

CMS User Manual

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Chapter 1. Copyright Statement

This manual may not be reproduced in any form or by any means to create any derivative such as translation, transformation, or adaptation without the prior written permission of Xiamen Milesight IoT Co., Ltd(Hereinafter referred to as Milesight).

Milesight reserves the right to change this manual and the specifications without prior notice. The latest specifications and user documentation for all Milesight products are available on our official website www.milesight.com.

Chapter 2. Introduction

1.1 Introduction

The Milesight Central Management System(hereinafter referred to as CMS) software allows you to access and control your Milesight High Definition Surveillance System. The Milesight CMS provides multiple operating functionalities, including Live View, PTZ control, Fisheye control, video playback, motion detection, alarm receiving, logs and so on.

This user manual describes the function, configuration and operation steps of CMS. To ensure the proper use and stability of the CMS, please refer to the contents below and read the manual carefully before operation.

The latest version of the software will be available on our official website. Please check our official website www.milesight.com for upgrading.

1.2 Key Feature

- A central management system for Milesight cameras and Milesight NVRs
- User-friendly UI design
- Support adding 256 devices(Include camera and NVR)
- Support alarm pop-up window
- Support multiple monitors
- Support 1/ 4/ 8/ 9/ 16/ 36/ 64 / 128/ 256 channels playing synchronously
- Support the custom live view layout
- Support alarm screen for displaying the alarm channel
- Support full screen for single or multiple channels
- Support H.265/H.264 video compression
- Support dual-stream
- Support Event Playback and Picture Playback
- Support Transcoding for remote playback
- Support P2P remote access and configuration.
- Support Milesight DDNS
- Support PTZ control and digital zoom
- Support SD card and HDD recording files playback
- Support motion detection, alarm recording and image capture functions
- Support VCA(Video Content Analysis)
- Support the NVR ANPR (Automatic Number Plate Recognition) and camera LPR (Lisence Plate Recognition) function

- Activate cameras and NVRs when using them for the first time
- Support People Counting solution
- Support Client-side Dewarping in Live View and Playback interface
- Support Smart Search function in the playback interface.
- Support Remote Maintenance of Milesight devices.

1.3 Recommended System

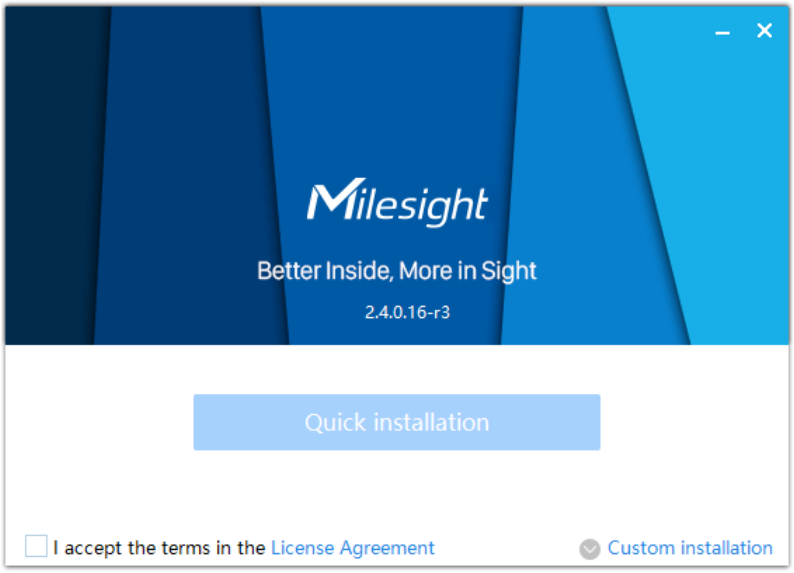
- OS: Windows 7/8/10/11/Vista/Server 2008/Server 2012
- CPU: 3GHZ or faster
- Memory: 16GB or more
- Graphic memory: 8GB or more

Chapter 3. Installation

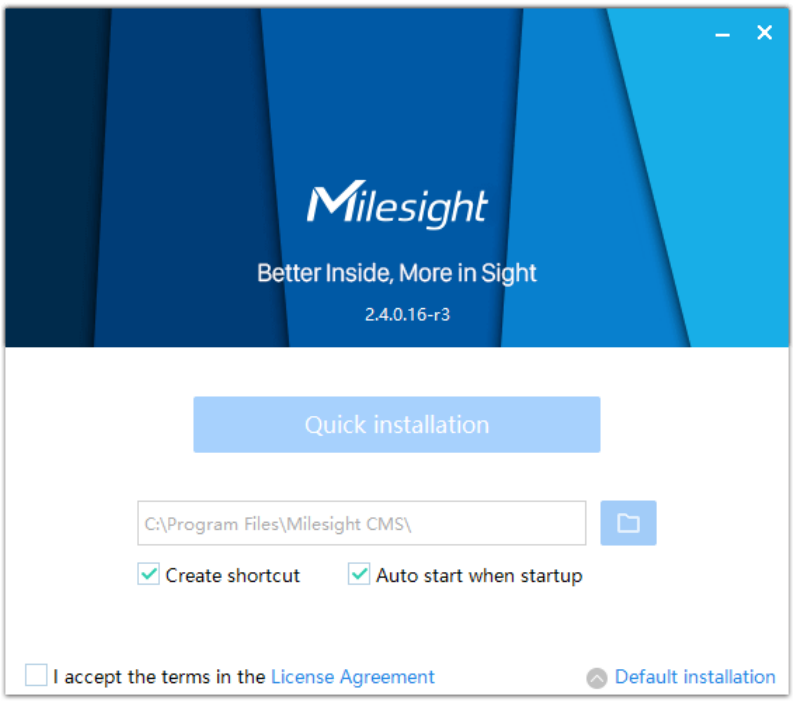
2.1 Installation Guide

Run the installation file and install the programs on your computer by following the on-screen instructions. After finishing installation, you will find the programs on the start menu or on the desktop.

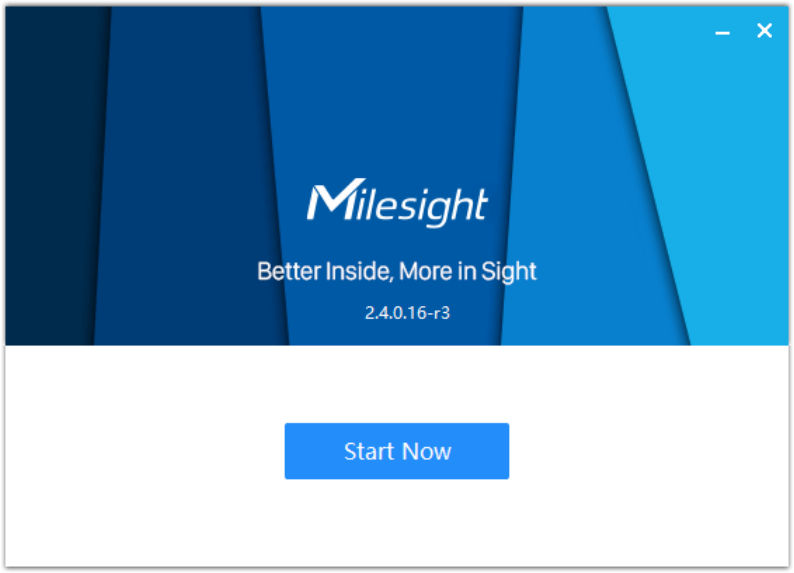
Step1: Check the box 'I accept the terms in the <*License Agreement*>';



Step2: Choose 'Custom installation' to select the destination folder where Milesight CMS will be installed, or choose 'Default installation' to install it in the default destination folder;



Step3: Click 'Quick installation' button to complete the installation.

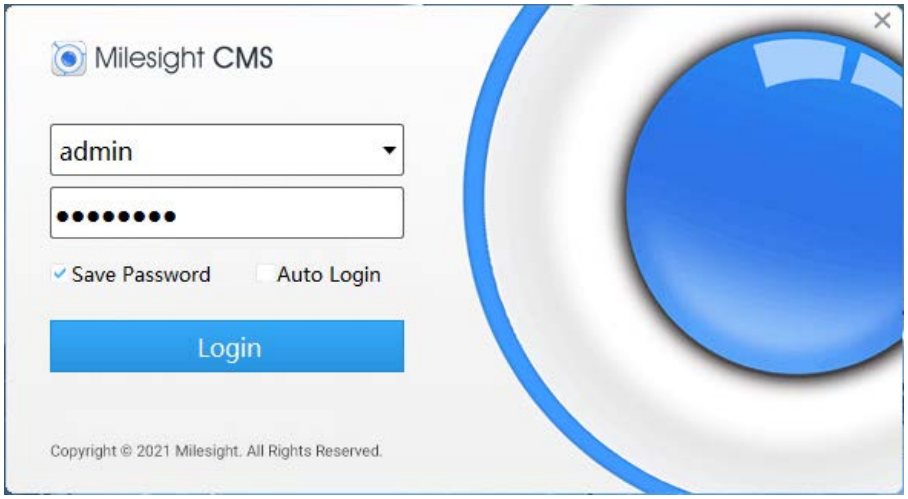


Note: The language of Milesight CMS is based on the language of computer system.

