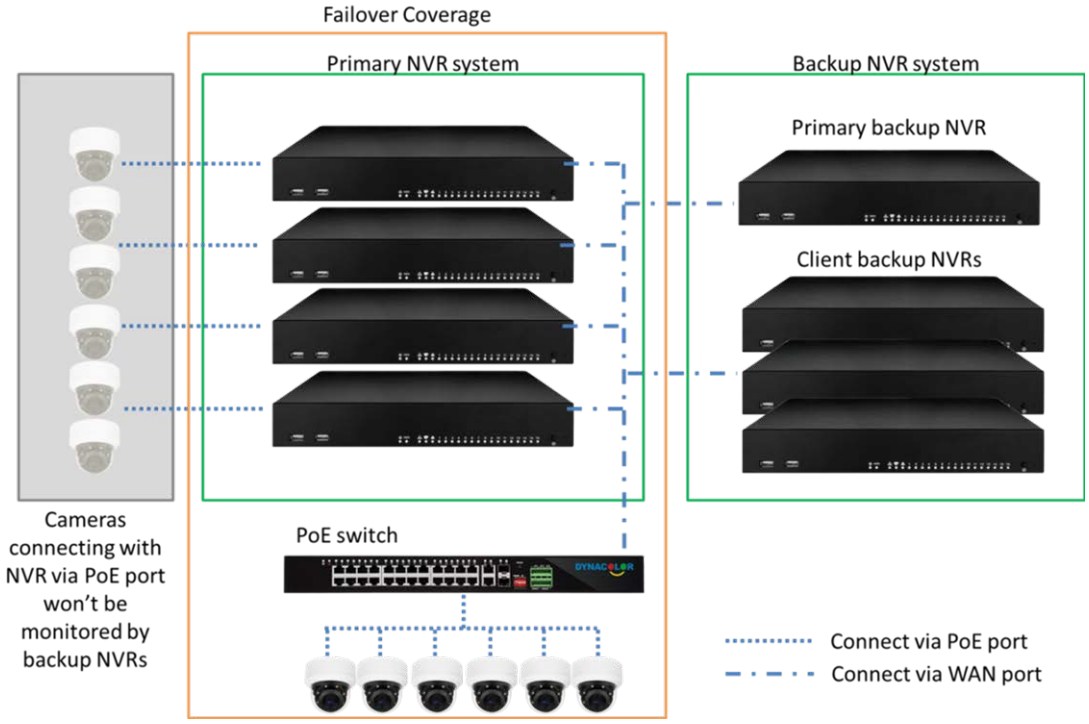
Out of the box, the firmware of the MOVE NVR-64 supports its primary function as a Network Video Recorder.

By using an alternative firmware, the MOVE NVR-64 can be used as *Failover/Backup* server. Make sure to load this firmware on the target NVR **before setting up and configuring** the device. Open the MOBOTIX Download Center **www.mobotix.com > Support > Download Center > Software Downloads** and click on **MOVE NVR** to download the firmware.

If the MOVE NVR-64 is used as Failover/Backup server, it will no longer support the direct recording functionality.

