

# User Manual

## MOBOTIX MOVE NVR-8/16

Mx-S-NVR1A-8/16-POE

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BeyondHumanVision

**MOBOTIX**

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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](http://www.mobotix.com) > **Support** > **Help Desk**



# Safety Warnings

- This product must not be used in locations exposed to the dangers of explosion.
- Electrical systems and equipment may only be installed, modified and maintained by a qualified electrician or under the direction and supervision of a qualified electrician in accordance with the applicable electrical guidelines. Make sure to properly set up all electrical connections.
- Make sure to install this product in a well-ventilated spot and do not close off any vent openings.
- Do not use this product in a dusty environment.
- Protect this product from moisture or water entering the housing.
- Make sure that you install this product as outlined in this document. A faulty installation can damage the product!
- Do not replace batteries of the product. Batteries can explode if they are replaced by an incorrect type.
- This equipment is not suitable for use in locations where children are likely to be present.
- This equipment is to be connected only to PoE networks without routing to other networks.
- If using a Class I adapter, the power cord shall be connected to a socket-outlet with proper ground connection.
- To comply with the requirements of EN 50130-4 regarding the power supply of alarm systems for 24/7 operation, it is highly recommended to use an uninterruptible power supply (UPS) for powering the product.

# 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 MOVE NVR-8/16, 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](http://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](http://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 with 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](http://www.mobotix.com) by clicking on the corresponding link at the bottom of every page.





## Overview

### Introduction

MOBOTIX MOVE NVR-8/16 is a compact H.264/H.265 Network Video Recorder built with Intel® Apollo Lake platform along with Intel® HD graphics 500. MOBOTIX MOVE NVR-8/16 uses secure closed lane design along with integrated PoE switch to provide time and cost saving benefits from complicated device integration.

### Software & Upgradability

MOBOTIX MOVE NVR-8/16 has great flexibility to configure both NVR and IP Camera settings based on users' needs. Operating system compatibility allowed users to integrate preferred system. Moreover, MOBOTIX MOVE NVR-8/16 provides an internal M.2 PCIe slot for users to implement preferred hardware into the system.

## NVR Data Safety

MOBOTIX MOVE NVR-8/16 is compliant with the NDAA and can be used in US government-related deployments along with all surveillance products from MOBOTIX. MOBOTIX MOVE NVR-8/16 has been tested extensively to ensure every customer an affordable, reliable, and secure end-to-end surveillance solution.

## Quick Installation Document

The MOBOTIX MOVE NVR-8/16 Quick Installation 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](http://www.mobotix.com) > [Support](#) > [Download Center](#) > [Marketing & Documentation](#) > [Manuals](#) > [Accessories](#) > [MOBOTIX MOVE NVR-8/16](#)



## 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-8/16, please avoid placing the NVR in any space that reduces airflow 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

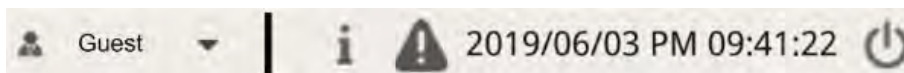
### Power Up and Login

#### Warning

Always change the preset password of the “Guest” user to prevent unauthorized access to the unit.

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

- Click on OK to continue as user “Guest” (see figure below).



- Click on **Setup** and change the default password “meinsm”. To show the virtual keyboard, click twice in the password field.

#### Note

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

You are now logged in as guest user. Proceed by changing the “Admin” user password as shown below:

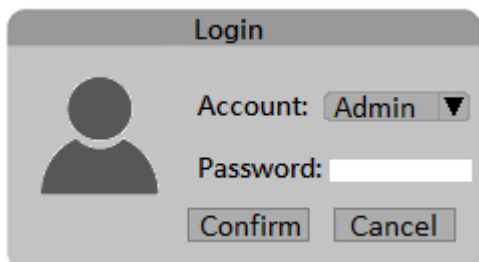
1. Move the mouse cursor to the top-right corner of the monitor, click **Guest** and select **LogOut** to open the login window.
2. Select the administrator account “Admin”.
3. Enter the password “meinsm”. To show the virtual keyboard, click twice in the password field.
4. Press **Enter** on the keyboard or click **Confirm** in the login window to log into the NVR system as administrator.

### Change the Admin User Password

#### Warning

Always change the preset password of the “Admin” user to prevent unauthorized access to the unit.

- Log in as “Admin” user.
- Click on **Setup > User Management > Edit**.
- Click on **Setup** and change the default password “meinsm”. To show the virtual keyboard, click twice in the password field.

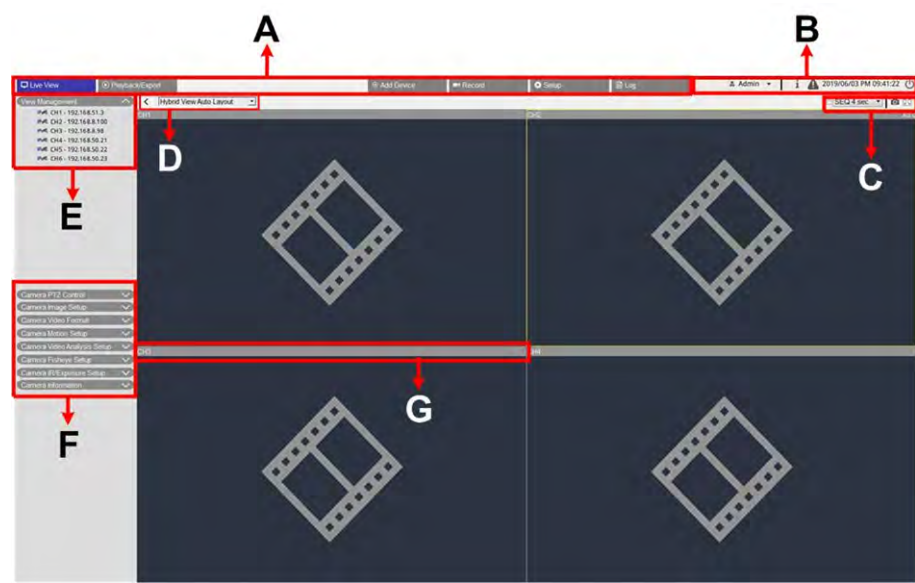
A screenshot of a 'Login' dialog box. It features a grey header with the title 'Login'. On the left is a dark grey silhouette of a person. To the right of the silhouette, the text 'Account:' is followed by a dropdown menu showing 'Admin' with a downward arrow. Below this, the text 'Password:' is followed by a white text input field. At the bottom, there are two buttons: 'Confirm' and 'Cancel'.**Note**

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

# 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



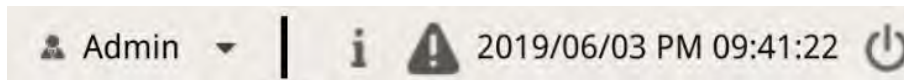
A	Function Tabs	B	MISC.
C	Channel Viewing Function Keys	D	Hybrid View Layout Management
E	View Management	F	Camera Setup Panels
G	Camera Title Bar		

### A - Function Tabs



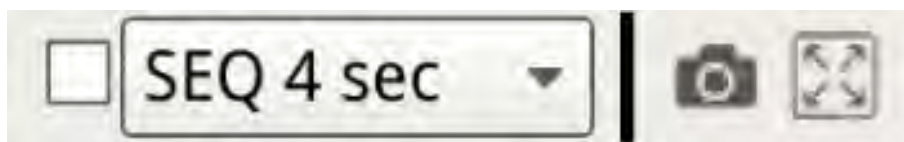
Item	Description
Function Tabs	Live View, Playback/Export, Add Device, Record, Setup and Log.


## B - MISC.



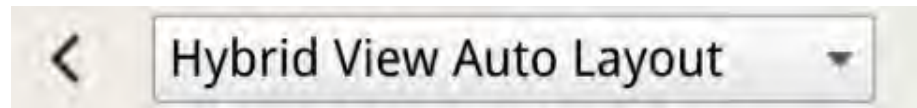
Item	Description
Login/Logout (Admin/Guest)	Login the NVR system with an authorized user account or logout the currently logged-in account.
System Info	Click  to display the NVR System Info Pane. Basic NVR information can be checked here, e.g. NVR software version, CPU status, RAM (memory) usage, etc. Click  again to hide the System Info Pane.
Instant Notification	<p>Click  to display the notification center.</p> <p>System</p> <ul style="list-style-type: none"> <li>When either read/write speed is slow, or CPU temperature is high, users will receive warning messages here.</li> </ul> <p>Device</p> <ul style="list-style-type: none"> <li>When an IP camera event is triggered, the alert messages will be listed here.</li> </ul> <p>Edge</p> <ul style="list-style-type: none"> <li>Download Status: Users can check the download status when the NVR is retrieving data from the edge recording device of a connected IP camera.</li> <li>Upload Status: Users can check the progress of file uploading to cloud storage here.</li> </ul>
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	<p>This function is used to sequence the live view videos in single-channel mode from the connected IP cameras to avoid manual backtracking.</p> <p>Select the sequence dwell time (4 to 15 seconds) and check the box to enable sequence display in single-channel mode.</p>
Snapshot	<p>This function is used to capture the current viewing in Live View or Playback/Export tab.</p>
Full-Screen	<p>Click &lt; </p>

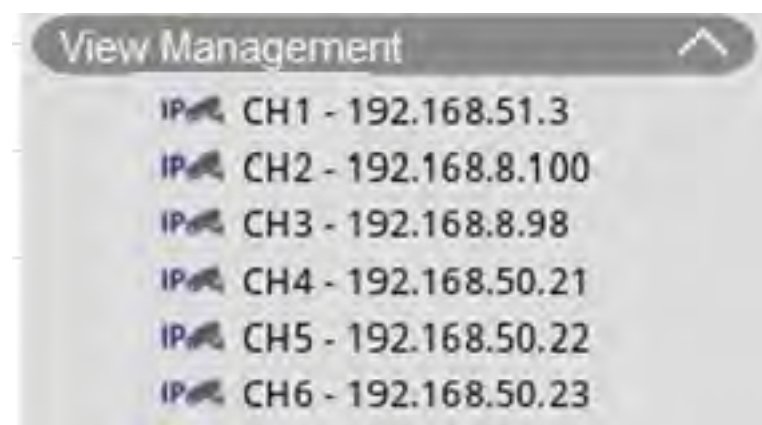
D - Hybrid View Layout Management



Item	Description
View Layout Setup	<p>Users can choose or design their desired display layout by selecting <b>Hybrid View Auto Layout</b> or <b>Hybrid View Custom Layout</b>.</p> <ul style="list-style-type: none"><li>■ Hybrid View Auto Layout: The NVR automatically adjusts the layout to the suitable layout format when new IP devices are added.to the NVR.</li><li>■ 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.</li></ul>
Hide View Pane	<p>Click &lt; to hide the View Management Pane and Camera Setup Pane. Click &gt; to show the pane.</p>



## E - View Management



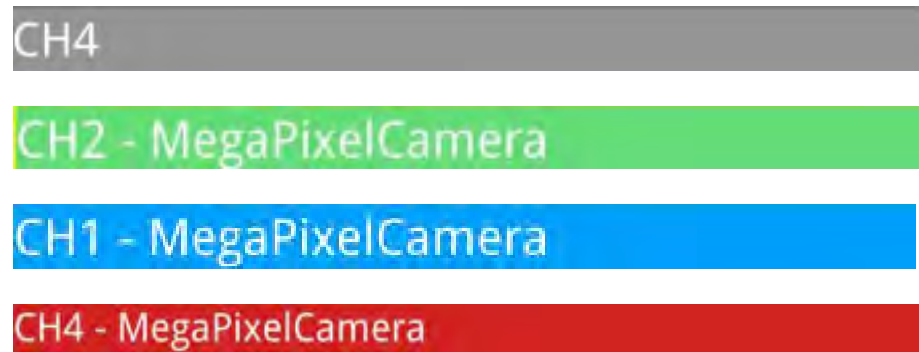
Item	Description
View Man- agement	Normal Mode: Here lists all IP cameras connected via network or the PoE switch under <b>Camera View</b> .

## F - Camera Setup Panes



Item	Description
Camera Setup Panes	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 <b>Camera Information</b> . 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. <ul style="list-style-type: none"><li>■ 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.</li><li>■ Green: The green title bar suggests the NVR is connecting the IP camera.</li><li>■ Blue: The blue title bar indicates the connection between the NVR and the IP camera is in good condition.</li><li>■ Red: The red title bar indicates there is connection failure between the NVR and the IP camera.</li></ul>


## 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.




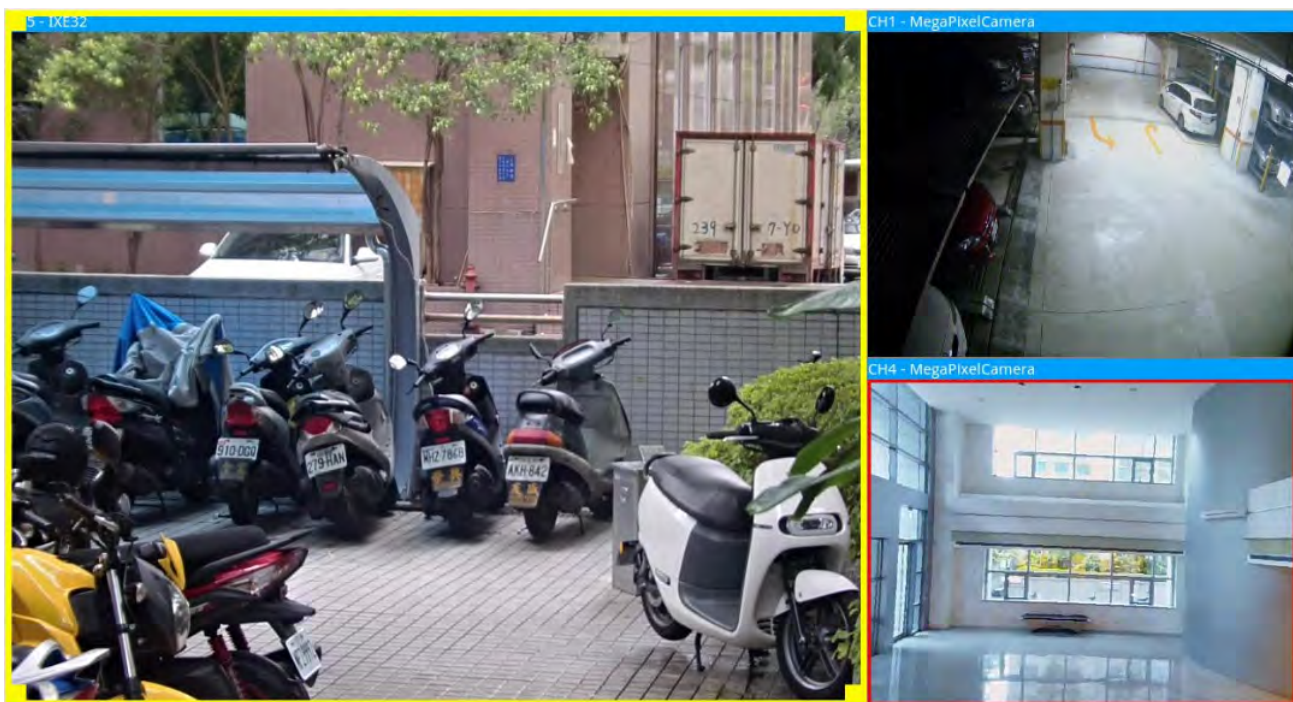
Follow the description below to add / edit / save / delete the layout.