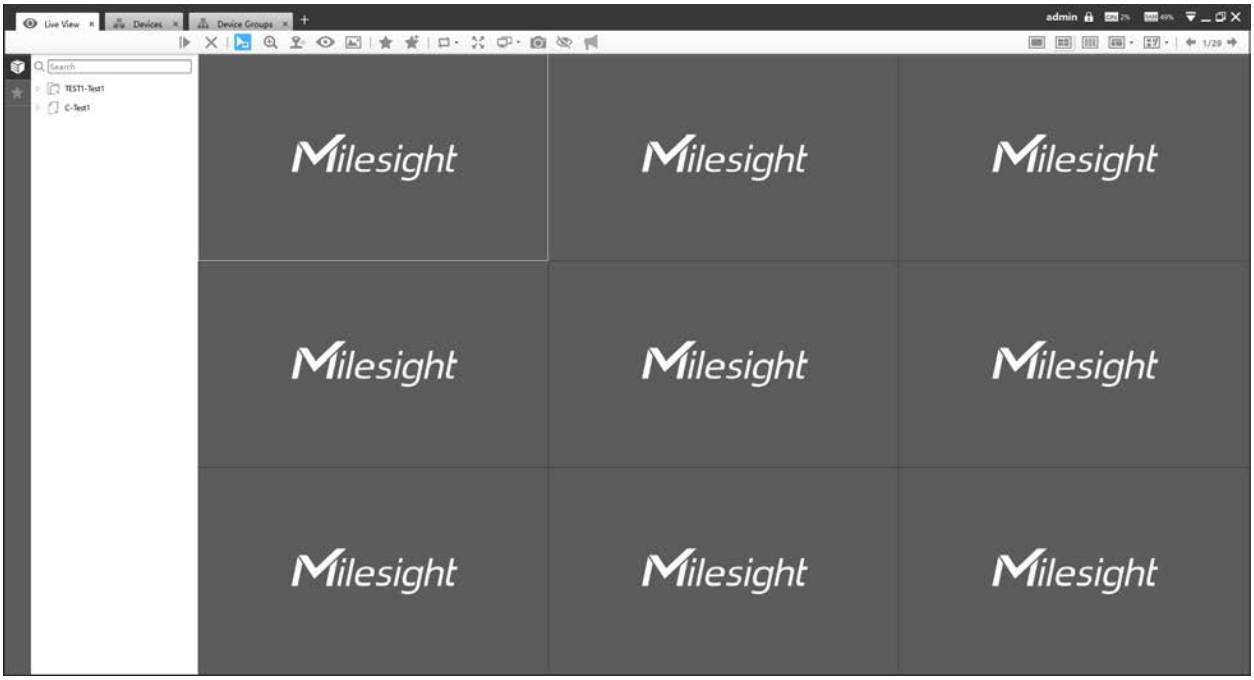
2.2 Login/Logout

2.2.1 Login

Double click the icon to start the software, then choose the user and enter the password, the default account Username is: admin; Password is: password. You can check the checkbox to remember the password, then you can auto login by choosing Auto Login.

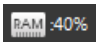


After login into the system, you can see the Live View page as below:



And the meanings of the icons on the top-right are as below:

Table 1. Description of the buttons

Item	Function Introduction
admin	User name
	Click the button to lock the software, and it needs to enter the password to unlock
	Menu button
	Minimize the interface
	Restore the interface
	Maximize the interface
	Close the software
	Switch to the previous group cameras / next group cameras when click the left arrow / right arrow button.
	Check the real-time CPU status on PC
	Check the real-time RAM memory on PC

Click the Menu button , the interface is as below:

Table 2. Description of the buttons

Item	Function Introduction	
Configuration	**General**	**Auto Login:** Enable this option to automatically login CMS when running it.
		Run CMS when Windows startup: Enable this option to automatically run CMS when Windows startup.
		Run CMS as Administrator: Enable this option to run CMS as administrator.

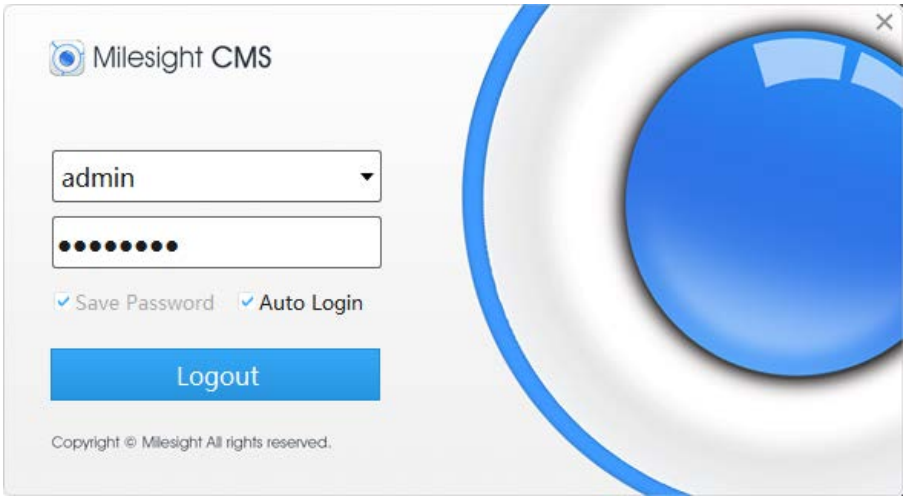
Item	Function Introduction	
Configuration	**General**	**Quick Exit:** Enable this option, you can close the CMS in one click without confirming the password.
		Language: There are 14 different languages available.
		Log Retention Period: Six different periods are available(1, 2, 3, 4, 5 and 6 Weeks), and you can also set the log retention period to permanent.
		Video Save Path: Click to select a path for manual recording in Live View and Playback interface or video clips in Playback interface. **Note:** Please don't save Recording files under the installation path. The recorded files would be deleted when CMS was uninstalled if they were saved under installation path.
		Snapshot Save Path: Click to select a path for snapshot in Live View and Playback interface. **Note:** Please don't save Snapshot files under the installation path. The recorded files would be deleted when CMS was uninstalled if they were saved under installation path.
Configuration	**General**	**Play Mode:** Select different modes to meet your needs. • **Least Delay:** The most instantaneous mode; • **Best Fluency:** The most fluent mode.
		Recycle Mode: You can enable or disable Recycle Mode for video recording. • **Enable:** Enable Recycle Mode in the case of insufficient storage capacity. • **Disable:** Devices will stop recording when the storage capacity is insufficient.
Configuration	**Display**	**Video Card Info:** You can check the video card information of this server where CMS is installed, including Vendor, Renderer and Version.
		Rendering Method: There are three options available, including Direct3D, OpenGL and RGB. If the video can't be previewed successfully, please adjust this option to try again.
		High resolution display adaptation: Enable this option to adapt to high resolution monitor.

<table>
<tr><th>Item</th><th colspan="2">Function Introduction</th></tr>
<tr><td rowspan="3">⚙ Configuration</td><td rowspan="3">Display</td><td>Live Stream Information: Enable this option to display the Live Stream Information in the live view page, including Video Codec, Resolution, Frame Rate and Bitrate.</td></tr>
<tr><td>Channel Name: Enable this function to display the channel name in each channel. There are four text positions available, including Top-Left, Top-Right, Bottom-Left and Bottom-Right. And there are three font sizes available, including Small, Medium and Large.</td></tr>
<tr><td>Event Detection Region: Enable this function to display the detection region on the live view interface. The detection region will turn red when an event is triggered. There are eight event detection regions available, including Region Entrance, Region Exiting, Advanced Motion Detection, Loitering, Line Crossing, Object Left/Removed, People Counting and Regional People Counting. Only one Event Detection Region can be enabled at the same time
Note:
• Support up to 64 channels to display Event Detection Region at the same time.
• Support in Live View Screen, Alarm Screen and Full Screen.
• Available for cameras and the cameras on the NVR.
• Make sure the camera’s version is 4X.7.0.78 or above and the NVR’s version is 7X.9.0.12 or above.</td></tr>
<tr><td>⚙ Configuration</td><td>Alarm</td><td>Enable Alarm Popup: When the Motion Detection, VCA alarm, Camera / NVR Alarm Input, Audio Alarm, IoT Alarm and NVR Disconnected are triggered, the channel window will pop up.
Note:
• You can disable it by pressing Hot Key Ctrl + F12.
• Support up to 4 alarm windows.</td></tr>
</table>

Item	Function Introduction	
		You can set alarm actions for the following events, including Motion Detection, Region Entrance and Exit, Advanced Motion Detection, Tamper Detection, Line Crossing, Loitering, Human Detection, Object Left/Removed, Camera/ NVR Alarm Input, Audio Alarm, IoT, NVR Disconnected, Disk Full, Record Failed, Disk Error, Disk Uninitialized, No Disk, and NVR Video Loss. Alarm actions include alarm popup alarm and arm audio. **Alarm Popup Schedule:** Set the schedule of channel alarm pop-up. **Alarm Audio:** Enable this option to Play Audio when Alarm Popup is triggered. You can choose to play Alarm Audio or Live Audio. **Audio File:** There are two default alarm audios available. And you can also upload your customized audio. 1. Only support 'wav/MP3' audio files and no more than 1M. 2. Currently it supports uploading 5 customized audio files. **Live Audio:** If the camera supports audio, you can directly play the live audio caught.
Configuration	**Advanced**	**Dual Stream Connection Mode:** Enable this option to optimize the speed of switching stream but will increase the pressure to the network.
	Maintenance	**Import Configuration File:**Click to upload a selected configuration file, then click 'save' button. **Export Configuration File:**Click Backup to back up a selected configuration file, then click 'save' button.
About	Information of the CMS, Milesight webpage link and Check for Update.	
Logout	Log out of the current account.	
Exit	Close the software.	

2.2.2 Logout

Click -->[Log out] to exit the current account, or click to exit the CMS.



Note: Password is necessary for logging out.

