Network Video Recorder User Manual

Web Settings

Version: V6.3

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Chapter 1. Safety Regulatory

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss. The precaution measures are divided into “Warnings” and “Cautions”

Warnings: Serious injury or death may be caused if any of these warnings is neglected.

- This installation must be conducted by a qualified service person and should strictly comply with the electrical safety regulations of the local region
- To avoid risk of fire and electric shock, do keep the product away from rain and moisture before installed.
- Do not touch components such as heat sinks, power regulators, and processors, which may be hot
- Source with DC/AC 12V or PoE
- Please make sure the plug is firmly inserted into the power socket
- When the product is installed on a wall or ceiling, the device should be firmly fixed
- If the product does not work properly, please contact your dealer. Never attempt to disassemble the camera by yourself

Cautions: Injury or equipment damage may be caused if any of these cautions are neglected.

- Make sure that the power supply voltage is correct before using the camera
- Do not store or install the device in extremely hot or cold temperatures, dusty or damp locations, and do not expose it to high electromagnetic radiation
- Only use components and parts recommended by manufacturer
- Do not drop the camera or subject it to physical shock
- To prevent heat accumulation, do not block air circulation around the camera
- Laser beams may damage image sensors. The surface of image sensors should not be exposed to where a laser beam equipment is used
- Use a blower to remove dust from the lens cover
- Use a soft, dry cloth to clean the surface of the camera. Stubborn stains can be removed using a soft cloth dampened with a small quantity of detergent solution, then wipe dry
- Do not use volatile solvents such as alcohol, benzene or thinners as they may damage the surface finishes
- Save the package to ensure availability of shipping containers for future transportation

Chapter 2. Product Introduction

2.1 Introduction

Based on embedded Linux operation system, Milesight NVR Series manages and stores HD video data. It owns multi-disk management systems, front end HD device management system, HD video analysis system and high-capacity system for video. Also, it adopts the technology of high flow capacity data network transmitting&transmission, with multi-channel video decoding, to achieve functions like intelligent management, safe storage, HD decoding, etc.

2.2 Product Key Functions

Basic Information

- Milesight NVR Series includes **NVR Series** (Mini NVR 1000 Series, Pro NVR 5000 Series, Pro NVR 7000 Series, Pro NVR 8000 Series), and **PoE NVR Series** (Mini PoE NVR 1000 Series, PoE NVR 5000 Series and PoE NVR 7000 Series), which can work with Milesight network cameras and connect with third party network cameras that support ONVIF.

Monitoring

- Support displaying Event Detection Region and the detection frame to track the target.
- Support batch IP editing, setting camera's video parameters and record schedule.
- Support motion detection and video loss alert.
- Support various PTZ protocols and PTZ operations such as preset, patrol, etc.
- Support 3D positioning control for the PTZ Camera Series and Fisheye Camera Series.
- Support the configuration of privacy mask of camera.
- Support the configuration of Milesight PTZ cameras' Privacy Mask.
- Support OSD title and date configuration.
- Support setting view to Original or Resize.
- Support playback on slave NVR when Milesight N+1 Hot Spare is enabled.
- Support the setting of Frame Rate and Bit Rate of different Record Stream Types separately according to the actual situation to achieve bandwidth saving.
- Support both Bundle-stream Mode and Multi-stream Mode of fisheye channels.
- Support Two-way Audio.

HDD Management

- Support hard disk and NAS storage.
- Support S.M.A.R.T technology.

- Support RAID, Group management and Storage Quota.
- Support to set HDD property, including read-only and read/write.
- Support eSATA disk for recording or backup of NVR Pro 8000 Series.

Recording/Snapshot and Playback

- Support ANR (Automatic Network Replenishment) for replenishing the recording gap due to internet interruptions.
- Support Transcoding for remote playback.
- Support recording with Primary Stream, Secondary Stream and Primary + Secondary Stream.
- Support General Playback, Event Playback, Tag Playback, Split Playback and Picture Playback.
- Support to tag and lock video.
- Support holiday schedule.
- Support recycle and non-recycle recording mode.
- Support 12 recording time periods with separate recording types.
- Support pre-record and post-record time setting for motion detection, alarm and VCA recording. And support pre-record setting for manual and schedule recording.
- Support recording/snapshot manually.
- Support digital zoom function at arbitrary area in playback.
- Support pause, rewind, fast play, slow play, skip forward and skip backward when playback, locating in progress bar by dragging the mouse.
- Support up to 128x fast forward playback.
- Support the recording and snapshot in the channels where the events triggered.
- Support Smart Search in Playback.

Backup

- Support N+1 Hot Spare.
- Support Common Backup, Event Backup and Picture Back in Retrieve interface.
- Support export video files or snapshot to USB and eSATA device.
- Support Auto Backup function.
- Support backup device maintenance and management.

Alarm & Exception

- Support motion detection configure and alarm.
- Support video loss alarm, alarm input and alarm output.
- Support Network Disconnected/Disk Full/Record Failed/Disk Error/Disk Uninitialized/No Disk alarms.
- Support VCA alarm, including Region Entrance, Region Exiting, Advanced Motion Detection, Tamper Detection, Line Crossing, Loitering, Human Detection, and Object Left/Removed.
- Support various alarm response such as audible warning, sending email, recording, PTZ action and on/off relay out.
- Support the Picture Attached function for Email Linkage Alarm Action.

- Support Smart Analysis, including ANPR, Face Detection, People Counting, Heat Map and POS.

Network

- Built-in WEB Server.
- Equipped with PoE ports for PoE cameras(only available for PoE NVR).
- Support remote search, playback and download of video files.
- Support remote acquiring and configuring of parameters.
- Support remote import and export of device parameters.
- Support Milesight Cloud.
- Support P2P remote access.
- Support IPv4/IPv6, TCP, UDP, RTP, RTSP, RTCP, HTTP, HTTPS, DNS, DDNS, DHCP, NTP, SNTP, SMTP, SNMP, UPnP.
- Support remote acquiring of device status, system log and alarm status.
- Support remote operate system maintenance by initialize hard disk, add NAS, upgrade firmware and auto reboot, etc.
- Support upload alarm and exceptions to remote host.
- Support remote manual start or stop of recording.
- Support remote manual start or stop of alarm output.
- Support remote BMP image capturing.
- Support remote PTZ control.
- Support keyboard control.

Other Functions

- Support multi-level user management, administrator can create multiple users with access rights.
- Support operating and configuring information import/export.
- Support auto reboot.
- Support CGI for Windows and Linux system.
- Support Plugin-Free mode.

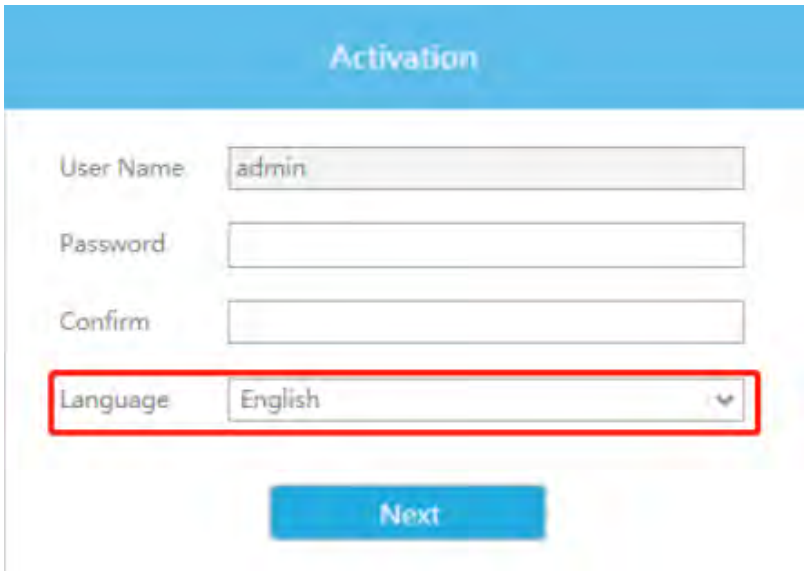
Chapter 3. Web Settings

3.1 Overview

3.1.1 Account Setting

Note: Only the NVR firmware version xx.9.0.3 or above supports account activation.

Step1. Set password to active admin account.



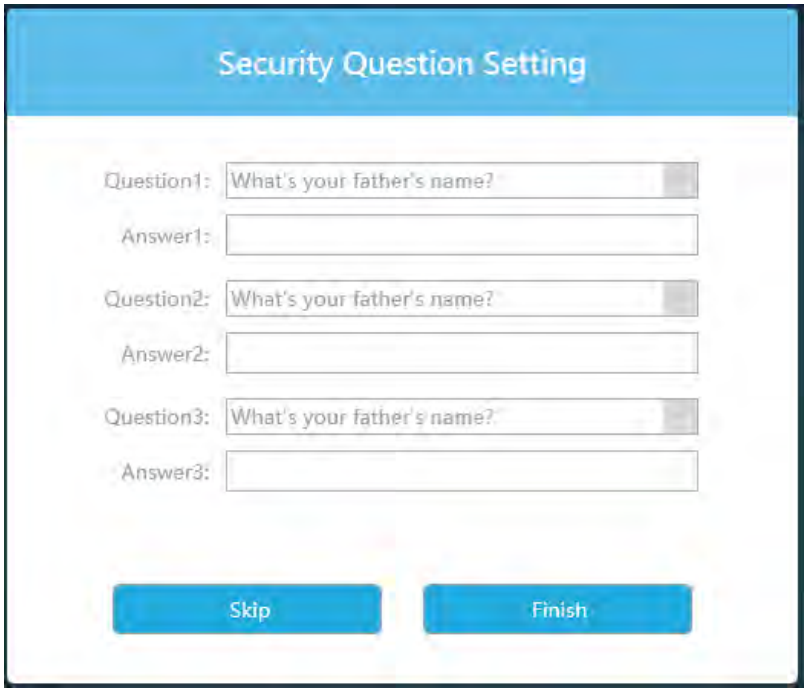
Note:

1. Password must be 8 to 32 characters long.
2. Password must contain at least one number and one letter.
3. You can also choose the system language on the activation interface.

Step2. Set security questions which are used for resetting password to finish account setting.

10 questions are provided, you can select any one to set answer. Beside, customized question is available.

If you skip this step, you can also set it again in Setting -> User interface.



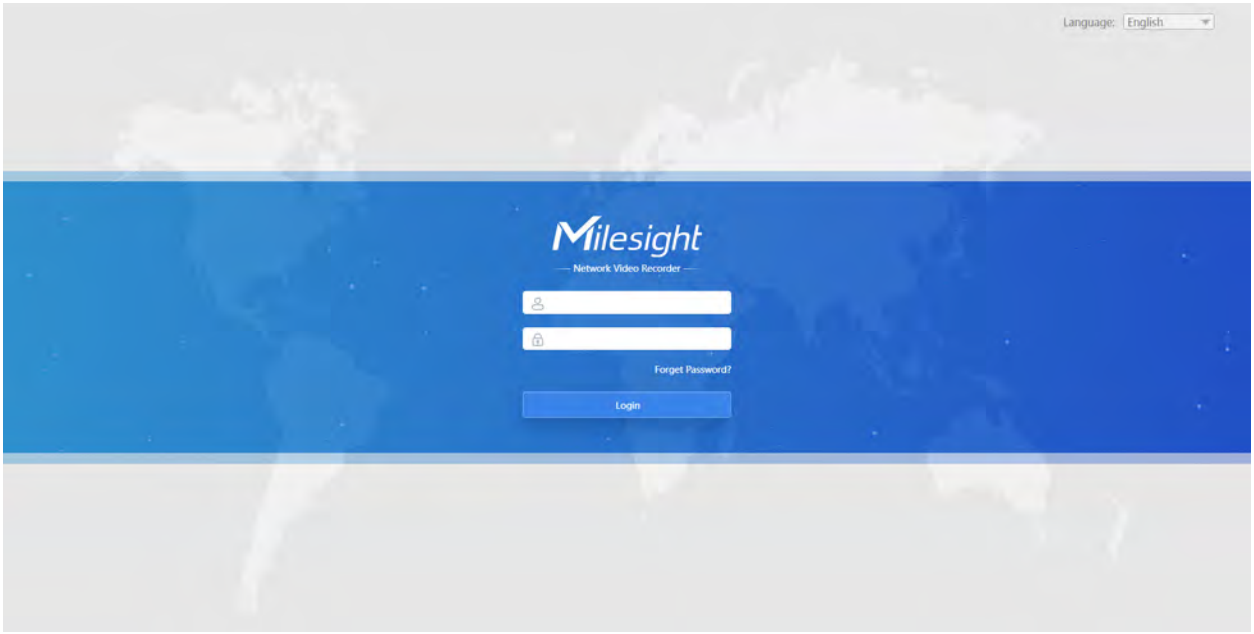
3.1.2 Login

Step1: Select Language on the top-right of interface.

Step2: Input the user name, password and click "Login" button to log in to NVR web page.

Note:

- If the NVR firmware version is below xx.7.0.6, the default user name is “admin” and the default password is “123456”.
- If the NVR firmware version is between xx.7.0.6 and xx.9.0.3, the default user name is “admin” and the default password is “ms1234”.
- If the NVR firmware version is xx.9.0.3 or above, please set the password before login.
- The account will be locked if the password is entered incorrectly for four times.
- If you forget the password, click Forget Password? to reset password (Only the NVR firmware version xx.9.0.3 or above supports this.).



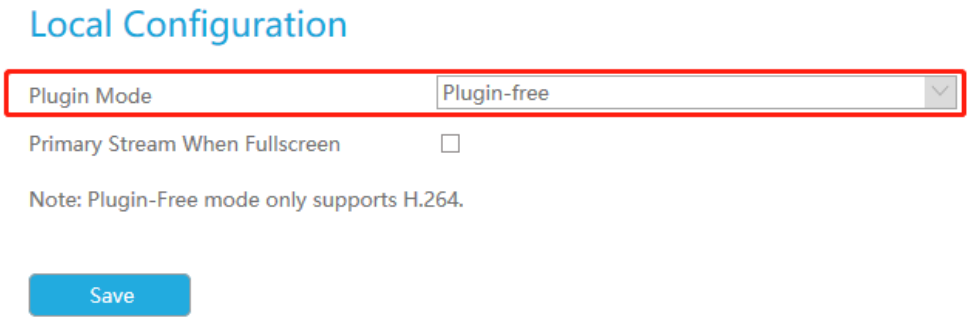
Step3: The NVR Web page can be used with the most standard operating systems and browsers.

If the NVR version is V7x.9.0.4 or above, Plugin-Free Mode is supported on the NVR. You can preview the video on the browser without plugin. For Windows system, Plugin-Free mode is supported in Chrome/Firefox/Microsoft Edge browser. For MAC system, Plugin-Free mode is supported in Chrome/Firefox/Safari browser.

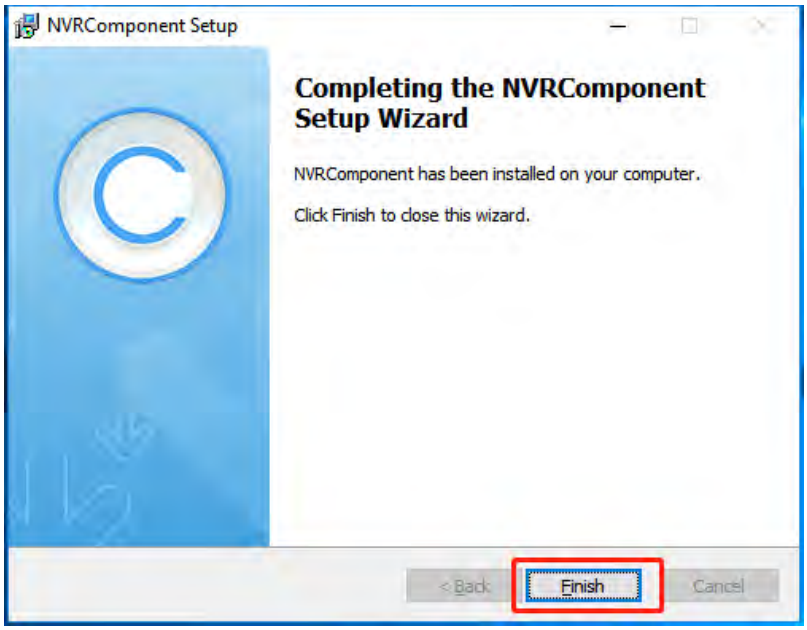
Note:

- If the firmware version of NVR is below V7x.9.0.14, only H.264 video codec is supported on Plugin-Free Mode for NVR. For better user experience, we recommend that you set the "profile" option to "main" on the camera.
- If the firmware version of NVR is V7x.9.0.14 or above, H.265 video codec is supported on Plugin-Free Mode for NVR.

- Plugin-Free mode is only supported when Chrome version is above V45, Firefox version is above V52, Microsoft Edge version is above V11 and Safari version is above V11.
- When you use plugin-free mode, it will display “Plugin-Free” mode in “Settings” - “Local Configuration” interface.



If the NVR version is below V7x.9.0.4, the browser will prompt to install the plugin when first logging in the device. You can click "Download the plugin for NVR" to download the plugin for NVR. Please click "Finish" and refresh the browser, then you will see the video.



Note: During installing the plugin, please keep the browsers close.

3.1.3 Menu

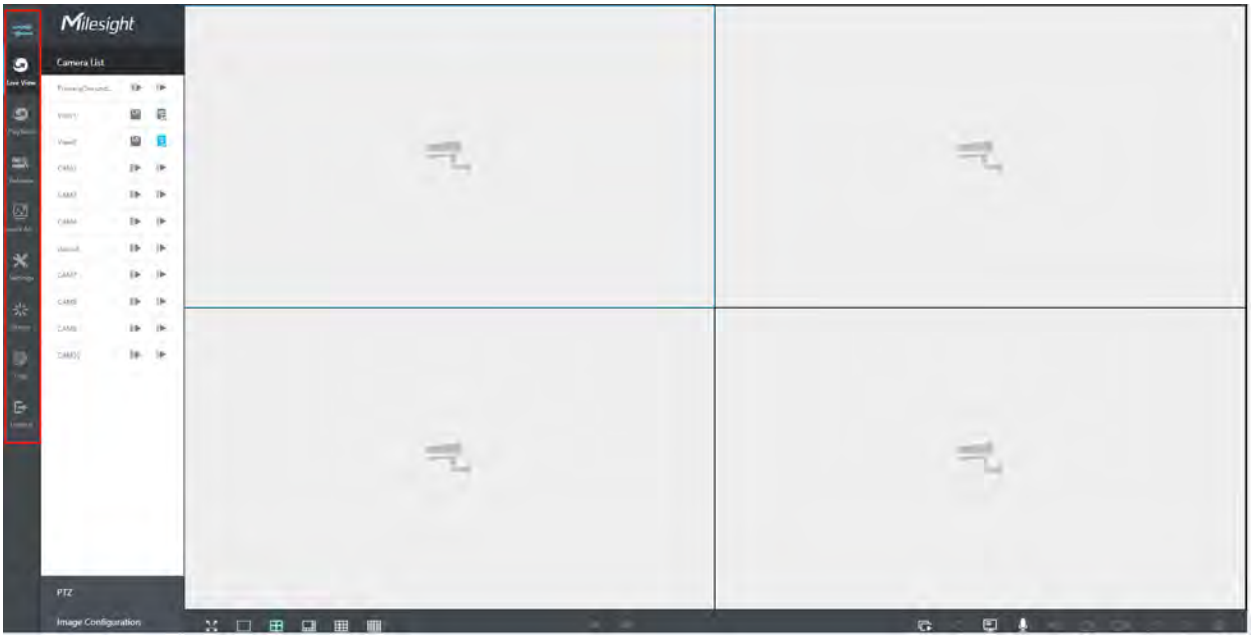


Table 1.

Icons	Descriptions
	Hide or show secondary menu
	Live view
	Play back the video
	Back Up Files
	Smart Analysis
	Make settings for Camera, Record, Event and System

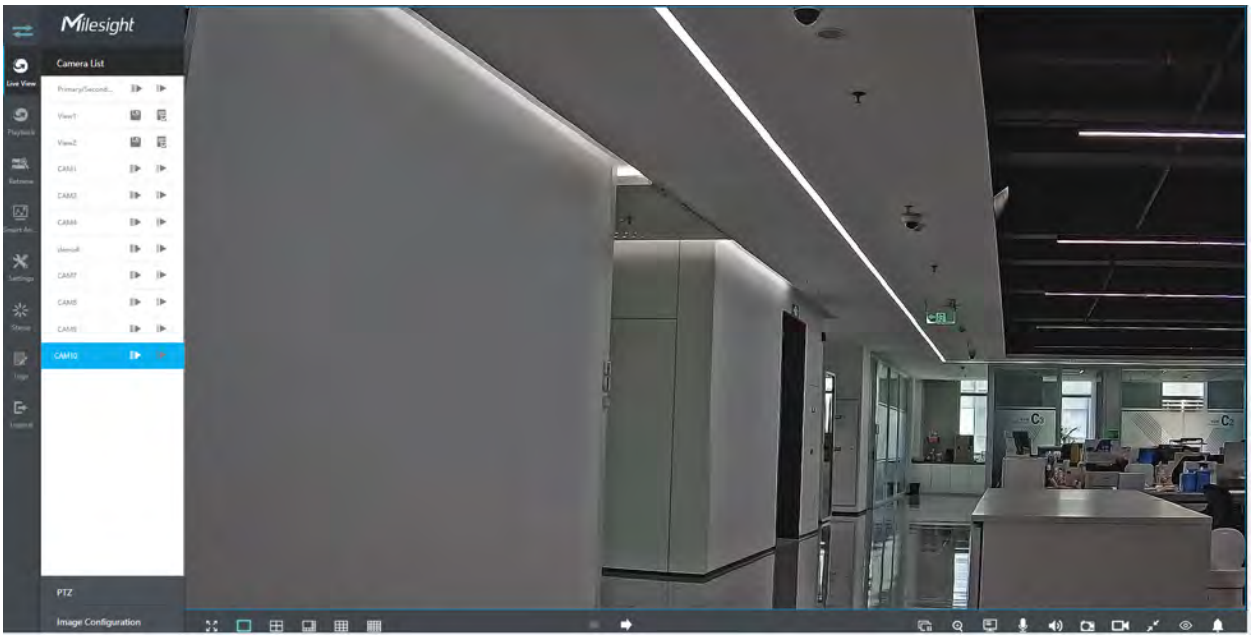
Icons	Descriptions
	Check Device Information, Network Status, Camera Status, Disk Status and Event Status
	Check all operation logs
	Log out NVR

3.2 Live View

3.2.1 Camera List

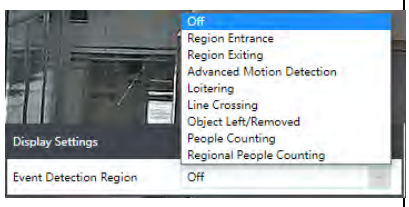
List and play added cameras on Camera List page.

Select one window one camera to play. Or click to get all cameras' live video.



Icons' descriptions of Live View

Table 2. Description of the buttons

Icons	Descriptions	Icons	Descriptions
	Play Primary Stream		Play Secondary Stream
	Save View		Play default view
	Full screen		1 screen mode
	4 screens mode		8 screens mode
	9 screens mode		16 screens mode
	Previous page		Next page
	Stop all live view		Start all live view
	Digital Zoom		Display Settings of Event Detection Region 
	Two-way Audio		Audio on
	Audio off		Snapshot
	Snapshot		Record
	Original Image		Resize Image
	Fisheye Client-side Dewarping		Camera Alarm Output

Fisheye Client-side Dewarping

Click to enable Client-side Dewarping on the panel that pops up when the selected channel plays successfully. Users can dewarp the original Fisheye view into various modes in the live view interface on demand, including Installation Mode and Display Mode. There are 3 options for Installation Mode#Ceiling, Wall and Flat. And there are 9 options for Display Mode: 1O, 1P, 2P, 4R, 1O3R, 1P1R, 1P4R, 1P6R, and 1O8R.

Note: Make sure your NVR model is MS-NXXXX-U(P)H.

Two-way Audio

Click to enable Two-way Audio. You can select to talk with camera or NVR.

Note:

1. For NVR that does not support the Audio I/O interface, it only supports to talk with camera through Web page.
2. The Two-way Audio only supports one channel talking at one time.
3. Two-way Audio and Audio function can not be used together, including Audio of Playback, but if you are using Two-way Audio on one web page, you can use Audio on another page.

4. The audio interface of NVR can only be used alone. When other devices are talking to NVR, it would indicate that the device is busy if you enable Audio or Two-way Audio of other channels at the same time.

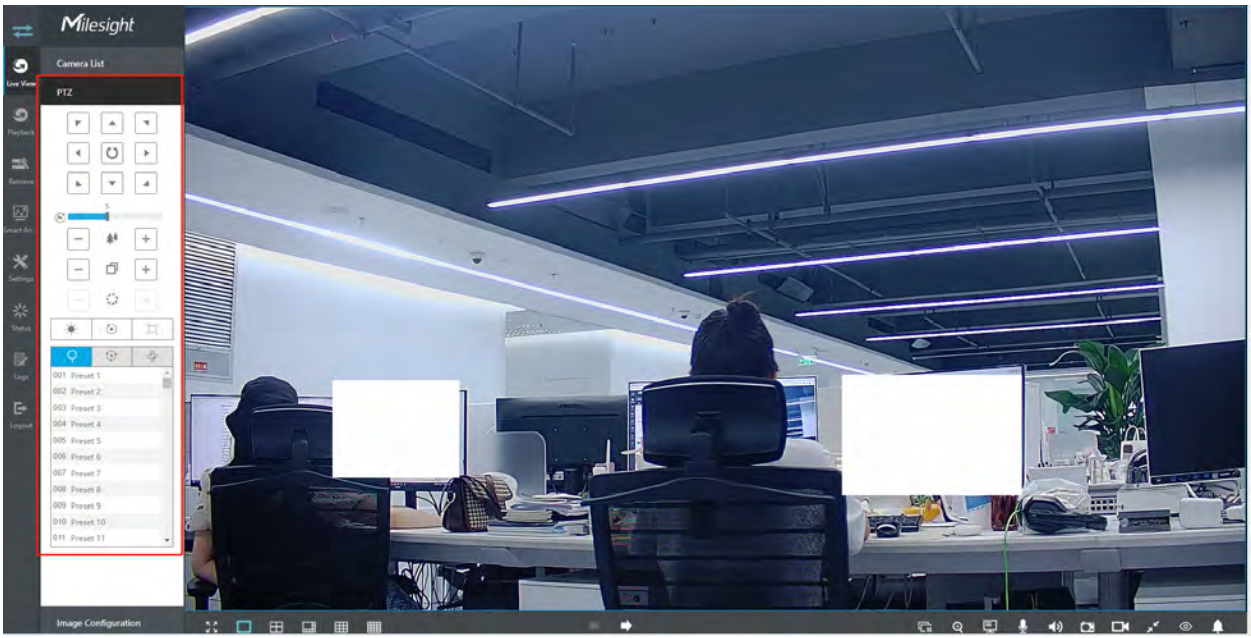
And there are multiple icons on each channel displayed in live view, indicating video loss and alarm status of the channel.

Table 3. Description of the buttons

Icons	Descriptions
	It indicates video loss
	It indicates motion detection alarm
	It indicates VCA alarm

3.2.2 PTZ

For PTZ cameras, you can operate PTZ, Preset, Patrol, Pattern, Lighting for 30s, Lens Initialization and Auxiliary Focus on PTZ page directly.

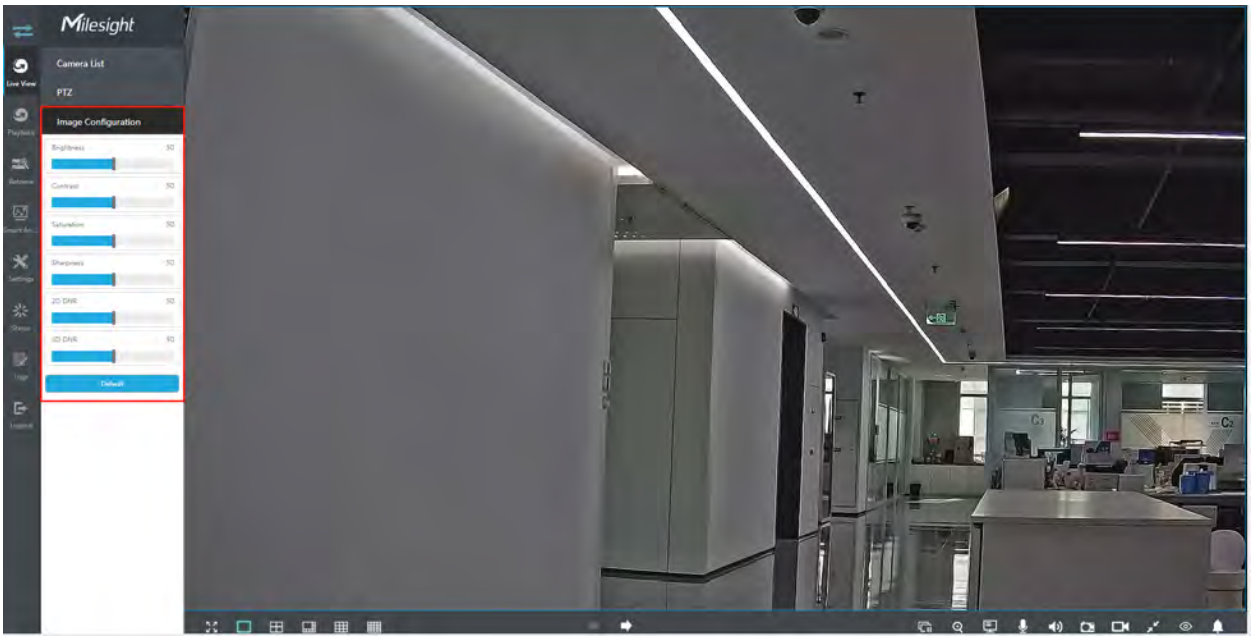


Note:

1. Ensure that your camera's version is 4X.7.0.74 or above before you use Lighting for 30s, Lens Initialization, Auxiliary Focus and Fisheye Auto Tracking.
2. Fisheye channels also support the PTZ operation, which allows users to adjust the on-board monitoring angle of Fisheye view.

3.2.3 Image Configuration

Adjust image Brightness, Contrast, Saturation, Sharpness and Noise Reduction Level on Image Configuration page.

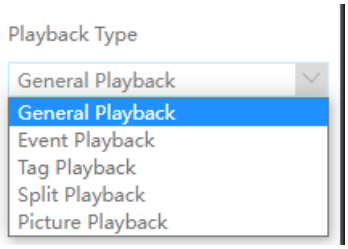


3.3 Playback

Playback supports to playback video according to recorded time and to play recorded video files in specified time period. Synchronous playback of multi-channel is supported.

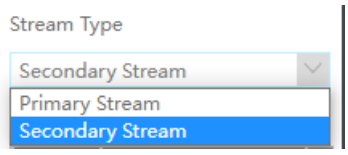
3.3.1 General Playback

Step1. Select General Playback as playback type.



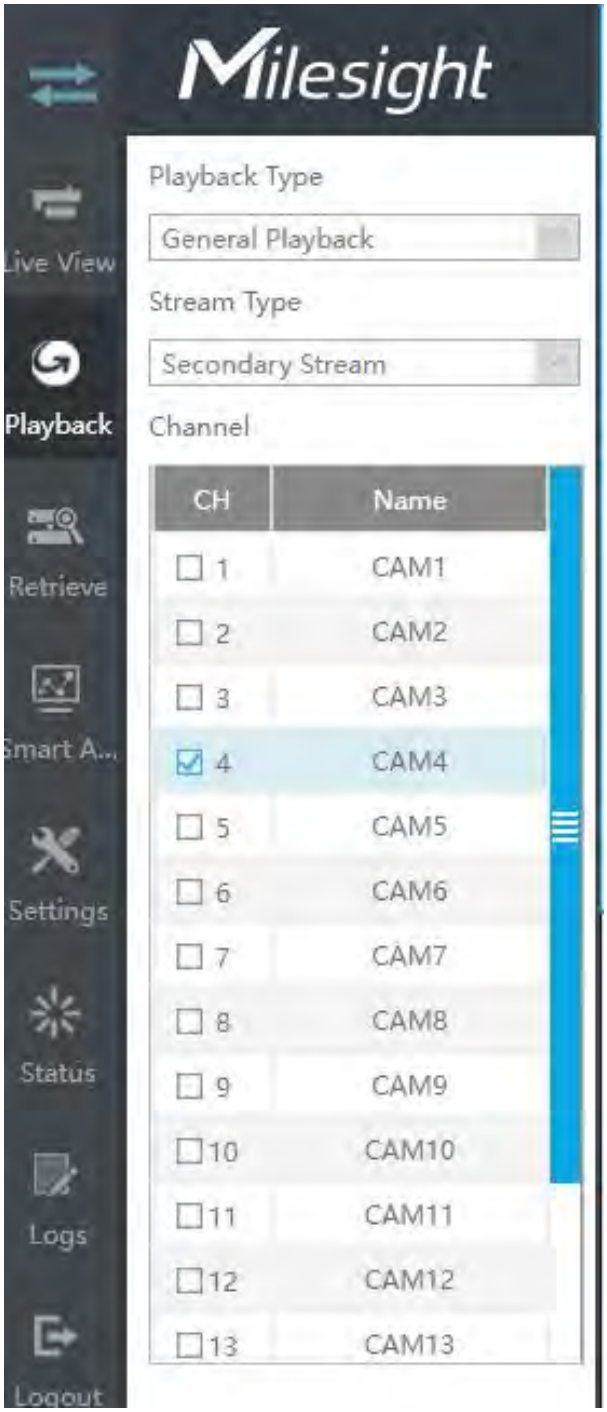
Step2. Select Stream Type.

Primary Stream and Secondary Stream are available.



Step3. Select channel.

Note: The playback stream you selected will be remembered when you reenter the web playback page.



Step4. Select date.

Step 5. Click ▶ to play.

Video Playback Tool Bar Description

Every channel got their own file bar, and there is only one file bar matching with the selected channel. The tool bar can display multiple types record. It shows that in this record period what kind of event has happened. The symbolic meaning of each color is:

Blue—General

Red --- Event

Take this bar above as an example, it means that there are continuous recording and event recording in this period.

Note:

1. You can adjust the speed even when playback is paused.
2. The playback time bar on web page also shows the locked and tagged icons, which is the same as on the monitor.

Table 5. Description of the buttons

Icons	Descriptions	Icons	Descriptions
	Speed down		Step reverse
	Rewind		Stop
	Play		Pause
	Step forward		Speed up
	1 screen mode		4 screens mode
	Smart Search		Client-side Dewarping
	Transcoding		Display of POS information

Icons	Descriptions	Icons	Descriptions
	Digital zoom		Lock video file
	Quick Tag		Custom Tag
	Snapshot		Audio on
	Audio off		Backup
	Original Image		Resize Image

Lock Video: Once the video is locked, the whole file where the video located won't be overwritten. The NVRs support the display of locked icon on the playback bar so that the corresponding files in the playback page can be identified directly. You can also change the lock status in Retrieve interface.

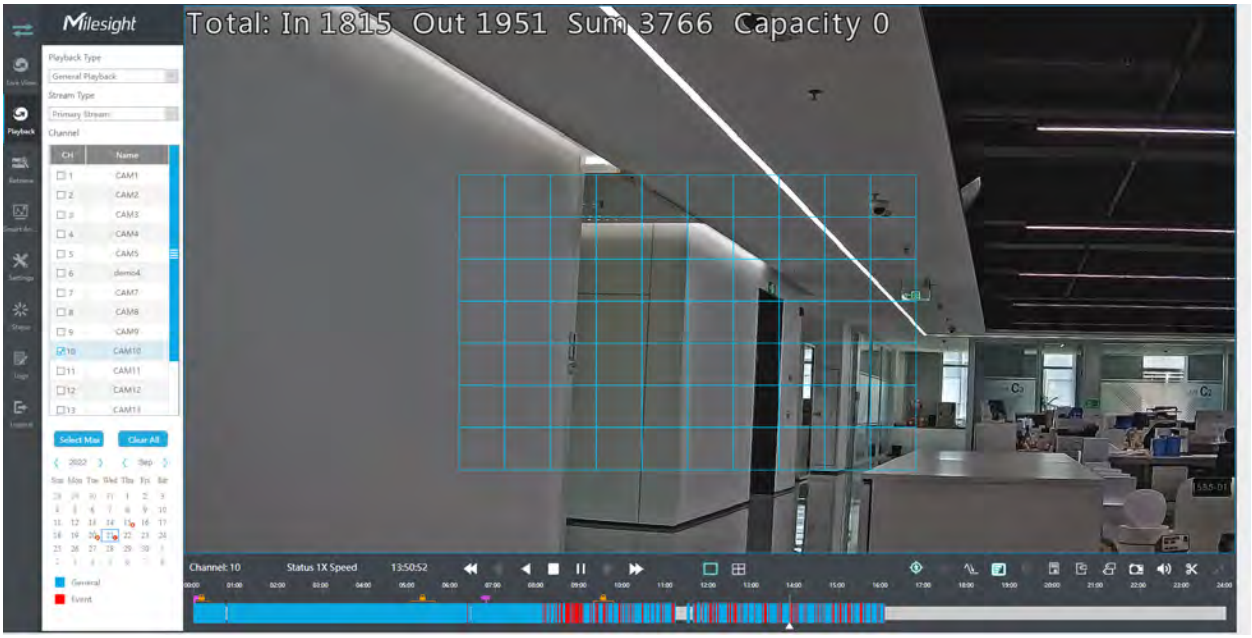
Tag Video: Quick Tag and Custom Tag are available for tag operation in Playback interface. The NVRs support the display of tagged icon on the playback bar so that the corresponding files in the playback page can be identified directly. You can backup video via tag in Retrieve interface or do tag playback in Playback interface.

Smart Search: NVR can search out all relevant motion events and play all the event recording files of the selected area. Here are the steps of how to use the function.

(1) Go to Playback interface, select a channel to playback.

(2) Click to enable Smart Search.

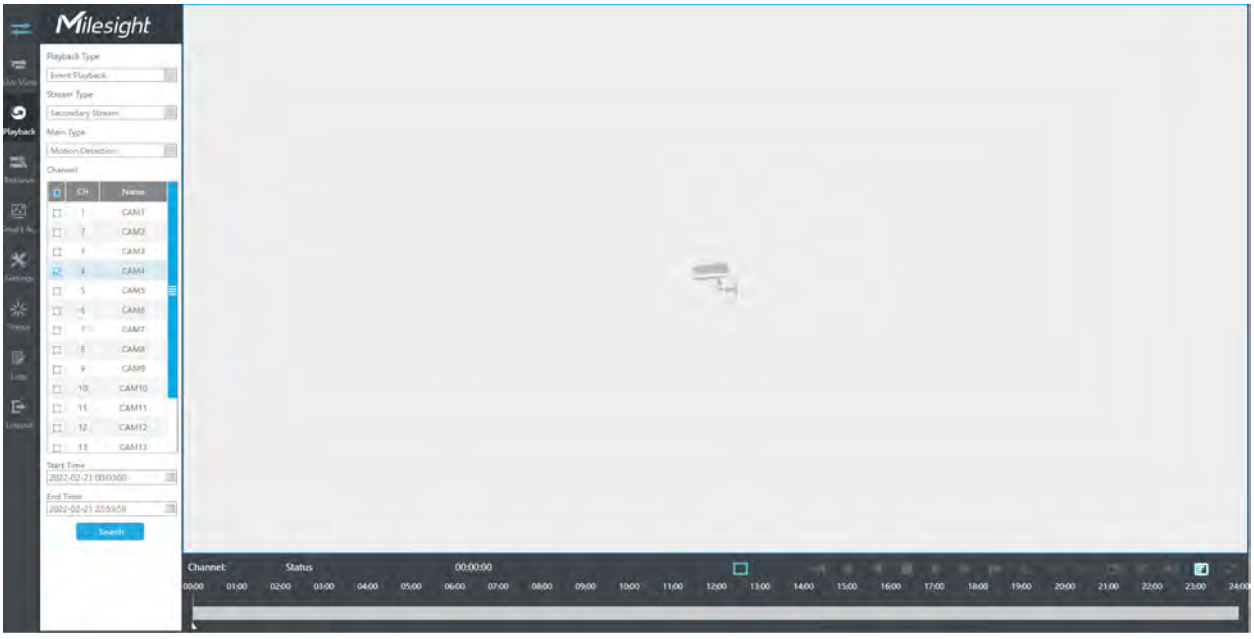
(3) Draw an area in the frame and NVR would play the video files after searching out all motion events of the area.



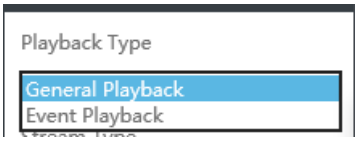
Note:

1. Only NVR firmware version xx.9.0.10 or above supports Smart Search
2. Make sure your Camera version is xx.7.0.76 or above.
3. Smart Search and Smart Play Speed can not be used together.
4. Smart Search is available only when playing in a single channel.

3.3.2 Event Playback

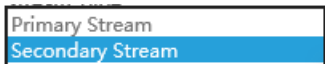


Step 1. Select Event Playback as playback type.



Step 2. Select Stream Type.

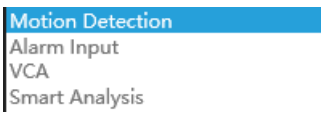
Primary Stream and Secondary Stream are available.



Step 3. Select channel.

Select channels you want to do playback. Layout of playback will be automatically adjusted according to the amount of the selected channels.

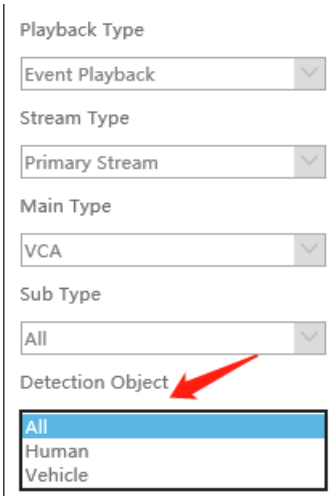
Step 4. Select Event Type.



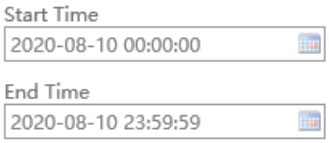
In particular, the Detection Object option is available only if the Main Type is VCA and the Sub Type is one of several VCA events. You can search and playback the video that meets the corresponding conditions according to the selected Detection Object. The Detection Object has three options: All, Human and Vehicle.

The VCA events which support the human/vehicle detection object function are:

- Region Entrance
- Region Exiting
- Advanced Motion Detection
- Line Crossing
- Loitering



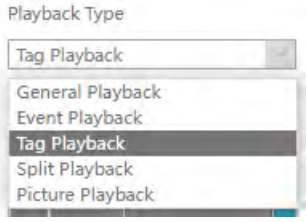
Step 5: Select Start Time and End Time, click "Search" to search the record.



Step 6: It would list all videos after clicking "Search". Set pre playback and post playback time, then play the video by clicking .

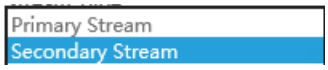
3.3.3 Tag Playback

Step 1. Select Tag Playback as playback type.



Step 2. Select Stream Type.

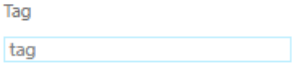
Primary Stream and Secondary Stream are available.



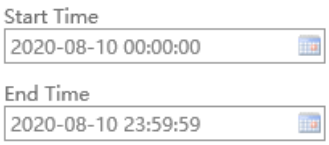
Step 3. Select channel.

Select channels you want to do playback. Layout of playback will be automatically adjusted according to the amount of the selected channels.

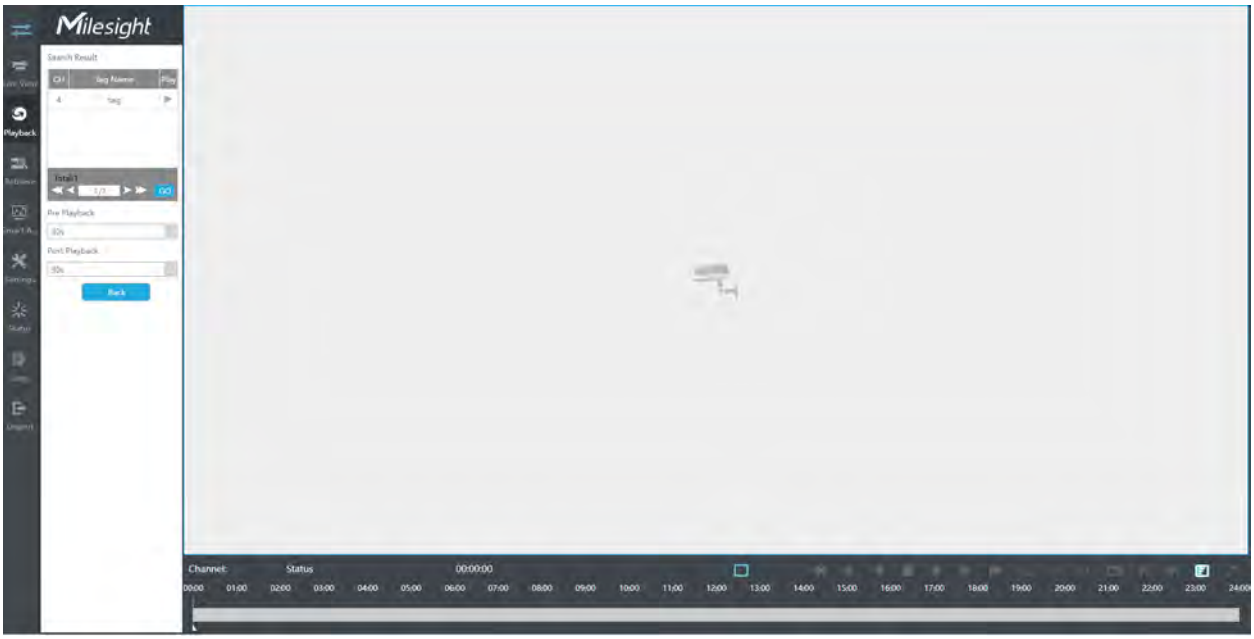
Step 4. Input tag name or any key words of tag.



Step 5: Select Start Time and End Time.



Step 6: It would list all tagged video after clicking Search. Set pre playback and post playback time, then play the tag video by clicking ▶.

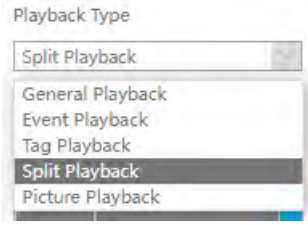


Video Playback Tool Bar Description are the same as General Playback, except for those icons that are not locked or tagged on the playback bar.

3.3.4 Split Playback

Split Playback allows users to select a video channel and set a time range to divide the video files into several parts in the specified time period according to their needs when watching playback, so that users can watch videos of different time simultaneously.

Step1. Select Split Playback as playback type.



Step2. Select Stream Type.

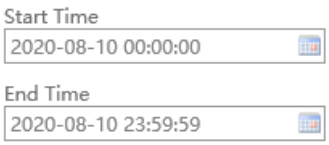
Primary Stream and Secondary Stream are available.

Step3. Select channel.

Select a channel you want to do play back. You are allowed to select only one channel at one time.

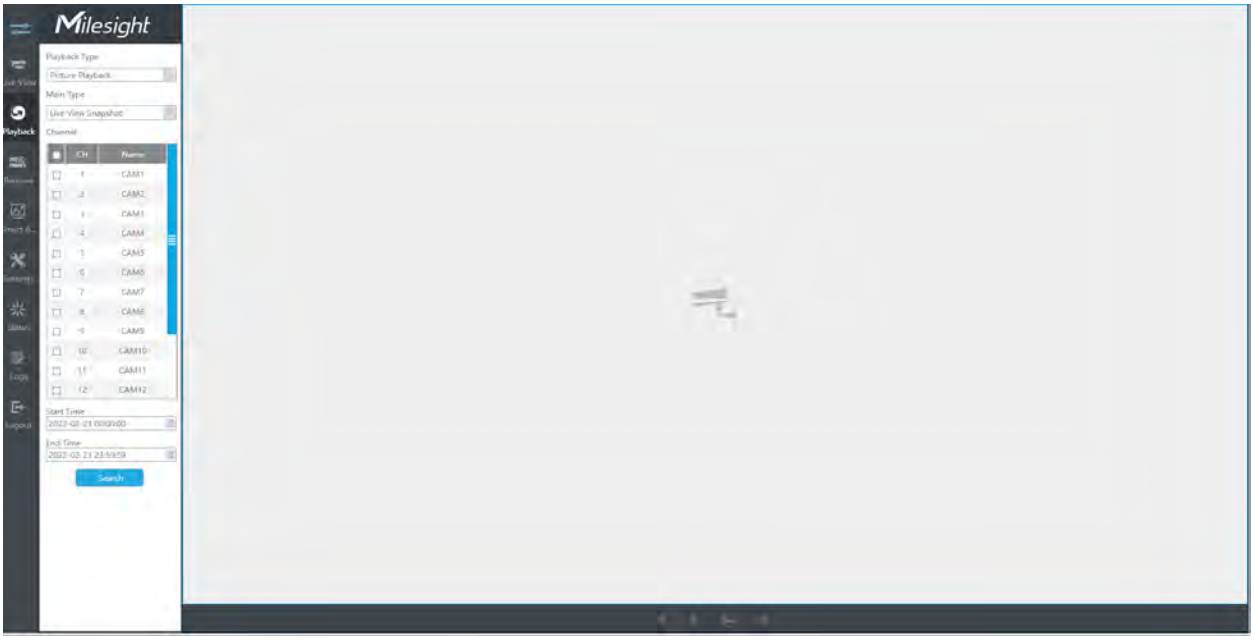
Step4. Set Start Time and End Time.

Set Start Time and End Time and click Search button to search playback records of the chosen channel. The time period should be within 24 hours

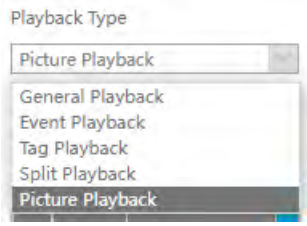


Step5: It would start playing after clicking "Search", displayed in 4 split screens by default.

3.3.5 Picture Playback

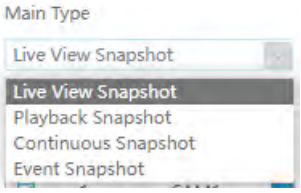


Step 1. Select Picture Playback as playback type.



Step 2. Select channel.

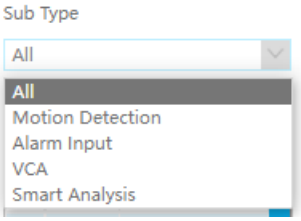
Step 3. Select Snapshot type, including Live View Snapshot, Playback Snapshot, Continuous Playback and Event Playback.



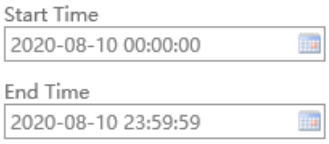
Live View Snapshot and Playback Snapshot refer to the picture file manually captured in Live View and Playback page.

Continuous Snapshot requires you to set continuous snapshot schedule in Storage-> Snapshot->Snapshot Schedule interface.

Event Snapshot includes Motion Detection, Alarm Input, VCA and Smart Analysis. Select corresponding event and click Search to get event snapshot files.



Step 4: Select Start Time and End Time.



Step 5: It would list all snapshot after clicking "Search".

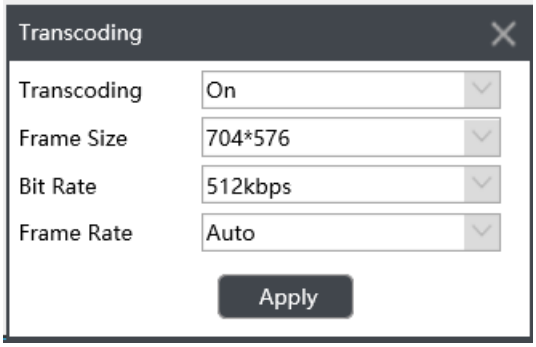
Click to play the selected picture,or click to auto play pictures.

3.3.6 Transcoding

With transcoding function, remote playback will have a better performance no matter what network environment is.

**Step 1. After successfully search out or play video, select the channel you want to transcoding and click **

to expand transcoding panel.



Step 2. Set Transcoding parameters.

Set Transcoding, Frame Size, Bitrate and Frame Rate according to the network situation. The worse network situation, the lower transcoding parameter.

Step 3. Click "Apply" to make transcoding take effect.

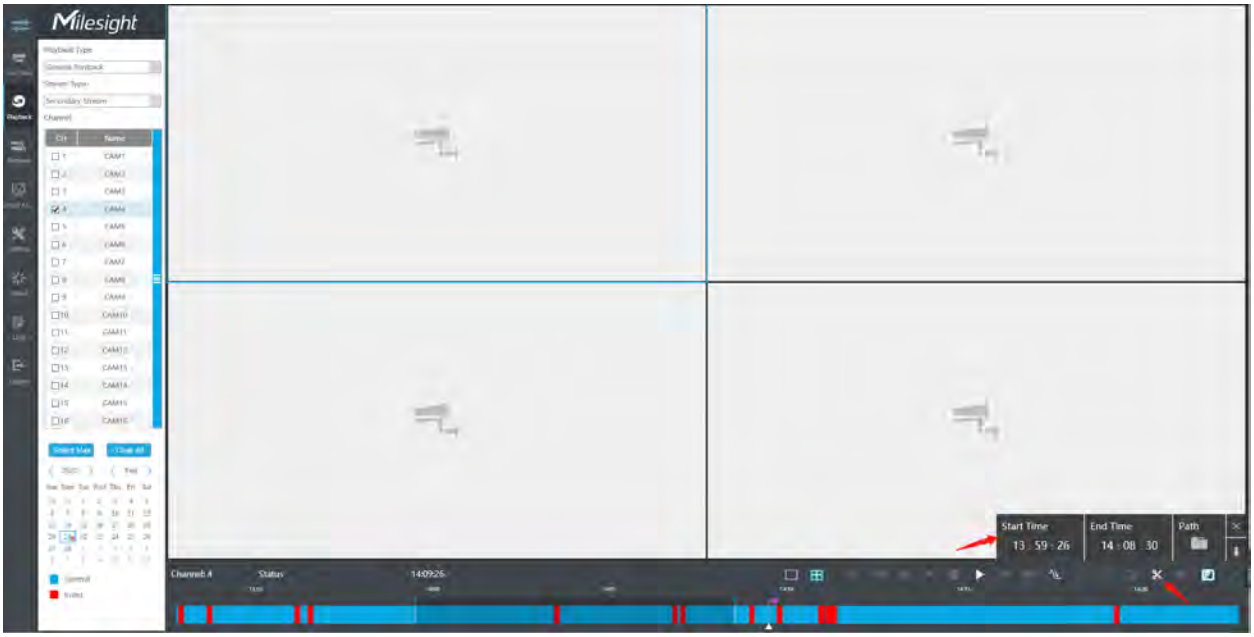
3.3.7 Video Files Backup

Recorded files can be cut and backed up from WEB.

Step1.In playback interface, select camera, stream type, the date and time to search record video.

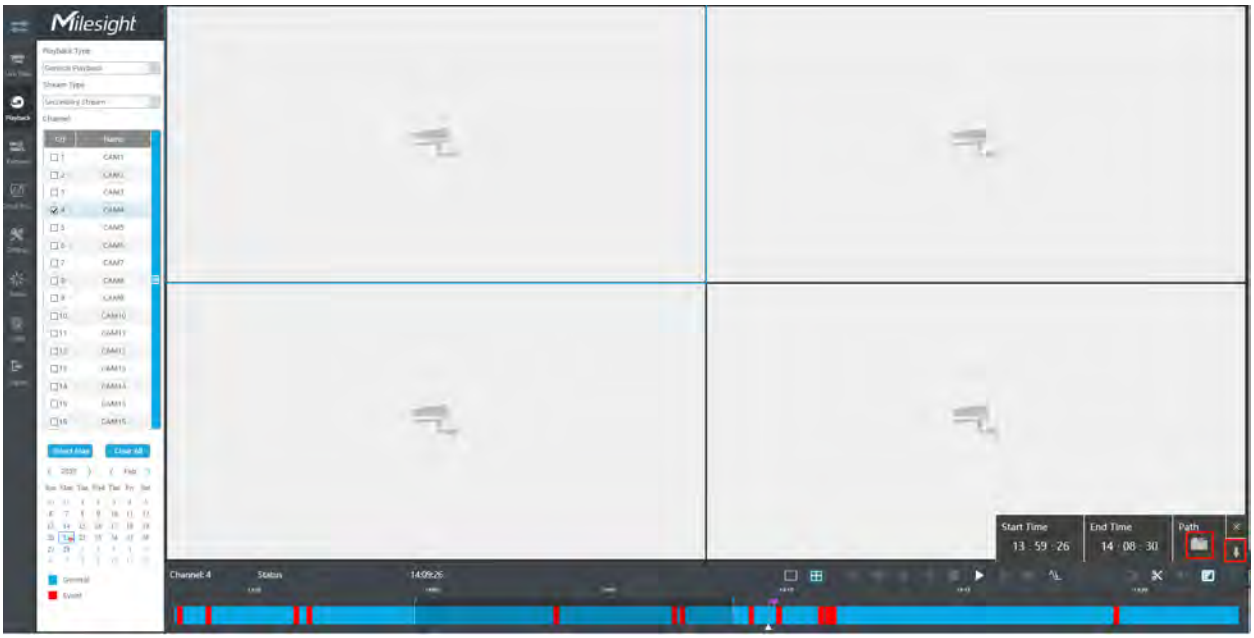
Step2.Select Recorded files for Backup.

Click , then select start time and end time by dragging the vertical line on the time bar.



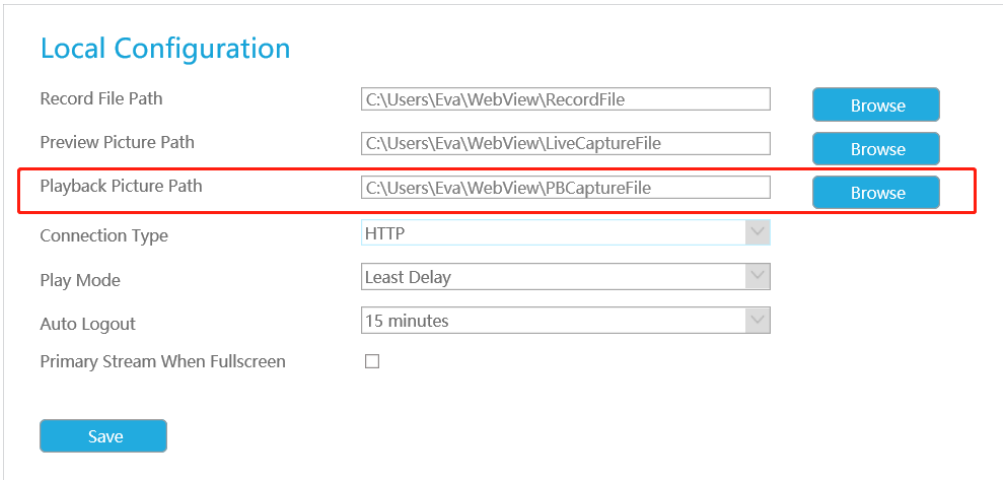
Step3. Backup the recorded files.

Click to select file path, then click to back up recorded files.



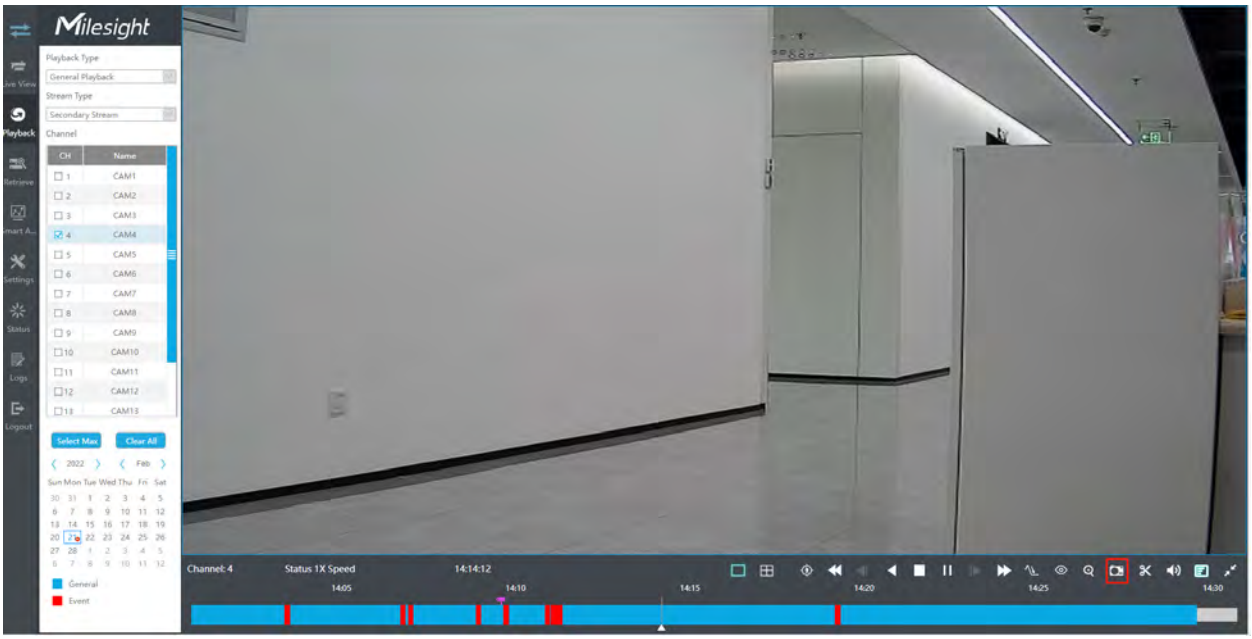
3.3.8 Picture Files Backup

Step1. Browse a playback picture path in Local Configuration interface.



Step 2. Click to save the pictureduring video playback.Then the backup picture can be found in the files path you set before.

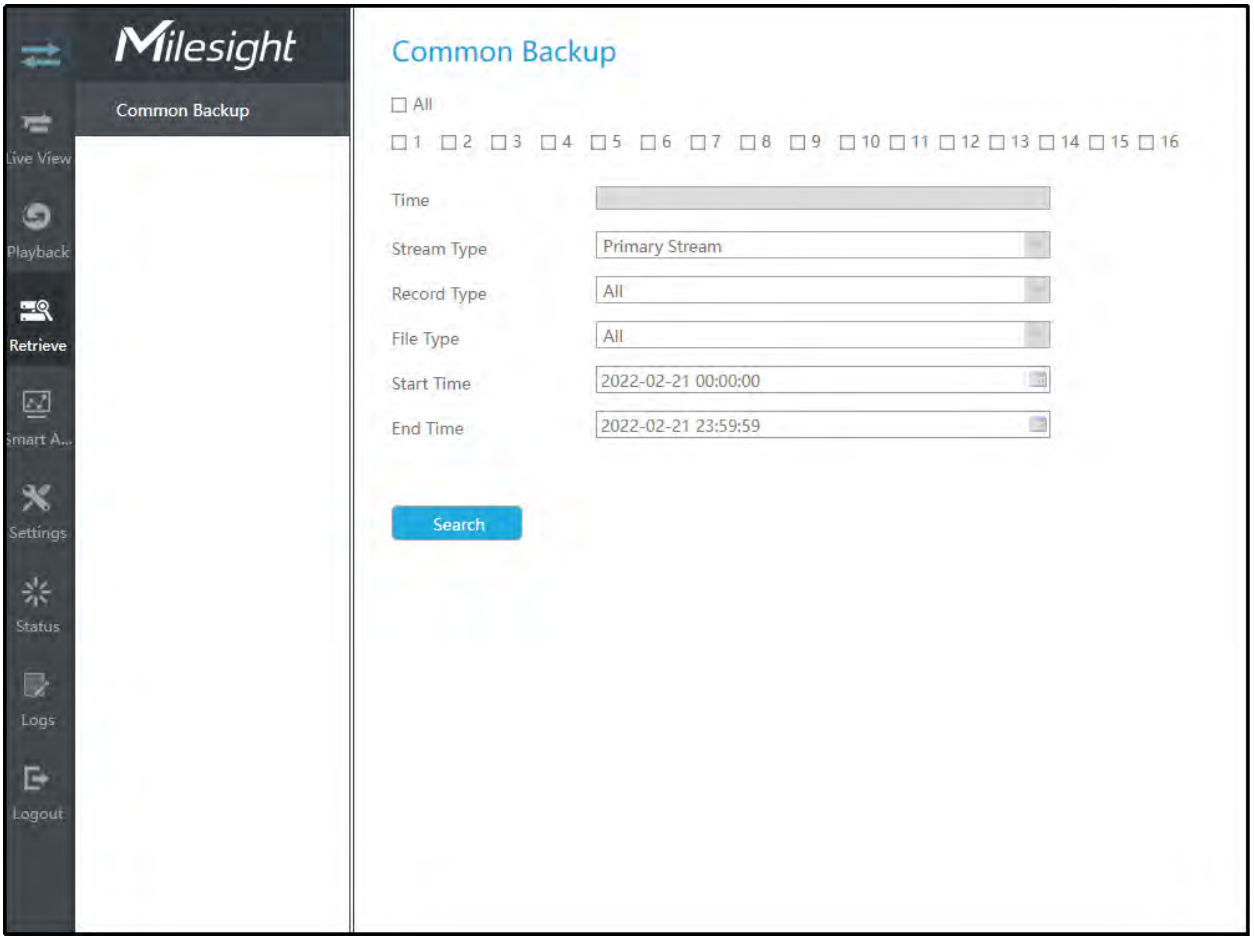
Note: It is recommended to run browser as administrator before getting playback snapshot.



3.4 Retrieve

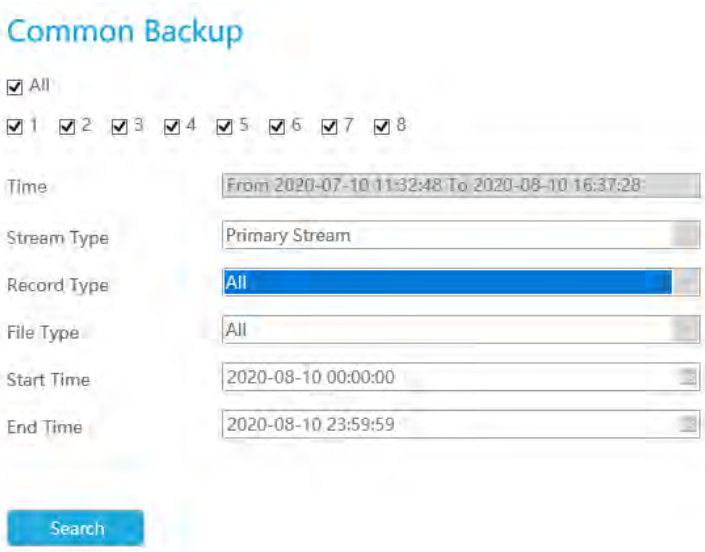
3.4.1 Common Backup

Support to search out record file according to different stream type, record type and file type you set.

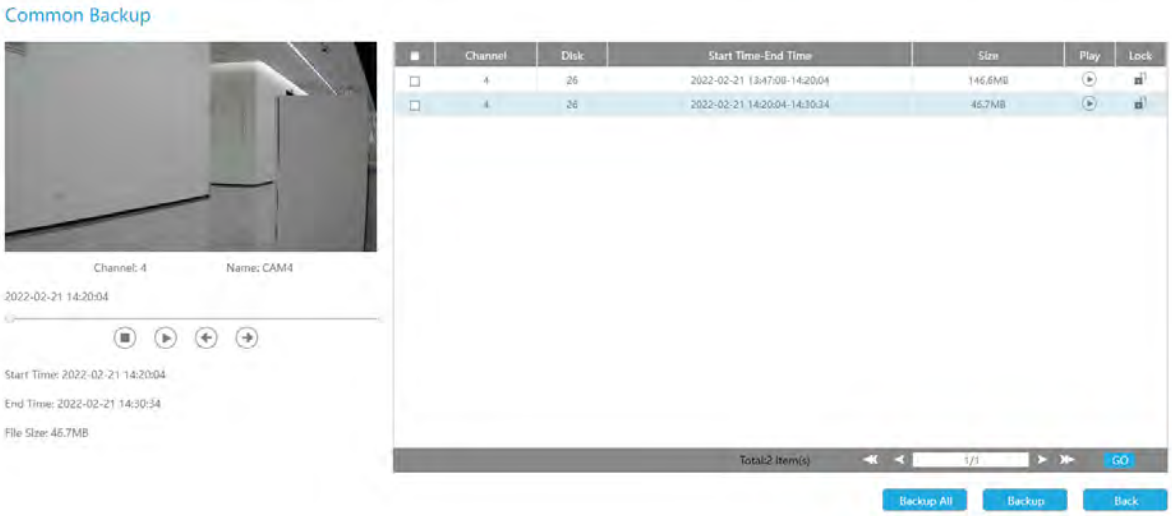


Step 1: Set the search condition and click

to search video.



The search result can be shown as a list.

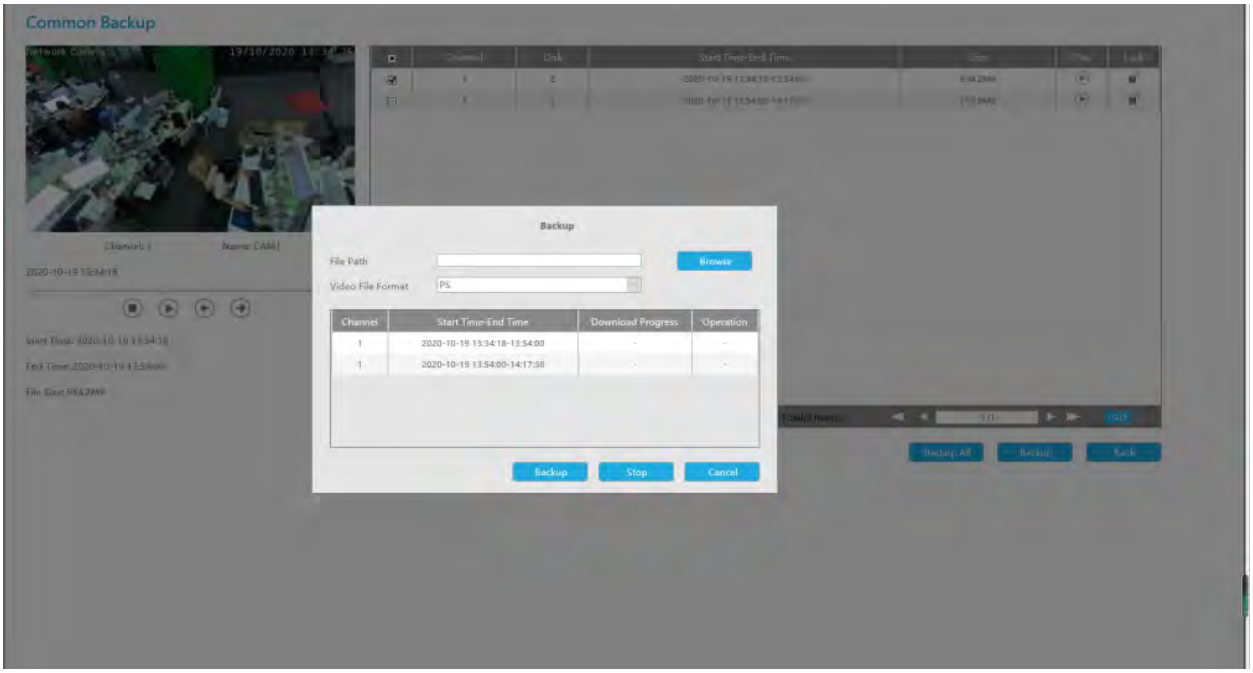


Step 2: Select the file you want to backup and click Backup **. Also, you can click** Backup All

to backup all recorded videos.

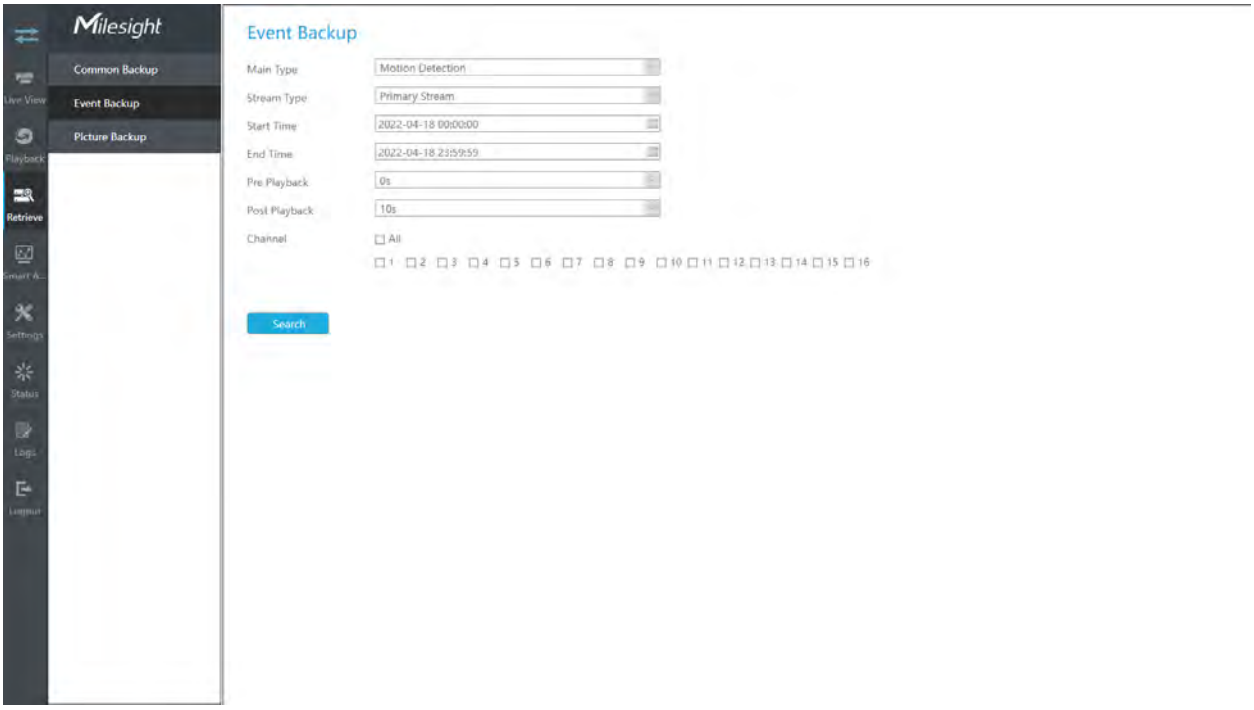
In Common Backup interface, play, lock and unlock video are supported. Click to play and to lock. Once the video is locked, the whole file where the video located won't be overwritten.

Step 3: Select the format to be exported, which includes MP4, AVI and PS format and then click "Backup" to export selected files.



3.4.2 Event Backup

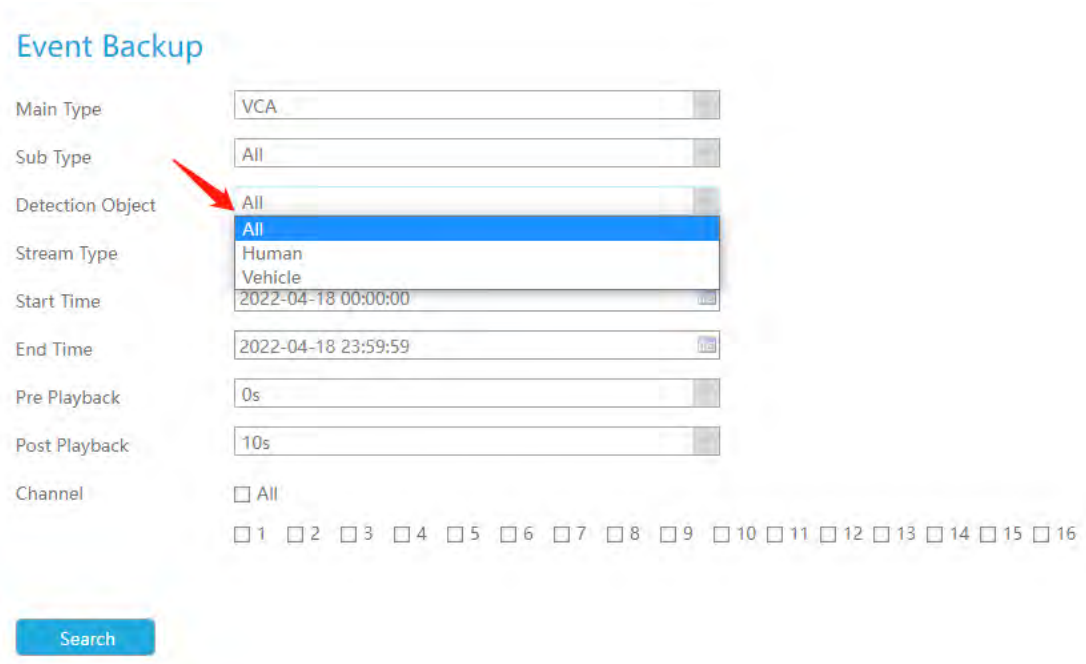
Support to search out and back up picture and video according to event type. The event type includes Motion Detection, Alarm Input, VCA and Smart Analysis.



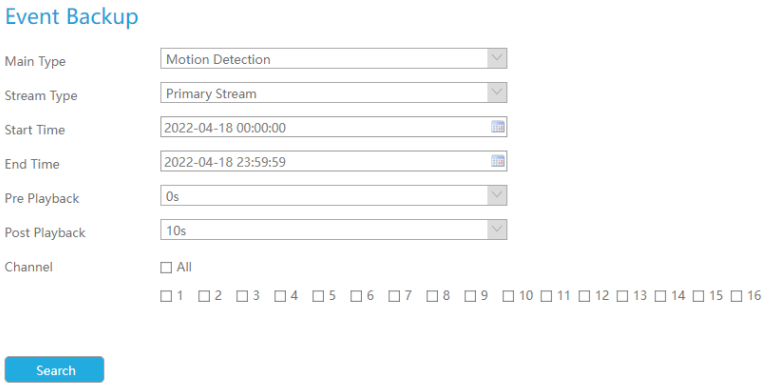
In particular, the Detection Object option is available in the Event Backup interface only if the Main Type is VCA and the Sub Type is one of several VCA events. You can search and back up the results that meet the corresponding conditions according to the selected Detection Object. The Detection Object has three options: All, Human and Vehicle.

The VCA events which support the human/vehicle detection object function are:

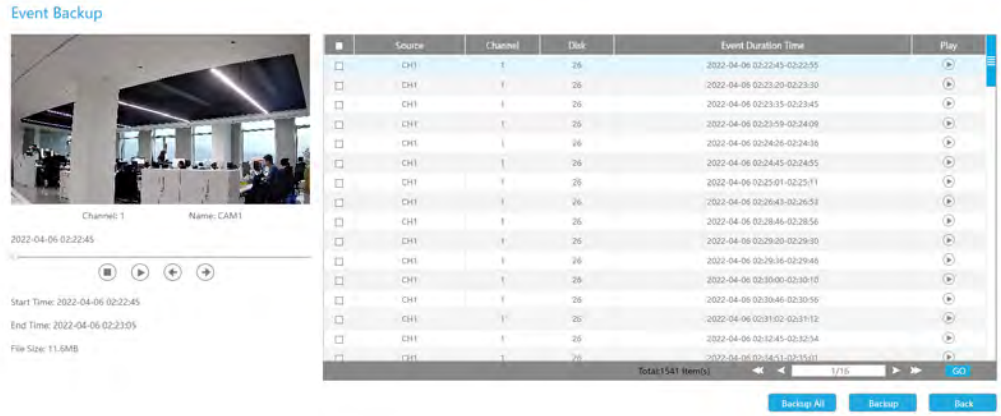
- Region Entrance
- Region Exiting
- Advanced Motion Detection
- Line Crossing
- Loitering



Step 1: Set the search condition and click "Search" button to search video.

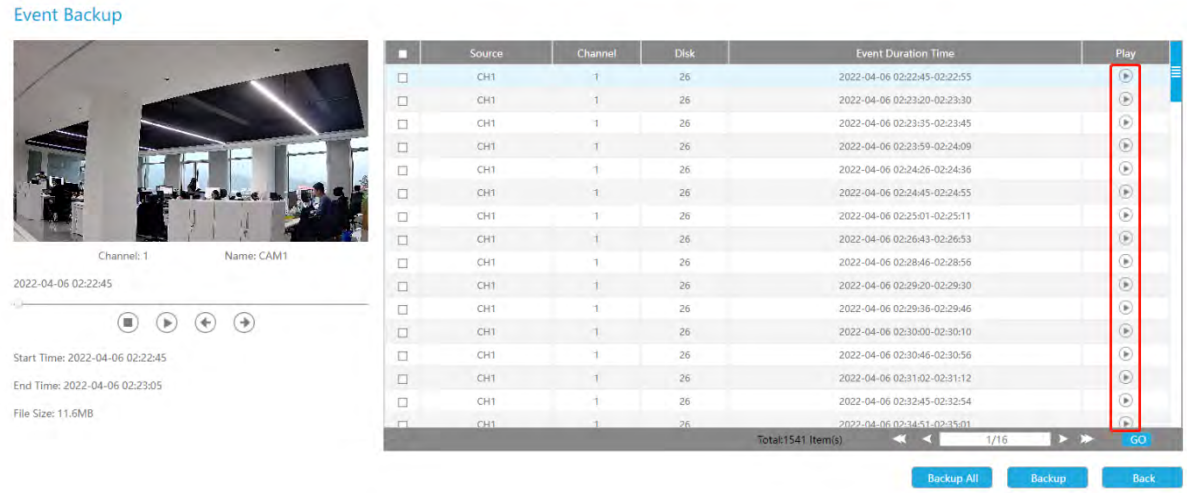


The search result can be shown as a list.

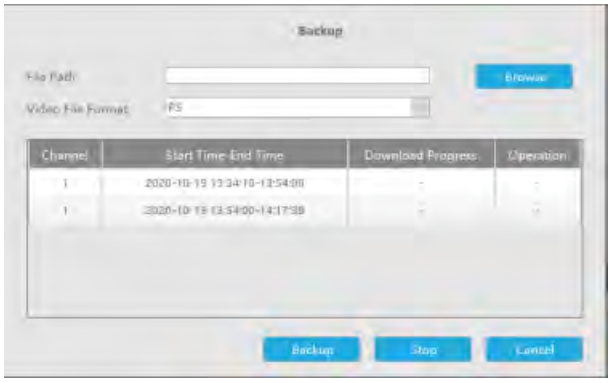


Step 2: Select the file you want to back up and click "Backup". Also, you can click"Backup All" to backup all recorded videos.