## Add / Rename a Display Layout

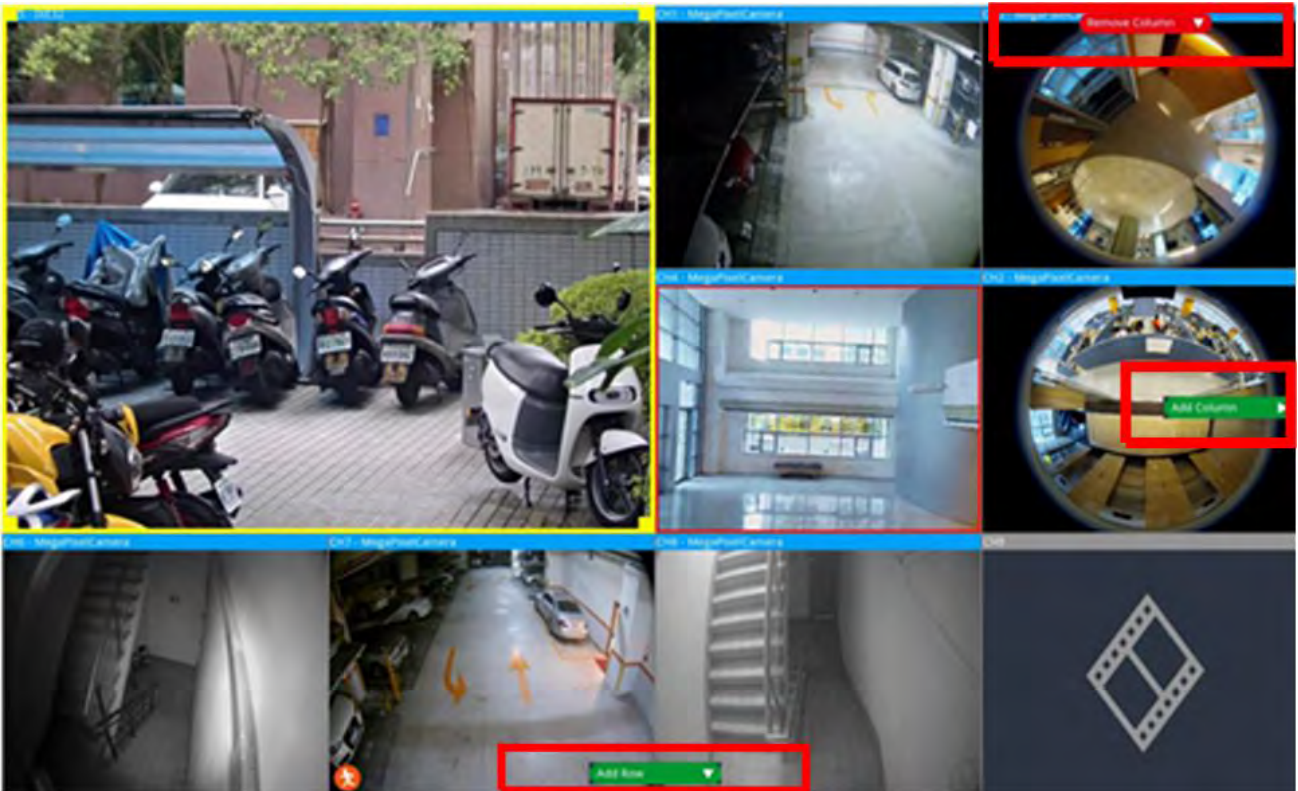
- Click  **Add** to add new layout to the list. The maximum layout amount is four.
- To rename a layout, right click the layout button, click **Edit name** to rename the selected layout, and click **OK** to save the setting or click **Cancel** to discard changes.


## 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.

## Snapshot


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

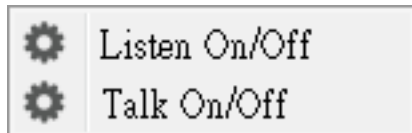
1. Click  at the top-right of the monitor, and the current viewing will be captured.
2. Click  from the pop-up Snapshot Window to save the captured, or click  to cancel. Users can view and export the snapshots in the Playback/Export tab.

## 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
	<b>Focus Far</b> Click to focus the lens of selected camera at a farther point.		<b>Focus Near</b> Click to focus the lens of selected camera at a nearer point.		<b>Iris Close</b> Click to shrink the Iris on the selected cam
	<b>Iris Open</b> Click it to open the Iris on the selected camera.		<b>Zoom Out</b> 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.		<b>Zoom In</b> Click it to zoom in the lens of selected camera. This function is to enlarge a certain area.
	<b>Set Tour</b> This function is to setup at most 8 tour paths of the camera and execute the tour path for viewing.		<b>Go Tour</b>		<b>Set Preset</b> This function is to set up certain position as a pre-set point and go to the predetermined preset positions for viewing.
	<b>Go Preset</b>		<b>Auto Focus</b> Click this button to automatically adjust focus of the selected camera.		<b>Delete Preset</b>


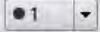



### Direction Control Panel

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  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

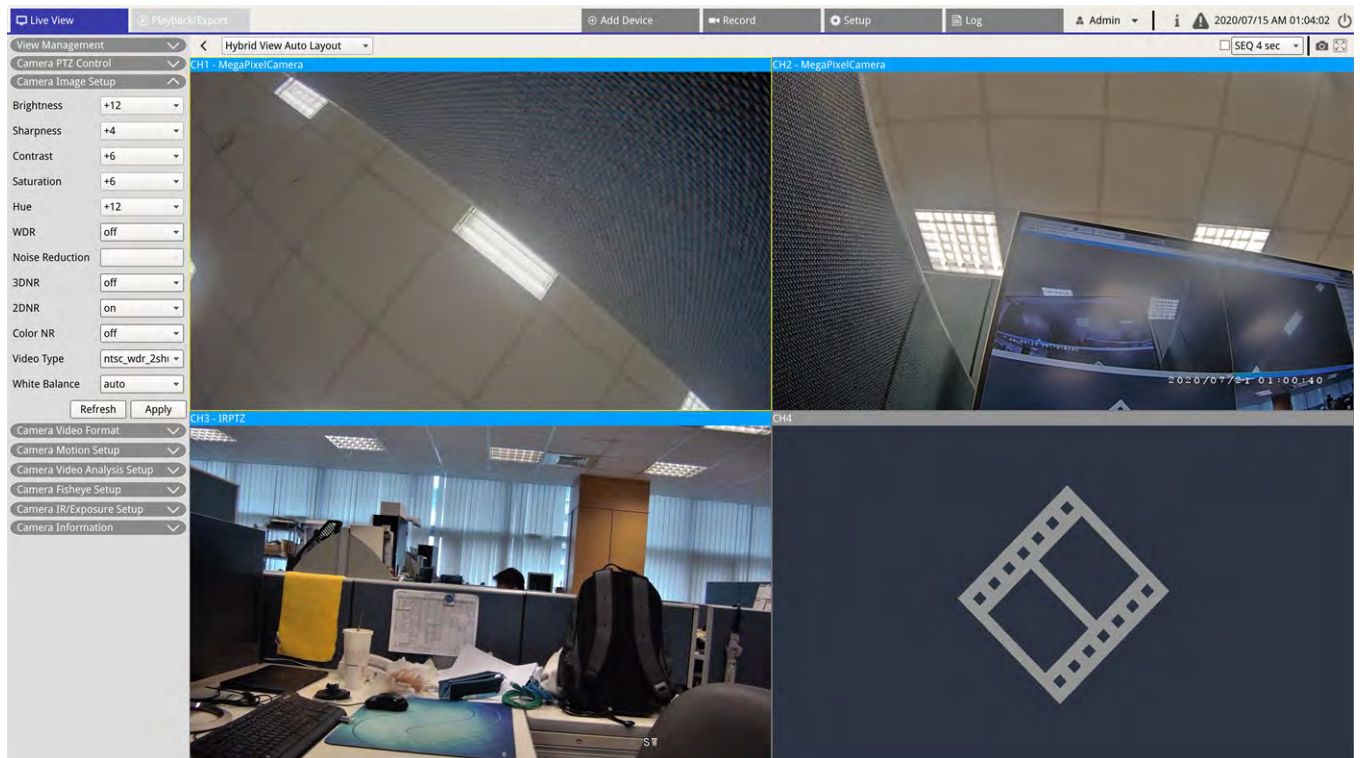
Follow the steps to run the recorded camera tour path:

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 grey.

# 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

Camera Video Format

Stream Mode

H.264 + H.264

H264-1

1920x1080 (30f

H264-2

640x480 (30f

H264-1 Profile

main

H264-2 Profile

main

H264-1 Bitrate

4096

H264-2 Bitrate

1024

H264-1 FPS

30

H264-2 FPS

30

Rotate Type

0

H264-1 Mode

vbr

H264-2 Mode

vbr

Refresh

Apply

H.265 IP Camera

Camera Video Format

Stream 1 Encoding

Yes

Stream 2 Encoding

Yes

Stream 1 Encode Type

h264

Stream 2 Encode Type

h264

Stream 1 Resolution

1920x1080

Stream 2 Resolution

800x600

Stream 1 Profile

high

Stream 2 Profile

high

Stream 1 Rate Control

cbr

Stream 2 Rate Control

cbr

Stream 1 Bitrate

4096

Stream 2 Bitrate

1024

Stream 1 Framerate

30

Stream 2 Framerate

30

Stream 1 GOV Length

60

Stream 2 GOV Length

60

Rotate Type

flip

Refresh

Apply

NOTE

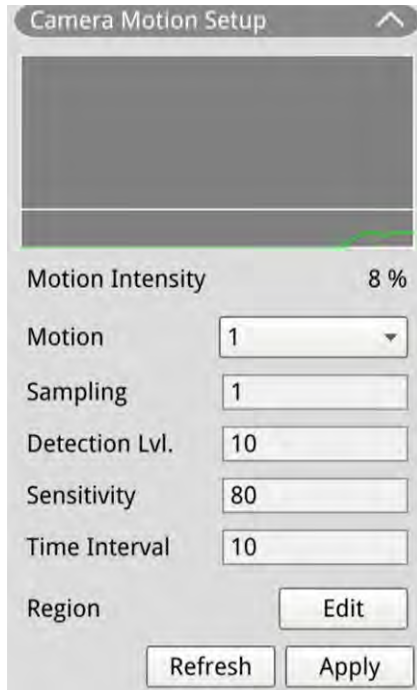
To manage advanced streaming settings for the NVR, please go to **Add Device** > **Device List** (refer to the section Main/Sub Streaming Setup in Add Device Window for further instruction).

# 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).



Camera Motion Setup

Motion Intensity 8 %

Motion 1

Sampling 1

Detection Lvl. 10

Sensitivity 80

Time Interval 10

Region Edit

Refresh Apply

## 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 intesity percentage. Higher sensitivity means system will trigger motion detection alert with lower motion intensity detected.

## Time Interval

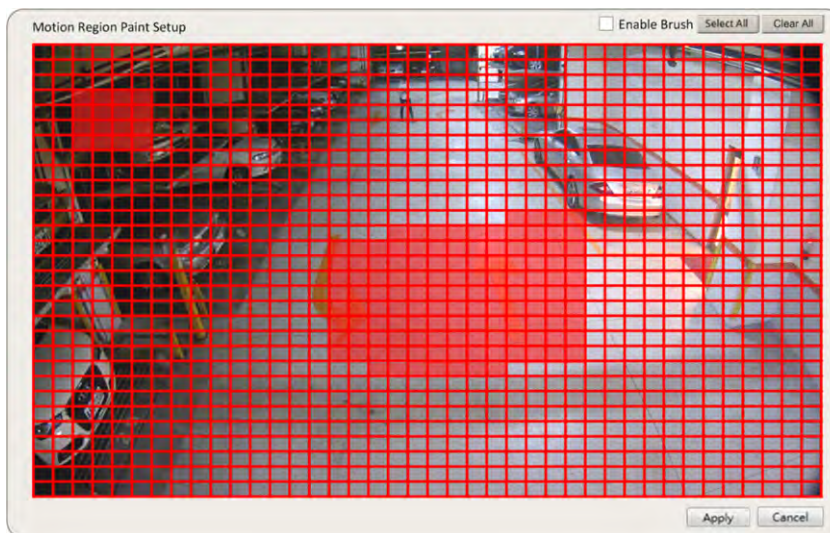
Users can adjust the interval between each detected motion.

## 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

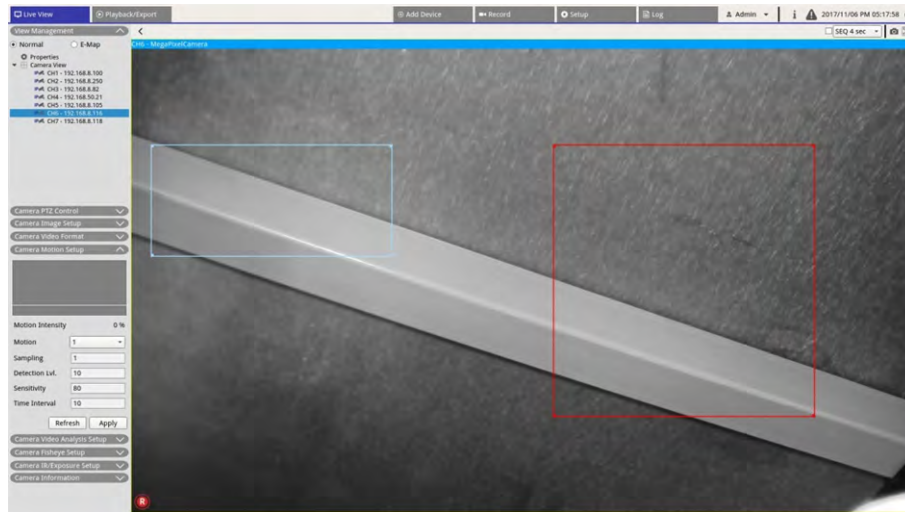
- Click **Edit** and the Motion Region Setup window will pop up as below. The detection area is divided into 1200 (40x30) detection grids; users can paint and select motion detection region with the mouse.



- 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

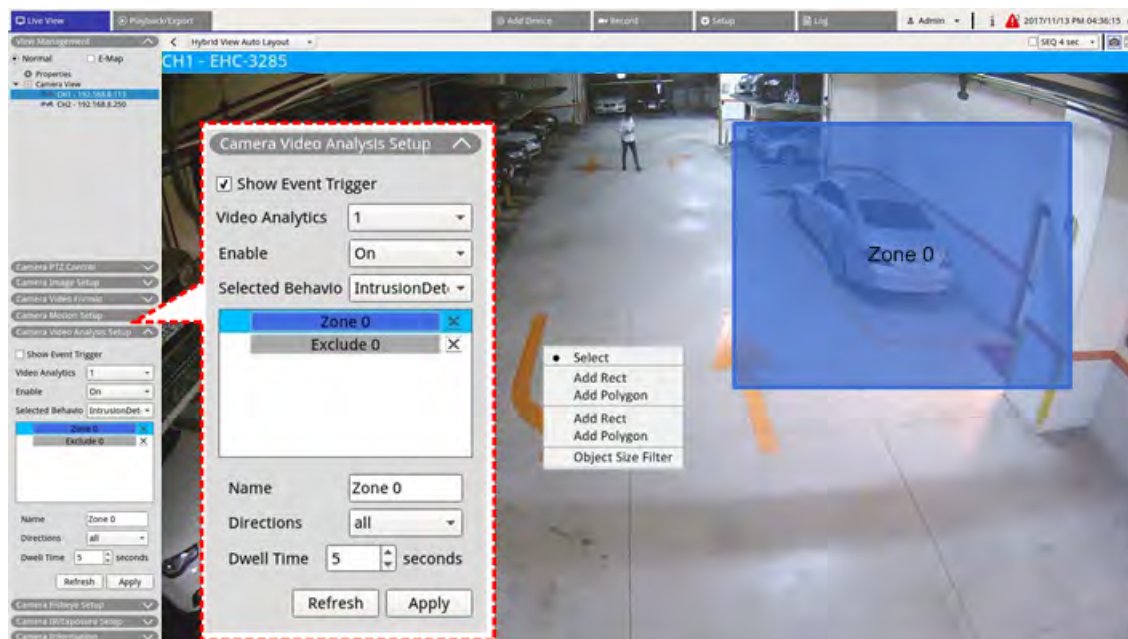
The NVR allows users to connect and setup IP cameras implemented with Video Analytics function.