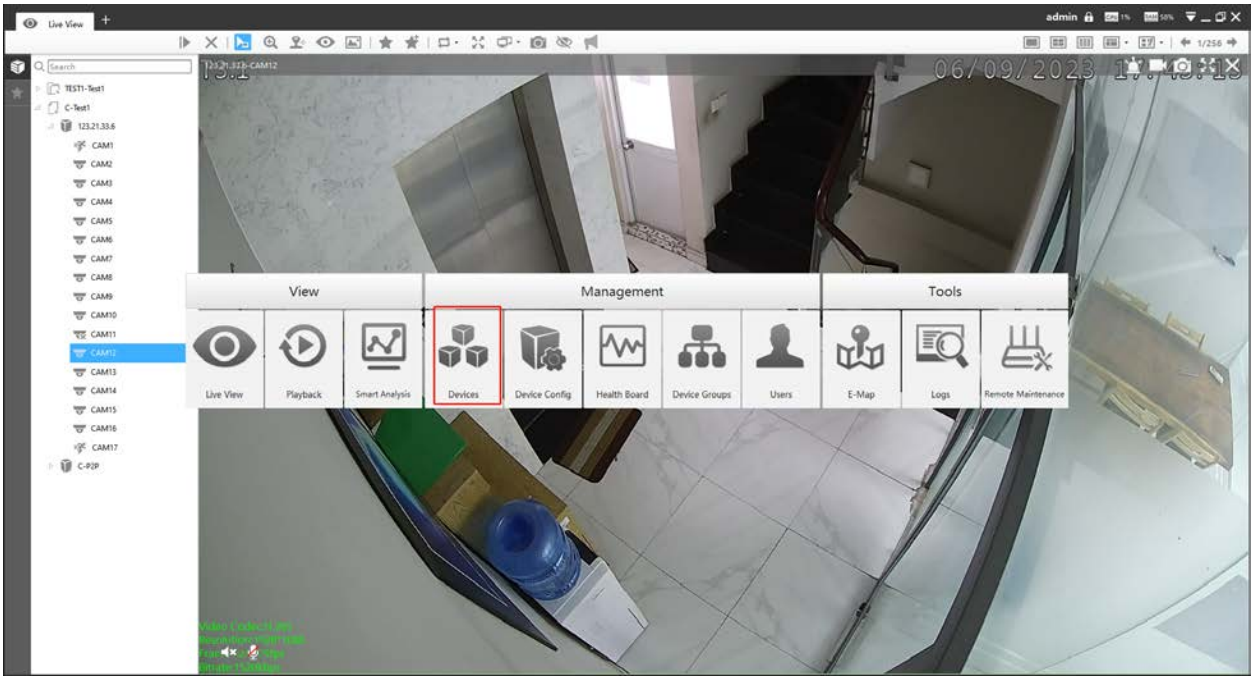
Chapter 4. Manage

3.1 Device Management

The Milesight CMS supports to add Milesight cameras and NVRs to get an efficient and convenient management. The devices also can be removed or logged out from the CMS at any time.

3.1.1 Adding Devices

There are two measures available for adding devices. First of all, click the Add button **[+]**->**[Devices]**.



1. Adding a Single Device

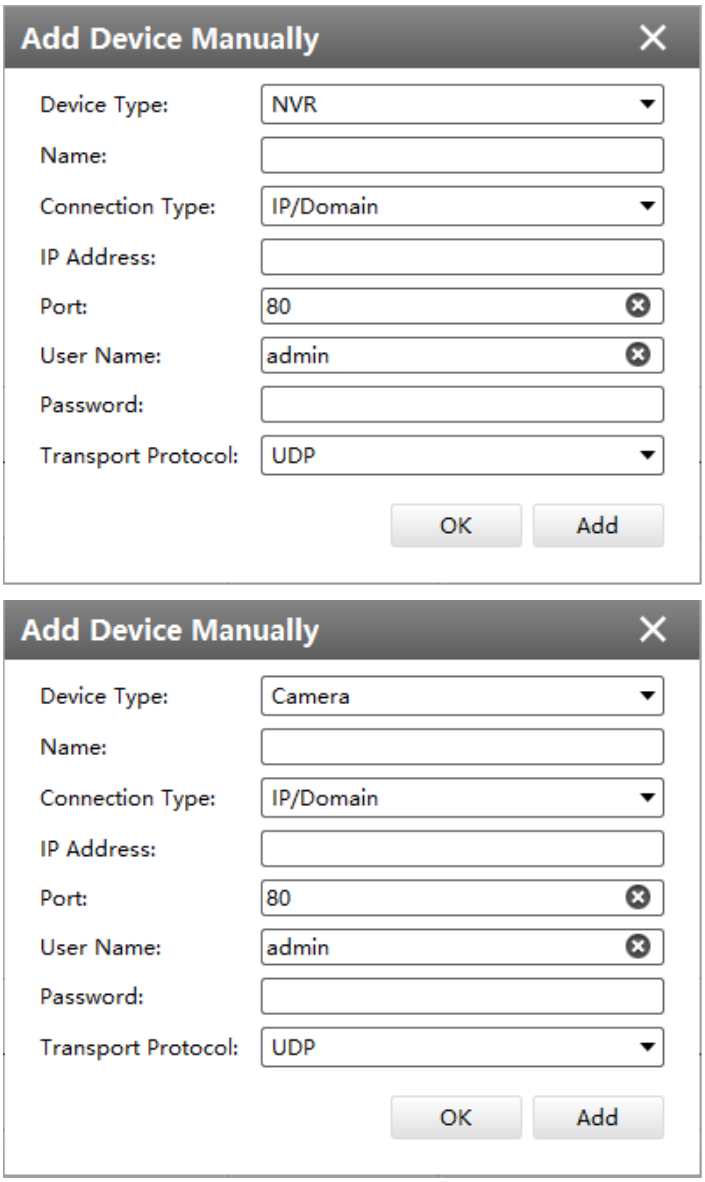
Milesight CMS provides to add device one by one. Please refer to the steps as below:

Step1: Click the + Add Manually button;

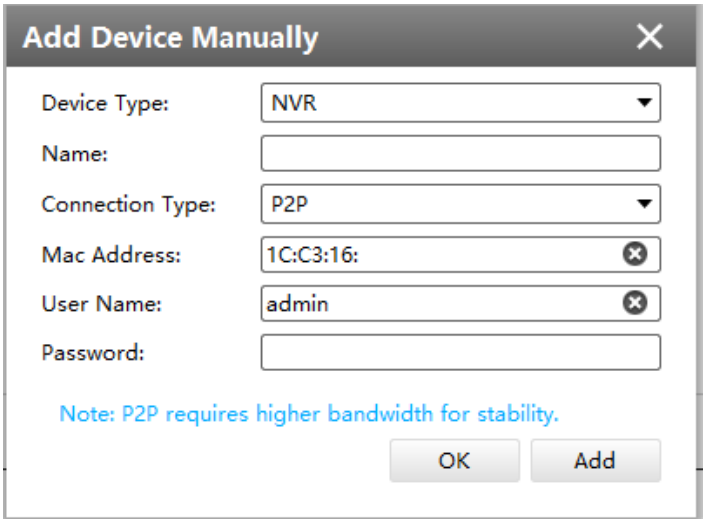
Step2: Select the device type, “NVR” or “Camera”;

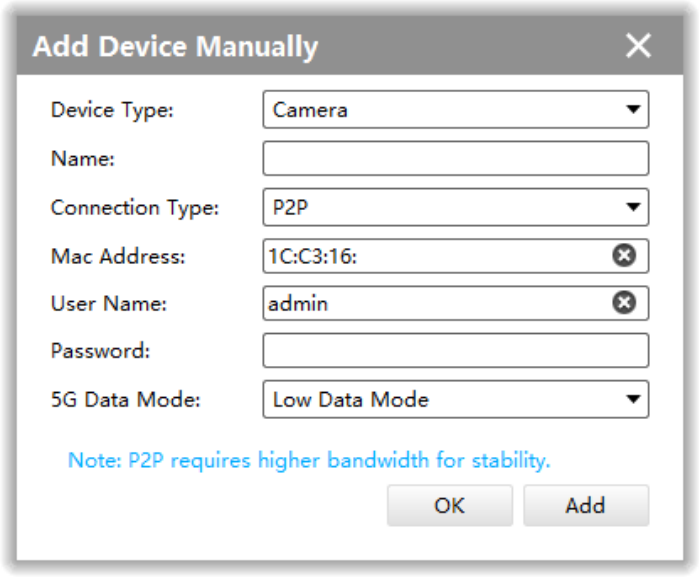
Step3: Enter device information.

- Adding Device by IP/Domain

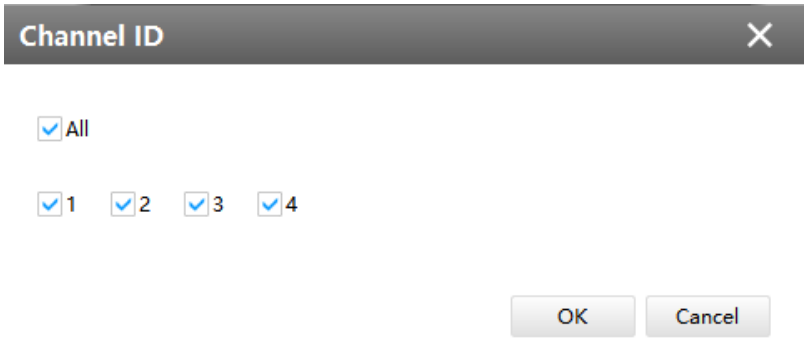


- Adding Device by P2P





Note: There will be a pop-up window as shown below if you manually add camera under MultI-Channels mode, then you can choose the channel to add as needed.



The meanings of the items on the page can be referred to the table below.

Table 3. Description of the buttons

Items	Function Introduction
Device Type	Camera and NVR are available
Name	Name of the device
Connection Type	There are three options, IP/Domain, P2P and Milesight DDNS
IP Address	If you choose IP/Domain as connection type, enter the IP address of the device here
Mac Address	If you choose P2P as connection type, enter the MAC address of the NVR or camera here **Note:** P2P requires higher bandwidth for stability
Port	The port of the device, the default port is 80
Domain Name	If you choose Milesight DDNS as connection type, enter the Domain Name of the device here
User Name	The user name of the device, the default user name is “admin”
Password	Enter the password for the account of the device, for camera version lower than V4x.7.0.69 and NVR version lower than V7x.9.0.3, the default passwords are: • Network Camera: ms1234 • NVR: ms1234
Transport Protocol	TCP and UDP are available
5G Data Mode	Low Data Mode and Standard Mode are optional. The Low Data Mode helps reduce cellular data usage by pausing background tasks. **Note:** Support for P2P connection type of Camera.