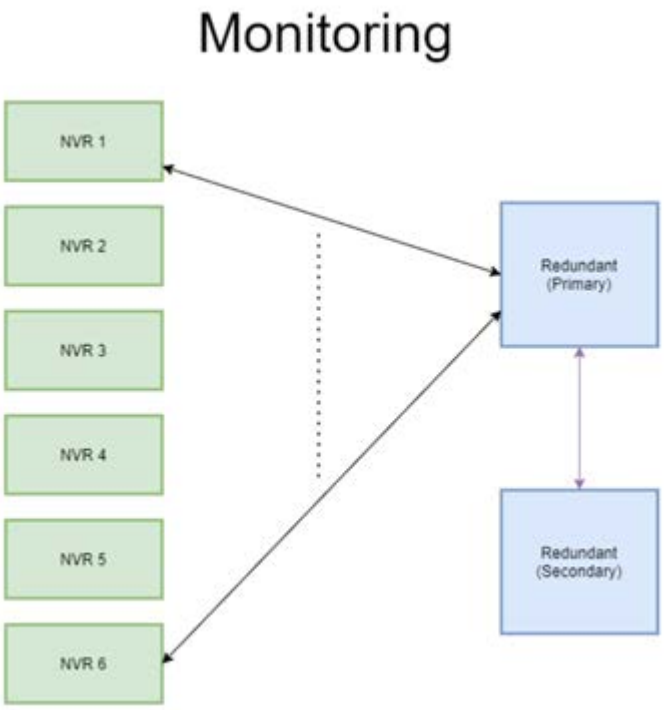
Architecture

- The purpose of the NVR failover service is to connect backup NVR systems with primary NVR systems via WAN.
- Cameras that protected by the backup NVR should be connected to the primary backup NVR via PoE switch, rather than connected to the build-in PoE of the primary system NVRs.
- The firmware of primary NVR system and backup NVR system are different.