## System User Interface Introduction

### Camera Video Analysis Setup

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  to save the settings.


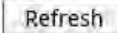
## Camera Fisheye Setup



The NVR supports dewarping settings for fisheye cameras 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: 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  to save the settings, or click  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

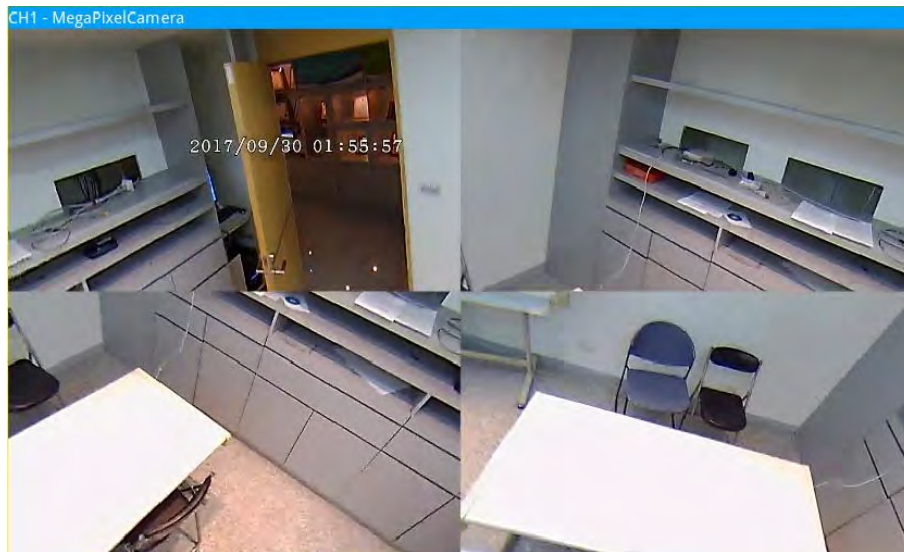
This mode contains two 180° view dewarped live images.





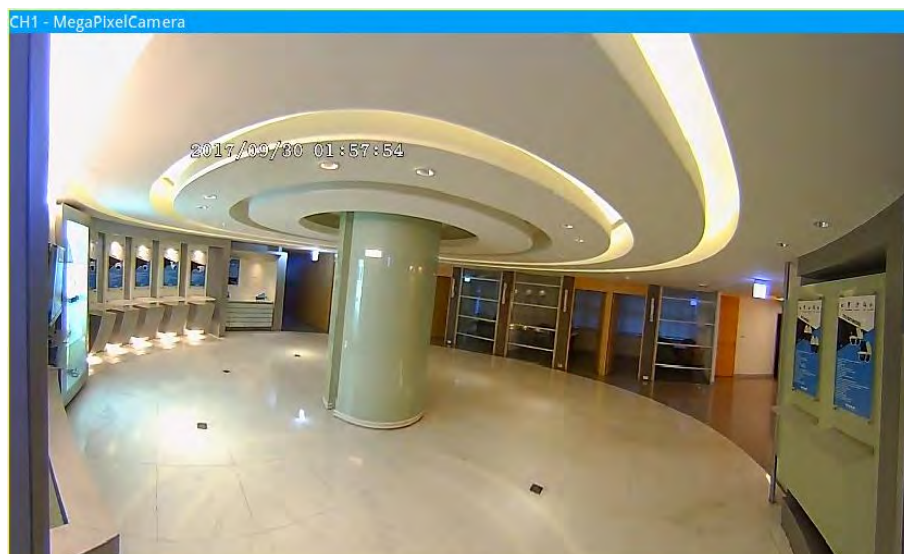
- 4PTZ View

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**.



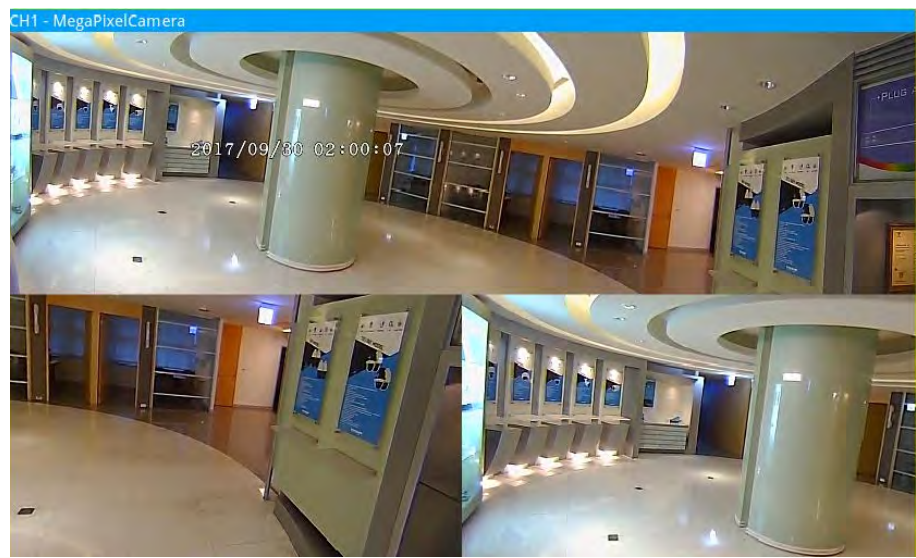
- 180 View

This mode contains one 180° view dewarped live image.



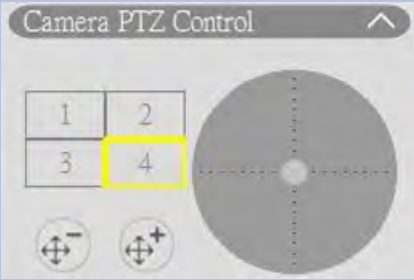
■ 180 2PTZ View

This mode contains one 180° view dewarped live image and two ePTZ views.

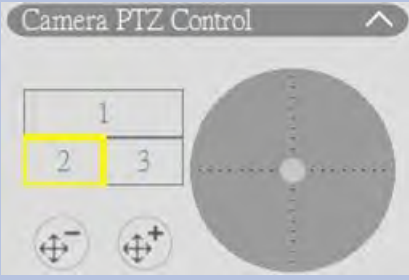


Fisheye ePTZ Function

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.



The 'Camera PTZ Control' panel for 4PTZ View. It features a 2x2 grid of buttons labeled 1, 2, 3, and 4. Button 4 is highlighted with a yellow border. To the right of the grid is a circular directional pad with a central crosshair. Below the grid are two zoom control buttons labeled with minus and plus signs.



The 'Camera PTZ Control' panel for 180 2PTZ View. It features a 1x2 grid of buttons labeled 1 and 2, followed by a button labeled 3. Button 2 is highlighted with a yellow border. To the right of the grid is a circular directional pad with a central crosshair. Below the grid are two zoom control buttons labeled with minus and plus signs.

4PTZ View

180 2PTZ View

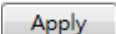

# Camera IR/Exposure Setup



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  to save the settings, or click  to reload the settings.

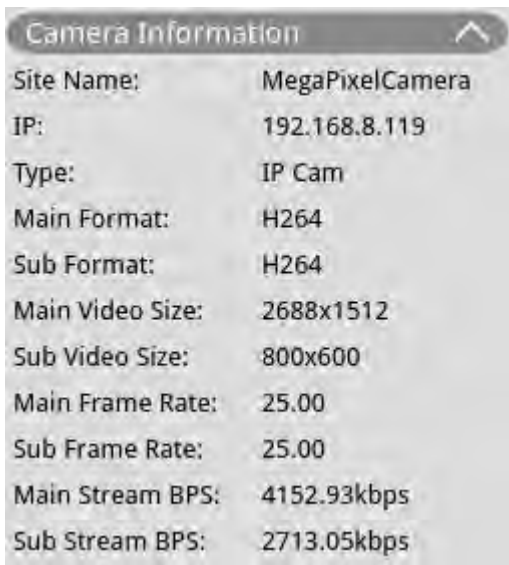
## IR Function Setup

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  to save the settings, or click  to reload the settings.

## Camera Information



Camera Information	
Site Name:	MegaPixelCamera
IP:	192.168.8.119
Type:	IP Cam
Main Format:	H264
Sub Format:	H264
Main Video Size:	2688x1512
Sub Video Size:	800x600
Main Frame Rate:	25.00
Sub Frame Rate:	25.00
Main Stream BPS:	4152.93kbps
Sub Stream BPS:	2713.05kbps

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.

# 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.

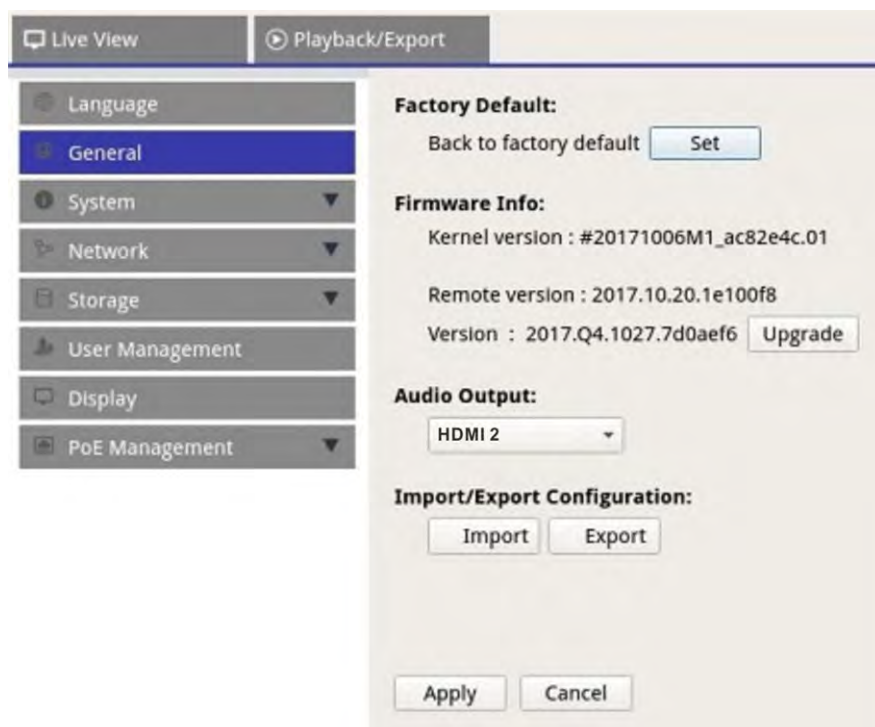
## Language



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

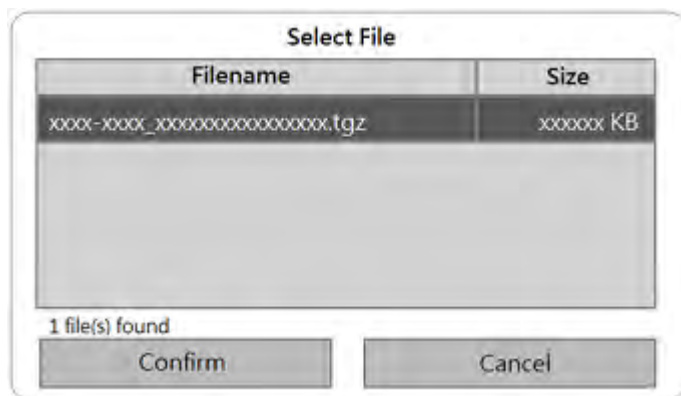
Users can load factory settings for the XMS software.

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 (\*.tgz) 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** 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


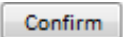
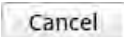
Users can load NVR configuration file that was previously exported from another device through an external drive.

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  and select the preferred export file location.
2. Read the confirmation pop-up window to confirm the exporting file location.
3. Click  to start exportation or click  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.

Live View Playback/Export

Language General System Date/Time System Monitor Event Management Network Storage User Management Display PoE Management

2019 August 05, Monday AM 08:23:07

**Date/Time Setup:**

August 2019

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

08:23:04 AM

**Date Format:**

YYYY/MM/DD

☐ Use 24 Hour

**Time Zone:**

(UTC) London

**NTP Server Setup:**

time.nist.gov Update

☐ Enable Auto Sync Every Hour

**Daylight Saving Time Setup:**

☒ Enable DST

Time Offset 01:00:00

Month Year Week Weekday Time

Start March 2019 Sun 01/00/00:00

End October 2019 Sun 01/00/00:00

Time

DST Start January 01 01:00:00

DST End January 01 01:00:00

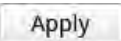
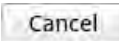
Apply Cancel

### 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  to save the settings, or click  to reload current settings.

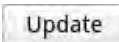
### Time Zone

Users can select their own current time zone. Visit [www.greenwichmeantime.com](http://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  next to the server to sync the time immediately.

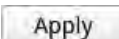
In addition, time can be regularly synchronized.

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

### Daylight Saving Time Setup

This function is for users who live in areas that observe Daylight Saving Time. Check or un-check the “Enable DST” box to enable or disable this function. If the function is disabled, the DST Start/End time will be grayed out and cannot be accessed.

- DST Start & End: These items are used to program the daylight saving duration.

1. Click the Month / Week / Weekday drop-down list to change the value.
2. After setting, click  to save and apply the setting.

## System Monitor

Live View Playback/Export

Language

General

System

Date/Time

System Monitor

Event Management

Network

Storage

User Management

Display

PoE Management

**Event Setup:**

☐ Enable Event Full View

**System Event Action:**

CPU Temperature Warning

Threshold: 80 °C

☐ Send Email

Fan Speed Warning

Threshold: 200 RPM

☐ Send Email

Hard Disk Warning

☐ Send Email

Apply Cancel

### 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 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 check/un-check "Send E-mail" and click **Apply** to enable/disable the function of sending warning notice.
- 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 check/un-check "Send E-mail" and click **Apply** to enable/disable the function of sending warning notice.

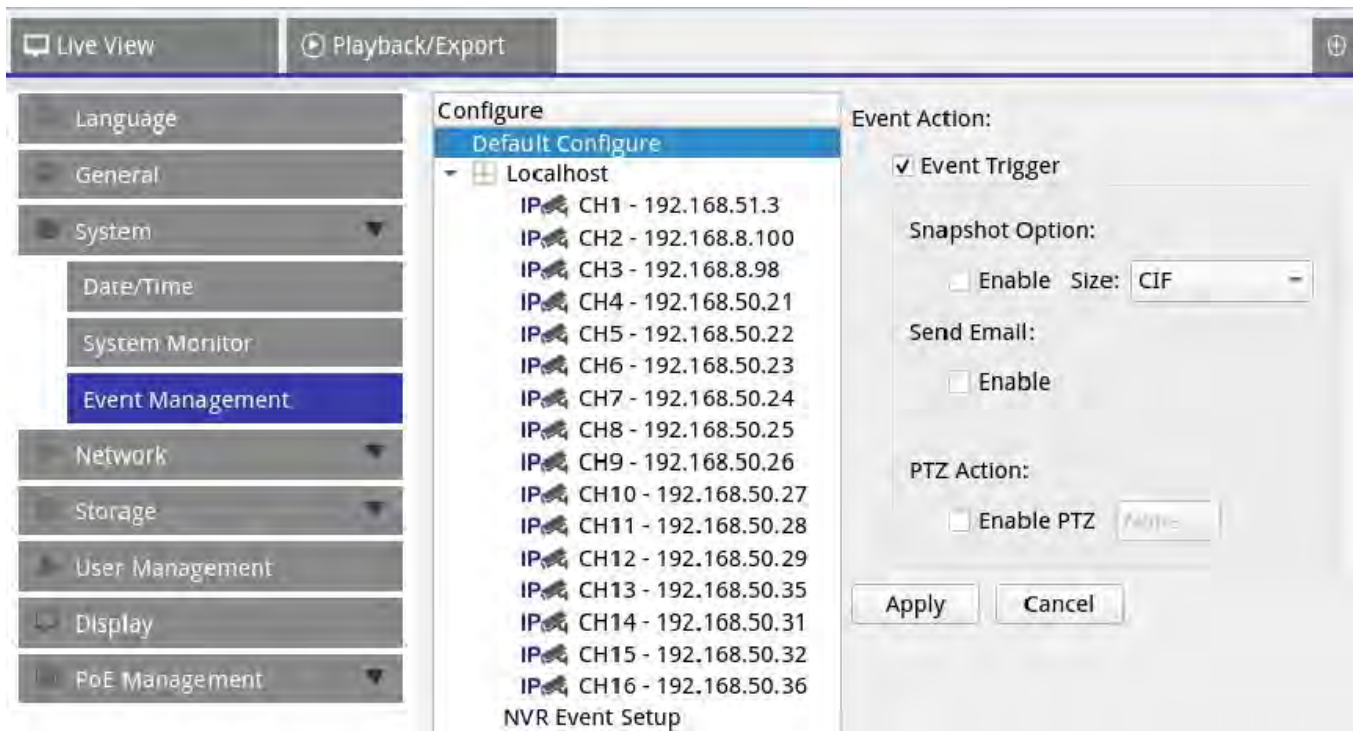
- Hard Disk Warning: System can detect if the hard disk has unexpected errors or the read/write speed is slow and send warning notice to users. Users may also check/un-check "Send E-mail" and click

to enable/disable the function of sending warning notice.