2. Search

Milesight CMS can search devices which are in the same network automatically, and it can add devices which have the same user name and password in bulk. Please refer to the steps as below:

Step1: Click Search button to search the Milesight devices in the same network;

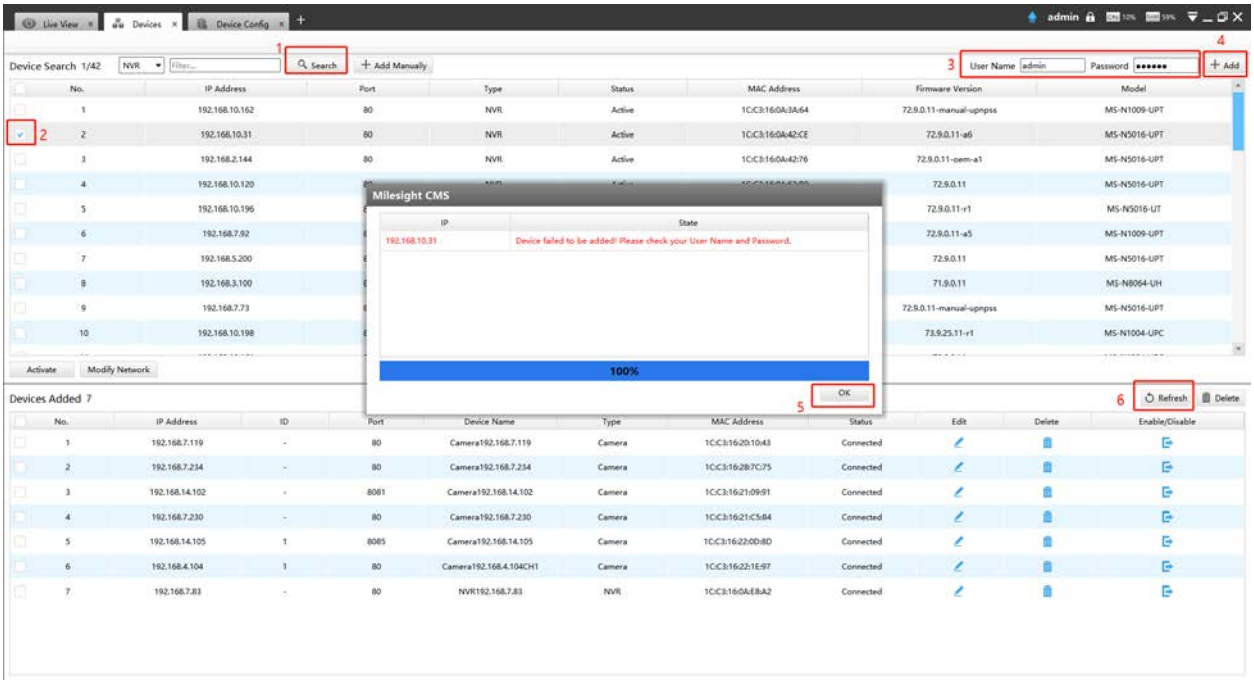
Step2: Select the devices;

Step3: Enter the user name and password of the selected devices ;

Step4: Click + Add button and the device will be displayed directly in “Devices Added” interface if it is added successfully;

Step5: A window will pop up to inform you if the device fails to be added, and you need to click the **[OK]** button to add the device again;

Step6: Click **[Refresh]** button to refresh the status of the added devices.



Note:

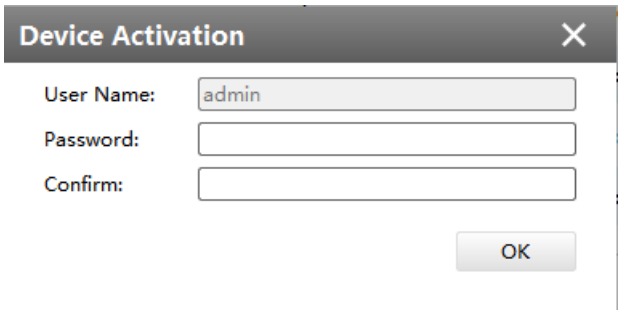
- Click Refresh button to refresh the status of the added devices;
- Click No. button to select all devices which were found;
- The devices can be sorted by their IP Address, Port, Type, MAC Address, Model when you click the corresponding button;
- Up to 256 devices can be added(Including cameras and NVRs).

- Only devices that show "Active" status in the search list can be added. If the devices show "Inactive" status, it needs to be activated before it can be added. You can refer to 3.1.2 for how to activate the device.

3.1.2 Activate the Device

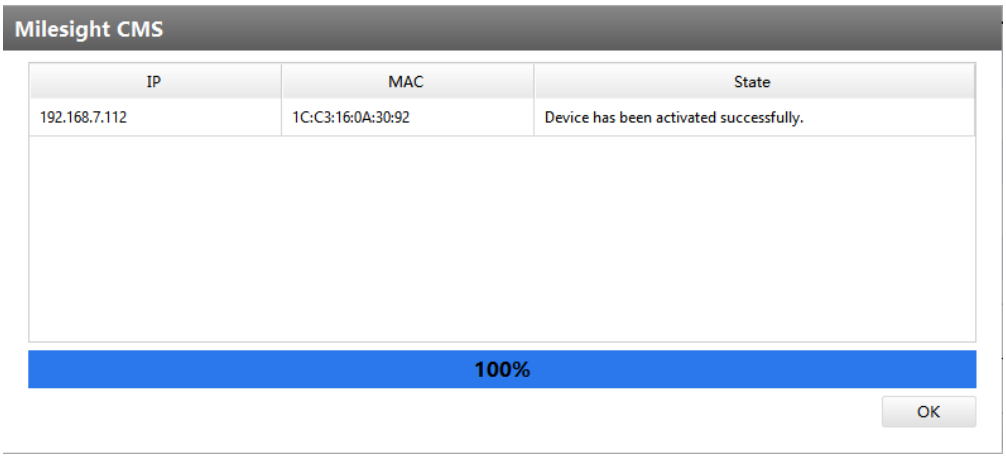
1. If your device shows ‘Inactive’ in the status bar, you need to click Activate to set the password when using it for first time.

Input the password and click ‘OK’.

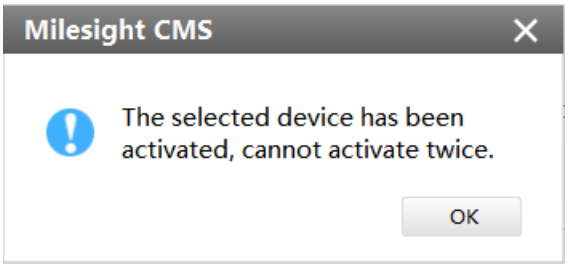


It will display ‘Device has been activated successfully’ when activation is successful.

Note: Password must be 8 to 32 characters long, contain at least one number and one letter.



2. If your device shows ‘Active’ in the status bar, you can use it directly without activating it. If you click Activate , it will display ‘The selected device has been activated, cannot activate twice’.



3.1.3 Removing or Disabling the Device

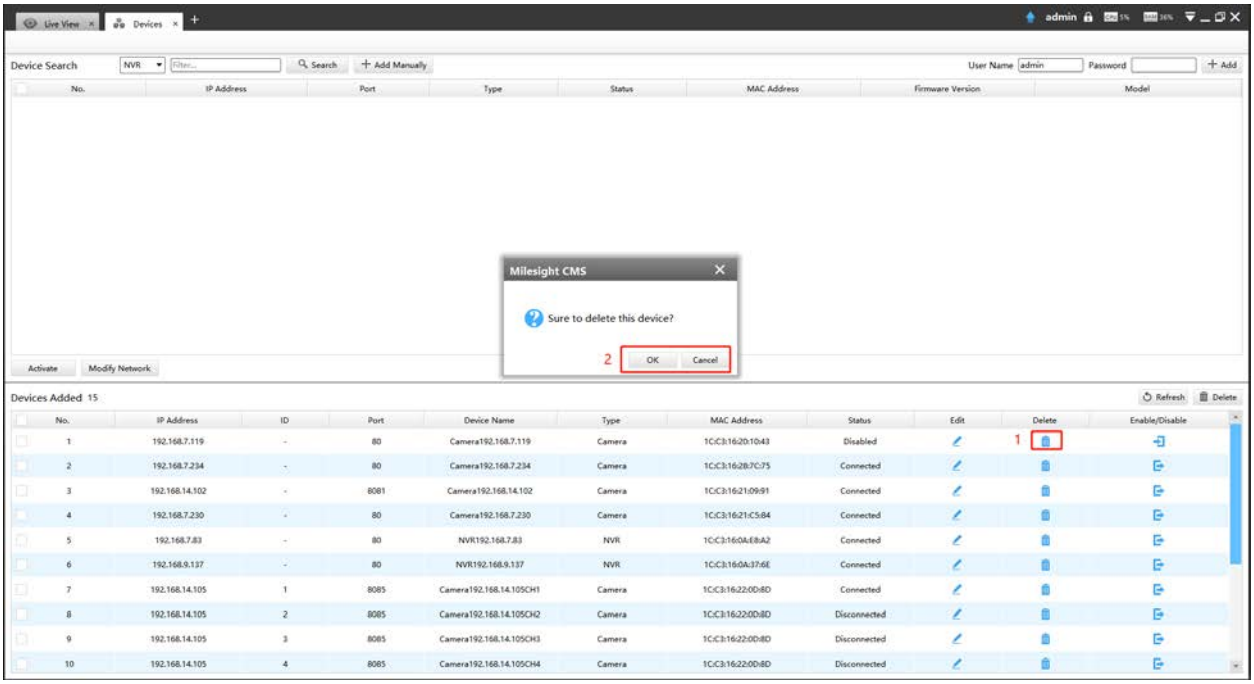
Milesight CMS can remove single/bulk added devices. First of all, enter **[Device Manage]** and follow the steps:

1. Removing a Single Device

The steps to remove a Single device are as below:

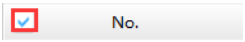
Step1: Click the button followed by the selected device;

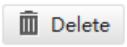
Step2: Click **[OK]** to remove the device or **[Cancel]** button to cancel the action when the window pops up.