In Event Backup interface, you can click ▶ to play the video.

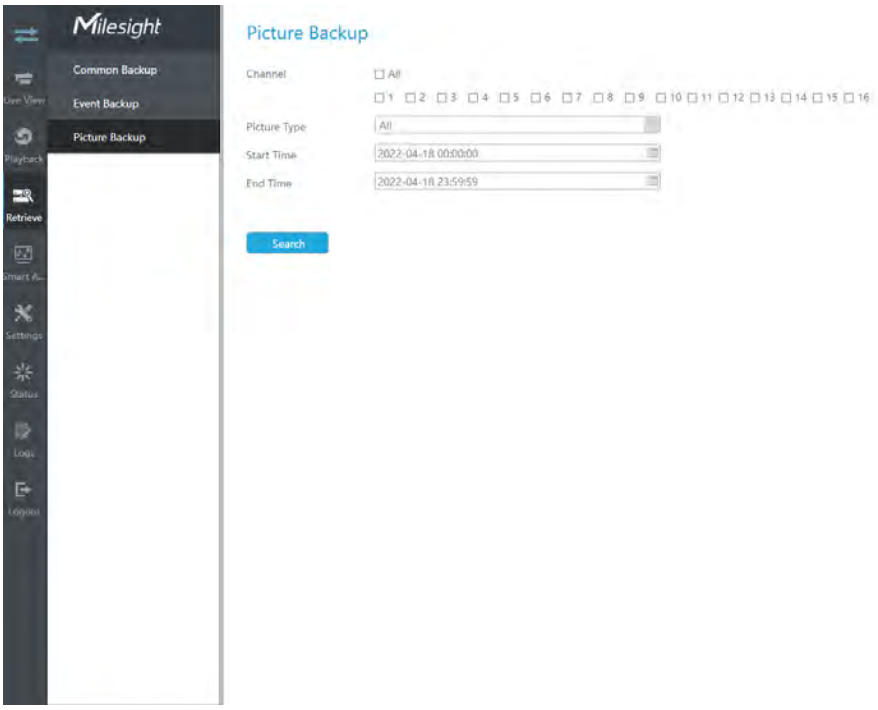


Step 3: Select the format to be exported, which includes MP4, AVI and PS format and then click "Backup" to export selected files.

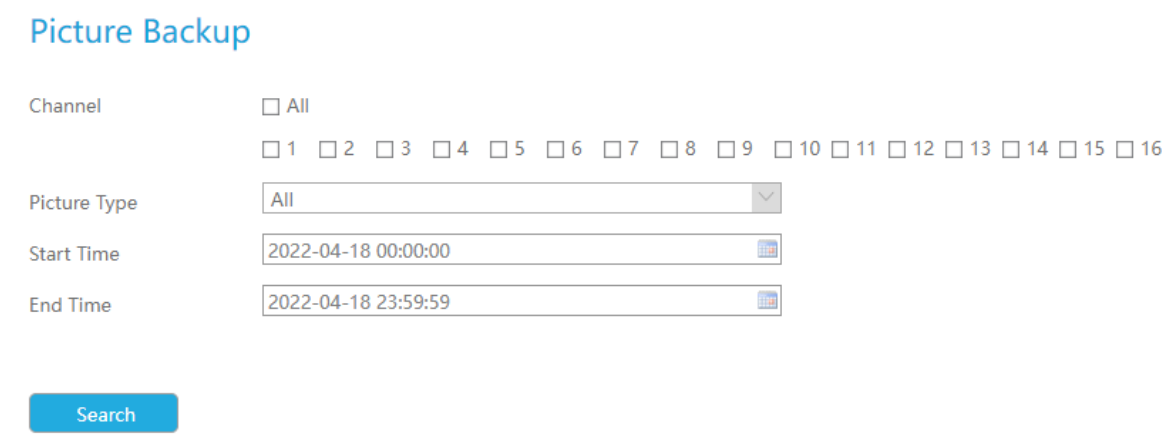


3.4.3 Picture Backup

Support to search out and back up picture according to picture type. The picture type includes All, Live View Snapshot, Playback Snapshot and Event Playback.



Step 1: Set the search condition and click "Search" button to search video.

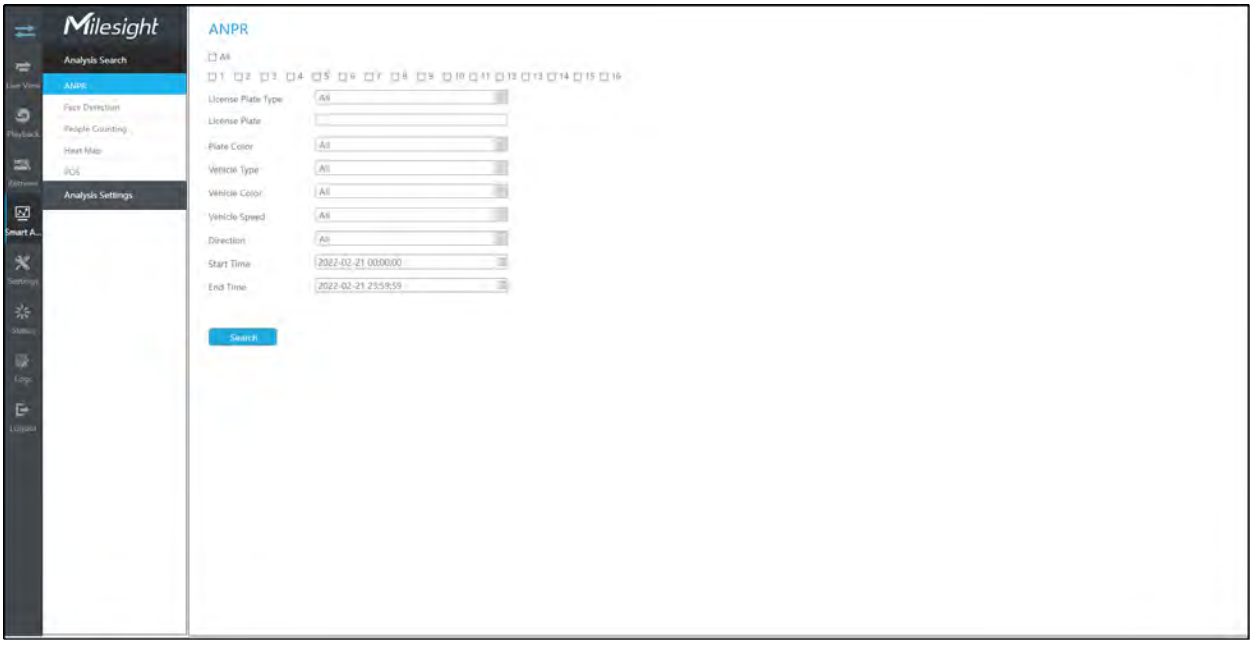


Step 2: Select the file you want to back up and click Backup. Also, you can click Backup All to back up all recorded videos.

Step 3: Select the Snapshot Resolution which includes Auto, 704*576 and 640*360, and click"Backup" to export selected snapshots.

3.5 Smart Analysis

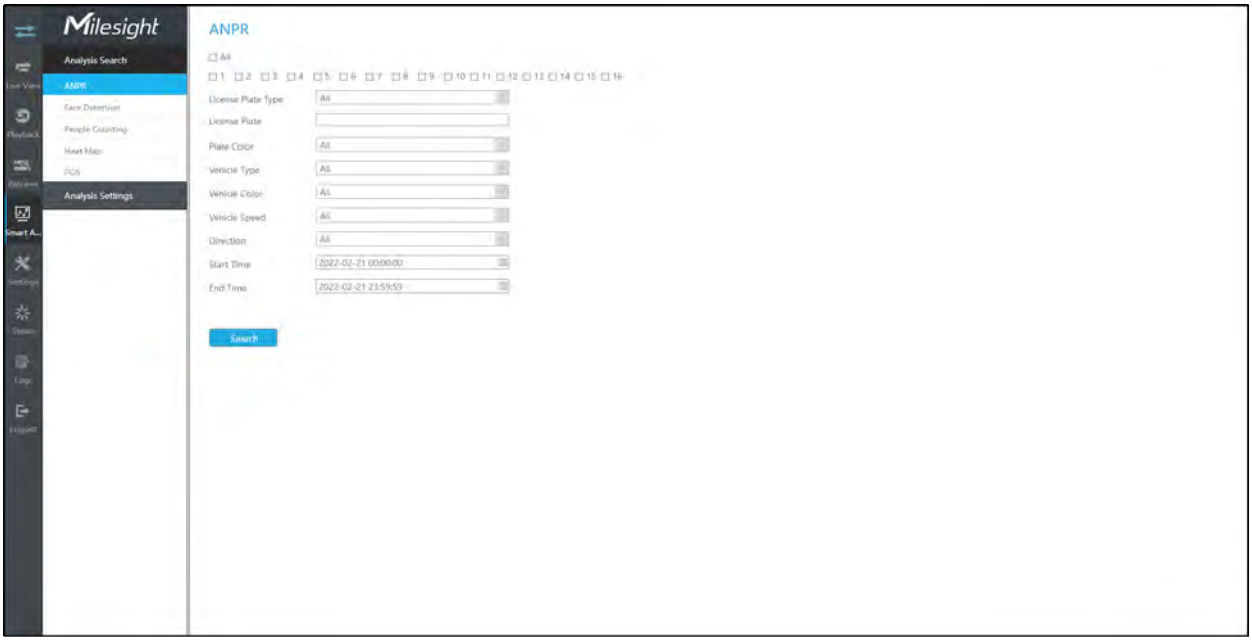
You can get ANPR logs, Face Detection results, People Counting results and Heat Map results in the page, as well as Settings for ANPR, Face Detection, People Counting and Heat Map.



3.5.1 Analysis Search

3.5.1.1 ANPR

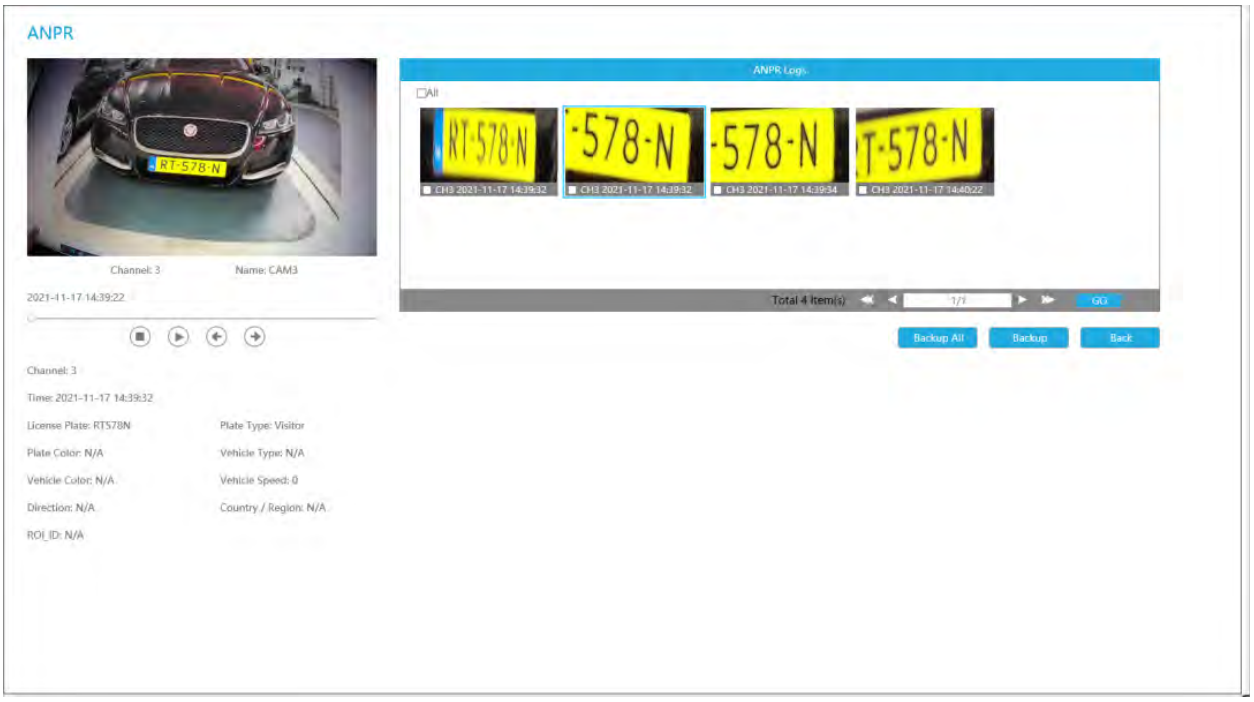
You can Search and Backup ANPR logs.



Input corresponded information and click search button

to search and you will get a whole ANPR logs list. License plate snapshot will be shown on the logs list while the complete image video and license plate information will be shown on the left of the page. The License Plate Type option is convenient for users to quickly filter the black list, white list and visitor according to the license plate types. Users can also filter ANPR results by Plate Color, Vehicle Type, Vehicle Color, Vehicle Speed and Direction.

Note: Ensure that your NVR model is MS-NXXXX-XXT or MS-NXXXX-XXH.



You can click to play the video.

There are two methods to backup ANPR logs.

- Backup license plates you want.

Step1: Tick license plates you want to backup and click backup button Backup;

Step2: Select the export file type, video stream type and video file format, then click export button.

- Backup all.

Step1: Click backup all

button;

Step2: Select the export file type, video stream type and video file format, then click export button.

Then you will get corresponding file as selected export file type.

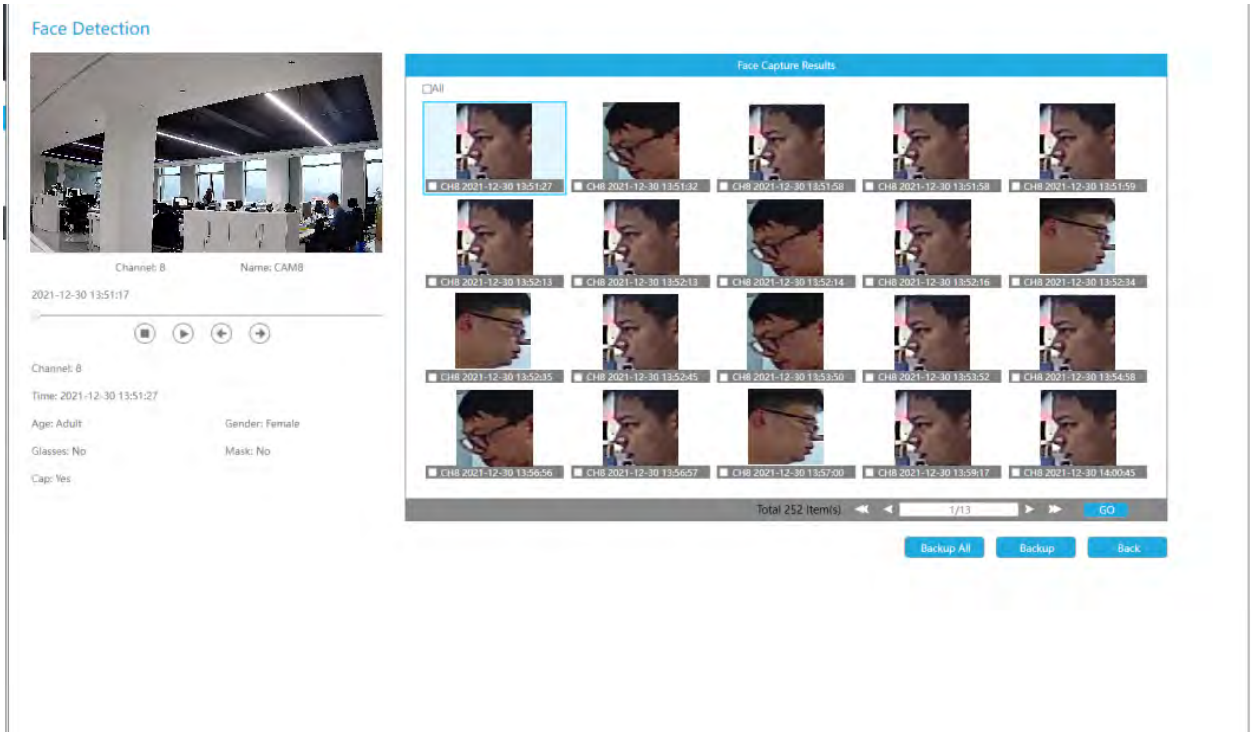
3.5.1.2 Face Detection

You can Search and Backup the results of Face Detection.

Input corresponded information and click search button to search and you will get the results of Face Detection. Face snapshots will be shown on the results list while the complete image video and face attribute information will be shown on the left of the page. Users can filter Face Detection results by Face Attributes including Age, Gender, Glasses, Mask and Cap.

Note:

- Make sure your camera is AI Series and version is V4x.7.0.79-r25 or above.
- Make sure your NVR model is MS-Nxxxx-xxT/H.



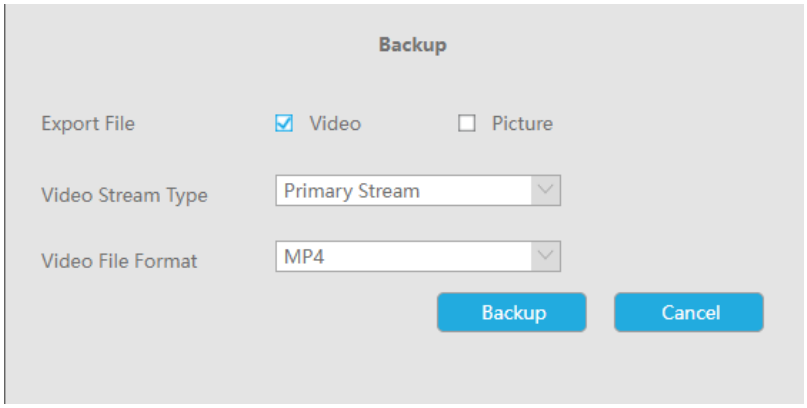
You can click to play the video.

There are two methods to backup Face Detection results.

- Backup Face Detection logs you want.

Step1: Tick the face detection results you want to backup and click backup button Backup;

Step2: Select the export file type, video stream type and video file format, then click export button.



- Backup all.

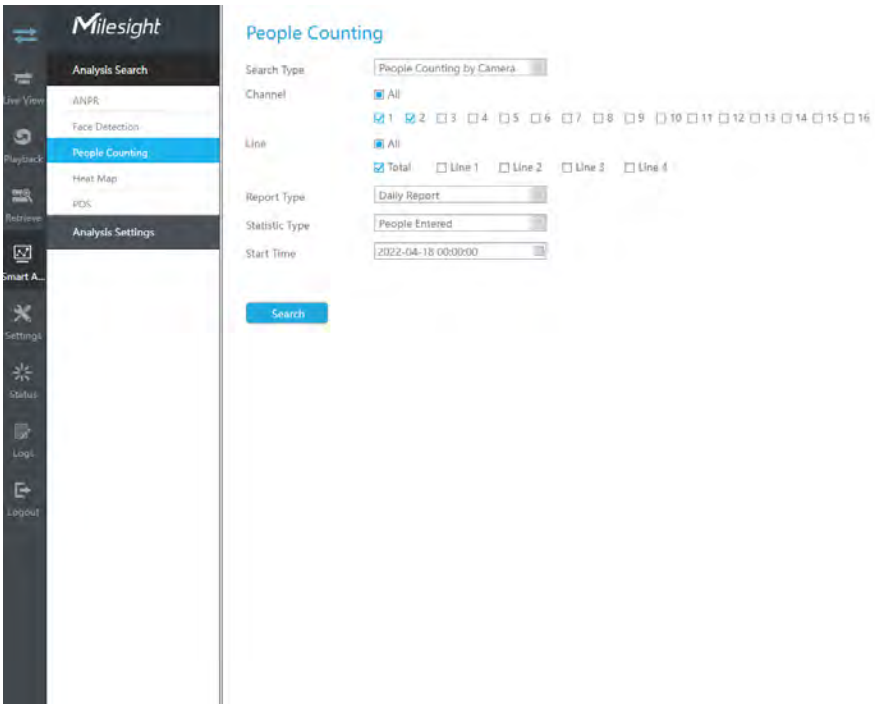
Step1: Click backup all button;

Step2: Select the export file type, video stream type and video file format, then click export button.

Then you will get corresponding file as selected export file type.

3.5.1.3 People Counting

You can Search and Backup the results of People Counting.



Step1: Entering search conditions.

Search Type: Select the search type first, including People Counting by Camera, People Counting by Group and Regional People Counting.

(1) Select “People Counting by Camera”:

Channel: Check the corresponding channels. It supports simultaneous search of multi-channel reports.

Line: Check the detection lines. It supports simultaneous search of multi-channel reports.

Report Type: Daily Report, Weekly Report, Monthly Report and Annual Report are available.

Statistic Type: People Entered, People Exited and Sum are available.

Start Time: Input the time from which you want to Search.

(2) Select “People Counting by Group”:

Group: Select the groups.

Report Type: Daily Report, Weekly Report and Monthly Report are available.

Statistic Type: People Entered, People Exited and Sum are available.

Start Time: Input the time from which you want to Search.

(3) Select “Regional People Counting”:

Channel: Check the corresponding channels. It supports simultaneous search of multi-channel reports.

Region: Check the detection regions. It supports simultaneous search of multi-region reports.

Length of Stay: Choose the length of stay.

Report Type: Daily Report, Weekly Report and Monthly Report are available.

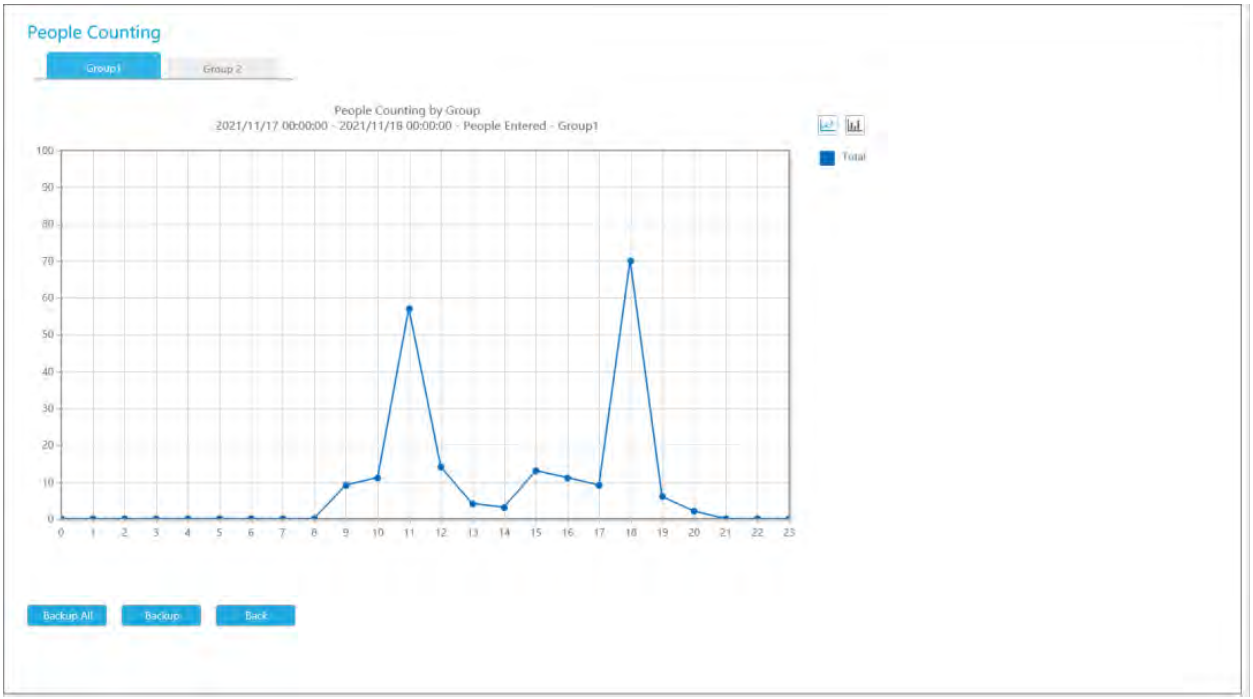
Start Time: Input the time from which you want to Search.

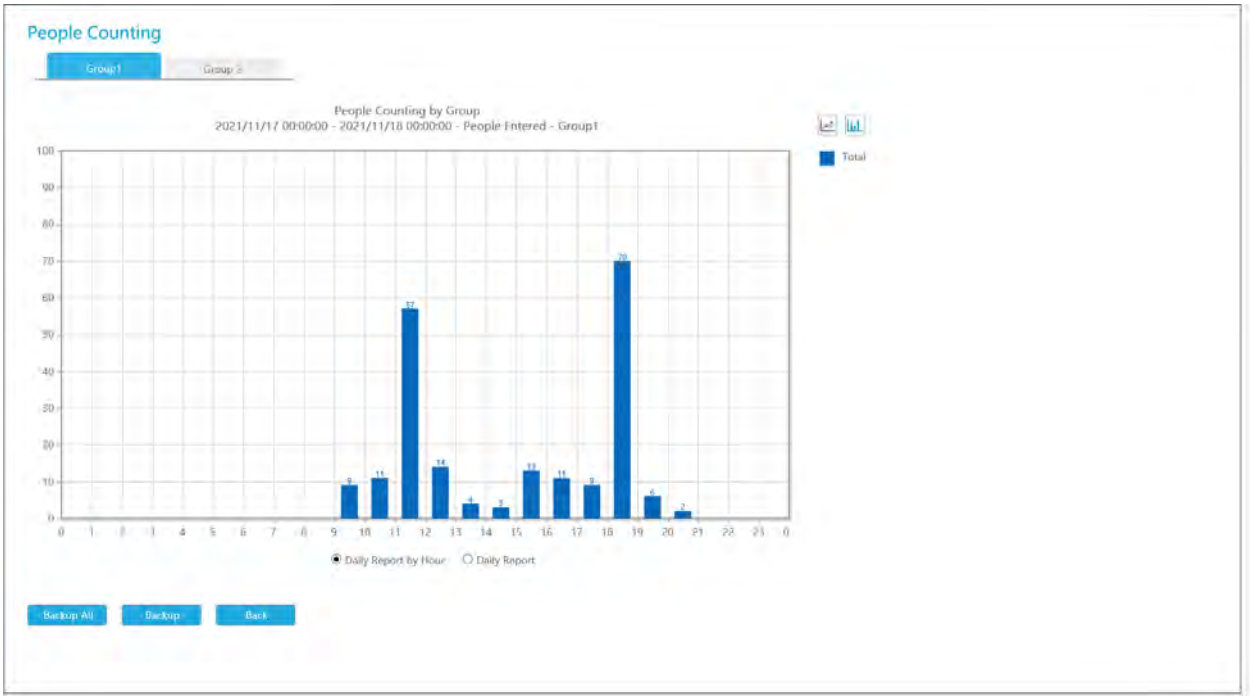
Step2: Click

to obtain the corresponding result. There are two ways to show the results of People Counting: Line Chart and Bar Chart.

And then you can click

to export it.





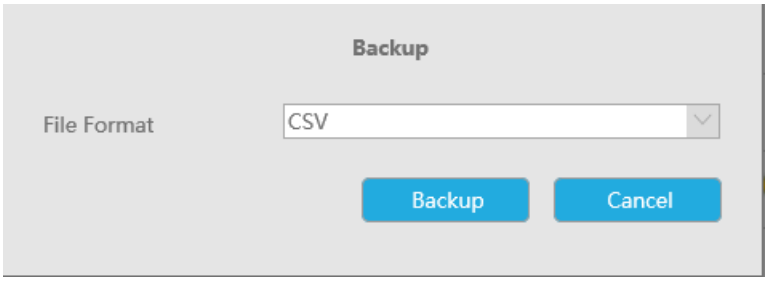
Step3: You can backup the results of People Counting. For People Counting by Group, you can back up the results in two ways:

(1) Backup the group you want.

Step1: Choose the group you want to backup and click backup button

;

Step2: Select the file format, and then click export button.



(2) Backup all.

Step1: Click backup all button

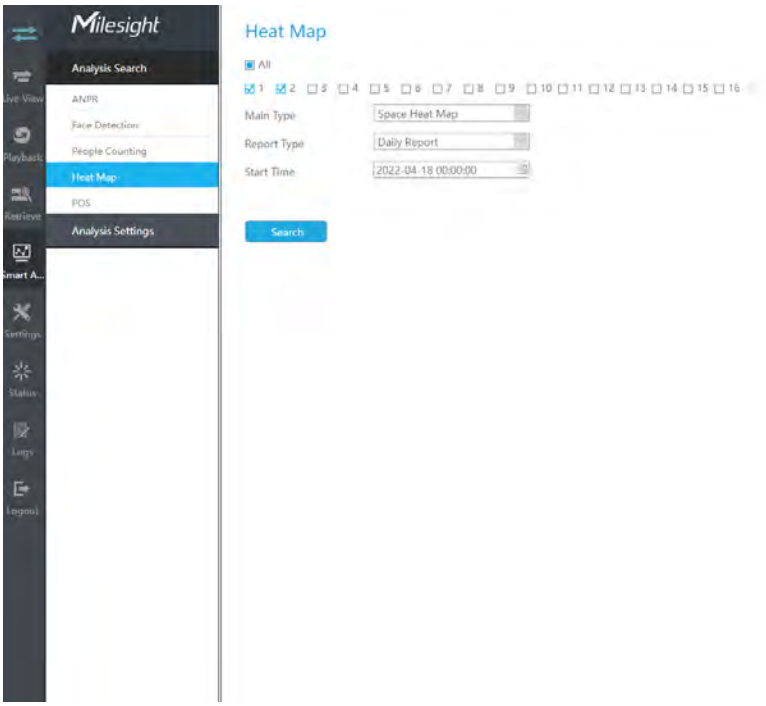
;

Step2: Select the file format, and then click export button.

Then you will get corresponding file.

3.5.1.4 Heat Map

You can Search and Export Heat Map results.

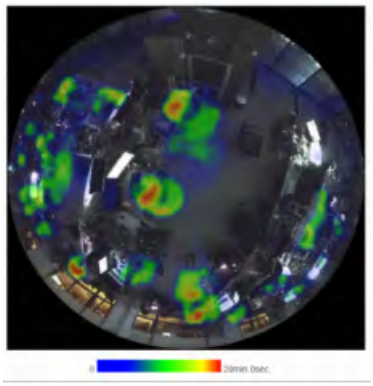


Step1: Entering search conditions.

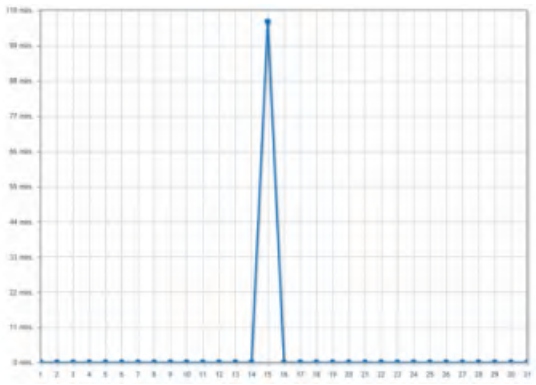
Step2: Check the corresponding channels. It supports simultaneous search of multi-channel reports.

Step3: Select the Main Type. Space Heat Map and Time Heat Map are available.

(1) Space Heat Map: Space Heat Map will be presented as a picture with different colors. Different colors represent different heat values. Red represents the highest and blue represents the lowest.



(2) Time Heat Map: Time heat map will be presented as a line chart to show the heat at different times.



Step4: Select the Report Type. Daily Report, Weekly Report, Monthly Report and Annual Report are available.

Step5: Input the time from which you want to Search.

Step6: Click

to obtain the corresponding result and then you can click

to export it.

3.5.1.5 POS

You can Search and Backup the results of POS.

Step1: Entering search conditions.

POS No.: Select the POS number first.

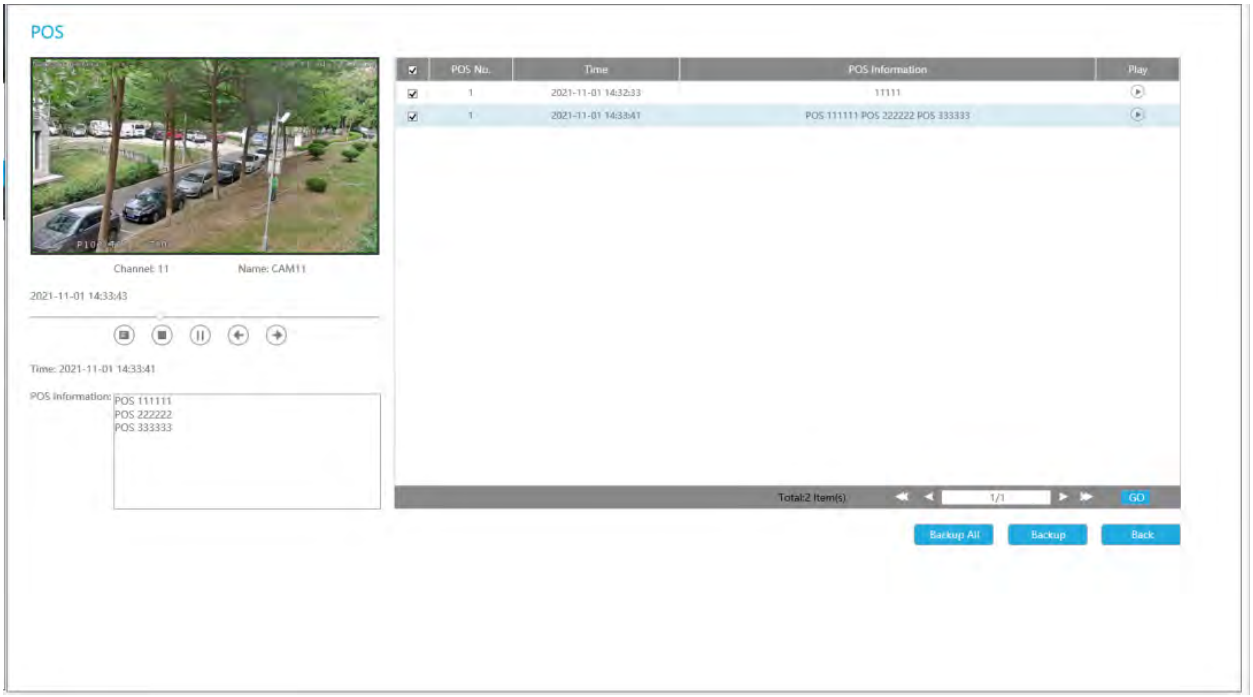
POS Content: Enter the POS information keywords you want to search.

Start Time: Input the start time from which you want to search.

End Time: Input the end time from which you want to search.

Step2: Click

to obtain the corresponding result.



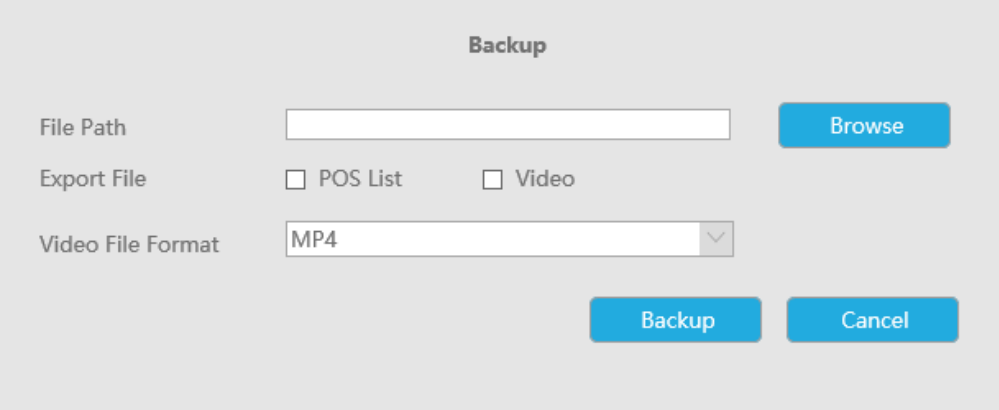
You can click ▶ to play the video.

There are two methods to backup POS results.

(1) Backup the POS information you want.

Step1: Tick the POS information you want to backup and click backup button Backup;

Step2: Select the export file type and video file format, then click export button.



(2) Backup all.

Step1: Click backup all Backup All button;

Step2: Select the export file type and video file format, then click export button.

Then you will get corresponding file as selected export file type.

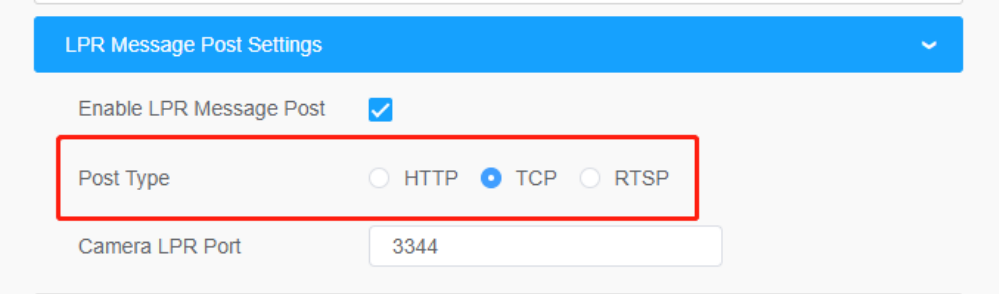
3.5.2 Analysis Settings

3.5.2.1 ANPR

ANPR settings consist of Settings, List Management, Black List Mode, White List Mode and Visitor Mode. Here are some notes for using ANPR function.

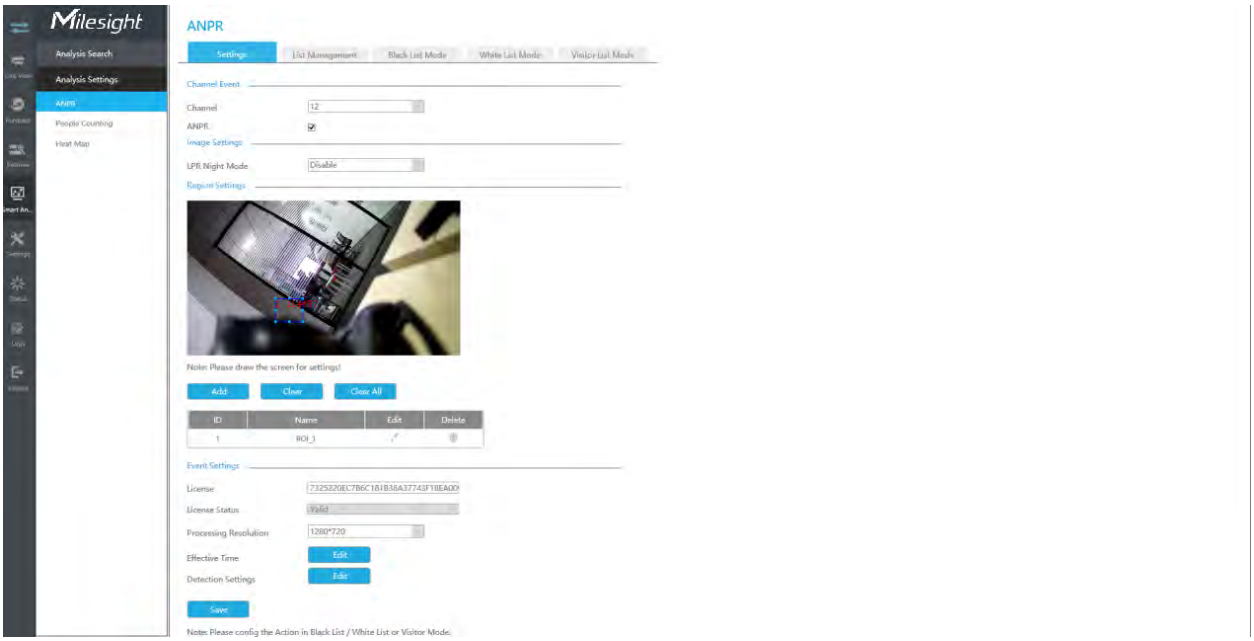
Note:

- Insert available HDD to NVR.
- Upgrade your device to corresponded firmware version.
  - Camera: V4X.7.0.72-r16 or above
  - NVR: V7X.9.0.7-r7 or above
- Ensure both camera and NVR support LPR/ANPR function. Up to 16 ANPR channels are supported for Milesight NVR.
- Ensure that NVR can get license plate information. Please set TCP which is the default mode as Post Type. It can be set in Camera web page Settings -> LPR -> General Settings interface.



Settings

Do as following 5 steps to enable ANPR function. Camera will start to detect license plate and NVR will start to receive license plate information once these steps are done.



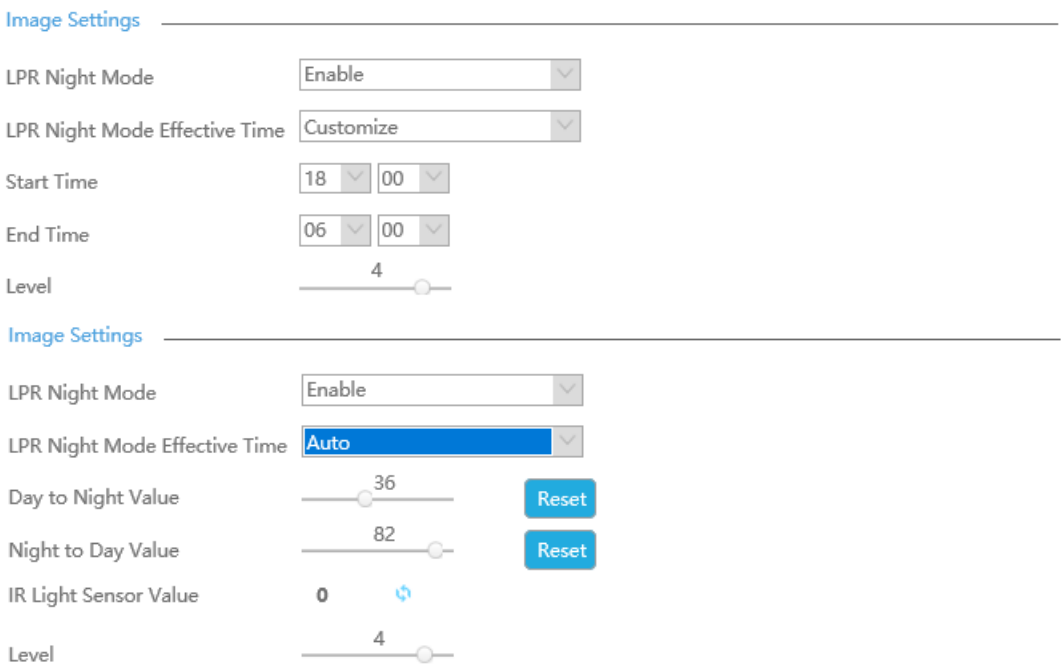
Step 1: Select a channel and enable ANPR function;

License: Generated by camera's information

License Status: Show present license status, including Valid, Invalid, Expired, Inactivated

Step 2: Select processing resolution. The further distance you detect, the higher resolution is needed. 1280*720 by default;

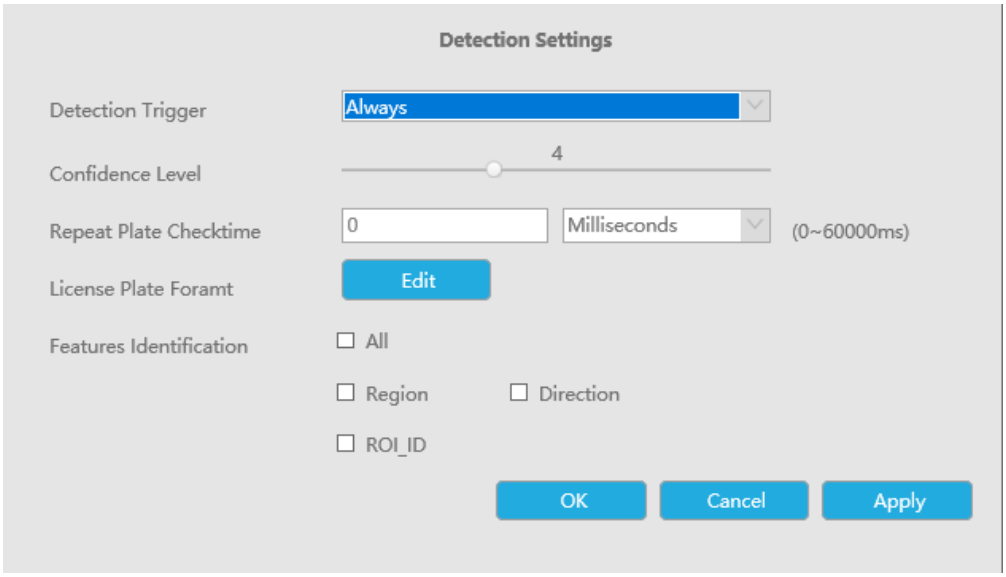
Step 3: Enable LPR Night Mode, then you can set LPR Night Mode Effective Time. There are two options available: Customize and Auto. Auto option supports automatic switch between day and night.



Note: Make sure your camera's version is 4X.7.0.77 or above so that the Auto option for LPR Night Mode Effective Time is available.

Step 4: Set ANPR function effective time;

Step 5: Set detection parameters including Detection Trigger, Confidence Level, License Plate Format, Repeat Plate Checktime and Features Identification;

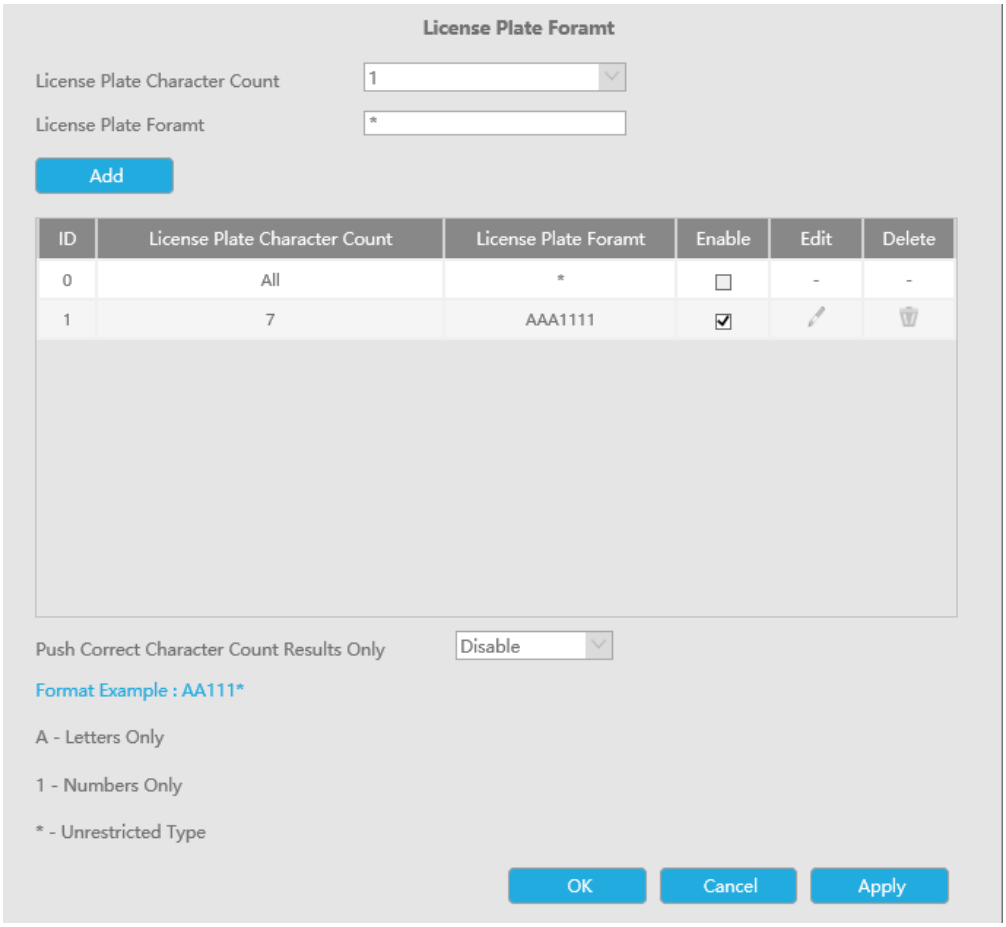


Detection Trigger: Always and Camera Alarm Input are available. It will only detect information when alarm input is triggered if you select Camera Alarm Input.

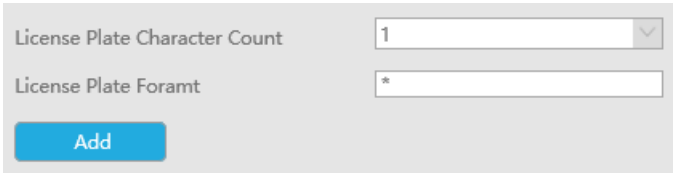
Confidence Level: You can set the Confidence Level, and the higher the level, the more accurate the identification is.

Repeat Plate Checktime: The same license plate information won't be received on NVR within the time you set.

License Plate Format: Set corresponding License Plate Format to screen out license plates conforming to the count and format you set to improve recognition accuracy.



- Click to add a License Plate Format.



- Select License Plate Character Count, which is 1-9.

- Fill in License Plate Format you want to detect. A stands for Letters, 1 stands for numbers and * stands for unrestricted type.

Push Correct Character Count Results Only:

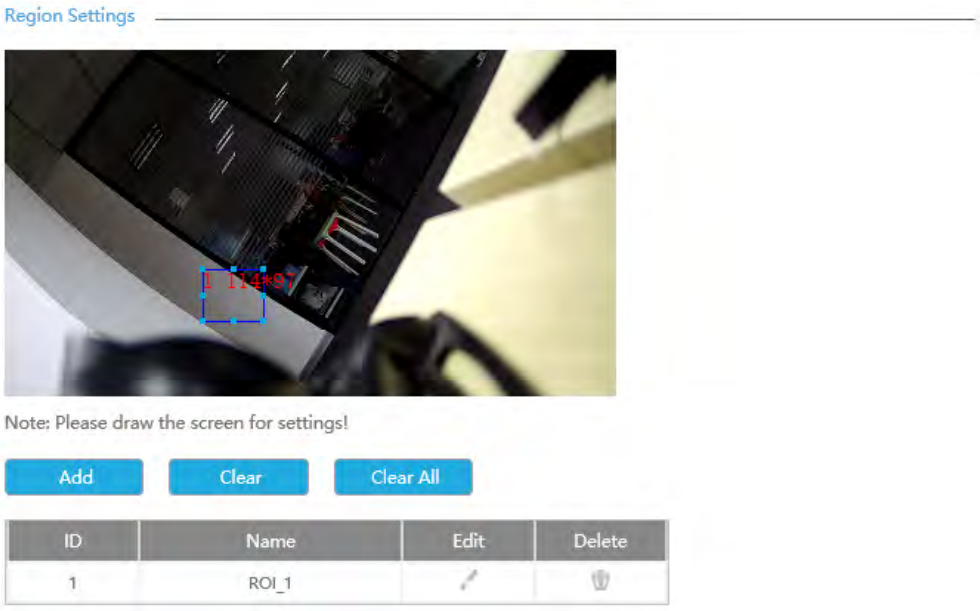
If the count of the detected license doesn't match your configuration, it will push correct character count results by completing or reducing characters automatically.

Note:

1. Make sure your camera Version is 4X.7.0.74 or above.
2. You can add 8 rules at most.

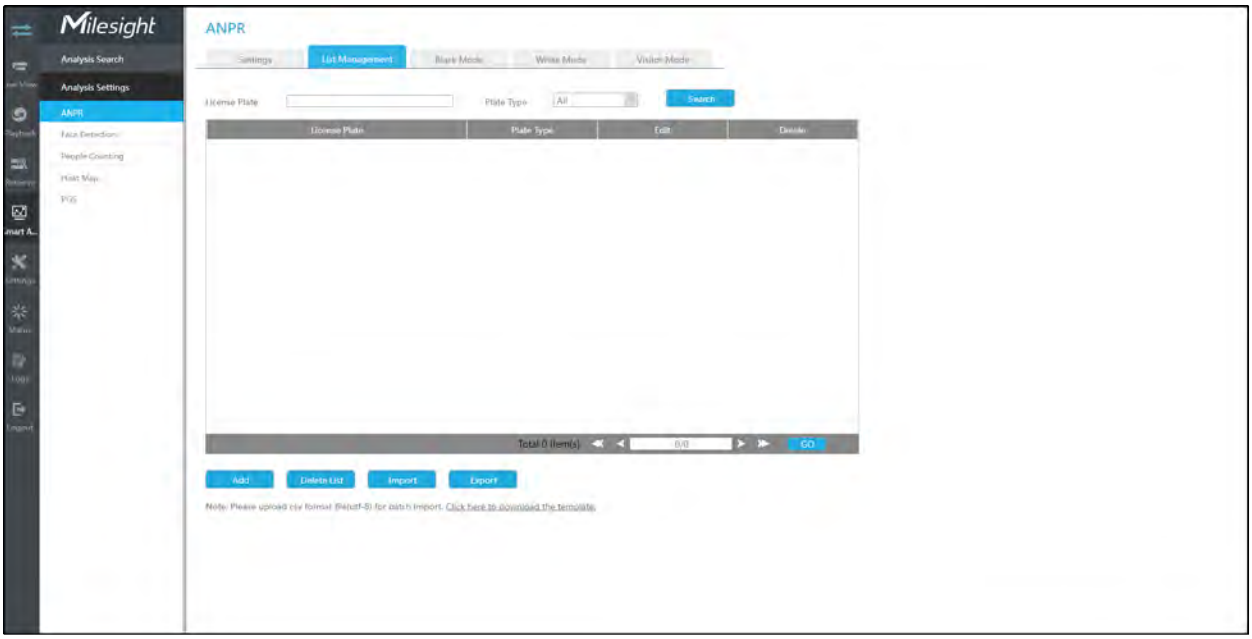
Features Identification: The selected features identification will be shown in ANPR logs interface.

Step 6: Set the detected ROI region which can be up to 4 regions. License plate will only be detected in the ROI regions.



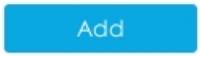
List Management

Make a license plate list for your own NVR ANPR system. You can upload license plates and set them with different license type here. 10000 plates can be added at most.



There are two methods to add license plates:

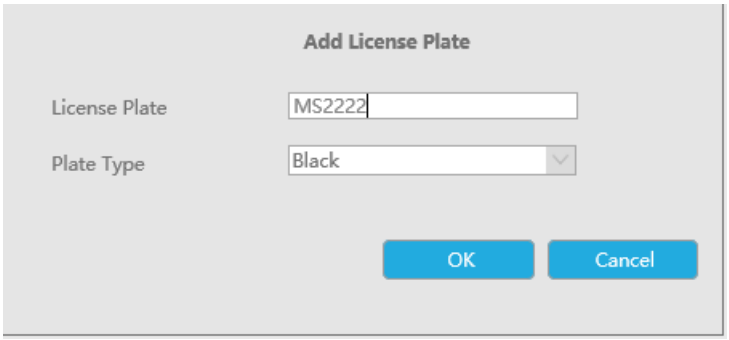
- Add one by one.

Step 1: Click Add button 

;

Step 2: Input the license plate and select license type;

Step 3: Click OK and then the license plate will be added into the list;



- Batch adding by importing template.

Step 1: Click Click here to download the template. , select USB device folder and click OK to download Template;

Step 2: Input all license type and license plate number as Template shows;

	A	B
1	Type	Plate
2	White	2008ZGZ
3	Black	34AB1234
4		

Step 3: Click Import button

, select the file and click OK to add all license plates into list.

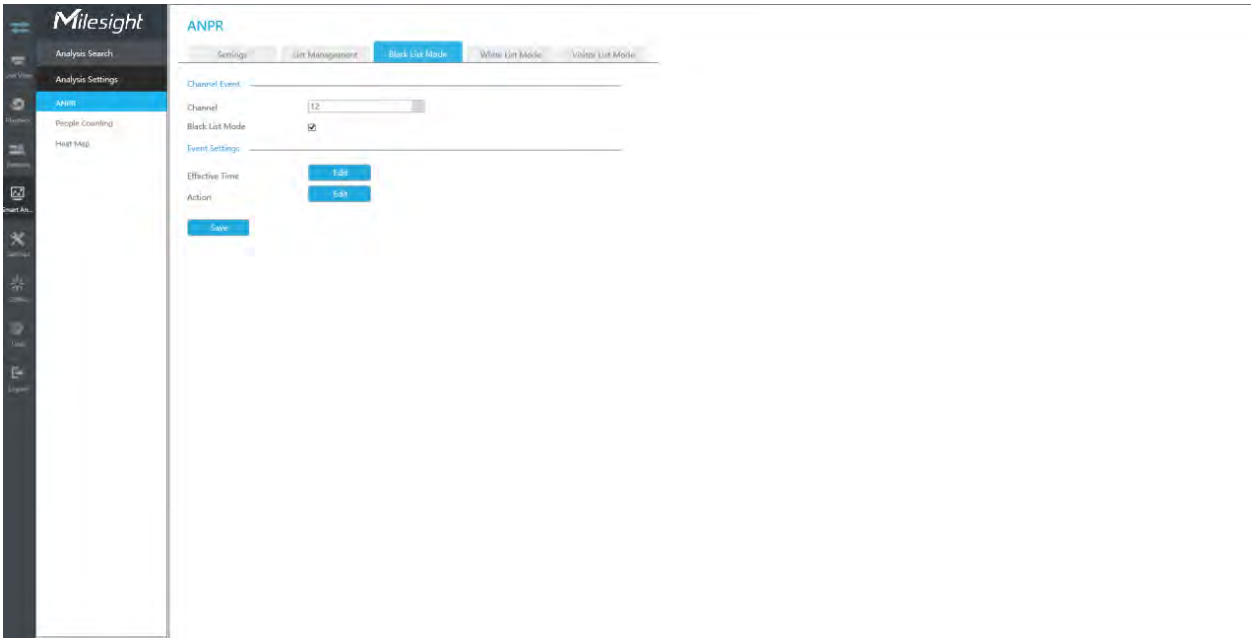
Black List Mode/White List Mode/Visitor Mode

We provide you three modes for better event management, which is based on two license types.

Black List Mode: Manage event for license plates in black list.

White List Mode: Manage event for license plates in white list.

Visitor Mode: Manage event for those license plates do not have license type.



Step 1: Enable Black List Mode/White List Mode/Visitor Mode as your demand;

Step 2: Set effective time which means Mode works during that;

Step 3: Set action including Audible Warning, Email Linkage, Event Popup, PTZ Action, Alarm Output, White LED and Trigger Channels Record.

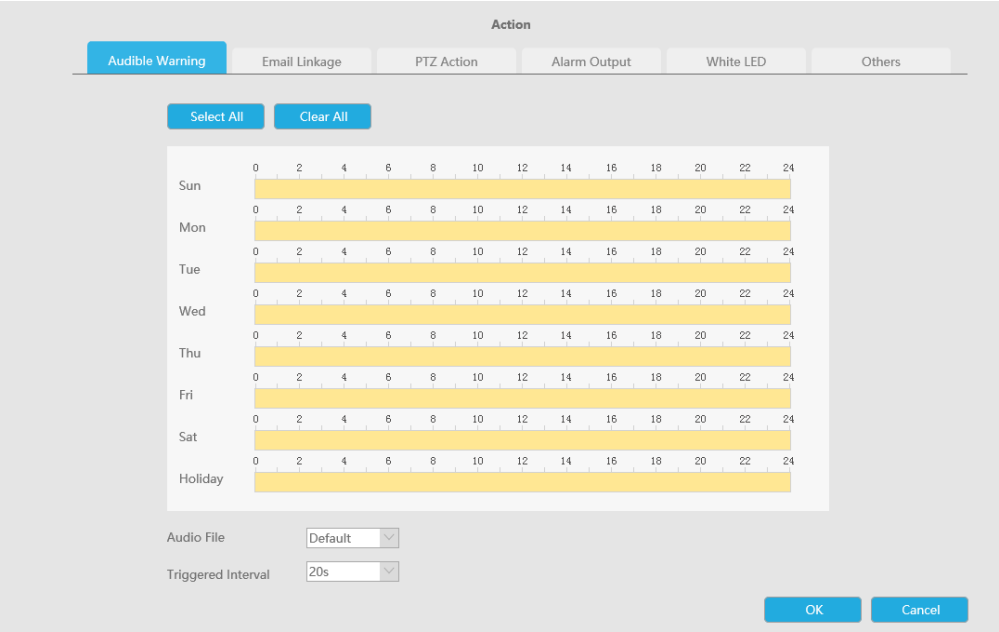
Audible Warning:NVR will trigger an audible warning when event is detected.

The user can set effective schedule as following two ways:

1. Select the operation type: Audible or Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit record effective time manually.

Audio File: Users can select the audio file as needed for audible warning. The default is an audible beep.

Triggered Interval: The effective interval between two actions when event triggered.



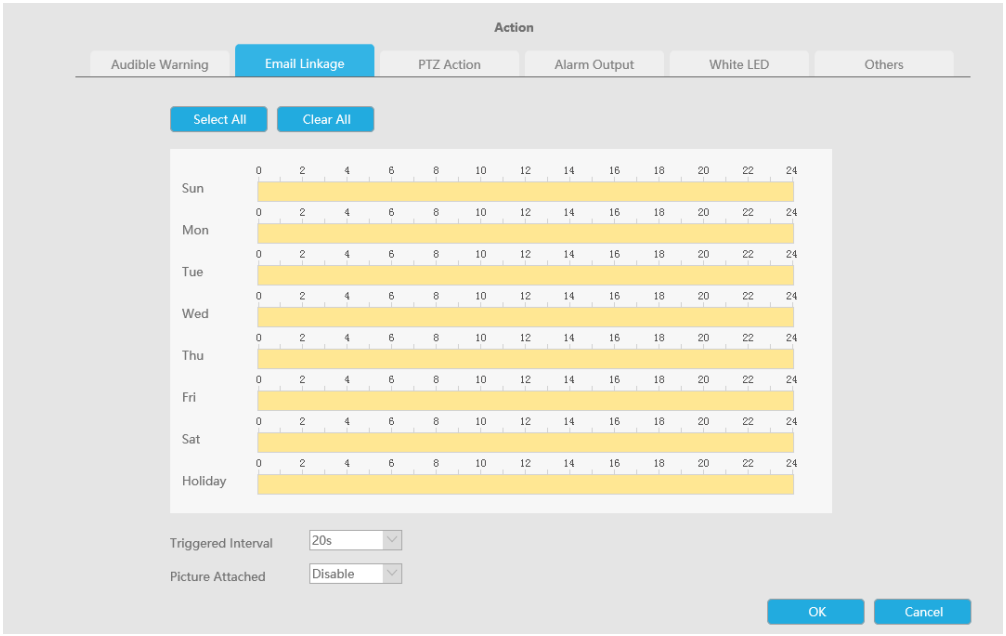
Email Linkage:NVR will send an email to the address you set before.

The user can set effective schedule as following two ways:

1. Select the operation type, Email and Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.

Triggered Interval: The effective interval between two actions when event triggered.

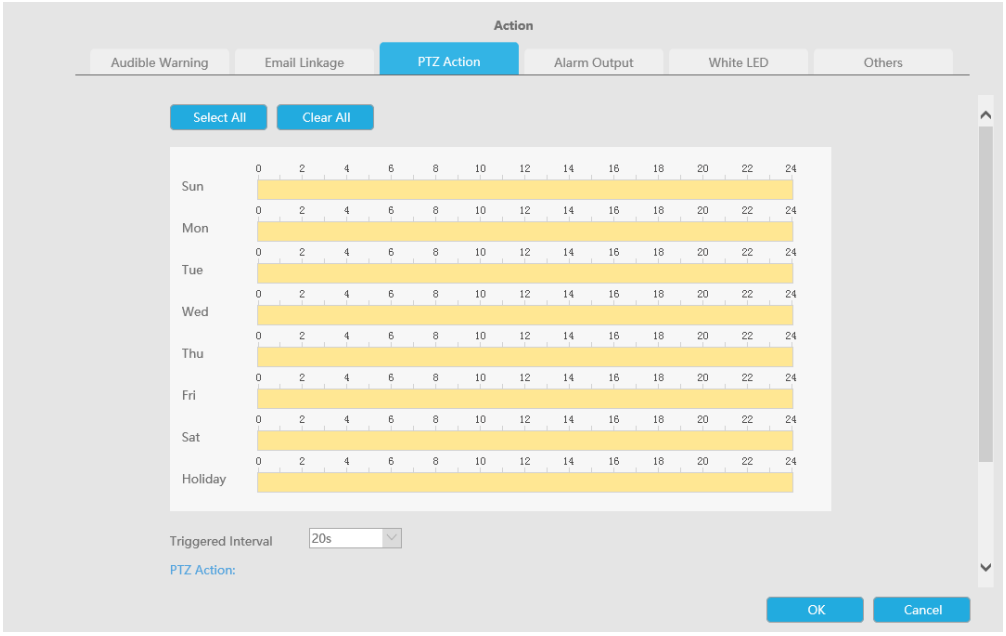
Picture Attached: Select whether to attach picture when sending Emails. If you enable it, you will receive alarm emails with one event captured picture attached.



PTZ Action: Trigger PTZ action when alarm is triggered. PTZ action includes **Preset and Patrol.**

User can set effective schedule as following two ways:

1. Select the operation type: PTZ or Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.



And you can add PTZ Action by clicking .

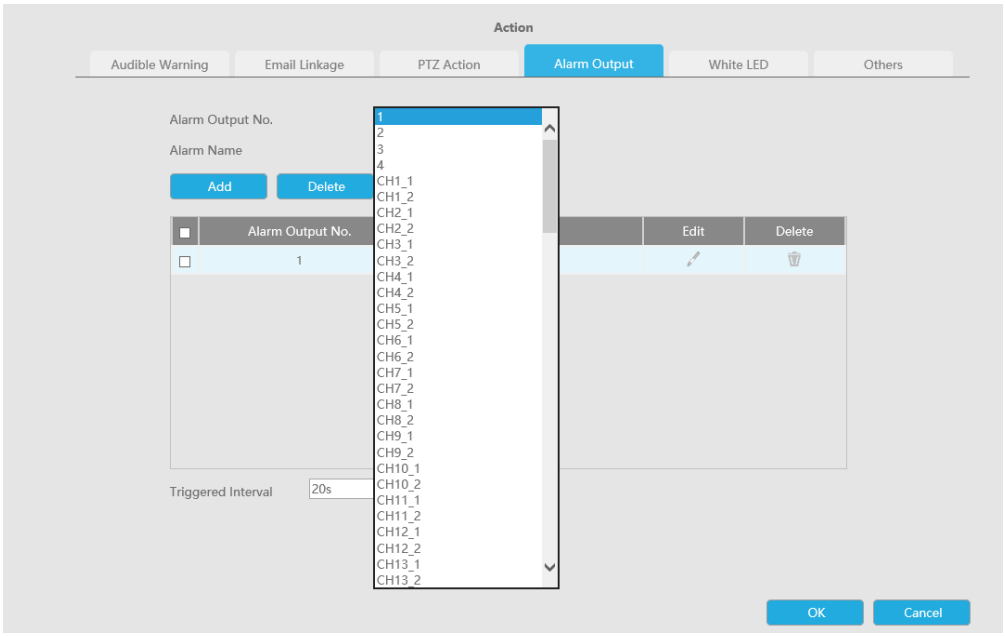
Channel: Select the channel which supports this function.

Action Type: Preset and Patrol are available.

No.: Select the number of Preset or Patrol.

Alarm Output: Trigger alarm output when alarm is triggered. For NVR Alarm Output, the relevant alarm output will be firstly listed, such as, 1, 2.etc. As for camera Alarm Output, it will display as CHx_x (such as CH1_1) according to the camera channel and corresponding alarm number.

Triggered Interval: The effective interval between two actions when event triggered.



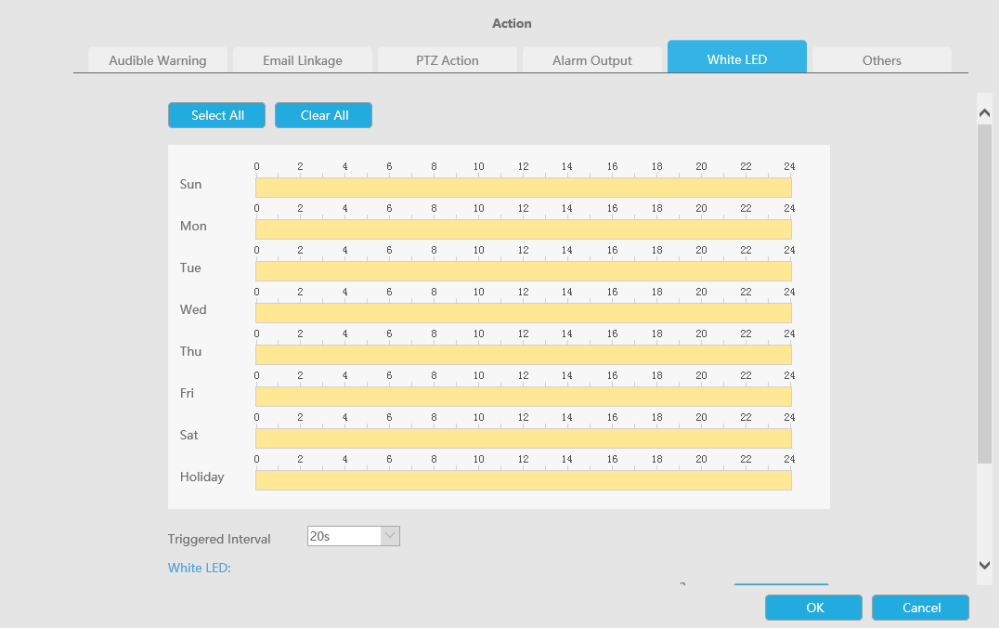
White LED: Trigger White LED flashing when alarm is triggered.

The user can set effective schedule as following two ways:

User can set effective schedule as following two ways:

1. Select the operation type, White LED and Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.

Triggered Interval: The effective interval between two actions when event triggered.



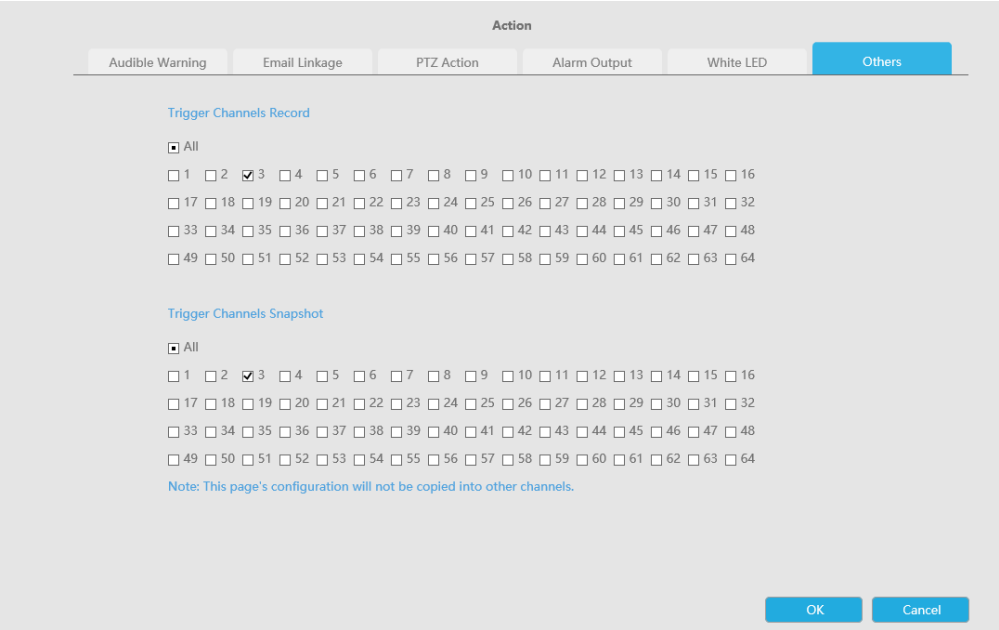
And you can add White LED by clicking .

Channel: Select the channel which supports this function.

Flash Mode: Twinkle and Always are available.

Flash Time: Set the time for White LED flashing. When the Flash Mode is Twinkle, the range of Flash Time is 1~10 and the default value is 3. When the Flash Mode is Always, the range of Flash Time is 1~60 and the default value is 5.

Others: Trigger selected channels to record when alarm is triggered.



Note:

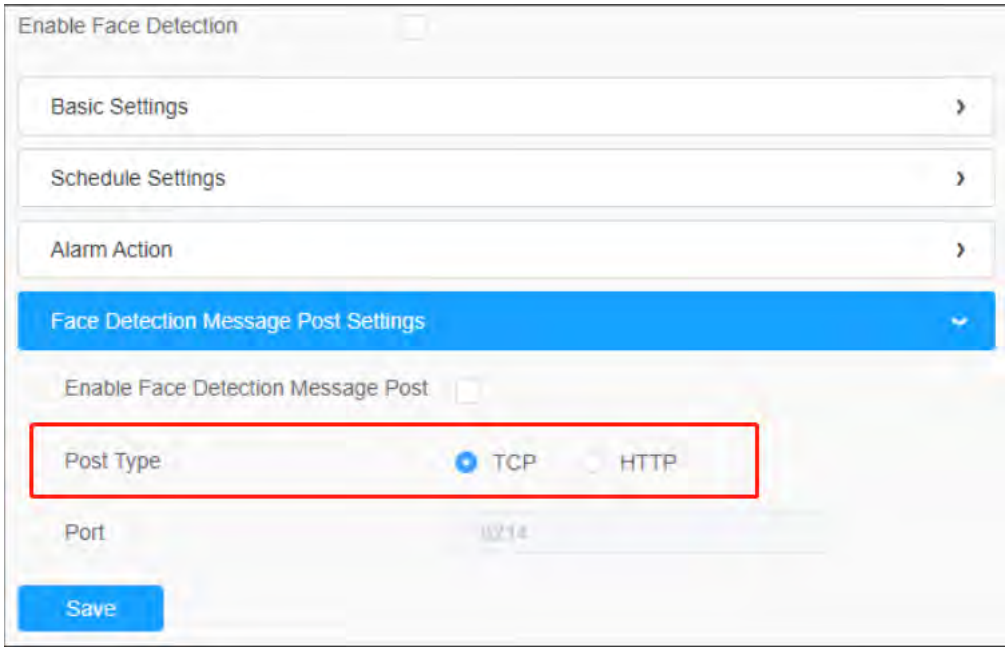
1. The list is exclusive for NVR, working with all LPR cameras you add. It won't synchronize with the list on camera side.
2. Do not forget to enable these modes, set effective time and record action for corresponded mode, ensuring that you can get real-time video when license plate is detected (Effective time and record action is enabled by default.)

3.5.2.2 Face Detection

Face Detection settings consist of Face Capture and Advanced. Here are some notes for using Face Detection function.

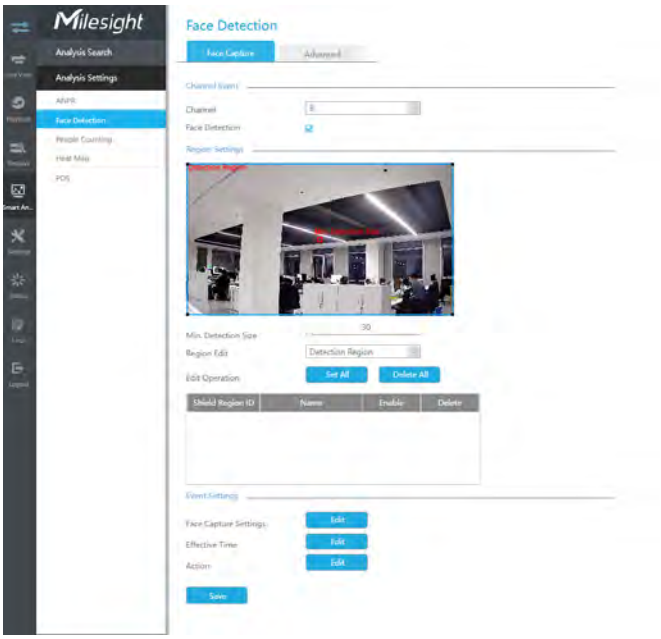
Note:

1. Ensure that there is available HDD on NVR and correct record settings is made, so that you can check the record on live view.
2. Ensure that NVR can get the face information. Please set TCP which is the default mode as Post Type. It can be set in Camera web page -> Event -> Face Detection -> Face Capture interface.



3. Make sure your camera is AI Series and version is V4x.7.0.79-r25 or above.
4. Make sure your NVR model is MS-Nxxxx-xxT/H.

Face Capture



Step 1: Select a channel and enable Face Detection function;

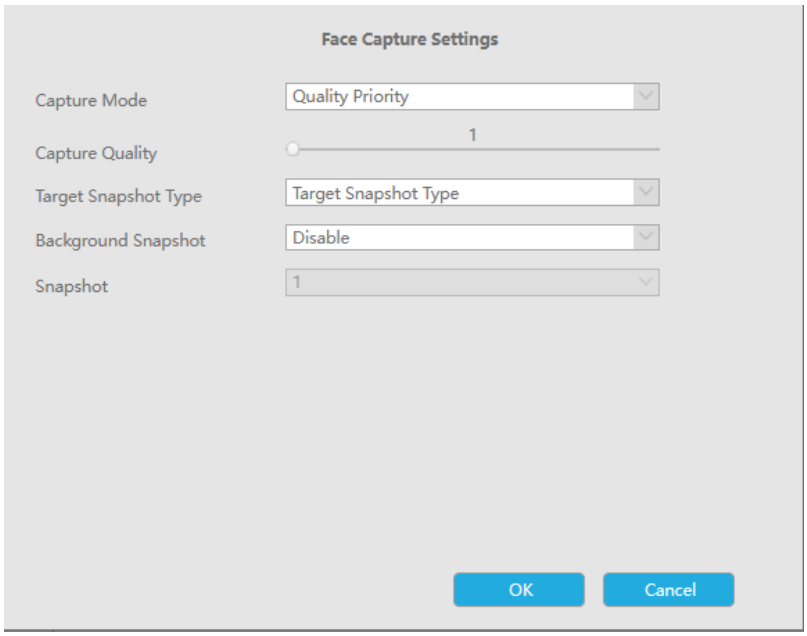
Step 2: Set Min. Detection Size;

Step 3: Set detection region or Shield Region, you can draw the polygon region on the screen directly, or you can also click

or

to select or delete the entire region. Only the faces in the detection region will be detected, and the faces in the shield region will not be detected.

Step 4: Make configuration for face capture snapshot.



Capture Mode: Quality Priority, Timeliness Priority, Customize are available.

- Quality Priority: In this mode, it will push a face screenshot of best quality when the face is detected.
- Timeliness Priority: In this mode, it will push a face screenshot in the shortest time when the face is detected.
- Customize: In this mode, you can customize some detect conditions, including Snapshot Interval, Oblique Face Angle Limit, Pitching Face Angle Limit, Side Face Angle Limit, Blur Limit.

Note: It is recommended to choose Quality Priority Mode.

Target Snapshot Type: Face Only, Upper Body, Whole Body are available.

- Face Only: Capture the screenshot of face only.
- Upper Body: Capture the screenshot of upper body.
- Whole Body: Capture the screenshot of whole body.

If you check the "Background" option, it will take another screenshot of the entire image.

Note: Whether or not the "Background" option is checked, the camera will push the entire image to the NVR side.

Snapshot Interval: 80 milliseconds, 200 milliseconds, 500 milliseconds, 1 second, 2 seconds and 4 seconds are available. This option is optional for Customize mode.

Oblique Face Angle Limit: Set Oblique Face Angle Limit to 1~180. The larger the value, the larger angle the oblique face that can be detected. This option is optional for Customize mode.

Pitching Face Angle Limit: Set Pitching Face Angle Limit to 1~180. The larger the value, the larger angle the pitching face that can be detected. This option is optional for Customize mode.

Side Face Angle Limit: Set Side Face Angle Limit to 1~180. The larger the value, the larger angle the side face that can be detected. This option is optional for Customize mode.

Blur Limit: Set Blur Limit to 1~10. The larger the value, the more blurred the face can be detected. This option is optional for Customize mode.

Snapshot: Set the number of screenshot to 1~5. It will take screenshot based on the snapshot interval you set.

Step 5: Set Face Detection function effective time;

Step 6: Set action including Audible Warning, Email Linkage, Event Popup, PTZ Action, Alarm Output, White LED and Trigger Channels Record.

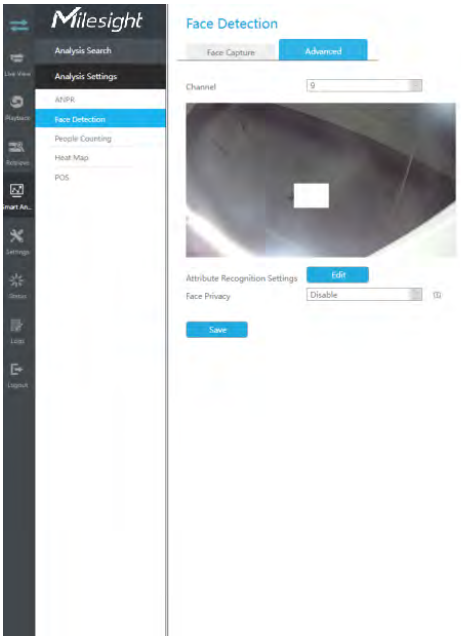
For detailed settings of these actions, please refer to Alarm Action *(page 63)*.

Note: The following functions cannot be enabled at the same time as Face Detection.

- VCA
- People Counting&Regional People Counting
- Corridor Mode
- Auto Tracking

Advanced

Here you can enable Attribute Recognition and configure the attributes you want to detect. Or enable the Face Privacy Mode for Face Detection.



Attribute Recognition Settings: The attributes include Age, Gender, Glasses, Mask and Cap. Users can choose the attributes as needed.

Face Privacy: When Face Privacy Mode is enabled, the detected faces in the face detection area will be mosaic automatically.