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

## Event Management

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



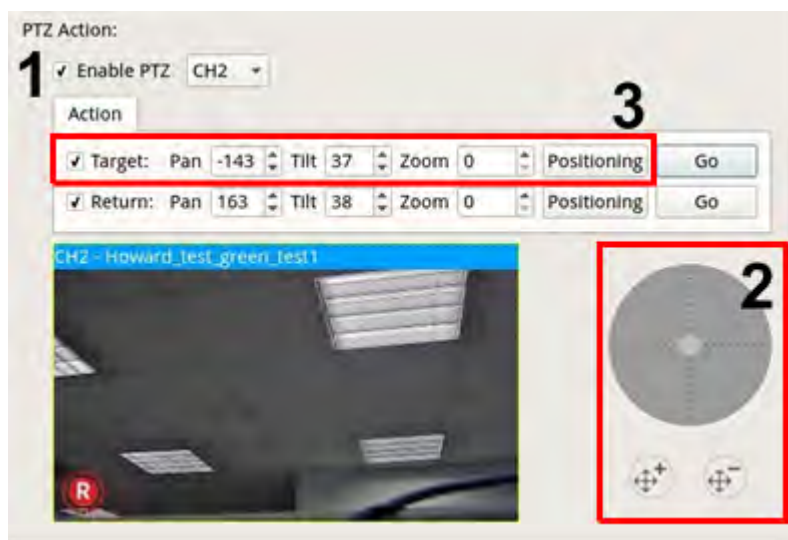
### Default Configure

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  to save the settings or click  to reload the current settings.
4. Select any site from **Localhost** and click  to load preset default settings.
5. Click  to save the loaded default configuration settings from **Default Configure**.

## Event Action

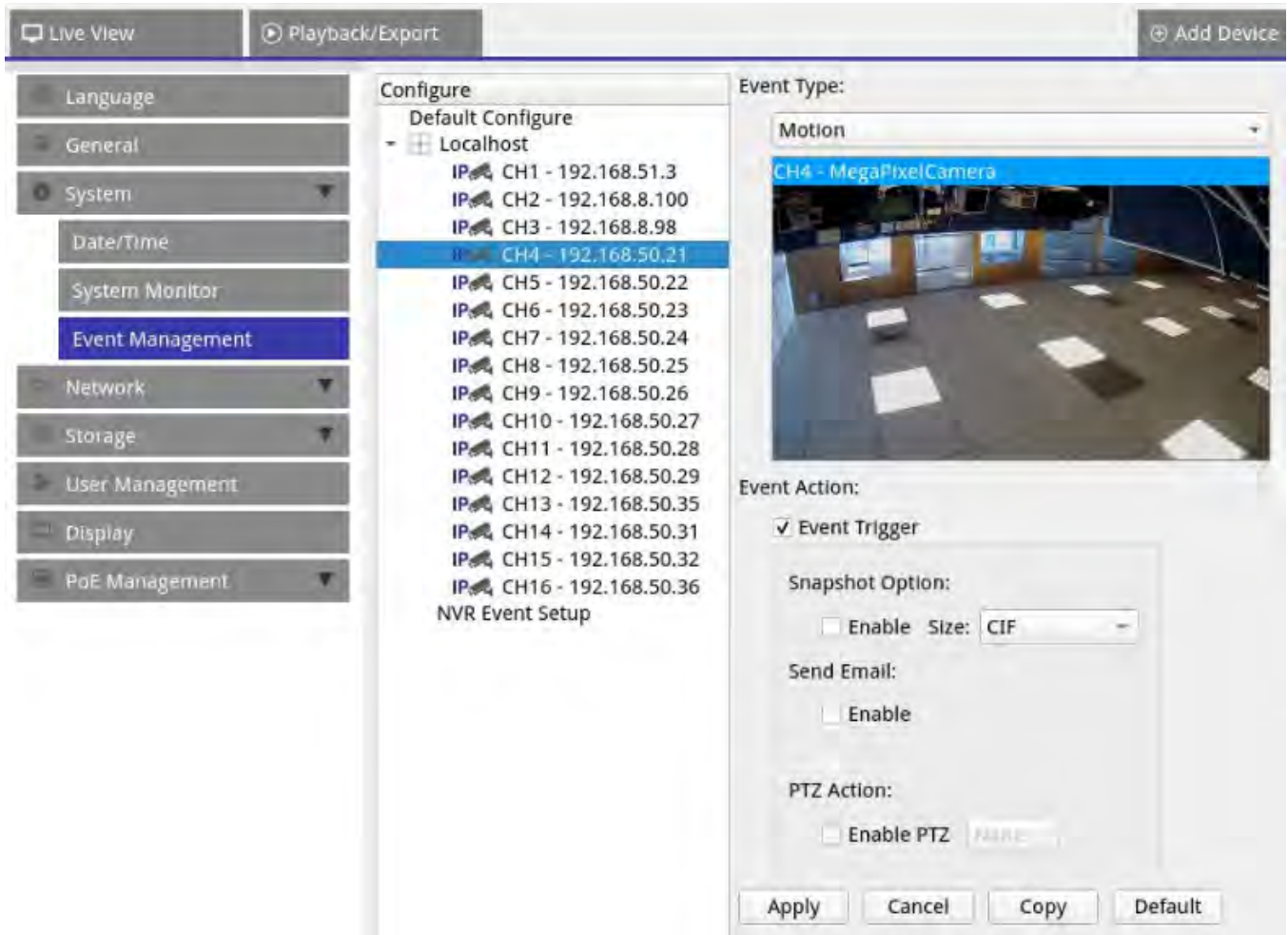
- Event Trigger: Check the box to enable **Event Trigger** function.
- Snapshot Options: Check the box and select the snapshot resolution from the drop-down menu and click **Apply** to save the settings. System will capture the live event image once an event is triggered. Users can view all event snapshots 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.
- 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.
4. Follow Step 2 ~ Step 3 to setup the Return position.
5. 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.

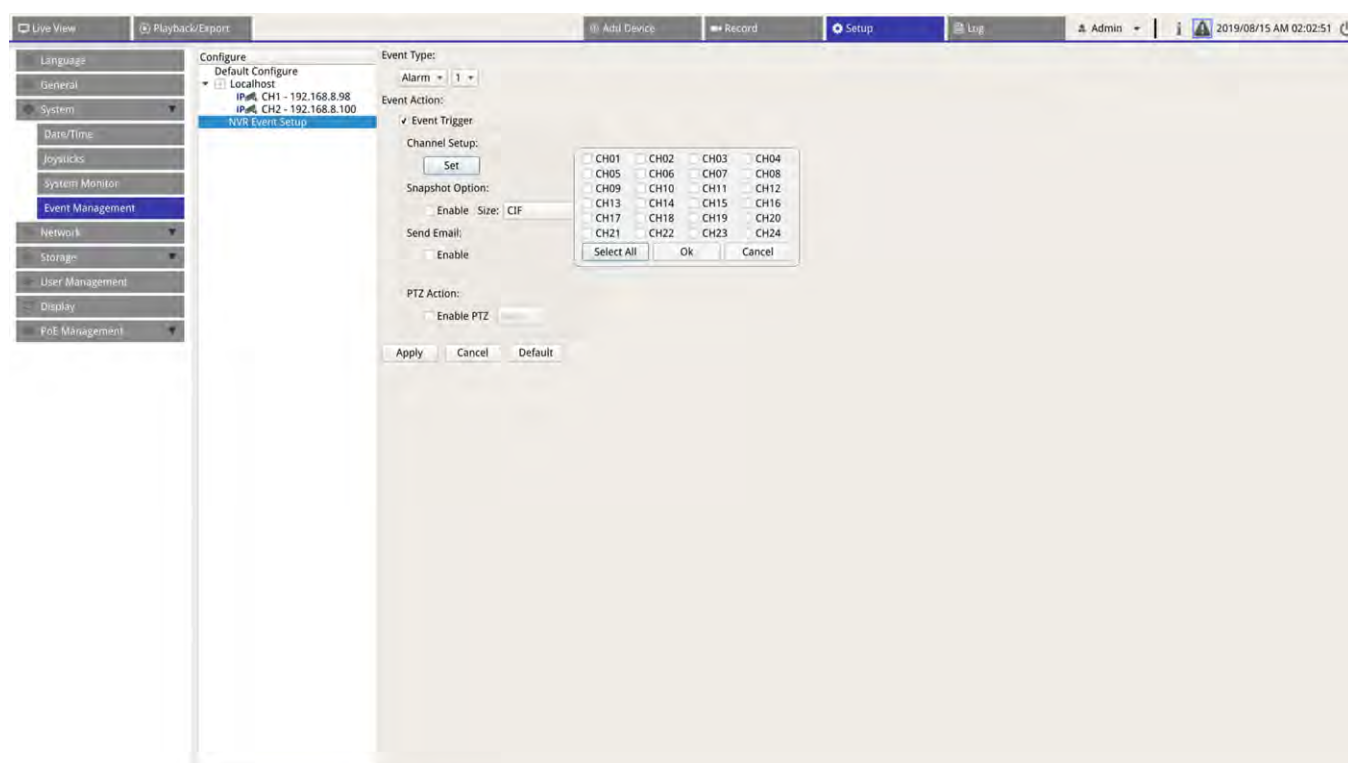


**NOTE**

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.
6. 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.

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

Live View

Playback/Export

Language

General

System

Network

Ethernet

Email

DDNS

Storage

User Management

Display

PoE Management

Interface:

eth0

MAC Address:

00:D0:89:19:4A:77

DHCP Setup:

☒ Enable DHCP

Restart

IPv4:

Address:

Subnet Mask:

Default Gateway:

Primary DNS:

Secondary DNS:

Port:

Http Port:

80

RTSP Server Port:

554

Apply

Cancel

### Interface

- eth0: Select this to set WAN configuration.
- vlan100: Select this to set LAN configuration.


### 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.

1. Check the “Enable DHCP” box and click , 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.

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

## Email Setup

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

The screenshot shows the 'Email Setup' window in an NVR interface. On the left is a navigation menu with 'Email' selected. The main panel is titled 'SMTP Server:' and includes a dropdown menu currently set to 'Gmail'. Below this are input fields for 'Server Site', 'Port' (with an SSL checkbox), 'Account', and 'Password'. A section titled 'Email Recipient:' contains an 'Email Address' field. At the bottom of the panel are 'Apply' and 'Cancel' buttons.

### 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

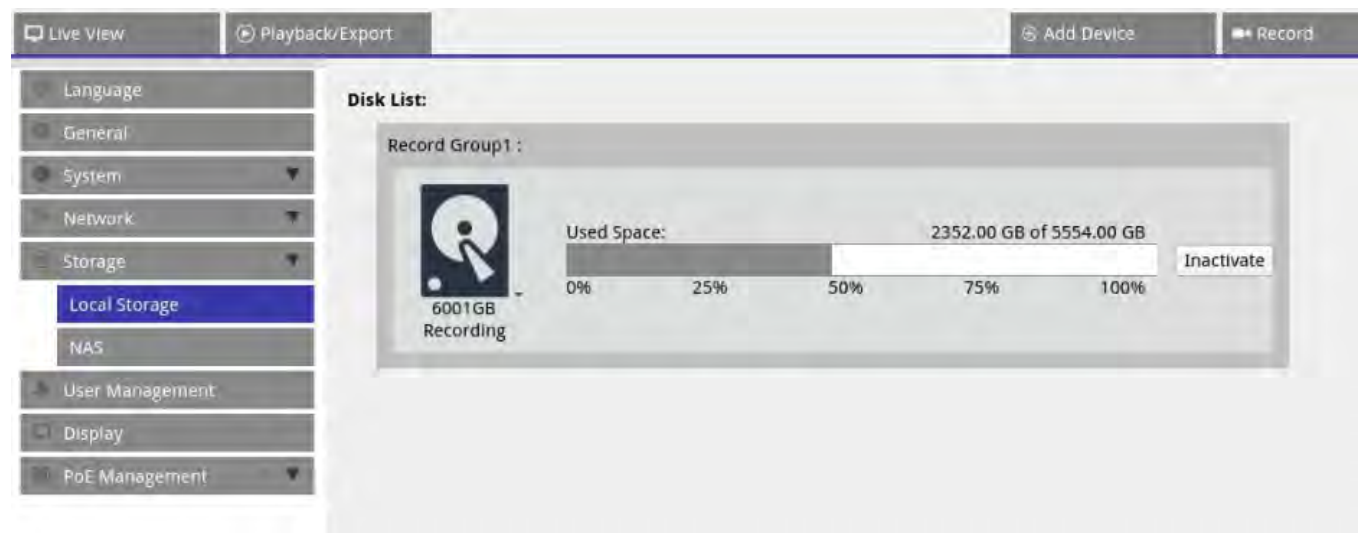
The screenshot shows the NVR web interface with the 'Live View' and 'Playback/Export' tabs at the top. On the left is a sidebar menu with options: Language, General, System, Network, Ethernet, Email, **DDNS** (highlighted), Storage, User Management, Display, and PoE Management. The main content area is titled 'DDNS Setup:' and contains the following fields: a checked checkbox for 'Enable DDNS', a 'Server Name' dropdown menu set to 'DynDNS', and text input fields for 'Hostname', 'Username', 'Password', and 'Port' (set to '80'). The 'Domain name' is displayed as 'N/A'. At the bottom of the form are 'Apply' and 'Cancel' buttons.

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**, **ChangIP** 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.

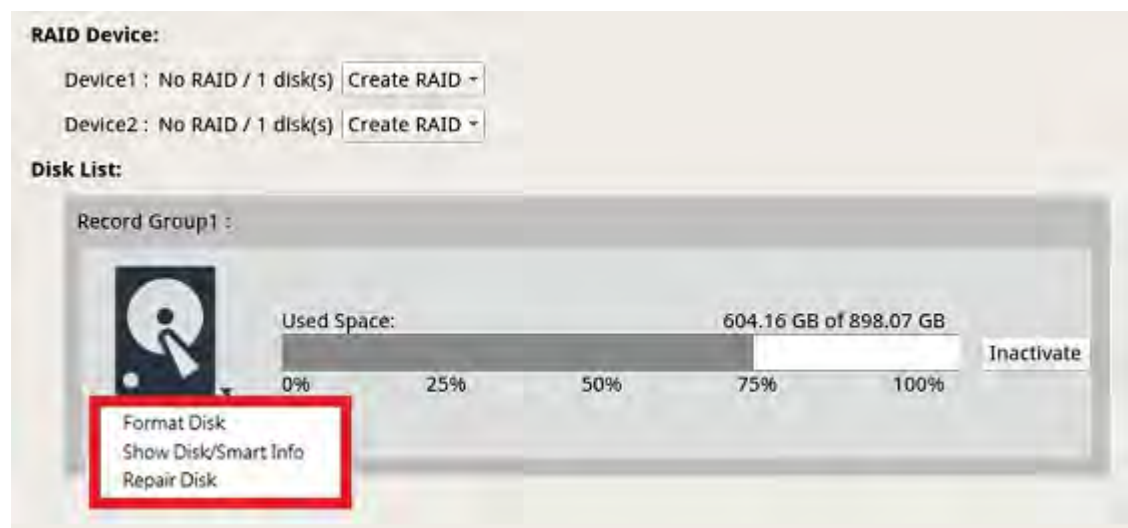
# Storage Setup

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.