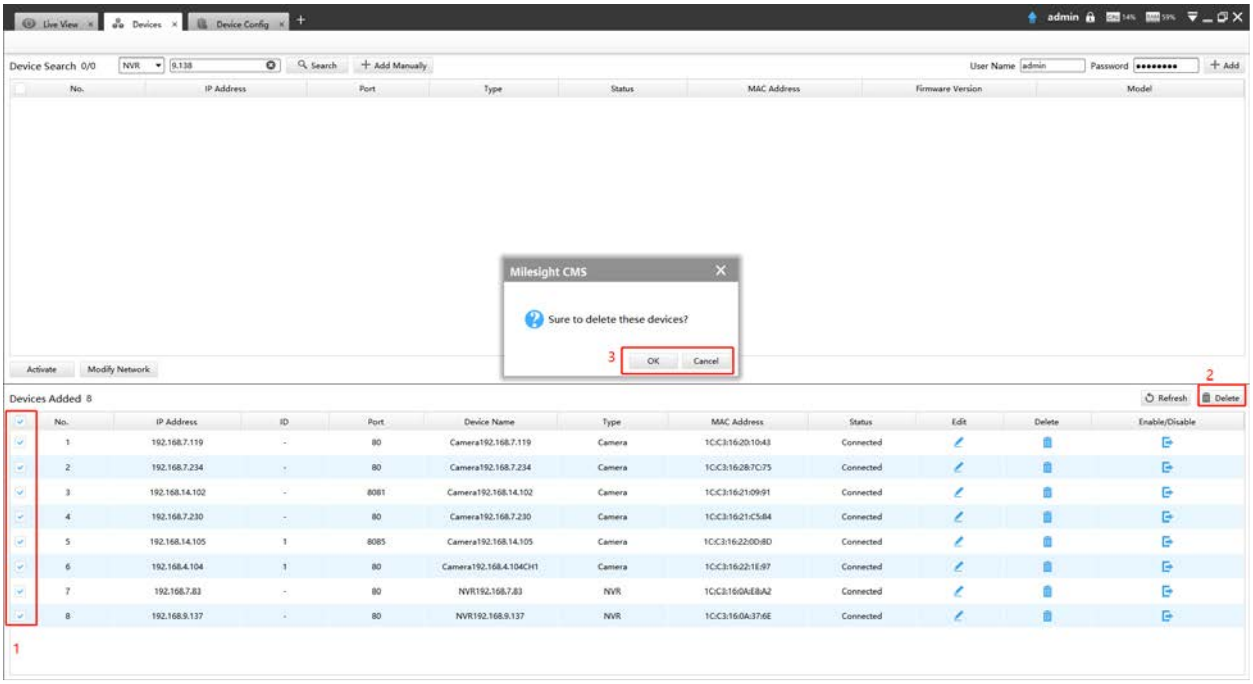
2. Removing Group Devices

The steps to remove the devices for a group are as below:

Step1: Click  to select all the added devices or check the checkbox to select several devices;

Step2: Click the  to remove the selected devices;

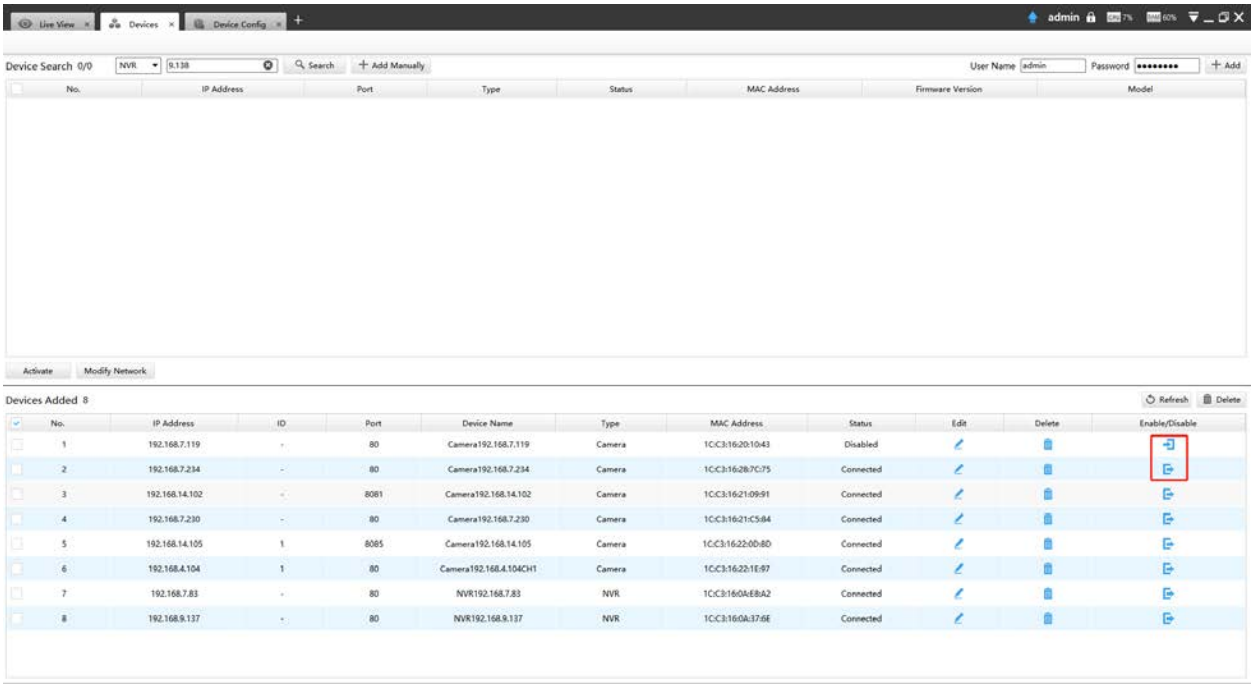
Step3: Click the **[OK]** to remove the devices or **[Cancel]** button to cancel the action when the window pops up.



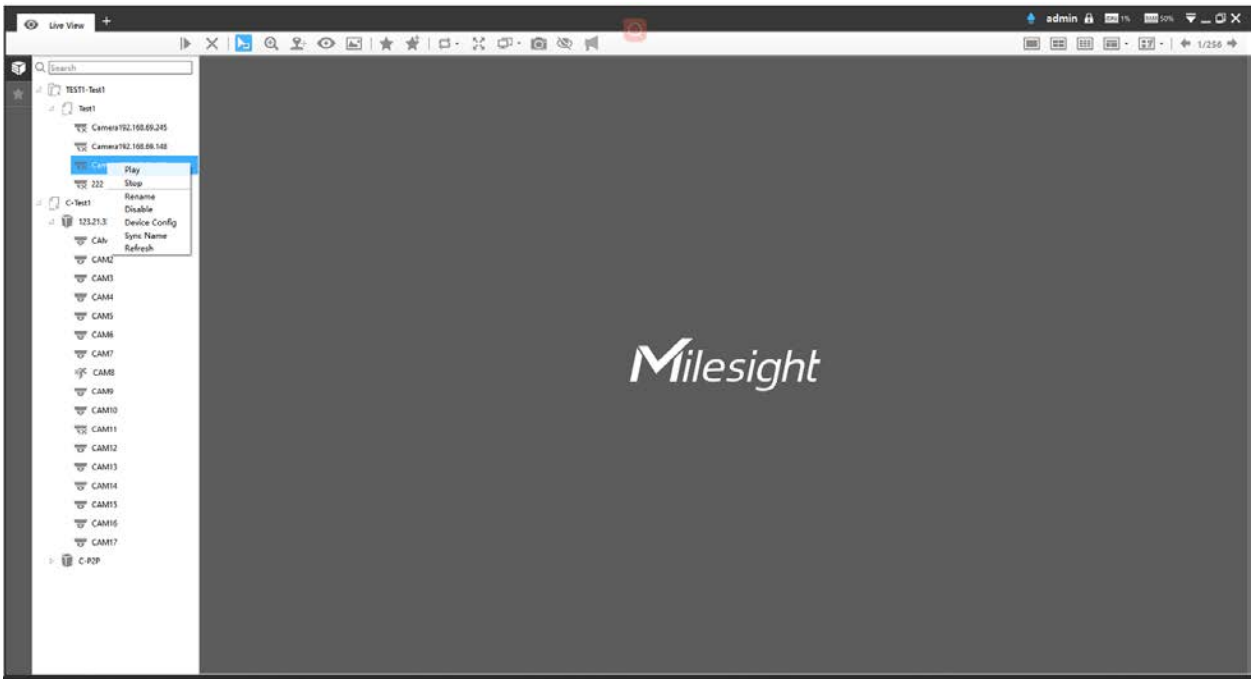
3.1.4 Disabling the Added Device

You can disable the added device rather than remove it in case that the device will be needed again. Disable means that the device is disabled for the present.

You can click the  button to disable the device, and the icon will turn into ;



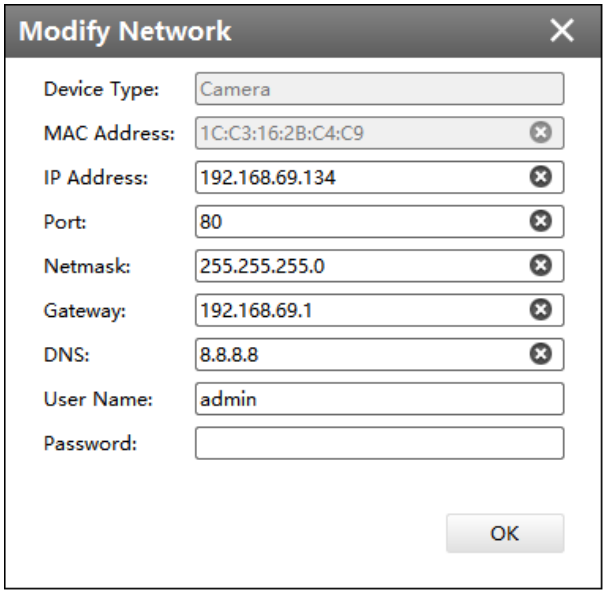
Or right-click the selected device and choose **[Disable]** in the device list.