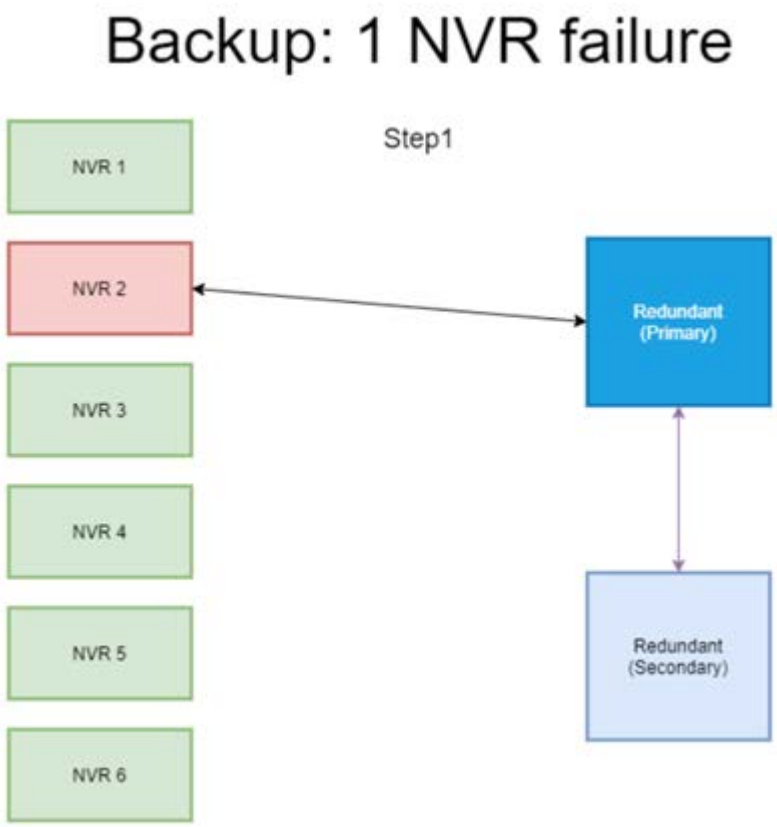


Mechanism

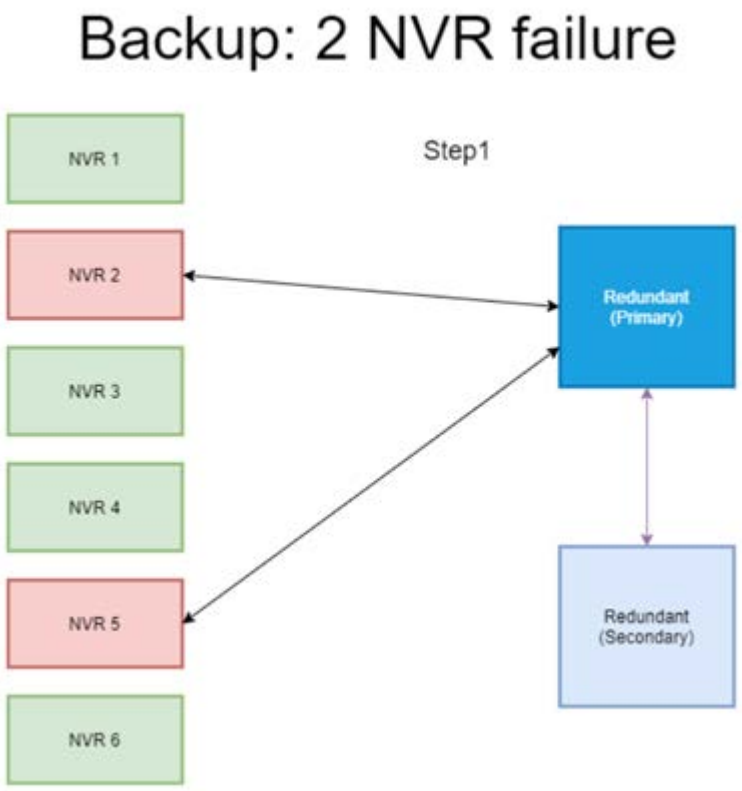
- **Monitoring stage:** this stage is activated when primary backup NVR is monitoring primary system



- **Backup stage:** this stage is activated when the failure is detected
  - If there is only one NVR fails, primary backup NVR will take over.

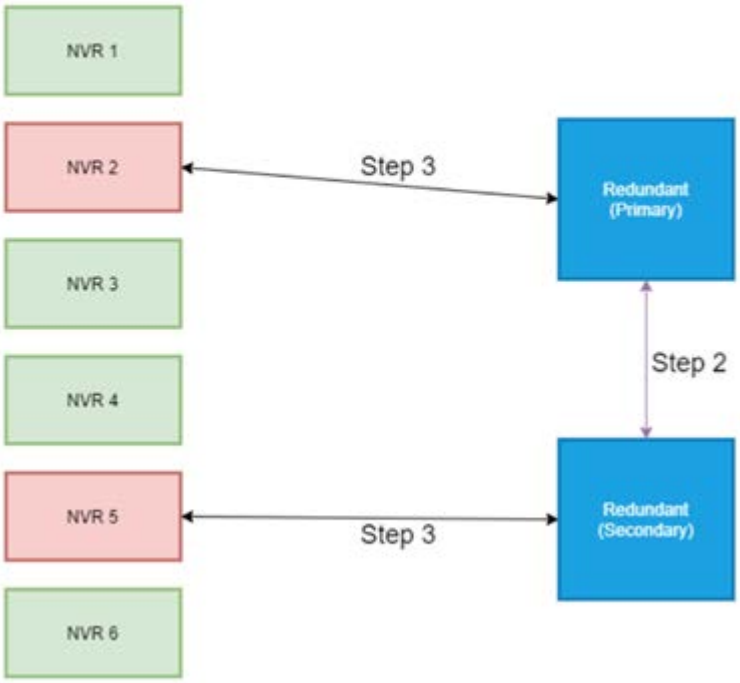


- If more than one NVR fails, the primary backup NVR will assign the task.
- NVRs report failures to the primary backup NVR.



- Primary NVR informs Client backup NVRs to take over the task.

- The failed NVRs are taken over by the backup NVRs.



Configuration

NOTE! The firmware of the backup NVR is different from the firmware of the NVR in the primary system. Before setting up the configuration below, please confirm that the firmware version is correct. For more information, please consult the NVR suppliers.