## 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**.

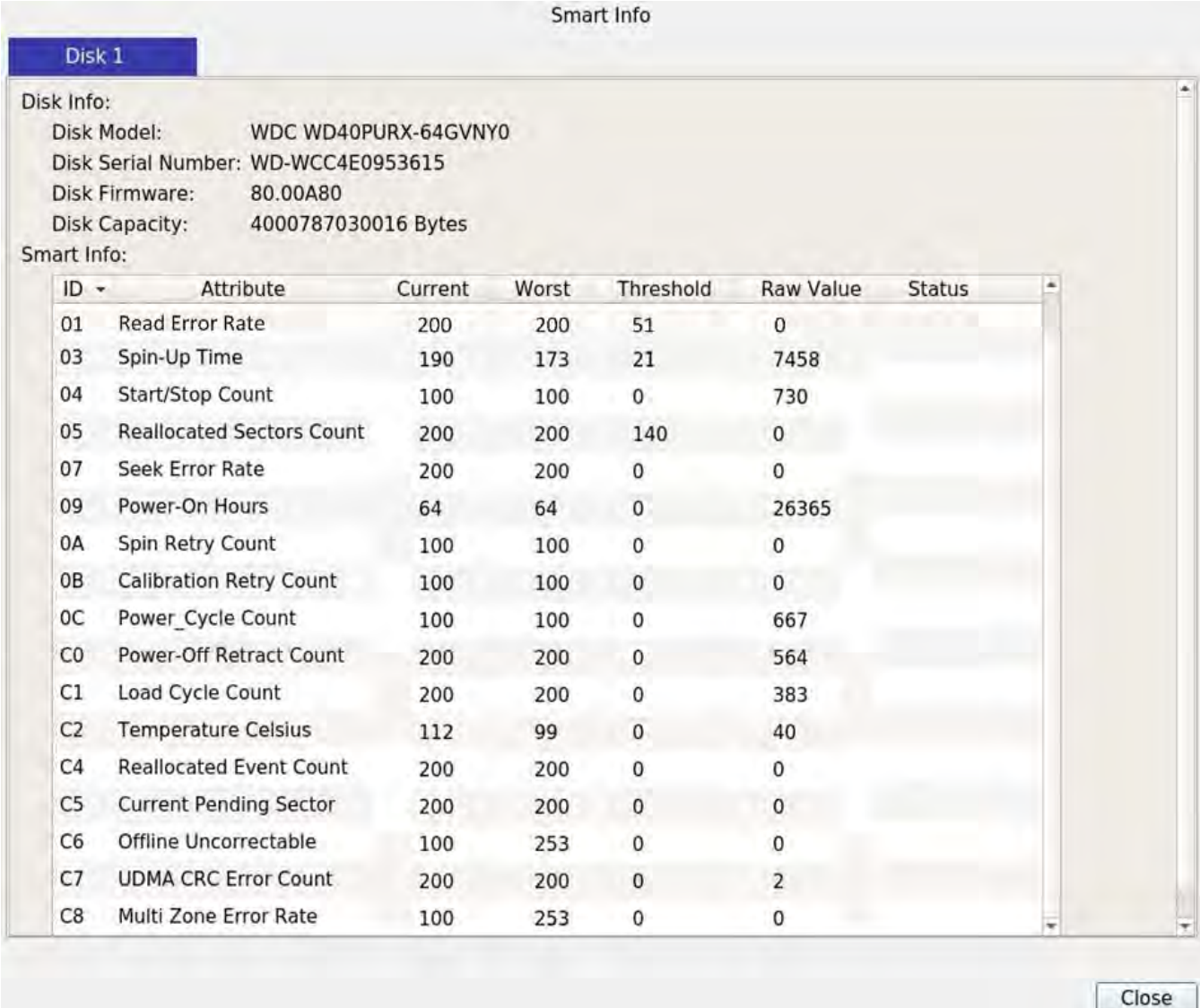


## Format Disk

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.



The image shows a 'Smart Info' window for 'Disk 1'. It contains two sections: 'Disk Info' and 'Smart Info'.

**Disk Info:**

- Disk Model: WDC WD40PURX-64GVNY0
- Disk Serial Number: WD-WCC4E0953615
- Disk Firmware: 80.00A80
- Disk Capacity: 4000787030016 Bytes

**Smart Info:**

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	

Close

## 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.

## NAS

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.





# 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.

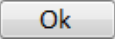
### NOTE

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	<ol style="list-style-type: none"> <li>1. alphabets: A-Z, a-z</li> <li>2. numbers: 0-9</li> <li>3. the ONLY special character available: underscores “_” (except of the first character)</li> </ol>	<ol style="list-style-type: none"> <li>1. alphabets and numbers: A-Z/a-z and 0-9 (at least one alphabet and one number)</li> <li>2. special characters: !#\$%&amp;'-.@^_~</li> </ol>

## 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  to save and apply the changes for selected user.



## Delete User Account

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

### NOTE


Users cannot delete both default accounts “Admin” and “Guest”.

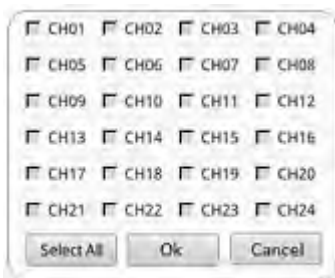
## Setup User Permissions (Authorities)

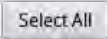
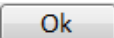
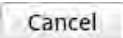
1. Set access permissions to the functions listed in the User Management setting menu.
  -  represents the user account is authorized to access the function.
  -  represents the user account is not authorized to access the function.

### 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.
1. Click  (Covert Setting) corresponding to the desired user account to enter the setting menu.

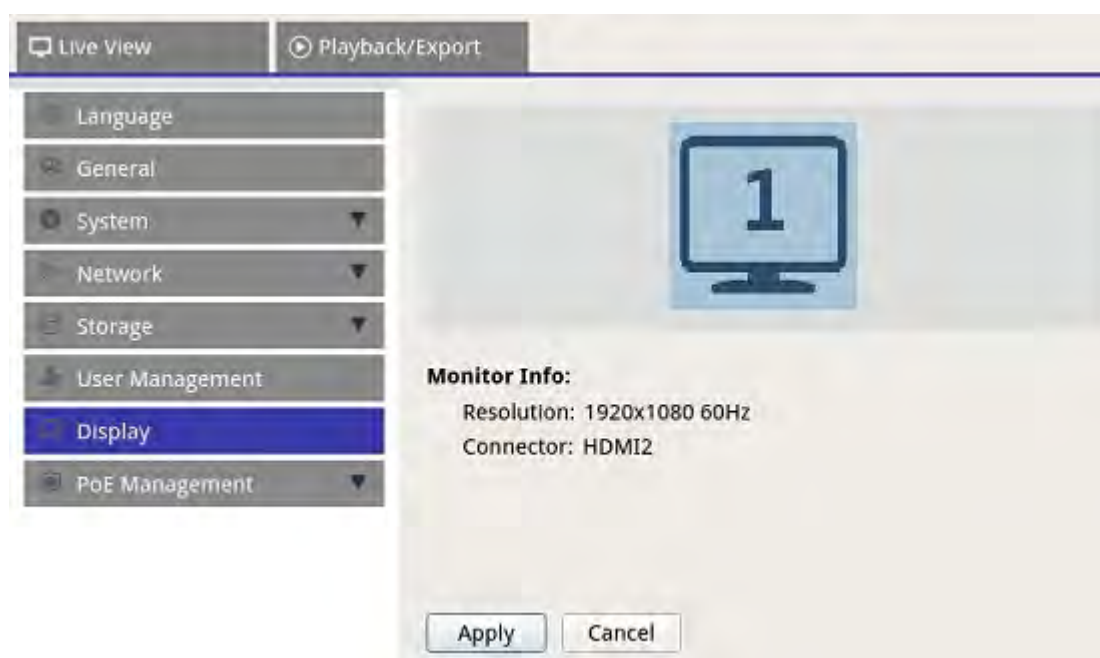


2. Check the channel box to reject user access.
3. Un-check the channel box to allow user access.
4. Click  to check or un-check all channels.
5. Click  to save and apply the setting, or click  to discard the changes.



# Display Setup

The NVR viewing display supports up to 2x 1080p display, the system can extend across two monitors by connecting both monitors to the NVR.



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  to save the settings and the NVR will reset the order of monitor display, or click  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.

Monitor function **Across Mode** will be available under **Live View** tab when two monitors are connected to the NVR.

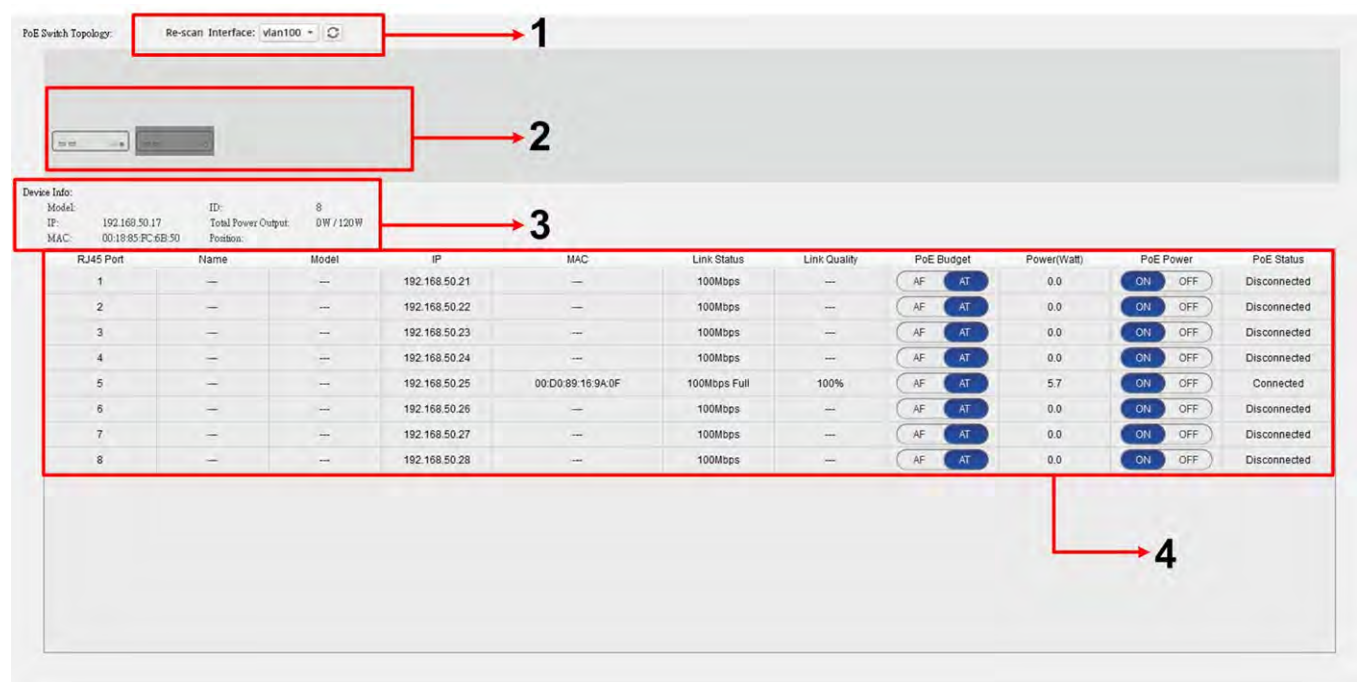
- Check “Across Mode” check box to extend view layout across the monitors.


# 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 <b>OK</b> to proceed or select <b>Cancel</b> to stop.
2	PoE Switch Topology	Number of the 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 <b>Device Info</b> .

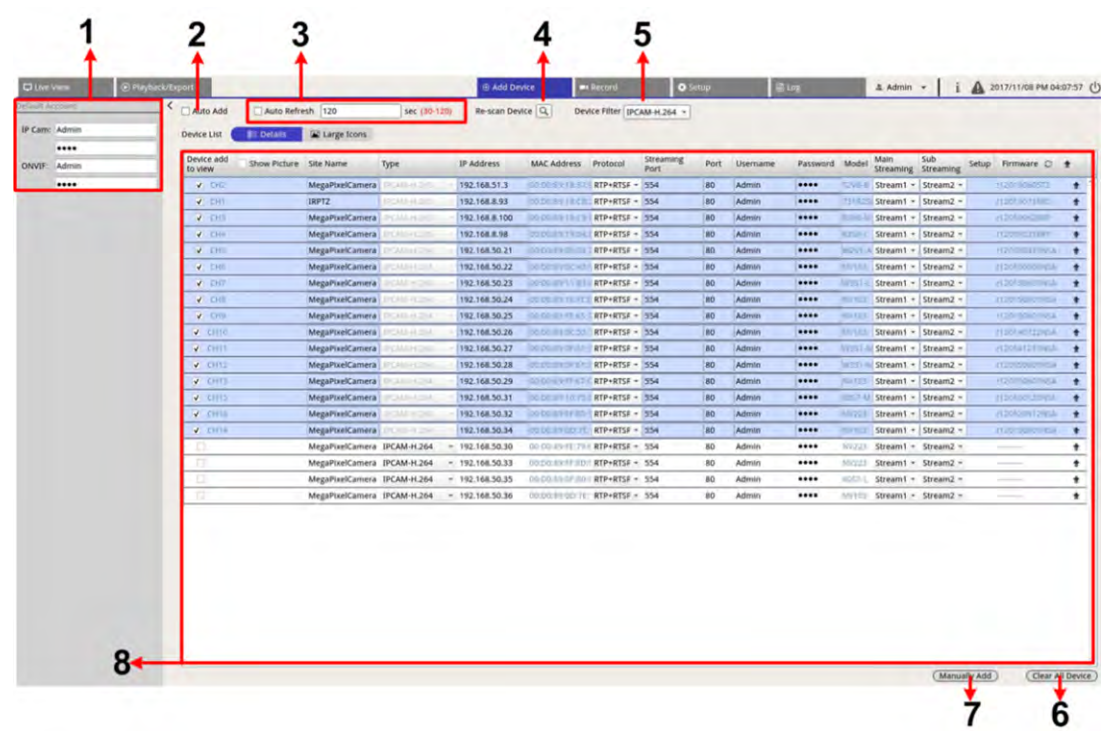
No.	Item	Description
3	Device Info	Users can check the basic information of the selected NVR or PoE switch. Model name, model IP, MAC, ID, and total power output of the selected device will be displayed.
4	PoE Port Management	<ul style="list-style-type: none"> <li>■ RJ45 Port: List the number of PoE port</li> <li>■ Name: The name of the IP camera connected to the port</li> <li>■ Model: Model name of the IP camera</li> <li>■ 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.</li> </ul> <div> <p><b>NOTE</b></p> <p>System assign the IP address with the rule: 192.168.51.(2 x port number+1). For example, the IP address for PoE port 4 is 192.168.51.9</p> </div> <ul style="list-style-type: none"> <li>■ MAC: The MAC address of the IP camera</li> <li>■ Link Status: Network connection speed of the IP camera</li> <li>■ Link Quality: Network connection status of the IP camera</li> <li>■ PoE Budget <ul style="list-style-type: none"> <li>— <b>AF</b> represents PoE standard IEEE 802.3af.</li> <li>— <b>AT</b> represents PoE standard IEEE 802.3at.</li> </ul> <p>Users can switch to preferred PoE standard based on the needs.</p> </li> <li>■ Power (Watt): Power consumption status of the PoE port</li> <li>■ PoE Power: Select <b>ON</b> to enable PoE for selected port. Select <b>OFF</b> to disable PoE for selected port.</li> <li>■ PoE Status: Check if the PoE port is connected with an IP camera or not.</li> </ul>


## 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 to the system.

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:									
		<table><tr><th>IP Device</th><th>Username</th><th>Password</th></tr><tr><td>IP Camera</td><td>Admin</td><td>1234</td></tr><tr><td>ONVIF</td><td>Admin</td><td>1234</td></tr></table>	IP Device	Username	Password	IP Camera	Admin	1234	ONVIF	Admin	1234
		IP Device	Username	Password							
		IP Camera	Admin	1234							
ONVIF	Admin	1234									
2	Auto Add	<p>The NVR system will automatically refresh and add detected IP devices to live view channel. Auto Add will also enable Auto Refresh function.</p> <p>Configure “Auto Refresh” before checking the “Auto Add” box to activate Auto Add function.</p> <div><p><b>NOTE</b></p><p>The system will not add new IP device when the number of connected devices reach the limit.</p></div>									
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.									