Note: You can click the button on Device Management page or right-click the device on Live View page and choose [Enable] to Enable again.

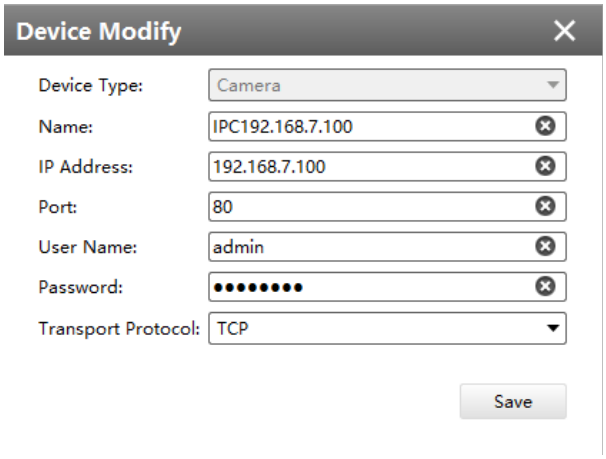
3.1.5 Editing Device

1. If the device hasn't been added yet in “Device Search” interface, you can edit the device that has been activated by clicking Modify Network , you can edit IP Address, Port, Netmask, Gateway and DNS by inputting the correct User Name and Password.

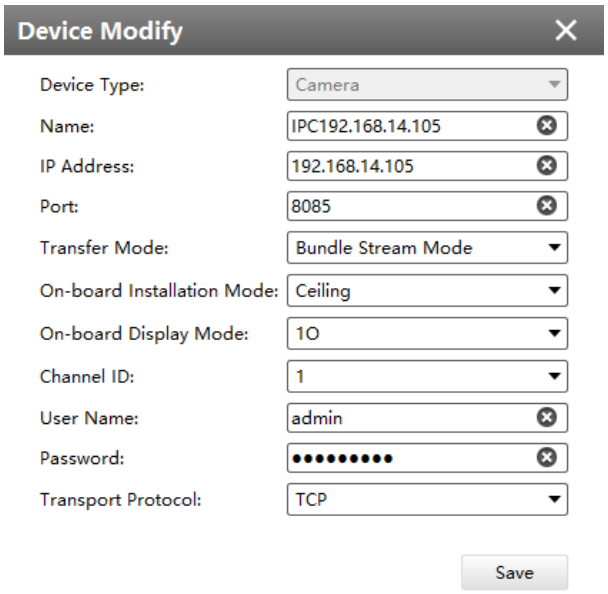


2. If the device has been added to “Devices Added” interface, you can edit the device by clicking the Edit button . All parameters can be edited except the Device Type. See as below:

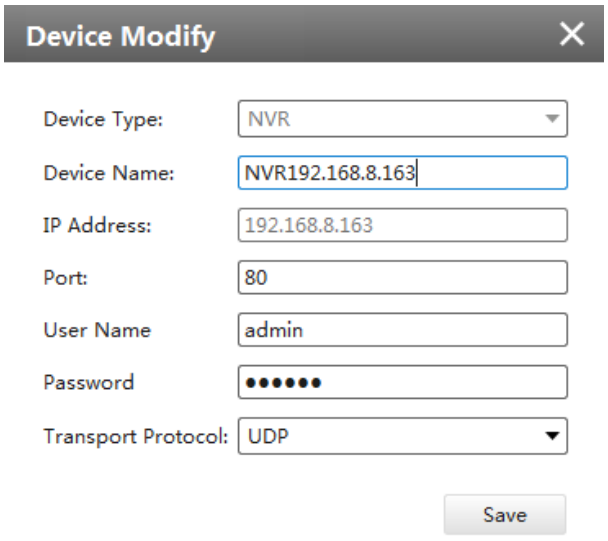
- Device Modify window(General camera)



• Device Modify window(Fisheye camera)



• Device Modify window(NVR)



The meanings of the items on the page can be referred to the table below.

Table 4. Description of the buttons

Item	Function Introduction
Device Type	Camera and NVR are available
Name	Name of the device
IP Address	If you choose IP/Domain as connection type, enter the IP address of the device here
Port	The port of the device, the default port is 80
Transfer Mode	There are two options, “Bundle Stream Mode” and “Multi-Channel Mode” **Note:** • This function option is only available for fisheye camera. • The Stream Mode can not be edited for fisheye under Multi-Channel mode unless you select 1O/1P/2P.
On-board Installation Mode	There are three options, “Ceiling”, “Wall” and “Flat” **Note:** This function option is only available for fisheye camera.
On-board Display Mode	There are different options for different modes: Bundle Stream Mode---Ceiling/Flat/-Wall: 1O, 1P, 2P, 4R, 1O3R ,1P3R Multi-Channel Mode---Ceiling/Flat: 1O, 1P, 2P, 4R, 1O3R, 1P3R, 1O1P3R Multi-Channel Mode---Wall: 1O, 1P, 4R, 1O3R, 1P3R, 1O1P3R **Note:** This function option is only available for fisheye camera.
Channel ID	This option will show the number 1 for fisheye under Bundle Stream Mode, while show current channel ID for fisheye under Multi-Channel mode **Note:** • This function option is only available for fisheye camera. • You can choose other channel ID for fisheye under Multi-Channel mode. If the channel ID has been added, then there is a pop-up prompt window like “Device already exist” and switch failed; if the channel ID has not been added, then you can modify channel ID successfully.
User Name	The user name of the device, the default user name is “admin”

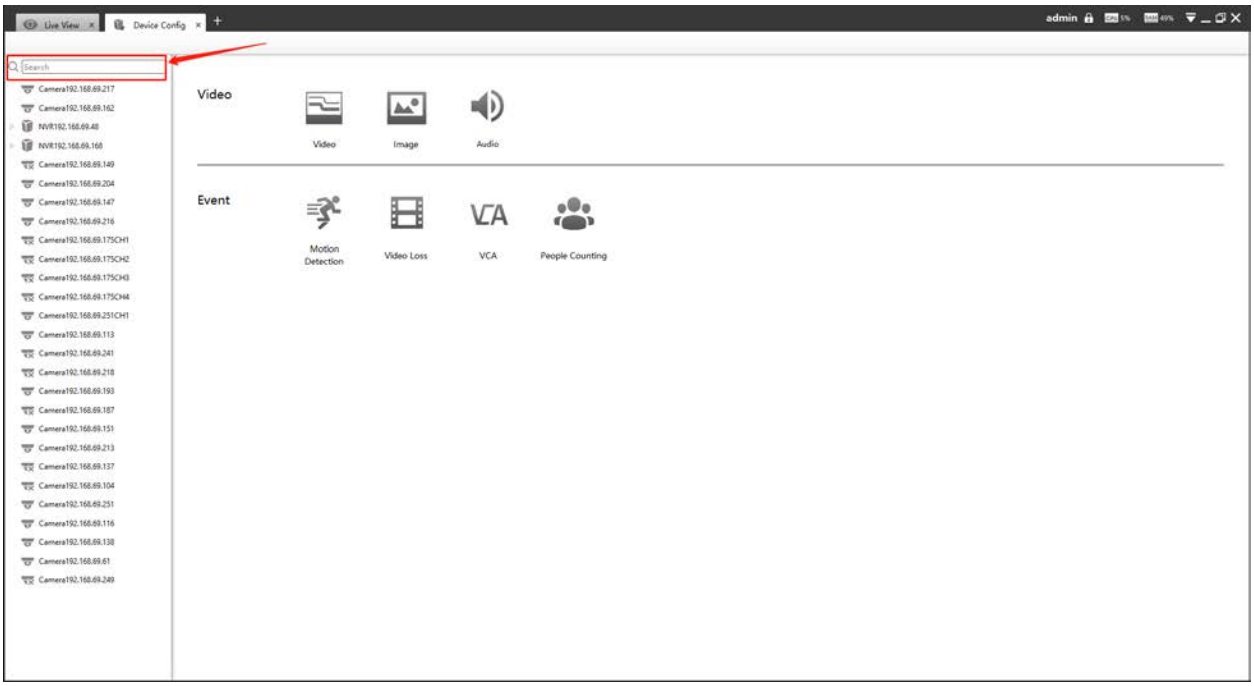
Item	Function Introduction
Password	Enter the password for the account of the device, for camera version lower than V4x.7.0.69 and NVR version lower than V7x.9.0.3, the default passwords are: • Network Camera: ms1234 • NVR: ms1234
Transport Protocol	TCP and UDP are available

Note: Password must be 8 to 32 characters long.

3.2 Device Config

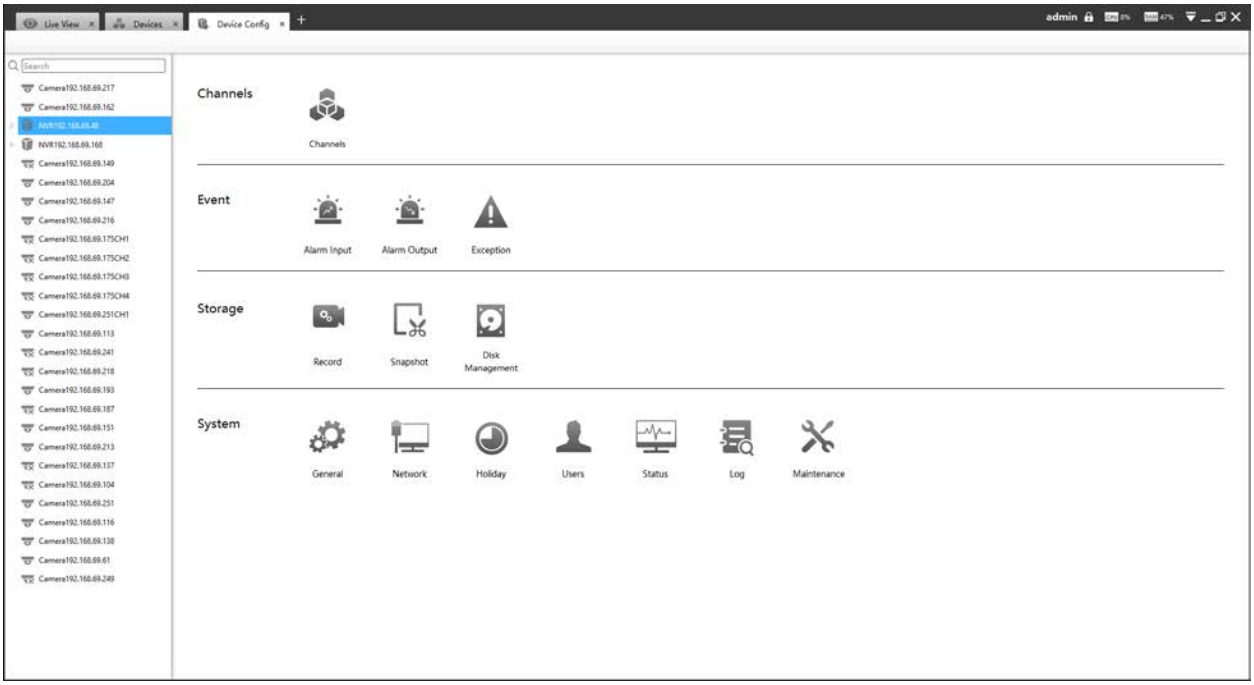
In the Device Config, there are Channels, Event, Record and System parts for NVR, and Video, Event, Record and System for Camera configurations.