Note:

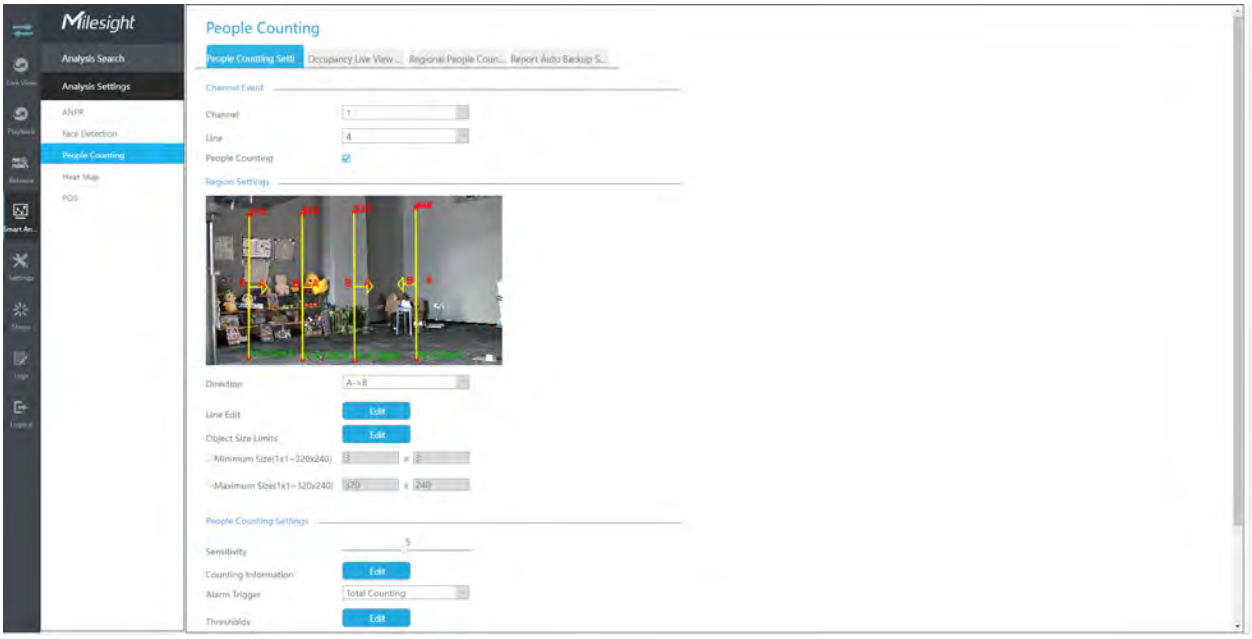
1. Attribute Recognition function cannot be used together with Face Privacy function
2. To enable Face Privacy Mode, the video parameters will be changed to the recommended configuration as shown below:

- H.265 video codec (all streams)
- Primary Stream: 1080P@25fps
- Secondary Stream: 704*576@25fps
- Tertiary Stream: Disabled

3.5.2.3 People Counting

People Counting Settings

People counting is able to count that how many people enter or exit during the setting period.



Step1. Enable Channel Event.

Select Channel and Detection Line, then enable People Counting.

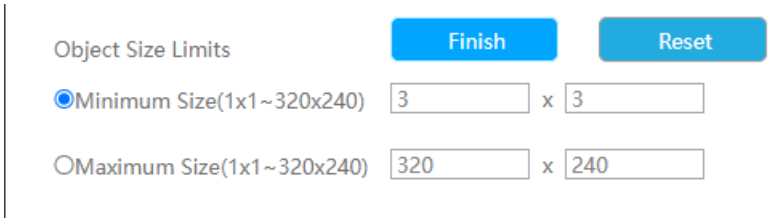
Step 2. Set Detection Lines.

Select the direction and draw the line after clicking

button.

Note: It supports drawing up to 4 detection lines and configures them individually.

Step 3. Set Object Size Limits.



Minimum Size: The Min. Size means that only if the object size is bigger than the frame, the settings for People Counting will take effect.

Maximum Size: The Max. Size means the opposite, only if the object size is smaller than the frame you drew on the screen, the settings for People Counting will take effect.

Step 4. Set Detecting Sensitivity.

Step 5. Set Counting Information by clicking "Edit" button.

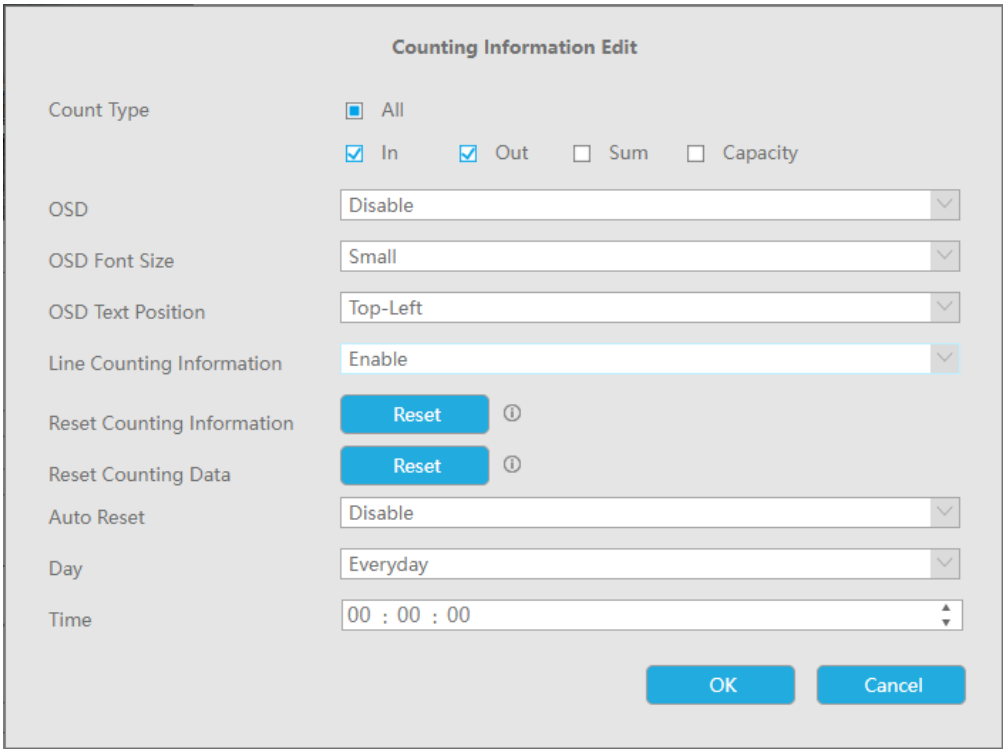
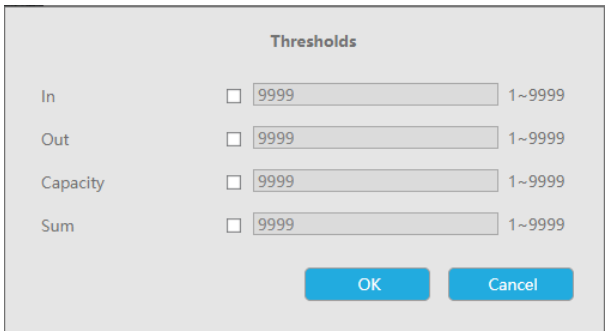


Table 6.

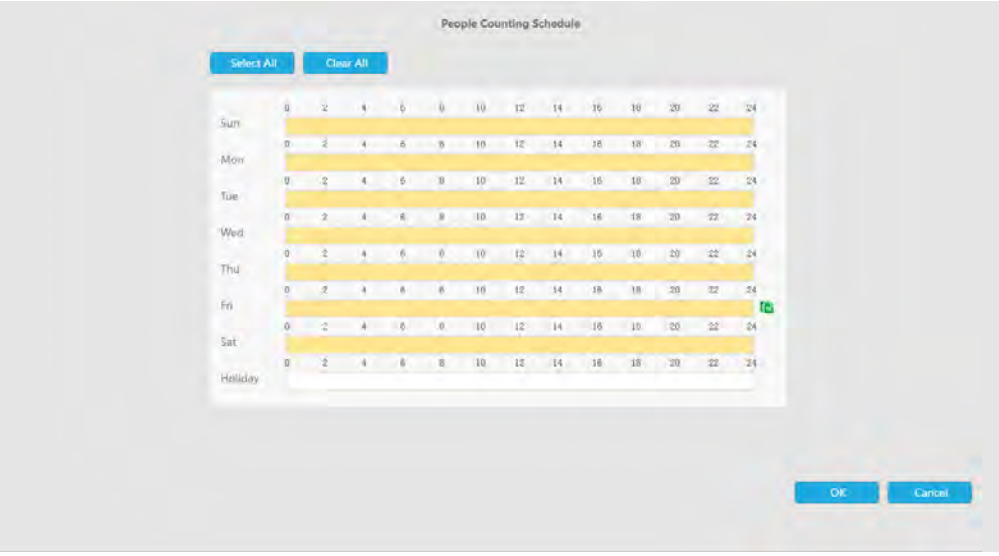
Parameters	Function Introduction
Count Type	Users can choose the information they want to display in Live Video.
OSD	Enable/disable the OSD shown.
OSD Font Size	The font size of the OSD display.
OSD Text Position	The text position of the OSD display.
Line Counting Information	Enable/disable the line counting information.
Reset Counting Information	Click this button to clear the count information on the OSD
Reset Counting Data	Click this button to clear the count information in the database. **Note:** After enabling this option, the count information of the search interface will also be cleared.
Auto Reset	It is used to automatically clear the counting information according to your settings.
Day	The day of Auto Reset.
Time	The time of Auto Reset.

Step 6. Set Alarm Trigger and Alarm Action.

Table 7.

Parameters	Function Introduction
Alarm Trigger	Alarm will be triggered when the thresholds reaches to a certain value from 1 to 9999. Total Counting and Single Counting are available. You can set the Alarm Thresholds of In/Out/Capacity/Sum.  **Note:** • For Total Counting, the thresholds are the sum of the total number of 4 detection lines. • For Single Counting, the threshold is for the selected detection line.
Alarm Action	Set action including Audible Warning, Email Linkage, PTZ Action, Alarm Output, White LED, HTTP Notification and Others. For detailed settings of these actions, please refer to Alarm Action *(page 63)*. **Note:** • The alarm action is effective on 4 detection lines simultaneously. • If you enable External Output and choose Constant External Output Action Time, when the thresholds reach to a certain value you set, External Output Action alarm time will be always constant till the alarm is released.

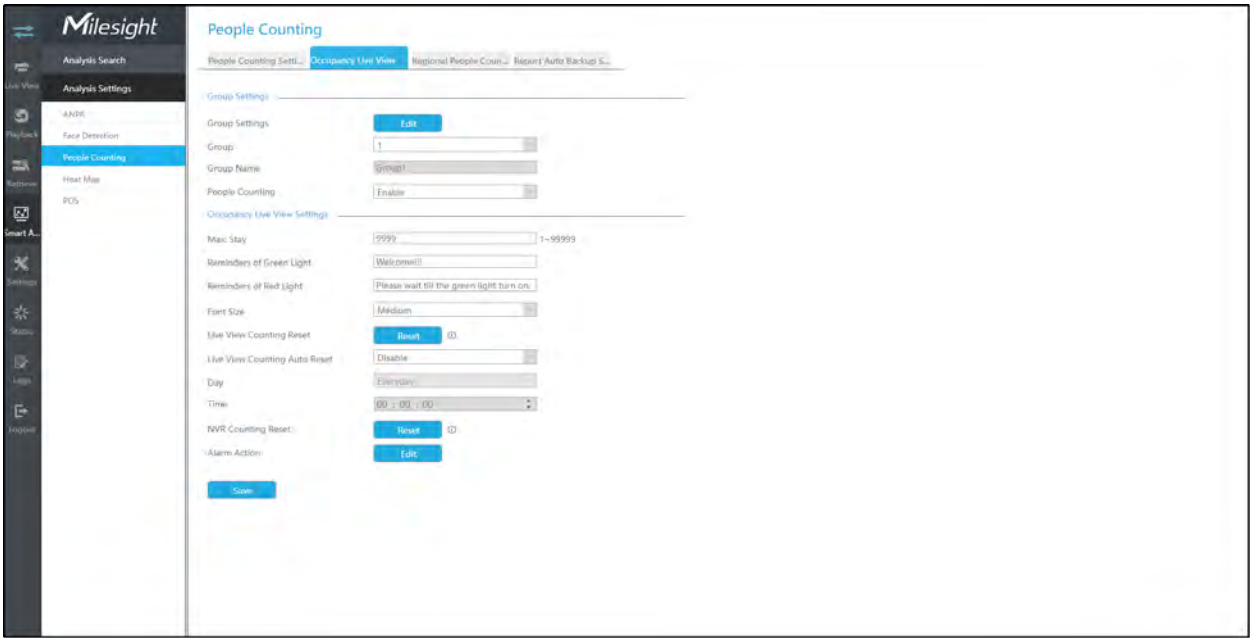
Step 7. Set People Counting detection schedule by clicking "Edit" button.



Step 8. Click [Copy to Camera] to copy the same configuration to other channels.

Occupancy Live View Settings

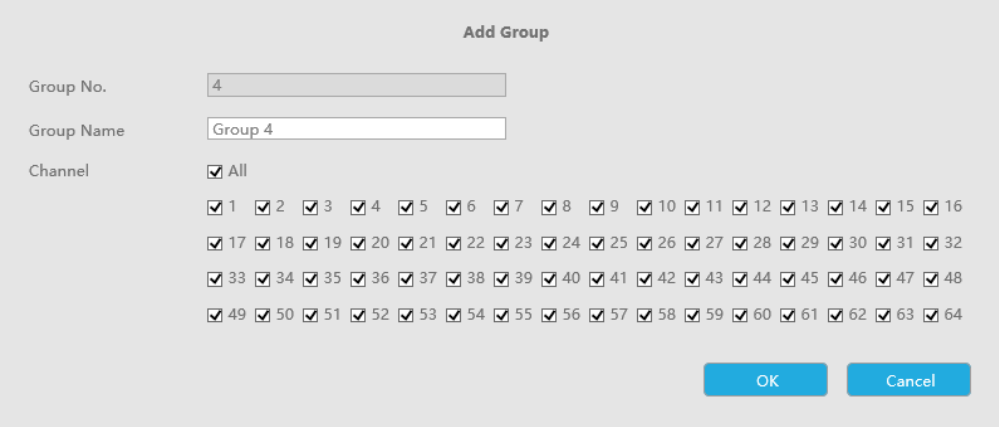
You can configure information about Occupancy Live View on the page.



Note: Make sure your camera's version is 4X.7.0.77 or above.

Step 1. Set Group.

Group Settings: Click Edit to pop up the Group Settings interface. Then you can click to add Group in the interface, and edit the Group Name and select the Channels to join the Group in the Add Group interface. You can add up to 9 Groups.



Step 2. Select a Group from the added Groups.

Group Name: The corresponding Group Name will be automatically obtained according to the Group No. you choose. You can modify the Group Name by clicking on the corresponding Group in the Group Settings interface.

Step 3. Enable People Counting for the selected Group.

Step 4. Set the relevant parameters of People Counting.

Max. Stays: Set the maximum number of people staying from 1 to 99999, the default value is 99999.

Reminders of Green Light: Set the prompt when Green Light is on in the Occupancy Live View interface, up to 45 characters. The default prompt is “Welcome!!!”.

Reminders of Red Light: Set the prompt when Red Light is on in the Occupancy Live View interface, up to 45 characters. The default prompt is “Please wait till the green light turns on.”.

Font Size: Select the font size of the prompt. There are three options: Small, Medium and Large.

Live View Counting Reset: Reset the Group counting data in the Occupancy Live View interface.

Live View Counting Auto Reset/Day/Time: The Group counting data is automatically reset at the set time when Live View Counting Auto Reset is enabled.

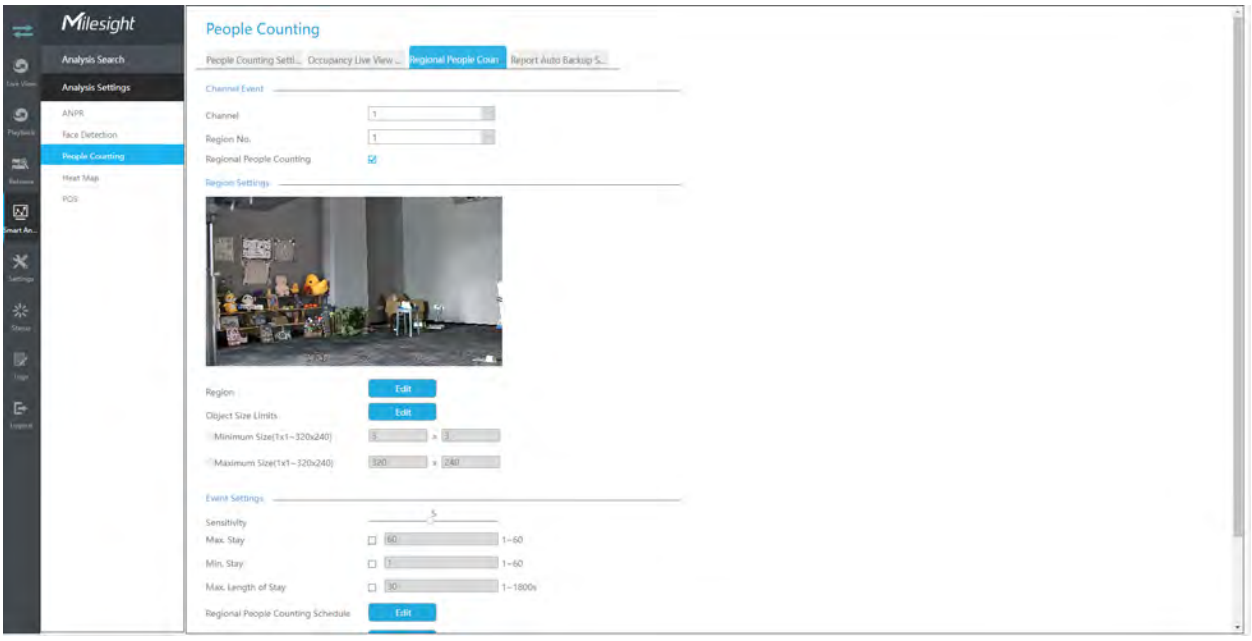
NVR Counting Reset: Reset the Group counting data stored in NVR side, and also reset the Group counting data in the Occupancy Live View interface.

Alarm Action: Alarm is triggered when the number of people staying in the current group reaches the set maximum number of people staying. You can set alarm action including Audible Warning, Email Linkage, PTZ Action, Alarm Output and White LED.

For detailed settings of these actions, please refer to Alarm Action *(page 63)*

Regional People Counting Settings

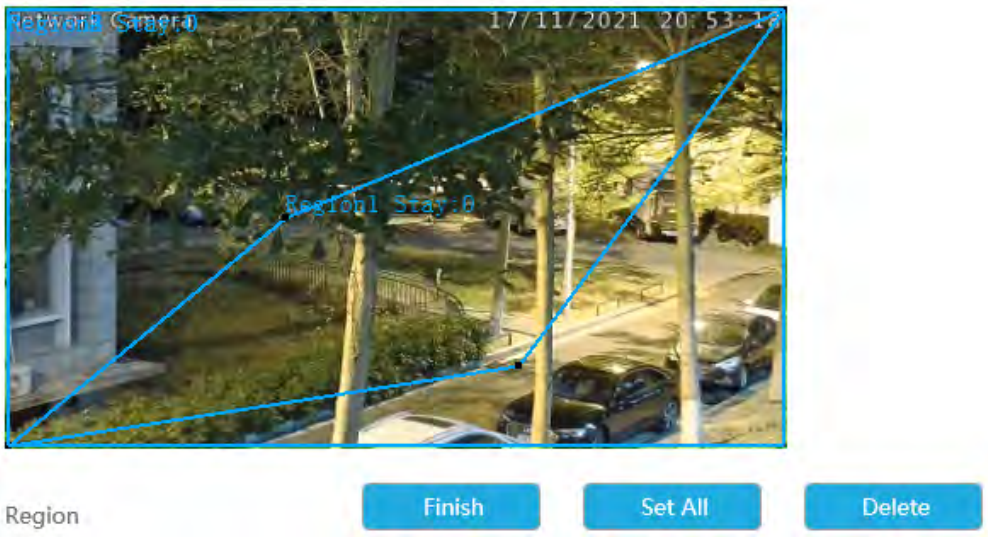
When enabling Regional People Counting, users can check the real-time number of people and the time of each person's stay in the detection region.



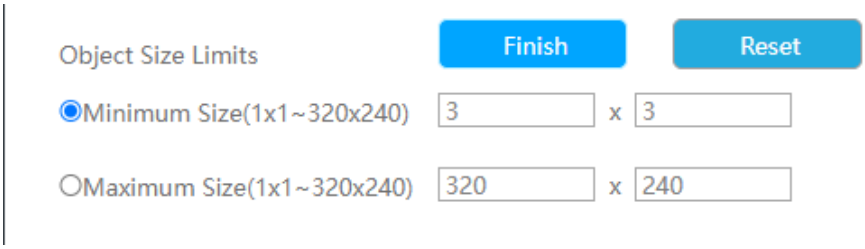
Step 1. Select channel and the region number to configure, then enable Regional People Counting.

Note: Ensure that your camera model is MS-CXXXX-XXC and camera version is 4X.7.0.78 or above.

Step 2. Set detection region.



Step3.Set Minimum Size and Maximum Size.



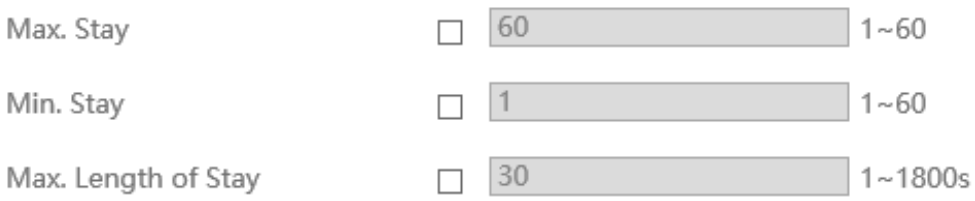
Minimum Size: The Min. Size means that only if the object size is bigger than the frame, the settings for Regional People Counting will take effect.

Maximum Size: The Max. Size means the opposite, only if the object size is smaller than the frame you drew on the screen, the settings for Regional People Counting will take effect.

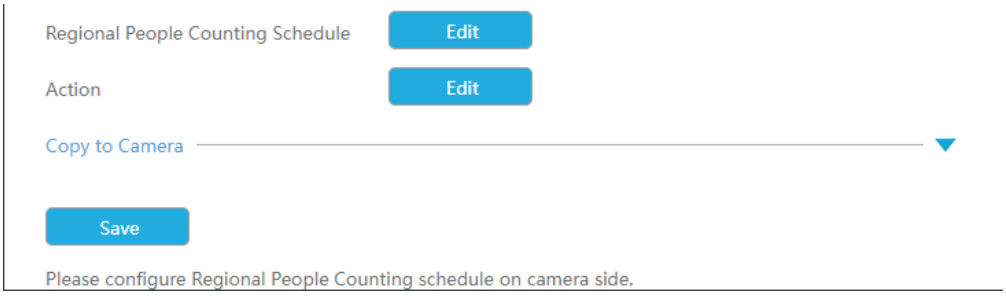
Step4.Set Sensitivity.

Level 1~10 are available, the default level is 5. The higher the sensitivity, the easier the moving subjects to be recorded in the result.

Step5. Set alarm trigger. Alarm will be triggered when the threshold exceeds the certain value.



Step 6. Set detection schedule by clicking "Edit" button.

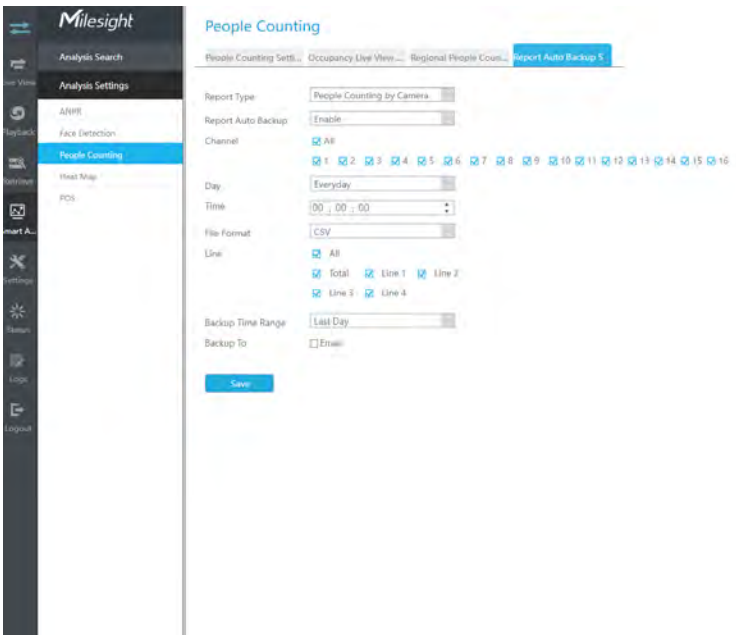


Step 7. Set alarm action including Audible Warning, Email Linkage, Event Popup, PTZ Action, Alarm Output, White LED and Trigger Channels Record.

For detailed settings of these actions, please refer to Alarm Action *(page 63)*.

Report Auto Backup Settings

Here users can configure Auto Backup of People Counting reports. Then you can periodically export .CSV reports of the last day, last week, or all to the external device or Email.



Step 1: Select Report Type including People Counting by Camera, People Counting by Group and Regional People Counting.

Step 2: Enable Report Auto Backup, and then select the Channel or Group.

Step 3: Set the day and the time.

Step4: Select the Detection Line.

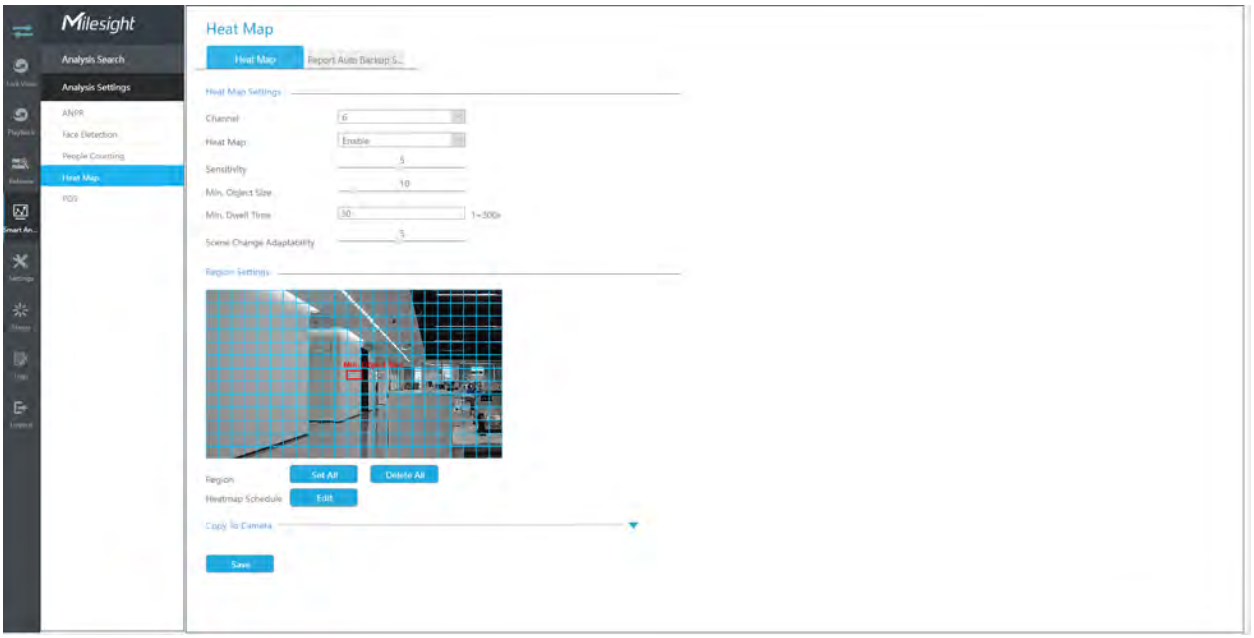
Step 5: Select Backup Time Range including Last Day and Export All.

Step 6: Users can export the reports to the Email.

3.5.2.4 Heat Map

Milesight NVRs support the configuration of the Heat Map function of Milesight cameras on NVR directly and you can search and export the results of Heat Map in Smart Analysis.

Heat Map



Sensitivity: Level 1~10 are available, the default level is 5. The higher the sensitivity, the easier the moving subjects to be recorded in the result.

Min. Object Size: Set the minimum object size from 1 to 100, the default value is 10. Objects smaller than this value will not be recorded in the result.

Min. Dwell Time: Set the minimum dwell time from 1 to 300, the default value is 30. If the object stays in the area longer than the set "Minimum Dwell Time", it will not be recorded in the result.

Scene Change Adaptability: Level 1~10 are available, the default level is 5. Scene Change Adaptability indicates the camera's adaptability to scene changes, which can increase the accuracy of detection. The camera adapts better to faster changing scenes if the value is higher.

Heat Map Region: Draw the screen to set the detection area. You can click “Set All” button to select all areas, or "Clear All" button to remove the current drawn area.

Heatmap Schedule: Set Heat Map schedule by clicking "Edit" button..

Note:

1. Ensure that your camera’s version is 4X.7.0.74 or above.

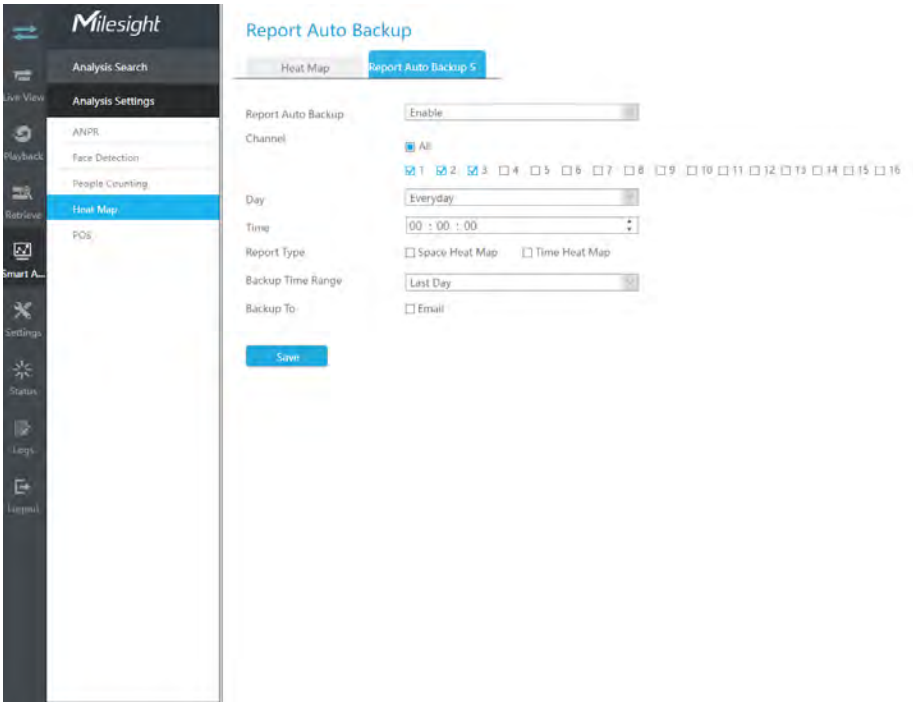
2. Please configure Heat Map schedule on camera side.
3. The Heat Map function only works on the following cameras:

Fisheye: Ensure that the dewarping mode is 1O and the dewarping rule is On-board Dewarping.

Panoramic Mini Bullet: Ensure to turn on the Lens Distort Correct function.

Report Auto Backup Settings

Here users can configure Auto Backup of Heat Map reports. Then you can periodically export .CSV reports of the last day, last week, or all to the external device or Email.



Step 1: Enable Report Auto Backup, and then select the channels.

Step 2: Set the day and the time.

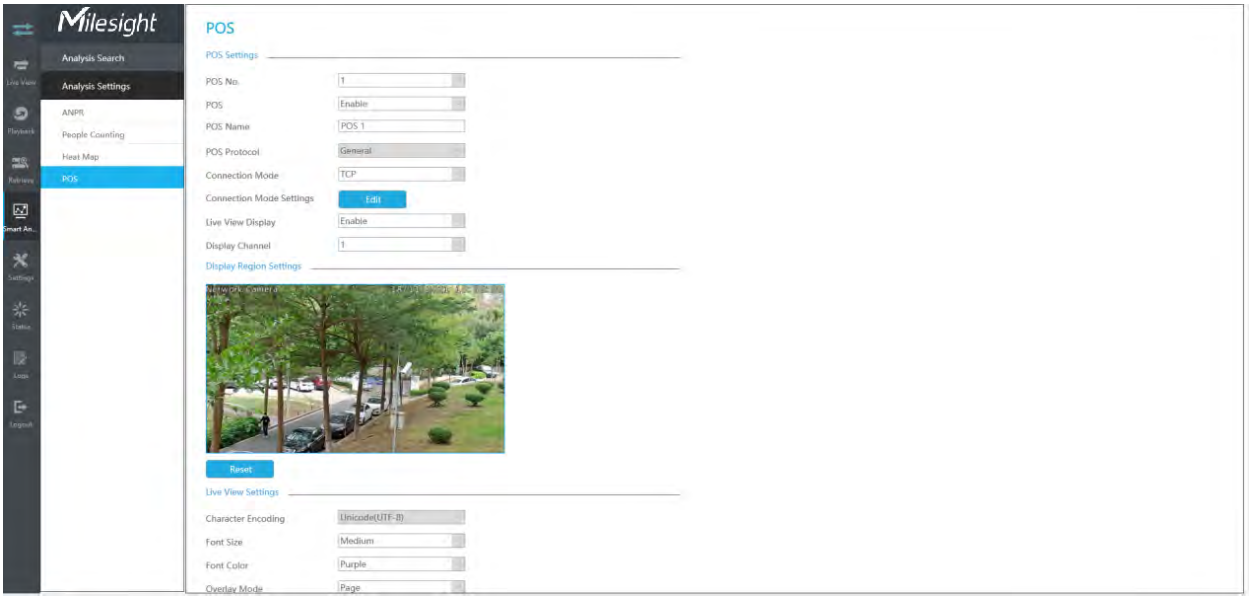
Step 3: Select Report Type including Space Heat Map and Time Heat Map.

Step 4: Select Backup Time Range including Last Day and Export All.

Step 5: Users can export the reports to the external device or Email.

3.5.2.5 POS

You can configure some basic POS information here. When the communication between the POS machine and NVR is available and POS function is enabled on NVR side, NVR can obtain the information transmitted by the POS machine and display the POS information on the configured channel Live View.



Step 1: Select the POS number and enable POS function;

POS Name: You can customize the POS name as needed

POS Protocol: Display the POS communication protocol. The default is General

Connection Mode: Select the connection mode with the POS machine, TCP or UDP is optional

Connection Mode Settings: Set the IP address and POS Port of the POS machine

Step 2: You can enable the Live View Display. When enabled, POS information will be displayed in the Live View and the preview box of each configuration page;

Display Channel: Select the channel on which POS information will be displayed

Note: The information of different POS machines cannot be displayed in the same channel to prevent information overlap.

Display Region: Draw the area in the channel where POS information is displayed

Character Encoding: The encoding format of the information transmitted by the POS machine. The default is Unicode (UTF-8)

Font Size: Set the font size of POS information

Font Color: Set the font color of POS information

Overlay Mode: Set the overlay mode when the channel display area is full in the Live View. Page or Roll is optional

Display Time: Set the display time of single POS information in the Live View

Timeout: Set the expiration time of POS information, and multiple messages sent within the set time will be merged into the same message again

Privacy Settings: Some information can be set to * as needed to protect privacy

Step 3: Set POS function effective time;

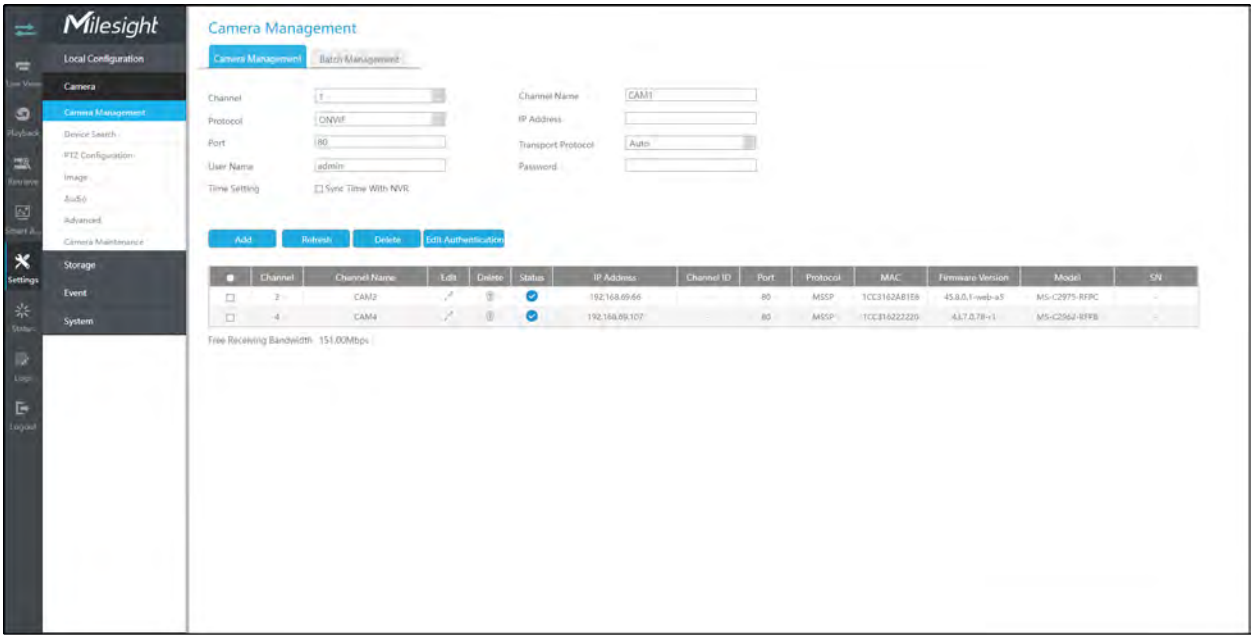
Step 4: Alarm is triggered when NVR obtains the information transmitted by the POS machine. You can set alarm action including Audible Warning, Email Linkage, PTZ Action, Alarm Output, White LED and Others.

For detailed settings of these actions, please refer to ***3.5.2.1 ANPR***.

3.6 Camera

Before configuration, please ensure that the camera is connected to the same network as your NVR and that the network setting for your NVR is properly set.

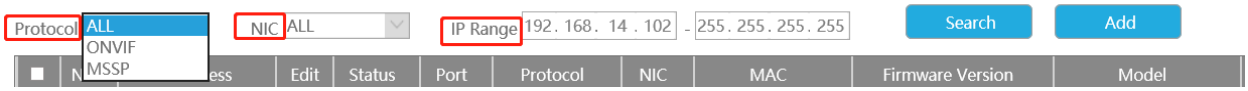
3.6.1 Camera Management



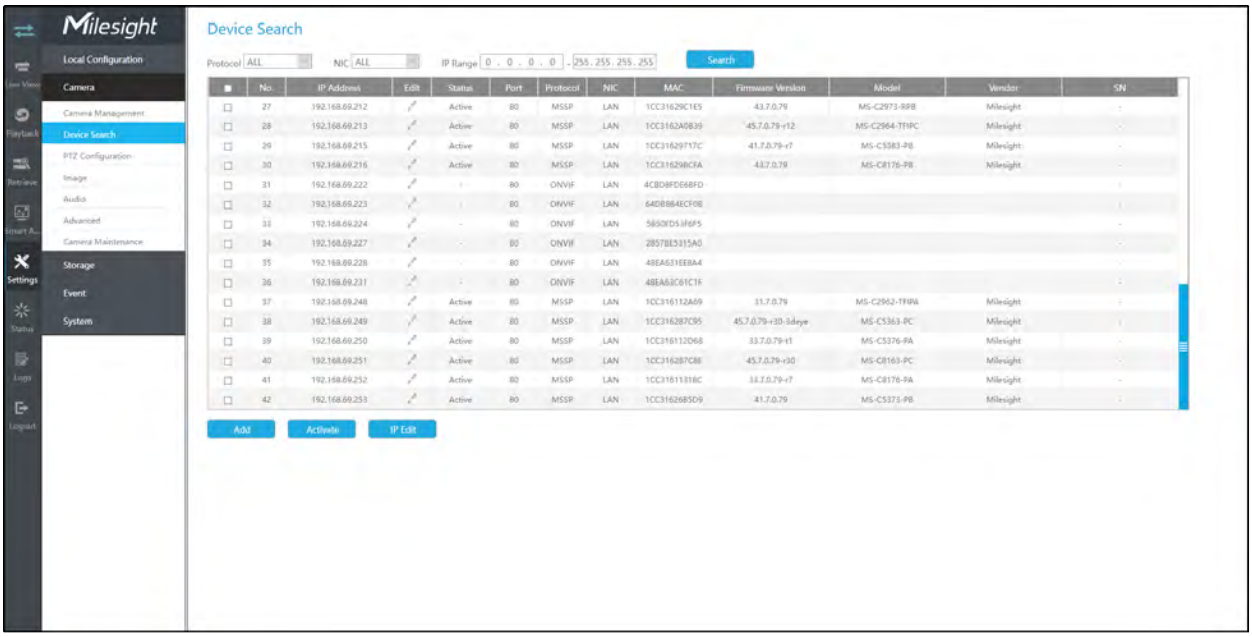
Step 1. Add camera.

Method 1. Add camera through Device Search interface. 'Camera'→'Device Search'.

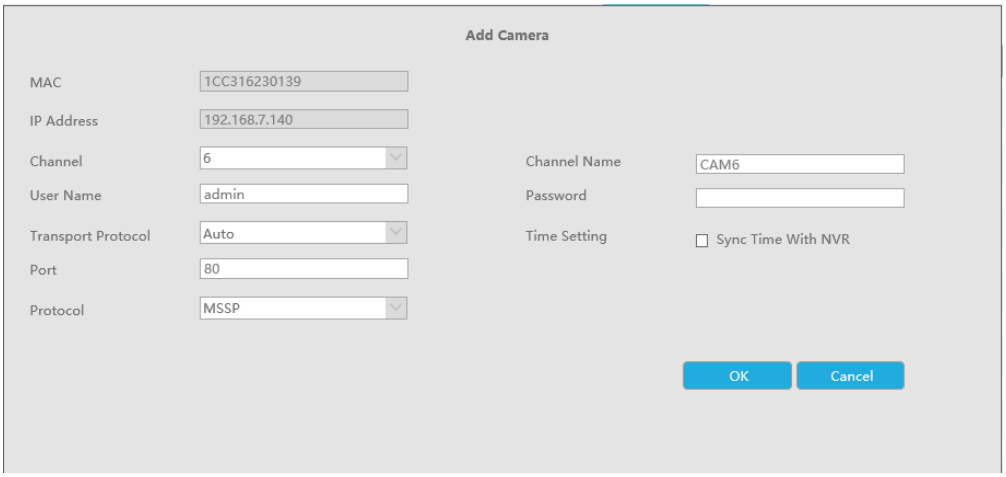
1. Select IP Range, NIC and Protocol, which includes ALL, ONVIF and MSSP.



2. Click button to search cameras at the same LAN with NVR.

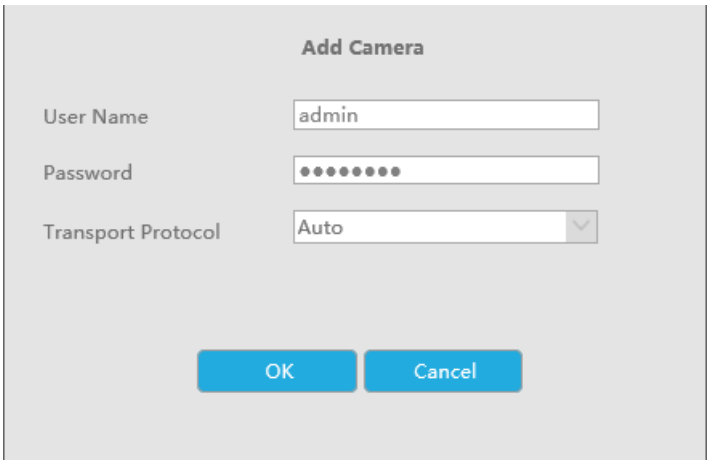


3. Select one channel, click Add button, input password and click Add button to finish.

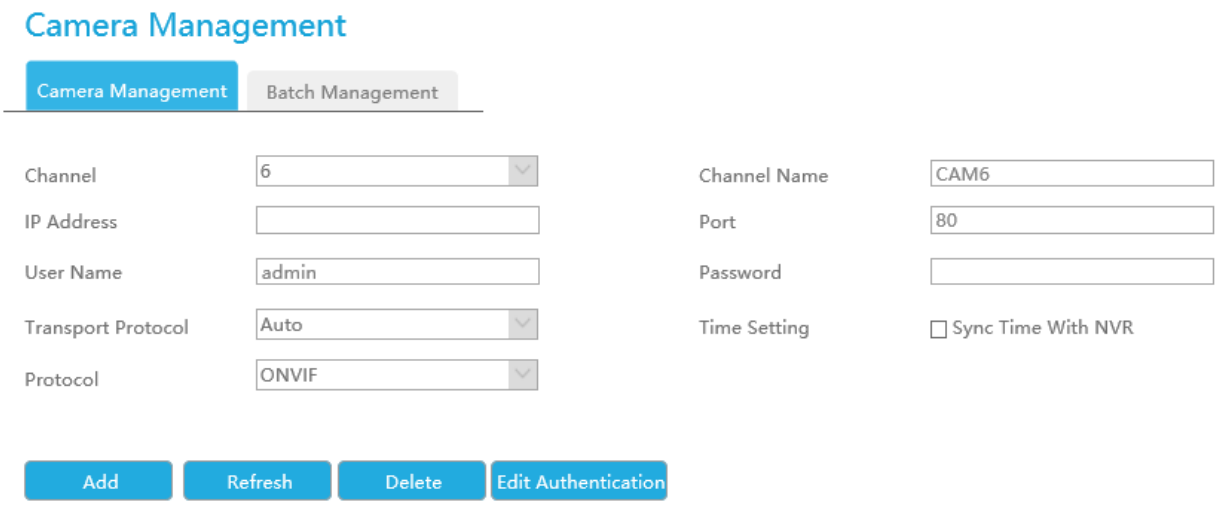


4. Check ☐ to **batch adding** the network cameras if they are with the same password, you can choose TCP, UDP or Auto transport protocol for it. Click OK to finish batch adding.

MSSP: You can search out all Milesight cameras which have different network segment in the LAN.



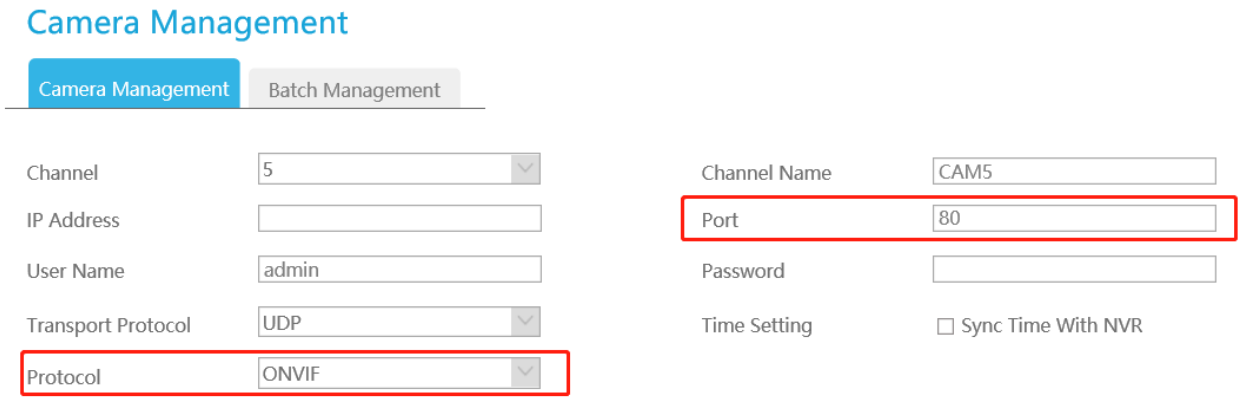
Method 2. Add camera through camera management interface. 'Camera'→'Camera Management'.



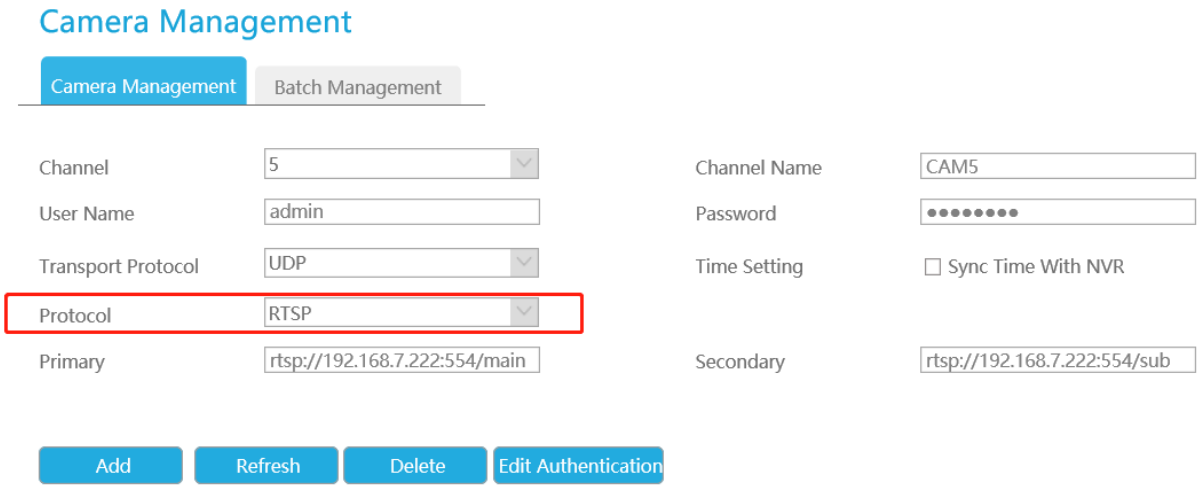
Select channel ID, input complete information, then click [Add] button.

There are three protocols available for camera connection:

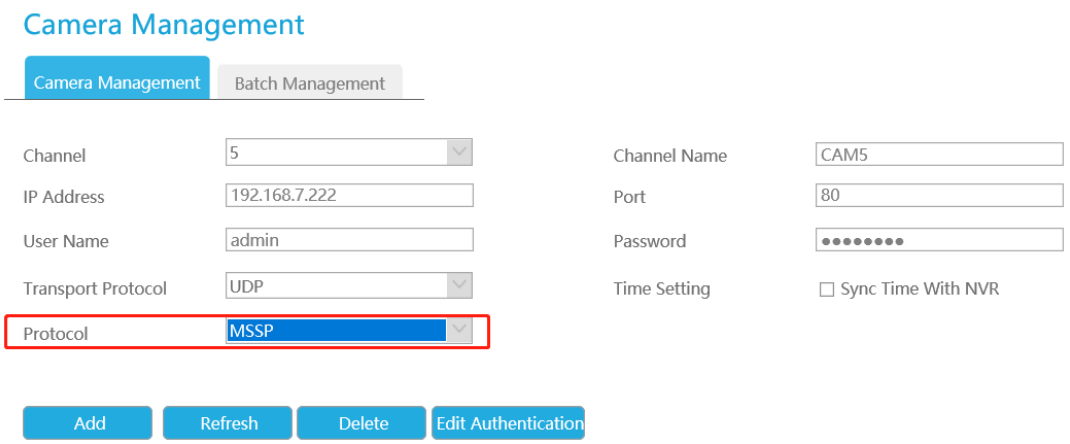
- **ONVIF:** You can add any ONVIF IP cameras with ONVIF protocols.



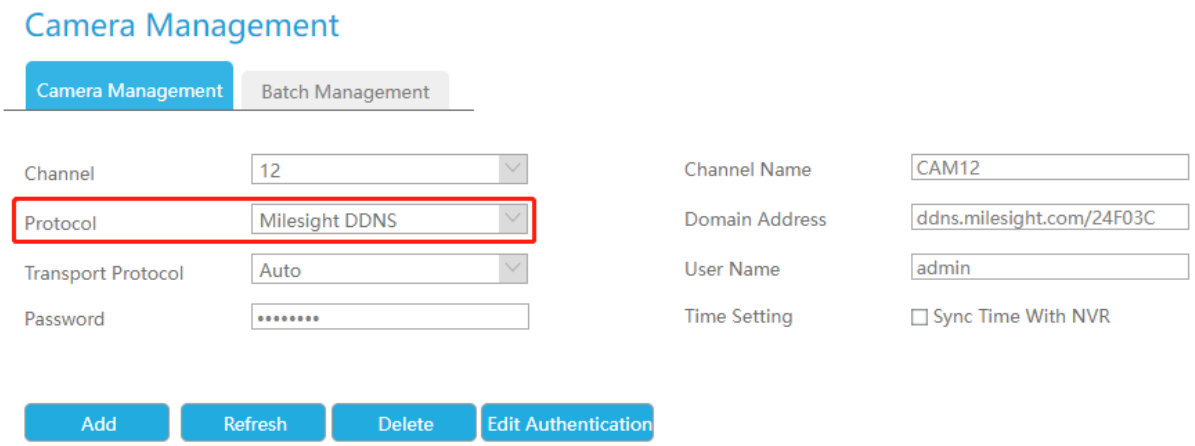
- **RTSP:** You can add any IP cameras with RTSP protocol streams (Port: 554). It needs you to input complete resource path of the IP camera to add it. Take Milesight device for example, the resource path of main stream is “rtsp://IP:port/main” and secondary stream is “rtsp://IP:port/sub”. The length of RTSP can be up to 128 bits.



- **MSSP:**You can add Milesight cameras which are in the same LAN with MSSP protocol.



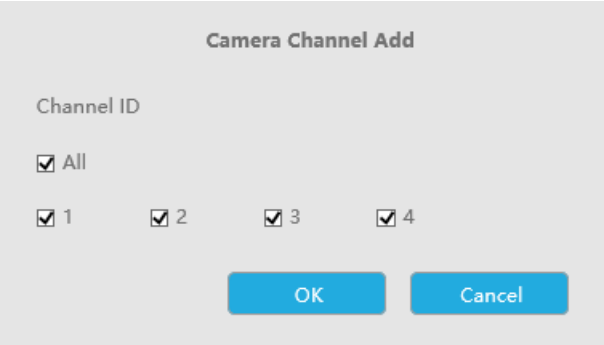
- **Milesight DDNS:** You can add Milesight cameras via Milesight DDNS. After enabling DDNS on Milesight camera and selecting “ddns.milesight.com” as provider, you can add the camera via the Domain Address “ddns.milesight.com/MAC address”.



You can add offline cameras to Milesight NVRs by method2. As long as the device information you fill in is correct, NVR will determine whether the device is connected and update the camera status automatically.

Note:

1. When adding a fisheye camera in Multi-Stream Mode, NVR would distinguish all of its channels as independent channels for adding, which depends on its Display Mode. For Example, if a Fisheye camera’s Display Mode is 1O3R, there would be 4 Channels to be added. The original view gets Channel ID as 1, and the first region view gets Channel ID as 2, and so on. Thus you can select the ID to add as your demand.

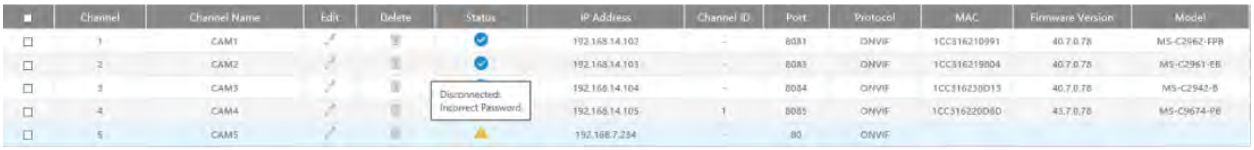


2. Only Fisheye camera has Channel ID.

Step 2.Check the connection status.

After adding the IP channels, click Refresh button on Camera Management interface, then appears under Status.

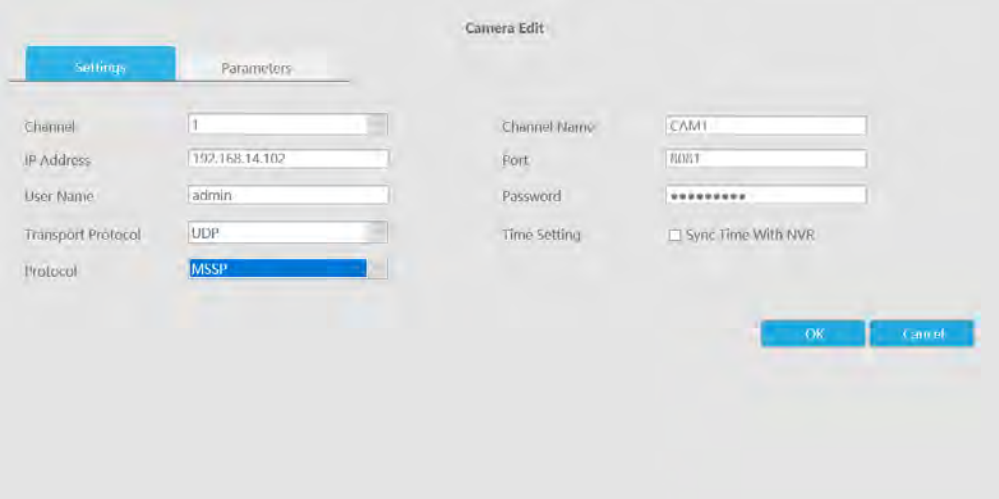
If it shows the icon, users can move the mouse to the corresponding icon in the status bar to check the reason for the disconnection.



Step 3.Configure camera.

Configure one camera

After successfully adding the camera, click to re-edit the channel info.



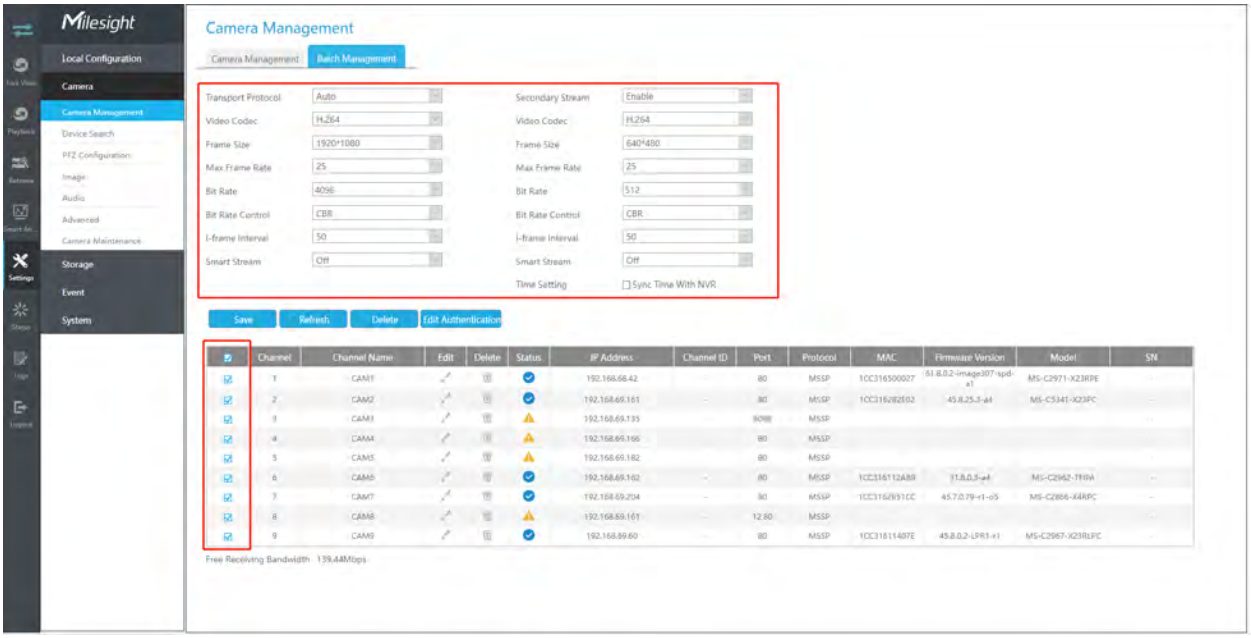
Go to Parameters page to re-edit parameters of this channel, select the Record Stream Type as General or Event to set different parameters separately. It is recommended to set lower parameters for General Stream to save certain storage. Click [OK] to save after your configuration.

Note:

1. Event Record Stream Configuration includes Events like Motion Detection, VCA, Camera Alarm Input and Smart Analysis.
2. For Fisheye camera, you can change its Transfer Mode, Installation Mode, Display Mode and Channel ID through Camera Edit Settings interface.
3. Make sure your camera's firmware version is 4X7.0.75 or above.

Batch configuring camera

Click Batch Settings, select multiple channels and set parameters of cameras.



Step 4. Delete camera.

You can delete this channel by clicking , or you can select multiple devices and then click Delete to delete.

Step 5. Configure PoE Channel(Only for PoE NVR)

1. Connect Milesight camera to PoE port, it will detect the camera automatically.

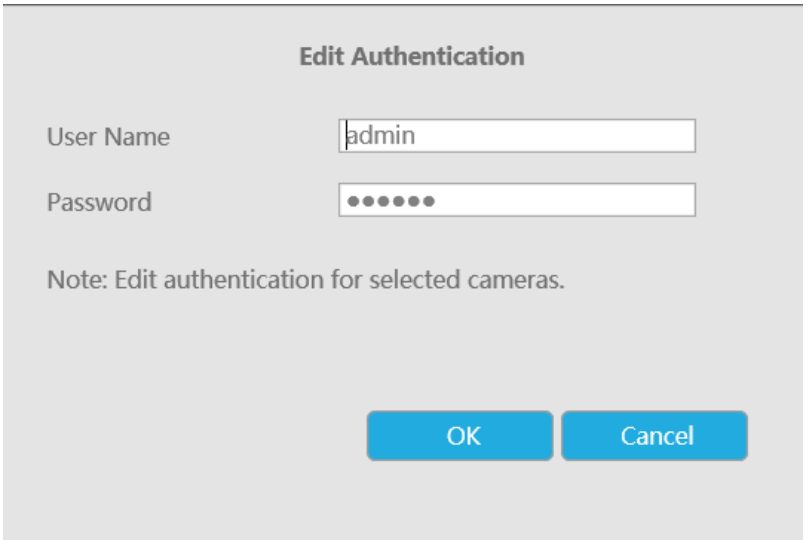
2. If the camera's password is the same with NVR admin password, it will be successfully authenticated and be changed into the same network segment with internal NIC IPv4 address, then the camera will be connected successfully.

3. If the camera's password is different with NVR admin password, the PoE channel will show disconnect status. You need to input the camera's password by clicking Edit Authentication to realize authentication (you can also multi-select the devices and then click this button). Then the camera will be changed into the same network segment with internal NIC IPv4 address and will be

successfully connected. Next time, NVR will use the password you input to authenticate this camera when you re-plug it.

Note:

1. When NVR detects the inactive camera connected via PoE port, the camera will synchronize the password of NVR, and then camera will be successfully connected. For Fisheye camera in Multi-stream Mode, it would add all channels by default.
2. The steps for adding the third party PoE cameras plugged into The PoE NVR:
   - Set camera's IP segment to the same as NVR PoE NIC before plugging to PoE NVR;
   - Select PoE for NIC in Device Search interface, click Search button to search out cameras;
   - Select cameras and click Add button to add them.



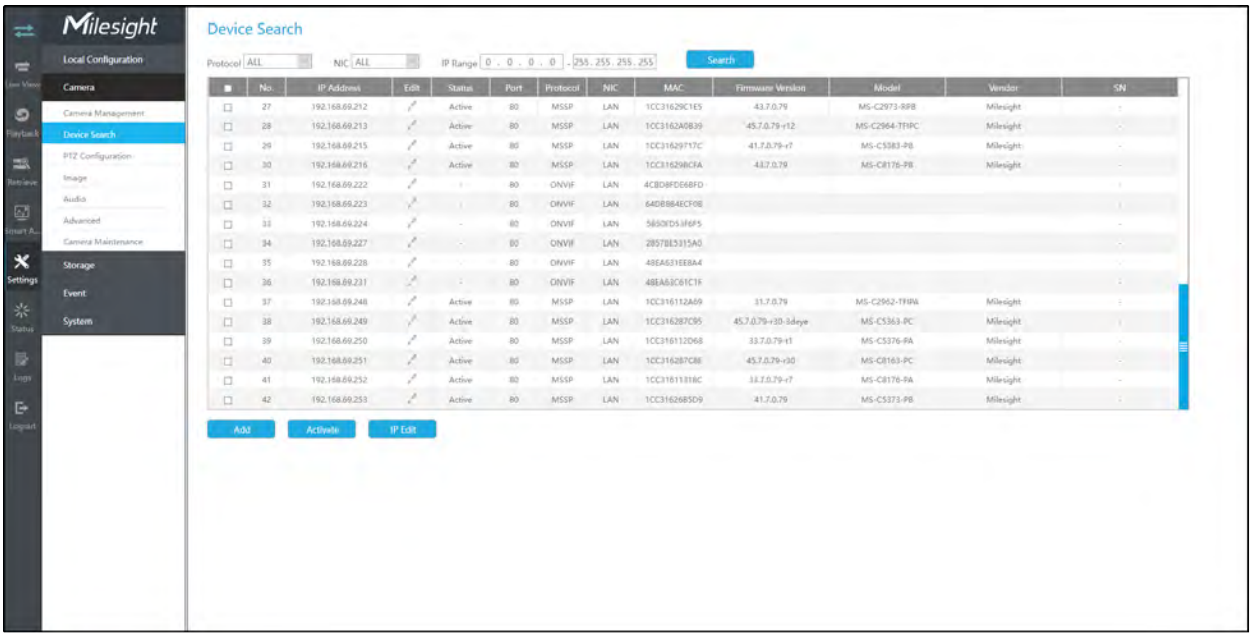
4. You can **access tocameras website** directly by clicking , which can save much steps to configure cameras with complete settings which were unavailable.

Note:

1. Please enable Channel Access in Network->More first;
2. Please select HTTP as transport protocol for PoE-connected cameras;
3. Please upgrade the NVR firmware version to xx.8.0.6 or above.

3.6.2 Device Search

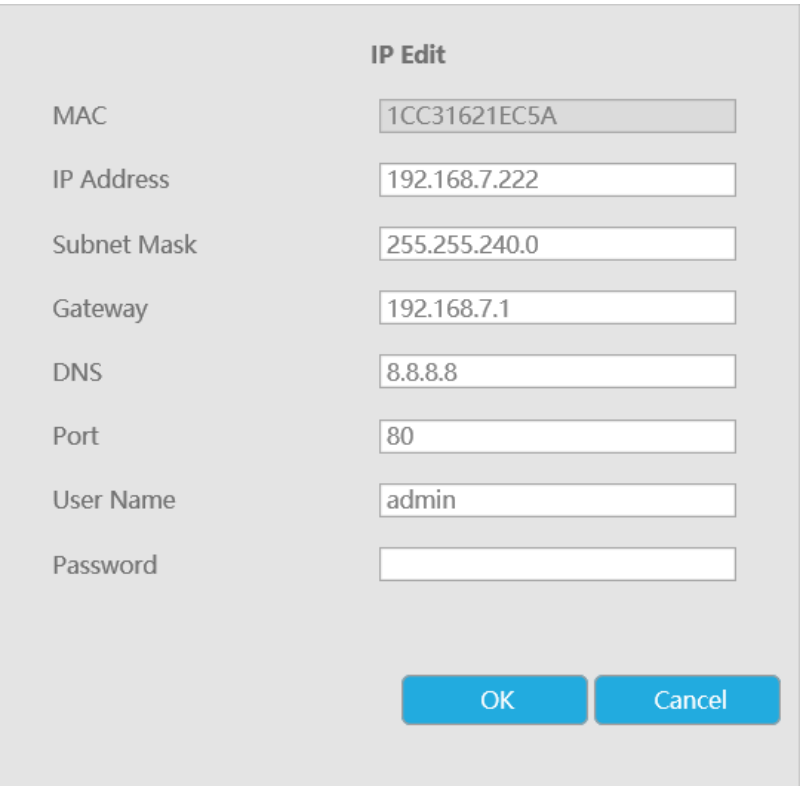
Select Protocol and NIC, then set the IP range, and click Search to quickly search the IP devices that support selected protocol and NIC at the same LAN with NVR.



If the camera status shows Inactive, please select camera and click "Activate" button to activate it first before adding to NVR.

Besides, you can select channels and click "IP Edit" to **batch editing**their IP information.

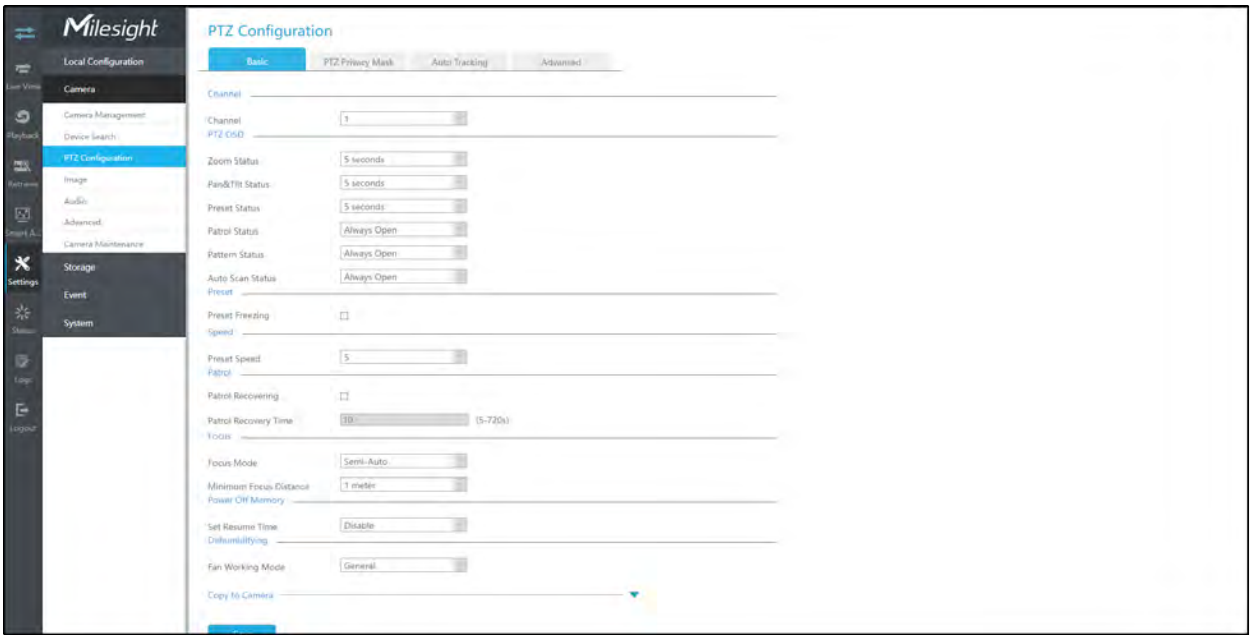
For Fisheye camera in Multi-stream Mode, it would add all channels by default when batch editing the IP information.



3.6.3 PTZ Configuration

Basic

Users can configure the functions and parameters about Pan/Tilt/Zoom.



Step1. Select channel.

Step 2. Configure the PTZ OSD parameter. You can set the Zoom status, Pan&Tilt Status, Preset Status with Always Close/Always Open/2s/5s/10s, and Patrol Status, Pattern Status, Auto Scan Status with Always Open/ Always Close

Step 3. If you enabled Preset Freezing, the live view of preset position will be showed directly instead of showing both the moving path to the position and the live view. It can also reduce the use of bandwidth in the digital network system.

Step 4. Set Speed.

Preset Speed: It determines the speed of calling presets. Level 1~10 are available

Manual Speed: It is only for Speed Dome, and it determines the PTZ speed of Manually control. Low/ Medium/ High are available

Step 5. Set Patrol.

Patrol Recovering: Enable Patrol Recovering

Patrol Recovering Time: Set time for Patrol Recovering, which is between 5 to 720 seconds

Step 6. Set Focus.

Focus Mode: Three focus modes are available: Auto/Semi-Auto/Manual

Minimum focus Distance: Set the minimum focus distance to adjust the step length of each focus. 1 meter, 1.5 meters, 3 meters, 6 meters, 10 meters and 20 meters are available. The default minimum focus distance is 1 meter

Step 7. Set Power Off Memory

If the camera stop working for a longer time than predefined, the position of it will be recorded. And it will resume to the position after going back to the normal work from power off. You can set the resume time to 30 seconds, 60 seconds, 300 seconds or 600 seconds to record its position

Step 8. Set Dehumidifying.

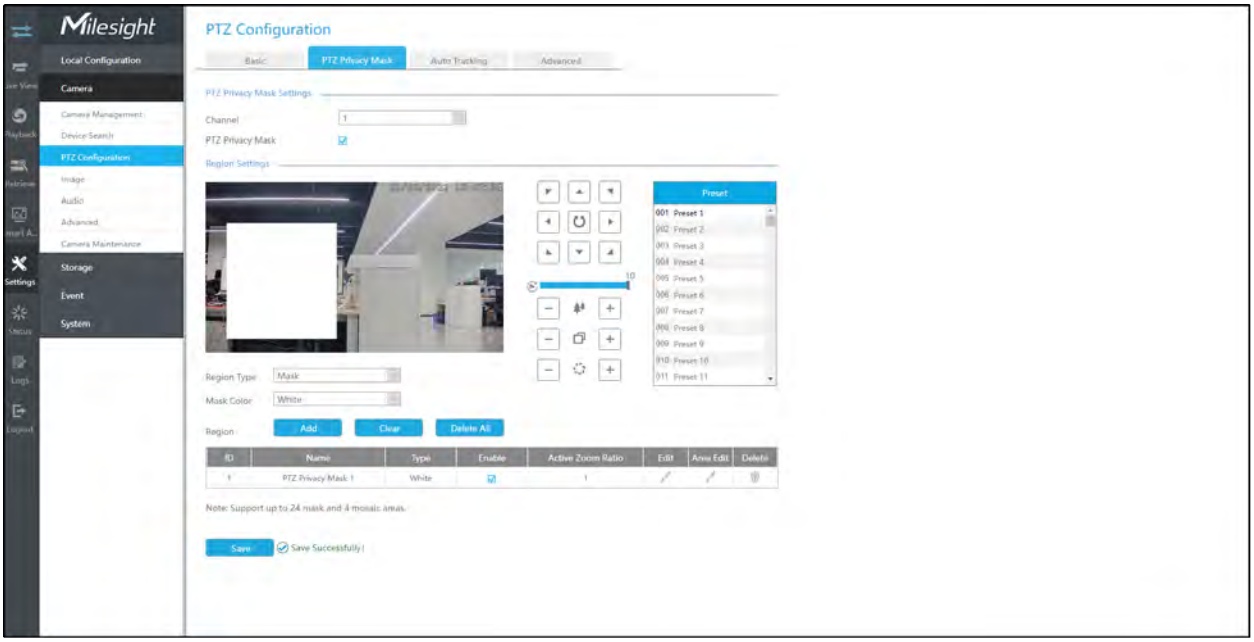
Fan Working Mode: Three fan working modes are available: General/Enhancement/Constant
General: The fans are turned on from 4am to 7am and 5pm to 8pm every day

Enhancement: The fans are turned on from 5pm to 7am every day

Constant: The fans work 24 hours a day

PTZ Privacy Mask

The NVR supports setting privacy mask for PTZ camera. Different from the general Privacy Mask, it is featured with a 3D coordinate system to protect object's privacy and keep the specified area masked through manual operations from monitoring no matter how cameras pan/tilt/zoom.



You can add a privacy mask by following steps:

Step1. Select channel and enable Privacy Mask.

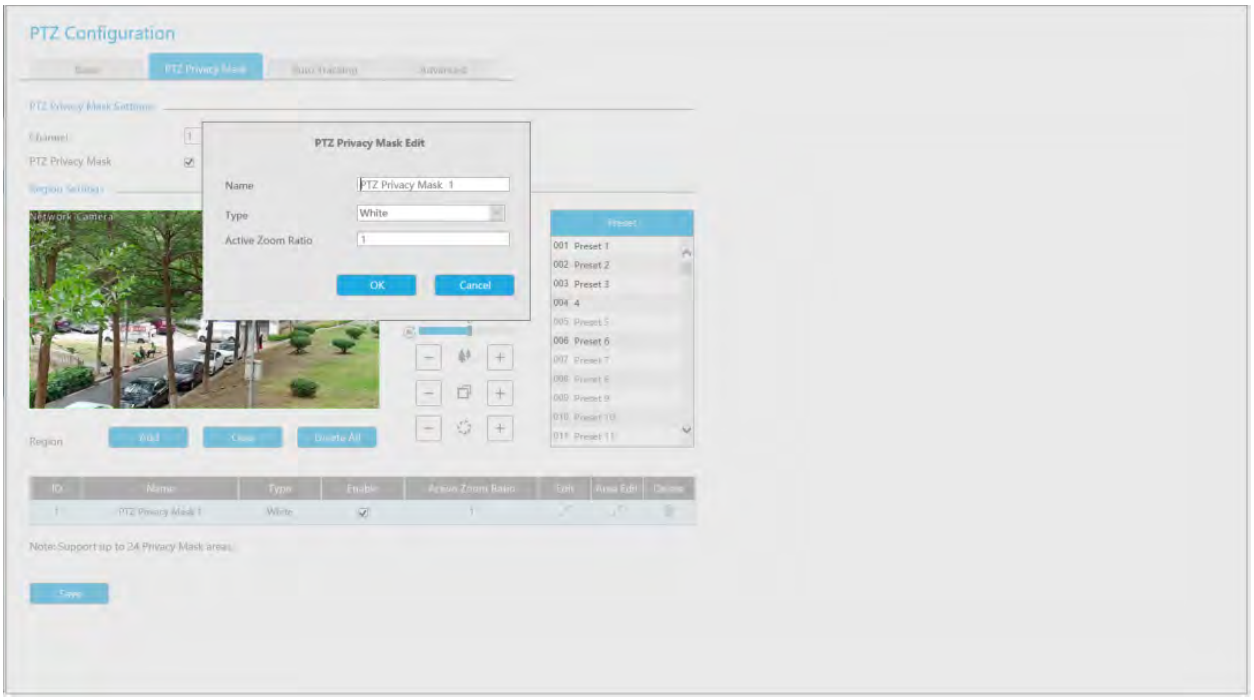
Step2. Select the Region Type as Mask or Mosaic.

Step 3. Drag the mouse to select the area which needs to be protected on the live view window and then click"Add" button to add the area to the table. You can add 24 masks and 4 mosaic areas at most and each zone can be enabled and disabled. Please note that the areas added to the table will not take effect until you click"Apply".

Note:

- Ensure that your camera model isn't Lite series, or camera's version isn't 40.X.X.XX, 41.X.X.XX, and 46.X.X.XX.
- Ensure that your NVR version is V7x.9.0.14 or above, and camera version is Vxx.7.0.79 or above to support the mosaic area.

Step3. Click to edit PTZ Privacy Mask Name, the Privacy Mask Type and Active Zoom Ratio.



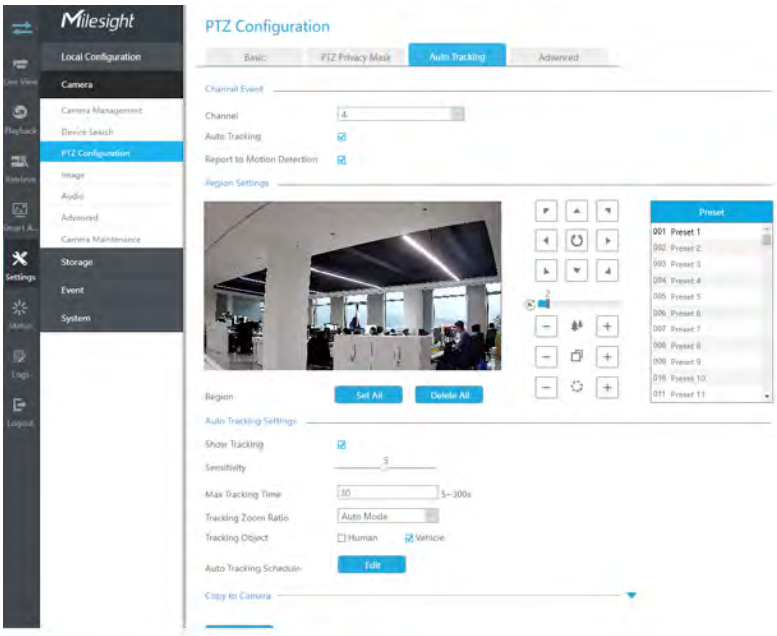
Step4. Select "Apply" to save the settings.

Note:

1. Ensure that your camera’s version is 4X.7.0.73 or above.
2. There are two interfaces for Privacy Mask configuration. PTZ Privacy Mask is only applied in PTZ cameras while Privacy Mask can also be applied in other cameras.

Auto tracking

PTZ camera series supports to track the moving objects automatically after you configure this function.



Step1. Check the checkbox to enable Auto Tracking.

Step2. Enable "Report to Motion Detection" to trigger Motion Detection alarm during auto tracking.

Step3. Enable “Show Tracking” to show tracking in Auto Tracking function.

Step4.Set detection region.

Step5.Set detecting sensitivity.

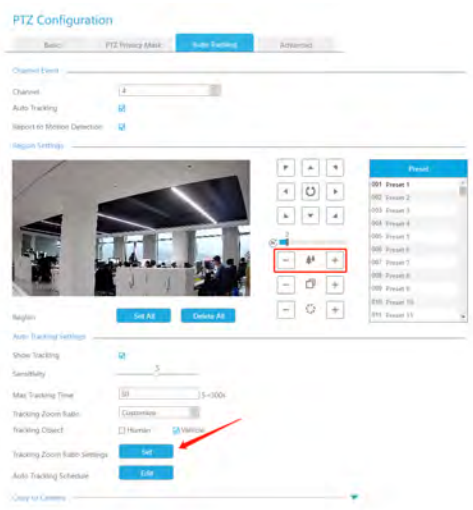
Step6. Set Max. Tracking Time which must be between 5~300s. The camera will stop tracking when the tracking time is used up.

Step7. Select Tracking Zoom Ratio, which includes Auto Mode and Customize.

- Tracking Zoom Ratio is used to adjust the zoom ratio of the moving object when using Auto Tracking. PTZ would adjust the zoom ratio automatically according to the distance and speed of moving object under Auto Mode. If select Customize, PTZ would adjust to the zoom ratio you set before when tracking the target.

- How to set Customize Tracking Zoom Ratio:

- Set zoom ratio by button.
- Click "Set" to save your configuration.



Step8. Check the type of tracking object as Human or Vehicle.

Step9. Click "Edit" to edit Auto Tracking Schedule which will be synchronized to IP Camera.