No.	Item	Description								
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.								
		<table><tr><th>IP Device</th><th>Definition</th></tr><tr><td>IPCAM-H.264</td><td>H.264 IP CAM/ PTZ</td></tr><tr><td>IPCAM-H.265</td><td>H.265 IP CAM/ PTZ</td></tr><tr><td>Onvif</td><td>Onvif IP CAM/ PTZ</td></tr></table>	IP Device	Definition	IPCAM-H.264	H.264 IP CAM/ PTZ	IPCAM-H.265	H.265 IP CAM/ PTZ	Onvif	Onvif IP CAM/ PTZ
		IP Device	Definition							
		IPCAM-H.264	H.264 IP CAM/ PTZ							
		IPCAM-H.265	H.265 IP CAM/ PTZ							
Onvif	Onvif IP CAM/ PTZ									
6	Clear All Device	<ul style="list-style-type: none"><li>Click <b>Clear All Device</b> at the bottom-right corner of the monitor, and the NVR will remove all connected IP devices.</li></ul>								
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.								





### 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.

## NVR Setup

### Add Device

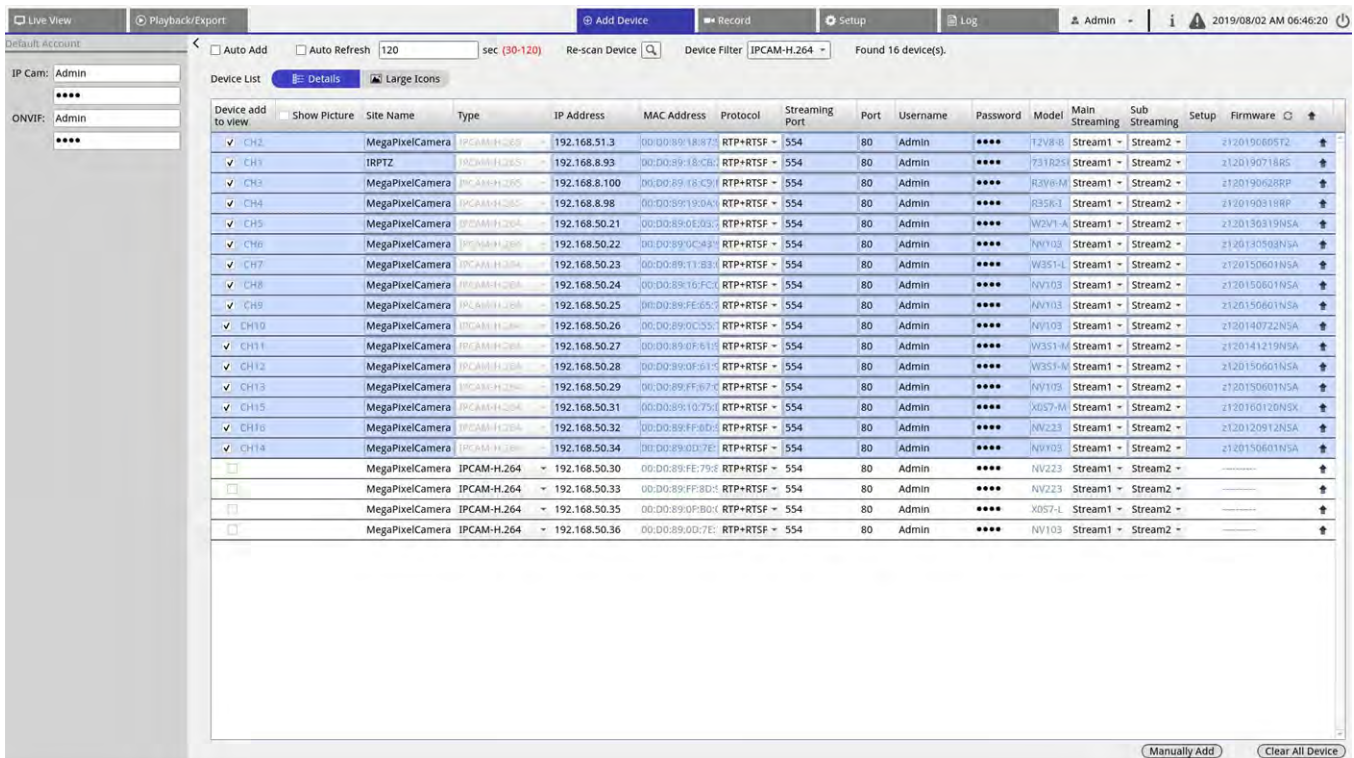
- Large Icons  **Large Icons** : System will display brief information of IP devices with preview.

#### NOTE

If the preview grid shows “Not Supported” or “No snapshot”, the selected IP camera does not support the preview function.

## Main/ Sub Streaming Setup

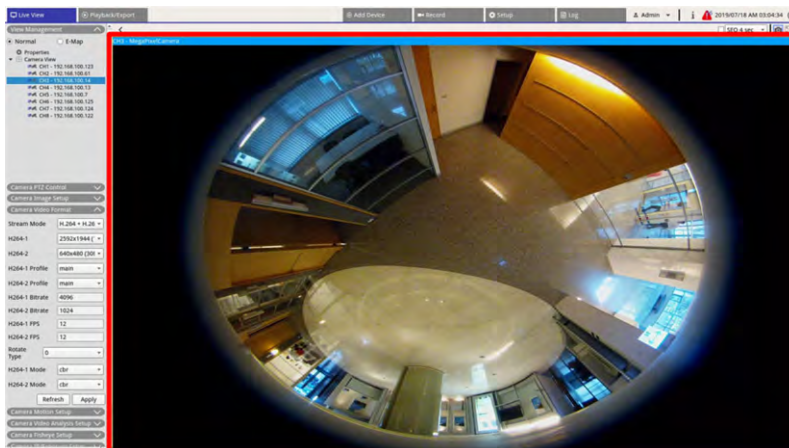
The NVR system supports advanced dual-stream settings of each connected camera. Users can choose which live stream to watch under Full-Screen or Multiple-Channel view mode.



The screenshot displays the NVR Setup interface with the 'Device List' tab selected. The table lists 16 devices, including various camera models and their streaming configurations.

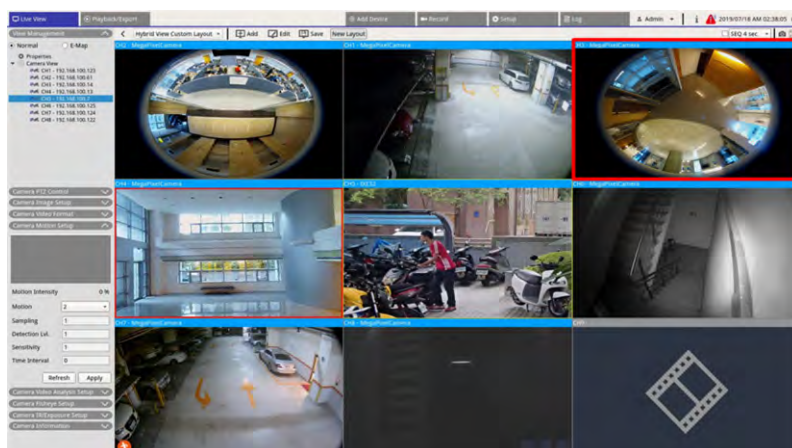
Device add to view	Show Picture	Site Name	Type	IP Address	MAC Address	Protocol	Streaming Port	Port	Username	Password	Model	Main Streaming	Sub Streaming	Setup	Firmware
✓ CH2		MegaPixelCamera	IPCAM-H.265	192.168.51.3	00:0D:89:18:77:7	RTP+RTSP	554	80	Admin	****	T2V8-W	Stream1	Stream2		2120150605T2
✓ CH3		IRPTZ	IPCAM-H.265	192.168.8.93	00:0D:89:18:C9:1	RTP+RTSP	554	80	Admin	****	T31R2S	Stream1	Stream2		2120190718R5
✓ CH3		MegaPixelCamera	IPCAM-H.265	192.168.8.100	00:0D:89:18:C9:1	RTP+RTSP	554	80	Admin	****	R3V8-M	Stream1	Stream2		2120190628R6
✓ CH4		MegaPixelCamera	IPCAM-H.265	192.168.8.98	00:0D:89:18:0A:1	RTP+RTSP	554	80	Admin	****	R35K-1	Stream1	Stream2		2120190318R6
✓ CH5		MegaPixelCamera	IPCAM-H.265	192.168.50.21	00:0D:89:0E:03:1	RTP+RTSP	554	80	Admin	****	W2V1-A	Stream1	Stream2		2120130319H5A
✓ CH6		MegaPixelCamera	IPCAM-H.265	192.168.50.22	00:0D:89:0C:43:1	RTP+RTSP	554	80	Admin	****	NV103	Stream1	Stream2		2120130503N5A
✓ CH7		MegaPixelCamera	IPCAM-H.265	192.168.50.23	00:0D:89:11:83:1	RTP+RTSP	554	80	Admin	****	W351-L	Stream1	Stream2		2120150601N5A
✓ CH8		MegaPixelCamera	IPCAM-H.265	192.168.50.24	00:0D:89:10:FC:1	RTP+RTSP	554	80	Admin	****	NV103	Stream1	Stream2		2120150601N5A
✓ CH9		MegaPixelCamera	IPCAM-H.265	192.168.50.25	00:0D:89:FE:65:1	RTP+RTSP	554	80	Admin	****	NV103	Stream1	Stream2		2120150601N5A
✓ CH10		MegaPixelCamera	IPCAM-H.265	192.168.50.26	00:0D:89:0C:35:1	RTP+RTSP	554	80	Admin	****	NV103	Stream1	Stream2		2120140722N5A
✓ CH11		MegaPixelCamera	IPCAM-H.265	192.168.50.27	00:0D:89:0F:61:1	RTP+RTSP	554	80	Admin	****	W351-M	Stream1	Stream2		2120141219N5A
✓ CH12		MegaPixelCamera	IPCAM-H.265	192.168.50.28	00:0D:89:0F:61:1	RTP+RTSP	554	80	Admin	****	W351-M	Stream1	Stream2		2120150601N5A
✓ CH13		MegaPixelCamera	IPCAM-H.265	192.168.50.29	00:0D:89:FF:67:1	RTP+RTSP	554	80	Admin	****	NV103	Stream1	Stream2		2120150601N5A
✓ CH15		MegaPixelCamera	IPCAM-H.265	192.168.50.31	00:0D:89:10:75:1	RTP+RTSP	554	80	Admin	****	X057-M	Stream1	Stream2		2120160120N5X
✓ CH16		MegaPixelCamera	IPCAM-H.265	192.168.50.32	00:0D:89:FF:8D:1	RTP+RTSP	554	80	Admin	****	NV223	Stream1	Stream2		2120120912N5A
✓ CH14		MegaPixelCamera	IPCAM-H.265	192.168.50.34	00:0D:89:0D:7E:1	RTP+RTSP	554	80	Admin	****	NV103	Stream1	Stream2		2120150601N5A
		MegaPixelCamera	IPCAM-H.264	192.168.50.30	00:0D:89:FE:79:1	RTP+RTSP	554	80	Admin	****	NV223	Stream1	Stream2		
		MegaPixelCamera	IPCAM-H.264	192.168.50.33	00:0D:89:FF:8D:1	RTP+RTSP	554	80	Admin	****	NV223	Stream1	Stream2		
		MegaPixelCamera	IPCAM-H.264	192.168.50.35	00:0D:89:0F:8D:1	RTP+RTSP	554	80	Admin	****	X057-L	Stream1	Stream2		
		MegaPixelCamera	IPCAM-H.264	192.168.50.36	00:0D:89:0D:7E:1	RTP+RTSP	554	80	Admin	****	NV103	Stream1	Stream2		

- Main Streaming: This streaming is used for Full-Screen view on **Live View** tab (Default Streaming Source: Stream 1).





- Sub Streaming: This streaming is used for Multi-Channel view on **Live View** tab (Default Streaming Source: Stream 2).




## 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  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.



# Record

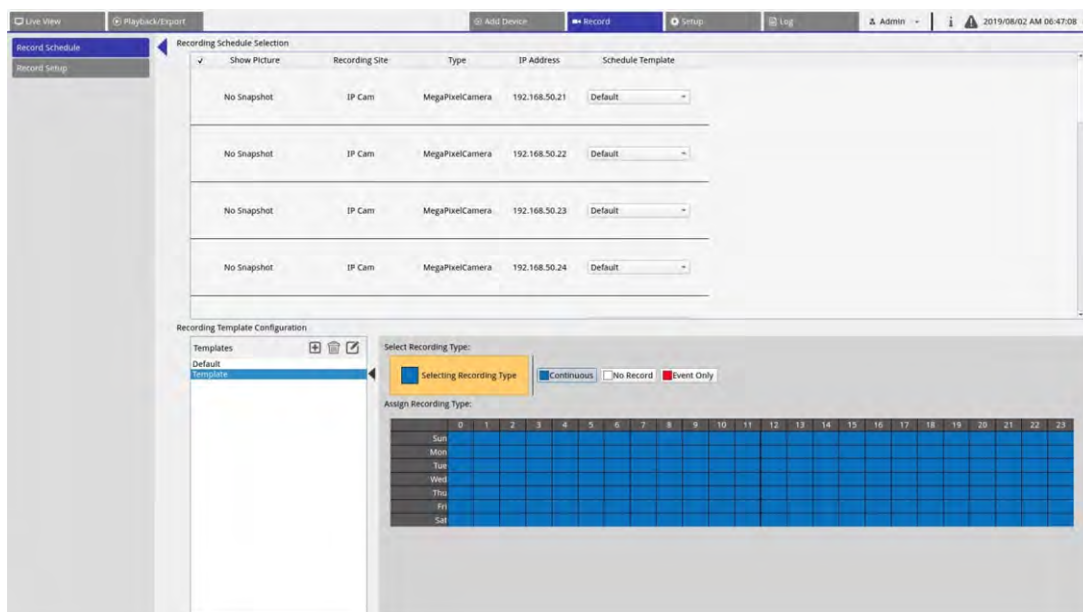
The Record setup menu allows users to set recording schedules. Please read the instructions for further information regarding how to setup the recording schedule and event settings of each connected IP camera.

## NOTE

Refer to the previous section Event Management for event setup.