Before configuration, you can click Search button and enter a keyword to search for the target device in the added device list quickly.



3.2.1 NVR

The NVR Configuration page is as below:

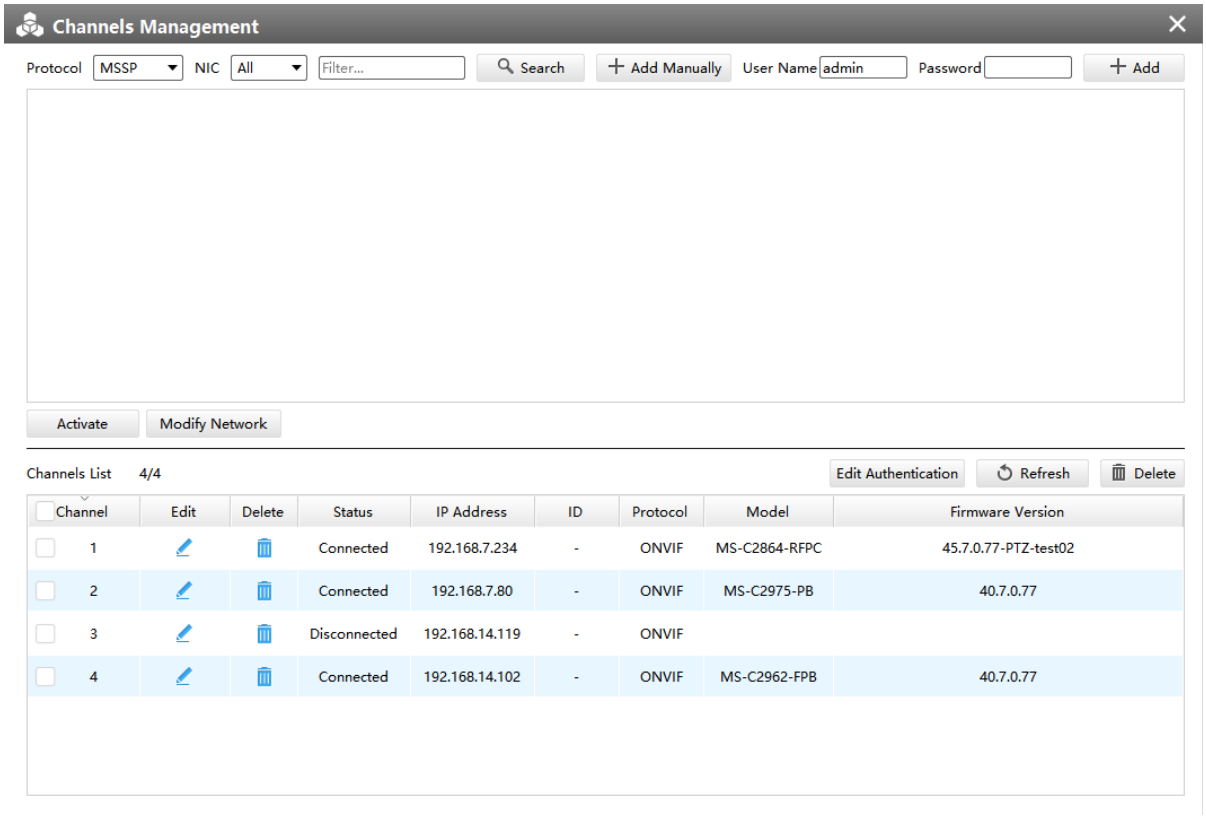


Note:

- The NVR added through IP/Domain and P2P supports the following configurations.
- Only NVR of V7x.9.0.4 and above and CMS of V2.4.0.5 and above support the following configurations through P2P.

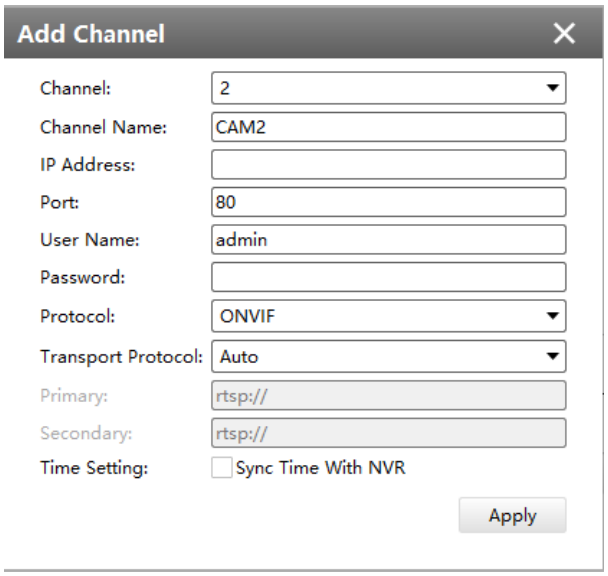
3.2.1.1 Channels

Channels management provides searching, adding, editing, and deleting channels function. As for searching and deleting channels, please refer to the Chapter III Device Management 3.1 Adding Device.



[Adding Channel]

You can add Milesight cameras searched by CMS automatically, and by adding manually, you can add third party cameras that have ONVIF and RTSP protocol.



- **ONVIF:** Camera which supports ONVIF protocol;

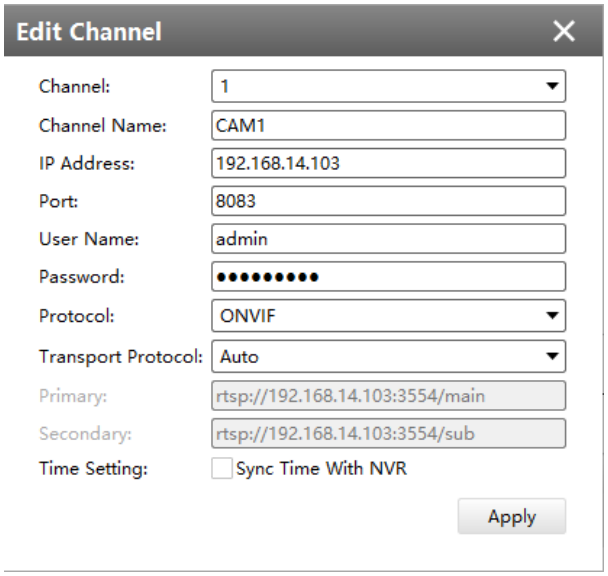
- **RTSP:**
  1. Primary: rtsp://IP:Port/main
  2. Secondary: rtsp://IP:Port/sub

  Note: The default port for RTSP protocol is 554.

- **MSSP** is only for the Milesight products.

[Editing Channel]

You can edit the channel when adding it manually. Or you can edit it by click the button .



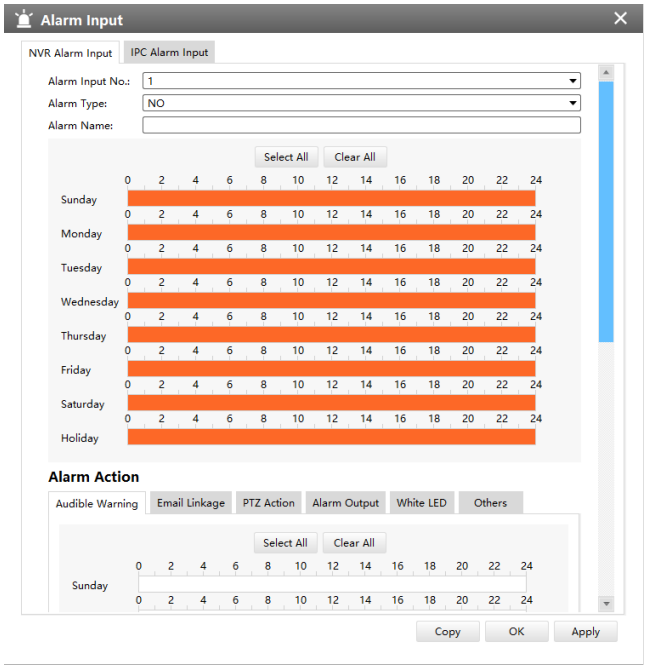
3.2.1.2 Event

1. Alarm Input

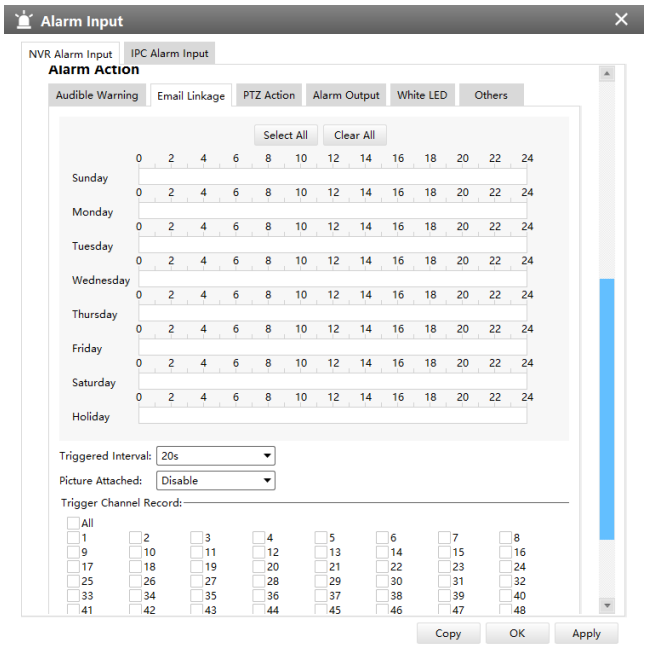
The setting window will pop up as below by clicking the Alarm Input button, and then you can modify alarm input settings. Here are six options for Alarm Action **[Audible Warning] [Email Linkage] [PTZ Action] [Alarm Output] [White LED] [Others]** that you can select. After choose the alarm action you can choose the alarm channel. You can click **[Copy]** to copy the settings to other channels. And then click **[OK]** or **[Apply]** after all set.