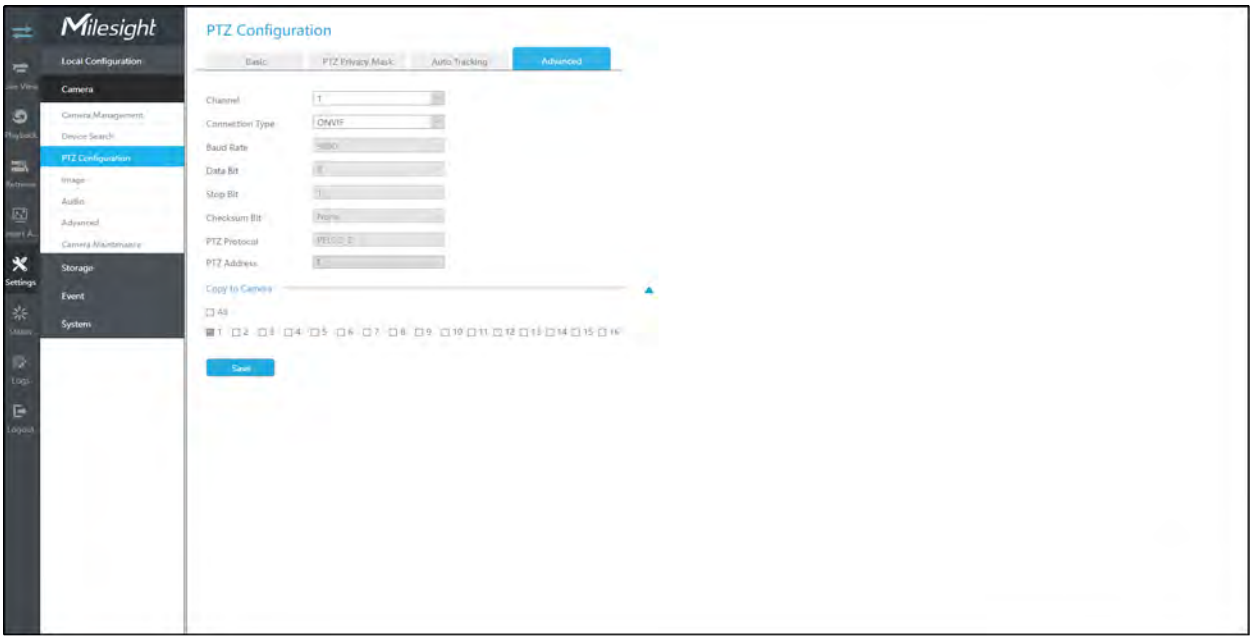
Step10. Click [Copy to Camera] to copy the same configuration to other channels.

Step11. Click "Save"to apply configurations.

Note: Ensure that your camera's version is 4X.7.0.75 or above.

Advanced

Choose a channel and set the PTZ parameters. Besides, you can click "Copy" to copy the same configuration to other channels.

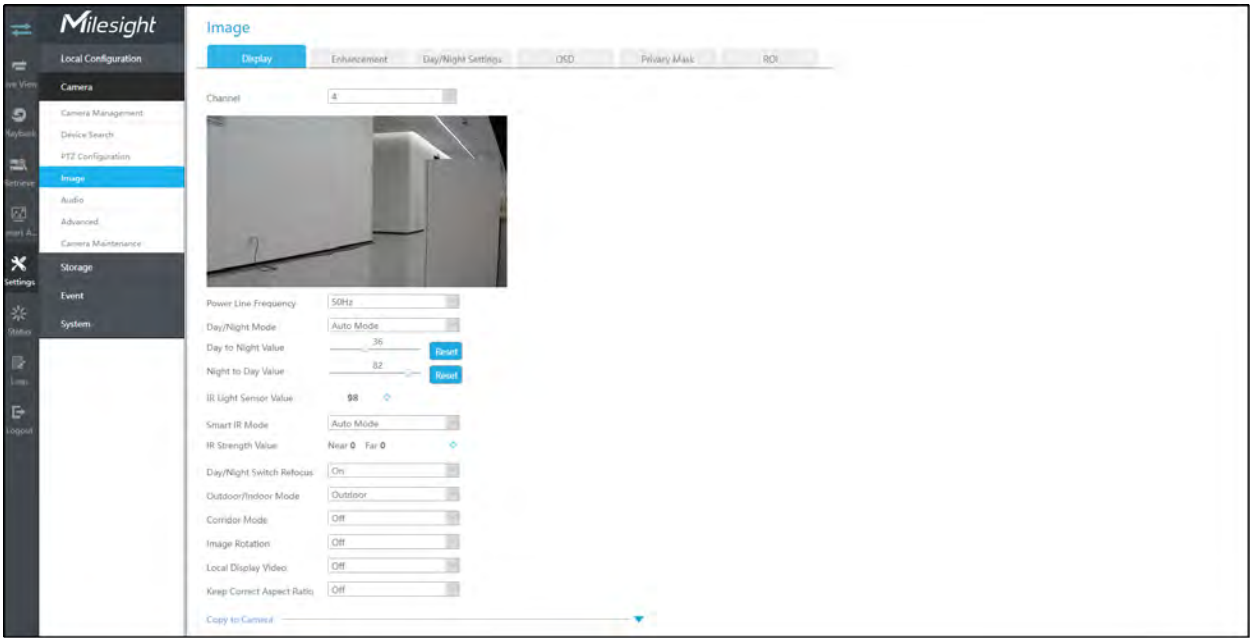


Note:

1. Settings for a PTZ camera must be configured before it can be used. Make sure that the PTZ and RS-485 of the NVR are connected properly.
2. The PTZ protocol and address of IP channel must be consistent with those of the PTZ decoder.

3.6.4 Image

3.6.4.1 Display



Step1. Select channel.

Step2. Set the configuration.

Power Line Frequency: 50Hz and 60Hz are available.

Smart IR Mode: With the combination of the High Beam and Low Beam, The IR LEDs technology has been upgraded to provide better image clarity and quality regardless of the object distance. Also, the Low Beam and High Beam's brightness can be adjusted manually or automatically on the basis of the Zoom ratio. Moreover, with the IR anti-reflection panel, the infrared light transmittance is highly increased. Support to set the strength of the IR to Auto Mode or Customize to achieve the best effect.

Near view IR level: Adjust the light strength of Low-Beams LED light level from 0 to 100.

Far view IR level: Adjust the light strength of High-Beams LED light level from 0 to 100.

IR Strength Value: The current value of Low-Beams LED and High-Beams LED light value.

IR LED Level: Adjust the IR LED level from 0 to 100.

White LED Level: Adjust the White LED level from 0 to 100.

Day/Night Switch Refocus: With this option enabled, the camera will refocus when switching between day mode and night mode.

Outdoor/Indoor Mode: Set Outdoor/Indoor mode for the channel.

Day/Night Mode: Set the Day/Night mode for the channel.

Day to Night Sensitivity: Set the Sensitivity to trigger Night Mode.

Night to Day Sensitivity: Set the Sensitivity to trigger Day Mode.

Day to Night Value: Set the Minimum illumination intensity to trigger Night Mode.

Night to Day Value: Set the Maximum illumination intensity to trigger Day Mode.

IR Light Sensor Value: Shows the current value of IR light sensor.

Corridor Mode: Set corridor mode.

Image Rotation: Set image rotation.

Smoked Dome Cover: This function is only for Pro Dome. If Pro Dome is equipped with a Smoked Dome Cover, enable this function to display a normal image.

Local Display Video: Select NTSC or PAL for local display.

Keep Correct Aspect Ratio: With this option enabled, the camera will prevent the image from distortion when resolution ratio is changed.

Note:

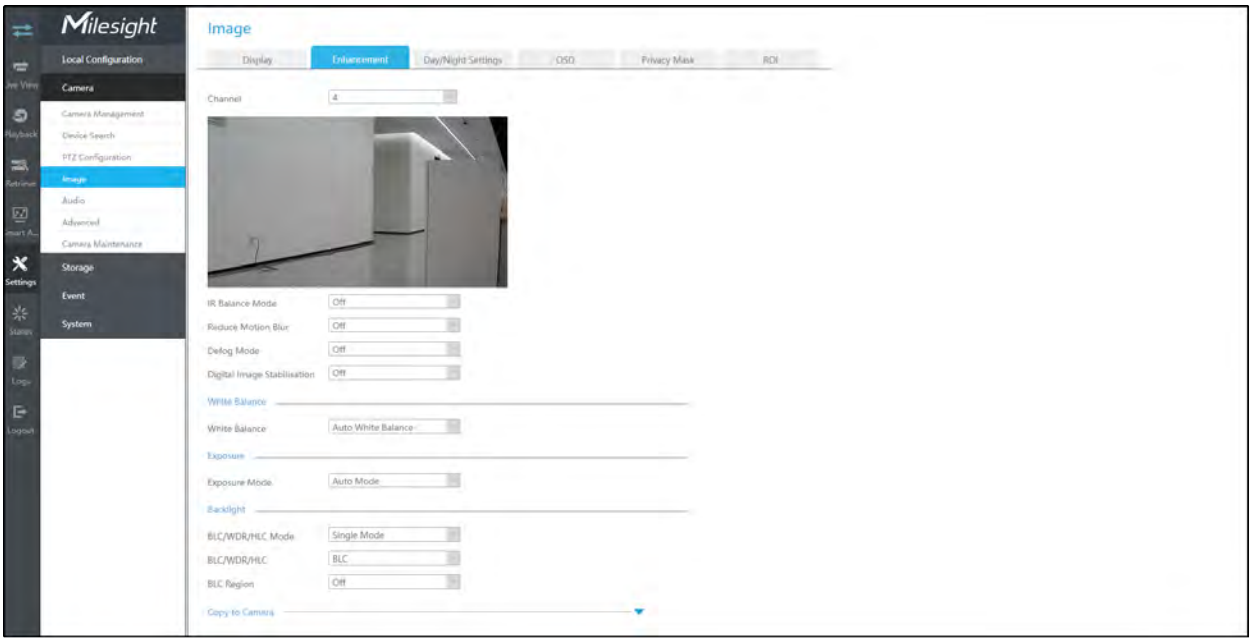
1. Smoked Dome Cover is only supported for Pro Dome and PTZ Dome cameras.
2. Smart IR Mode and IR LED Level are supported for cameras with IR LEDs.
3. White LED Level is only supported for PTZ Bullet cameras.
4. Day to Night Sensitivity and Night to Day Sensitivity under Auto Mode are only available under Auto Mode when camera are 180° Panoramic Bullet and Mini Bullet whose firmware version is 4X.7.0.74 or above.

Step 3. Copy the image settings to other channels by clicking"Copy to Camera"on the bottom of the windows.

Step 4. Select "Save" to save the settings.

3.6.4.2 Enhancement

You can set Image Enhancement on NVR, and the configuration will be synchronized to Camera.



Step1. Select channel.

Step2. Set the configuration.

Reduce Motion Blur: Enable this function to reduce the motion blur of objects effectively.

You can adjust the deblur level from 1 to 100.

Reduce Video Stuttering: This function is only supported by the cameras of 5MP@20fps to decrease the unstable phenomenon.

White Balance: Choose a white balance mode for the channel.

Defog Mode: Better image effect in foggy weather.

Digital Image Stabilization: Decrease the blur and shakiness of the image.

Exposure Mode: Auto Mode, Manual Mode, and Schedule Mode are available.

IR Balance Mode: Turn on to avoid IR overexposure.

BLC/WDR/HLC Mode: Click to choose Single Mode, Day/Night Mode or Schedule Mode.

BLC/WDR/HLC: Click to configure Back Light Compensation, Wide Dynamic Range or High Light Control.

Wide Dynamic Range: Off, Customize, and On are available.

Wide Dynamic Level: Set WDR with Low/High/Auto level.

BLC Region: Off, Customize, and Centre are available (in single mode, only enable when WDR is disable).

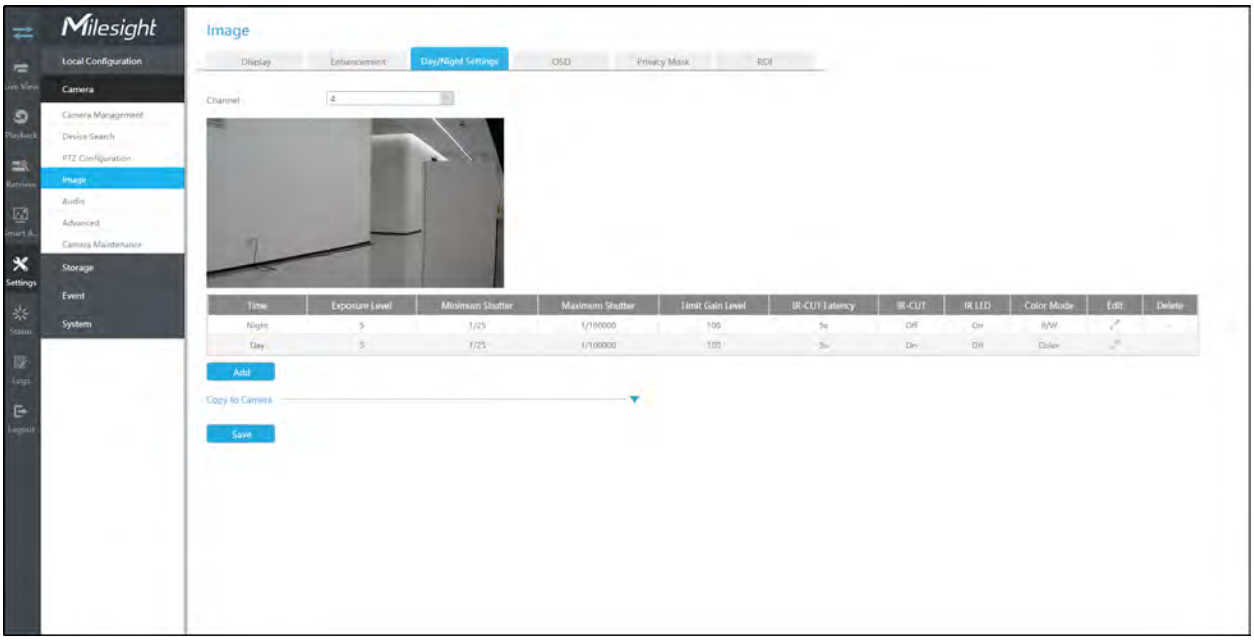
HLC Level: Select level for HLC.

Anti-flicker Level: Reduce flickers that appear on screen in some lighting conditions and there are 10 levels of anti-flicker adjustments.

Step 3. Copy the image settings to other channels by clicking"Copy to Camera"oon the bottom of the windows.

Step 4. Select "Save" to save the settings.

3.6.4.3 Day/Night Settings



Step 1. Select channel.

Step 2. Set the configuration.

Exposure Level: Level 0~10 are available to meet your need.

Minimum Shutter: Set the Minimum Shutter to 1~1/100000s.

Maximum Shutter: Set the Maximum Shutter to 1~1/100000s.

Limit Gain Level: Set the Limit Gain Level to 1~100.

IR-CUT Latency: The interval time of switching one mode to another.

IR-CUT: Turn on or turn off IR-CUT.

IR LED: Turn on or turn off IR-LED.

Color Mode: Select B/W or Color mode under Day/Night mode.

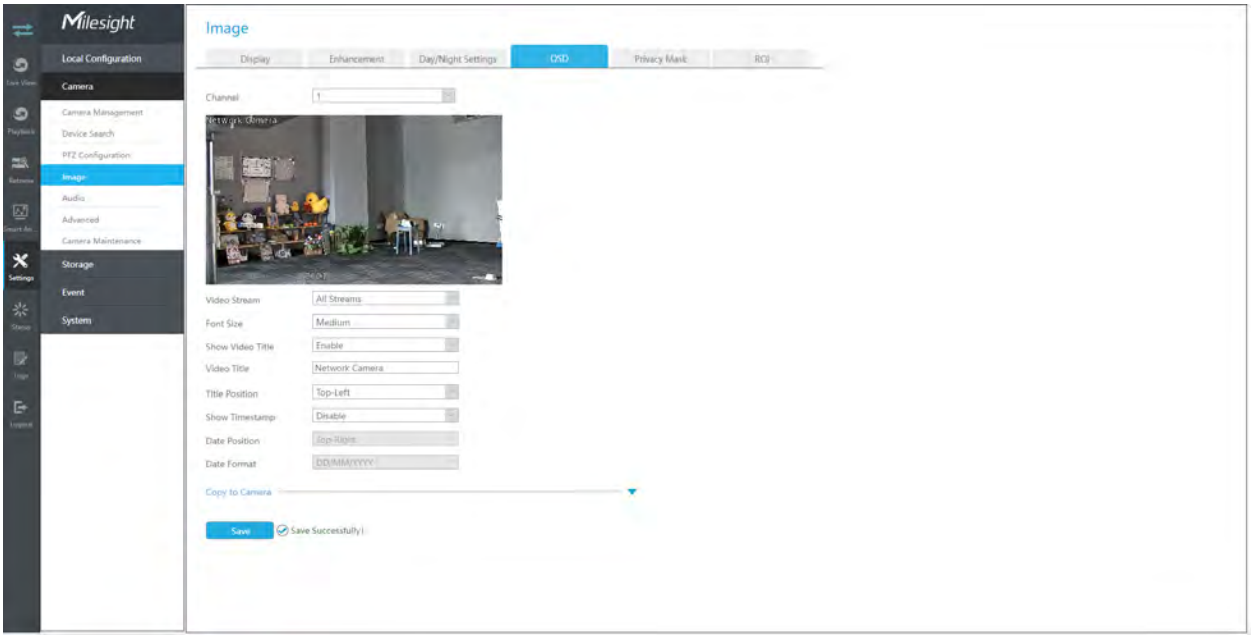
Edit: Edit the parameters above.

Step 3. Copy the image settings to other channels by clicking "Copy to Camera" on the bottom of the windows.

Step 4. Select "Save" to save the settings.

3.6.4.4 OSD

You can set OSD (On Screen Display) on NVR, and the OSD will be synchronized to Camera.



Step 1. Select channel.

Step 2. Select Video Stream, including All Streams, Primary Stream and Secondary Stream.

Step 3. Select OSD Font Size, including Smallest, Small, Medium, Large, Largest and Auto.

Step 4. Enable video title and timestamp.

Show Video Title: Enable it and the video title will be shown on screen.

Title Position: Set the position for the video title: Top-Left or Top-Right.

Date Position: Set the position for the date: Top-Left, Top-Right, Bottom-Left or Bottom-Right.

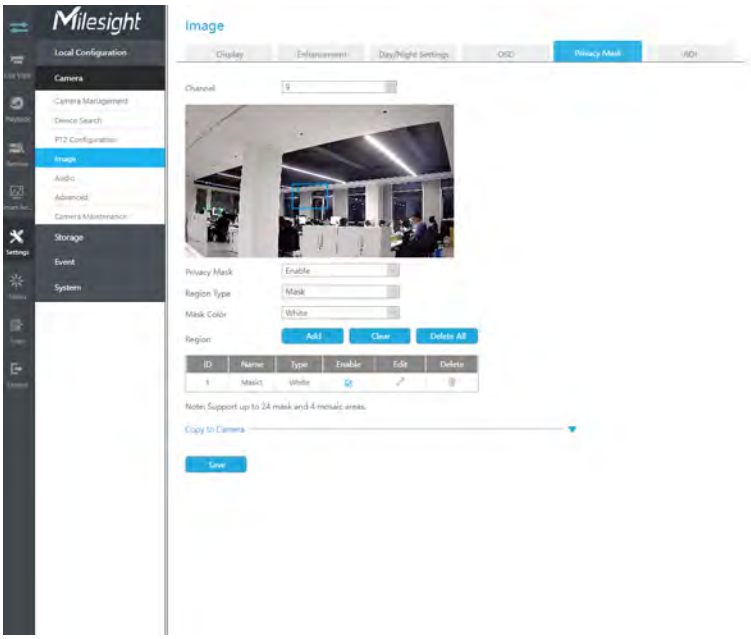
Date Format: Set format for date: YYYY-MM-DD, MM/DD/YY or DD/MM/YYYY.

Step 5. Copy the OSD settings to the other channels by clicking the "Copy to Camera" button on the button of the windows.

Step 6. Select "Save" to save the settings.

3.6.4.5 Privacy Mask

The NVR supports to set privacy mask. It is used to cover some privacy area which is not proper to appear on monitor.



You can add a privacy mask by following steps:

Step1. Select channel and enable privacy mask.

Step2. Select the Region Type as Mask or Mosaic.

Step 3. Drag the mouse to select the area which needs to be protected on the live view window and then click"Add" button to add the area to the table. You can add 24 masks and 4 mosaic areas at most and each zone can be enabled and disabled. Please note that the areas added to the table will not take effect until you click "Apply".

Note:

- Ensure that your camera model isn't Lite series, or camera's version isn't 40.X.X.XX, 41.X.X.XX, and 46.X.X.XX.
- Ensure that your NVR version is V7x.9.0.14 or above, and camera version is Vxx.7.0.79 or above to support the mosaic area.

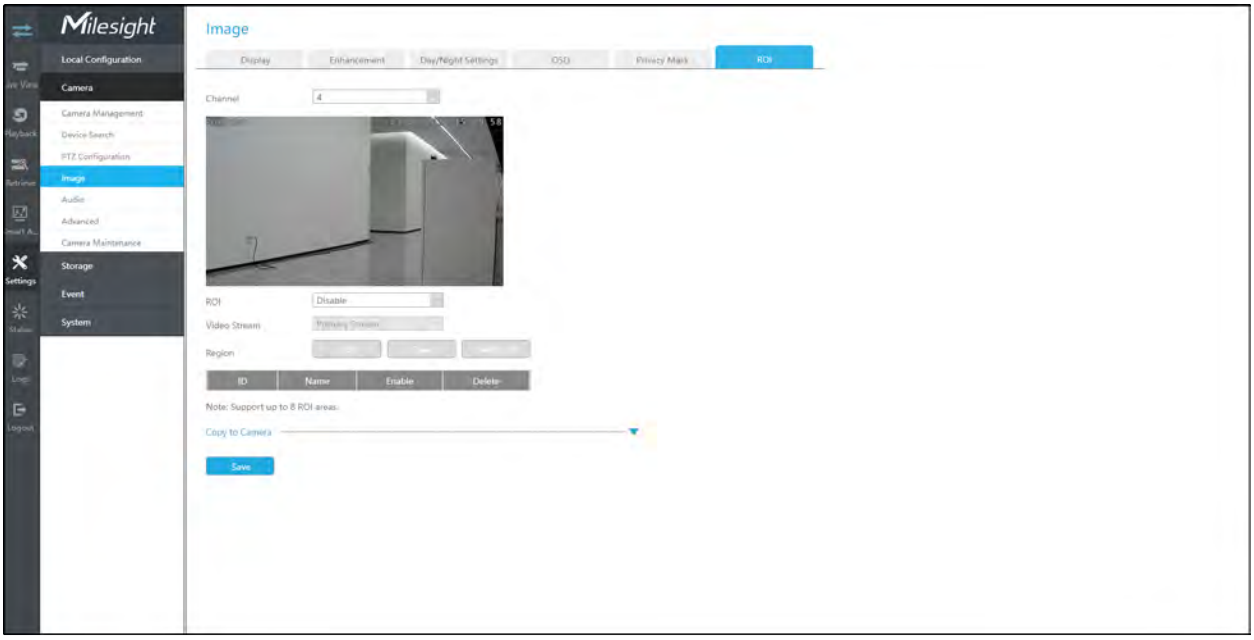
Step3. Copy the privacy area to the other channels by clicking the "Copy to Camera"button on the button of the windows.

Step4. Select "Save" to save the settings.

Note: Ensure the firmware version of the network camera is 4X.7.0.70 or above.

3.6.4.6 ROI

The NVR supports to set ROI (Region Of Interest). It is an image cropping feature designed to assist users in achieving bandwidth and storage optimization.



You can add a ROI by following steps:

Step1. Select channel and enable ROI.

Step2. Set thevideo stream type to achieve bandwidth and storage optimization, including Primary Stream and Secondary Stream. And drag the mouse to select the area in the preview window. Then click "Add"

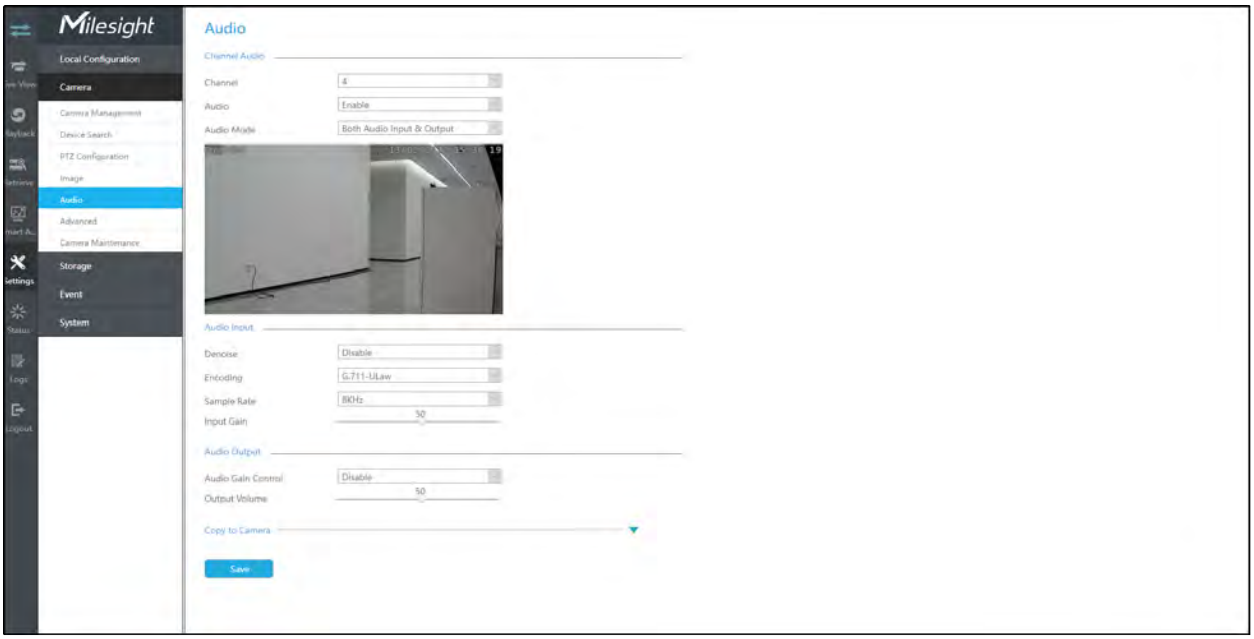
button to add the area to the table. You can add 8 areas at most and each zone can be enabled and disabled. Please note that the areas added to the table will not take effect until you click"Apply".

Step3. Copy the ROI area to the other channels by clicking the "Copy to Camera"button on the bottom of the windows.

Step4. Select "Save" to save the settings.

Note: Ensure the firmware version of the network camera is 4X.7.0.70 or above.

3.6.5 Audio



This audio function allows to configure the audio interface parameters for camera.

Enable Audio: Check on the check box to enable audio feature.

Denoise: Set it as On/Off. When you set the function on, the noise detected can be filtered.

Encoding: G.711-ULaw, G.711-ALaw, AAC LC, G.722 and G.726 are available.

Sample Rate:8KHz, 16KHz, 32KHz, 44.1KHz, and 48KHz are available.

Audio Bit Rate: The function is available only for AAC LC, and supports up to 256kbps.

Input Gain: Input audio gain level, which is 0-100.

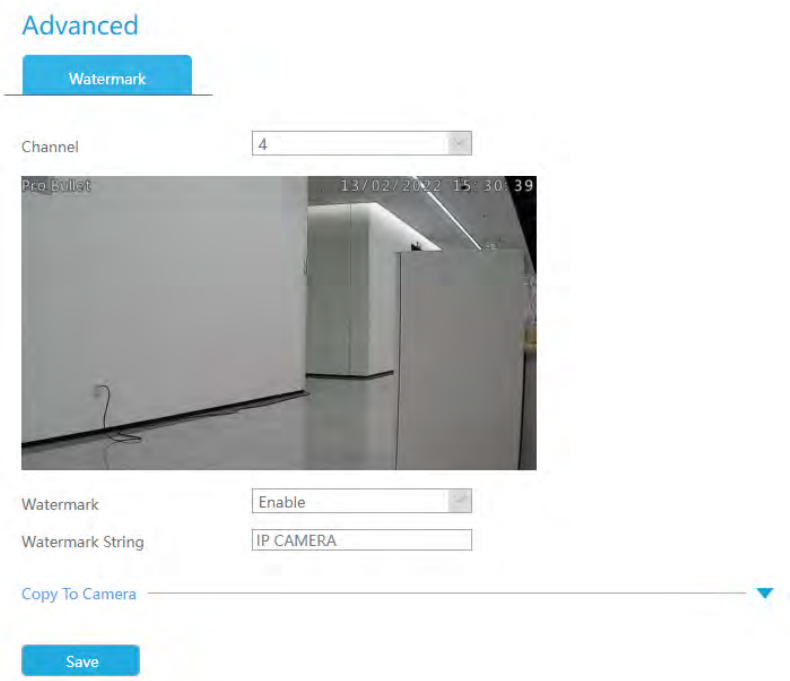
Auto Gain Control: This function is only for H.265 series, improve the quality of audio.

Output Volume: Adjust volume of output.

Note: Make sure you camera version is xx.7.0.76 or above.

3.6.6 Advanced

3.6.6.1 Watermark



You can add a watermark by following steps:

Step 1. Select channel.

Step 2. Click the checkbox to enable Watermark.

Step 3.Enter Watermark String.

Step 4. Copy the image settings to other channels by clicking "Copy" on the bottom of the windows.

Step 5. Select "Apply" to save the settings.

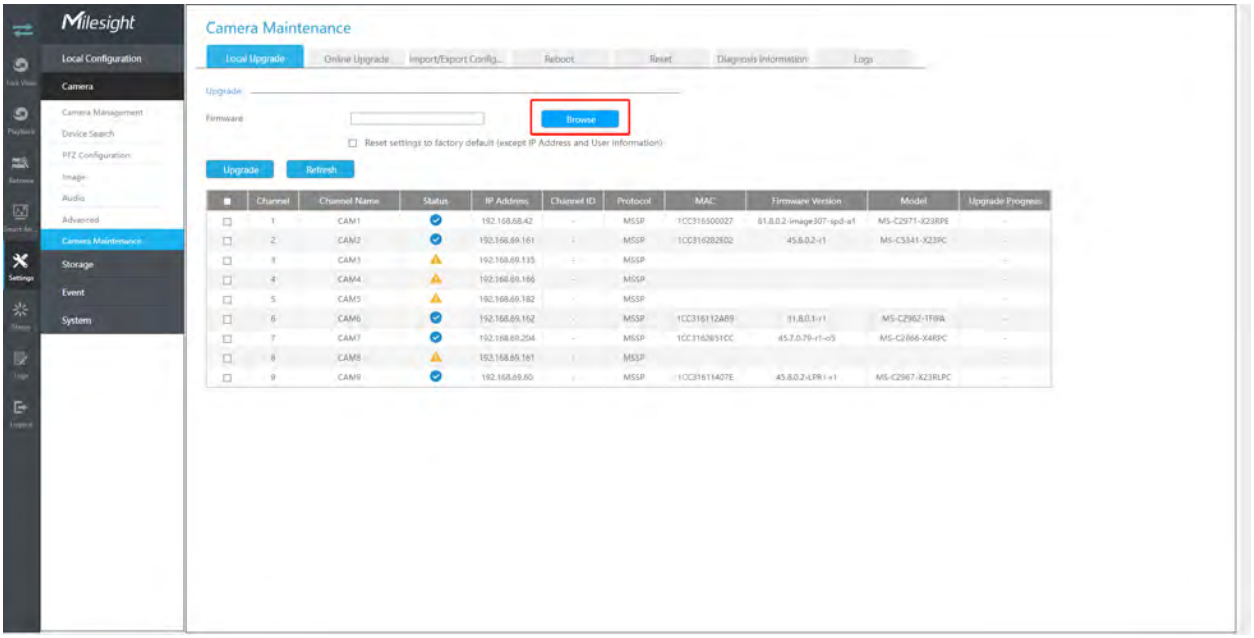
Note: Watermark only appears when exporting by a third party.

3.6.7 Camera Maintenance

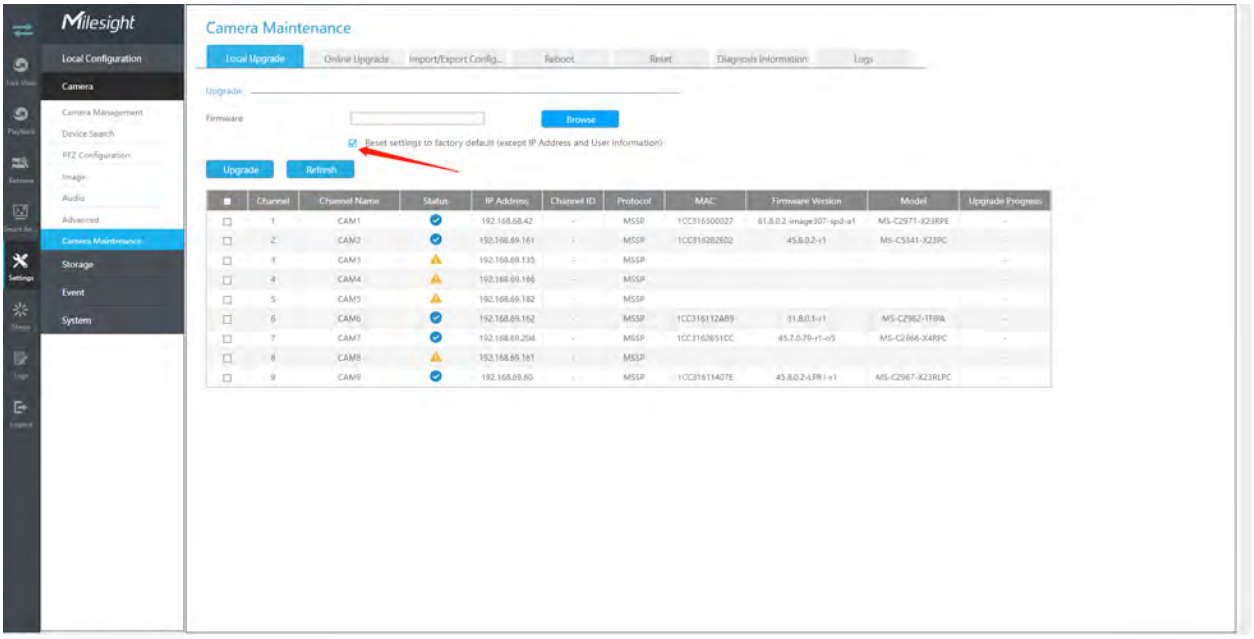
Milesight NVRs support both Online Upgrade and Local Upgrade of Milesight Cameras. Also, Milesight NVRs support batch maintenance of cameras including Import&Export Configuration, Reboot, Reset, etc., making Milesight NVRs become the central management site to manage the cameras more easily.

Local Upgrade

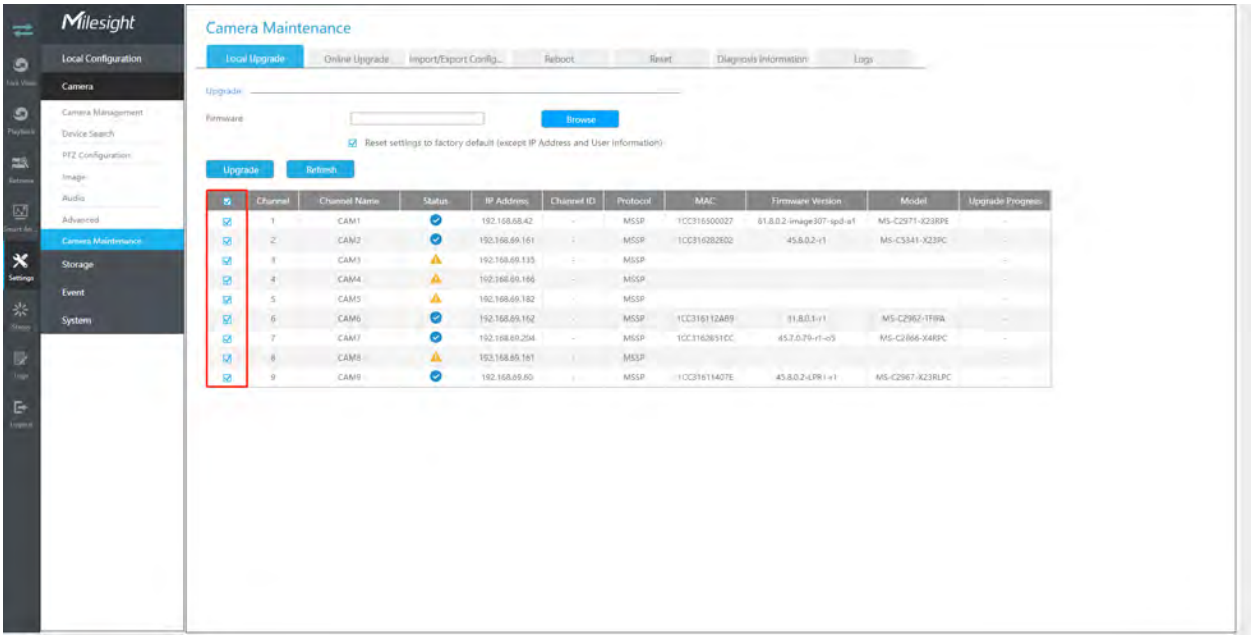
Step 1. Click "Browse" and select the corresponding firmware you downloaded in your USB.



Step 2. Check if you need to reset settings to factory default (except IP Address and User Information) after upgrade.



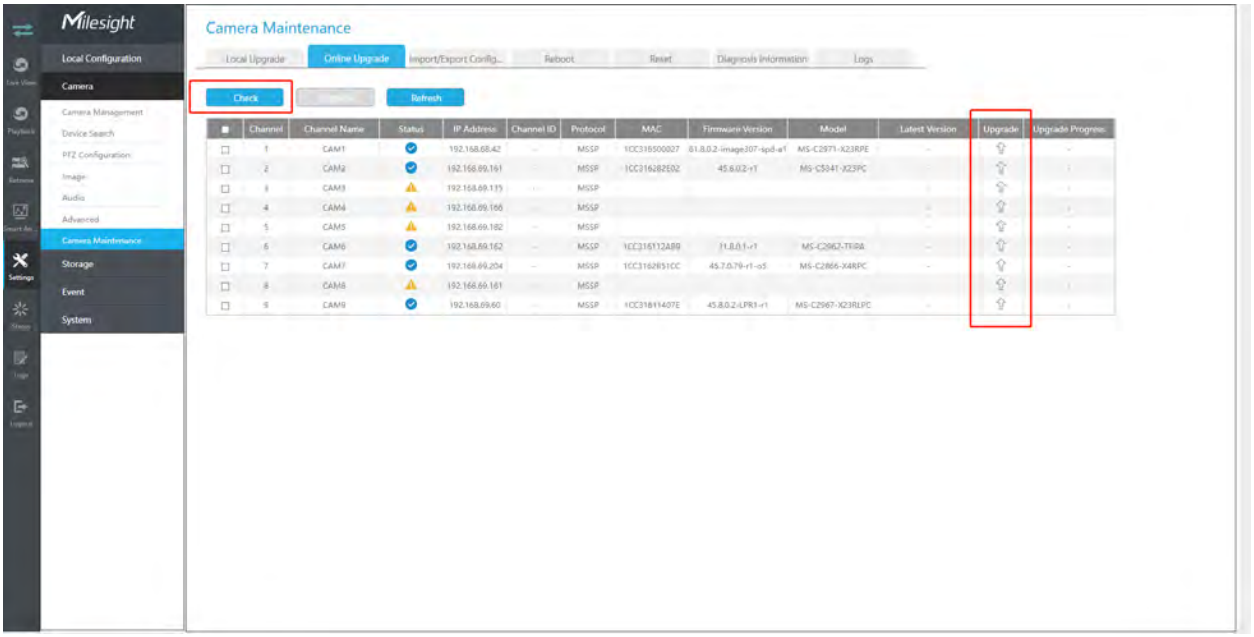
Step 3. Choose the corresponding channel you want to upgrade and click "Upgrade" to upgrade the camera.



Online Upgrade

Step 1. Click "Check" to confirm whether there is a new version for the camera added to NVR.

If there is a new version for camera, the icon in corresponding Upgrade column will turn blue and the latest version will be displayed in Latest Version column.



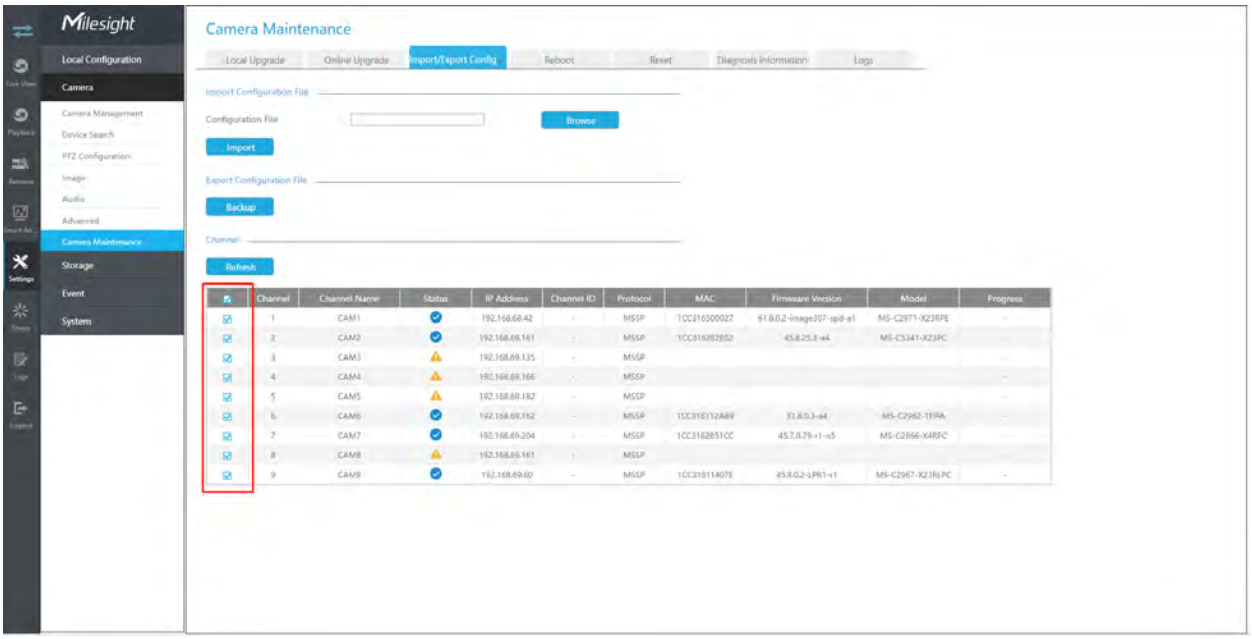
Step 2. There are two ways to confirm the upgrade.

- Click the blue icon in corresponding Upgrade column to upgrade camera.

- A way to achieve batch upgrade. Just select the cameras you want to upgrade and then click "Upgrade" button.

Import/Export Configuration

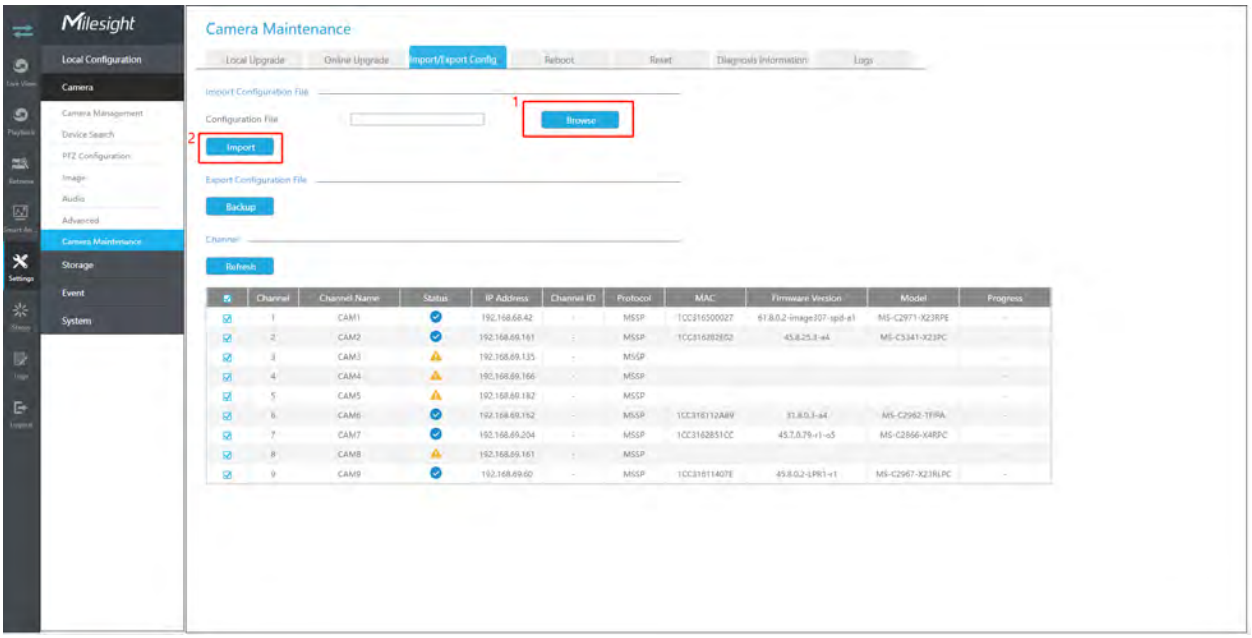
Step 1. Choose the corresponding channel you want to import/export configuration files.



- **Import Configuration File:**

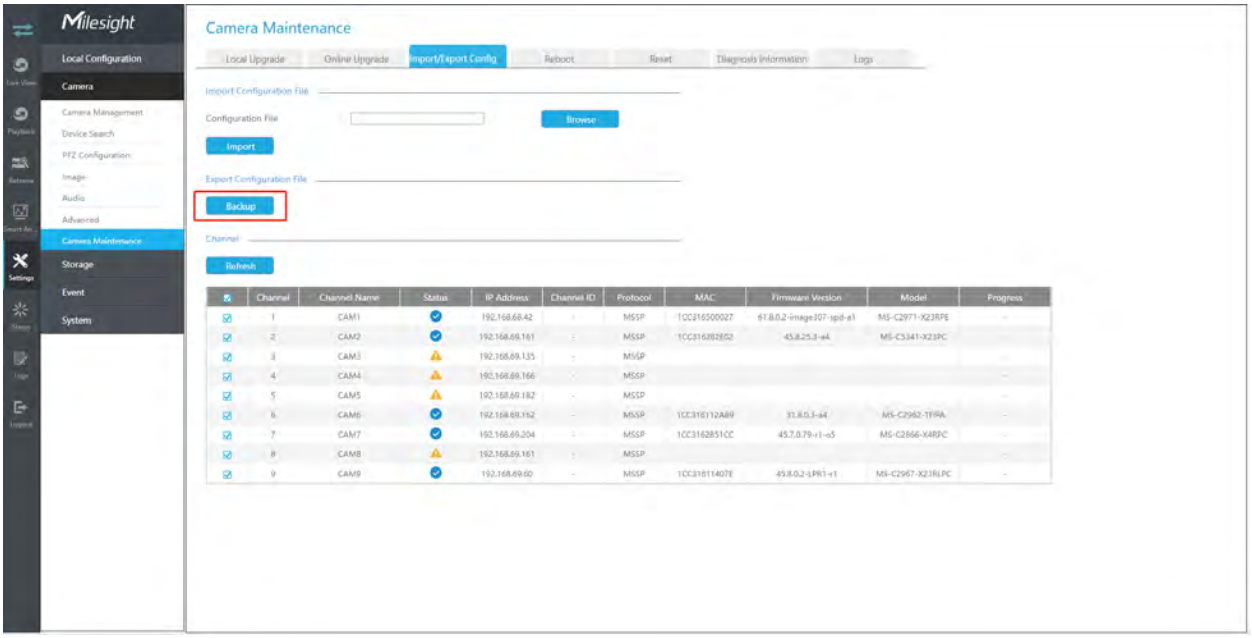
Step 2. Click "Browse" and select a .cfg file.

Step 3. Click "Import" to import a configuration file.



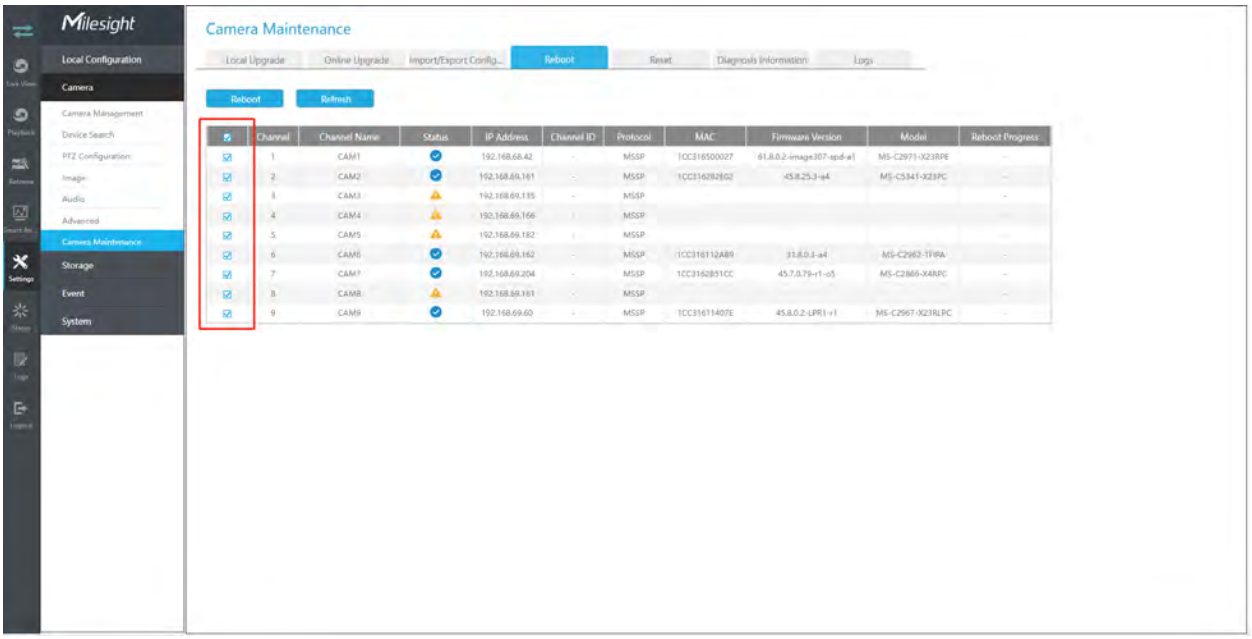
- **Export Configuration File:**

Step 2. Click "Backup" to export configuration file.

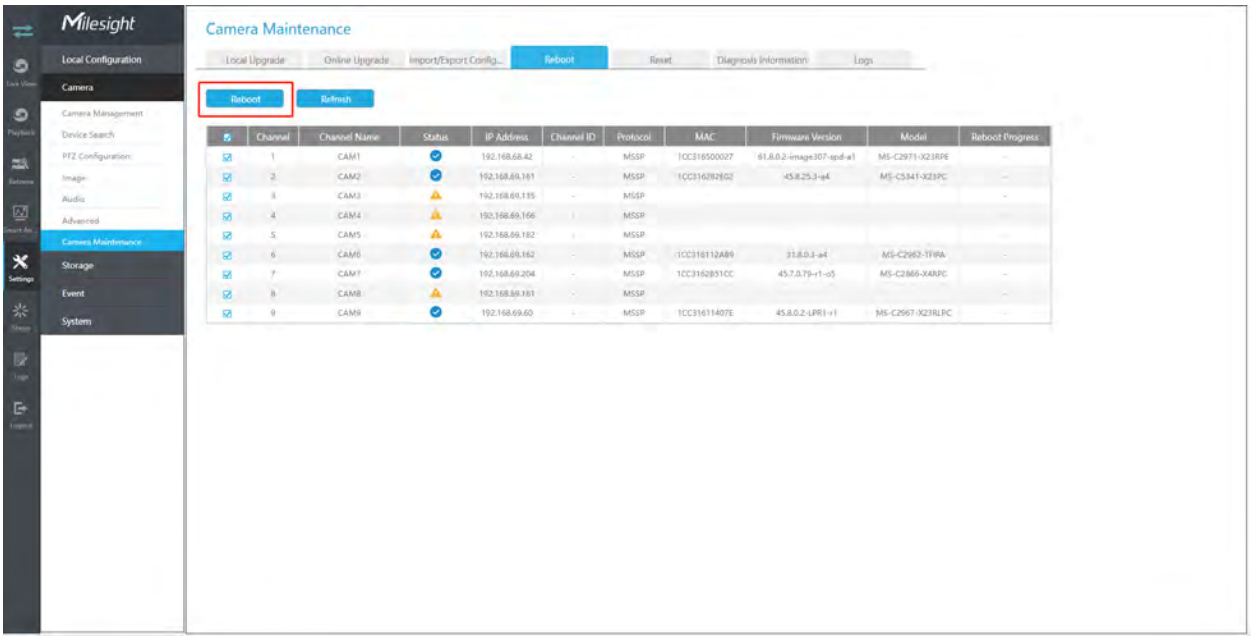


Reboot

Step 1. Choose the corresponding channel you want to reboot.



Step 2. Click “Reboot” button to restart the selected channels.

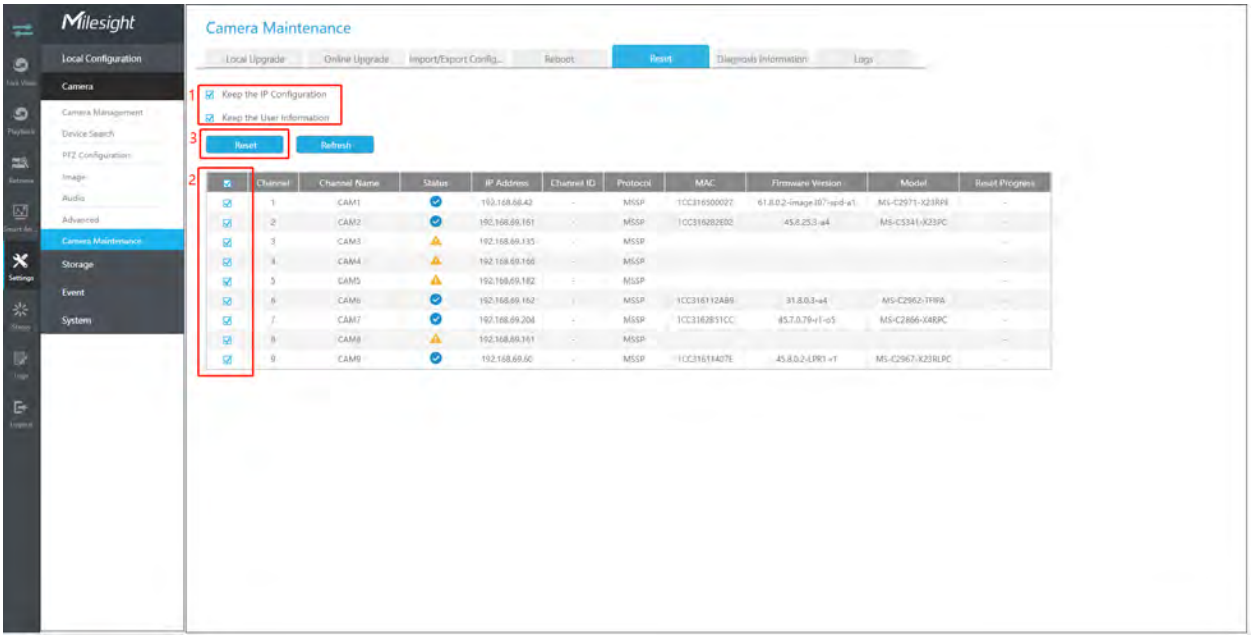


Reset

Step 1. Choose the corresponding channel you want to reset.

Step 2. Enable the “Keep the IP” option to keep the IP configuration when resetting the selected channels. And enable the “Keep the User” option to keep the User configuration when resetting the selected channels.

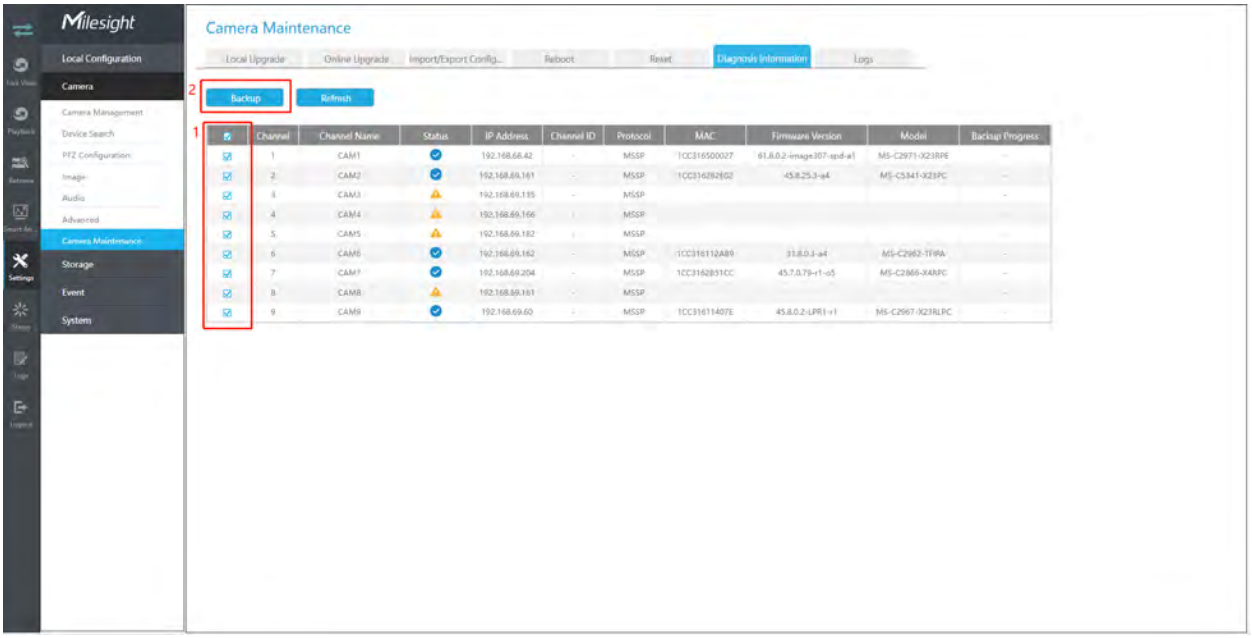
Step 3. Click “Reset” button to reset the selected cameras to factory default settings.



Diagnosis Information

Step 1. Choose the corresponding channel you want to diagnose the information.

Step 2. Click “Backup” button to export the diagnosis file .



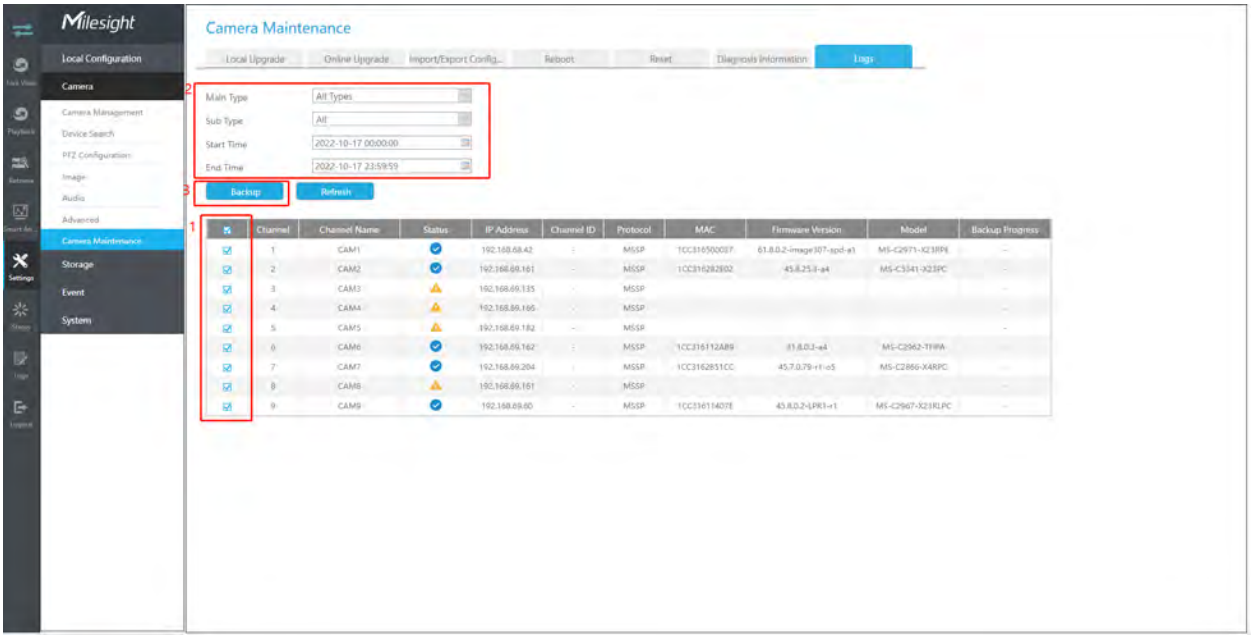
Logs

The user can check, search and export channel logs in Logs interface. By selecting the Main Type, Sub Type, Start Time and End Time, which can narrow down the scale of logs, you can search for logs that you need.

Step 1. Choose the corresponding channel you want to search for logs.

Step 2. Select the Main Type, Sub Type, Start Time and End Time

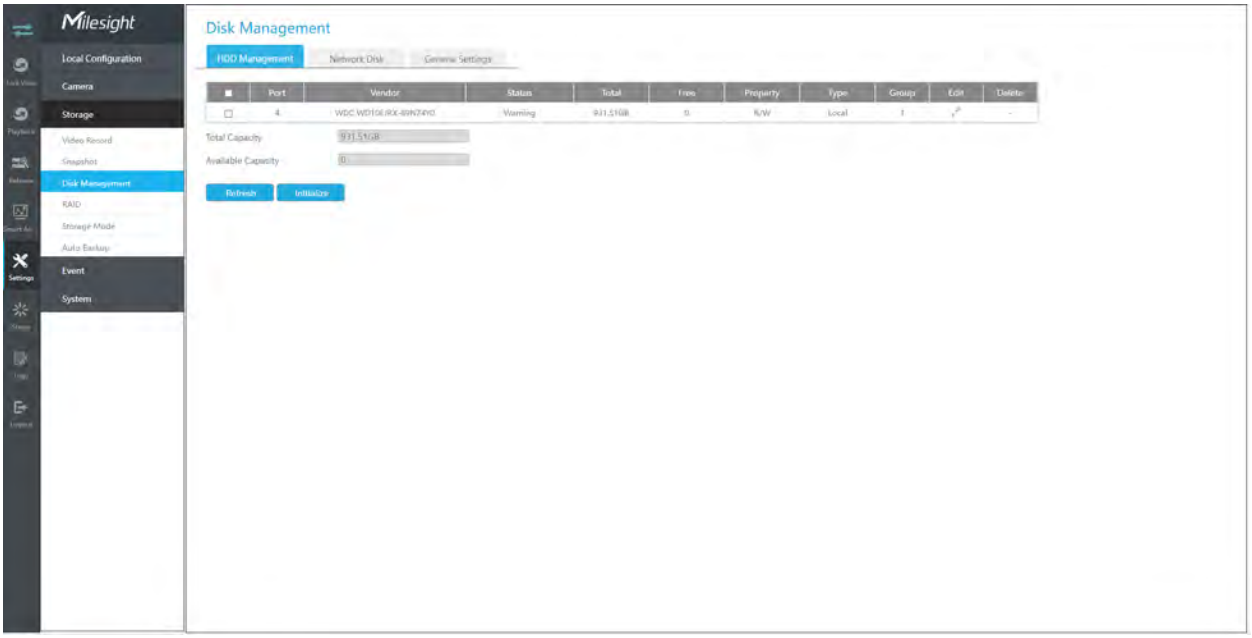
Step 3. Click "Backup" to export searched logs to media device.



3.7 Storage

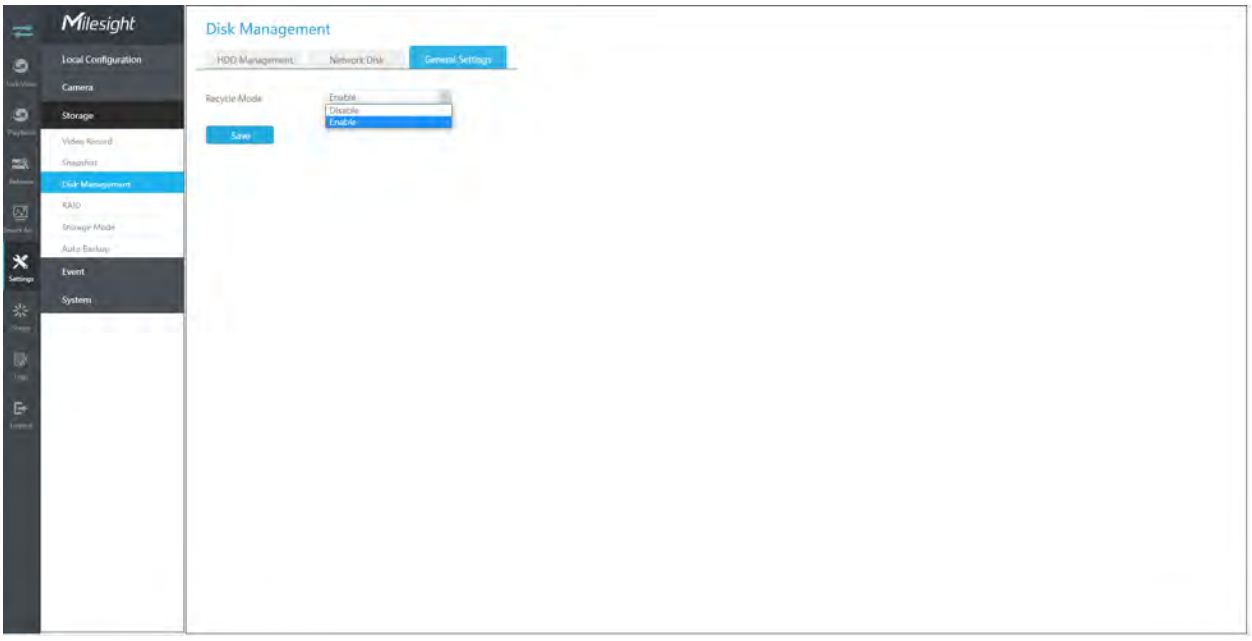
Preparation for Record

Step1. Ensure your NVR has been installed and the HDD has been initialized, please check it on “Storage” -> ”Disk Management” interface.



Step2. Ensure that the HDD has sufficient storage space.

Enable [Recycle Mode] in the case of insufficient capacity of storage device on Storage -> Disk Management -> General Settings interface .



Recycle Mode: You can enable or disable Recycle Mode for all storage device.

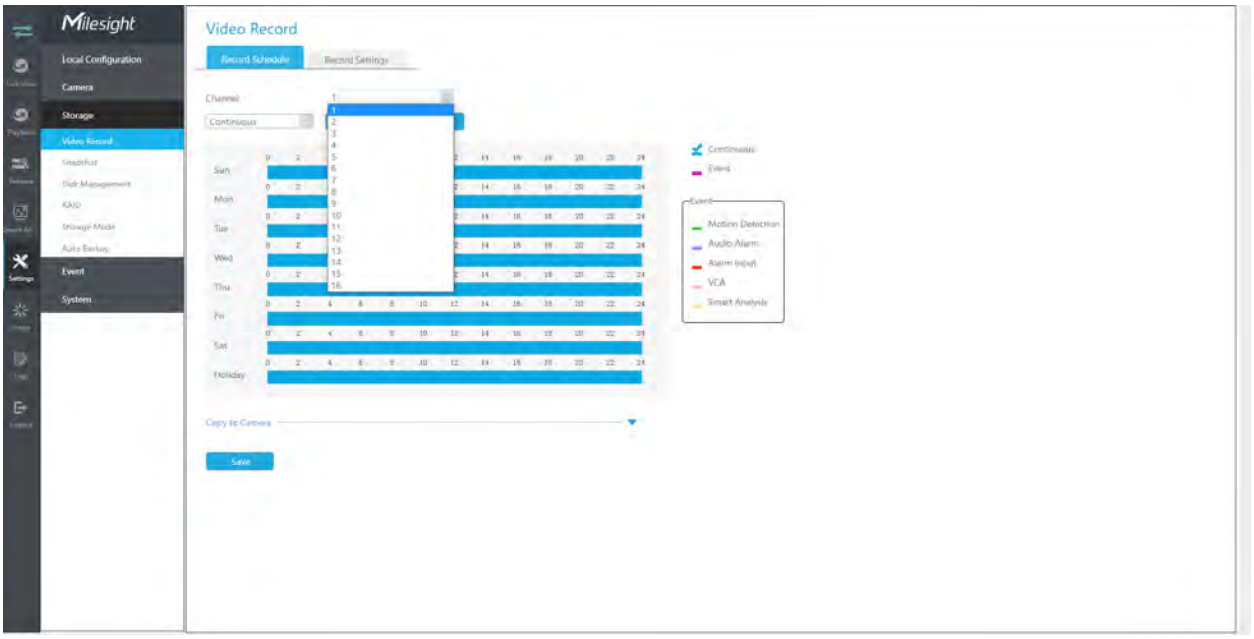
eSATA Function: Both storage and backup are available.

Note: eSATA Function is only available for NVR 8000 Series.

3.7.1 Video Record

Record Schedule

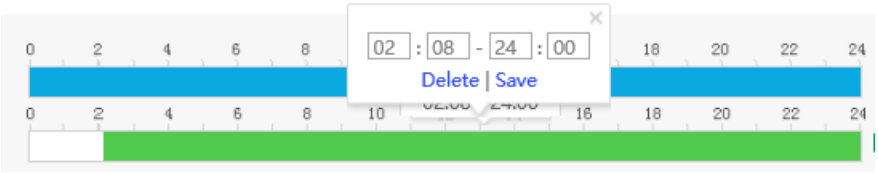
Step 1.Select channel.



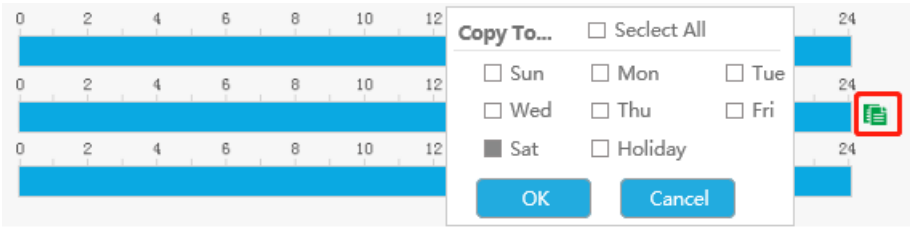
Step 2.Set record schedule.

Select operation type: Continuous, Event (including Motion, Alarm, VCA and Smart Analysis) or Erase. Then drag a square in the time table to set record effective time. It is convenient for you to set or clear all corresponding schedule by clicking "Select All" or "Clear All".

Also, you can click the time bar and reedit the record time.



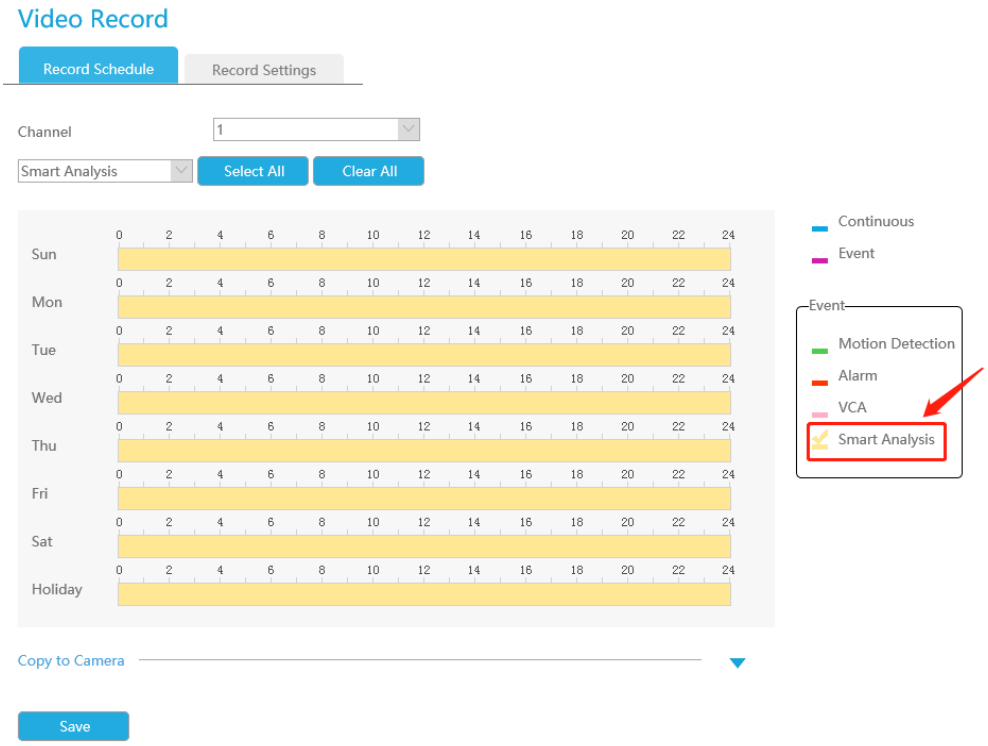
Click to copy time setting to other days.



Step 3. Click [Copy to Camera]**to copy the same record configuration to other channels.**

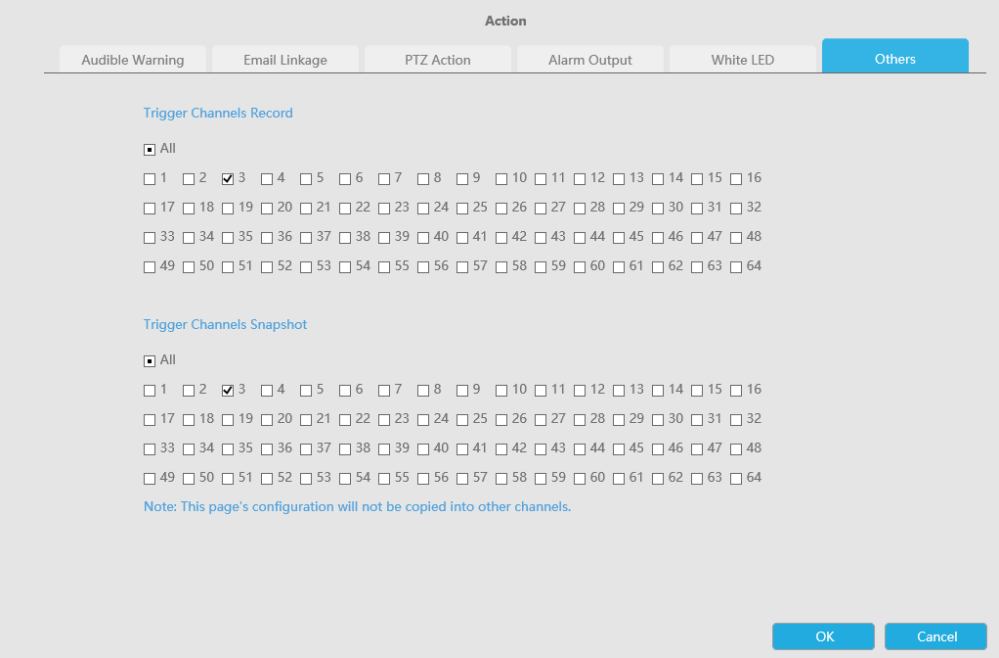
Note: Here are steps for setting ANPR record correctly so that NVR will record when license plate is detected.

Step 1: Set Smart Analysis as Record Type in Storage -> Video Record -> Record Schedule interface; The exclamation mark next to Smart Analysis is used to indicate that Smart Analysis includes ANPR.



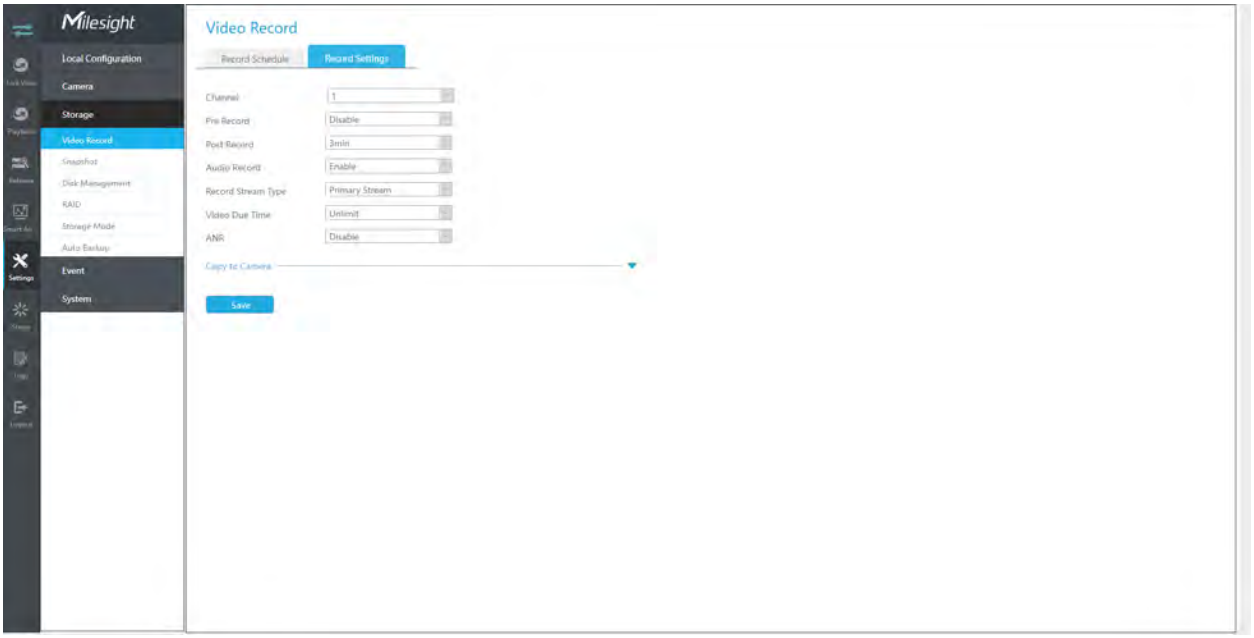
Step 2: Ensure Black List Mode or White List Mode or Visitor Mode is enabled as your demand.

Step 3: Effective time and Trigger Channels Record action of Black List Mode/White List Mode/ Visitor Mode are set (Full effective time and trigger channel record are set by default).



Record Settings

Make general configuration for selected channels. Click [Copy to Camera]to copy the same configuration to other channels.



Channel: Select the channel which will be set.

Pre Record : Event pre-record duration time. It will start recording before the event is triggered.

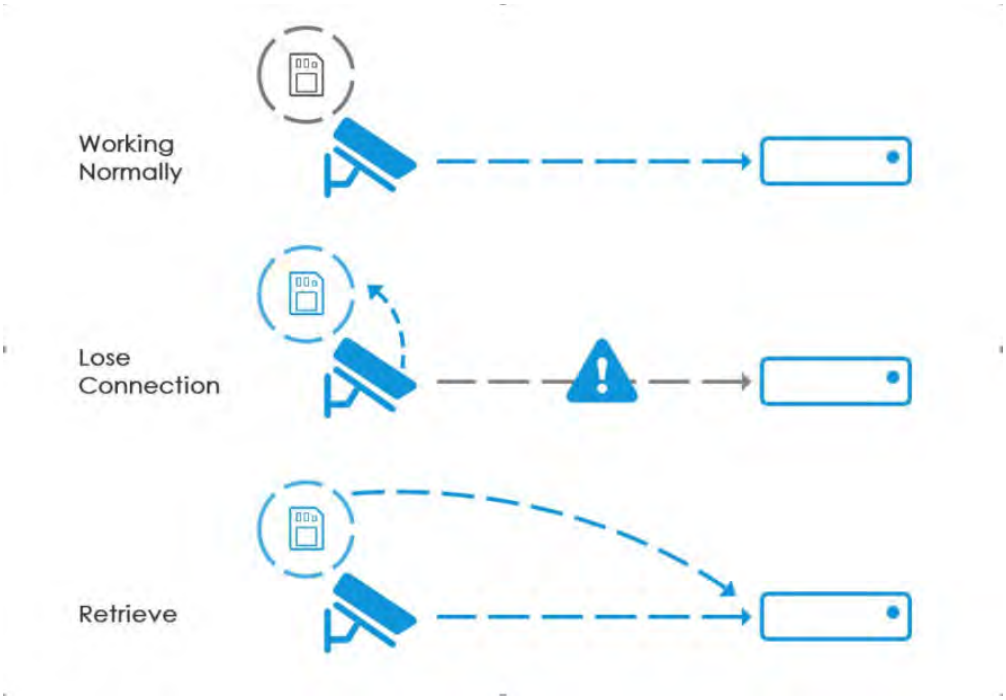
Post Record: Event post-record duration time. It will keep recording after the event is over.

Audio Record: Select to record audio or not.

Record Stream Type: Select Main stream or sub stream for record. Primary+Secondary Stream is available for NVR model ends with T only. If secondary stream is selected for recording while it is disabled, a prompt indicating that the secondary stream is unavailable will pop up.

Video Due Time: Set the due time of recording files, 1~120days or unlimit are available.

ANR (Automatic Network Replenishment) : Can automatically replenish the recording gap due to internet interruptions. As the picture shows below, NVR stores videos when the network connection between NVR and cameras is normal. When the connection lost, the camera would start continuous recording and store videos in SD card instead. Then after reconnection, NVR automatically retrieves the missed videos from camera's SD card in a period of time to prevent data missing.