## Record Schedule

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

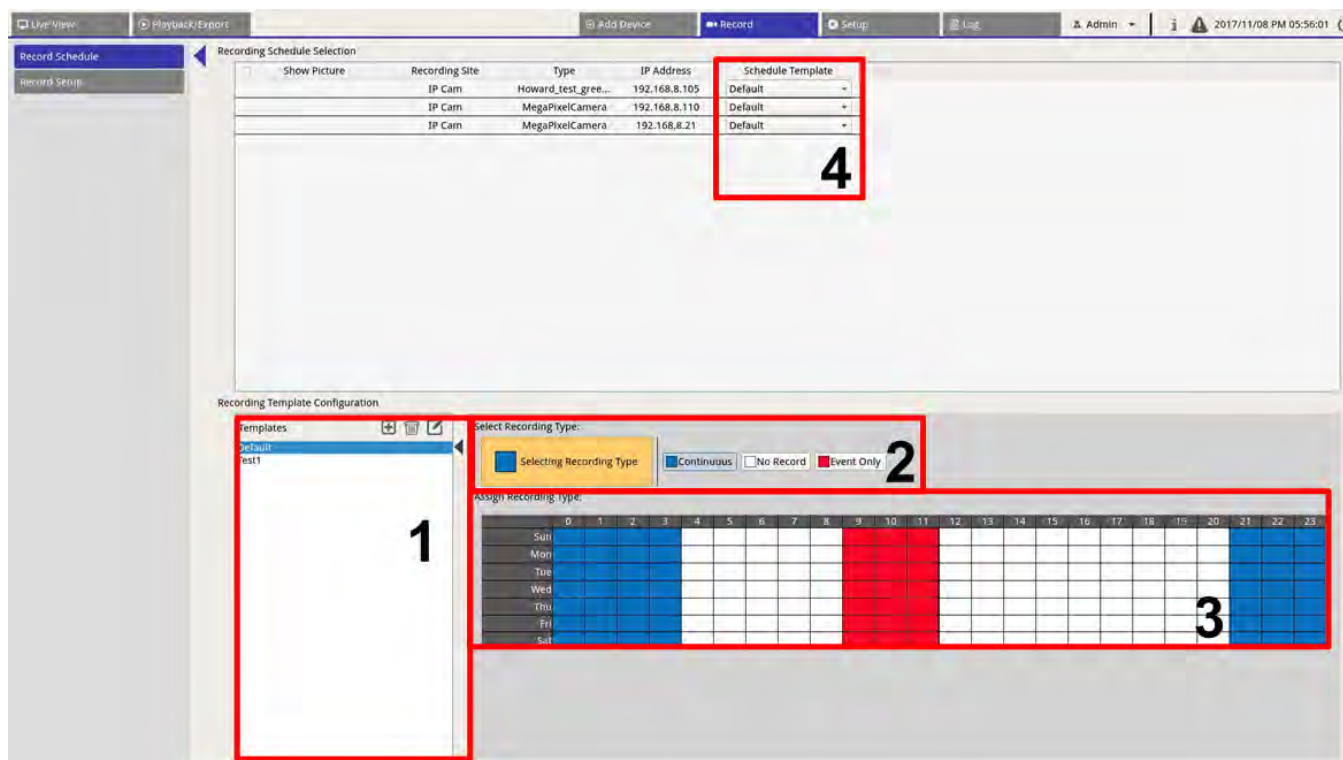


### Add / Remove / Rename a Recording Template

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”.

## Record 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.

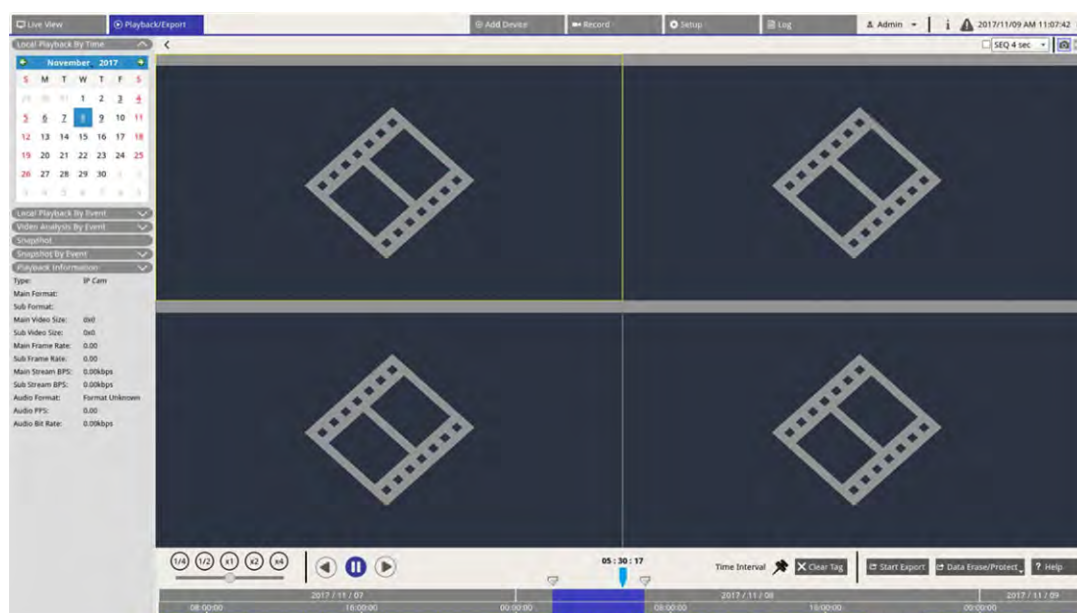
2. Pre-Alarm Recording: Include recorded video before alarm triggers. The setting duration is between 0 to 120 seconds (0 will disable pre-alarm recording).

**NOTE**

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

# 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.



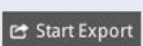


## Playback Control Bar

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



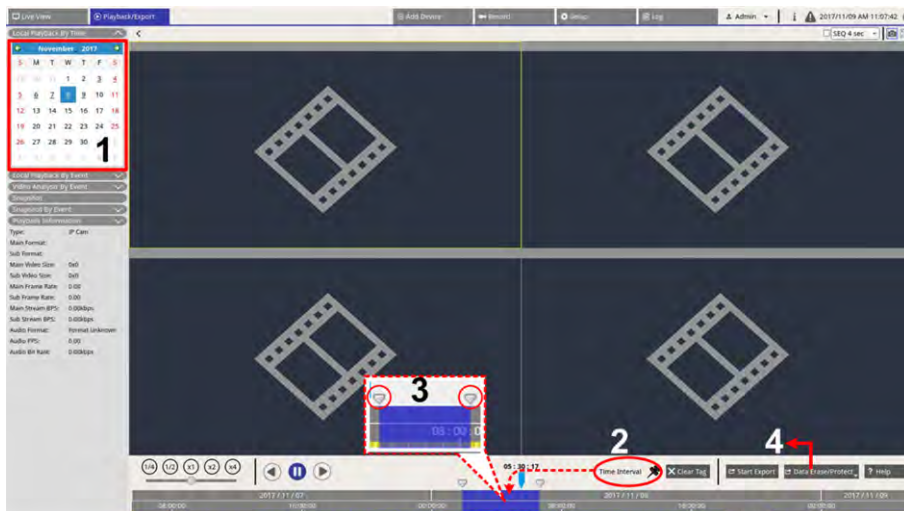
Item	Description
Playback Speed	Click and drag the slider control bar to select playback speed from x1/4, x1/2, x1, x2 or x4.
Rewind	Click ⏮ to reverse playback recorded videos.
Pause	Click ⏸ to pause the playback.
Play	Click ⏪ to start playback recorded videos.





Item	Description
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  to clear the time tag set on the time bar.
Start Export	Click  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  and select  Protection.
5. Click **OK** after the confirmation message for data protection pops up.

The Data Erase/Protect icon will turn light blue , 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  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

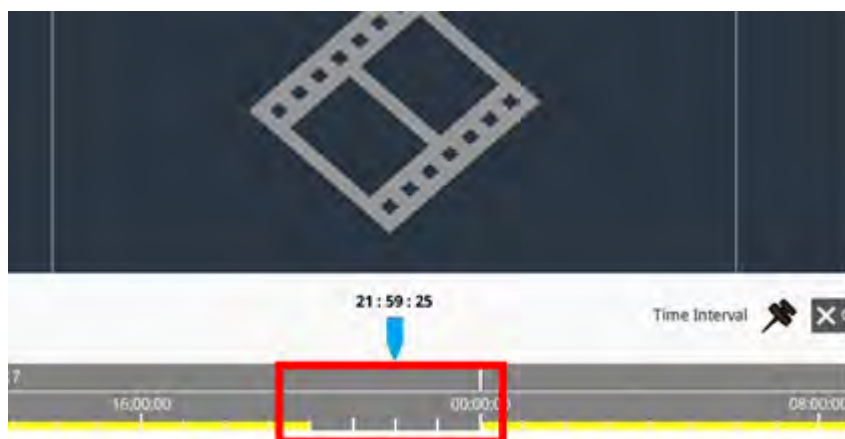
1. Click  and select  **Protection List**. All protected data will be listed in the Protection List.
2. Click  of the selected data item, and click **OK** after the confirmation window appears to cancel data protection.

#### 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.




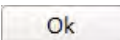
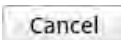


## Set Data Bookmarked





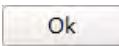
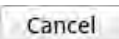
Follow the steps to bookmark a section of recorded data.

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

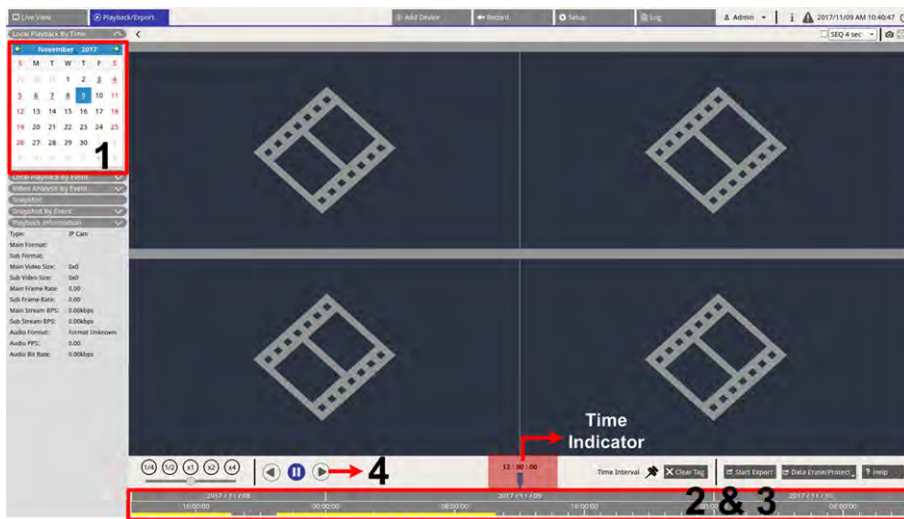
1. Click  Data Erase/Protect and select  Bookmark to display the Bookmark list.
2. Click  to play bookmarked video.
3. To delete bookmark, click  and click  Ok after confirmation window pops-up to delete the bookmark, or click  Cancel to stop.

# 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

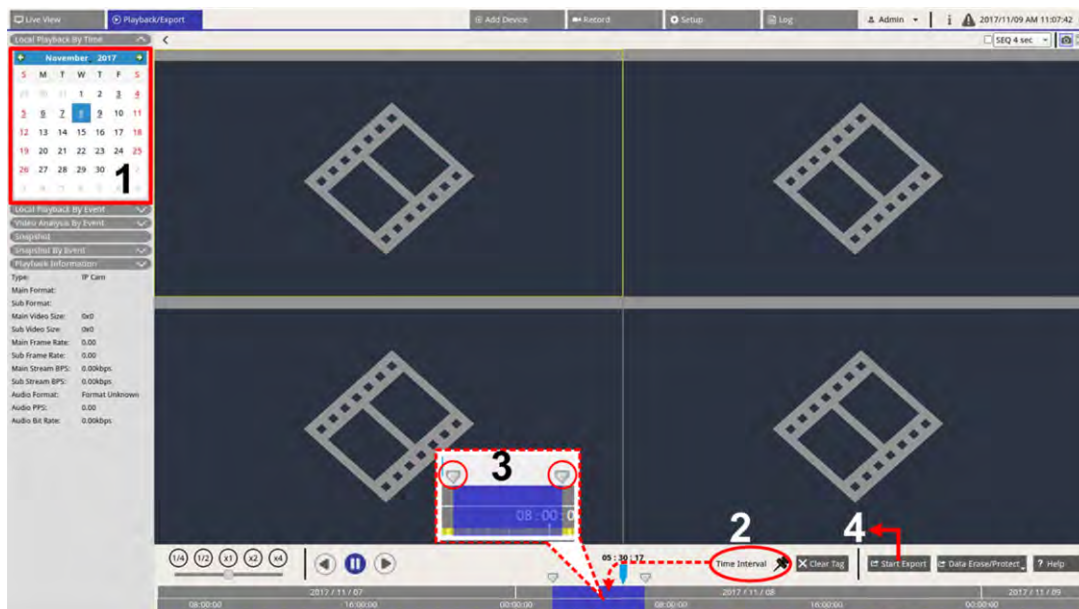
Select **Local Playback By Time** and follow the steps to search and playback preferred recorded videos.





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.
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.



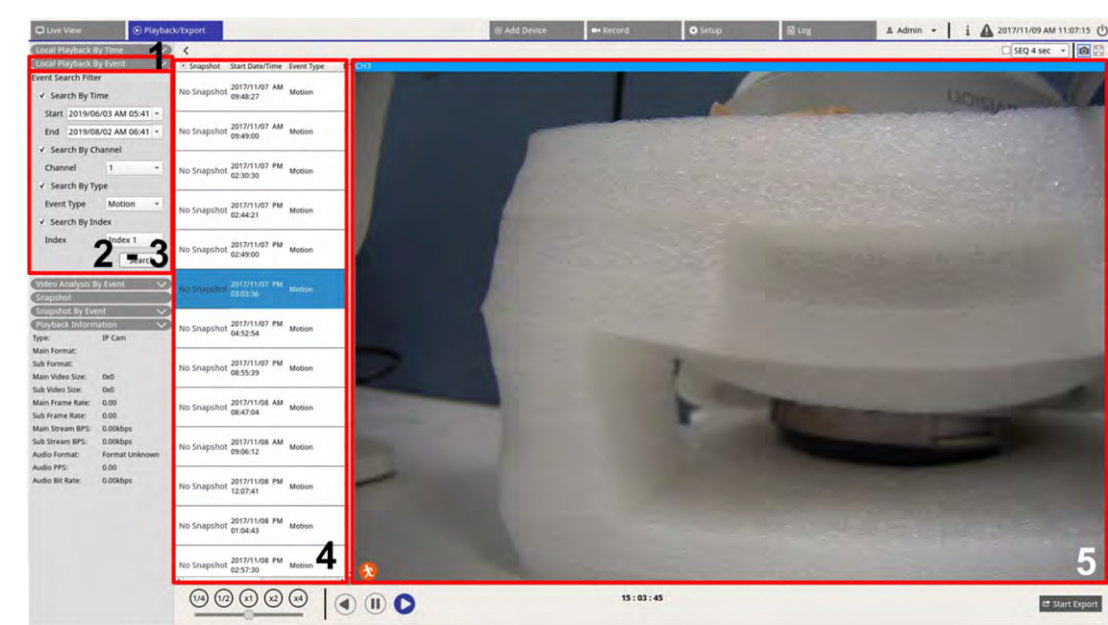
1. Select preferred underlined date from the calendar. The time bar will display the available recording data of each channel.
2. Click and drag the Time Interval icon  and drop it to the time bar to select preferred time interval.
3. Adjust preferred time segment by moving the Time Range Adjustment 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.
5. Select and check preferred channel boxes to export videos.
6. Select preferred external storage device.
7. Choose the video format for exported video. The provided video formats include \*.avi, \*.raw, \*.mp4, \*.mkv and \*.mov.
8. Click **Confirm** to export the video, or click **Cancel** to stop.
9. 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. 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 (**Local Playback By Event Only**).
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.