1. Set the redundancy type of current backup NVR

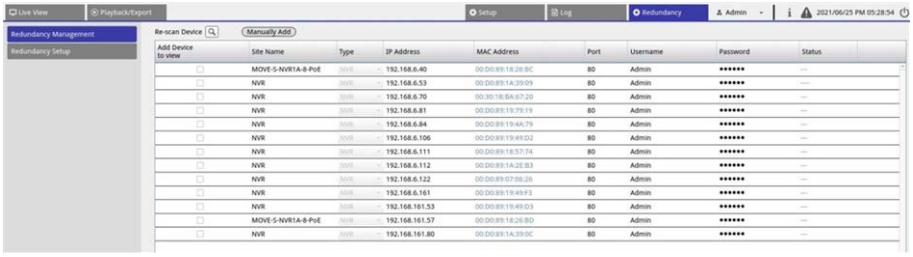
   Redundancy type defines the role of the current backup NVR, users could find this setting in Redundancy Setup under the Redundancy page.

   - **Primary:** Main backup NVR that assigns the backup task to client backup NVR
   - **Client:** Client backup NVR that will execute the failover process assigned by Primary backup NVR

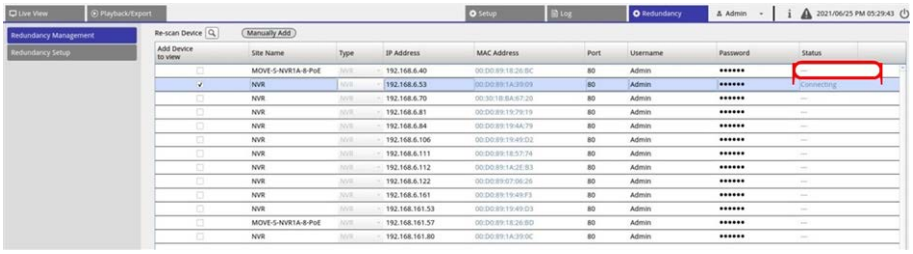
   NOTE! Please select only one primary backup NVR in your backup system. The rest would be client backup NVRs.

2. Select devices

   - Go to Redundancy Management under the Redundancy page.



   - Select NVRs that will be in this system (including backup NVRs and primary NVRs).The status would be "Connecting".

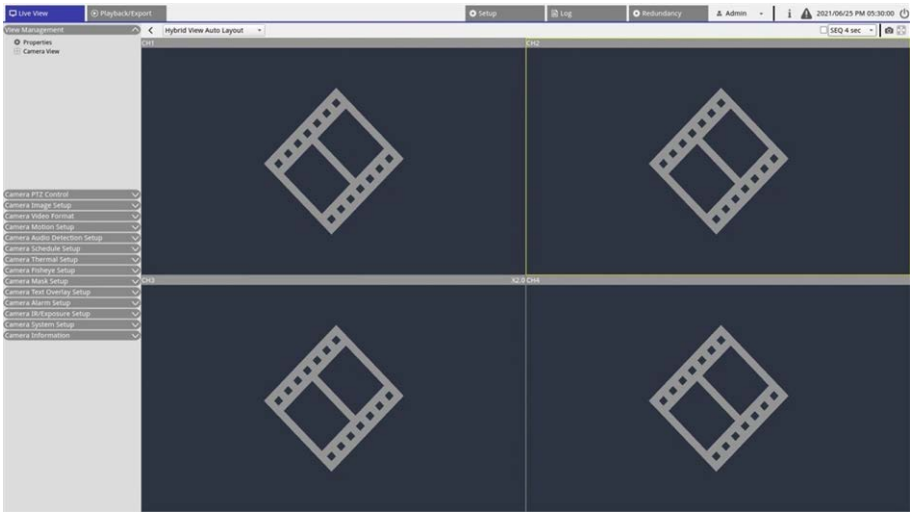


   After the setting, there would be three possible situations. One is successfully **monitoring**. The other situation is **backup status activated**. The **offload** situation only happens after the primary NVR failure is fixed.

Monitoring

This situation occurs when no failover cases happen. Backup system is successfully monitoring the primary system.

When there are no failover cases, below is how the Live View page would be like: no camera is connected.