Here are some notes for using ANR below:

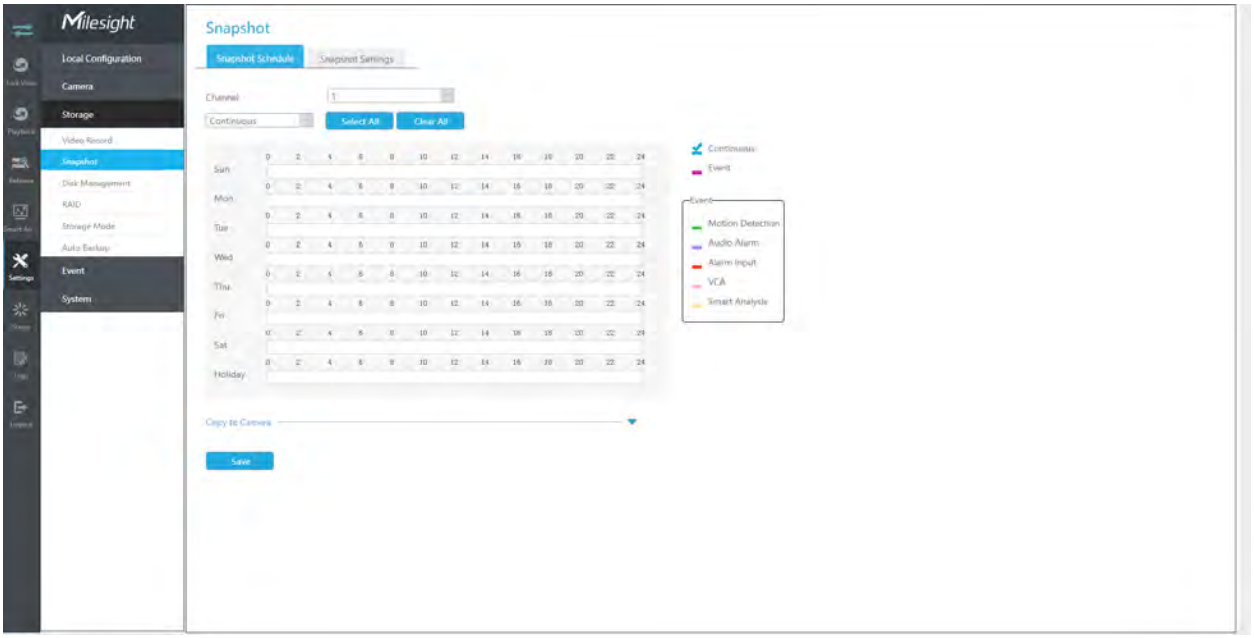
Note:

1. Ensure that your devices are with the correct firmware versions.
   - Camera: V4X.7.0.72 or above
   - NVR: V7X.9.0.6 or above
   - Firmware download link: https://www.milesight.com/support/download#firmware
2. Camera should equipped with on-board SD card.
3. Camera should be added to NVR by MSSP protocol.

4. No matter whether NVR has recording schedule or not, camera will do ANR recording and then retrieve back to NVR after reconnection.

No matter whether NVR has recording schedule or not, camera will do ANR recording and then retrieve back to NVR after reconnection.

3.7.2 Snapshot



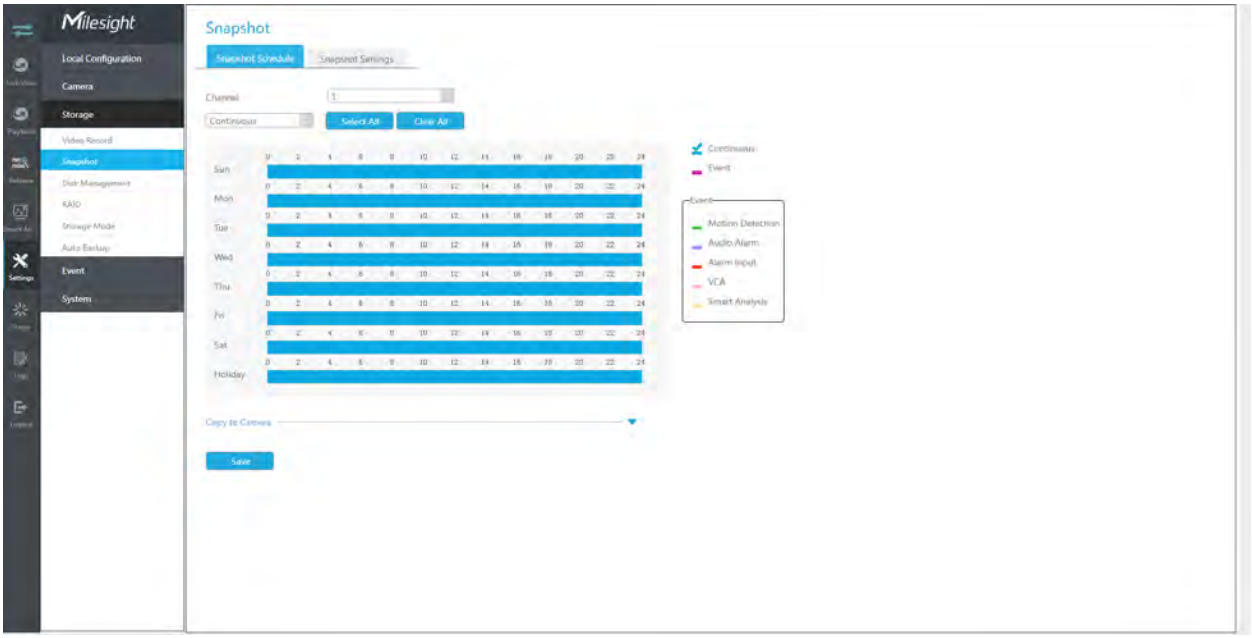
Note: NVR models ending with the letter C do not support this function.

Snapshot Schedule

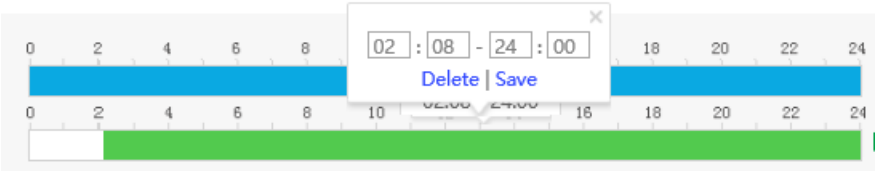
Step 1.Select channel.

Step 2.Set snapshot schedule.

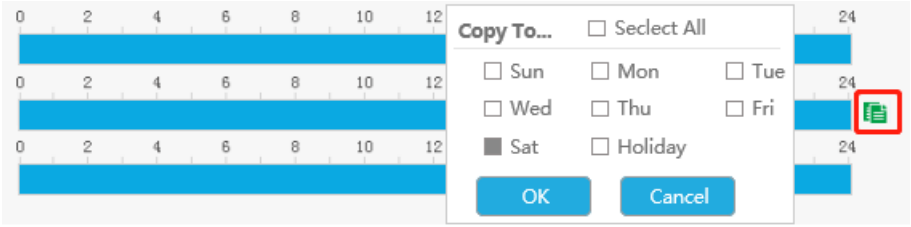
Select operation type: Continuous, Event or Erase. Event record includes events like Motion Detection, Alarm, VCA and Smart Analysis,which can be searched in Event Playback. Then drag a square in the time table to set record effective time. It is convenient for you to set or clear all corresponding schedule by clicking "Select All" or "Clear All".



Also, you can click the time bar and reedit the record time.



Click to copy time setting to other days.



Step 3. Click "Copy" to copy the same snapshot configuration to other channels.

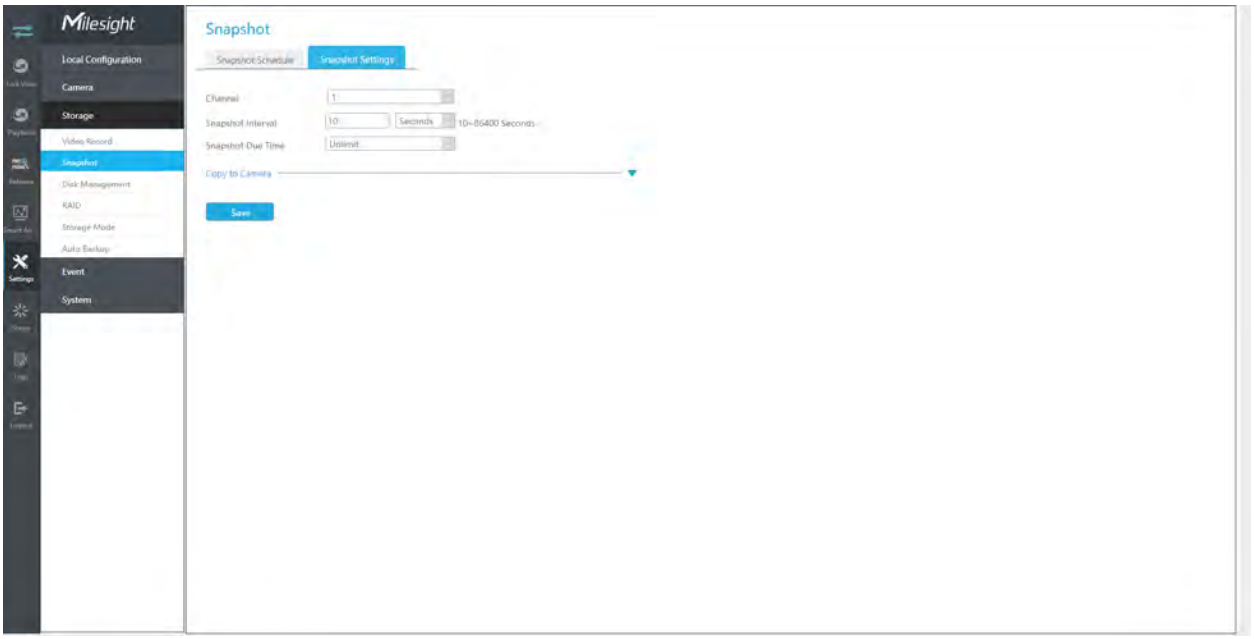
Snapshot Settings

Make general configuration for selected channels. Click [Copy to Camera]to copy the same configuration to other channels.

Channel: Select the channel which will be set.

Snapshot Interval: Set the snapshot Interval, 3~86400 seconds are available.

Snapshot Due Time: Set the due time of snapshot files, 1~120days or unlimit are available.



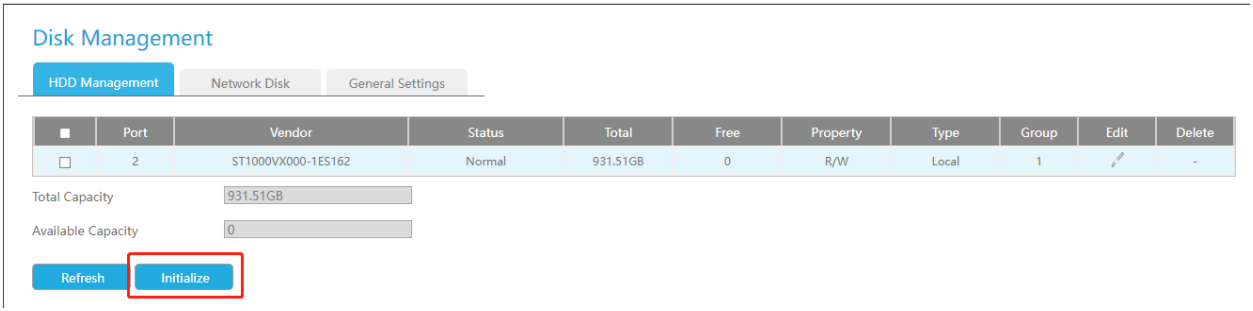
3.7.3 Disk Management

You can check Disk status, add Network Disk and set Recycle Mode here.

HDD Mangement

Property: R/W and Read-only are available for this option.

Note: Initializing the HDD before you set record schedule to ensure that record properly works.

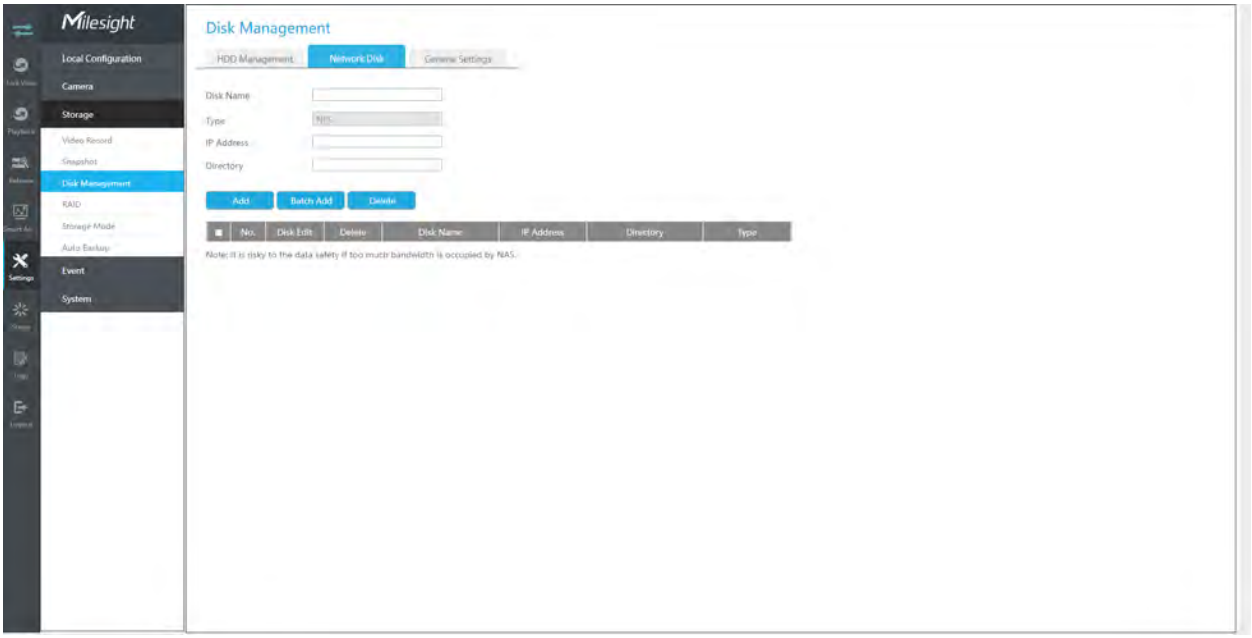


Network Disk

NAS (Network-Attached Storage) should be available within the network and properly configured to store the recorded files and snapshots. You can click and then input corresponded NAS information to add NAS.

Note:

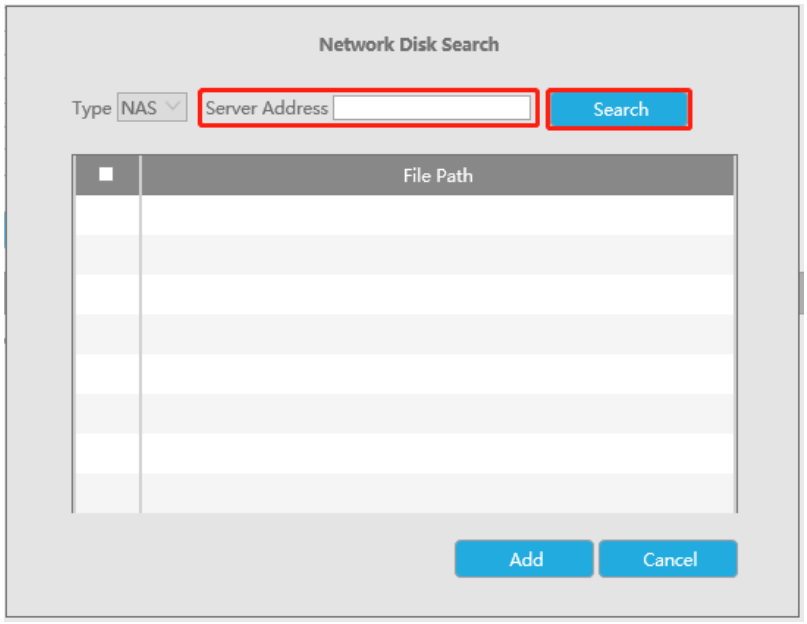
1. NAS with NFS format is the only type for network disk adding.
2. It’s recommended to use Hard Disk rather than Network Disk.



Edit the Property by clicking . After that the storage device will be ready.

HDD Type: RAID means RAID, NAS means network attached storage while LOCAL means normal disk mode.

You can add it manually or search local NAS by clicking "Batch Add".

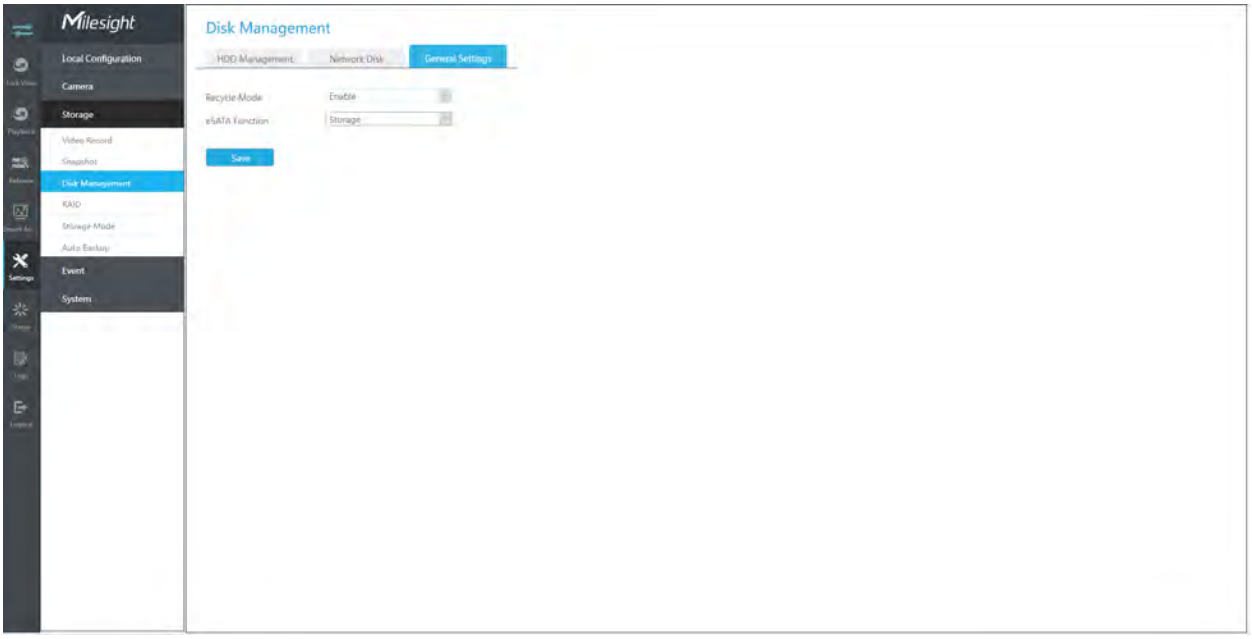


General Settings

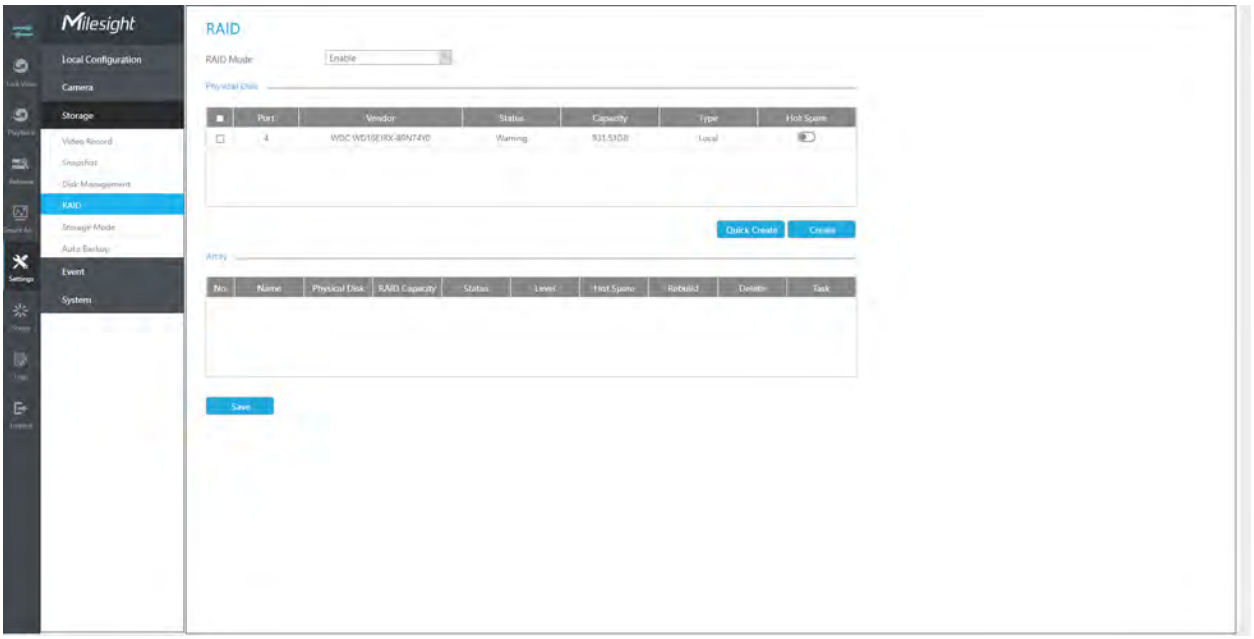
Recycle Mode: You can enable or disable Recycle Mode for all storage devices.

eSATA Function: Both storage and backup are available.

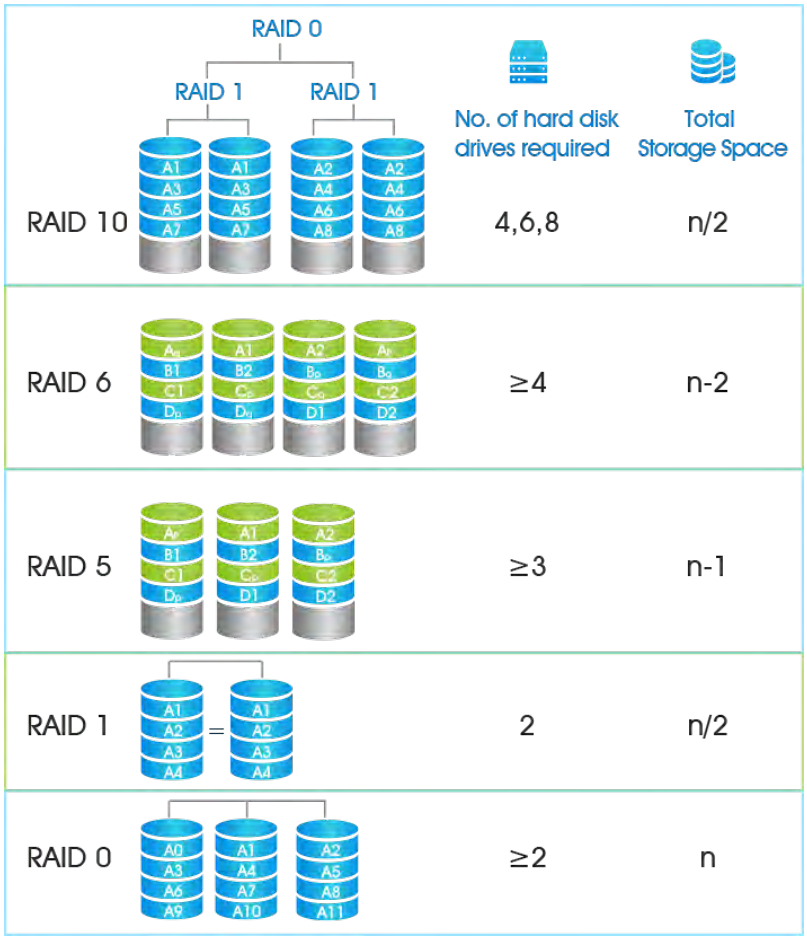
Note: eSATA Function is only available for NVR 8000 Series.



3.7.4 RAID

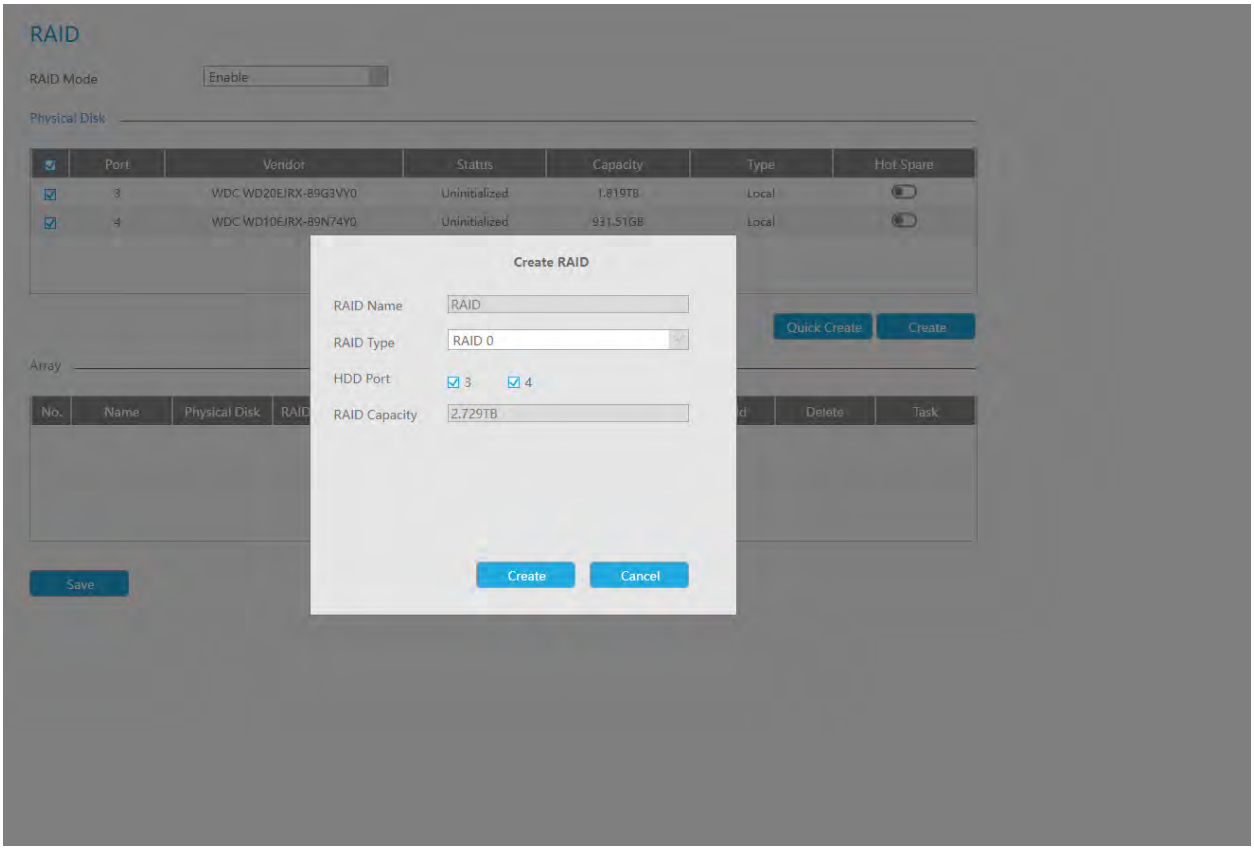


RAID (Redundant Array of Independent Disks) is a storage technology that combines multiple disk drive components into a logical unit. A RAID setup stores data over multiple hard disk drives to provide enough redundancy so that data can be recovered if one disk fails.



Step1. Enable RAID. NVR will reboot after enabling.

Step2. Select HDD and click "Create" or "Quick Create" to create a new array. New array will be available after a while.



Hot Spare: A disk can be used as the hot spare for any array created in the system.

Rebuild: When the array is in Degraded status, the device can start rebuilding the array automatically with the hot spare disk to ensure the high security and reliability of the data.

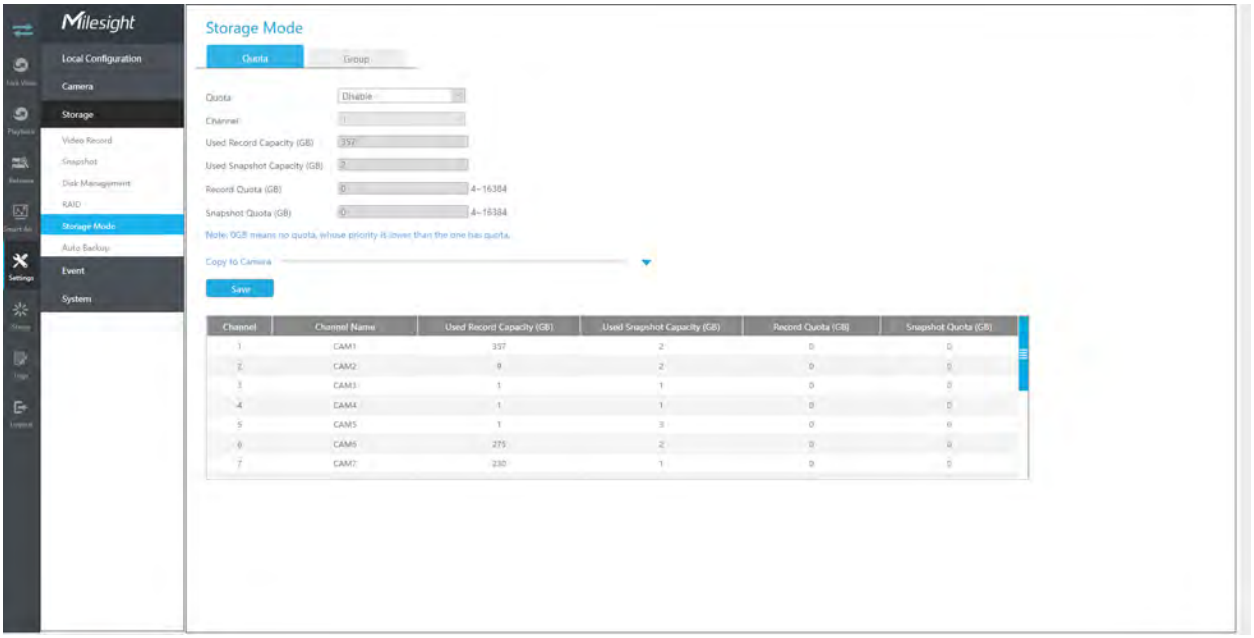
Note:

1. RAID only available for 4K H.265 NVR 7000/8000 Series and 4K H.265 PoE NVR 7000 Series.
2. Support more than 16TB capacity for creating the RAID, and the RAID data can be read and written normally. This meets users' storage requirements for larger capacity.
3. Quick Create only for RAID5.

3.7.5 Storage Mode

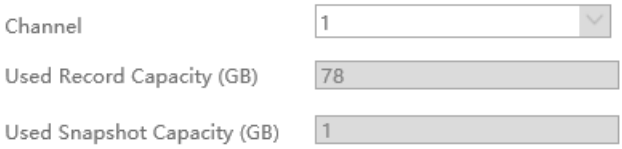
Quota

You can configure the storage capacity of each channel, including snapshots and recording, making storage allocation more flexible.

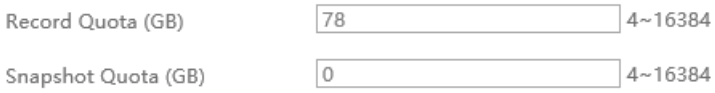


Step 1. Enable Quota.

Step 2. Select the channel in which you want to enable Quota. Then the used record capacity and the used snapshot capacity of the corresponding channel are automatically displayed.



Step 3. Set Quota for record and snapshot separately. And the Quota range from 4 to 16384 GB. The default value is 0 GB.



Step 4. Click "Apply" to take effect the configuration of the current interface.

Click "Copy" to pop up the Channel Copy interface, then the Quota configuration of the selected channel can be copied to the channel you want, and click “OK” to take effect the configuration.

The Quota status of each channel will be displayed in a table at the bottom of the Storage Mode -> Quota interface.

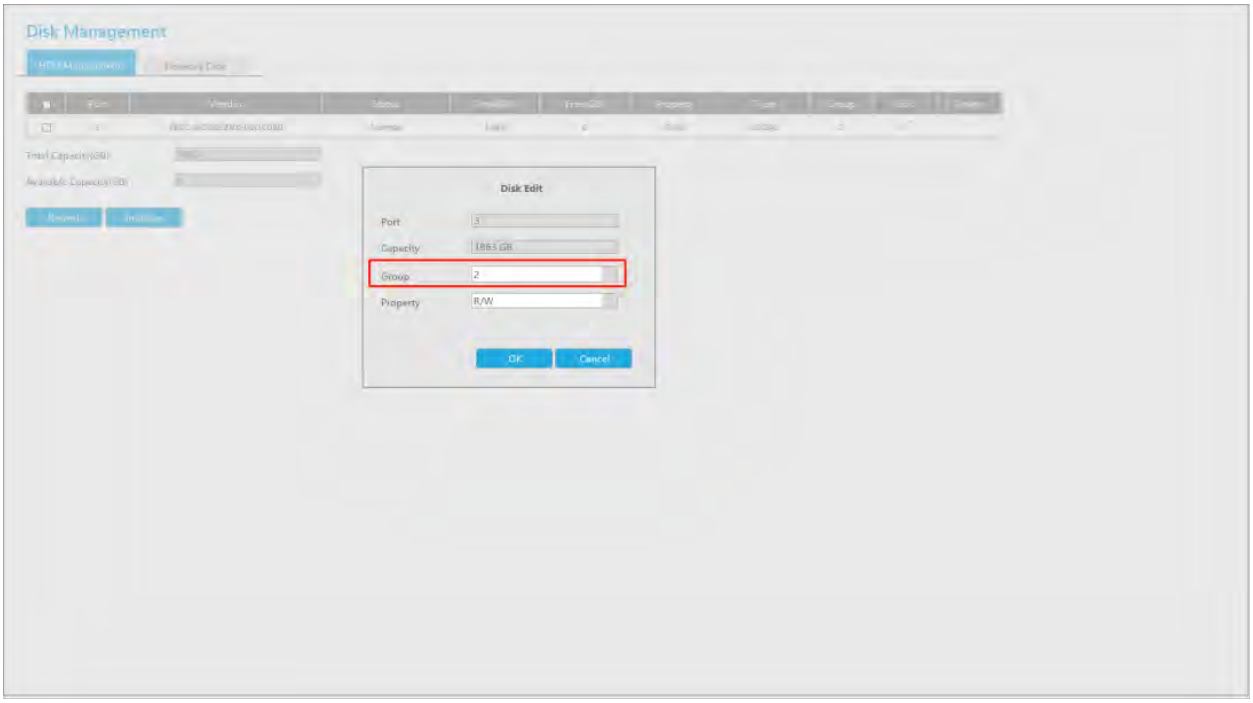
Group

You can divide disks into different groups, which is able to storage different channels' recorded files into different groups.

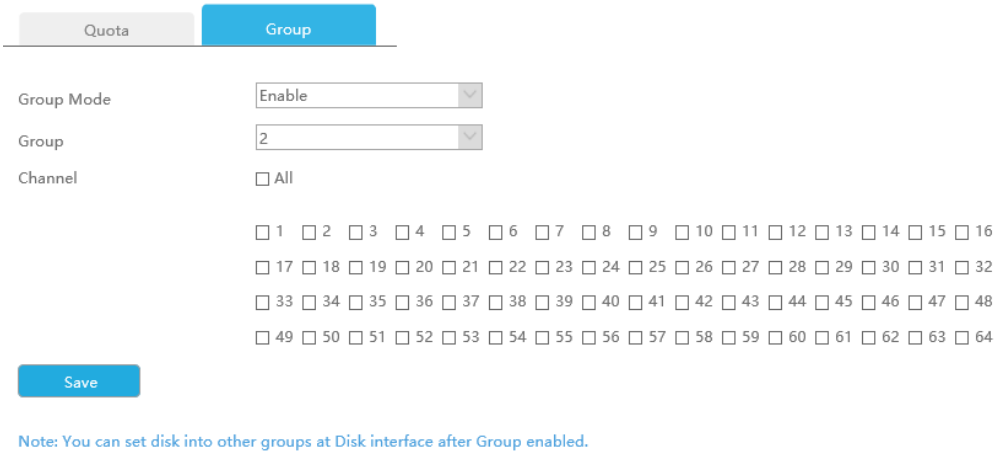
Step 1. Enable Group.

Step 2. Switch to Disk Management interface. Click and set the group number of every disk.

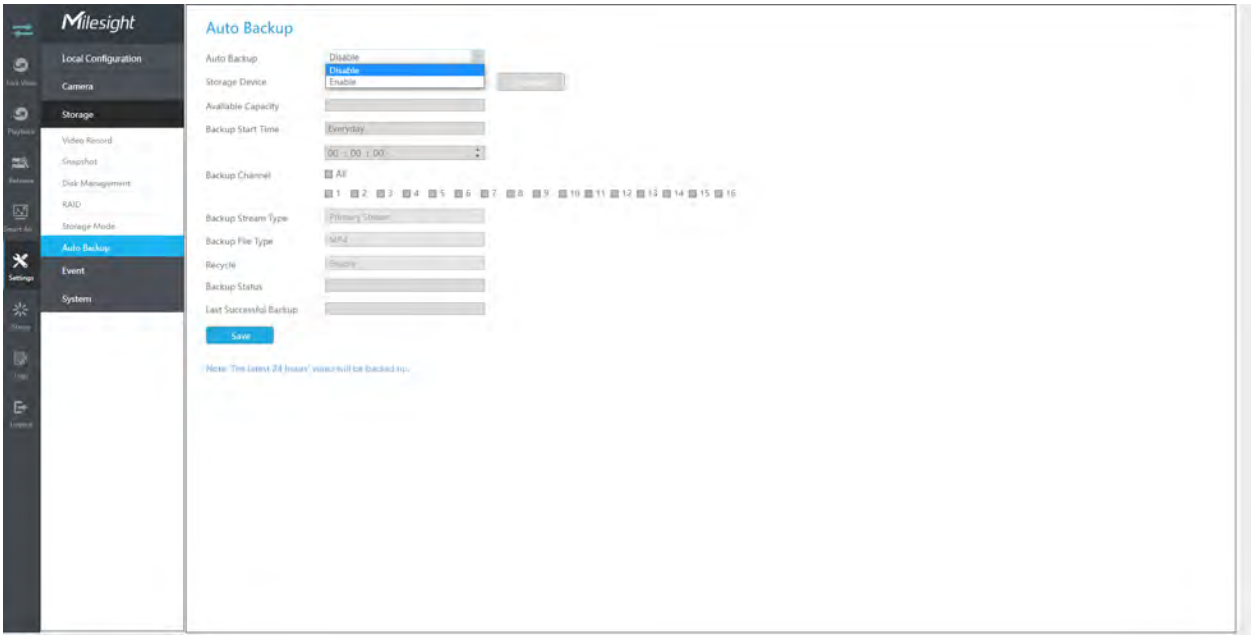
Note: You can add 16 groups at most.



Step 3. Select group and channels which you want to record into this group.

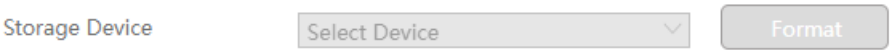


3.7.6 Auto Backup



Step 1. Enable Auto Backup.

Step 2. Select Storage Device as USB Device, NAS or eSATA disk.



Note: eSATA disk is only supported on NVR 8000 series.

Step 3. Set Backup Start Time.

Step 4. Check the checkbox to select Backup Channel. You can also click

to select all channels.

Step 5. Set Backup Stream Type to Primary Stream or Secondary Stream.

Step 6. Set Backup File Type to MP4, AVI or PS.

Step 7. You can enable or disable Recycle Mode for Auto Backup function.

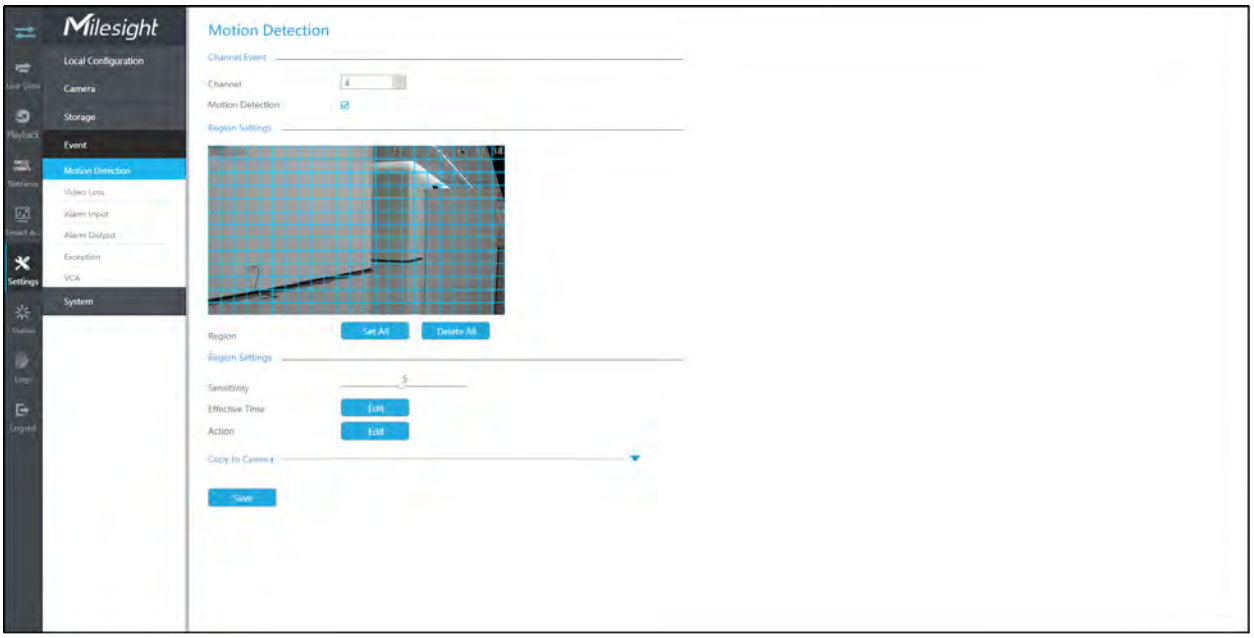
Step 8. Click "Apply" to save the settings, and the latest 24 hours' video will be automatically backed up to the storage device.

Note:

1. You can check Auto Backup status in the Backup Status bar, and the corresponding status is as follows.
   - No Storage Device
   - Unsupported Storage Device Format
   - Standby
   - Working (xx%)
2. If there are already successfully backed up videos, the time when the backup ends will be displayed in Last Successful Backup bar.

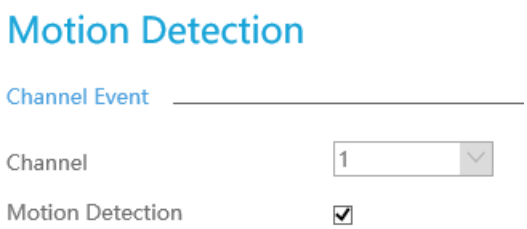
3.8 Event

3.8.1 Motion Detection



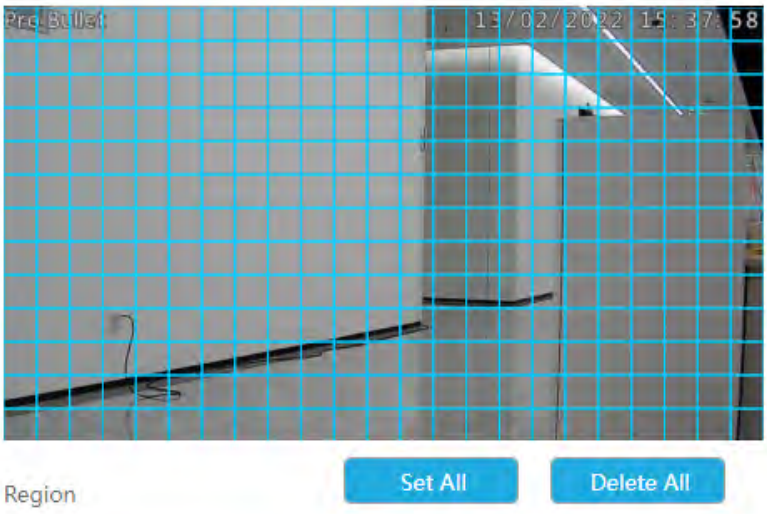
Step 1. Enable Motion Detection.

Select channel , Sensitivity and click ☑ to enable Motion Detection.



Step2: Set the area for triggering motion detection.

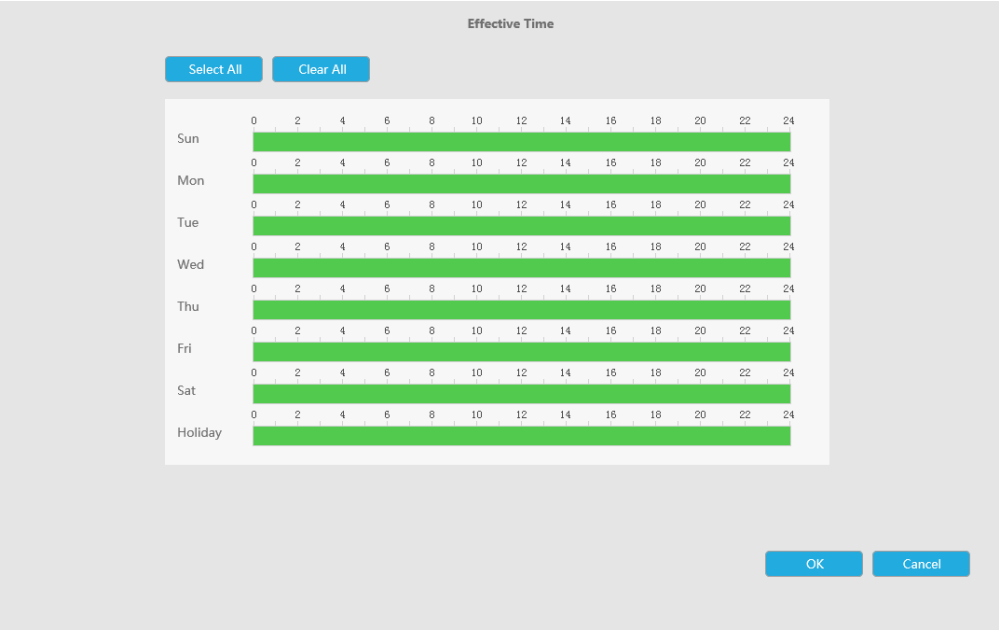
You can set the area by dragging a square on live view window.



Note: The motion detection area will be synchronized to Camera.

Step3. Set Effective Time of motion detection by clicking "Edit".

NVR receives the alarm when effective time has been set. It will be more convenient by clicking "Select All" or "Clear All" to set or clear all time settings.



Step 4. Set Action for motion detection alarm by clicking"Edit".

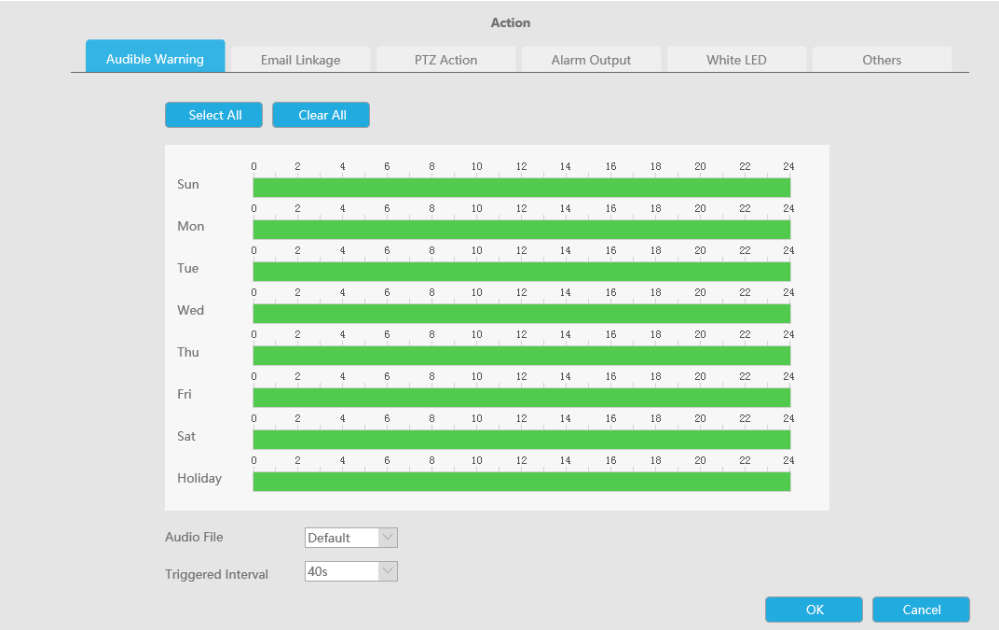
Audible Warning:NVR will trigger an audible warning when event is detected.

The user can set effective schedule as following two ways:

1. Select the operation type: Audible or Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit record effective time manually.

Audio File: Users can select the audio file as needed for audible warning. The default is an audible beep.

Triggered Interval: The effective interval between two actions when event triggered.



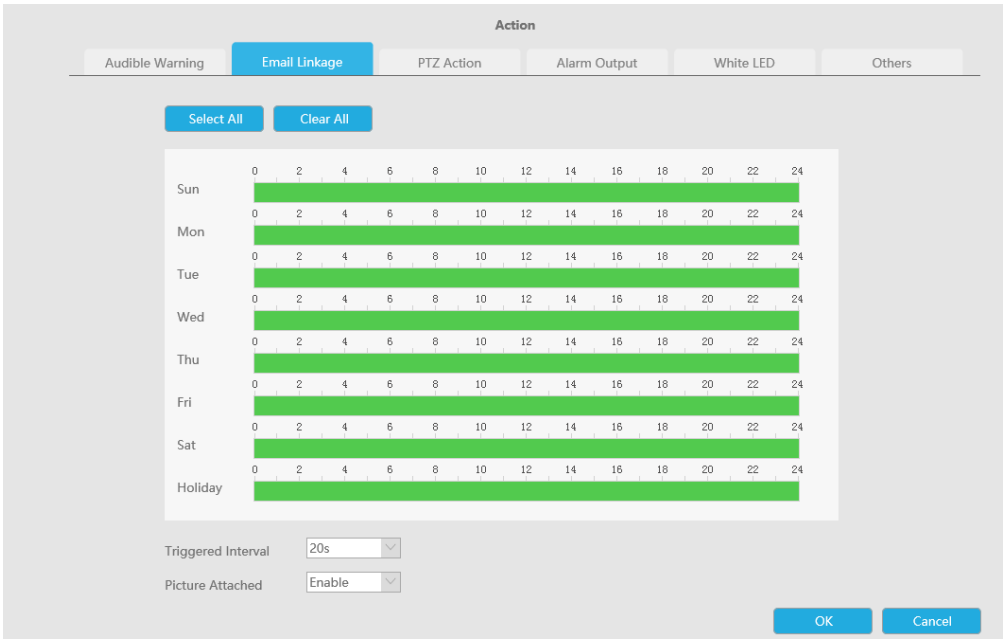
Email Linkage:NVR will send an email to the address you set before.

The user can set effective schedule as following two ways:

1. Select the operation type, Email and Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.

Triggered Interval: The effective interval between two actions when event triggered.

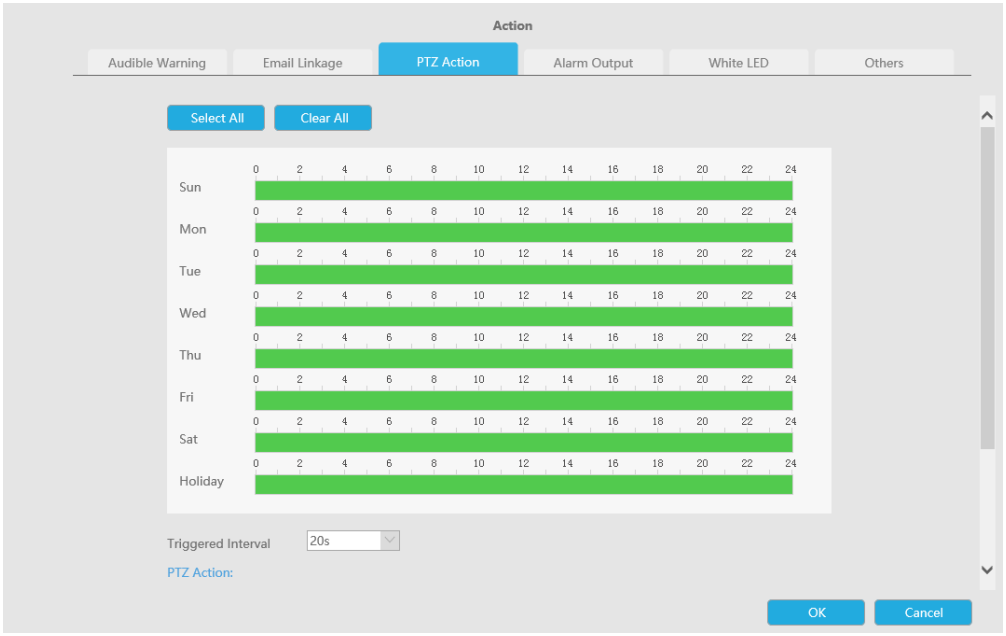
Picture Attached: Select whether to attach picture when sending Emails. If you enable it, you will receive alarm emails with one event captured picture attached.



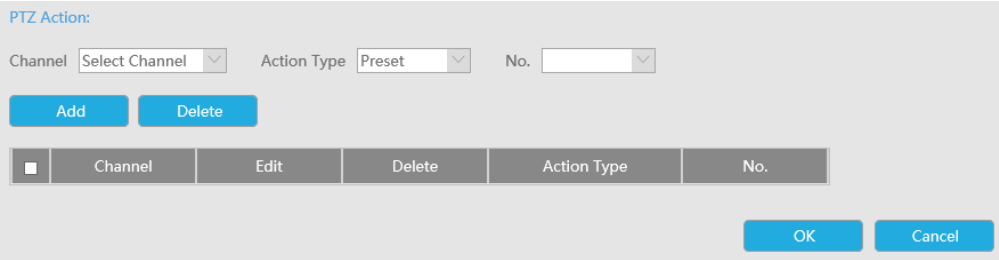
PTZ Action: Trigger PTZ action when alarm is triggered. PTZ action includes **Preset and Patrol.**

User can set effective schedule as following two ways:

1. Select the operation type: PTZ or Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.



And you can add PTZ Action by clicking .



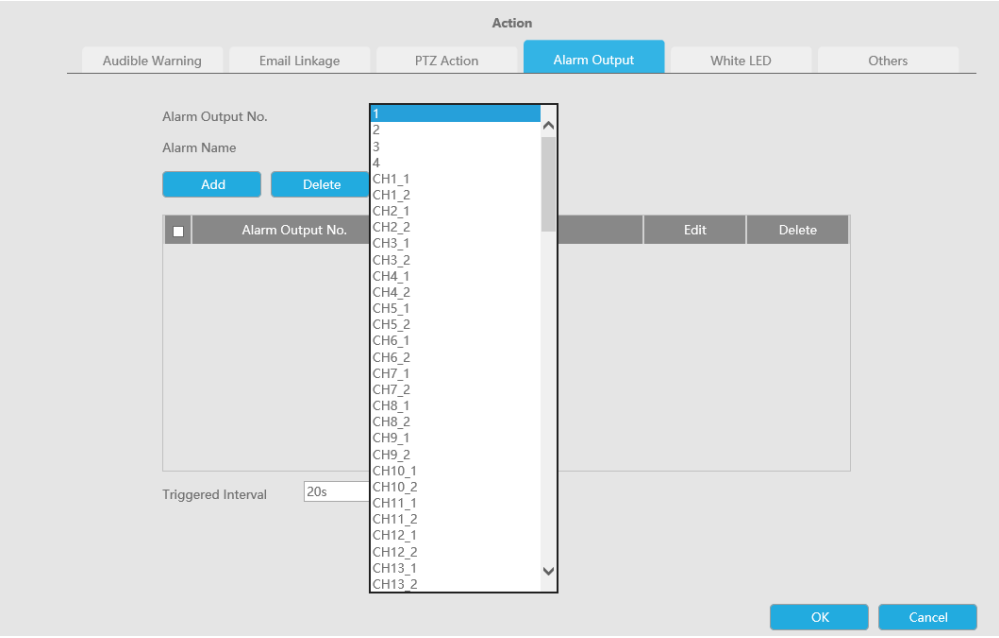
Channel: Select the channel which supports this function.

Action Type: Preset and Patrol are available.

No.: Select the number of Preset or Patrol.

Alarm Output: Trigger alarm output when alarm is triggered. For NVR Alarm Output, the relevant alarm output will be firstly listed, such as, 1, 2.etc. As for camera Alarm Output, it will display as CHx_x (such as CH1_1) according to the camera channel and corresponding alarm number.

Triggered Interval: The effective interval between two actions when event triggered.



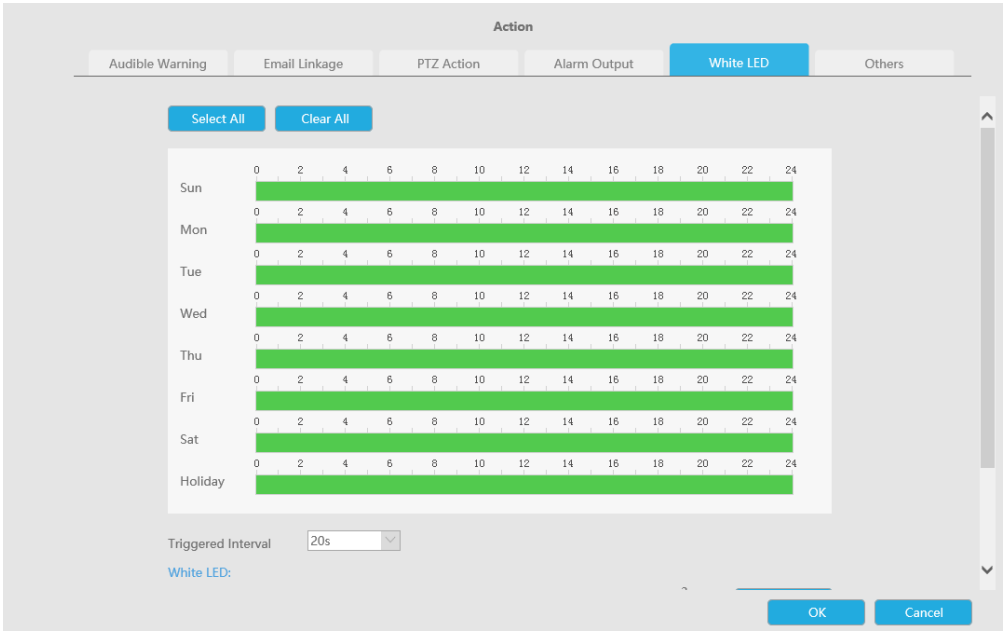
White LED: Trigger White LED flashing when alarm is triggered.

The user can set effective schedule as following two ways:

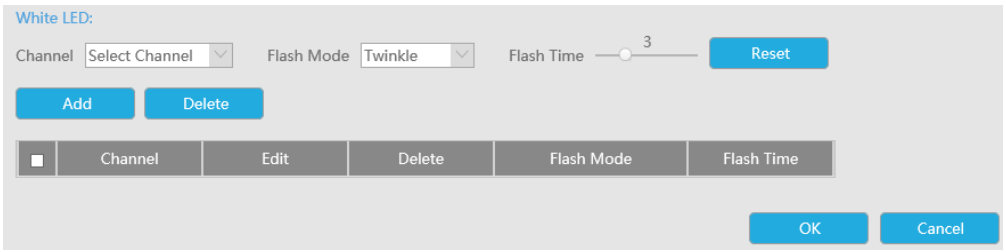
User can set effective schedule as following two ways:

1. Select the operation type, White LED and Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.

Triggered Interval: The effective interval between two actions when event triggered.



And you can add White LED by clicking .

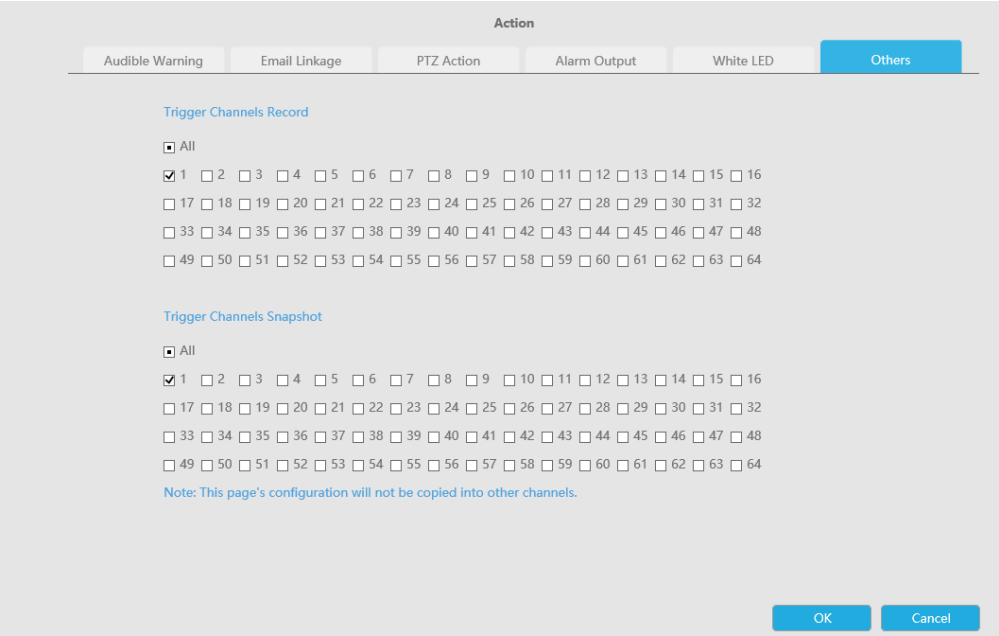


Channel: Select the channel which supports this function.

Flash Mode: Twinkle and Always are available.

Flash Time: Set the time for White LED flashing. When the Flash Mode is Twinkle, the range of Flash Time is 1~10 and the default value is 3. When the Flash Mode is Always, the range of Flash Time is 1~60 and the default value is 5.

Others: Trigger selected channels to record when alarm is triggered.

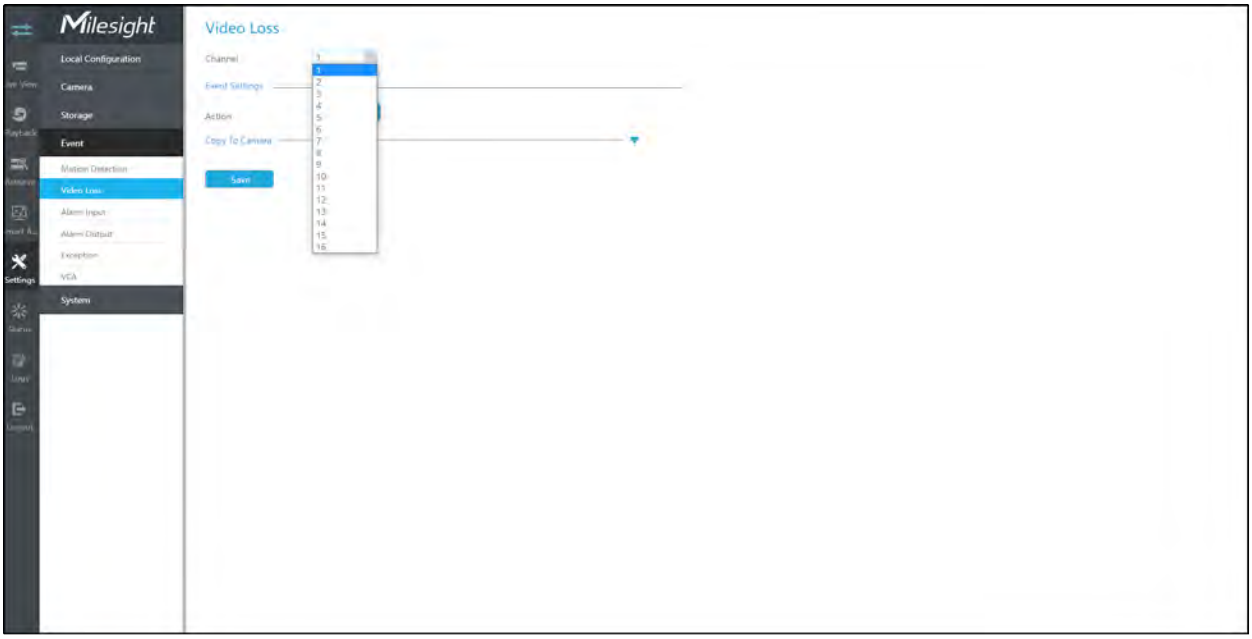


Note: Make sure you have set correct schedule for record and snapshot before setting the Event Action.

Step5. Click[Copy to Camera] and to copy the same configuration to other channels.

3.8.2 Video Loss

Step 1.Select a channel.



Step 2.Set Action for video loss by clicking "Edit".

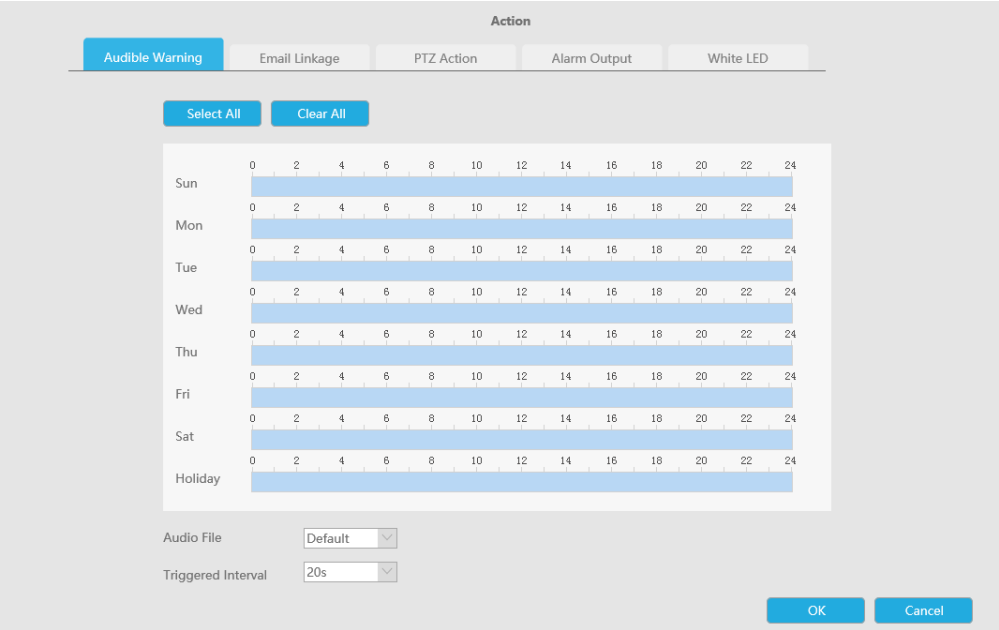
Audible Warning:NVR will trigger an audible warning when event is detected.

The user can set effective schedule as following two ways:

1. Select the operation type: Audible or Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit record effective time manually.

Audio File: Users can select the audio file as needed for audible warning. The default is an audible beep.

Triggered Interval: The effective interval between two actions when event triggered.



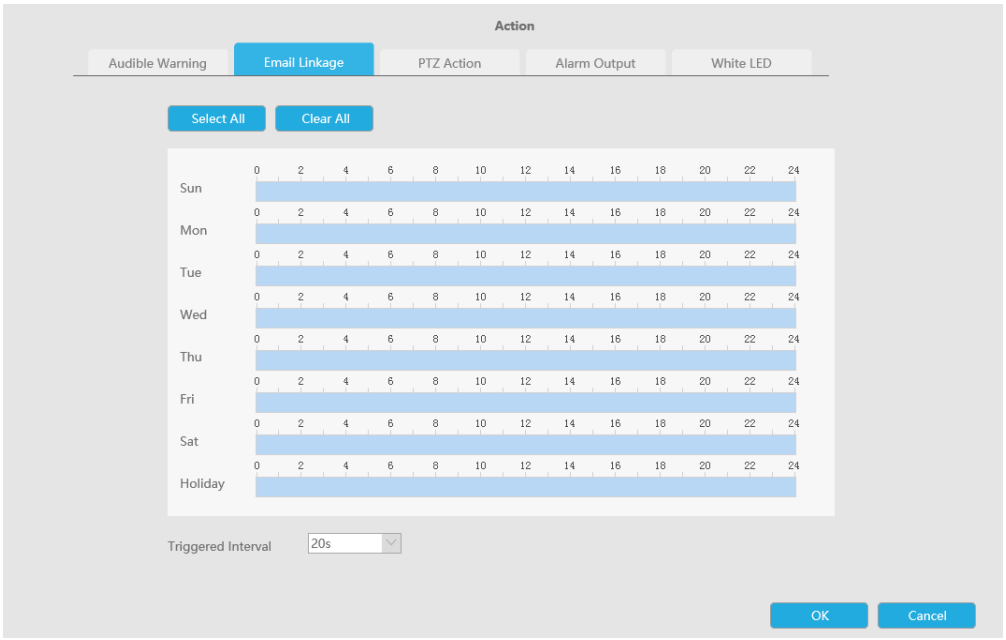
Email Linkage:NVR will send an email to the address you set before.

The user can set effective schedule as following two ways:

1. Select the operation type, Email and Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.

Triggered Interval: The effective interval between two actions when event triggered.

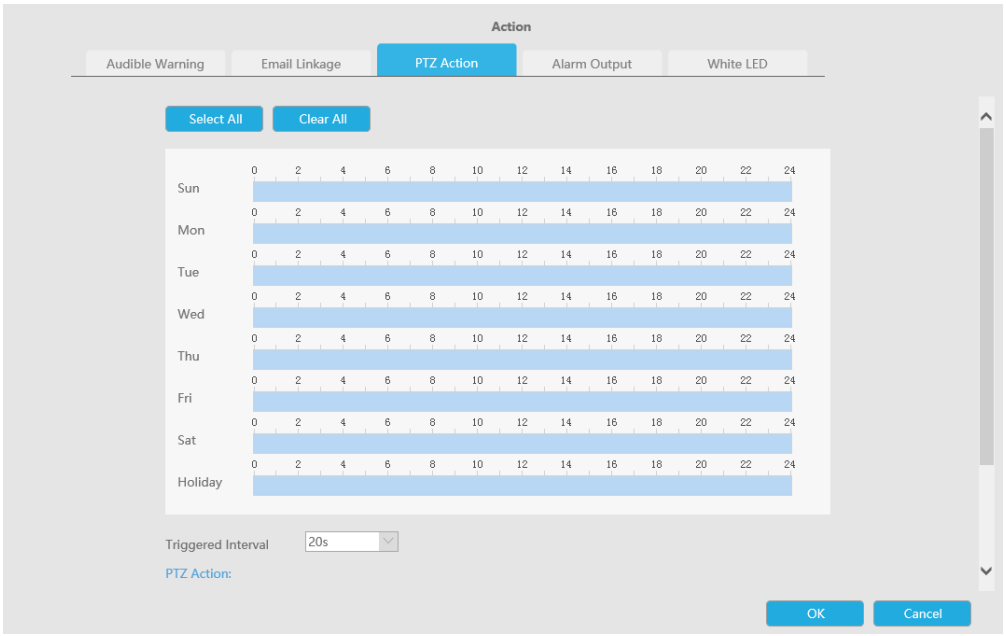
Picture Attached: Select whether to attach picture when sending Emails. If you enable it, you will receive alarm emails with one event captured picture attached.



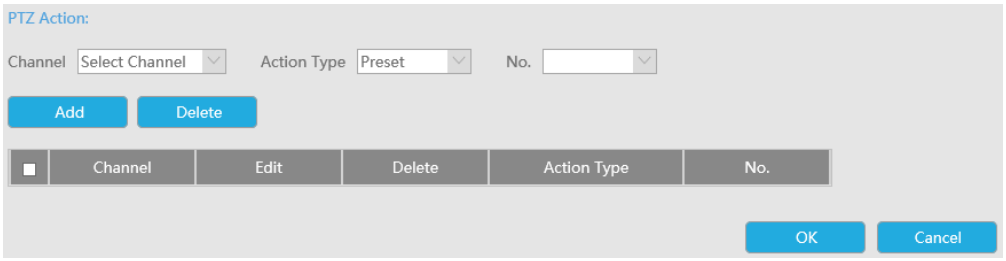
PTZ Action: Trigger PTZ action when alarm is triggered. PTZ action includes **Preset and Patrol.**

User can set effective schedule as following two ways:

1. Select the operation type: PTZ or Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.



And you can add PTZ Action by clicking .



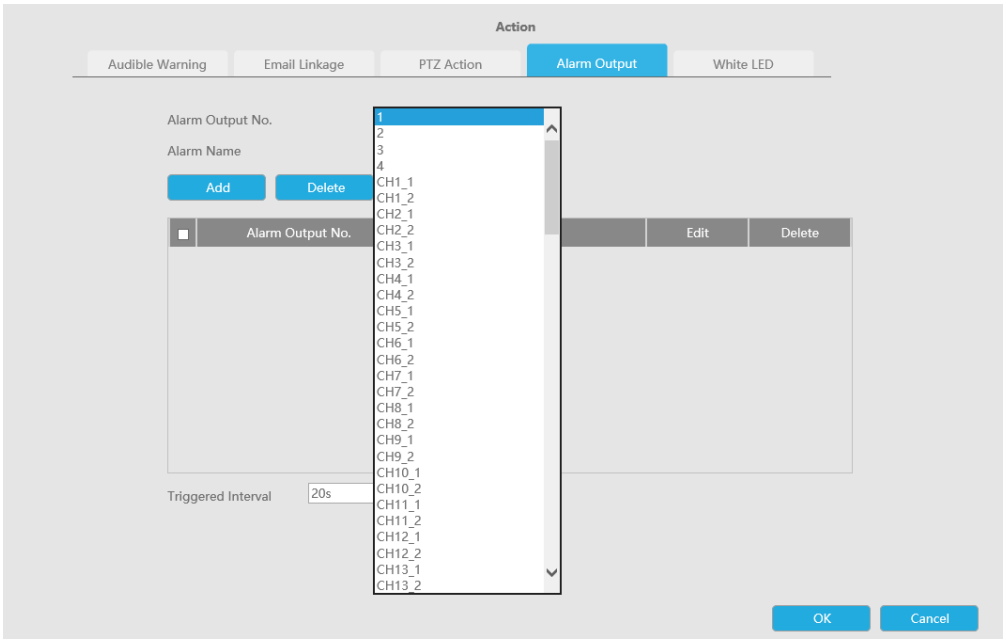
Channel: Select the channel which supports this function.

Action Type: Preset and Patrol are available.

No.: Select the number of Preset or Patrol.

Alarm Output: Trigger alarm output when alarm is triggered. For NVR Alarm Output, the relevant alarm output will be firstly listed, such as, 1, 2.etc. As for camera Alarm Output, it will display as CHx_x (such as CH1_1) according to the camera channel and corresponding alarm number.

Triggered Interval: The effective interval between two actions when event triggered.



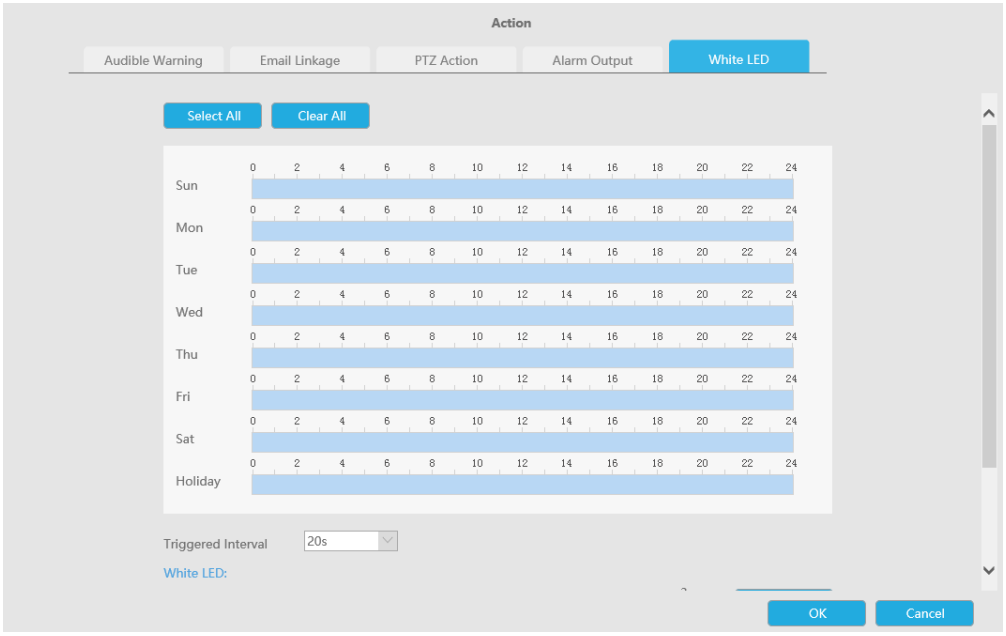
White LED: Trigger White LED flashing when alarm is triggered.

The user can set effective schedule as following two ways:

User can set effective schedule as following two ways:

1. Select the operation type, White LED and Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.

Triggered Interval: The effective interval between two actions when event triggered.



And you can add White LED by clicking .

Channel: Select the channel which supports this function.

Flash Mode: Twinkle and Always are available.

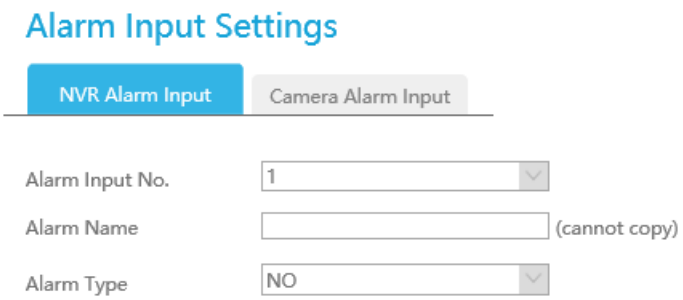
Flash Time: Set the time for White LED flashing. When the Flash Mode is Twinkle, the range of Flash Time is 1~10 and the default value is 3. When the Flash Mode is Always, the range of Flash Time is 1~60 and the default value is 5.

Step5. Click"Copy" and to copy the same configuration to other channels.

3.8.3 Alarm Input

3.8.3.1 NVR Alarm Input

Step 1. Set Alarm input Number, Alarm Name and Alarm Type.



Alarm Input No.: The channel which has input signal.

Alarm Name: Set a name for the alarm.

Alarm Type: Choose NO or NC alarm type for the alarm.

Step 2. Set effective time for alarm input by clicking corresponding "Edit".

Step 3. Set action for alarm input by clicking corresponding "Edit".

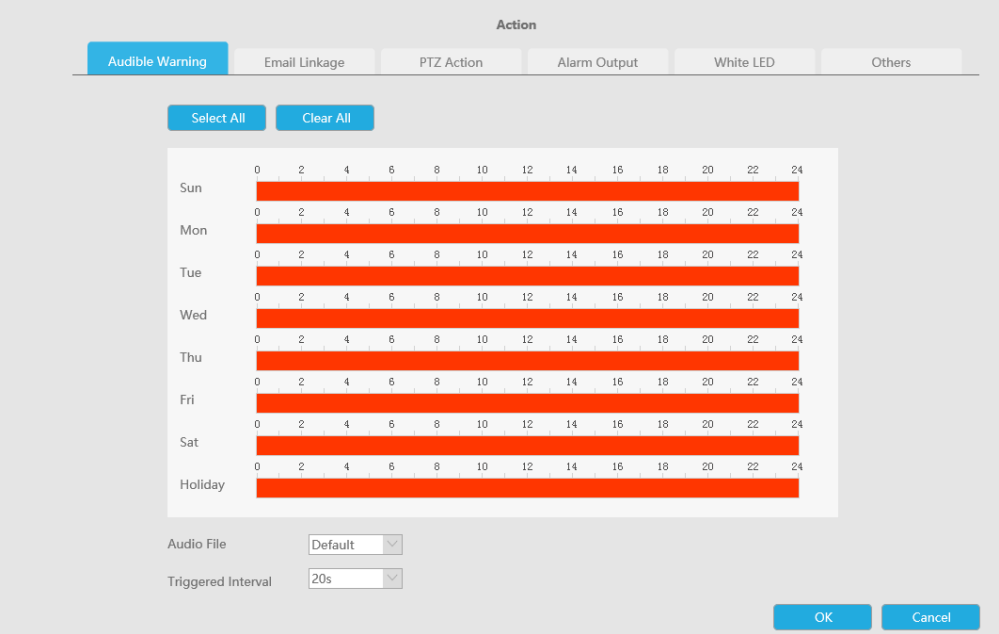
Audible Warning:NVR will trigger an audible warning when event is detected.

The user can set effective schedule as following two ways:

1. Select the operation type: Audible or Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit record effective time manually.

Audio File: Users can select the audio file as needed for audible warning. The default is an audible beep.

Triggered Interval: The effective interval between two actions when event triggered.



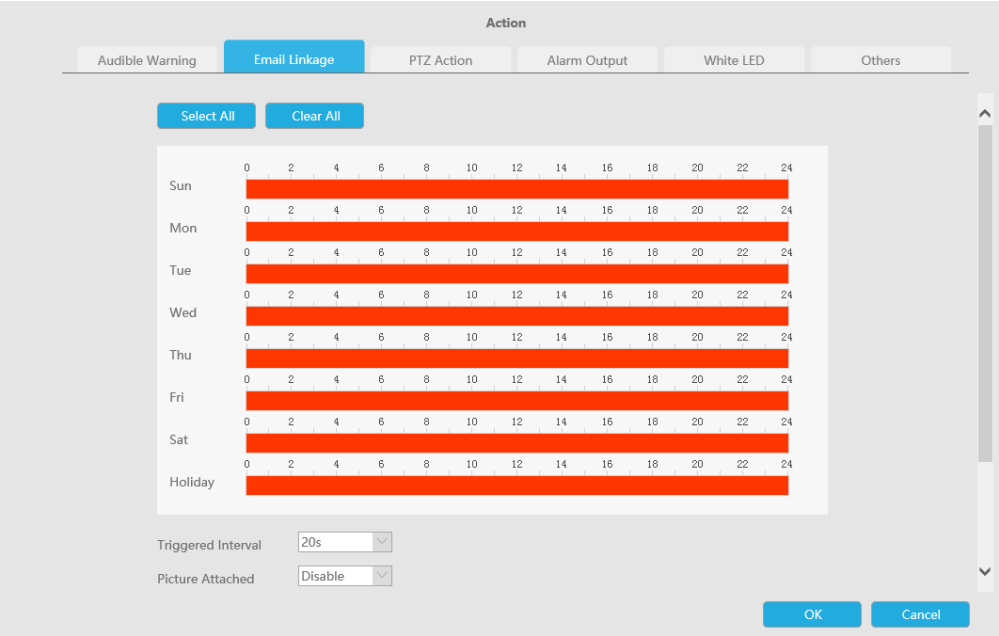
Email Linkage:NVR will send an email to the address you set before.

The user can set effective schedule as following two ways:

1. Select the operation type, Email and Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.

Triggered Interval: The effective interval between two actions when event triggered.