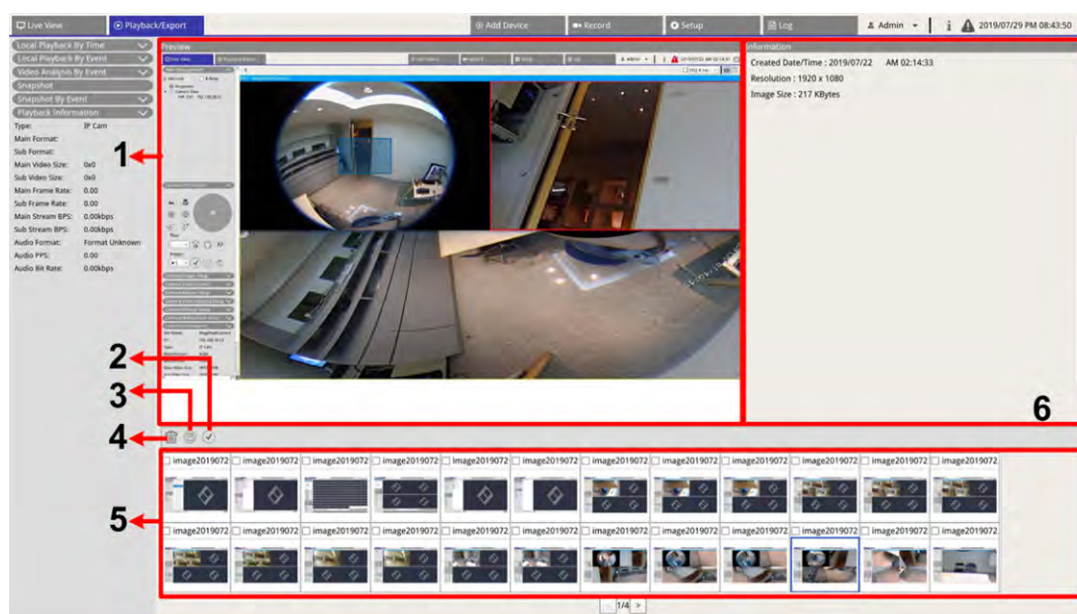
## Export Event Videos



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.

## View / Export Snapshots

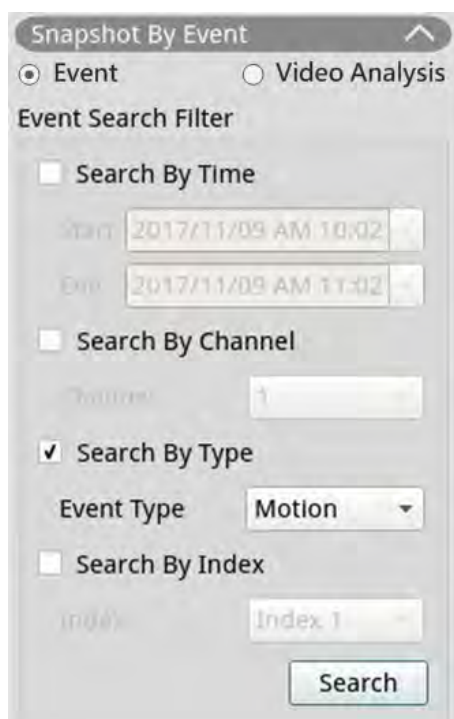
The NVR system can capture the current viewing either in Live View or during the playback. All captured images are available in **Snapshots** and event snapshots are available in **Snapshot By Event**.



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, Object Abandoned, 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  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.

Select Device

Device Name	Free Size / Total Size
<input checked="" type="radio"/> xxx USB Flash Drive	7487 MB / 7492 MB
<input type="radio"/> xxx USB Flash Drive	3842 MB / 3844 MB

Export Data


3 files (s)

Confirm

Cancel

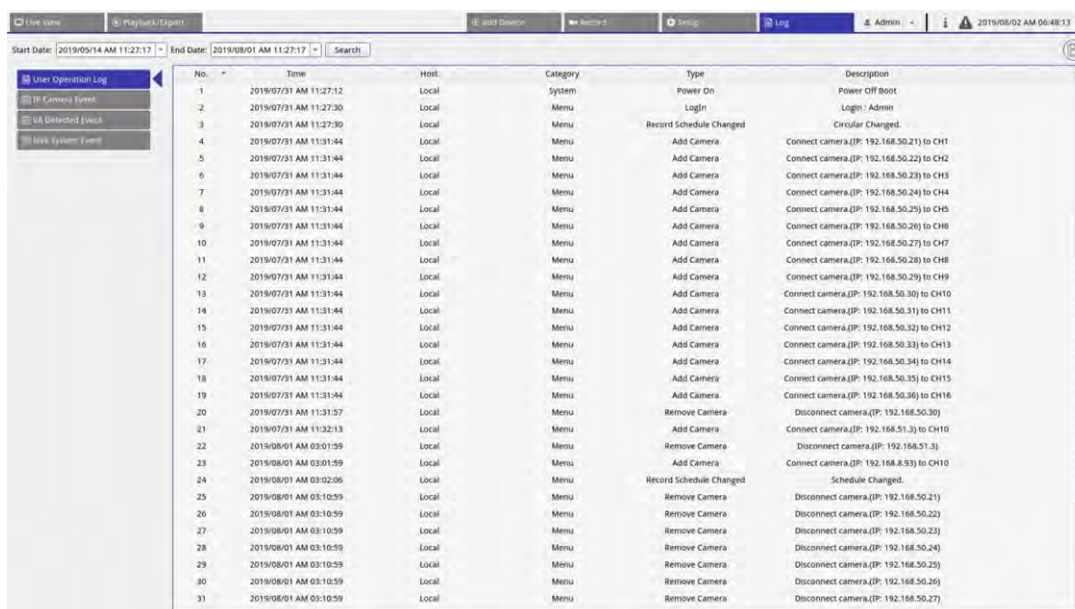
3. All connected USB external storage and Cloud Storage will be listed under Select Device for users to choose preferred file destination. Number of selected file(s) pending on export will be listed under Export Data.



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.

# Log

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



The screenshot shows the 'Log' function tab interface. On the left, there is a sidebar with four categories: 'User Operation Log' (selected), 'IP Camera Event', 'VA Detected Event', and 'NVR System Event'. The main area displays a table of log data with the following columns: No., Time, Host, Category, Type, and Description. The table contains 31 entries, starting from 2019/07/31 AM 11:27:12 and ending at 2019/08/01 AM 03:10:59. The log entries include events such as 'Power Off Boot', 'Login: Admin', 'Record Schedule Changed', 'Add Camera', 'Remove Camera', and 'Schedule Changed'.

No.	Time	Host	Category	Type	Description
1	2019/07/31 AM 11:27:12	Local	System	Power On	Power Off Boot
2	2019/07/31 AM 11:27:30	Local	Menu	Login	Login: Admin
3	2019/07/31 AM 11:27:30	Local	Menu	Record Schedule Changed	Circular Changed
4	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.21) to CH1
5	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.22) to CH2
6	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.23) to CH3
7	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.24) to CH4
8	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.25) to CH5
9	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.26) to CH6
10	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.27) to CH7
11	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.28) to CH8
12	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.29) to CH9
13	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.30) to CH10
14	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.31) to CH11
15	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.32) to CH12
16	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.33) to CH13
17	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.34) to CH14
18	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.35) to CH15
19	2019/07/31 AM 11:31:44	Local	Menu	Add Camera	Connect camera(IP: 192.168.50.36) to CH16
20	2019/07/31 AM 11:31:57	Local	Menu	Remove Camera	Disconnect camera(IP: 192.168.50.30)
21	2019/07/31 AM 11:32:13	Local	Menu	Add Camera	Connect camera(IP: 192.168.51.3) to CH18
22	2019/08/01 AM 03:01:59	Local	Menu	Remove Camera	Disconnect camera(IP: 192.168.51.3)
23	2019/08/01 AM 03:01:59	Local	Menu	Add Camera	Connect camera(IP: 192.168.51.3) to CH18
24	2019/08/01 AM 03:02:06	Local	Menu	Record Schedule Changed	Schedule Changed
25	2019/08/01 AM 03:10:59	Local	Menu	Remove Camera	Disconnect camera(IP: 192.168.50.21)
26	2019/08/01 AM 03:10:59	Local	Menu	Remove Camera	Disconnect camera(IP: 192.168.50.22)
27	2019/08/01 AM 03:10:59	Local	Menu	Remove Camera	Disconnect camera(IP: 192.168.50.23)
28	2019/08/01 AM 03:10:59	Local	Menu	Remove Camera	Disconnect camera(IP: 192.168.50.24)
29	2019/08/01 AM 03:10:59	Local	Menu	Remove Camera	Disconnect camera(IP: 192.168.50.25)
30	2019/08/01 AM 03:10:59	Local	Menu	Remove Camera	Disconnect camera(IP: 192.168.50.26)
31	2019/08/01 AM 03:10:59	Local	Menu	Remove Camera	Disconnect camera(IP: 192.168.50.27)

## Search Log Data

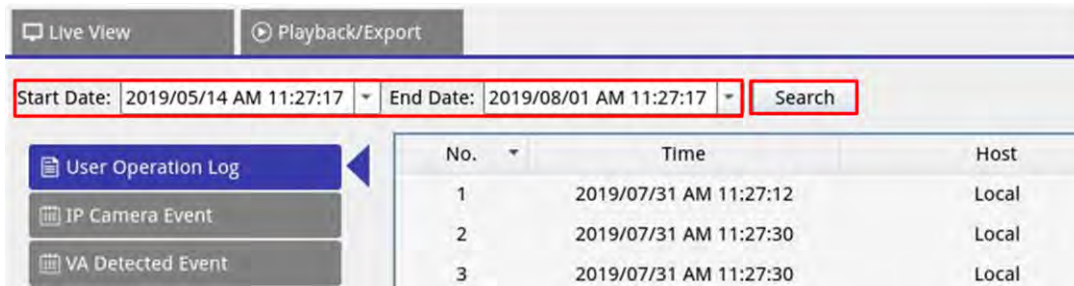
The NVR divides log data into four categories, User Operation Log, IP Camera Event Log, VA Detected Event Log, and NVR System Event Log. Select preferred log category on the left of the Log tab to view corresponding log data. To search preferred log data, please refer to the following sections according to selected log category.

## Search User Operation/NVR System Event 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.

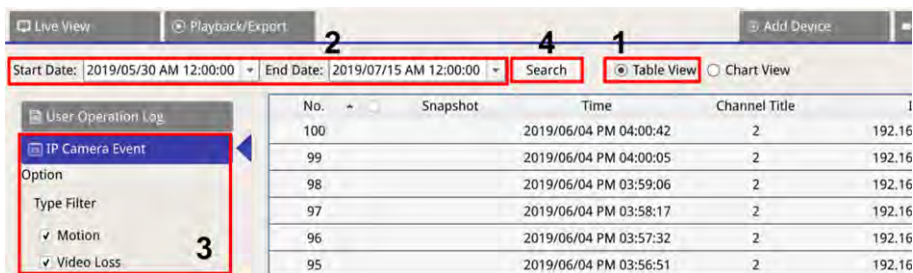
- Click  and the system will search and list the log data within the set time.

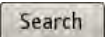


## Search IP Camera Event Log

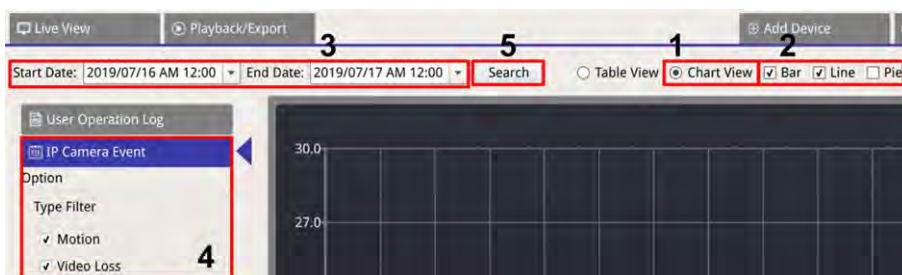
This log provides two types of data view modes: Table View and Chart View. Please follow the steps to search and view the preferred log data.

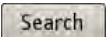
### Table View



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

### Chart View

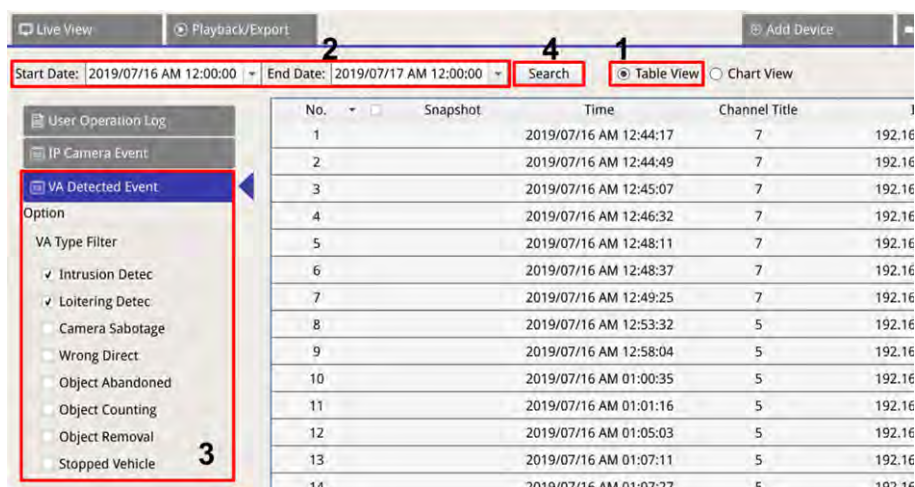


1. Choose Chart View on the top of the function tab.
2. Select the chart type. Check preferred type box to see the log data. The chart type options include: Bar, Line, and Pie chart. If needed, users can check both Bar and Line type boxes to view a Bar-Line combination chart.
3. Assign Start and End Date on the top-left of the function tab to find the log data within selected time range (Maximum Time Range: 30 days).
4. Select IP camera Event type and enable the preferred type box to see related information. Event type options include: **Motion**, **Video Loss**, and **Alarm**.
5. Click , and the NVR will search and list the recorded event log data within the set time.

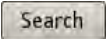
## Search VA Detected Event Log

This log provides two types of data view modes: Table View and Chart View. Please follow the steps to search and view the preferred log data.

### Table View



No.	Snapshot	Time	Channel Title
1		2019/07/16 AM 12:44:17	7 192.16
2		2019/07/16 AM 12:44:49	7 192.16
3		2019/07/16 AM 12:45:07	7 192.16
4		2019/07/16 AM 12:46:32	7 192.16
5		2019/07/16 AM 12:48:11	7 192.16
6		2019/07/16 AM 12:48:37	7 192.16
7		2019/07/16 AM 12:49:25	7 192.16
8		2019/07/16 AM 12:53:32	5 192.16
9		2019/07/16 AM 12:58:04	5 192.16
10		2019/07/16 AM 01:00:35	5 192.16
11		2019/07/16 AM 01:01:16	5 192.16
12		2019/07/16 AM 01:05:03	5 192.16
13		2019/07/16 AM 01:07:11	5 192.16
14		2019/07/16 AM 01:07:27	5 192.16

1. Choose **Table View** on the top of the function tab.
2. Assign Start and End Date on the top-left of the function tab to find the log data within selected time range.
3. Select VA Detected Event type and enable the preferred VA type box to see related information. VA event type options include: **Intrusion Detection**, **Loitering Detection**, **Camera Sabotage**, **Wrong Direction**, **Object Abandoned**, **Object Counting**, **Object Removal**, and **Stopped Vehicle**.
4. Click , and the NVR will search and list the recorded VA detected event log data within the set time.

## Chart View



1. Choose **Chart View** on the top of the function tab.
2. 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.
3. 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).
4. Select VA Detected Event type and enable the preferred VA type box to see related information. VA event type options include: **Intrusion Detection**, **Loitering Detection**, **Camera Sabotage**, **Wrong Direction**, **Object Abandoned**, **Object Counting**, **Object Removal**, and **Stopped Vehicle**.
5. Click **Search**, and the NVR will search and list the recorded VA detected event log data within the set time.

## 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.

# Imprint

This document is part of the camera manufactured by MOBOTIX AG (called manufacturer in the following); the document describes how to use and to configure the camera and its components.

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## Support

See [Support](#), p. 5.