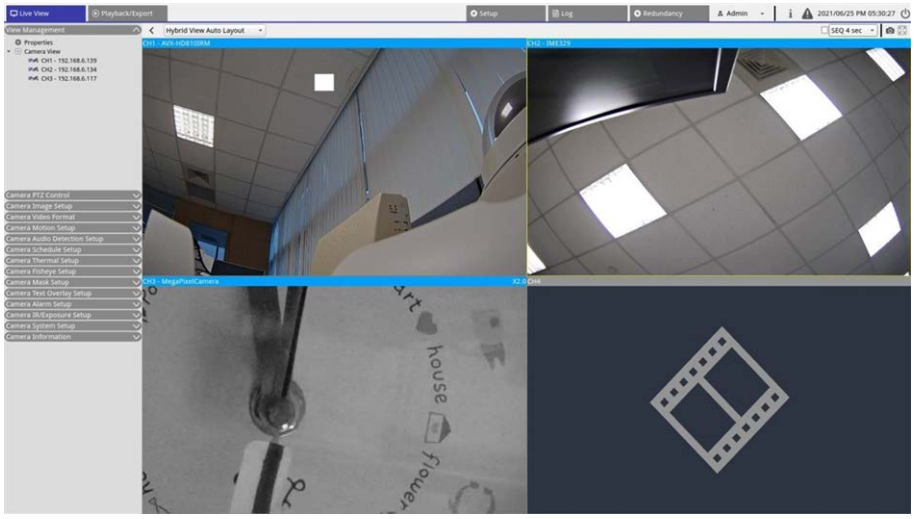


Backup

This situation occurs when the backup system detects the primary system failure, which activates the backup process. The status would be **Activation**.

When there are failover cases, the Live View page displays the cameras connected to the backup NVR.

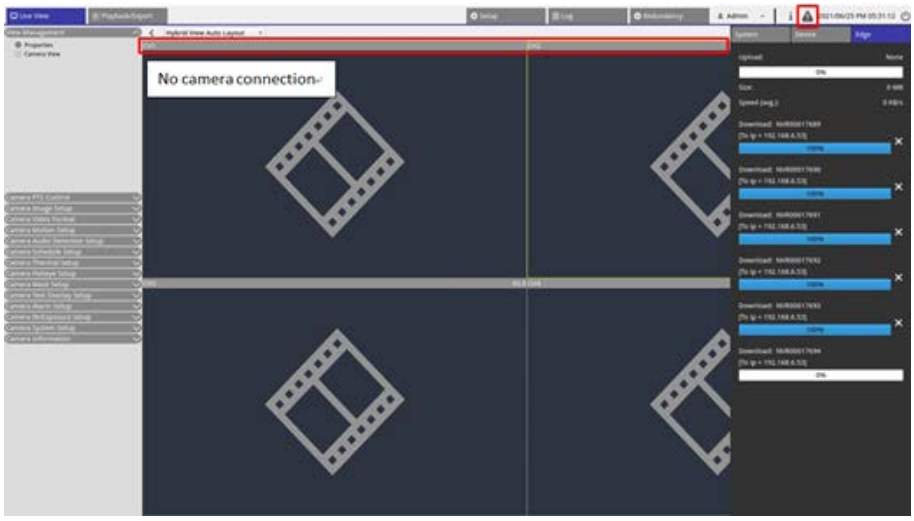
NOTE! For those cameras connected to the primary NVR PoE port directly, the backup NVR would not take over them. Thus, in the Live view page, users will see no camera connection. See CH4 in the below snapshot.



Offload

After the primary system is successfully activated, the backup NVR will offload the files back onto the primary system. Click ⚠ in the upper right corner of the screen, users can see the download status and progress in Edge.

NOTE! The Live View screen will remain the same as how the screen is when the backup server is lastly connected to cameras under the primary system. Once the cursor clicks other pages, the Live View screen will be no camera connection.



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