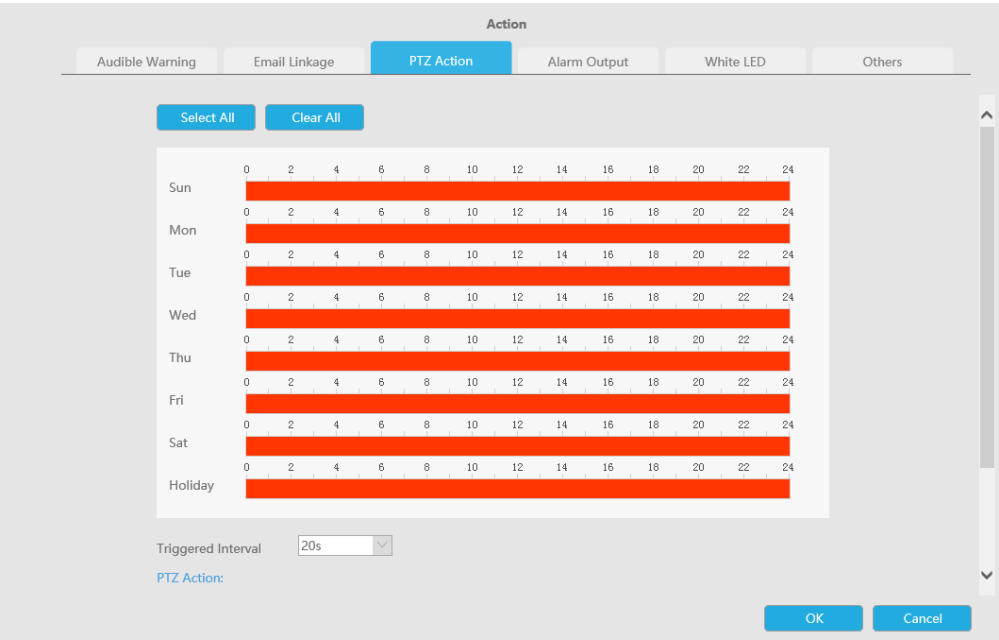
Picture Attached: Select whether to attach picture when sending Emails. If you enable it, you will receive alarm emails with one event captured picture attached.



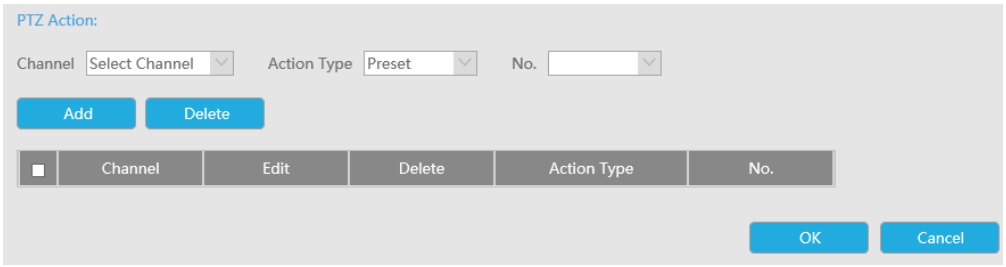
PTZ Action: Trigger PTZ action when alarm is triggered. PTZ action includes **Preset and Patrol.**

User can set effective schedule as following two ways:

1. Select the operation type: PTZ or Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.



And you can add PTZ Action by clicking .



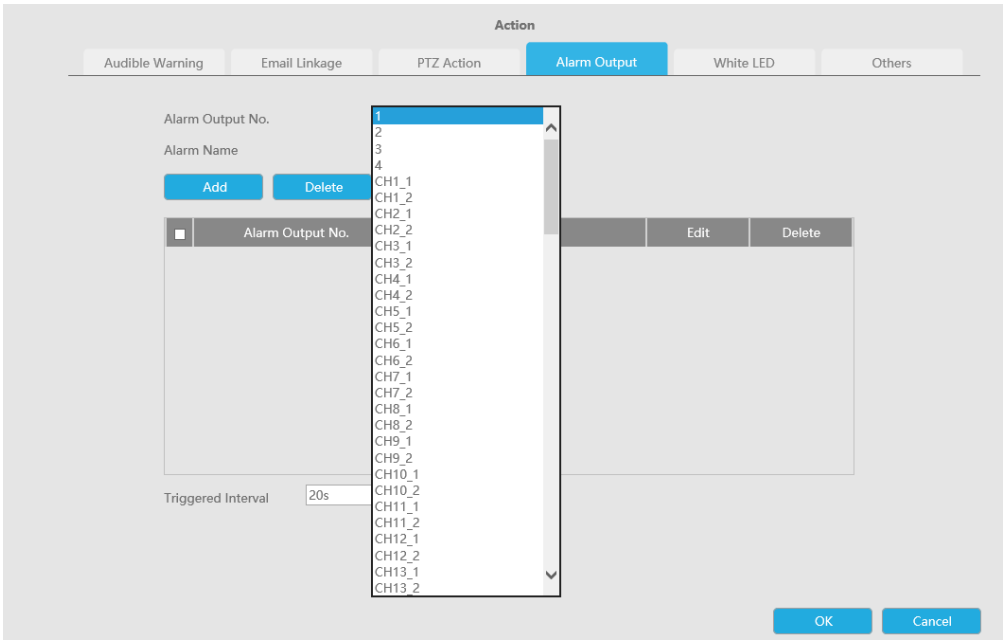
Channel: Select the channel which supports this function.

Action Type: Preset and Patrol are available.

No.: Select the number of Preset or Patrol.

Alarm Output: Trigger alarm output when alarm is triggered. For NVR Alarm Output, the relevant alarm output will be firstly listed, such as, 1, 2.etc. As for camera Alarm Output, it will display as CHx_x (such as CH1_1) according to the camera channel and corresponding alarm number.

Triggered Interval: The effective interval between two actions when event triggered.



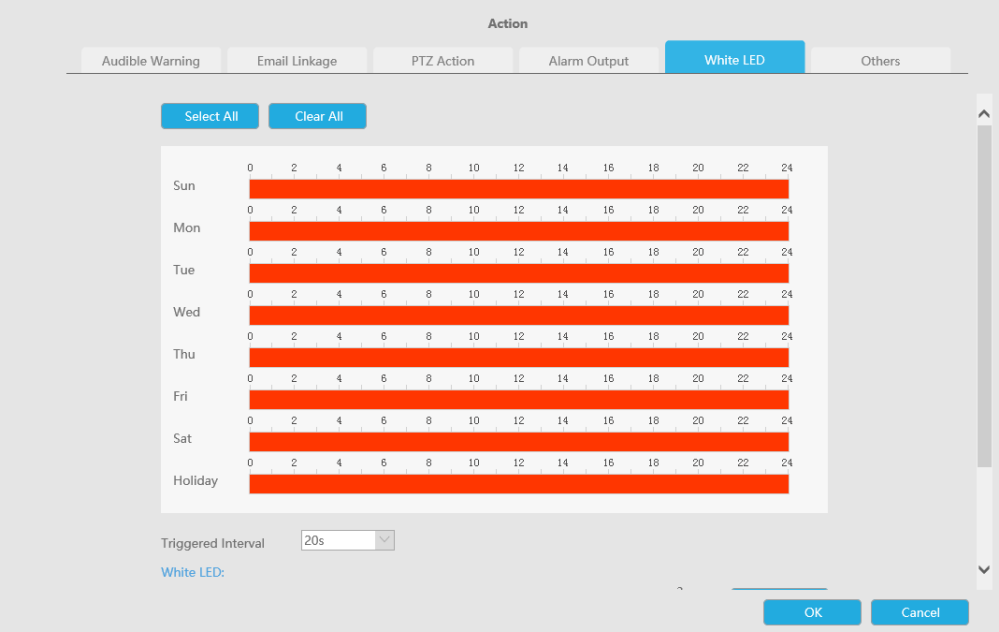
White LED: Trigger White LED flashing when alarm is triggered.

The user can set effective schedule as following two ways:

User can set effective schedule as following two ways:

1. Select the operation type, White LED and Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.

Triggered Interval: The effective interval between two actions when event triggered.



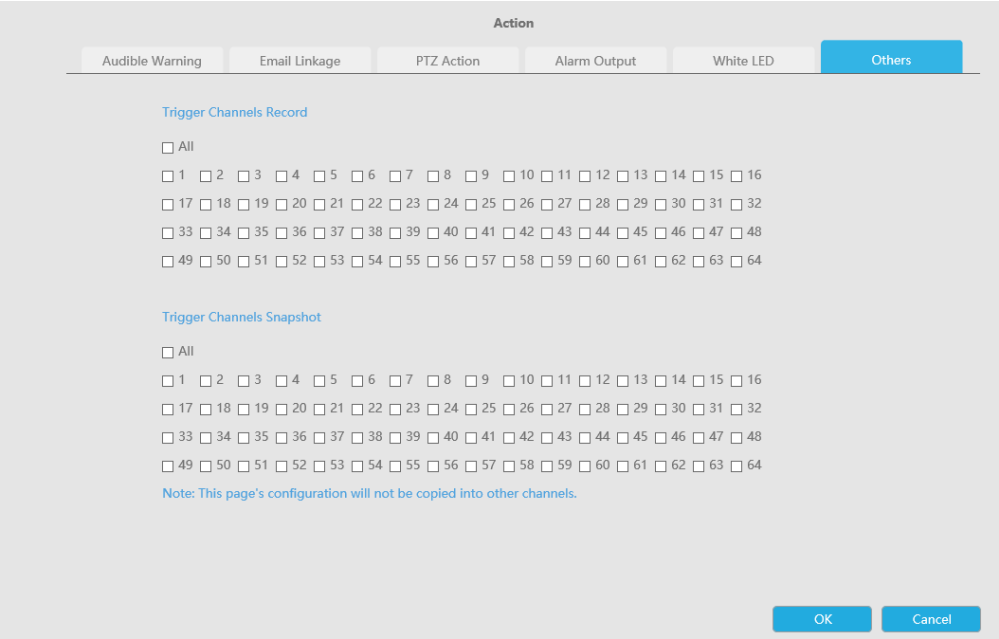
And you can add White LED by clicking .

Channel: Select the channel which supports this function.

Flash Mode: Twinkle and Always are available.

Flash Time: Set the time for White LED flashing. When the Flash Mode is Twinkle, the range of Flash Time is 1~10 and the default value is 3. When the Flash Mode is Always, the range of Flash Time is 1~60 and the default value is 5.

Others: Trigger selected channels to record when alarm is triggered.

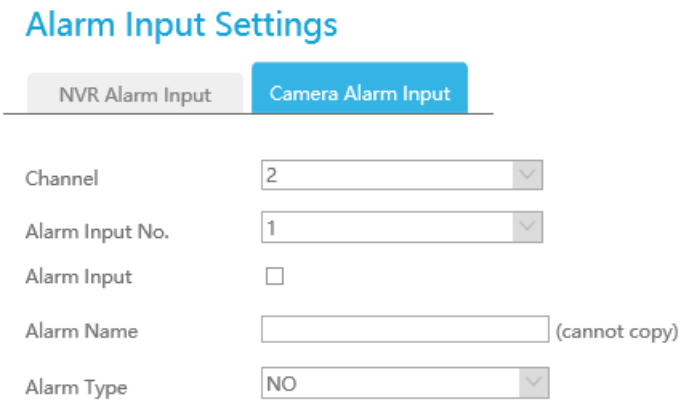


Step4: Copy alarm input settings to other input interface by clicking "Copy".

3.8.3.2 Camera Alarm Input

Milesight NVRs support configuring the Alarm Input of Milesight cameras directly.

Step 1. Set Alarm Input Number, Enable Alarm Input, Set Alarm Name and Alarm Type



Alarm Input No.: The channel which has input signal.

Alarm Input: Click “Enable” to enable alarm input of this channel.

Alarm Name: Set a name for the alarm.

Alarm Type: Choose NO or NC alarm type for the alarm.

Step 2. Set effective time for Alarm Input by clicking corresponding "Edit".

Step 3. Set action for alarm input by clicking corresponding "Edit".

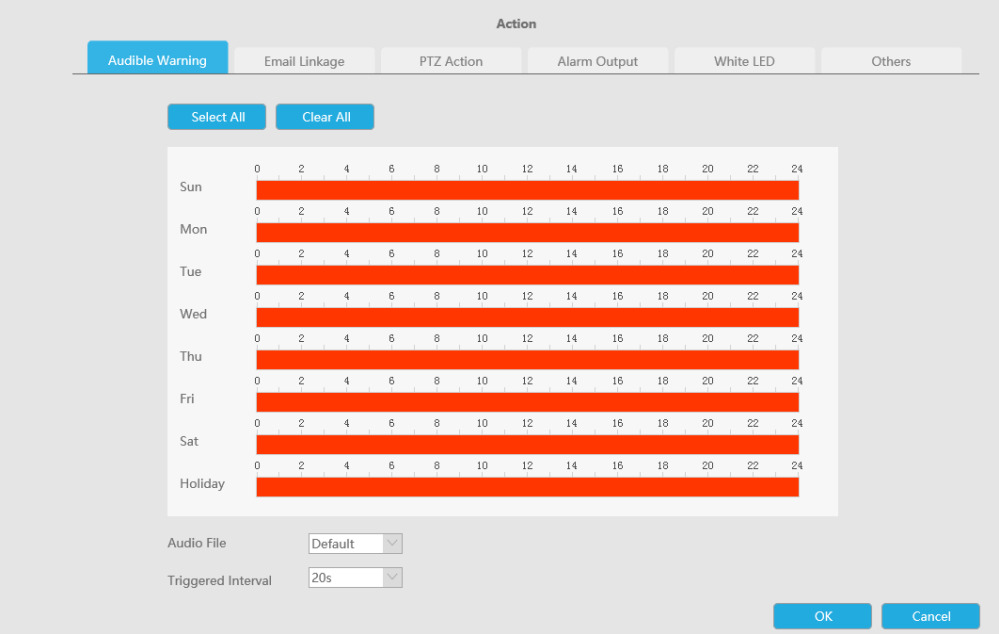
Audible Warning:NVR will trigger an audible warning when event is detected.

The user can set effective schedule as following two ways:

1. Select the operation type: Audible or Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit record effective time manually.

Audio File: Users can select the audio file as needed for audible warning. The default is an audible beep.

Triggered Interval: The effective interval between two actions when event triggered.



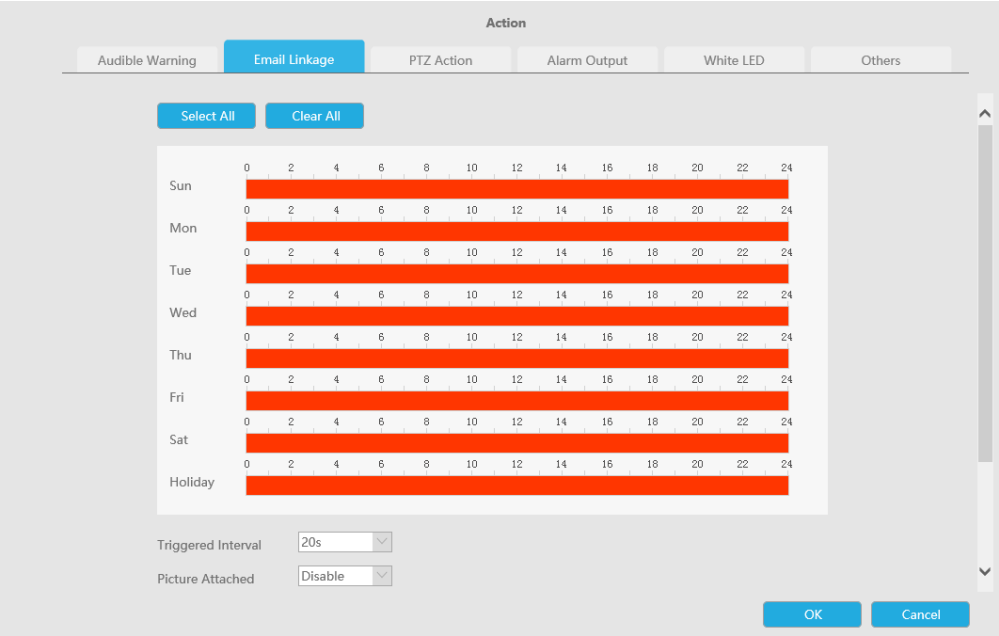
Email Linkage:NVR will send an email to the address you set before.

The user can set effective schedule as following two ways:

1. Select the operation type, Email and Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.

Triggered Interval: The effective interval between two actions when event triggered.

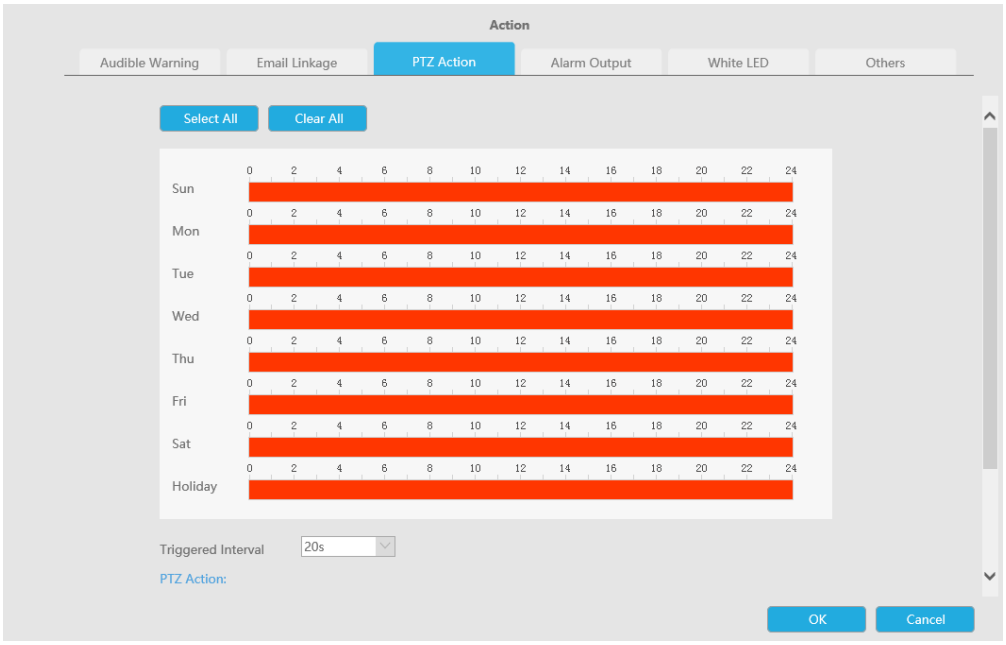
Picture Attached: Select whether to attach picture when sending Emails. If you enable it, you will receive alarm emails with one event captured picture attached.



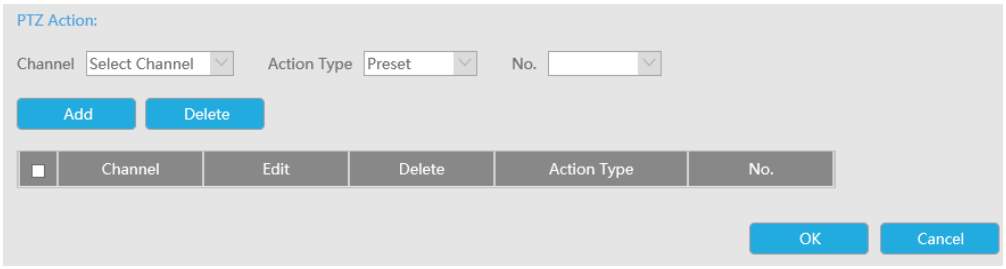
PTZ Action: Trigger PTZ action when alarm is triggered. PTZ action includes **Preset and Patrol.**

User can set effective schedule as following two ways:

1. Select the operation type: PTZ or Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.



And you can add PTZ Action by clicking .



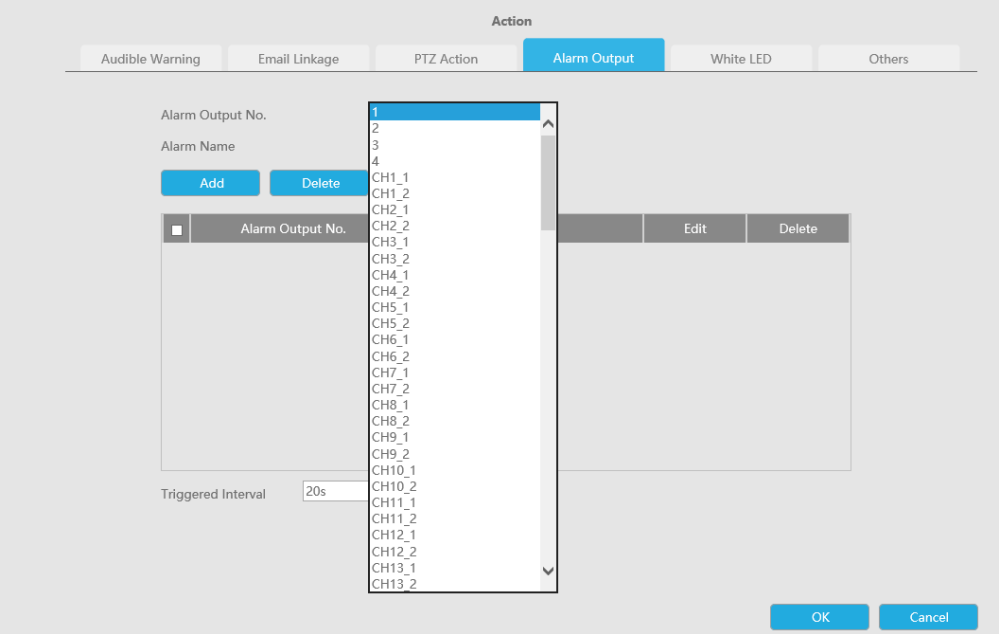
Channel: Select the channel which supports this function.

Action Type: Preset and Patrol are available.

No.: Select the number of Preset or Patrol.

Alarm Output: Trigger alarm output when alarm is triggered. For NVR Alarm Output, the relevant alarm output will be firstly listed, such as, 1, 2.etc. As for camera Alarm Output, it will display as CHx_x (such as CH1_1) according to the camera channel and corresponding alarm number.

Triggered Interval: The effective interval between two actions when event triggered.



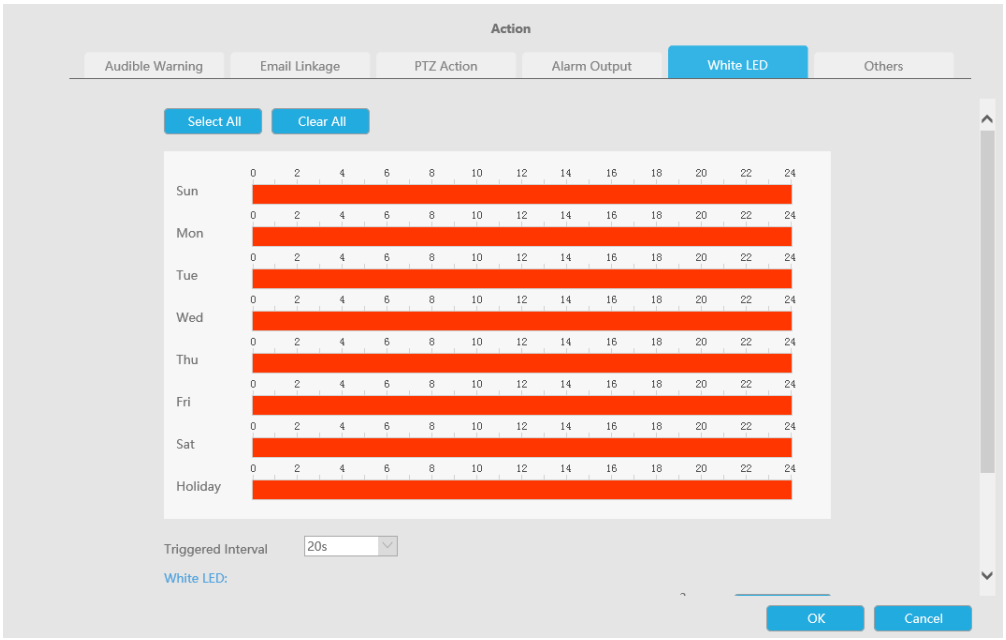
White LED: Trigger White LED flashing when alarm is triggered.

The user can set effective schedule as following two ways:

User can set effective schedule as following two ways:

1. Select the operation type, White LED and Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.

Triggered Interval: The effective interval between two actions when event triggered.



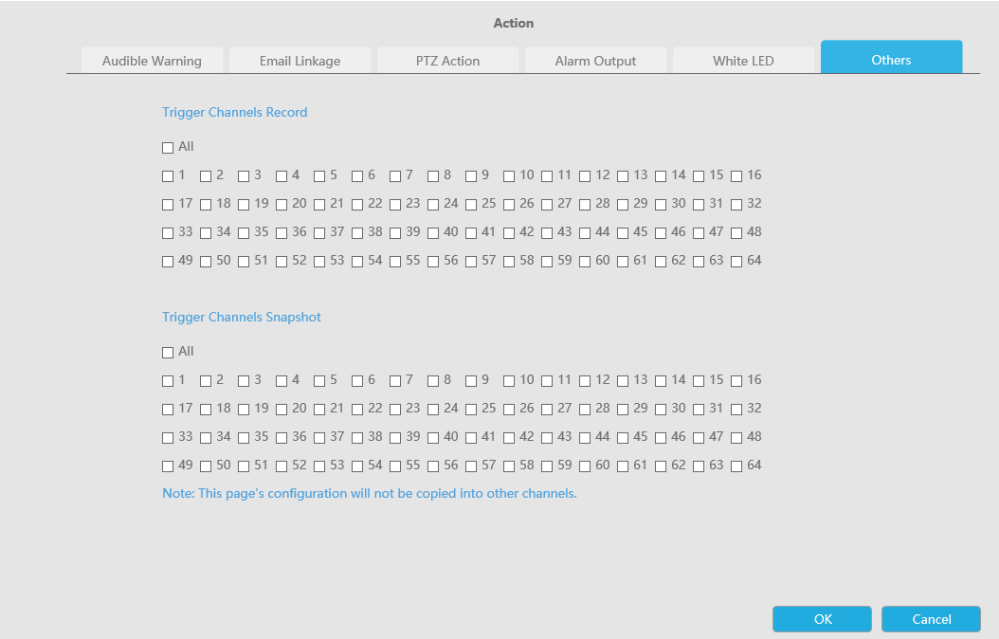
And you can add White LED by clicking .

Channel: Select the channel which supports this function.

Flash Mode: Twinkle and Always are available.

Flash Time: Set the time for White LED flashing. When the Flash Mode is Twinkle, the range of Flash Time is 1~10 and the default value is 3. When the Flash Mode is Always, the range of Flash Time is 1~60 and the default value is 5.

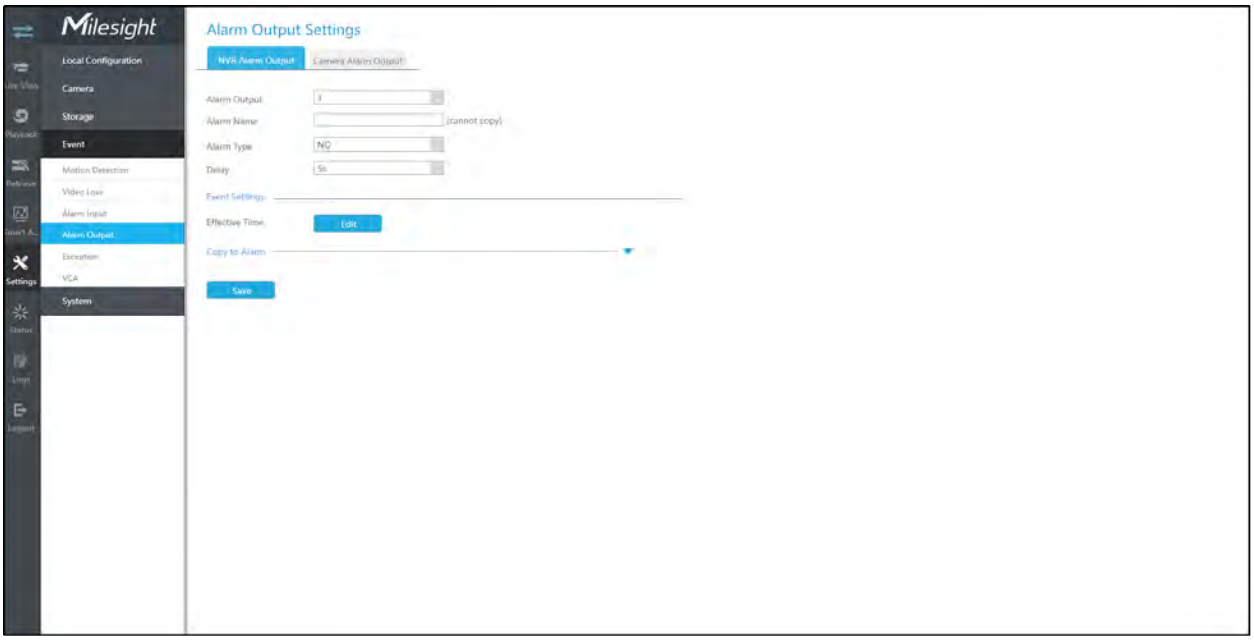
Others: Trigger selected channels to record when alarm is triggered.



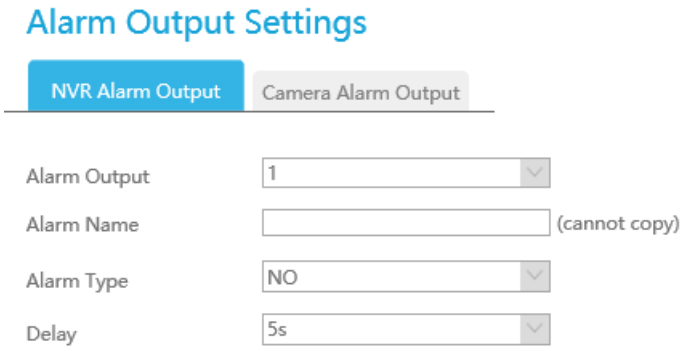
Step4: Copy alarm input settings to other input interface by clicking "Copy".

3.8.4 Alarm Output

3.8.4.1 NVR Alarm Output



Step 1. Set Alarm output channel, Alarm Name, Alarm Type and Record Channels.



Alarm Output No.: The channel which will output the alarm signal.

Alarm Name: Set a name for the alarm.

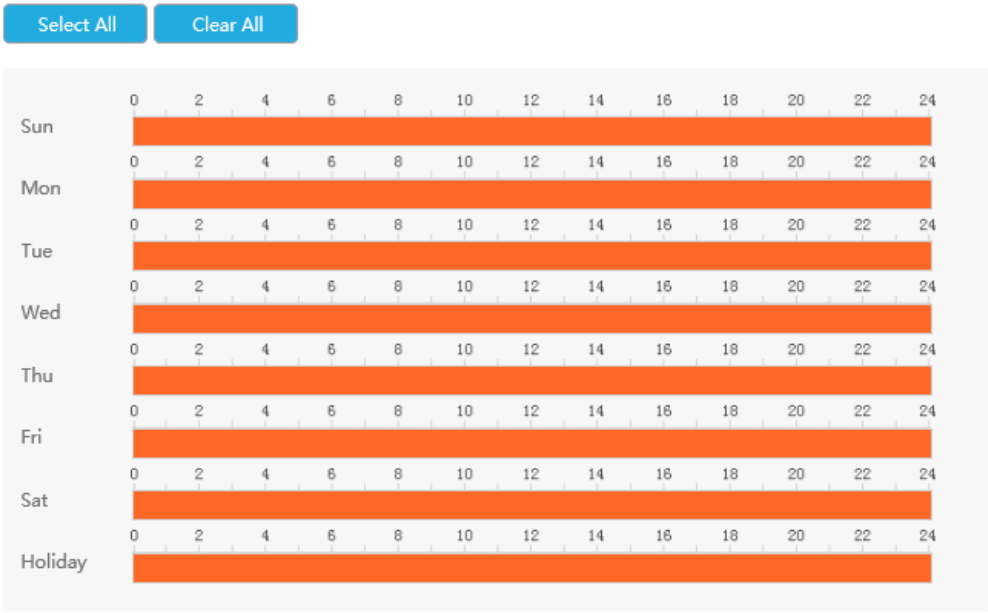
Alarm Type: Choose NO or NC alarm type for the alarm.

Delay: The output time for alarm. If the output alarm lasts too long, you can select the Manually Clear to stop it.

Step 2. Set effective time for alarm output by clicking corresponding "Edit".

The user can set effective schedule as following two ways:

1. Select the operation type: Alarm Output or Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking “Select All” or “Clear All” to set or clear all time settings.
2. Click “Edit” to edit record effective time manually.

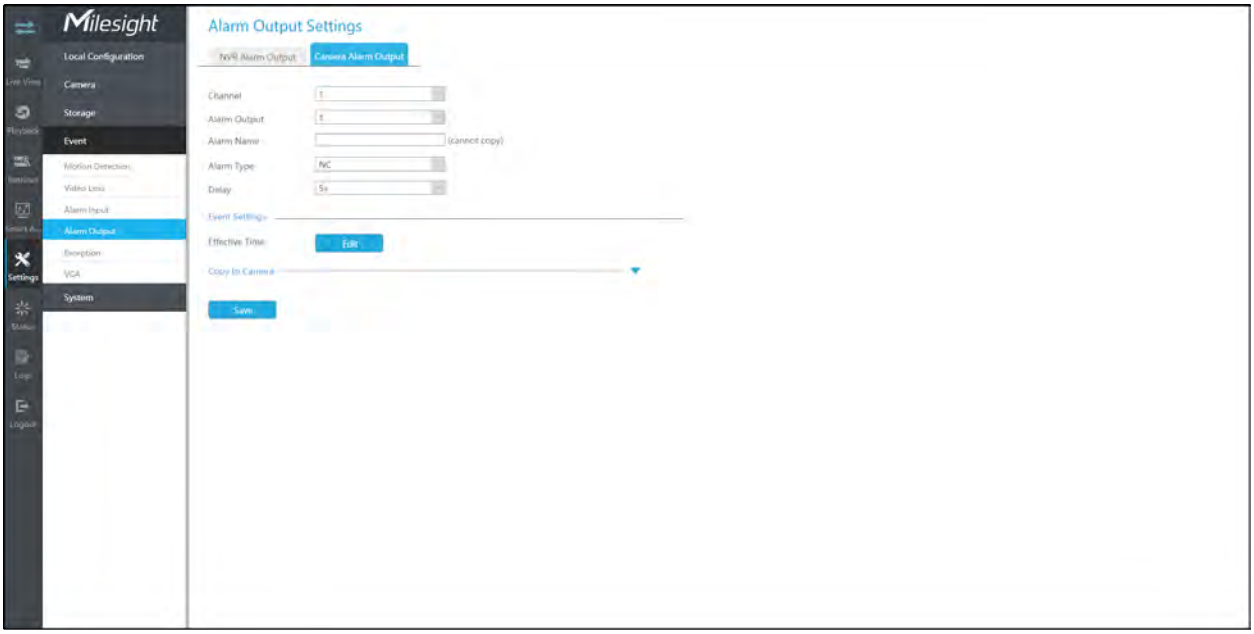


Step 3: Copy alarm output settings to other output interface by clicking “Copy”.

3.8.4.2 Camera Alarm Output

Milesight NVRs support the upgrade of Milesight Cameras.

Step 1. Set Alarm output channel, Alarm Name, Alarm Type and Record Channels.



Alarm Output No.: The alarm output number of the corresponding channel which has input signal.

Alarm Name: Set a name for the alarm.

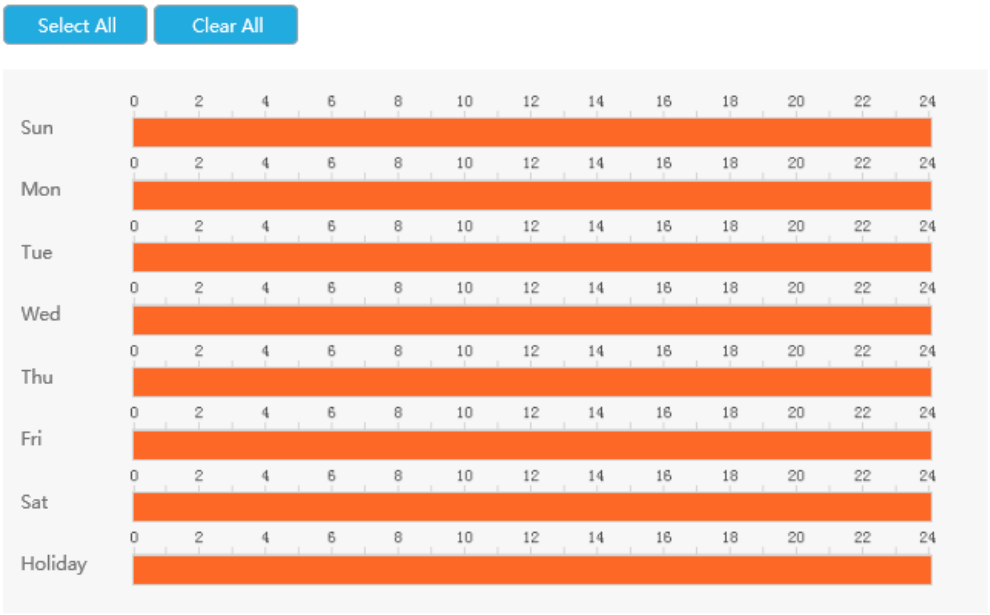
Alarm Type: Choose NO or NC alarm type for the alarm.

Delay: The output time for alarm. If the output alarm lasts too long, you can select the Manually Clear to stop it.

Step 2. Set effective time for alarm output by clicking corresponding "Edit".

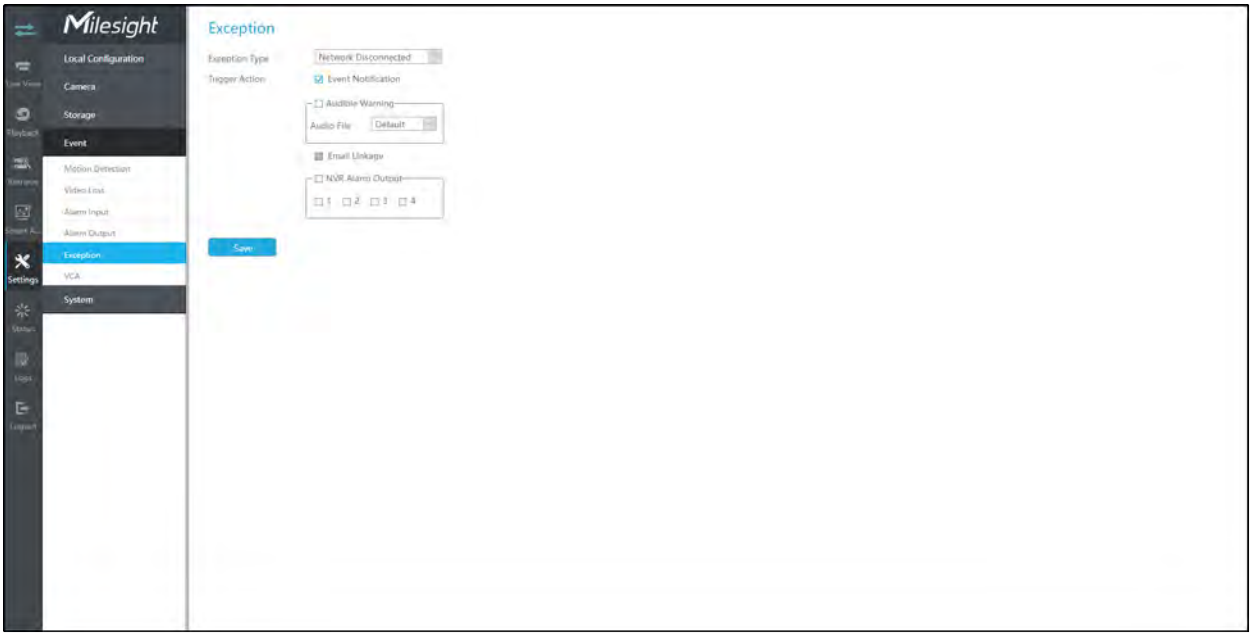
The user can set effective schedule as following two ways:

1. Select the operation type: Alarm Output or Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking “Select All” or “Clear All” to set or clear all time settings.
2. Click “Edit” to edit record effective time manually.

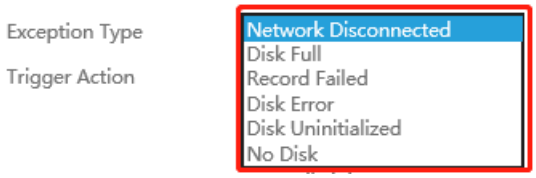


Step 3: Copy alarm output settings to other output interface by clicking “Copy”.

3.8.5 Exception



Step1. Select Exception Type.



Network Disconnected: Loss of network.

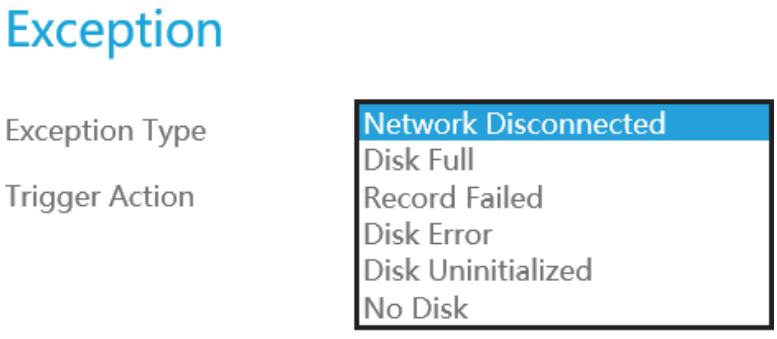
Disk Full: Disk full. It usually happens when recycle Mode is OFF.

Record Failed: Recording fails, including HDD Failed, HDD Full and so on.

Disk Error: Failed to recognize HDD.

Disk Uninitialized: Disk is uninitialized.

No Disk: There is no storage device.



Step2. Select Action includes Event Notification, Audible Warning, Email Linkage and Alarm Output.

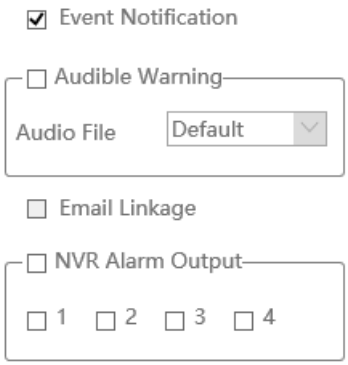
Event Notification: You will got a notification in Live View if an alarm is triggered.

Audible Warning: NVR will trigger an audible warning. You can select the audio file as needed for audible warning. The default is an audible beep.

Email Linkage: An alarm Email will be sent if an alarm is triggered.

Trigger Interval: Set the interval to send Emails when detecting Record Failed Event (Only Record Failed Event supports to set trigger interval when sending emails).

Alarm Output: NVR will trigger the corresponding Alarm Output.

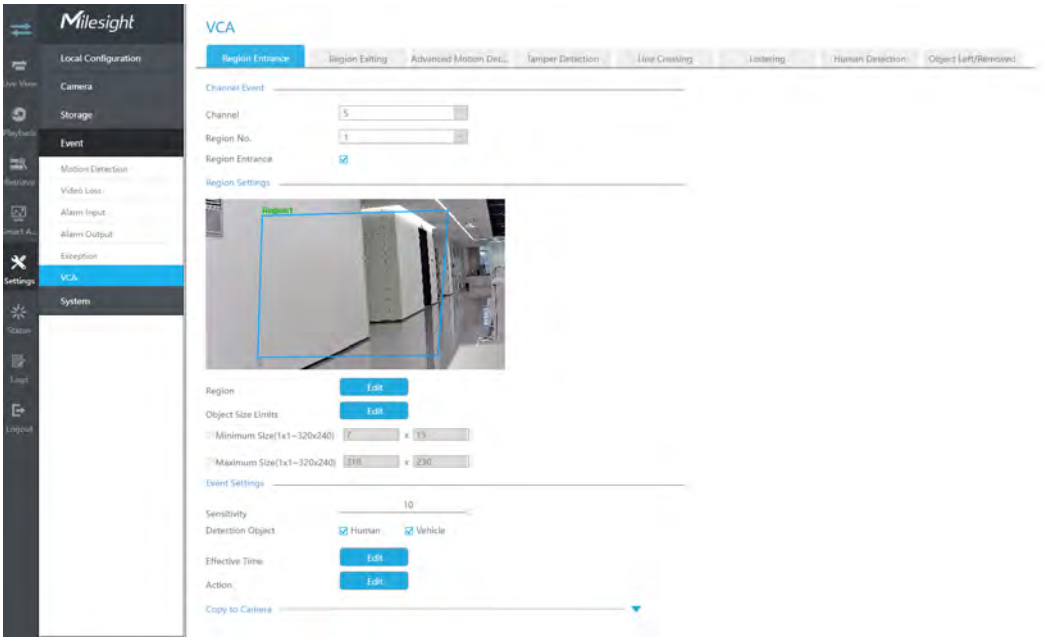


3.8.6 VCA

It uses Milesight Video Content Analysis technology which is applied in a wide range of domains including entertainment, health-care, retail, automotive, transport, home automation, safety and security. Milesight VCA functions provides advanced, accurate smart video analysis for Milesight network cameras. It enhances the performance of network cameras through 10 detection modes which are divided into basic function and advanced function, enabling the comprehensive surveillance function and quicker response of cameras to different monitoring scenes.

3.8.6.1 Region Entrance

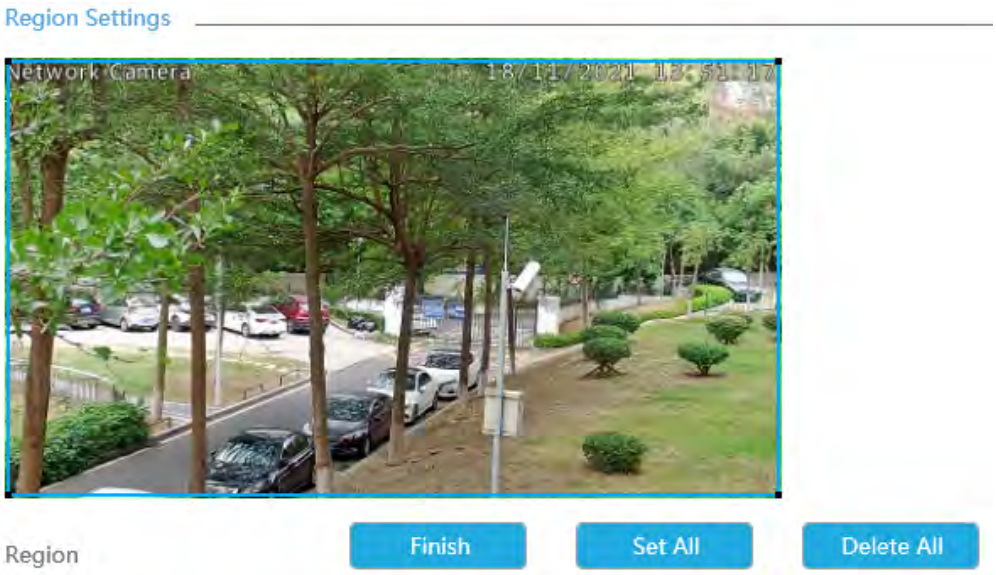
Region entrance helps to protect a specific area from potential threat of suspicious person’s or object’s entrance. An alarm will be triggered when objects enter the selected regions by enabling region entrance.



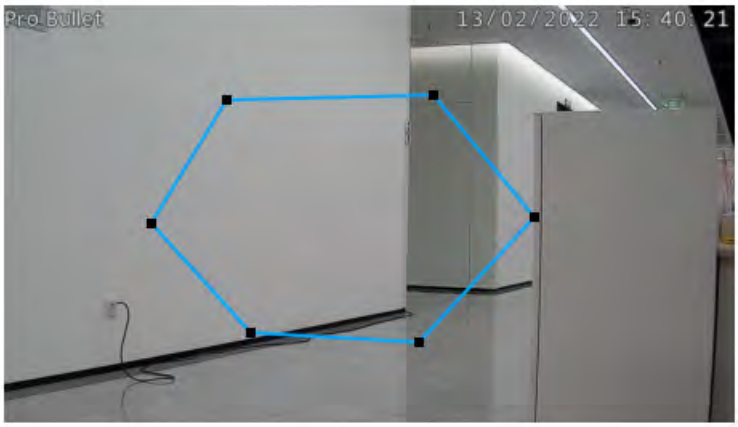
Step1.Select Channel and Region No, then enable Region Entrance.

Step 2. Set entrance detection region.

You can click "Edit" button to edit the detection region. Also, you can edit the area by clicking "Edit" button. And you can set or clear all set region by directly clicking "Set All" or "Clear All".

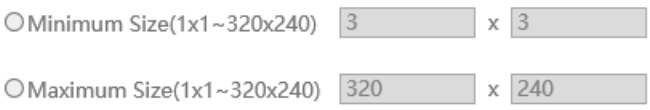


For cameras with the firmware version higher than 4X.7.0.78, it supports drawing polygon detection region for VCA function.



Step 3. Set the Object Size Limits.

You can edit Minimum Size and Maximum Size by clicking "Edit" button.



Minimum Size: The Min. Size means that only if the object size is bigger than the frame, the settings for Region Entrance will take effect.

Maximum Size: The Max. Size means the opposite, only if the object size is smaller than the frame you drew on the screen, the settings for Region Entrance will take effect.

Step4. Set Sensitivity.

The sensitivity can be configured to detect various movement according to different requirements. When the level of sensitivity is low, slight movement won't trigger the alarm.

Step5. Select the Detection Object.

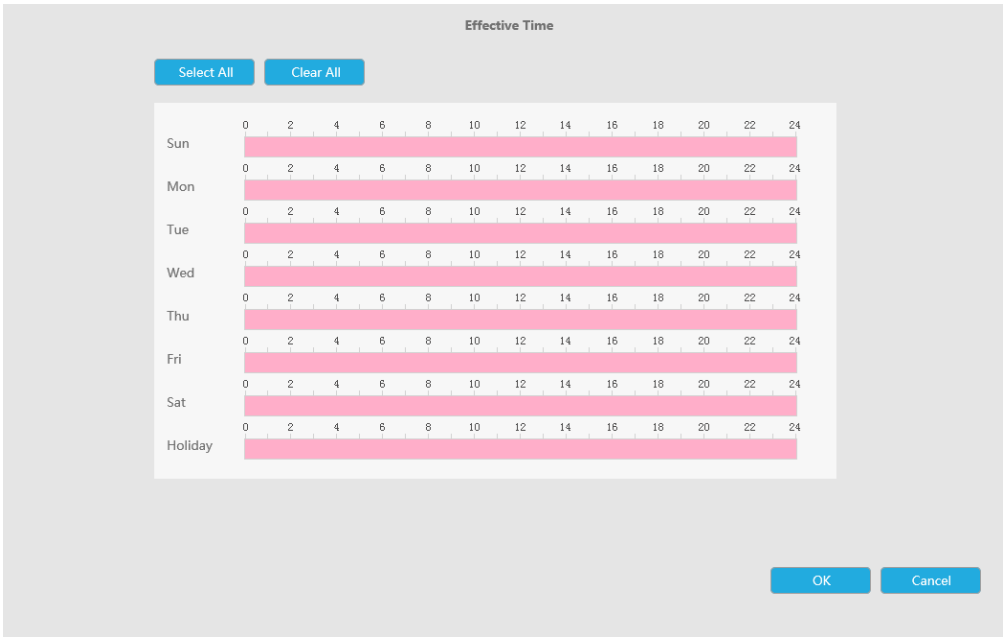
Human or Vehicle or both are selected as the detection object according to the need. Only the selected detection object can trigger the alarm.

Note:

1. Make sure your camera's version is 4X.7.0.77 or above, which supports the human/vehicle detection object.
2. Make sure your camera model is MS-CXXXX-XXC, which supports the human/vehicle detection object.

Step6. Set Effective Time of region entrance by clicking "Edit".

NVR receives the alarm when effective time has been set. It will be more convenient by clicking "Select All" or "Clear All" to set or clear all time settings.



Step 7. Set Action for region entrance alarm by clicking "Edit".

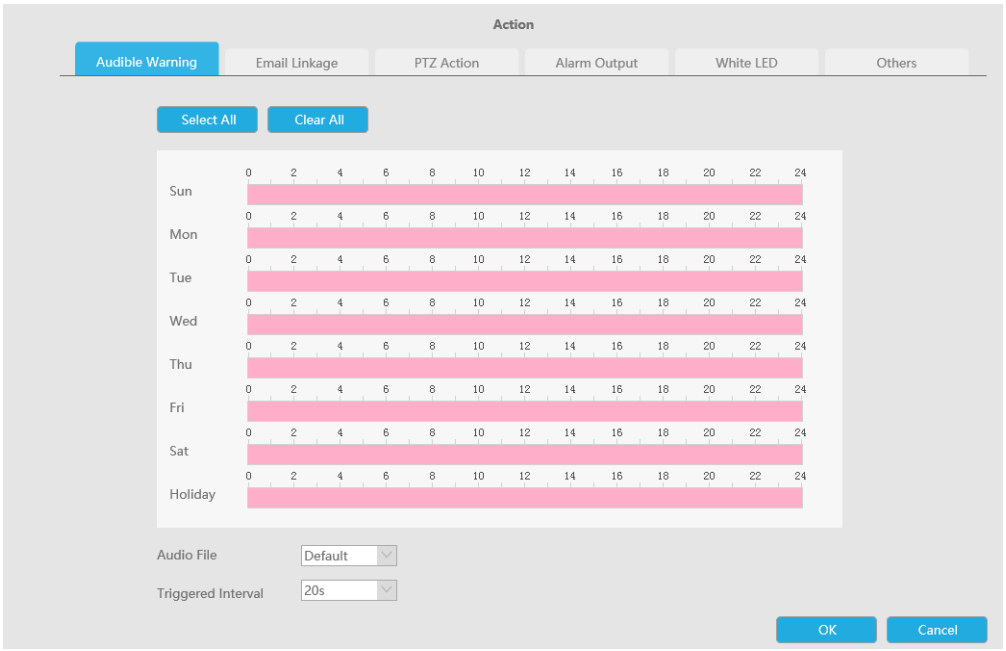
Audible Warning:NVR will trigger an audible warning when event is detected.

The user can set effective schedule as following two ways:

1. Select the operation type: Audible or Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit record effective time manually.

Audio File: Users can select the audio file as needed for audible warning. The default is an audible beep.

Triggered Interval: The effective interval between two actions when event triggered.



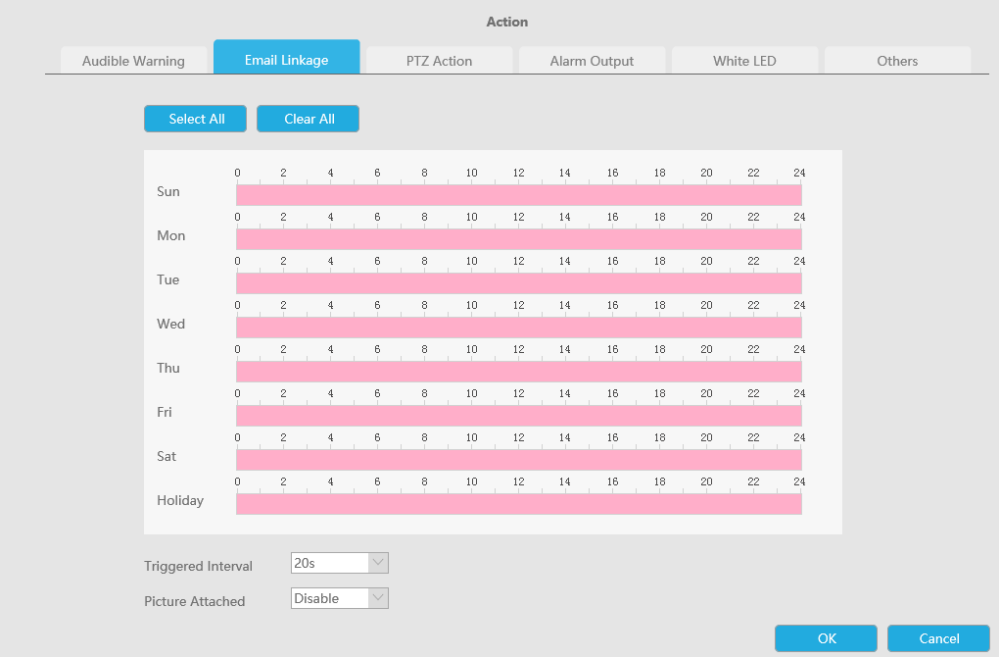
Email Linkage:NVR will send an email to the address you set before.

The user can set effective schedule as following two ways:

1. Select the operation type, Email and Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.

Triggered Interval: The effective interval between two actions when event triggered.

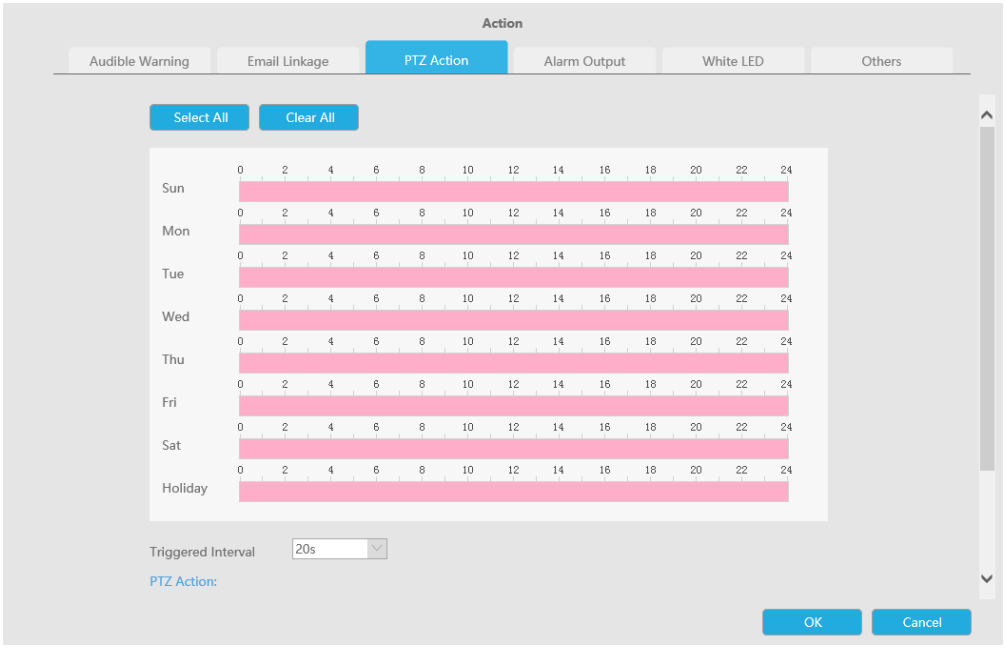
Picture Attached: Select whether to attach picture when sending Emails. If you enable it, you will receive alarm emails with one event captured picture attached.



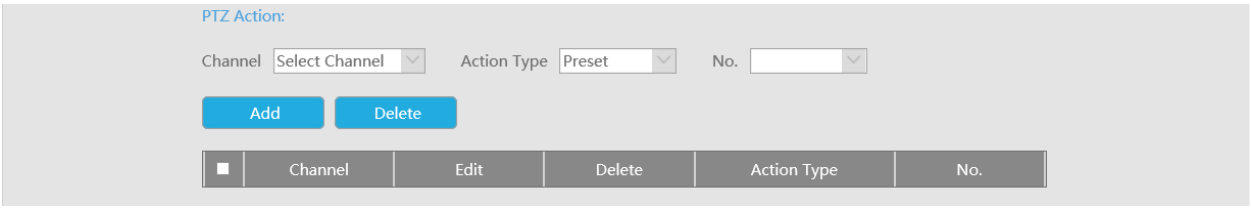
PTZ Action: Trigger PTZ action when alarm is triggered. PTZ action includes **Preset and Patrol.**

User can set effective schedule as following two ways:

1. Select the operation type: PTZ or Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.



And you can add PTZ Action by clicking .



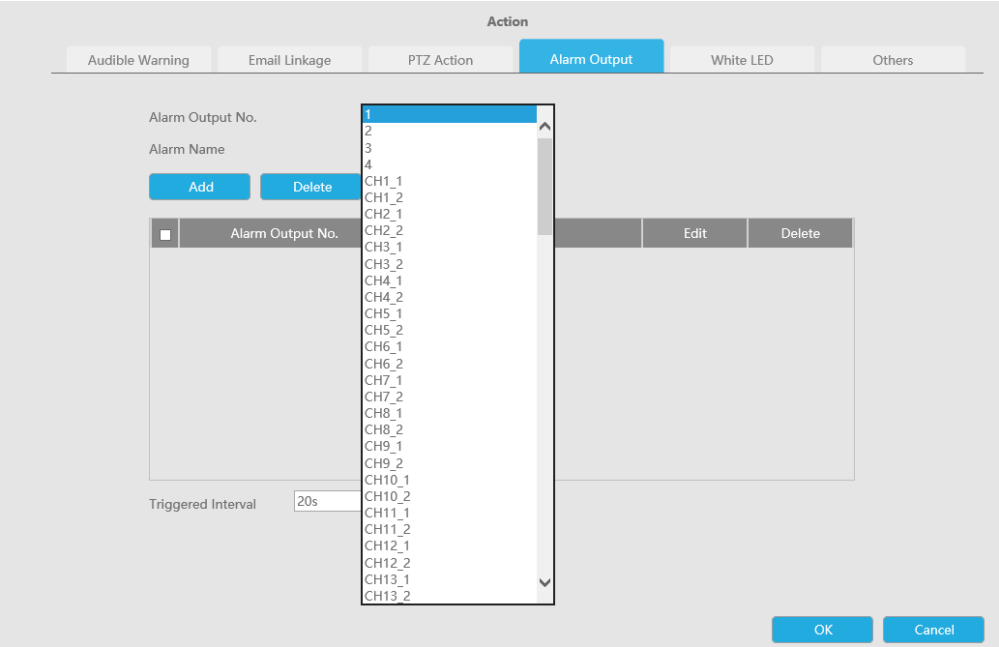
Channel: Select the channel which supports this function.

Action Type: Preset and Patrol are available.

No.: Select the number of Preset or Patrol.

Alarm Output: Trigger alarm output when alarm is triggered. For NVR Alarm Output, the relevant alarm output will be firstly listed, such as, 1, 2.etc. As for camera Alarm Output, it will display as CHx_x (such as CH1_1) according to the camera channel and corresponding alarm number.

Triggered Interval: The effective interval between two actions when event triggered.



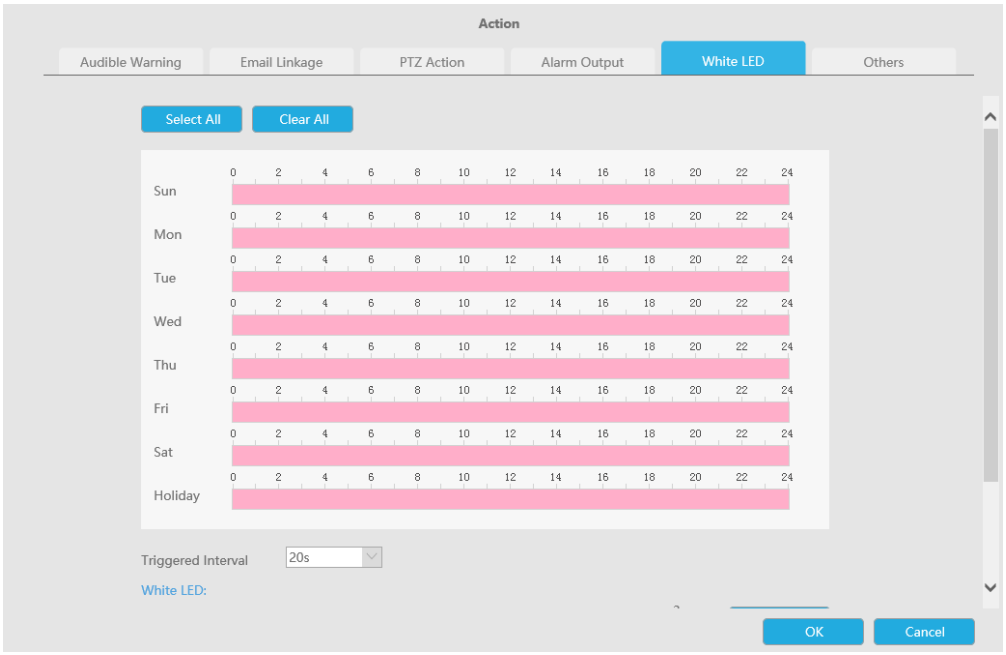
White LED: Trigger White LED flashing when alarm is triggered.

The user can set effective schedule as following two ways:

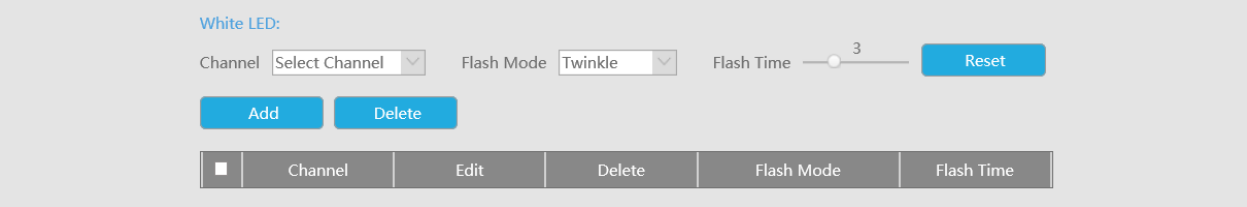
User can set effective schedule as following two ways:

1. Select the operation type, White LED and Erase. Then drag a square on the time table for time setting. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.
2. Click Edit to edit effective time manually.

Triggered Interval: The effective interval between two actions when event triggered.



And you can add White LED by clicking .

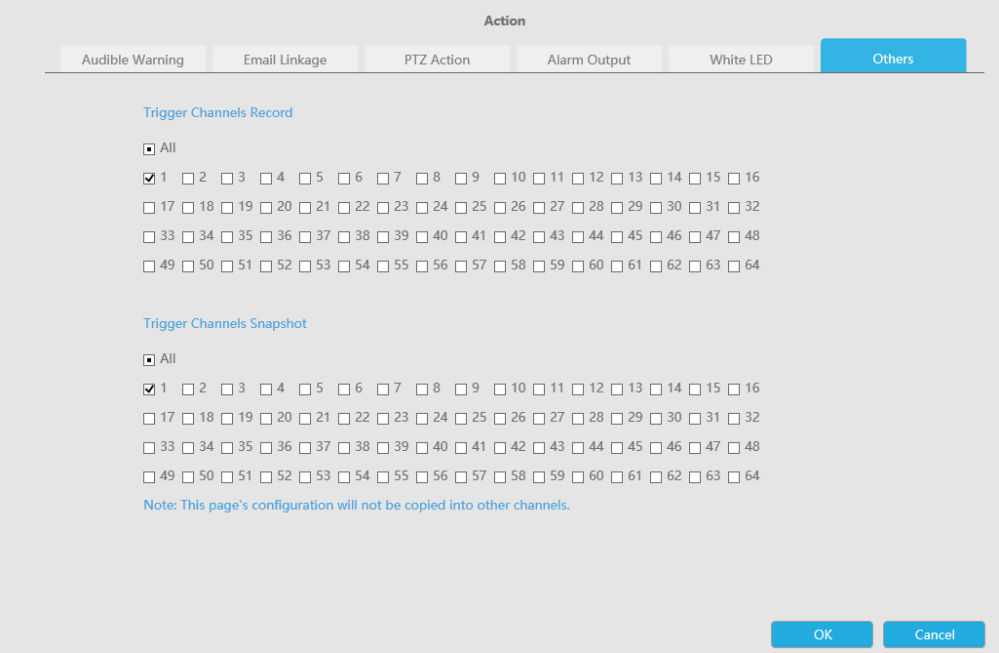


Channel: Select the channel which supports this function.

Flash Mode: Twinkle and Always are available.

Flash Time: Set the time for White LED flashing. When the Flash Mode is Twinkle, the range of Flash Time is 1~10 and the default value is 3. When the Flash Mode is Always, the range of Flash Time is 1~60 and the default value is 5.

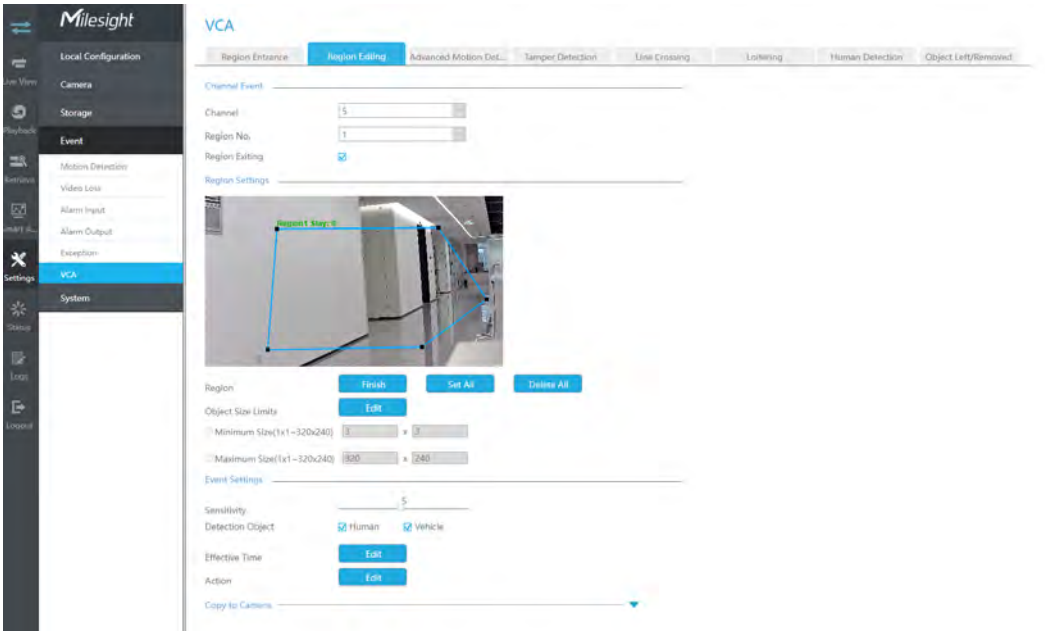
Others: Trigger selected channels to record when alarm is triggered.



Step8. Click [Copy to Camera] to copy the same configuration to other channels.

3.8.6.2 Region Exiting

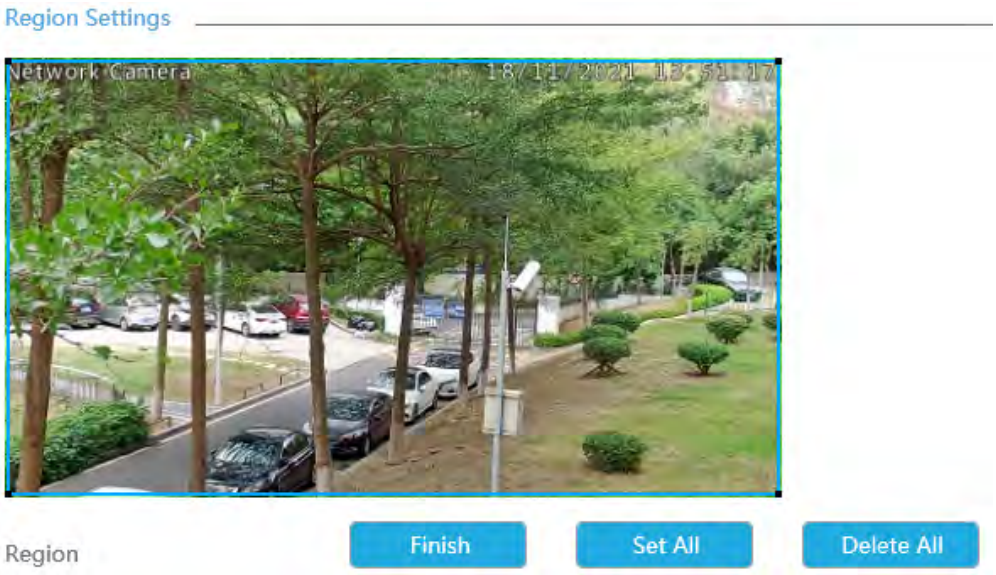
Region exiting is to make sure that any person or object won't exit the area that is being monitored. Any exit of people or objects will trigger an alarm.



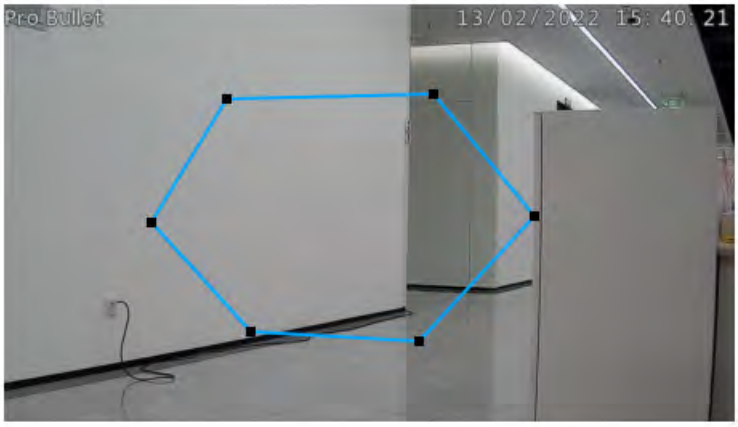
Step1.Select Channel and Region No, then enable Region Exiting.

Step 2. Set exit detection region.

You can click "Edit" button to edit the detection region. Also, you can edit the area by clicking "Edit" button. And you can set or clear all set region by directly clicking "Set All" or "Clear All".

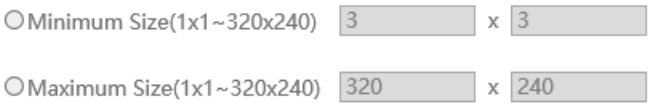


For cameras with the firmware version higher than 4X.7.0.78, it supports drawing polygon detection region for VCA function.



Step 3. Set the Object Size Limits.

You can edit Minimum Size and Maximum Size by clicking "Edit" button.



Minimum Size: The Min. Size means that only if the object size is bigger than the frame, the settings for Region Entrance will take effect.

Maximum Size: The Max. Size means the opposite, only if the object size is smaller than the frame you drew on the screen, the settings for Region Entrance will take effect.

Step4. Set Sensitivity.

The sensitivity can be configured to detect various movement according to different requirements. When the level of sensitivity is low, slight movement won't trigger the alarm.

Step5. Select the Detection Object.

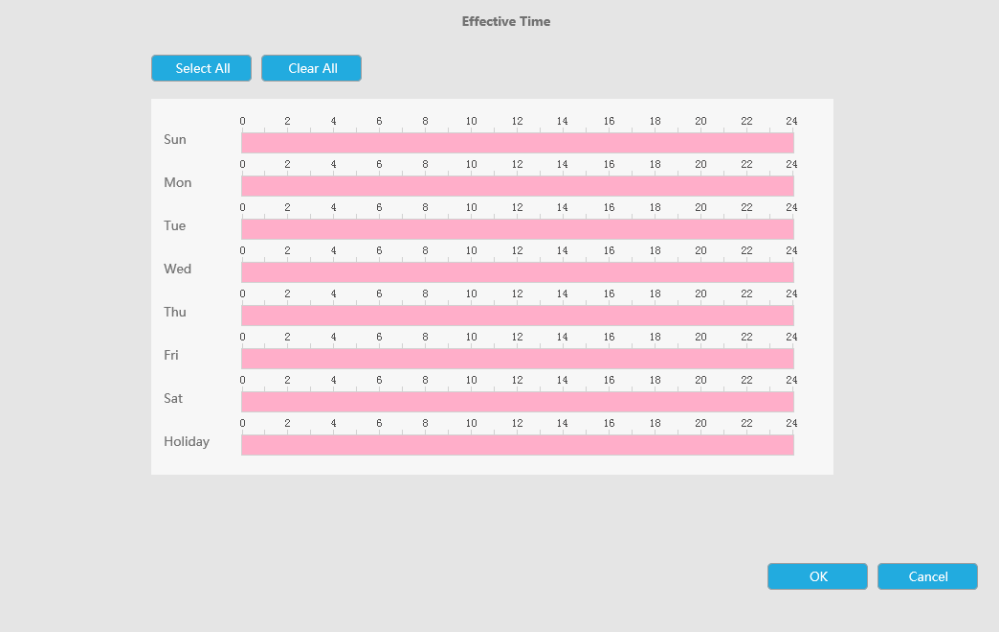
Human or Vehicle or both are selected as the detection object according to the need. Only the selected detection object can trigger the alarm.

Note:

1. Make sure your camera's version is 4X.7.0.77 or above, which supports the human/vehicle detection object.
2. Make sure your camera model is MS-CXXXX-XXC, which supports the human/vehicle detection object.

Step6. Set Effective Time of region entrance by clicking "Edit".

NVR receives the alarm when effective time has been set. It will be more convenient by clicking "Select All" or "Clear All" to set or clear all time settings.



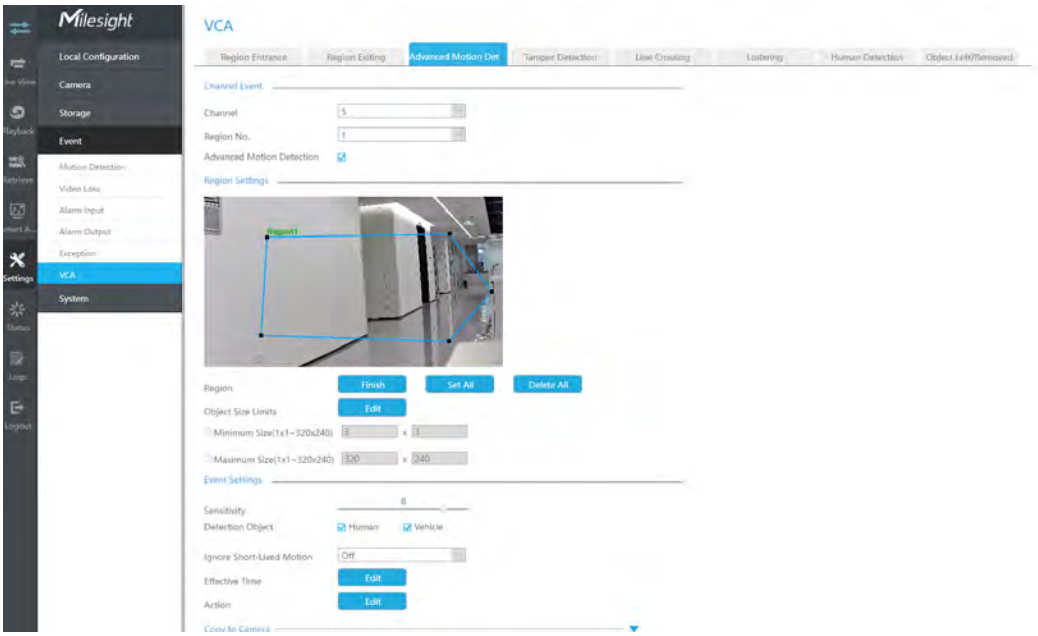
Step 7. Set Action for region entrance alarm by clicking "Edit".

For detailed settings of these actions, please refer to Alarm Action *(page 174)*

Step8. Click [Copy to Camera] to copy the same configuration to other channels.

3.8.6.3 Advanced Motion Detection

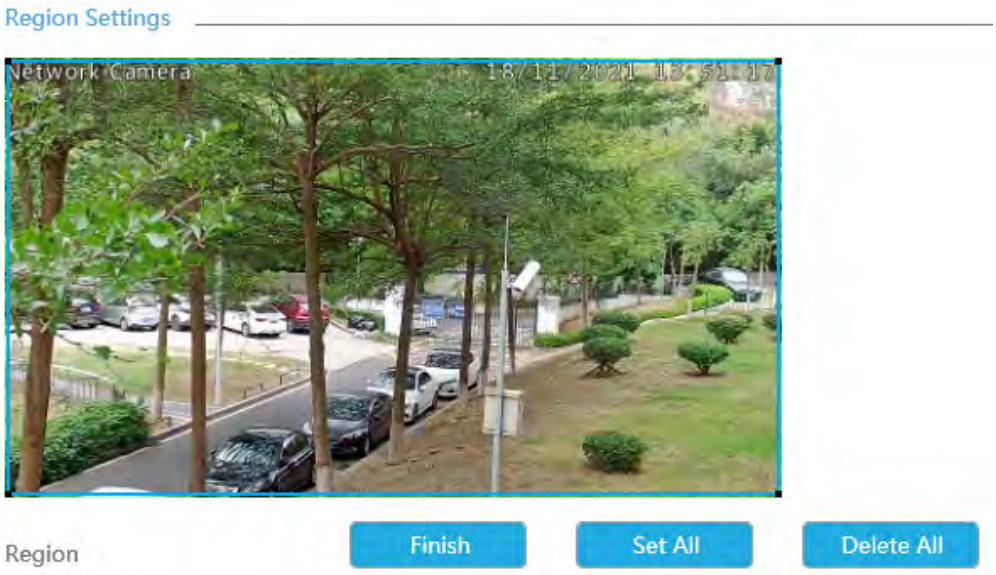
Different from traditional motion detection, advanced motion detection can filter out “noise” such as lighting changes, natural tree movements, etc. When an object moves in the selected area, it will trigger alarm.



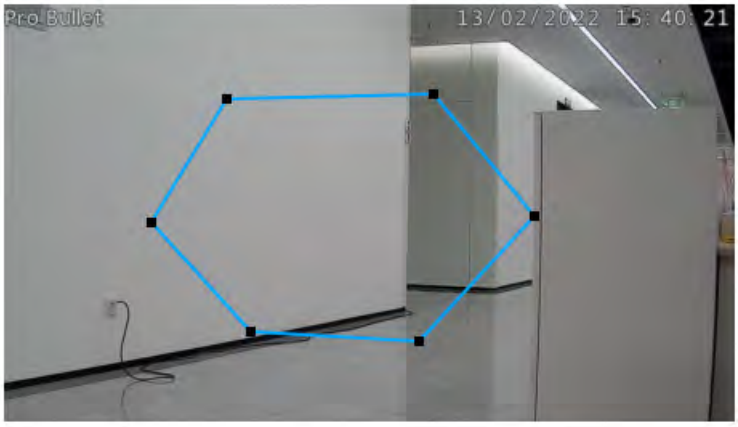
Step1.Select Channel and Region No, then enable Advanced Motion Detection.

Step 2. Set advanced motion detection region.

You can click "Edit" button to edit the detection region. Also, you can edit the area by clicking "Edit" button. And you can set or clear all set region by directly clicking "Set All" or "Clear All".

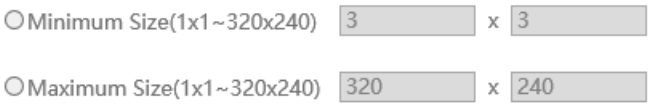


For cameras with the firmware version higher than 4X.7.0.78, it supports drawing polygon detection region for VCA function.



Step 3. Set the Object Size Limits.

You can edit Minimum Size and Maximum Size by clicking "Edit" button.



Minimum Size: The Min. Size means that only if the object size is bigger than the frame, the settings for Region Entrance will take effect.

Maximum Size: The Max. Size means the opposite, only if the object size is smaller than the frame you drew on the screen, the settings for Region Entrance will take effect.

Step4. Set Sensitivity.

The sensitivity can be configured to detect various movement according to different requirements. When the level of sensitivity is low, slight movement won't trigger the alarm.

Step5. Select the Detection Object.

Human or Vehicle or both are selected as the detection object according to the need. Only the selected detection object can trigger the alarm.

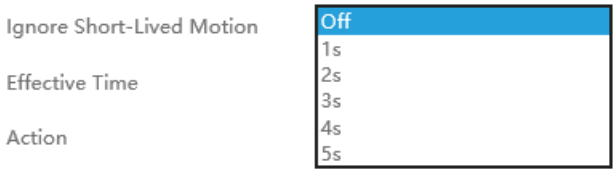
Note:

1. Make sure your camera's version is 4X.7.0.77 or above, which supports the human/vehicle detection object.

2. Make sure your camera model is MS-CXXXX-XXC, which supports the human/vehicle detection object.

Step 6. Set Ignore Short-Lived Motion.

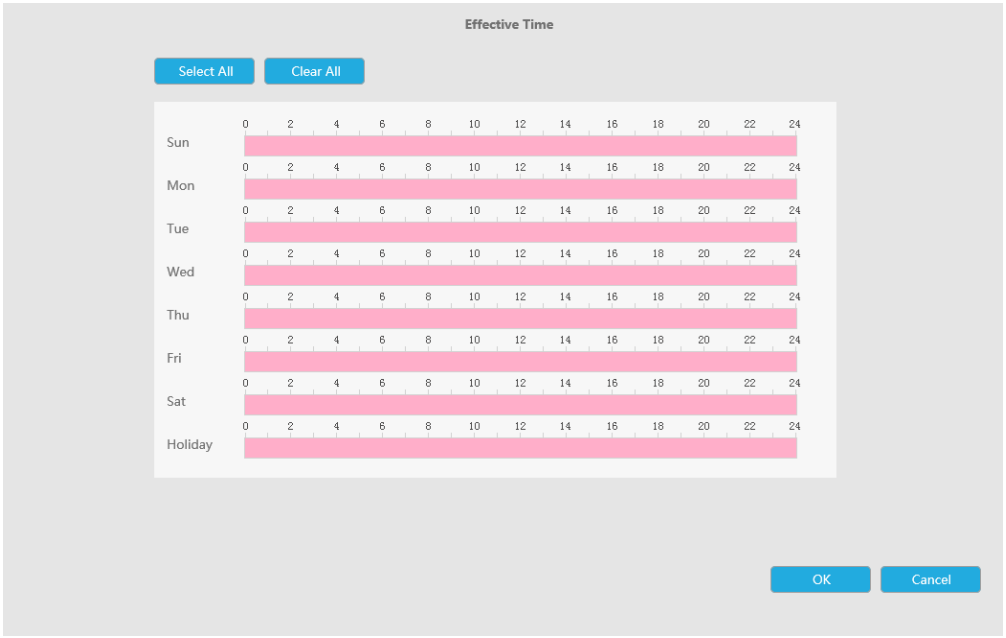
The motion within the set time will be ignored and won't trigger the alarm, making the detection more accurate and efficient.



Note: Make sure your camera's version is 4X.7.0.77 or above.

Step7. Set Effective Time of region entrance by clicking "Edit".

NVR receives the alarm when effective time has been set. It will be more convenient by clicking "Select All" or "Clear All" to set or clear all time settings.



Step 8. Set Action for advanced motion detection alarm by clicking "Edit".

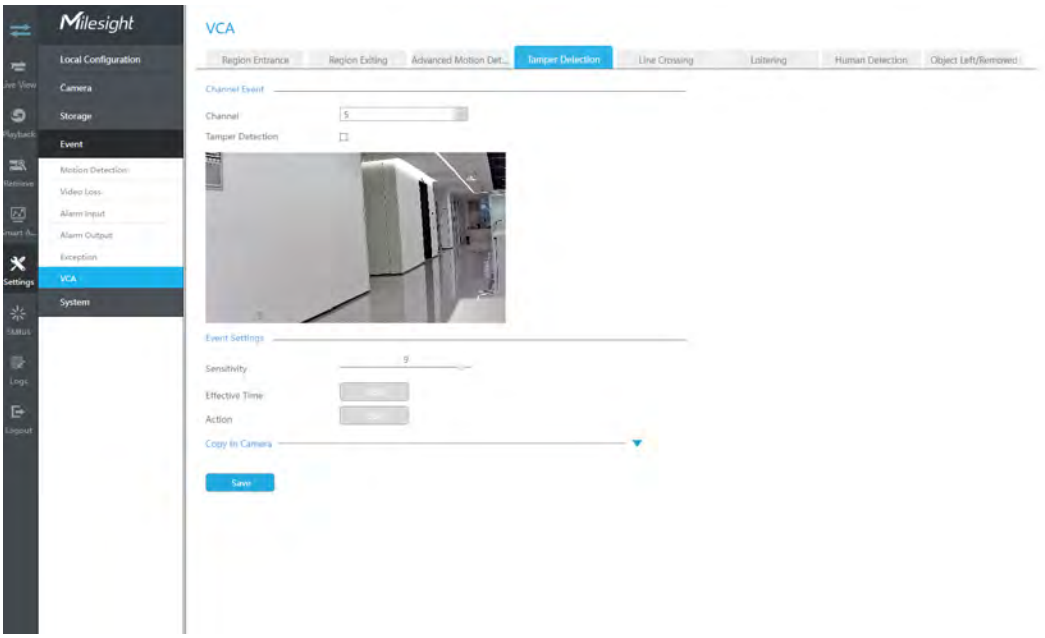
For detailed settings of these actions, please refer to Alarm Action *(page 174)*

Step9. Click [Copy to Camera] to copy the same configuration to other channels.

3.8.6.4 Tamper Detection

Tamper Detection is used to detect possible tampering like the camera being unfocused, obstructed or moved. This functionality alerts security staff immediately when any above-mentioned actions occur.

Step1.Select channel and enable Tamper Detection.

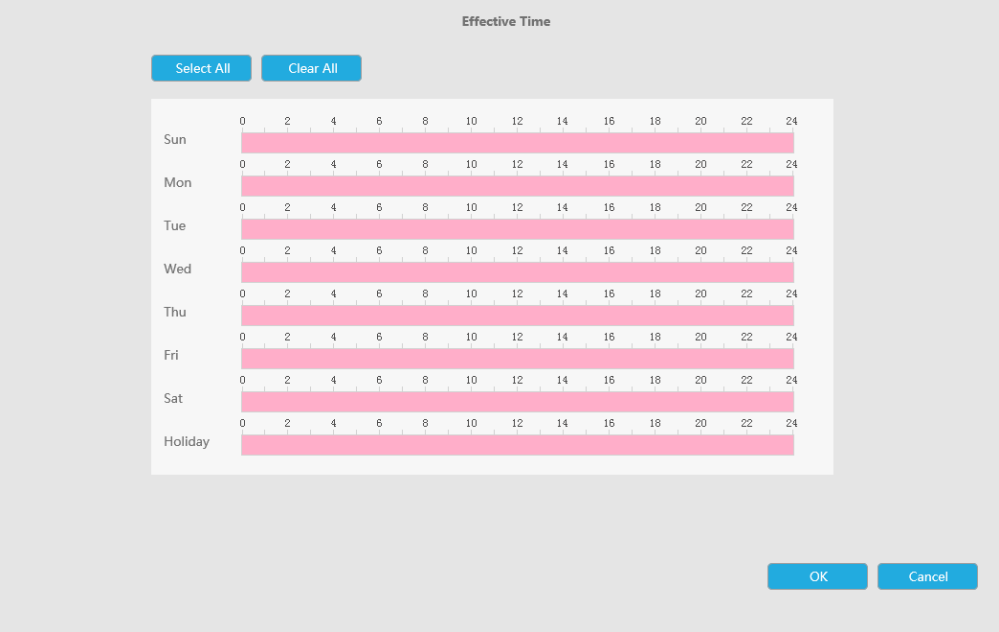


Step 2. Set Sensitivity.

The sensitivity can be configured to detect various movements according to different requirements. When the level of sensitivity is low, slight movement won't trigger the alarm.

Step3. Set Effective Time of region entrance by clicking "Edit".

NVR receives the alarm when effective time has been set. It will be more convenient by clicking "Select All" or "Clear All" to set or clear all time settings.



Step 4. Set Action for tamper detection alarm by clicking "Edit".

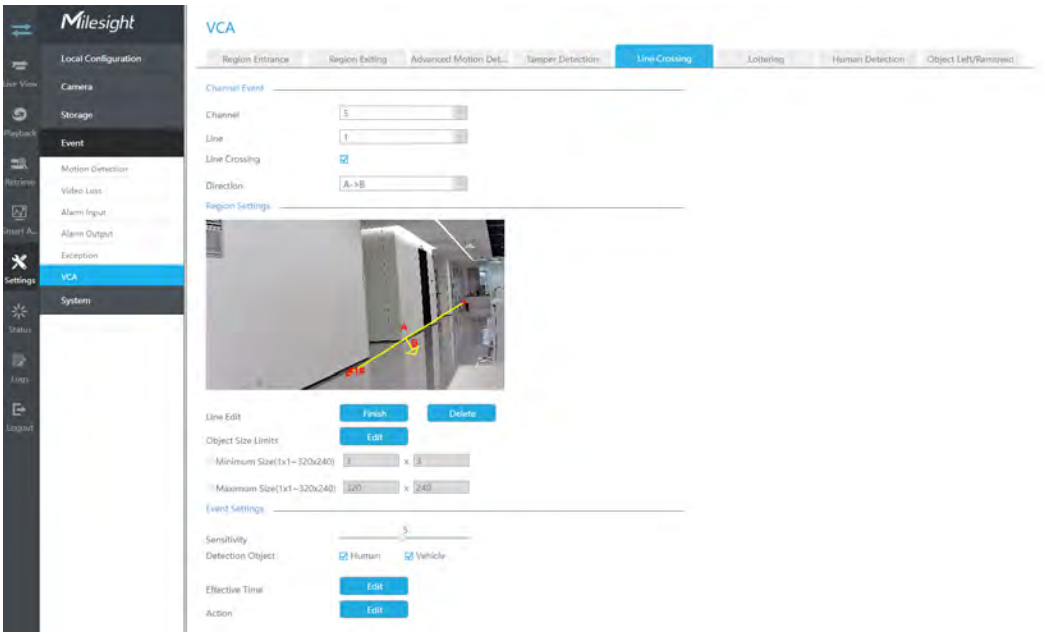
For detailed settings of these actions, please refer to Alarm Action *(page 174)*.

Step5. Click [Copy to Camera] to copy the same configuration to other channels.

3.8.6.5 Line Crossing

Line Crossing detection is designed to work in most indoor and outdoor environment. An event will be triggered every time when the camera detects objects crossing a defined virtual line.

Settings steps are shown as follows:



Step 1. Select Channel and enable Line Crossing.

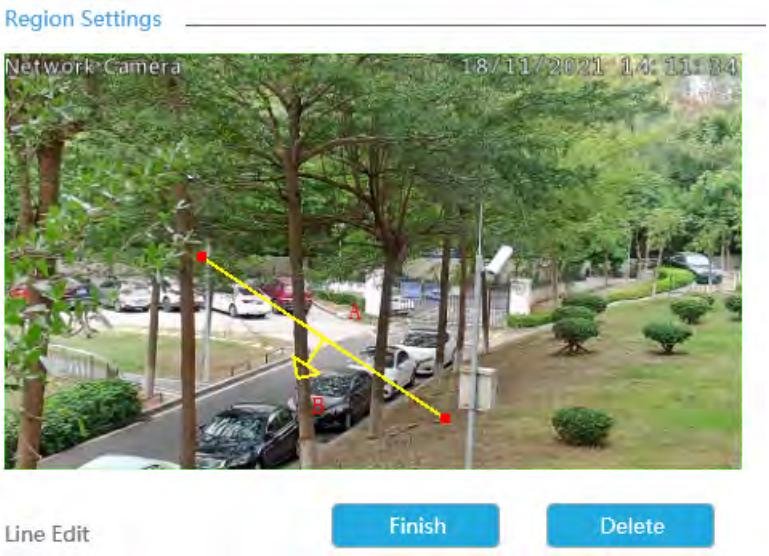
Step 2. Choose detection line number.

Step 3. Define its direction.

It allows to set up to four lines at a time. There are three direction modes to choose for triggering alarm. “A→B” means when there is any object crossing the line from the “A” side to the “B” side, the alarm will be triggered. “B→A” vice versa. “A ↔ B” means that the alarm will be triggered when objects cross line from either side.

Step 4.Draw detection lines.

And you can edit the line by clicking "Edit" button.



Note: Each Line Crossing configuration works separately and do not affect each other.

Step 5. Set the Object Size Limits.

You can edit Minimum Size and Maximum Size by clicking "Edit" button.

Minimum Size: The Min. Size means that only if the object size is bigger than the frame, the settings for Region Entrance will take effect.

Maximum Size: The Max. Size means the opposite, only if the object size is smaller than the frame you drew on the screen, the settings for Region Entrance will take effect.

Step 6. Set Sensitivity.

The sensitivity can be configured to detect various movement according to different requirements. When the level of sensitivity is low, slight movement won't trigger the alarm.

Step 7. Select the Detection Object.

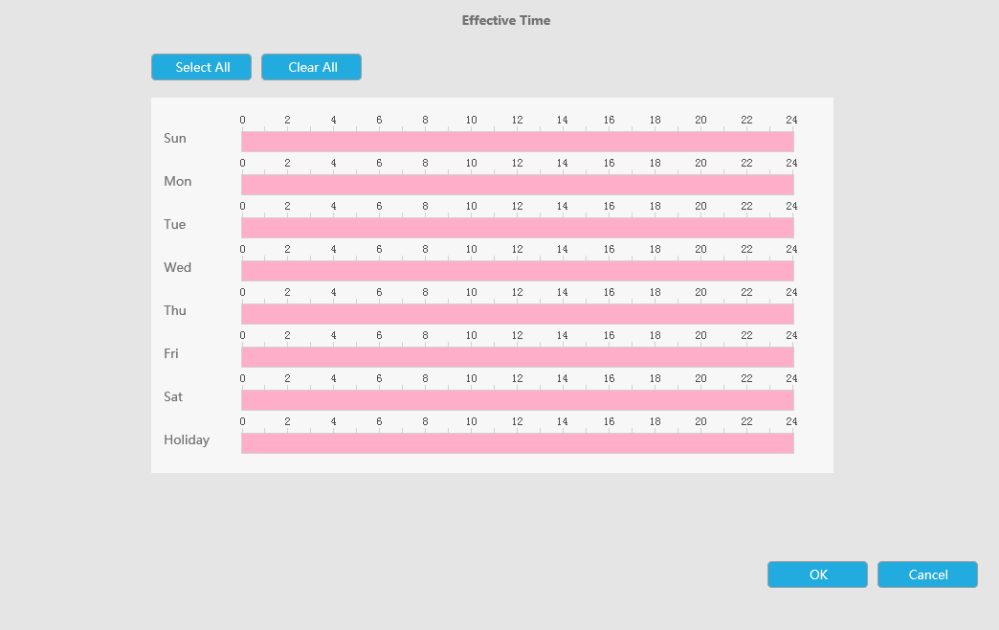
Human or Vehicle or both are selected as the detection object according to the need. Only the selected detection object can trigger the alarm.

Note:

1. Make sure your camera's version is 4X.7.0.77 or above, which supports the human/vehicle detection object.
2. Make sure your camera model is MS-CXXXX-XXC, which supports the human/vehicle detection object.

Step8. Set Effective Time of region entrance by clicking "Edit".

NVR receives the alarm when effective time has been set. It will be more convenient by clicking "Select All" or "Clear All" to set or clear all time settings.



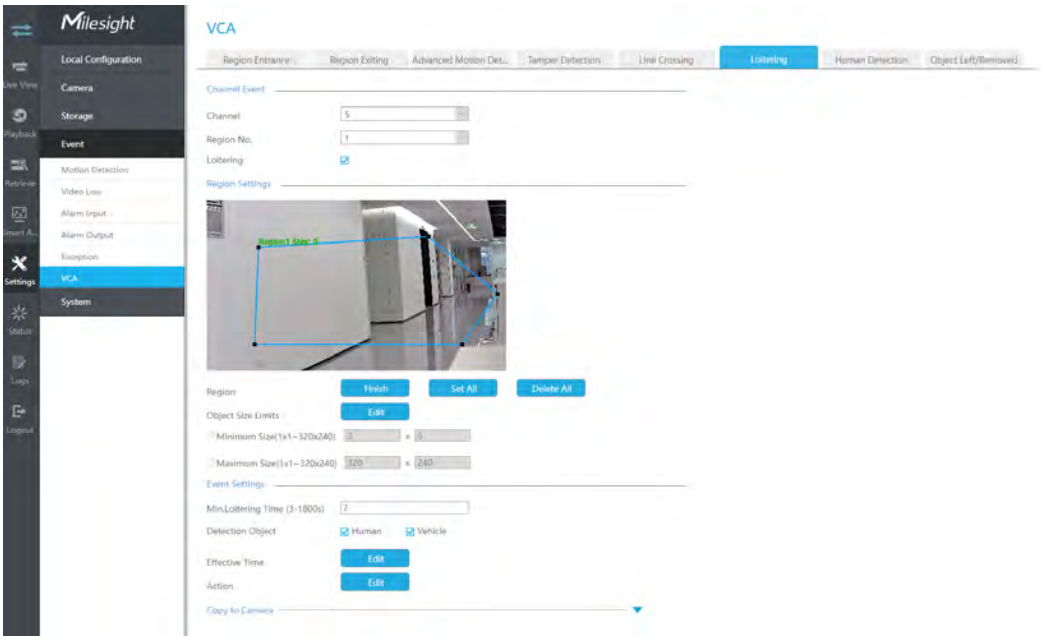
Step 9. Set Action for line crossing alarm by clicking "Edit".

For detailed settings of these actions, please refer to Alarm Action *(page 174)*.

Step10. Click [Copy to Camera] to copy the same configuration to other channels.

3.8.6.6 Loitering

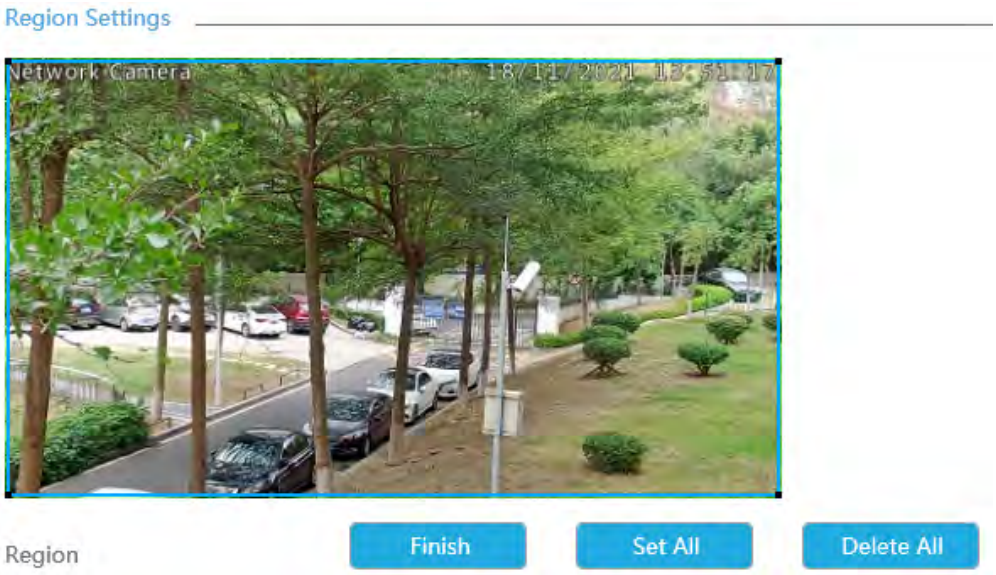
When objects are loitering in a defined area for a specific period of time, it would trigger an alarm.



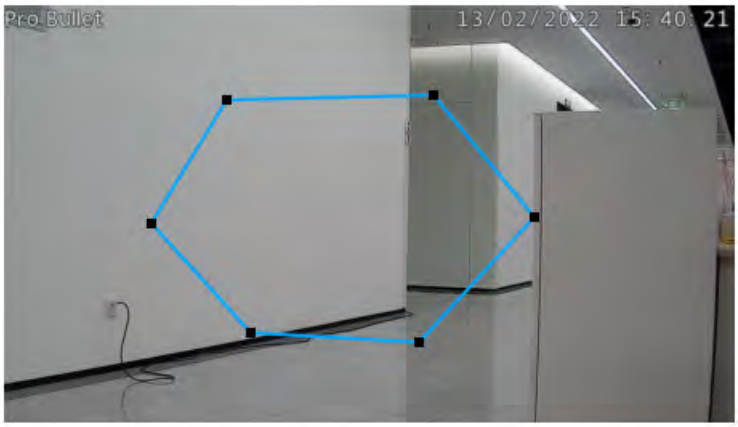
Step1.Select Channel and Region No, then enable Loitering.

Step 2. Set Loitering detected region.

You can click "Edit" button to edit the detection region. Also, you can edit the area by clicking "Edit" button. And you can set or clear all set region by directly clicking "Set All" or "Clear All".

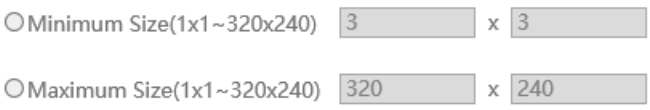


For cameras with the firmware version higher than 4X.7.0.78, it supports drawing polygon detection region for VCA function.



Step 3. Set the Object Size Limits.

You can edit Minimum Size and Maximum Size by clicking "Edit" button.



Minimum Size: The Min. Size means that only if the object size is bigger than the frame, the settings for Region Entrance will take effect.

Maximum Size: The Max. Size means the opposite, only if the object size is smaller than the frame you drew on the screen, the settings for Region Entrance will take effect.

Step 4. Set Min. Loitering Time.

After setting minimum loitering time from 3s to 1800s, any objects loitering in the selected area over the minimum loitering time will trigger the alarm.

Step5. Select the Detection Object.

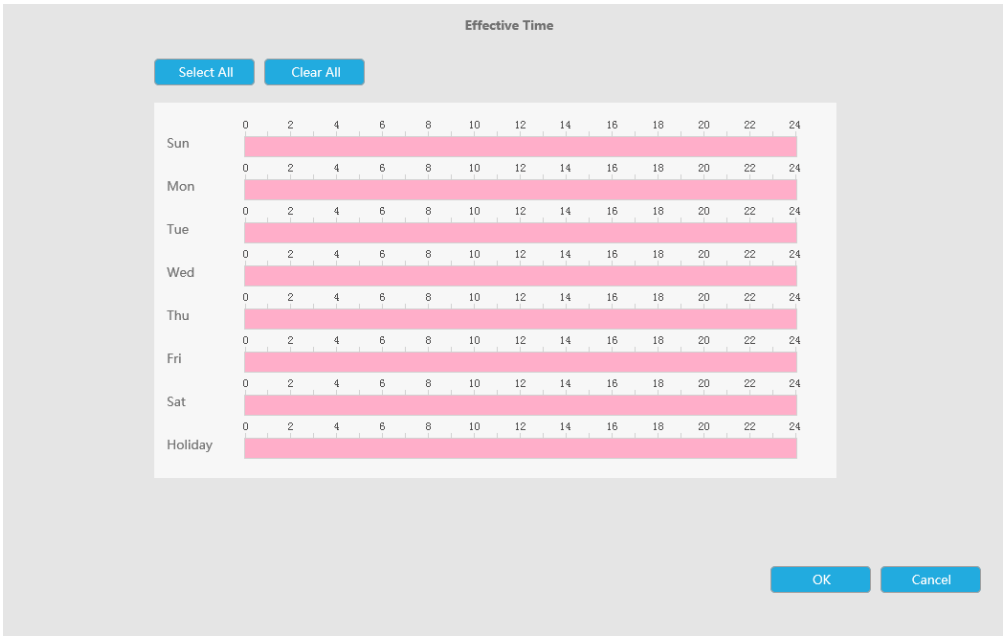
Human or Vehicle or both are selected as the detection object according to the need. Only the selected detection object can trigger the alarm.

Note:

- Make sure your camera's version is 4X.7.0.77 or above, which supports the human/vehicle detection object.
- Make sure your camera model is MS-CXXXX-XXC, which supports the human/vehicle detection object.

Step6. Set Effective Time of region entrance by clicking "Edit".

NVR receives the alarm when effective time has been set. It will be more convenient by clicking "Select All" or "Clear All" to set or clear all time settings.



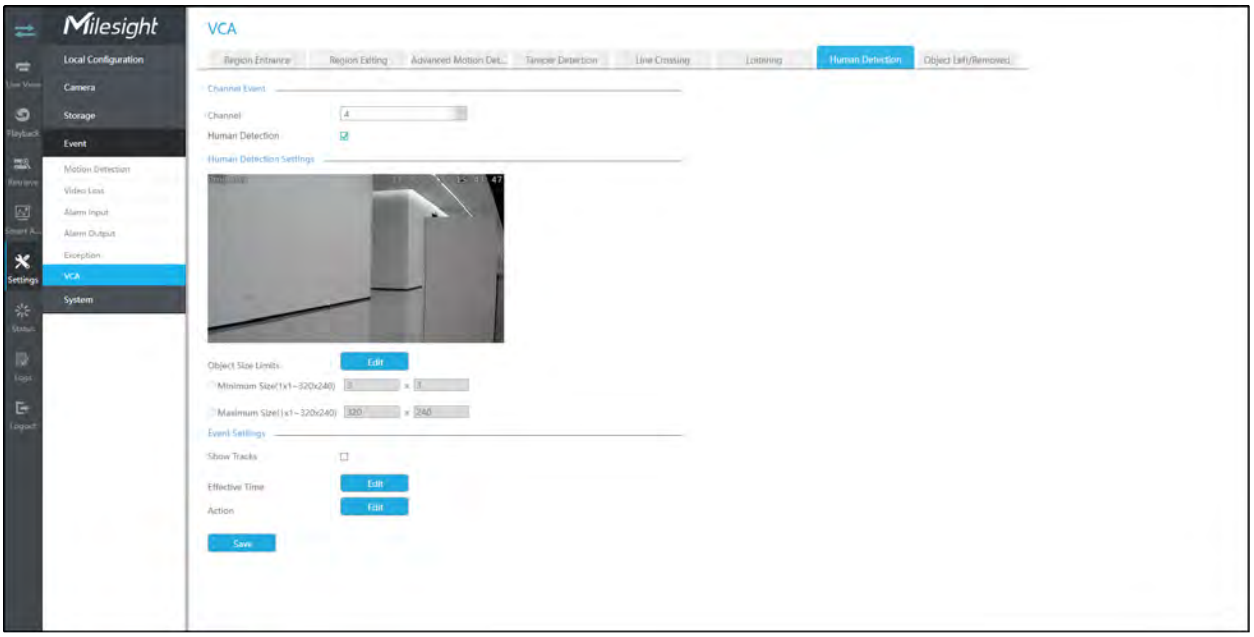
Step 7. Set Action for loitering alarm by clicking "Edit".

For detailed settings of these actions, please refer to Alarm Action *(page 174)*.

Step8. Click [Copy to Camera] to copy the same configuration to other channels.

3.8.6.7 Human Detection

Human detection is used for figuring out whether an object is a human or not.

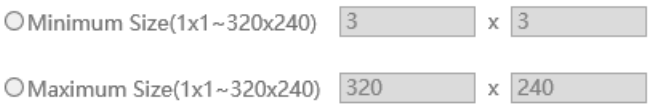


Step1.Select channel and enable Human Detection.

Step 2. Enable Show Tracks or not.

Step 3. Set the Object Size Limits.

You can edit Minimum Size and Maximum Size by clicking "Edit" button.

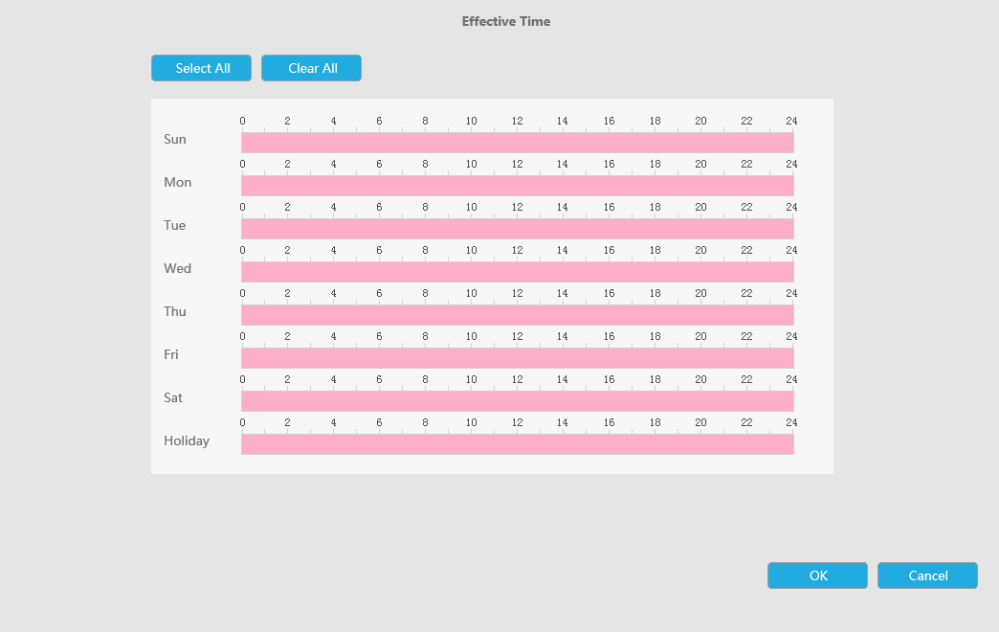


Minimum Size: The Min. Size means that only if the object size is bigger than the frame, the settings for Region Entrance will take effect.

Maximum Size: The Max. Size means the opposite, only if the object size is smaller than the frame you drew on the screen, the settings for Region Entrance will take effect.

Step 4. Set Effective Time of human detection by clicking "Edit".

NVR receives the alarm when effective time has been set. It will be more convenient by clicking "Select All" or "Clear All" to set or clear all time settings.



Step 5. Set Action for human detection alarm by clicking "Edit".

For detailed settings of these actions, please refer to Alarm Action *(page 174)*.

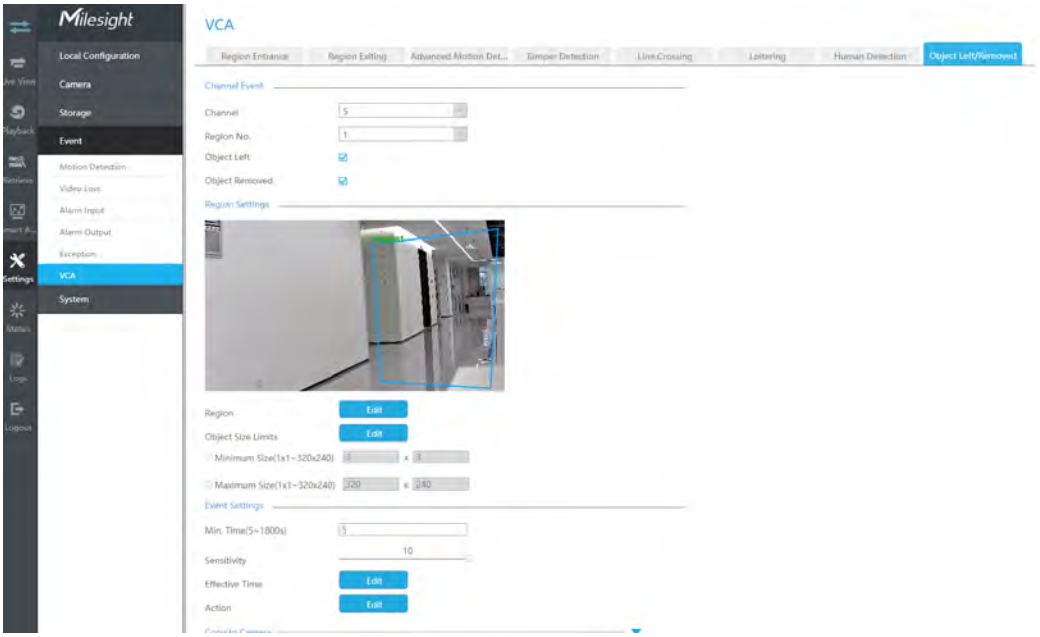
Step 6. Click [Copy to Camera] to copy the same configuration to other channels.

3.8.6.8 Object Left/Removed

Object Left can detect and prompt an alarm if an object is left in a pre-defined region. Object Removed can detect and prompt an alarm if an object is removed from a pre-defined region.

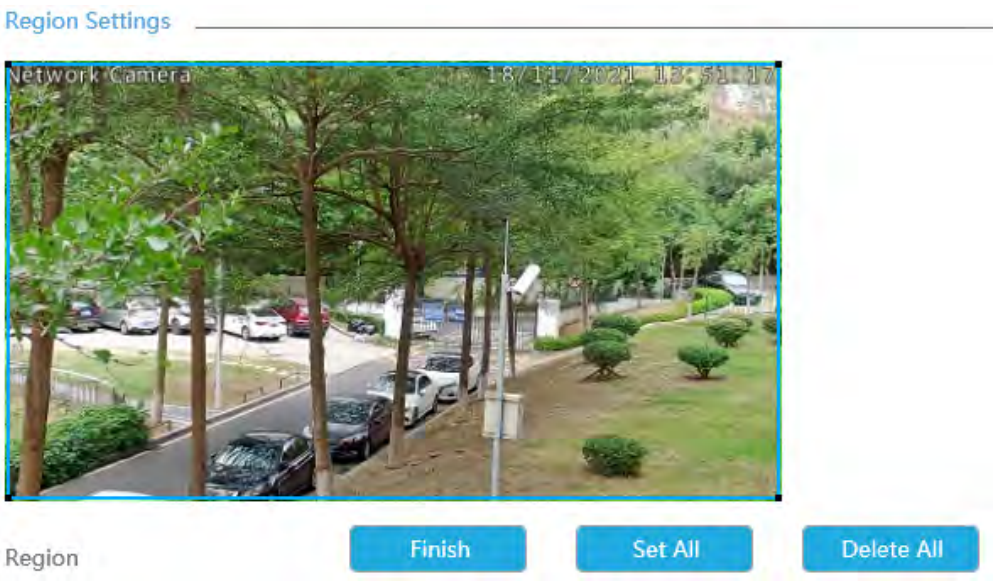
Note: You need to upgrade the NVR to V7x.9.0.4-r2 or above to support this function.

Step1.Select Channel and Region No, then enable Object Left or Object Removed(Or you can enable both features at the same time).

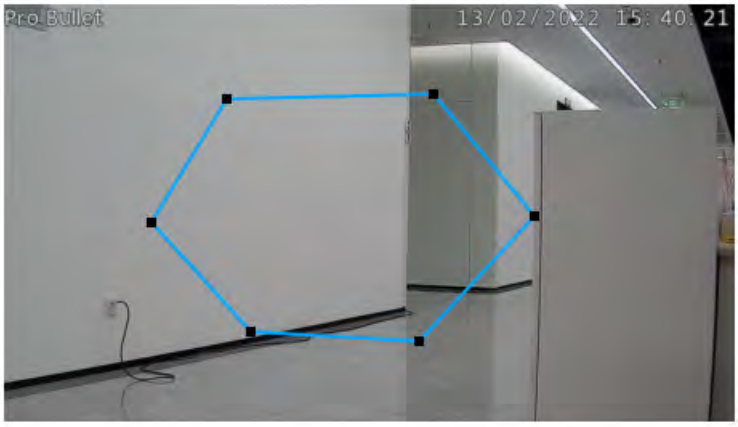


Step 2. Set Loitering detected region.

You can click "Edit" button to edit the detection region. Also, you can edit the area by clicking "Edit" button. And you can set or clear all set region by directly clicking "Set All" or "Clear All".

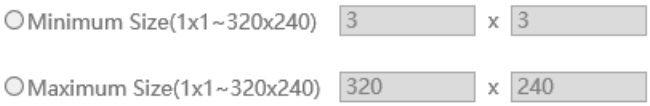


For cameras with the firmware version higher than 4X.7.0.78, it supports drawing polygon detection region for VCA function.



Step 3. Set the Object Size Limits.

You can edit Minimum Size and Maximum Size by clicking "Edit" button.



Minimum Size: The Min. Size means that only if the object size is bigger than the frame, the settings for Region Entrance will take effect.

Maximum Size: The Max. Size means the opposite, only if the object size is smaller than the frame you drew on the screen, the settings for Region Entrance will take effect.

Step 4. Set Min. Time.

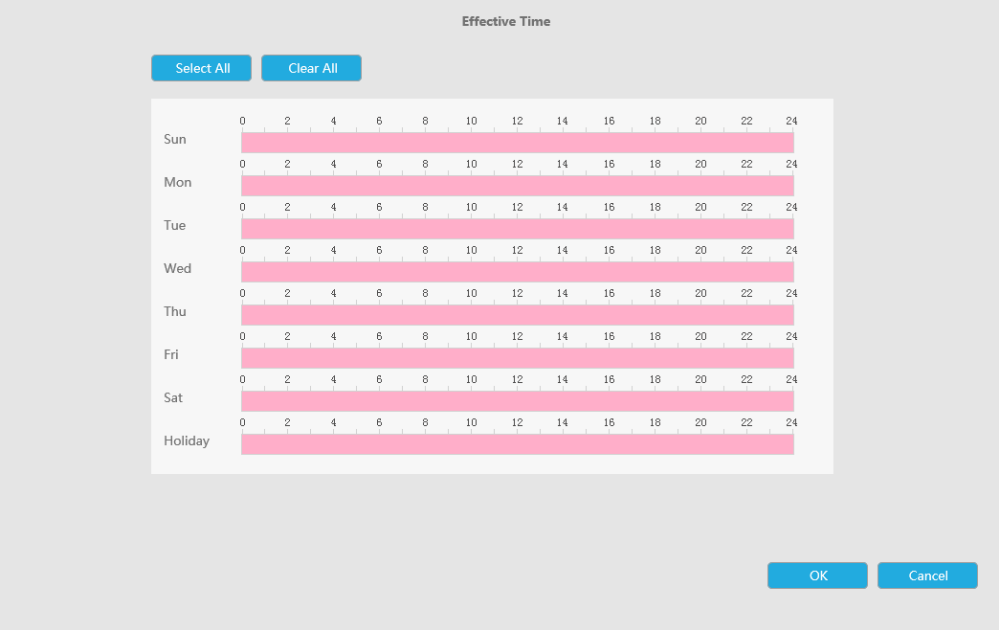
After setting minimum time from 3s to 1800s, any objects are left in the selected area or removed from the selected area over the minimum time will trigger the alarm.

Step 5. Set Sensitivity.

The sensitivity can be configured to detect various movement according to different requirements. When the level of sensitivity is low, slight movement won't trigger the alarm.

Step 4. Set Effective Time of Object Left/Removed by clicking "Edit".

NVR receives the alarm when effective time has been set. It will be more convenient by clicking "Select All" or "Clear All" to set or clear all time settings.



Step 5. Set Action for Object Left/Removed alarm by clicking "Edit".

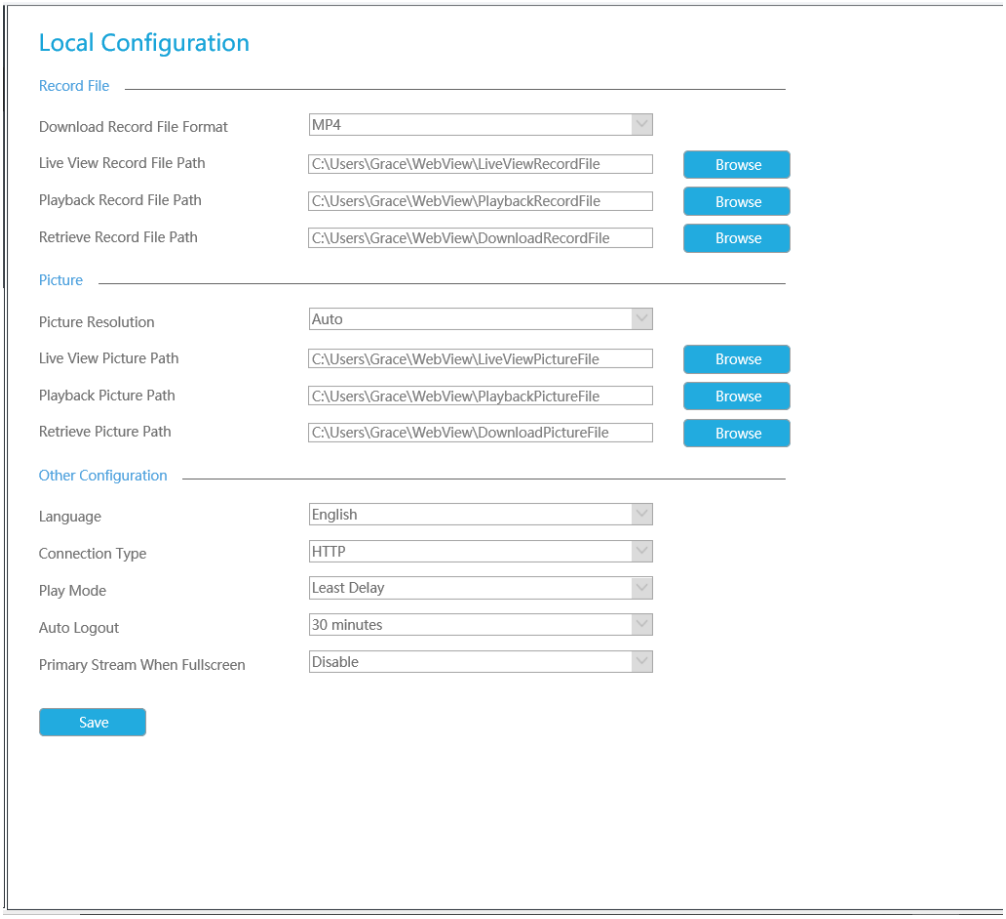
For detailed settings of these actions, please refer to Alarm Action *(page 174)*.

Step 6. Click [Copy to Camera] to copy the same configuration to other channels.

3.9 Settings

3.9.1 Local Configuration

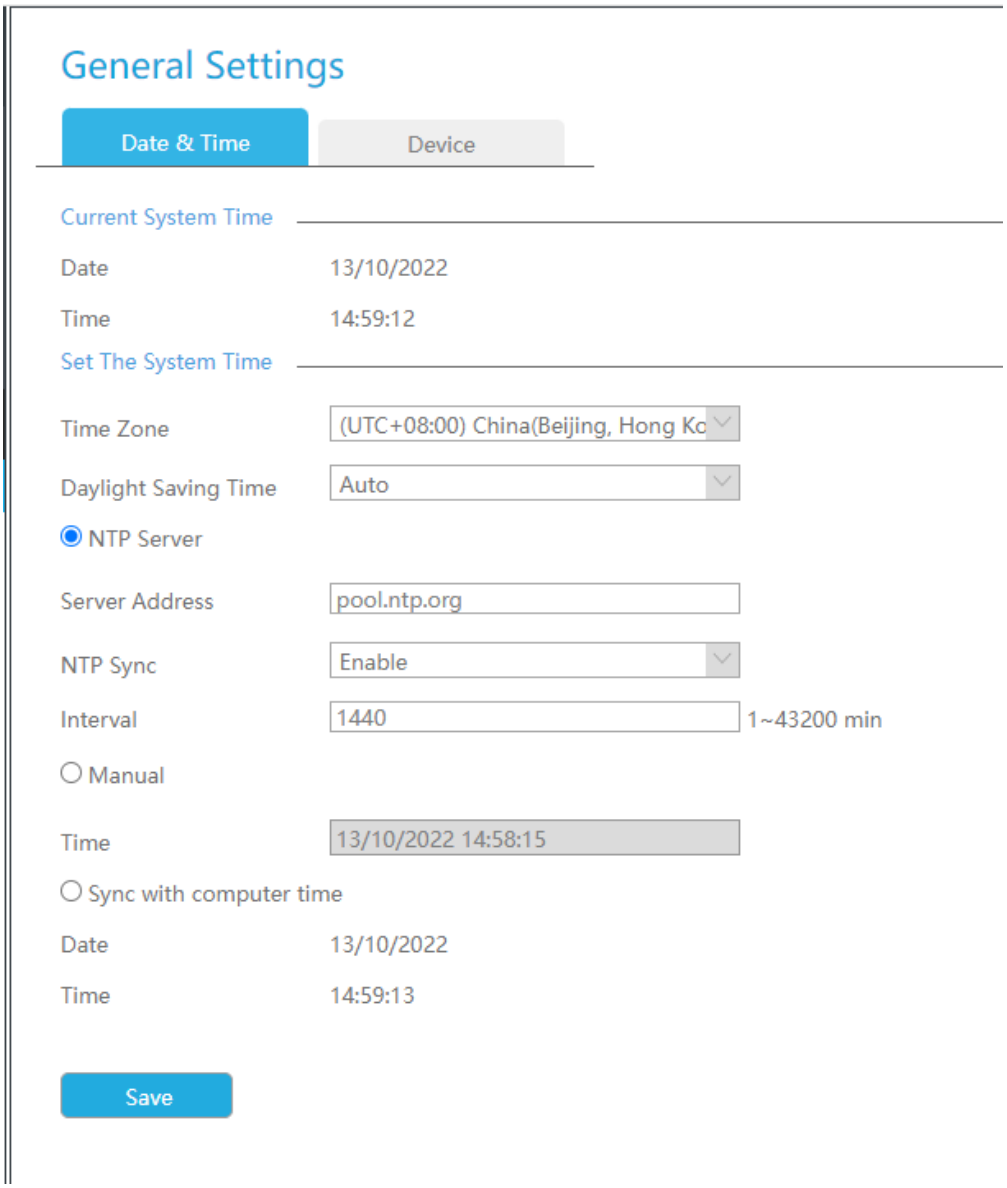
Local Configuration includes Record File Path, Preview Picture Path, Preview Playback Path, Language, Connection Type, Play Mode and Primary Stream in Fullscreen option. This interface support unified configuration of formats and paths for record files and pictures.



3.9.2 General

Date & Time

It is for setting up the Time parameters of NVR, including Time Z one, Daylight Saving Time, Time Setting, Server Address, NTP Sync, Interval, etc.



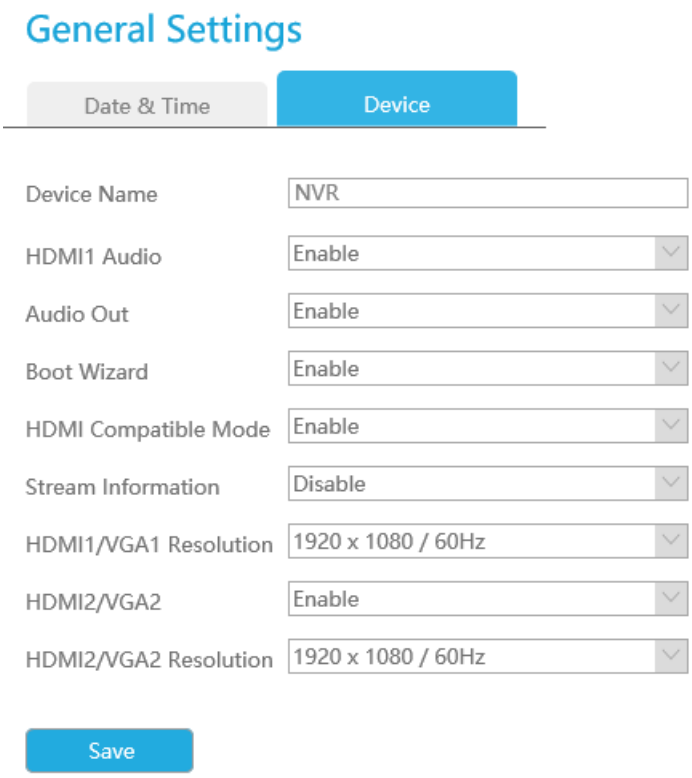
Server Address: Support to Enter the address of NTP Server manually.

NTP Sync: Set the time of NVR to synchronize with the NTP server.

Interval: The interval for synchronizing with NTP server can be set and support NTP Interval ranging from 1 to 43200 minutes.

Device

It is for setting up the general parameters of NVR, including Device Name, HDMI/VGA Resolution, Language, HDMI2/VGA2, HDMI Audio, Audio Out, etc.



Device Name: Set the device name.

HDMI1/VGA1Resolution: Set the output resolution of HDMI1/VGA1 port.

HDMI2/VGA2: Enable it to use HDMI2/VGA2 port.

HDMI2/VGA2Resolution: Set the output resolution of HDMI2/VGA2 port.

HDMI1 Audio: Enable it to use HDMI1 Audio.

Audio Out: Enable Audio Out.

Boot Wizard: Enable it to pop up boot wizard after rebooting.

Stream Information: Enable it to see bit rate, frame rate and frame size in both live view and playback interface.

Note:

1. For some models, the stream information will reveal synchronously while transcoding is enabled.
2. Channels that play H.265 in plugin-free mode will not display the stream information.

3.9.3 Network

3.9.3.1 Basic

Working Mode

It supports three working modes of Multi-address, Load Balance and Net Fault-tolerance.

For Multi-address mode, you can set LAN1 or LAN2 as the default route according to the needs.

Note: Only Pro NVR 7000 Series and Pro NVR 8000 Series support this function.

The system supports two IP address format: IPv4 and IPv6

IPv4

Enable IPv4 DHCP to auto search IP. When enable DHCP function, you can not modify IP/ Subnet mask/ Gateway.

Disable IPv4 DHCP to modify IP/ Subnet mask/ Gateway manually.

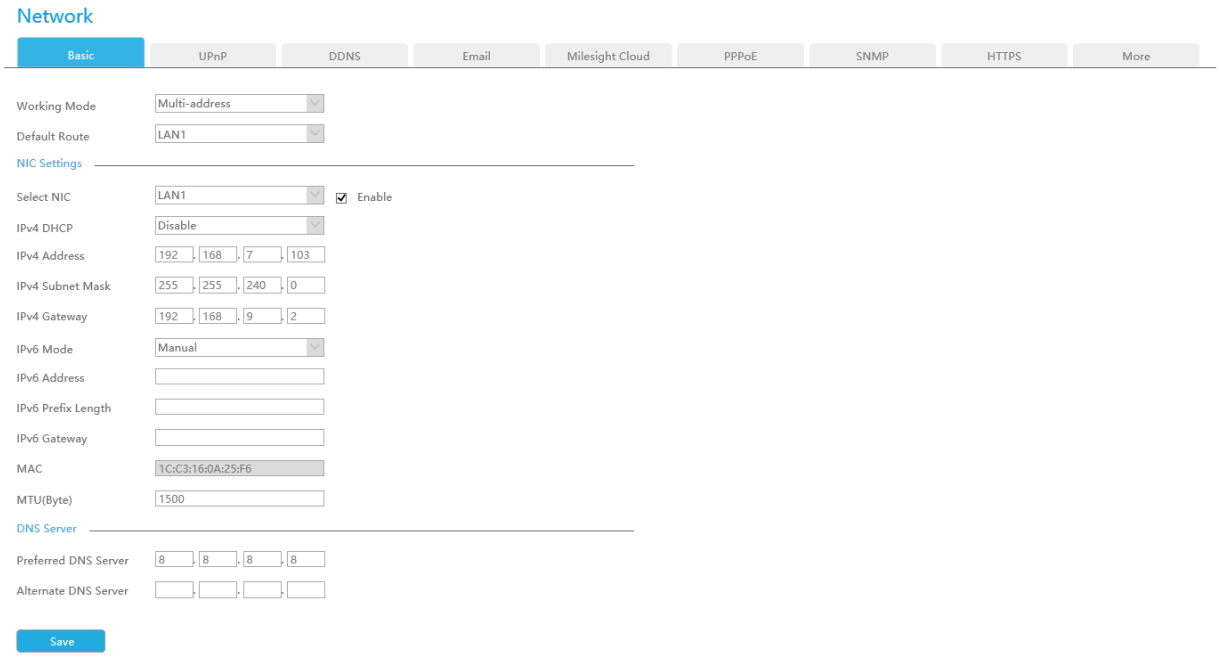
IPv6

Manual/ Router Advertisement/ DHCPv6 are available.

DNS Server

Preferred DNS Server: DNS server IP address.

Alternate DNS Server: DNS server alternate address.

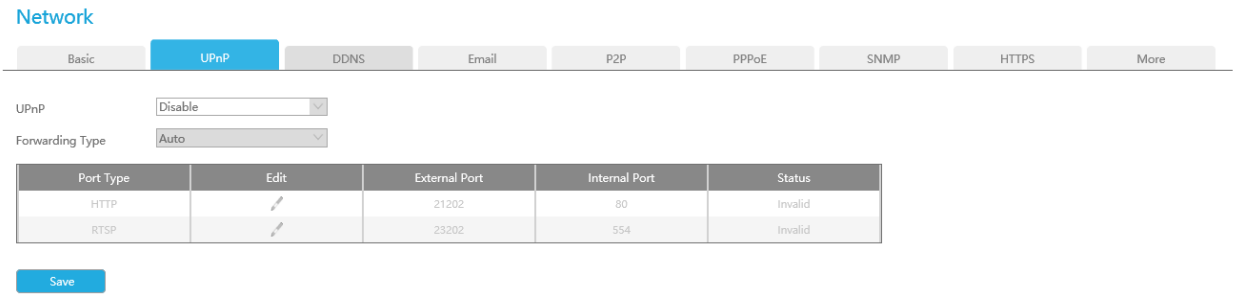


Note:

1. Check the DHCP check-box when there is a DHCP server running in the networks.
2. Once DHCP is enabled, DNS will change accordingly.
3. The valid range of MTU is 1200~1500.
4. Do not input an IP address conflicting with another device.
5. Working mode option is only for NVR 7000/8000 Series. Internal NIC IPv4 Address is only for PoE NVR Series.

3.9.3.2 UPnP

With the function enabled, you don’t need to configure the port mapping for each port in router, it will do the port mapping in router automatically once **router supports UPnP**.



3.9.3.3 DDNS

Using DDNS to solve the dynamic IP address problem.

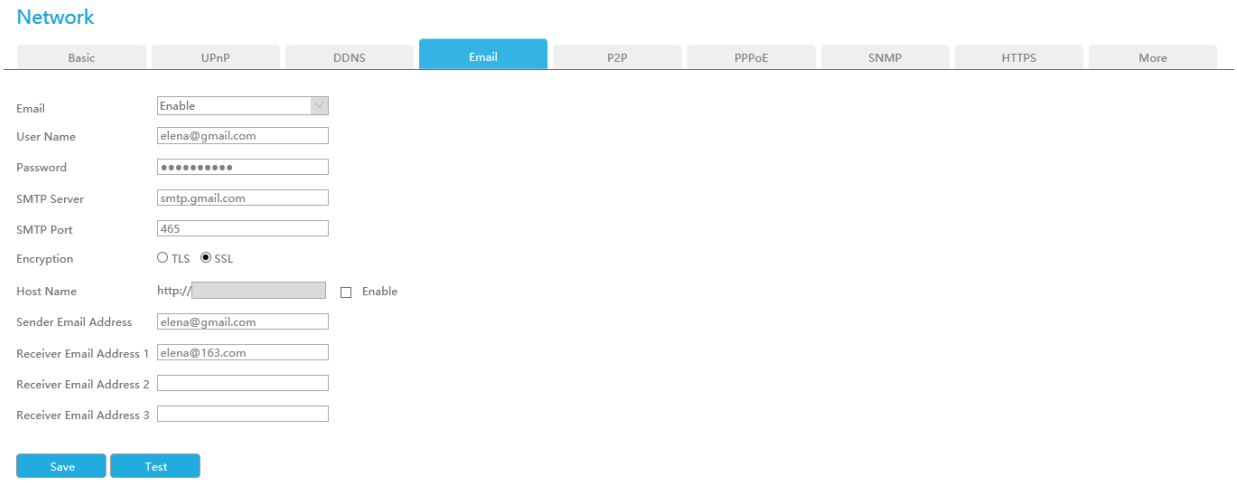
Check DDNS check-box to enable it, then select a DDNS Server and input the user name, password and host name. Do not forget to save the configuration.

Milesight has its own DDNS server. Please do port forwarding for HTTP port and RTSP port before enabling **Milesight DDNS**. Then input corresponding information and you can use http://ddns.milesight.com:MAC to access device remotely.

Note: "Host Name" must begin with letters, and it can only contain number, letters, and hyphen.

3.9.3.4 Email

A screenshot will be sent to the receivers when alarm is triggered.



Enable Email selection and then begin configuration.

Username: The E-mail address you choose to send emails. Please input **full email address**.

Password: The password of the E-mail.

SMTP Server: The SMTP Server of your E-mail.

SMTP Port: The port of SMTP Server. It's usually 25.

Sender Email Address: It must be same as [User name].

Receiver Email Address: E-mail Address for the receivers.

Encryption: Security Protocol of email sending, including TLS and SSL.

Host Name: It will be attached in the email.

Select "Test" to check if the Mail function is workable.

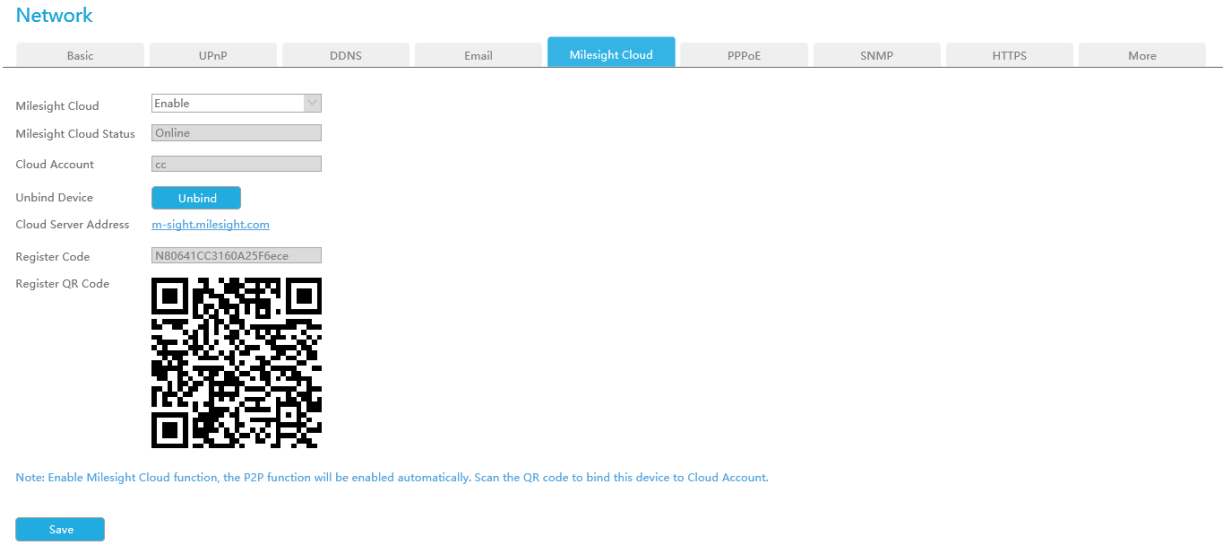
Note: If your NVR has a port forwarding IP for Host Name, please input the complete address that contains the port.

3.9.3.5 Milesight Cloud

You can add the devices to M-sight Pro app via Milesight Cloud, which can bind the devices with the cloud accounts. You can log into the cloud account directly on the APP, no need to add devices repeatedly.

Click "Enable" and "Apply" to enable Milesight Cloud.

After enabling, you can add the NVR on the APP M-Sight Pro for live view via scanning the QR code on Milesight Cloud page directly, or inputting the register code manually.



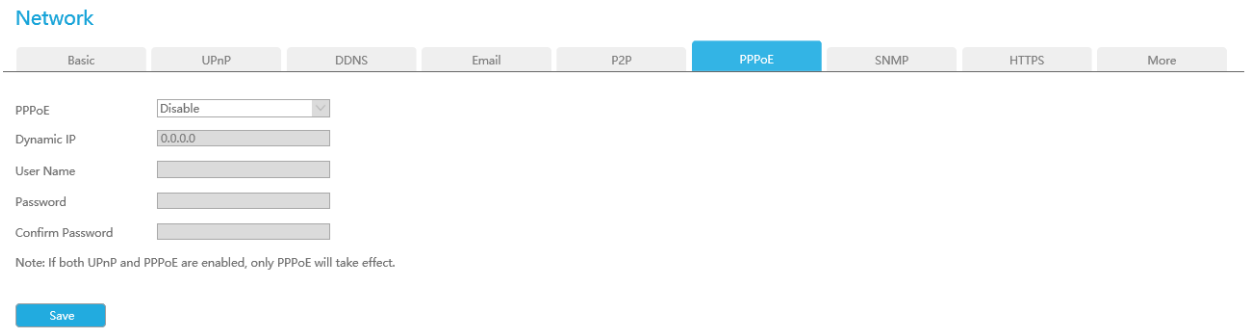
If you enable Milesight Cloud function, the P2P function will be enabled automatically.

Note:

1. Please make sure that NVR is available for internet before enabling.
2. Please make sure your NVR version is V7X.9.0.12 or above, and the APP version is V3.1.0.5 or above.

3.9.3.6 PPPoE

PPPoE combines PPP protocol with Ethernet, by which Ethernet hosts can connect to a remote access concentrator via a simple bridging device.

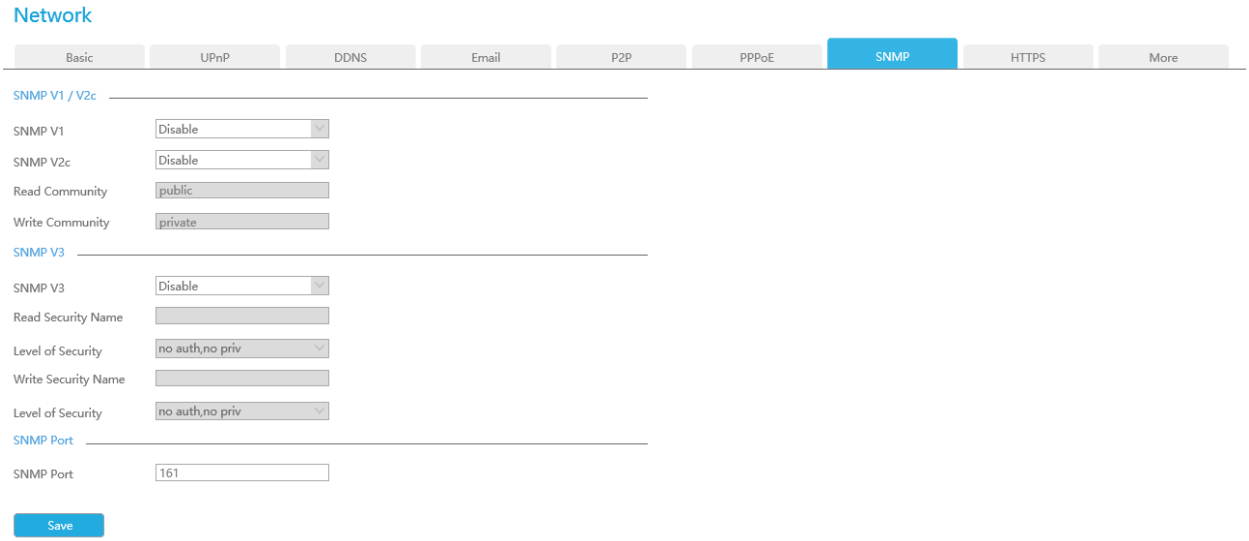


Note: If both UPnP and PPPoE are enabled, only PPPoE will take effect.

3.9.3.7 SNMP

SNMP is an abbreviation of Simple Network Management Protocol, which is convenient for NVR to be monitored and managed in the whole network environment. The SNMP is widely used in many network devices, software and systems.

Before setting the SNMP, please download the SNMP software and manage to receive the NVR information via SNMP port. By setting the Trap Address, the NVR can send the alarm event and exception messages to the surveillance center.



SNMP v1/2c/3: The version of SNMP. Please select the version of your SNMP software.

SNMP v1: No security protection

SNMP v2c: Require password for access

SNMP v3: Support encryption on the premise that the HTTPS protocol must be enabled.

Read Community: Input the name of Read Community

Write Community: Input the name of Write Community

Read Security Name: Input the name of Read Security Community

Level of Security: There are three levels available: (auth, priv), (auth, no priv) and (no auth, no priv)

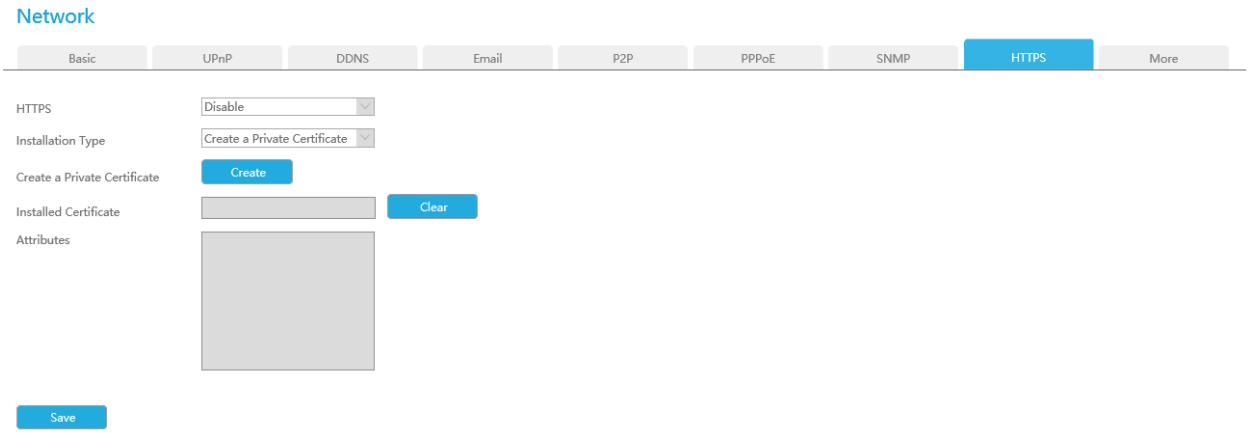
Write Security Name: Input the name of Write Security Community

Level of Security: There are three levels available: (auth, priv), (auth, no priv) and (no auth, no priv)

SNMP Port: The default of the SNMP port is 161.

3.9.3.8 HTTPS

Set in the interface to make sure getting access to NVR successfully via HTTPS, which is able to guarantee communication data security. The reliable and stable technology can secure the user information security and device safety.



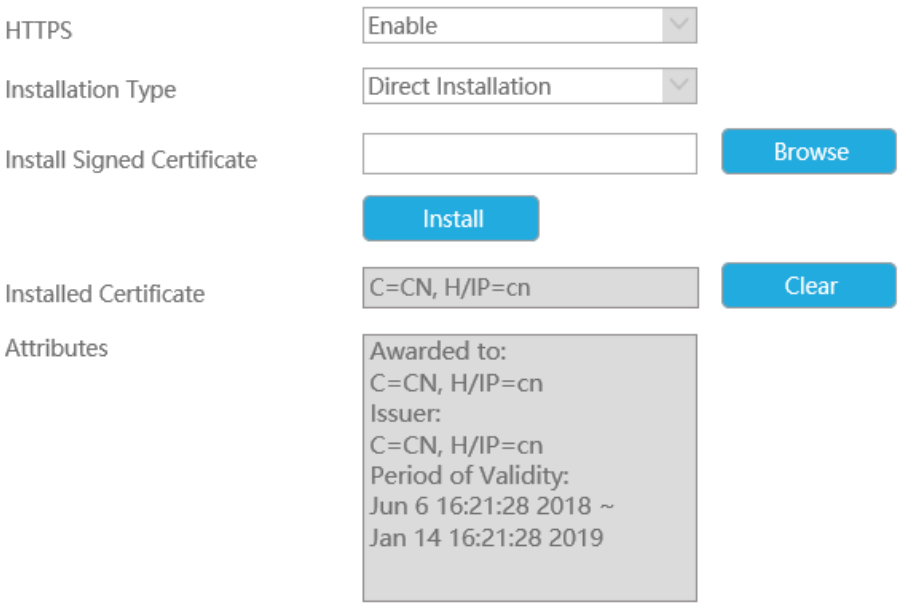
There are three certificate installation types:

Create a Private Certificate

Click “Create” to create the following dialog box. And then enter Country, Common Name, Period of Validity and other information. And then click “OK” to generate a private certificate.

Direct Installation

Click “Browse” to select a signed certificate locally and click “Install” to install it.

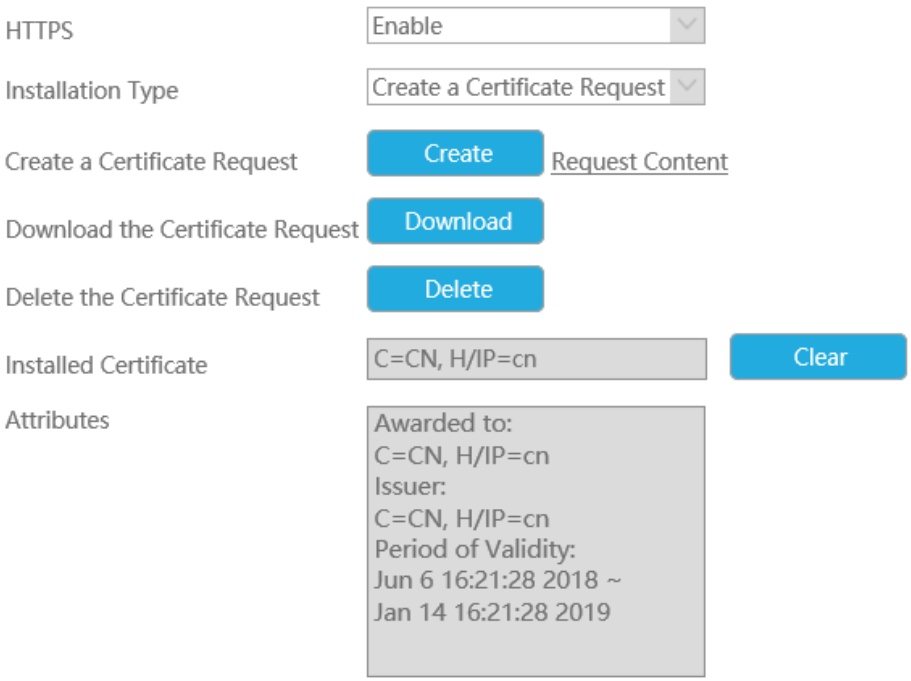


Create a Certificate Request

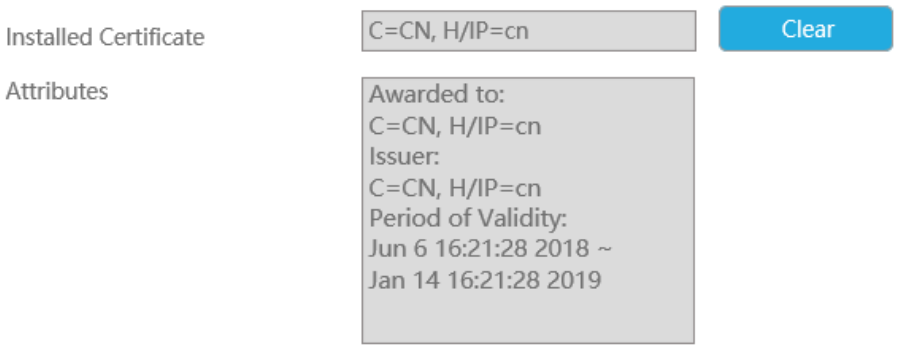
Firstly, click “Create” button. And then enter Country, Common Name and other information to create the certificate request;

Download the certificate request and submit it to the trusted certificate authority for signature;

After receiving the signed valid certificate, import the certificate to the device.



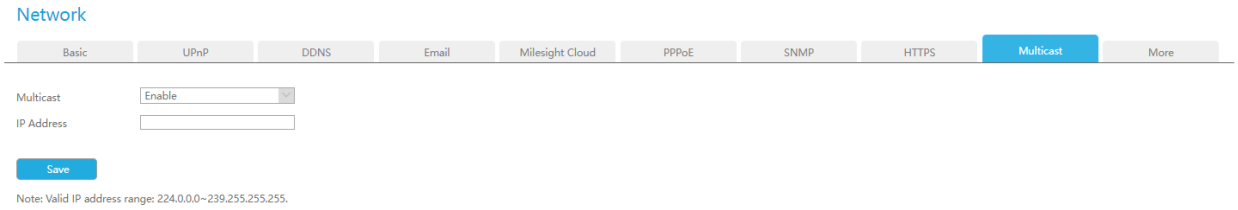
After creating and installing the certificate successfully, you can check the certificate information and clear the information on the following interface. And you can access the NVR by inputting https://ip:port via the web browser.



Note: The default HTTPS port is 443, you can modify it on the “More” interface.

3.9.3.9 Multicast

Enable multicast to reduce the load of the NVR, and the video can still be previewed normally when the NVR is multi-connected. Users just need to enable multicast and enter the IP address.



Note: Valid IP address range: 224.0.0.0~239.255.255.255.

3.9.3.10 More

SSH

Enable or disable SSH access. Secure Shell (SSH) has many functions; it can replace Telnet, and also provides a secure channel for FTP, POP, even for PPP.

SSH Port

The default SSH port is 22. Only for R&D debugging.

HTTP Port

The default HTTP port is 80. Please modify HTTP ports according to actual application.

Note:

1. The default HTTP port for IE browser is 80.
2. HTTP port is used for remote network access for 4k/H.265 NVR Series.

HTTPS Port

The default HTTPS port is 443. Please modify HTTPS ports according to actual application.

Note:

1. The default HTTPS port for IE browser is 443.
2. HTTPS port is used for remote network access for 4k/H.265 NVR Series.

RTSP Port

Real Time Streaming Protocol (RTSP) is an application layer protocol in TCP/IP protocol system.

The default RTSP port is 554. Please modify RTSP port according to actual application.

Note:

1. RTSP port is used for remote network live view.
2. RTSP port valid range is 554 or 1024~65535.
3. The RTSP format of Milesight NVR is “rtsp://IP:RTSP port/ch_xxx”.
    - IP: The IP address of NVR;
    - RTSP port: The default RTSP port is 554;
    - ch_xxx: The first number of xxx represents stream type, 1 for main stream and 4 for sub stream. The last two represents channel number, which start from ‘00’ (‘00’ means channel 1). Take ‘rtsp://192.168.8.179:554/ch_402’ as an example:
    - The IP address of NVR is 192.168.8.179.
    - The RTSP port is 554.
    - The stream type is sub stream and the channel number is 3.

POS Port

It is the communication port between NVR and the POS machine. The default POS port is 38800.

Push Message

With this option enabled, you can receive the alarm message on the mobile application.

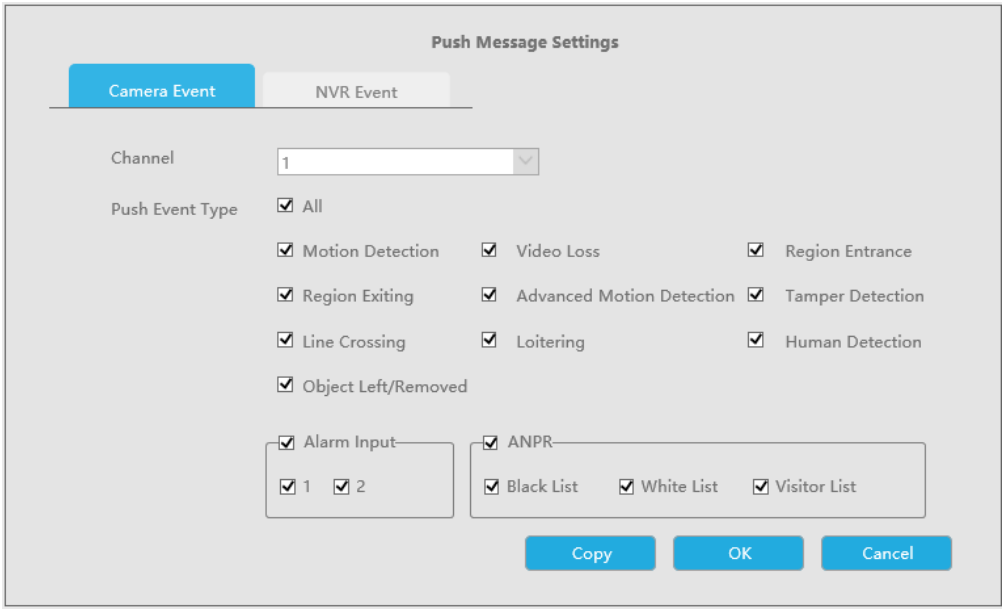
Push Stream Type

Select which video stream will be pushed to APP M-Sight Pro. Auto, Primary Stream and Secondary Stream are available.

Note: Only NVR model ends with letter T support this option.

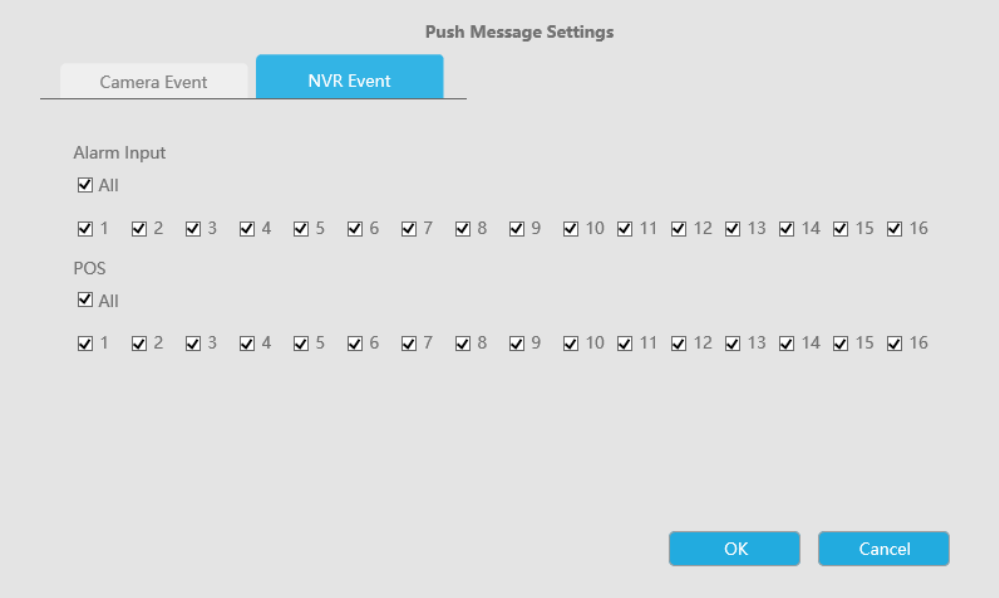
Push Message Settings

(1) Camera Event



Select Push Event Type which will be pushed to APP M-Sight Pro. There are different Push Event Types for every channel to choose, which means every camera added in this NVR can choose what Event Type it wants to push, like Motion Detection, Video Loss, Region Entrance, Region Exiting, Advanced Motion Detection, Tamper Detection, Line Crossing, Loitering Human Detection, Object Left/Removed, Alarm Input and ANPR(Only for MS-NXXXX-XXT/H).

(2) NVR Event



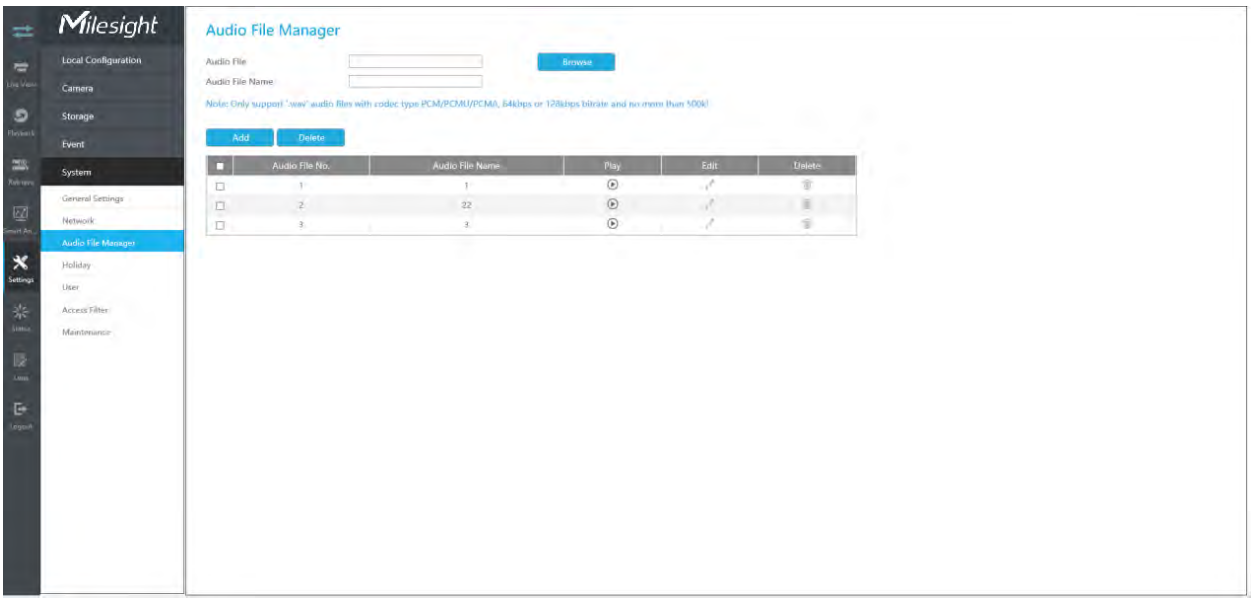
Select channels which you want to push the Alarm Input Event or the POS Event of NVR.

Note: There would not have NVR Event interface if your NVR doesn't have alarm input interface.

3.9.4 Audio File Manager

Here you can upload up to 10 audio files.

Note: Ensure that the NVR hardware has an Audio Output interface.



Add a new audio file

Click , then select an audio file from the external device and enter the audio file name, and then click "OK" to add a new audio file.

Note: Ensure that the audio file format is ".wav", the codec type is PCM/PCMU/PCMA, 64kbps or 128kbps bitrate and doesn't exceed 500K.

Play audio file

Select an audio file and click to play the audio file.

Edit audio file

Select an audio file and click to edit the audio file name.

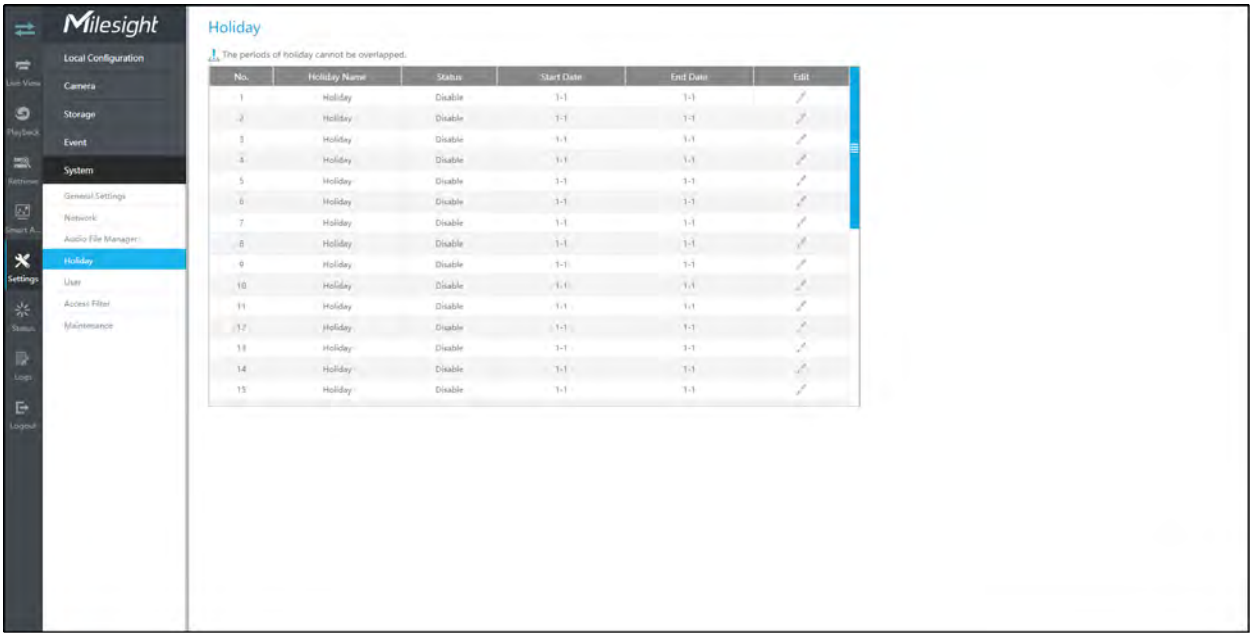
Delete audio file

Select an audio file and click to delete the audio file name.

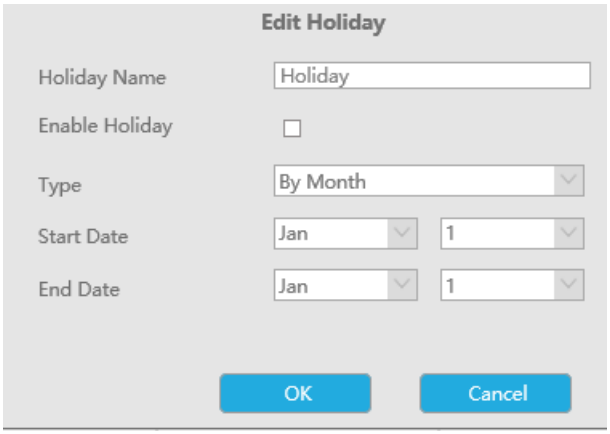
In addition, you can also check multiple audio files and click "Delete" to delete them.

3.9.5 Holiday

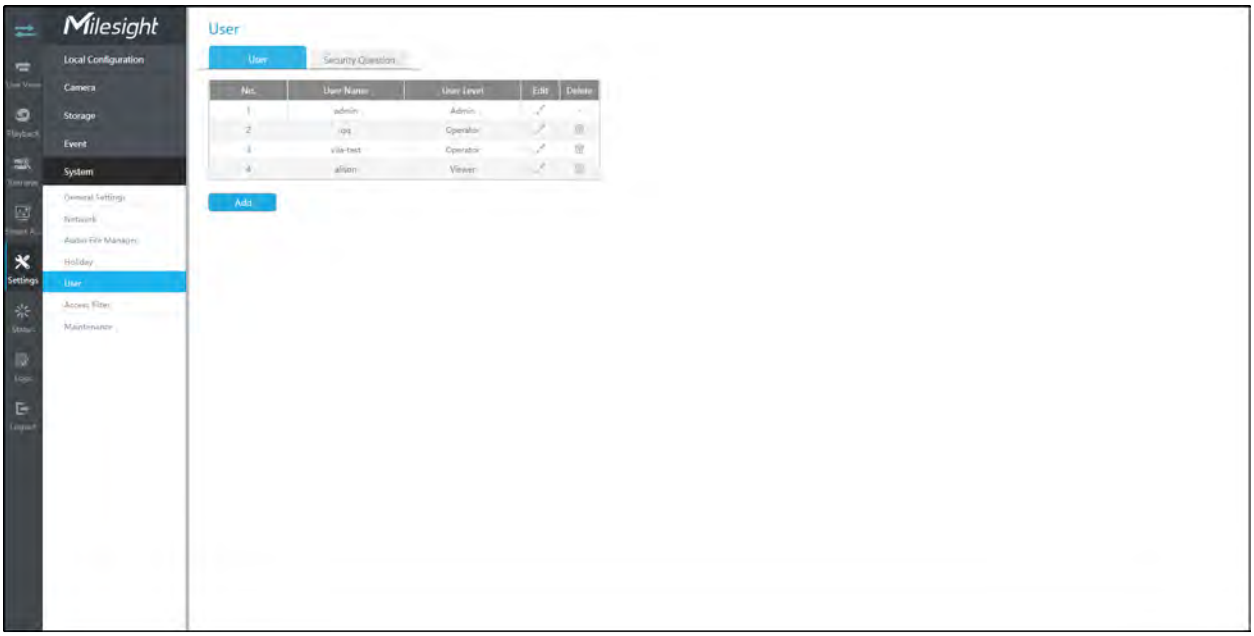
It can configure the record or image capture schedule for holidays of the current year.



Click to edit holiday information, including Holiday Name, Holiday Enable, Style, Start Date and End Date. Then click "OK" to save the configuration.



3.9.6 User

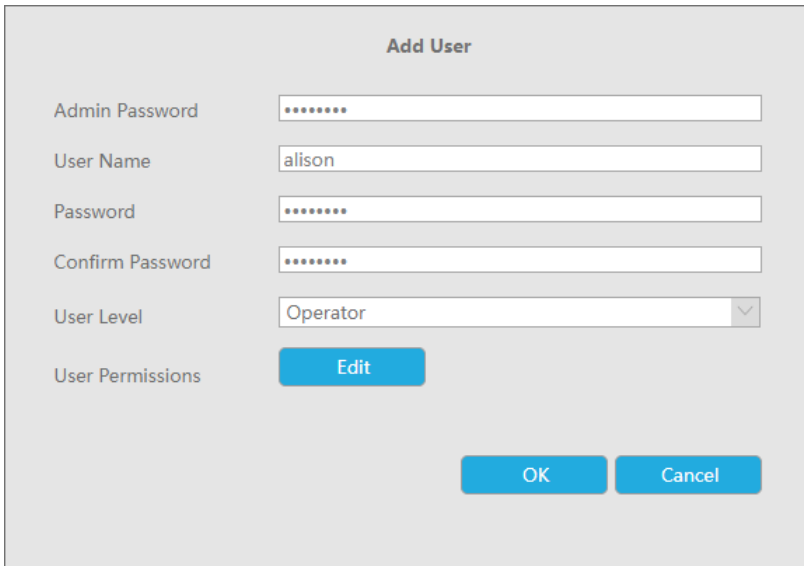


Note:

1. If the NVR firmware version is below xx.7.0.6, the default user name is “admin” and the default password is “123456”.
2. If the NVR firmware version is between xx.7.0.6 and xx.9.0.3, the default user name is “admin” and the default password is “ms1234”.
3. If the NVR firmware version is xx.9.0.3 or above, please set the password before login.

Add a new user

Click "Add", input user information, then click "Edit" to configure the user permission, and click "OK" to add a new user.



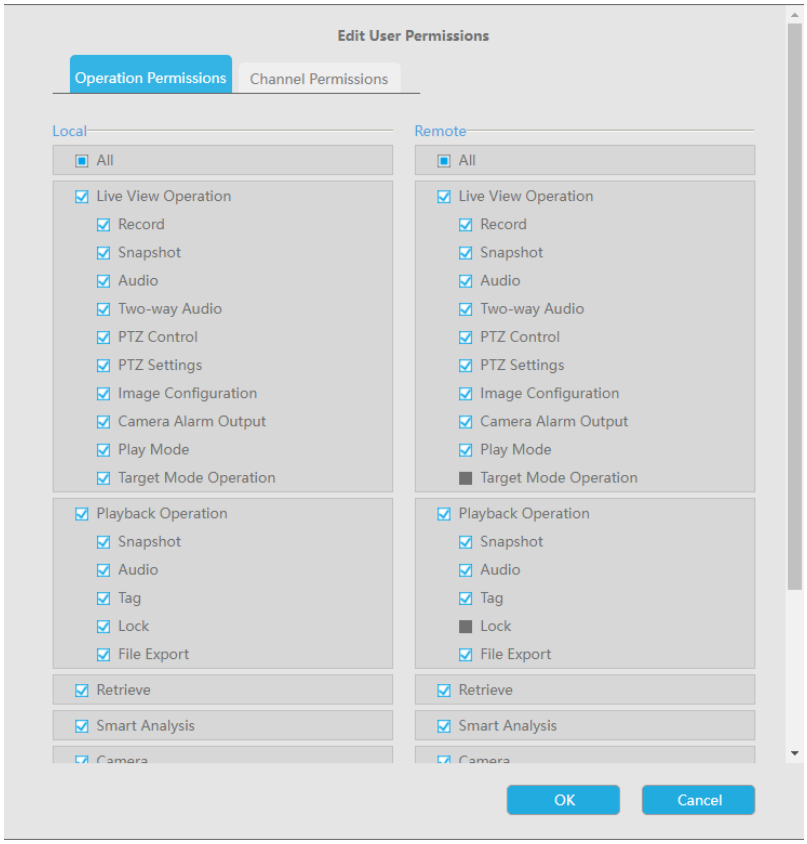
Note:

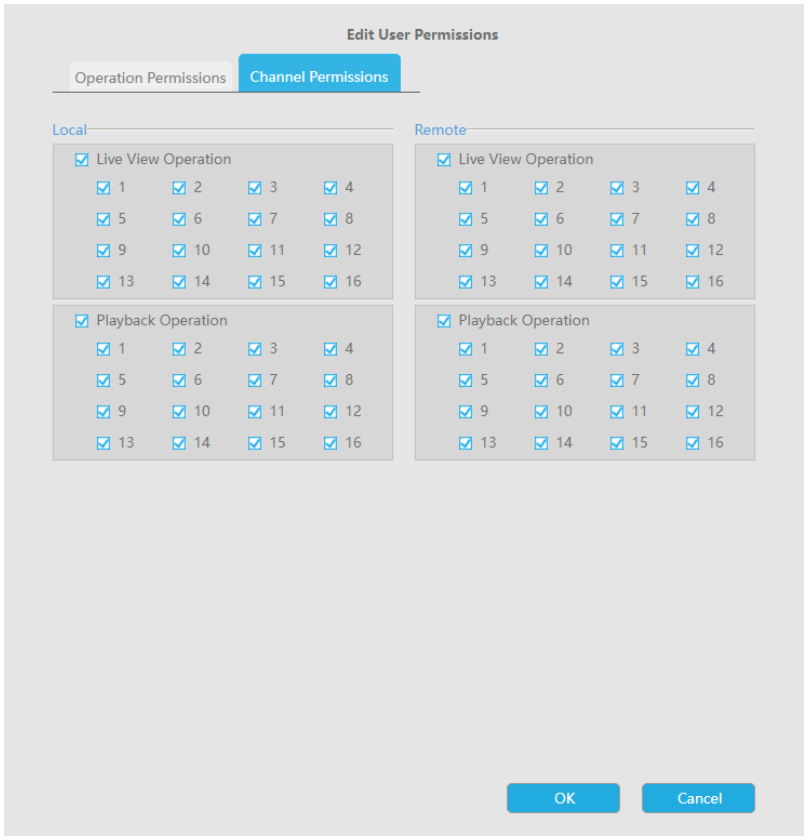
1. The user name can only contain letters and number. There are two user levels with different authority: Operator and Viewer.

Edit user limits

Select a user, when the background color changes into dark gray, click to edit user permissions. User Permissions include Operation Permissions and Channel Permissions.

- “Local” means that the privilege to the monitor connected with NVR.
- “Remote” means that the privilege to web settings.

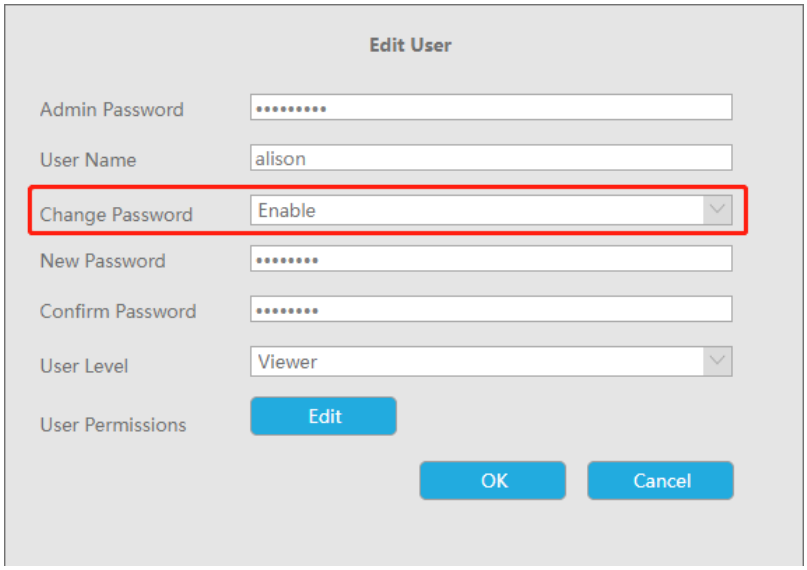

Edit User Permissions
Operation Permissions
Channel Permissions
Local
All
Live View Operation
Record
Snapshot
Audio
Two-way Audio
PTZ Control
PTZ Settings
Image Configuration
Camera Alarm Output
Play Mode
Target Mode Operation
Playback Operation
Snapshot
Audio
Tag
Lock
File Export
Retrieve
Smart Analysis
Remote
All
Live View Operation
Record
Snapshot
Audio
Two-way Audio
PTZ Control
PTZ Settings
Image Configuration
Camera Alarm Output
Play Mode
Target Mode Operation
Playback Operation
Snapshot
Audio
Tag
Lock
File Export
Retrieve
Smart Analysis
OK
Cancel


Edit User Permissions
Operation Permissions
Channel Permissions
Local
Live View Operation
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
Playback Operation
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
Remote
Live View Operation
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
Playback Operation
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
OK
Cancel

Edit user password

Select a user, when the background color changes into dark gray, click to modify password after enabling Change Password. You can also click "Edit" to set Unlock Pattern after enabling Unlock Pattern.

Sync new password to current connected PoE channels is available for PoE NVR Series.

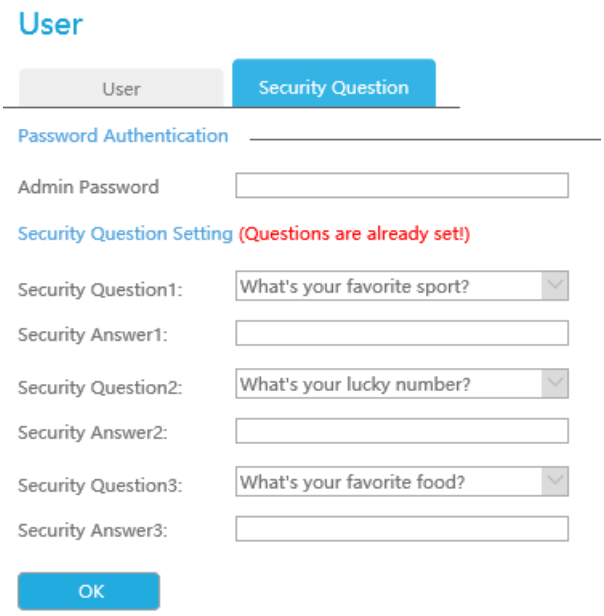


Delete user

Select a user and click to delete a user.

Modify Security Question

Input Admin Password, select security question and answer. Click "Apply" to save.



Note:

1. This option is available for the NVR firmware version xx.9.0.3 or above.
2. Security question is used for resetting admin password if you forget current one.

3.9.7 Access Filter

Enable Access Filter to restrict or open the access to device address added via IP or MAC.

Step1.Enable Access Filter.

Step 2.Select Filter Type.

There are two options: Deny and Allow.

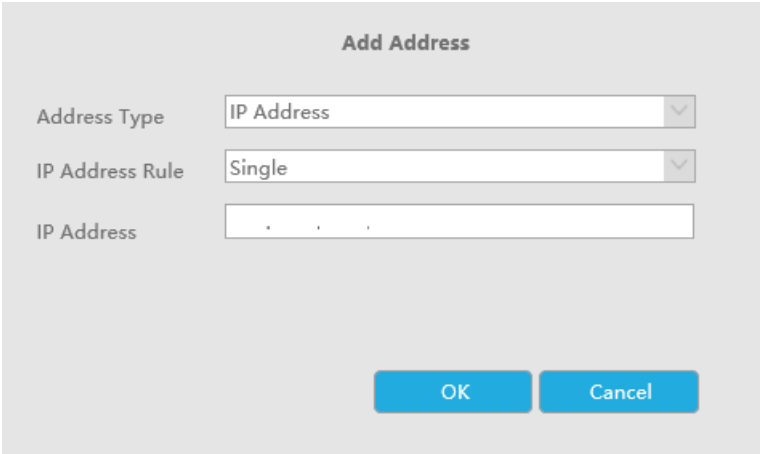
Deny: Only restrict the access to the added device address.

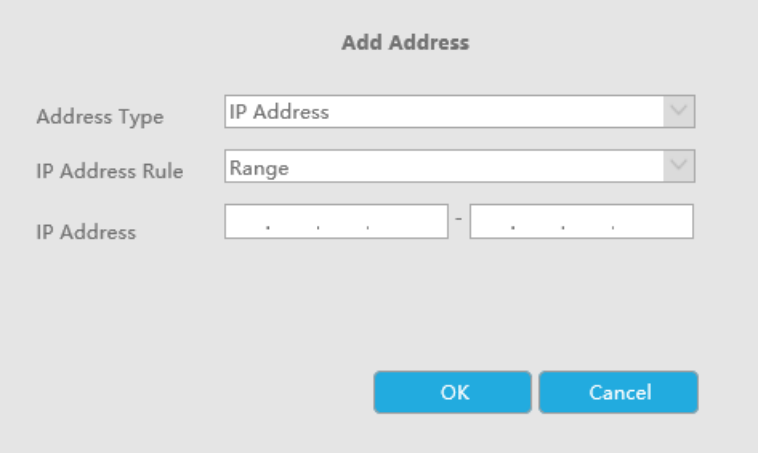
Allow: Only open the access to the added device address.

Step 3.Add Address.

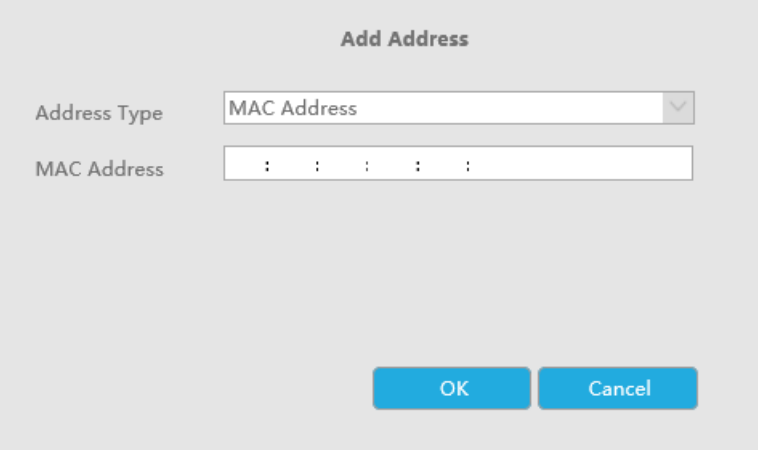
Click "Add" to add device address. You can add the address via IP or MAC.

Method 1: Add the address via IP. You can choose the IP address rule according to your needs. There are two rules: Single and Range.



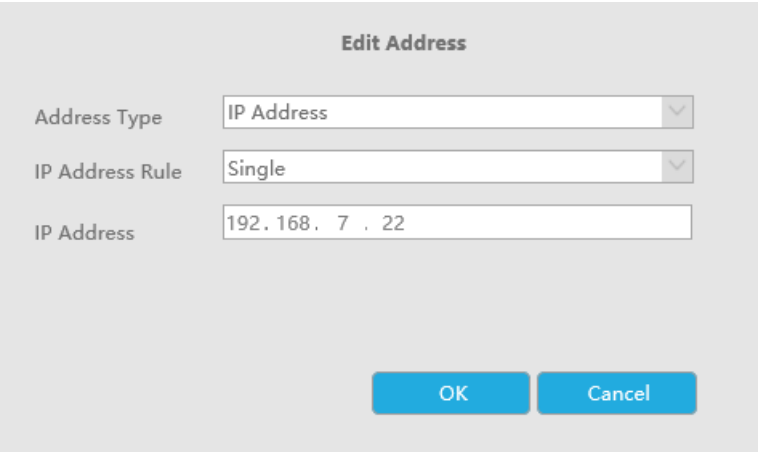


Method 2: Add the address via MAC.



Step 4. Then click "Apply" to make Access Filter effective.

You can click in the Access Filter interface to edit the corresponding address again.

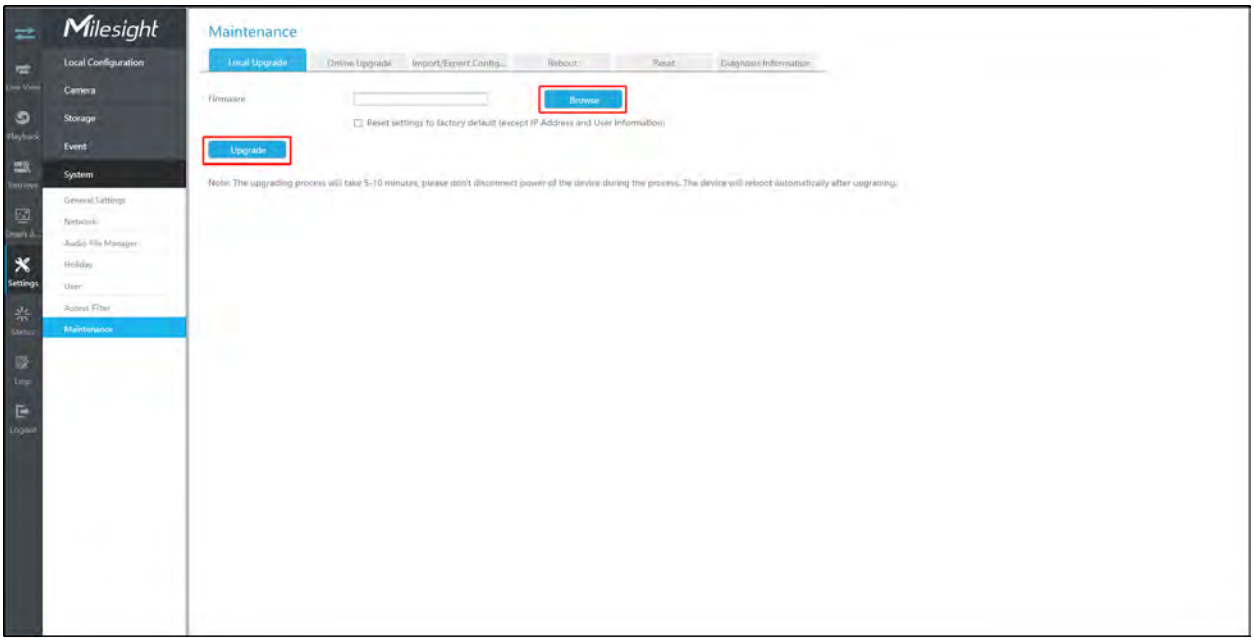


Note:

- If Access Filter is enabled and Filter type is Allow, but no address is added to the table, then no address is allowed to Access the NVR.
- If Access Filter is enabled and Filter type is Deny, but no address is added to the table, then all addresses are allowed to Access the NVR.

3.9.8 Maintenance

Local Upgrade



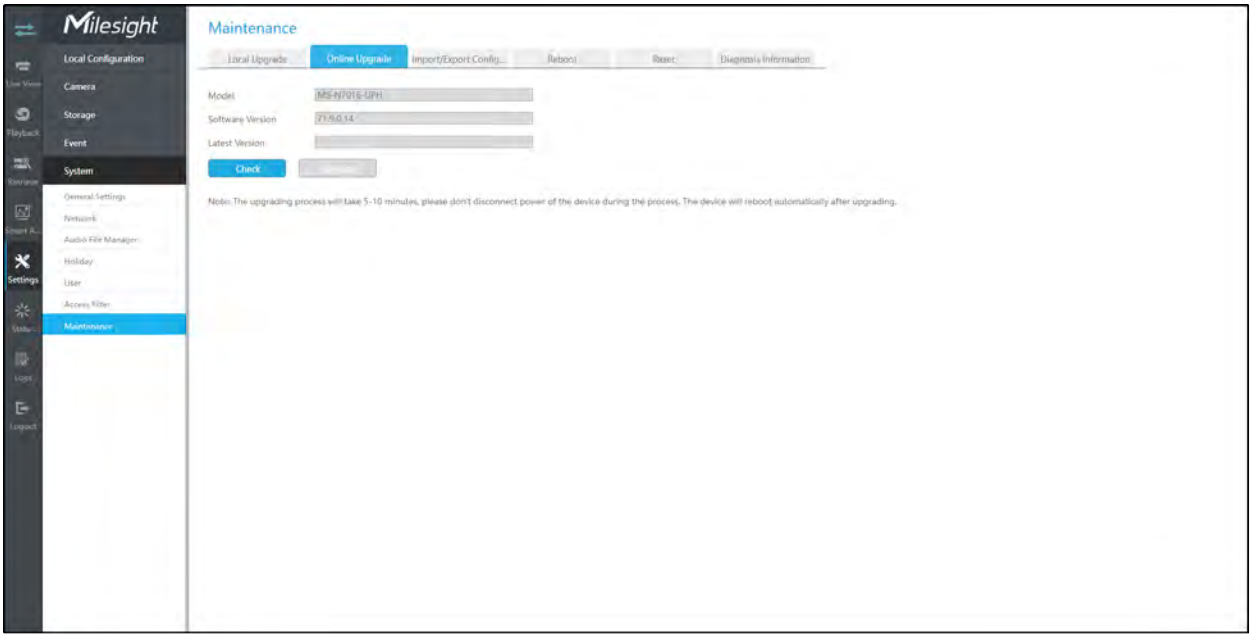
Step1. Click "Browse" and select the corresponding firmware you downloaded in your USB;

Step2. Check if you need to reset settings to factory default (except IP Address and User Information) after upgrade;

Step 3. Click "Upgrade" to confirm the upgrade.

Note: The system will auto reboot after confirming upgrade.

Online Upgrade



Step1. Click "Check" to confirm whether there is a new version;

If there is a new version, the Latest Version column will display corresponding information.

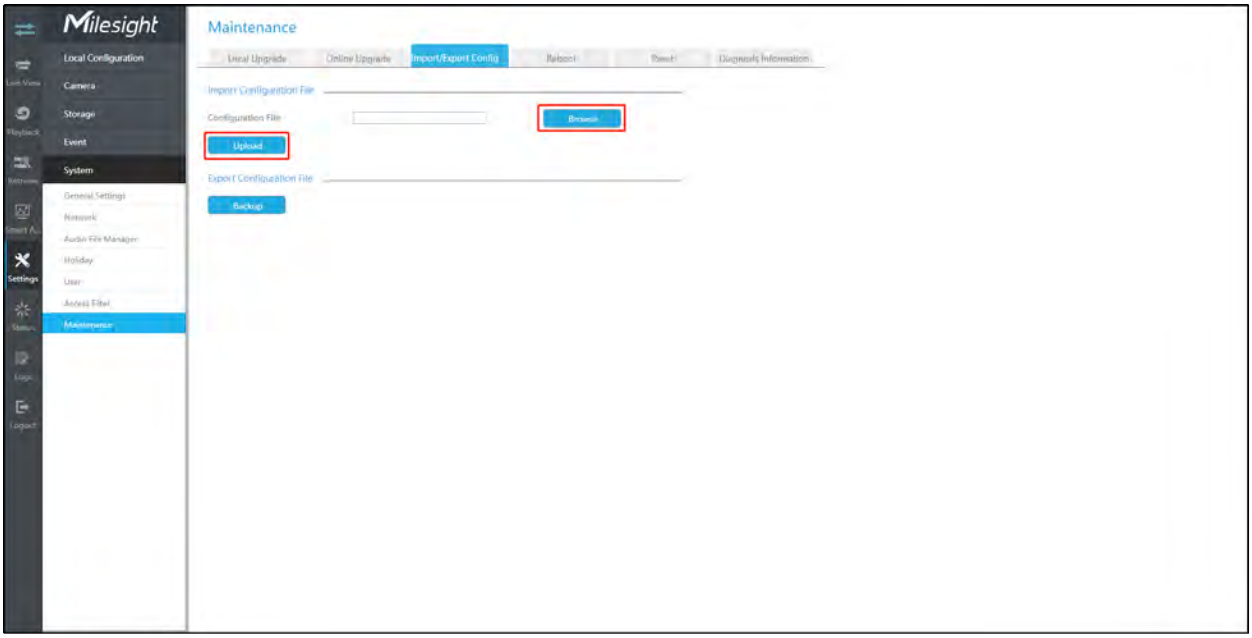
Step2. Click "Upgrade" to confirm the upgrade.

Note: The system will auto reboot after confirming upgrade.

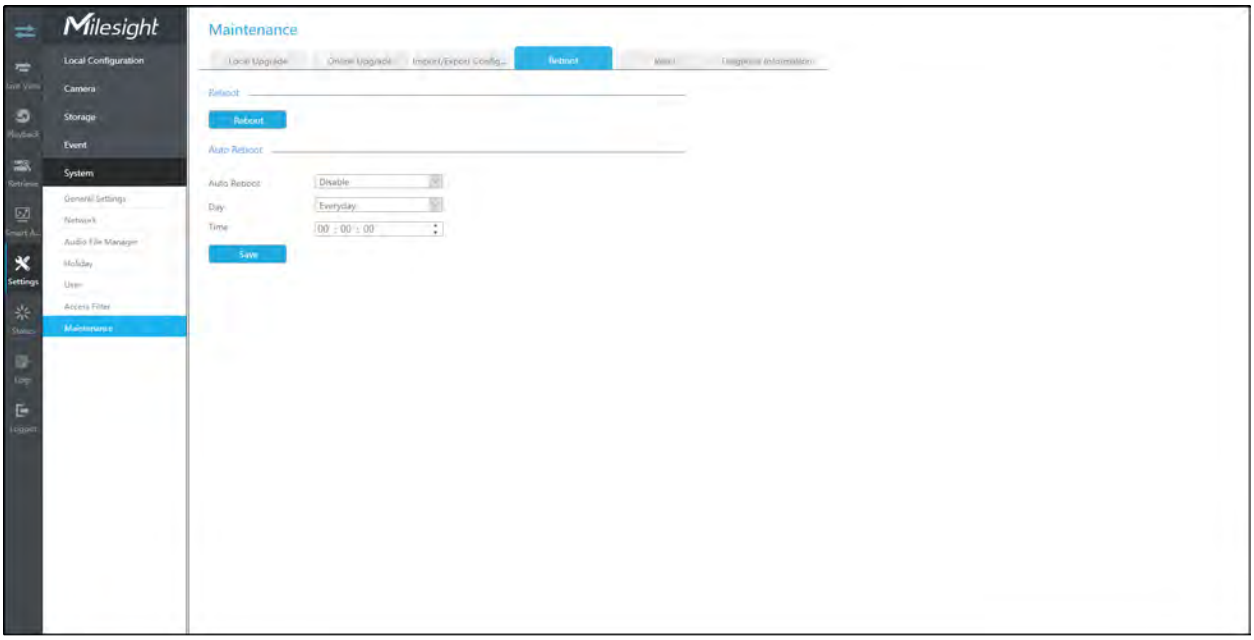
Import/Export Configuration

Import Configuration File: Select a .cfg file and then click "Restore" to import configuration to your NVR.

Export Configuration File: Select a folder and then click "Backup" to export configuration to USB device.



Auto Reboot



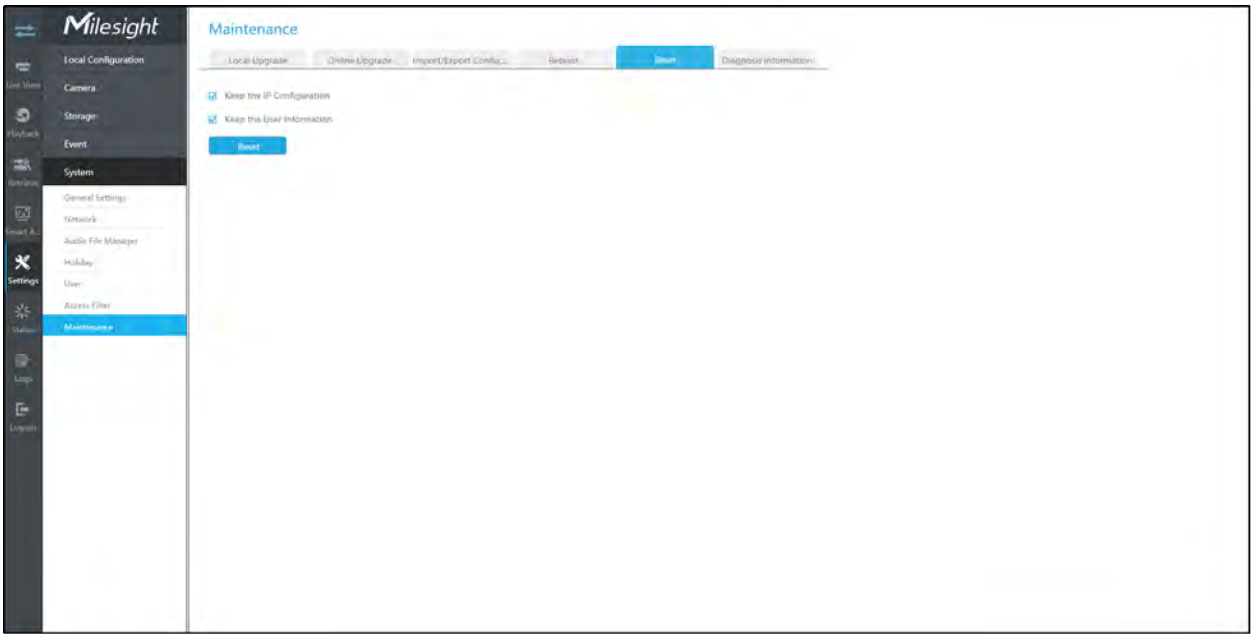
You can set day and time for reboot, and **the NVR will reboot automatically at the time you set.**

Day: Everyday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday.

Time: Adjustable range from 00:00:00 to 23:59:59.

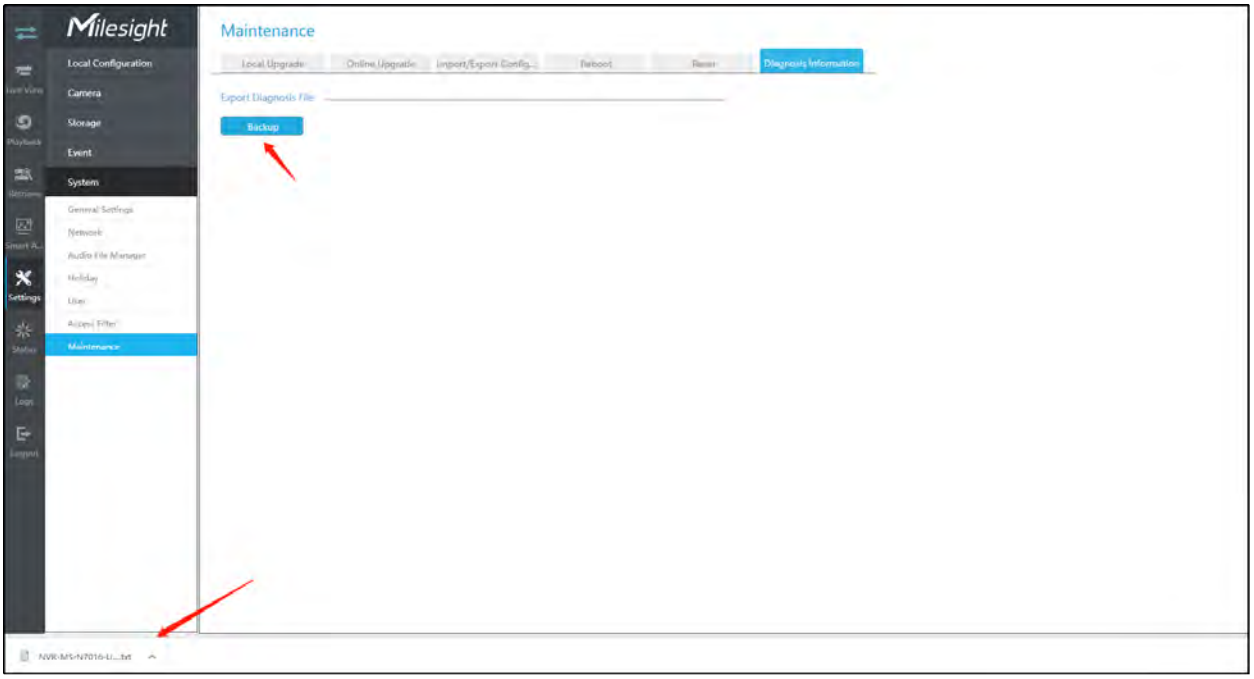
Reset

All parameters can be reset to default settings by clicking "Reset".



Diagnosis Information

Click "Browse" to select the path to save the diagnosis file on the USB device. And then click "Backup" to export the diagnosis file.



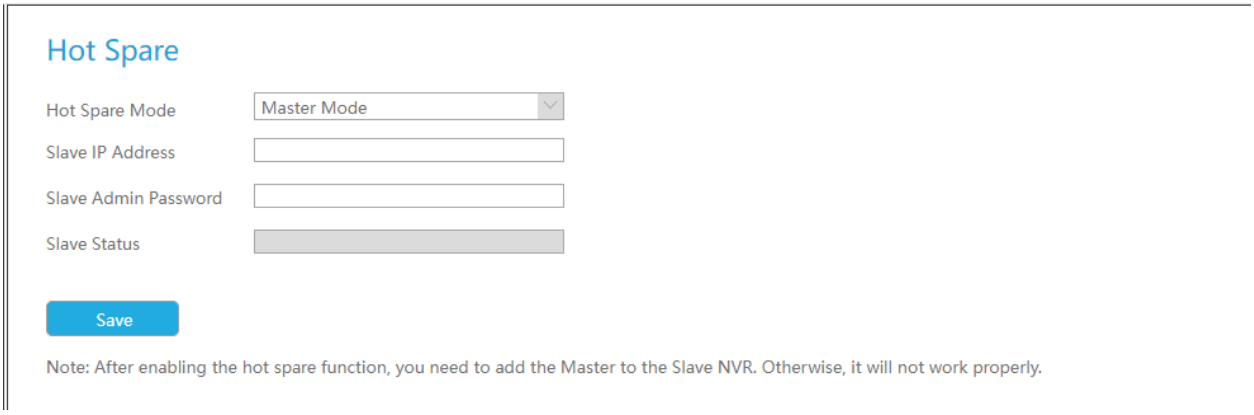
3.9.9 Hot Spare

Configured as the architecture of N pcs Master NVRs and 1 hot spare Slave NVR, N+1 Hot Spare guarantees the data integrity and reliability of video surveillance system. If any one of the Master NVRs fails, the Slave NVR can take over the channel information to ensure video recording. Meanwhile, when the failed NVR recovered, the Slave NVR will send the recorded data back.

Master Mode:

Step 1: Select Master Mode as Hot Spare Mode.

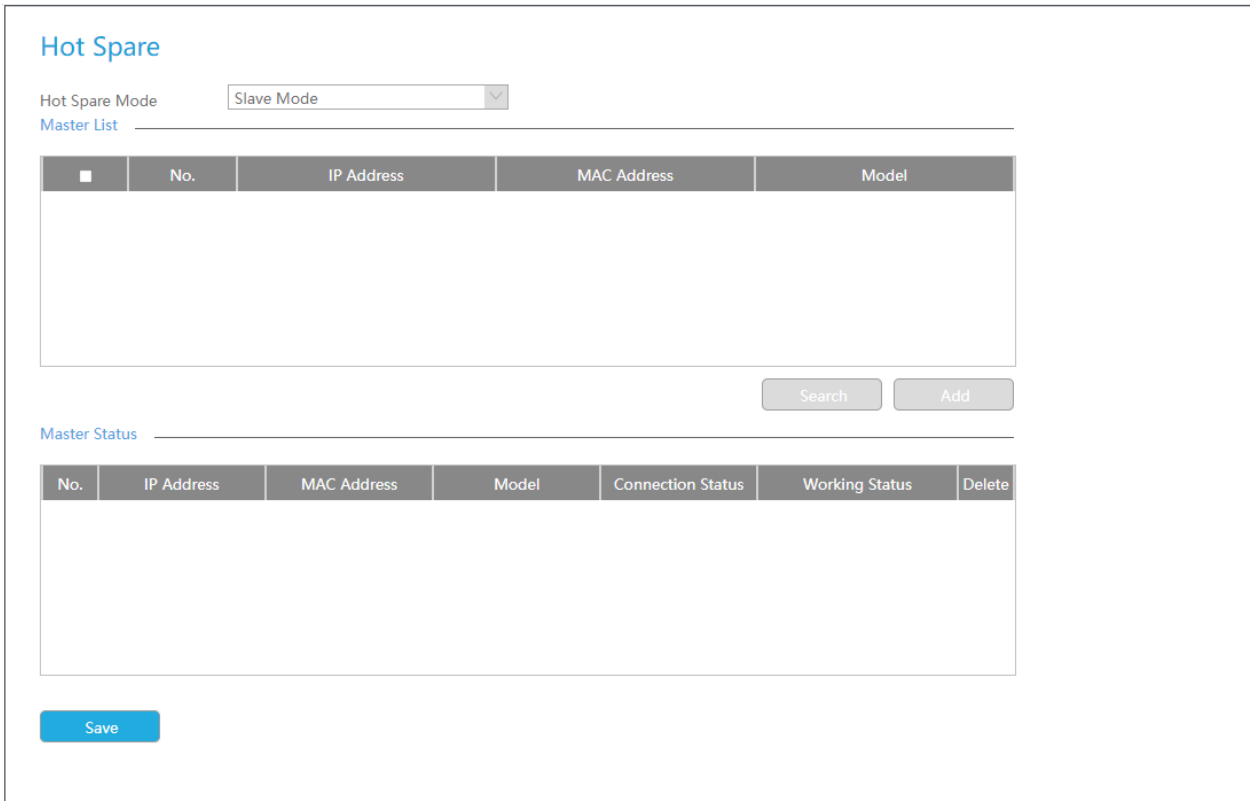
Step 2: Input Slave IP Address, Slave Admin Password and Apply.



Slave Mode:

Step 1: Select Slave Mode as Hot Spare Mode and click Apply. NVR will change to Slave mode successfully after rebooting.

Step 2: Add Master which is up to 32.

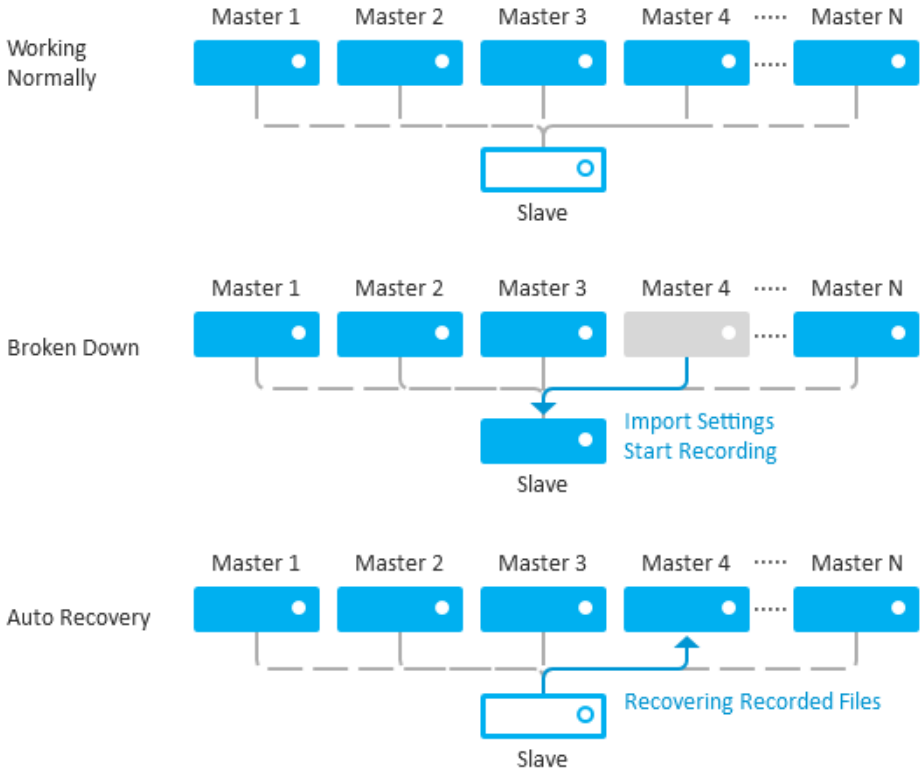


For example, there are three NVRs in LAN, 192.168.5.200, 192.168.5.201 and 192.168.5.202.

If you want to set 192.168.5.200 and 192.168.5.201 as Master NVR, and set 192.168.5.202 as Slave NVR. You can operate as following steps.

- Set 192.168.5.200 and 192.168.5.201 to Master Mode. And then input the IP and account information of 192.168.5.202 as Slave.
- Set 192.168.5.202 to Slave Mode. And then add 192.168.5.200 and 192.168.5.201 to its Master List.

After Master and Slave match successfully, Hot Spare function begins to work.



Note:

1. Only MS-N7016-UH, MS-N7032-UH, MS-N8032-UH and MS-N8064-UH support N+1 Hot Spare function.
2. It is recommended to set Master NVR and Slave NVR up with the same NVR model.

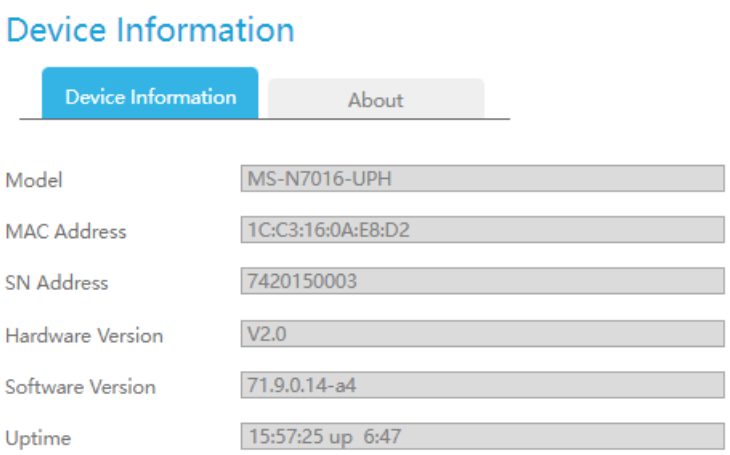
3.10 Status

You can have a quick view of the information of the device, network, camera, disk and event. This part is only for your rapid reference. If you want to make any configuration, please go to corresponding parts accordingly.

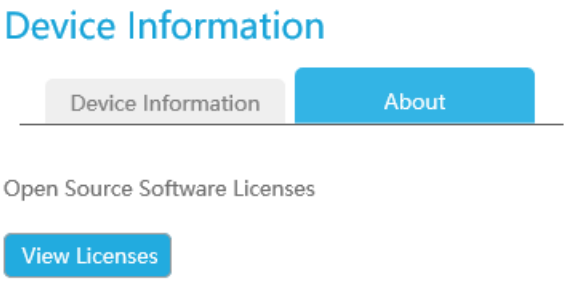
3.10.1 Device Information

Device Information

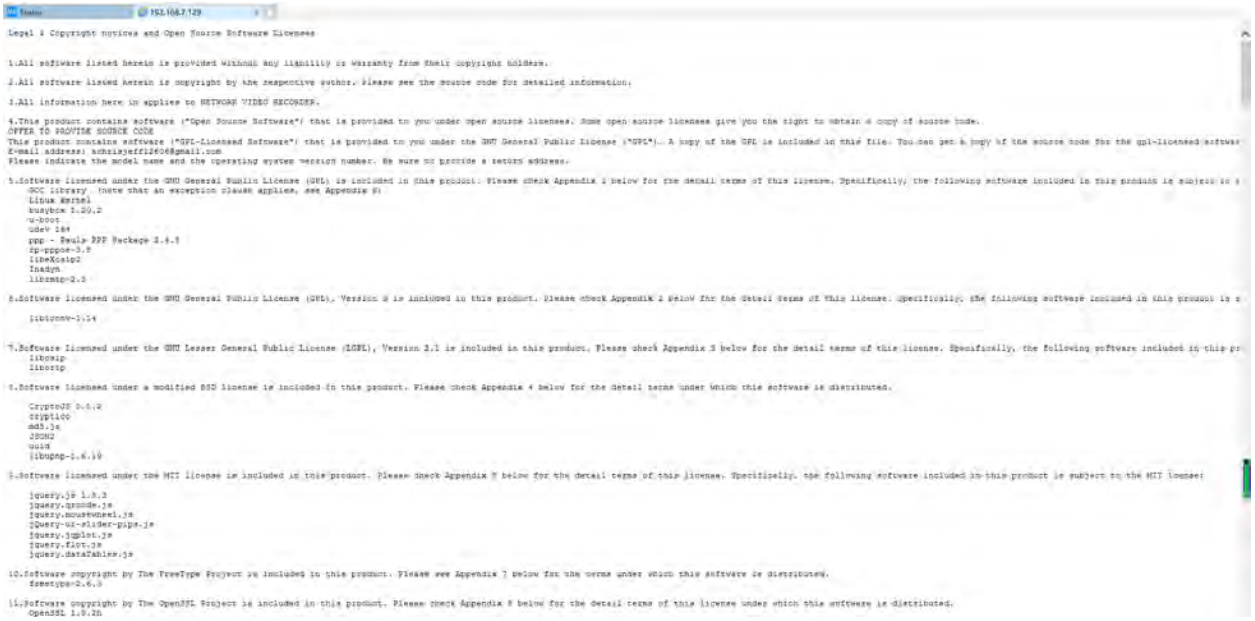
Device Information include Model, MAC Address, SN Address, Hardware Version, Software Version, and Uptime.



About



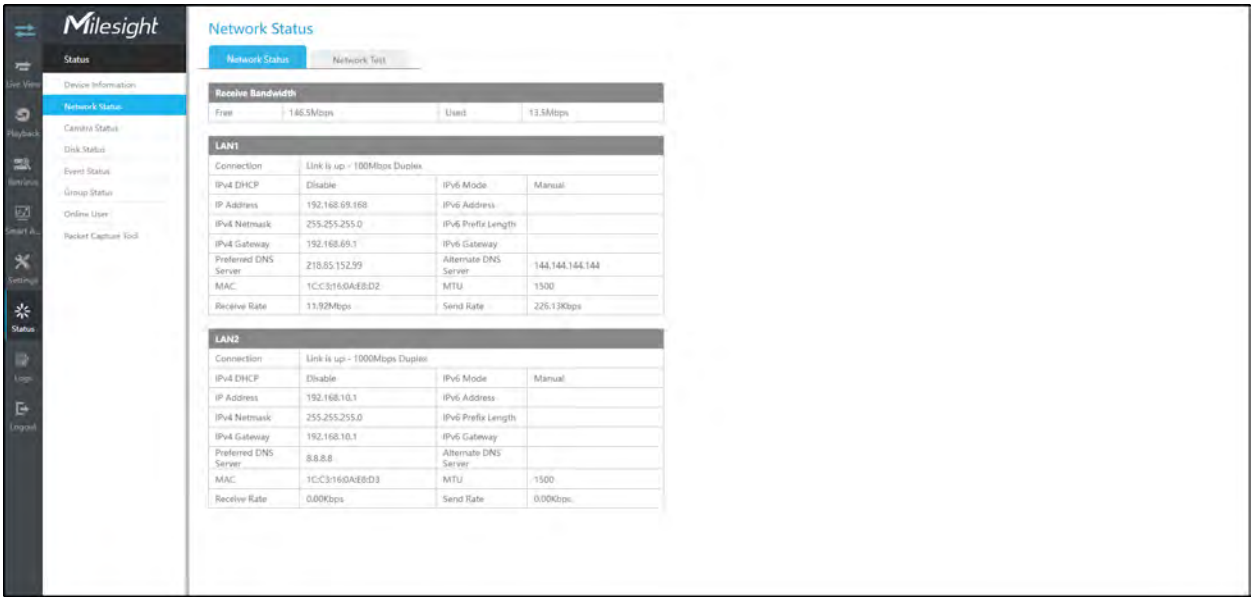
Click "View Licenses" to jump to the web link that shows the Open Source Software Licenses.



3.10.2 Network Status

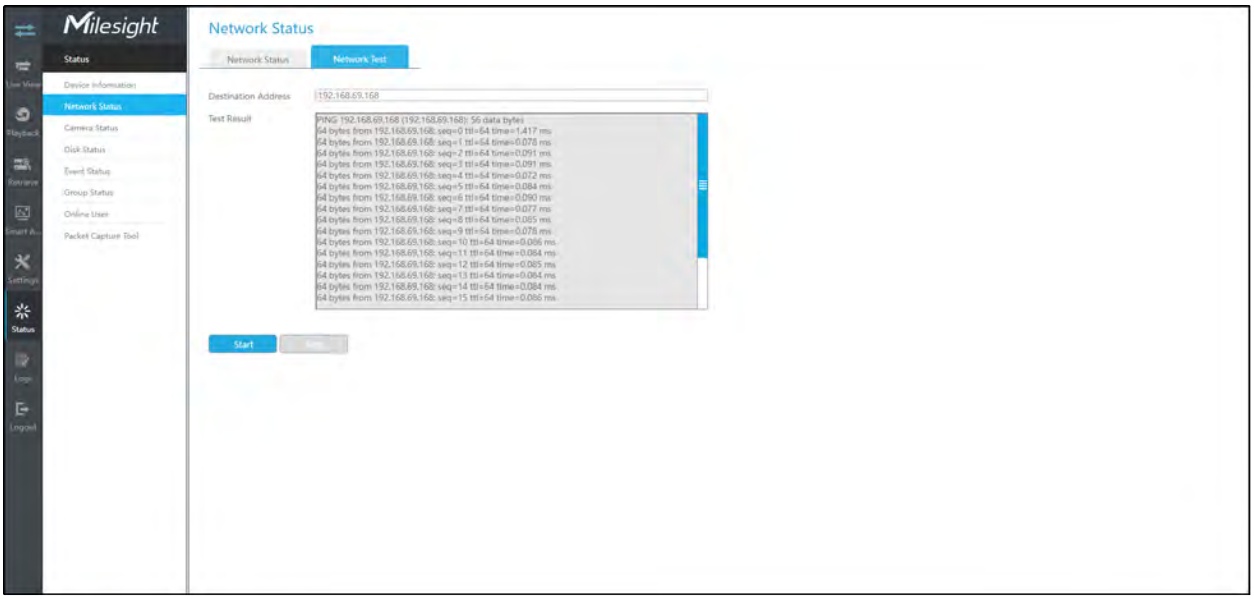
Network Status includes three main parts: Network Status and Bandwidth Status.

Network Status



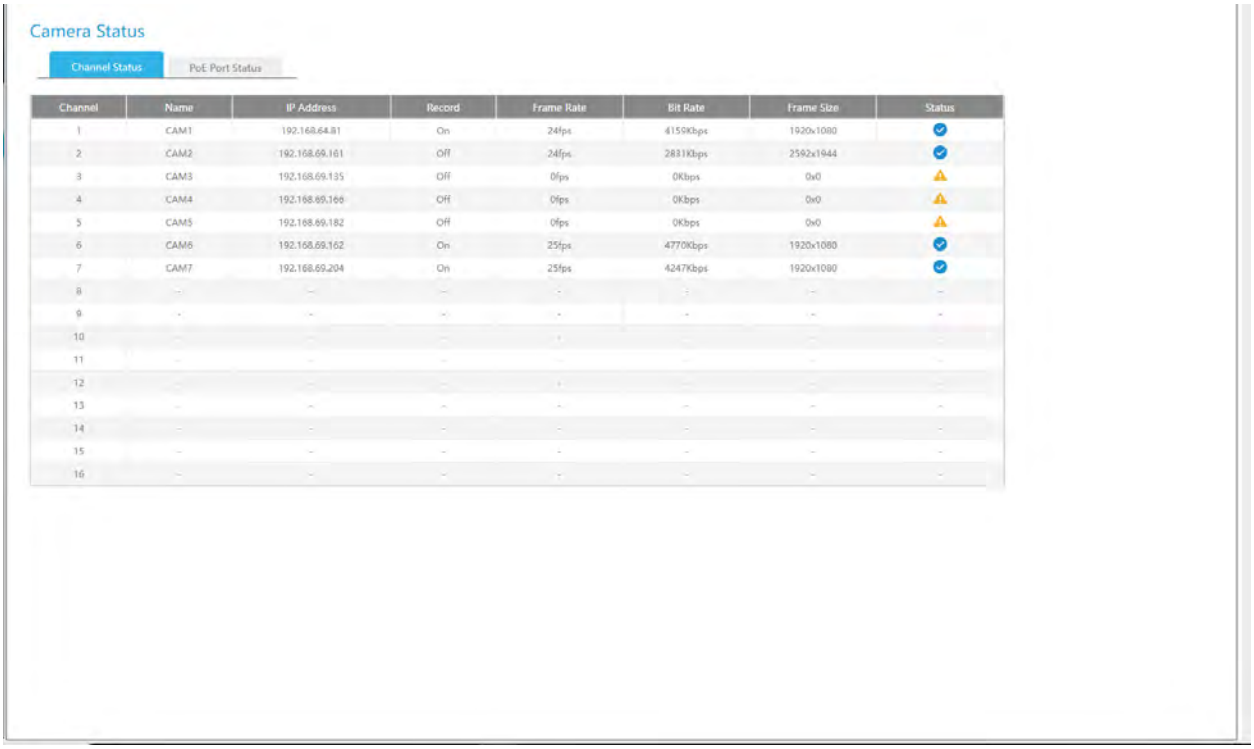
Network Test

Users can quickly know the network status between the NVR and the destination address such as the camera or computer.

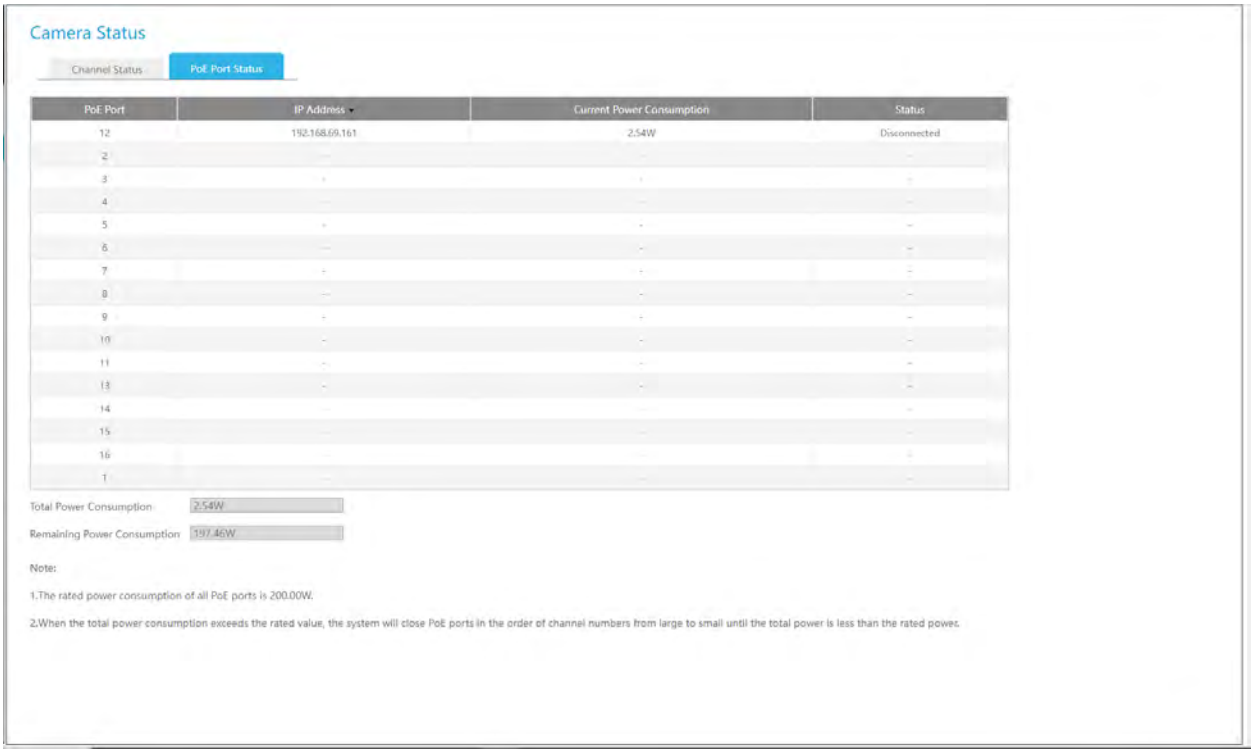


3.10.3 Camera Status

Channel Status includes Channel, Name, IP Address, Record, Frame Rate, Bit Rate, Frame Size and Status.



The PoE Port Status is only for PoE NVR, it will show you the current power and connection status of PoE ports.



3.10.4 Disk Status

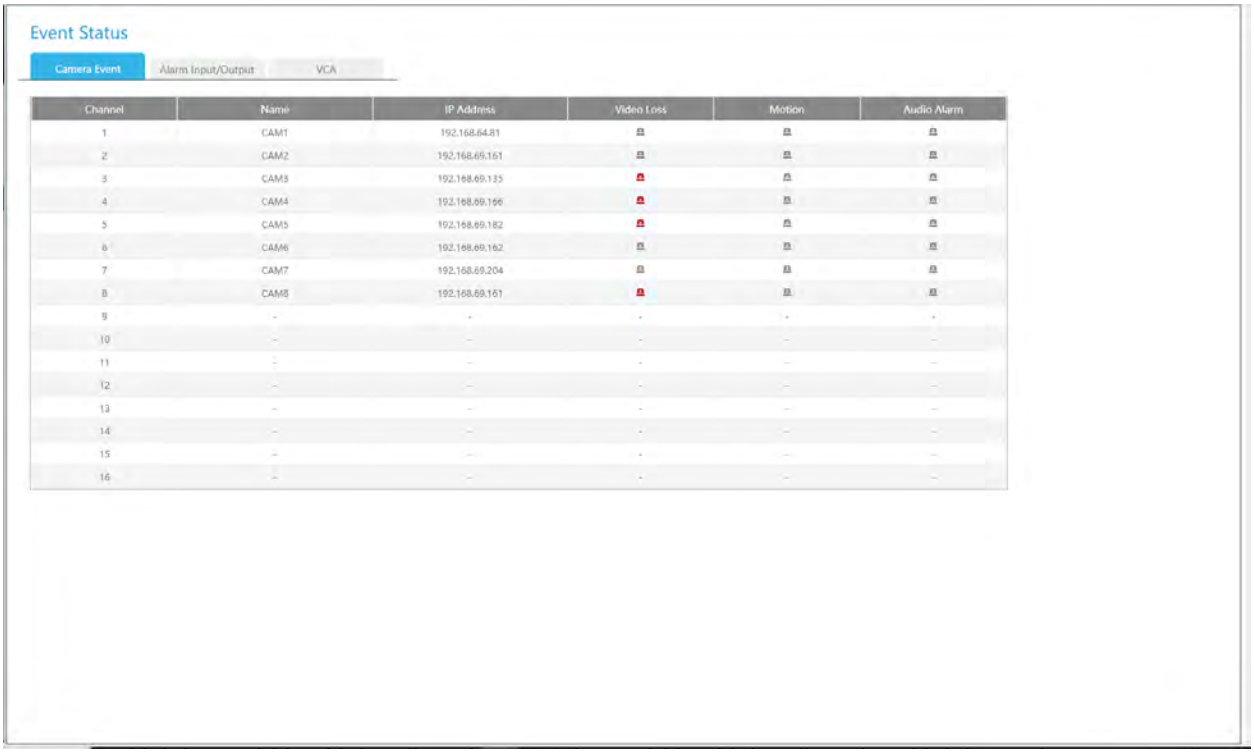
Disk Status

Disk Status includes Port, Vendor, Status, Total(GB), Free(GB), HDD Type and Group. The user can see the Total Capacity (GB) and Available Capacity (GB) as well.

3.10.5 Event Status

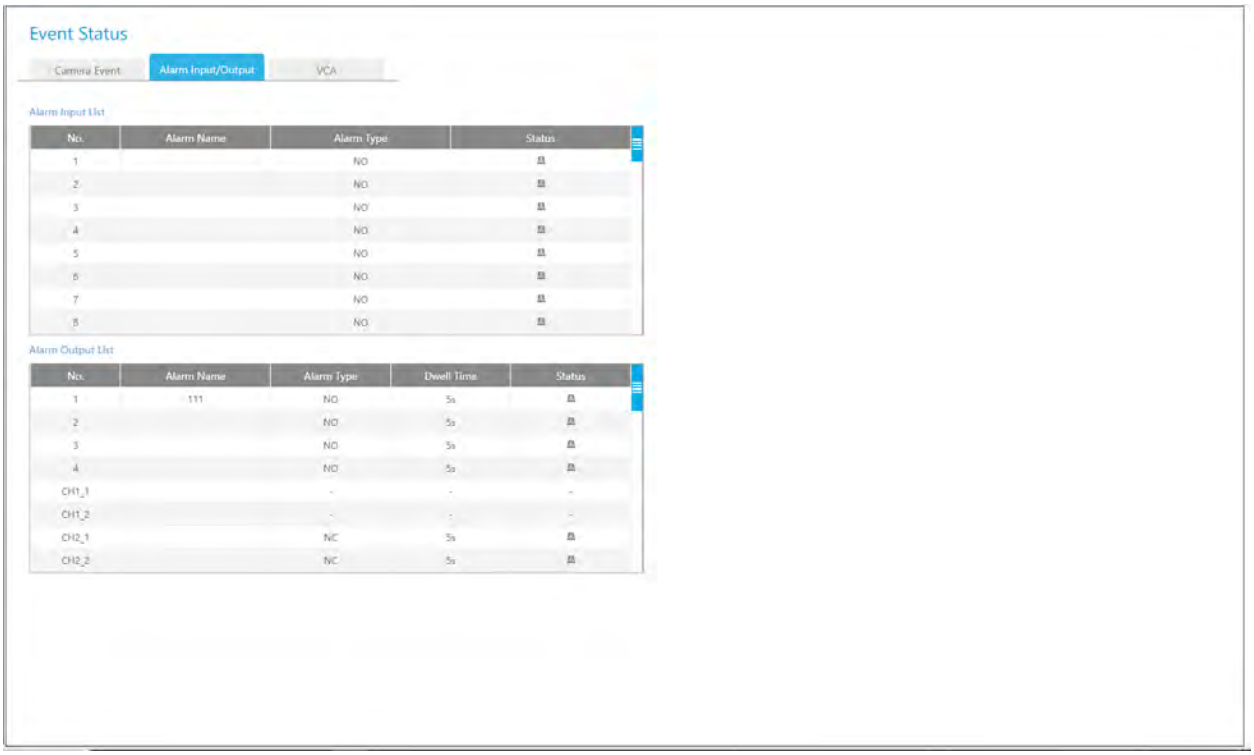
Camera Event

The user can check Camera Event here, including Video Loss, Motion and I/O. will turn into when the corresponding alarm is triggered.



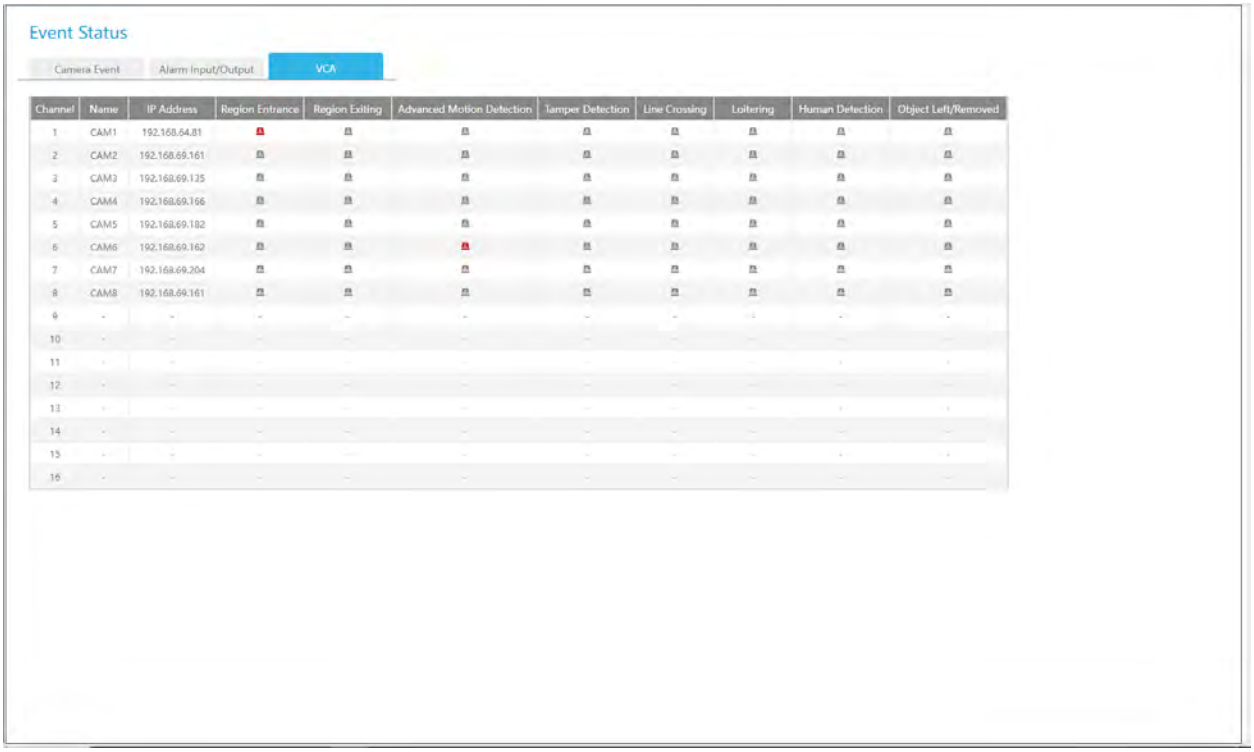
Alarm Input/Output

The user can check Alarm Input and Output list here if NVR has corresponded interface. will turn into when the corresponding alarm is triggered. For NVR alarm input or output, the relevant alarm input or output will be firstly listed, such as, 1, 2.etc, as for camera alarm input or output, it will display as CHx_x (such as CH1_1) according to the camera channel and corresponding alarm number.



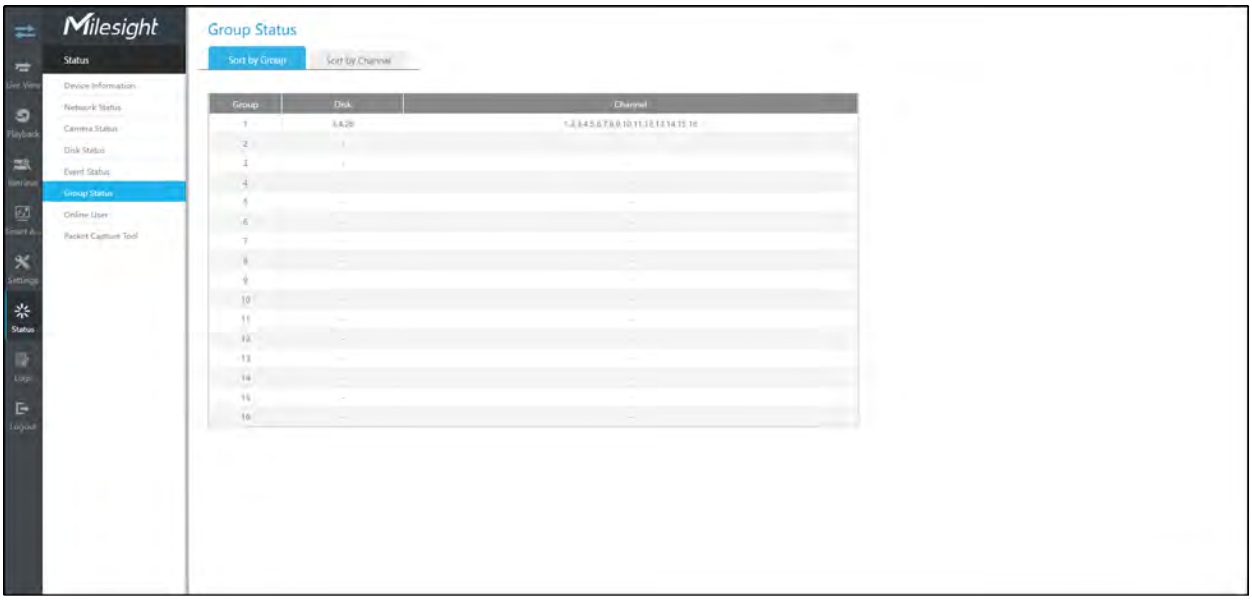
VCA

It shows the VCA status. will turn into when the corresponding alarm is triggered.



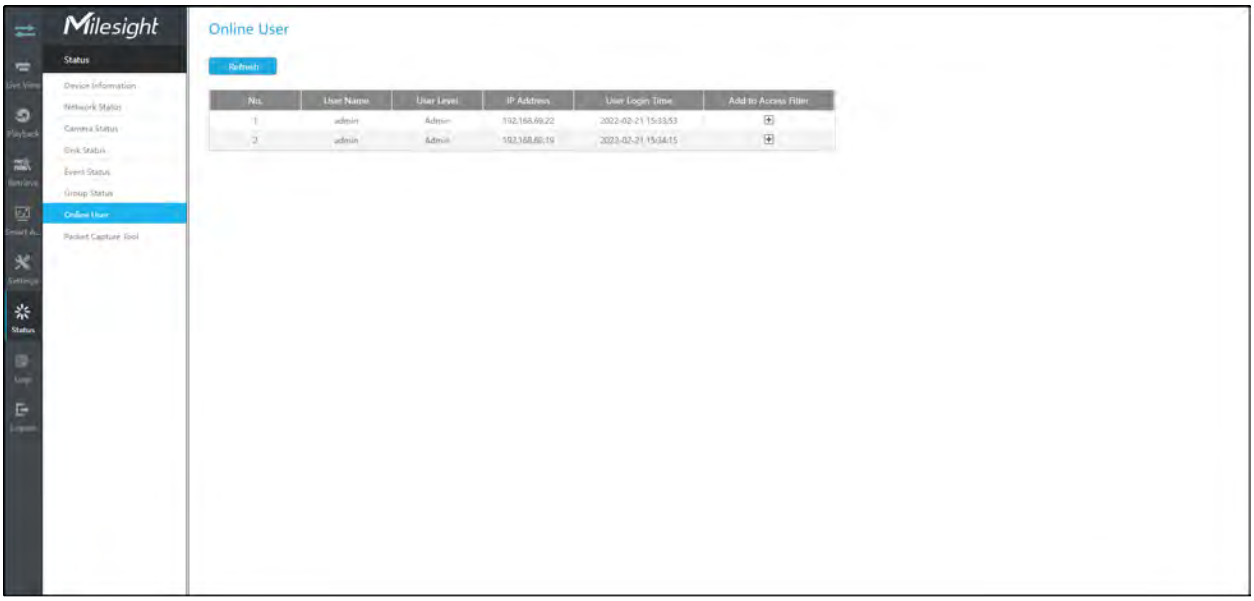
3.10.6 Group Status

Check Group Status. The status of the all created Groups can be sorted by Group or Channel.

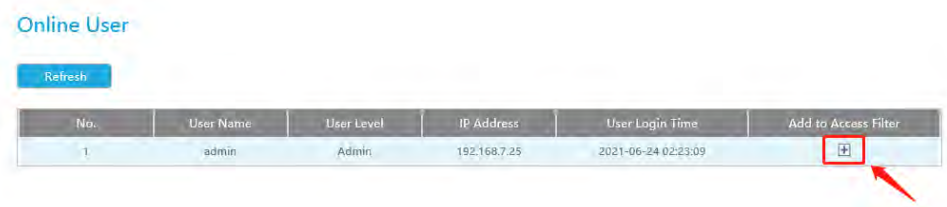


3.10.7 Online Users

Users who are remotely connecting to the NVR in real time can be listed in Online users interface. The list includes User Name, User Level, IP Address and User Login Time.



The IP address can be added to Access Filter interface from Online User interface directly.



3.10.8 Packet Capture Tool

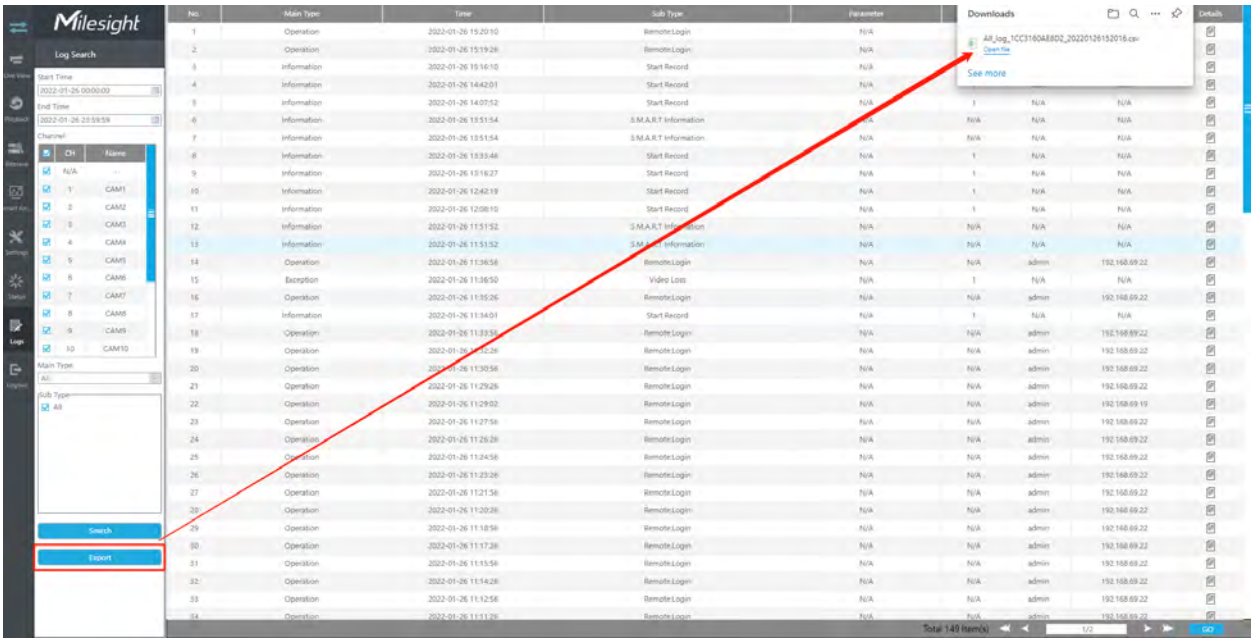
Input IP, Port and select a path, then click [Start] to start capture and click [End]to stop. The captured package will be saved in the selected path.

Note: It is recommended to capture packets not more than 3 minutes on the local monitor side.

3.10.9 Logs

The user can check, search and export logs in Logs interface. By selecting the Start Time, End Time, Channel, Main Type and Sub Type, which can narrow down the scale of logs, you can search for logs that you need.

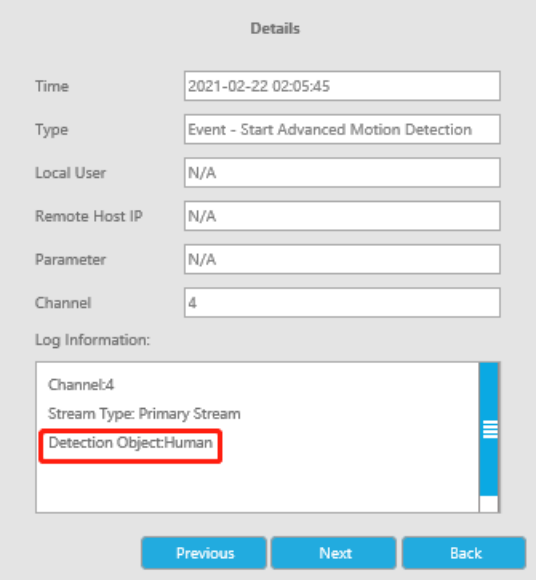
Click "Export" to export searched logs to media device.



In particular, for the following types of events, the Information about detection object that triggers the event is displayed in the Log Information.

- Region Entrance
- Region Exiting
- Advanced Motion Detection
- Line Crossing

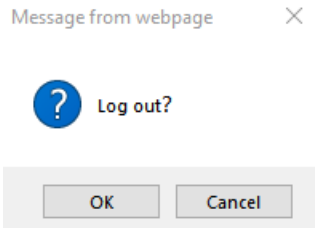
• Loitering



3.11 Logout

Click

to exit the current account.



Chapter 4. Services

Milesight provides customers with timely and comprehensive technical support services. End-users can contact your local dealer to obtain technical support. Distributors and resellers can contact directly with Milesight for technical support.

Technical Support Mailbox: support@milesight.com

Web: http://www.milesight.com

Online Problem Submission System: http://www.milesight.com/support/feedback.asp

MILESIGHT USA

TEL: +1-800-561-0485

Add: 220 NE 51st ST, Oakland Park, Florida 33334, USA

MILESIGHT KOREA

TEL: +82-2-839-3335

Add: 9F/925, 25-32, Anyang SK V1 Center, LS-ro 116beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, Korea

MILESIGHT CHINA

TEL: +86-592-5922772

Add: Building C09, Software Park Phase III, Xiamen 361024, Fujian, China