[NVR Alarm Input]

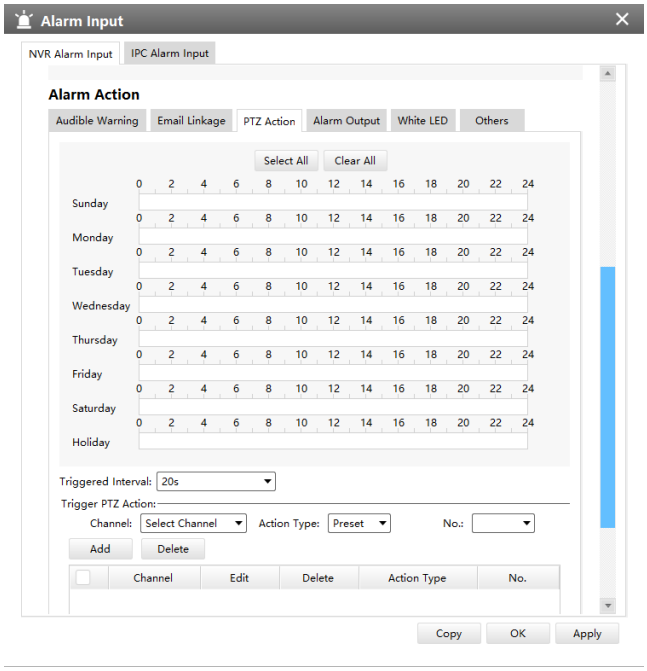
- Audible Warning



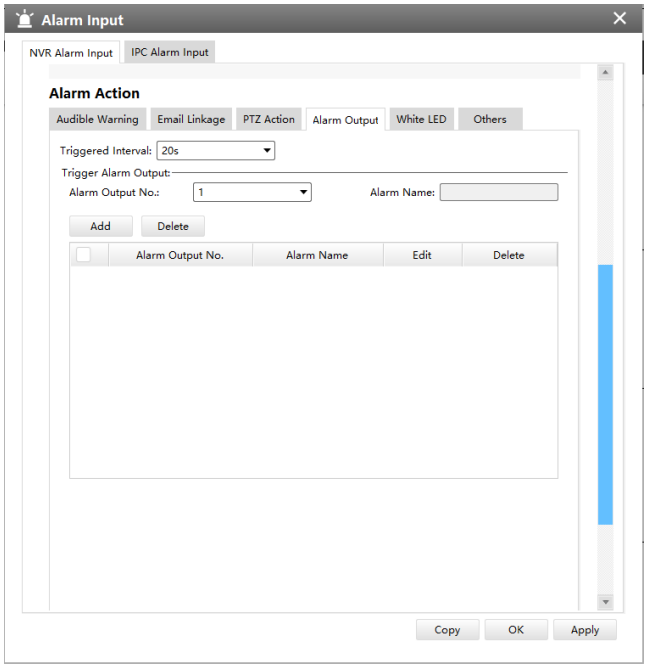
• Email Linkage



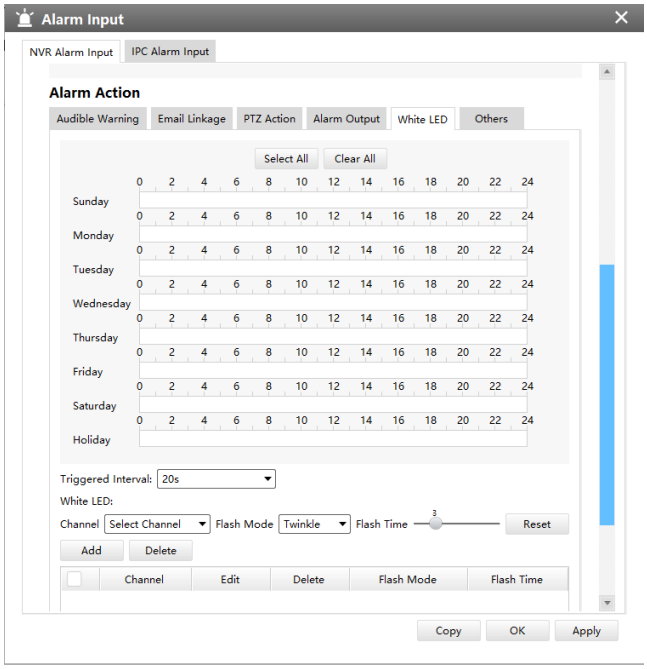
• PTZ Action



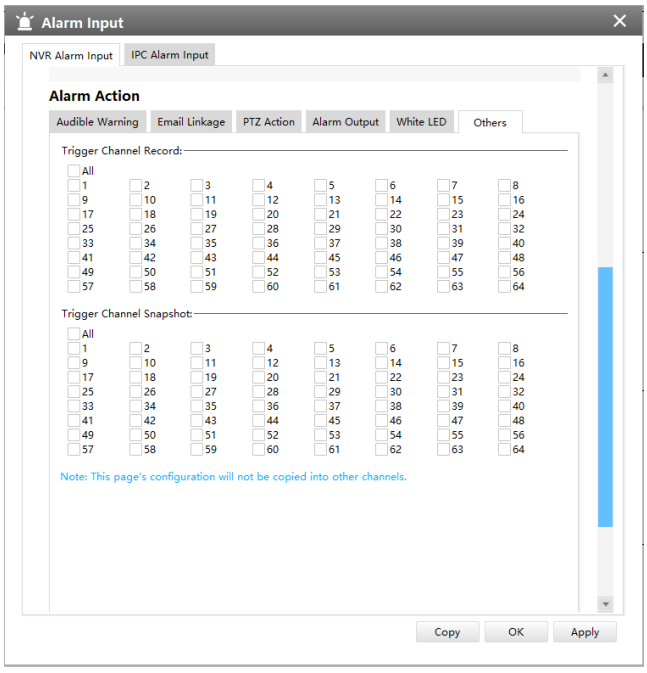
- Alarm Output



- White LED

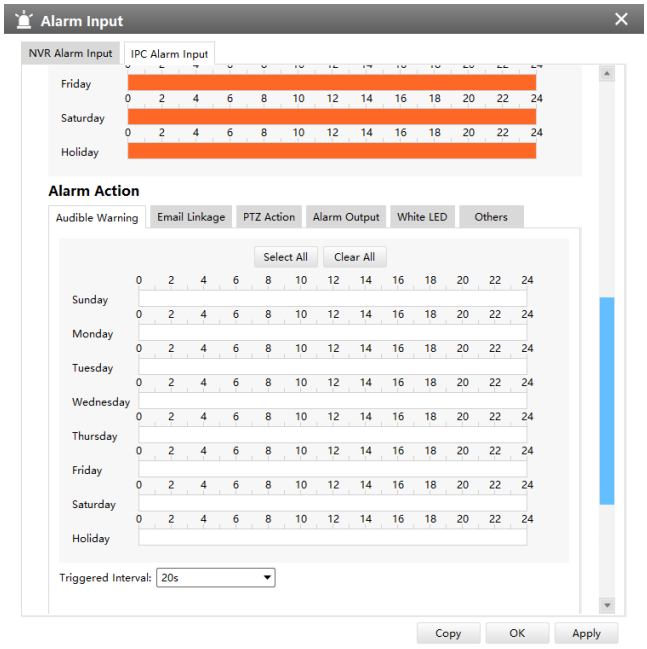


- Others

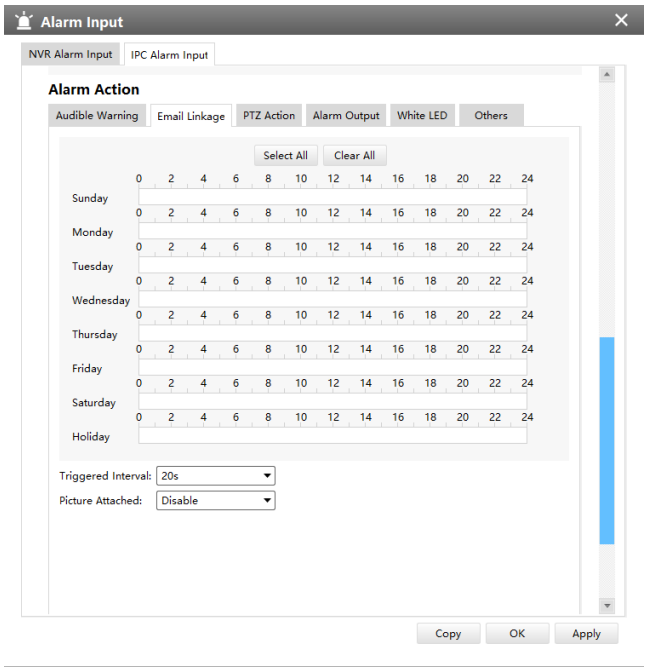


[Camera Alarm Input]

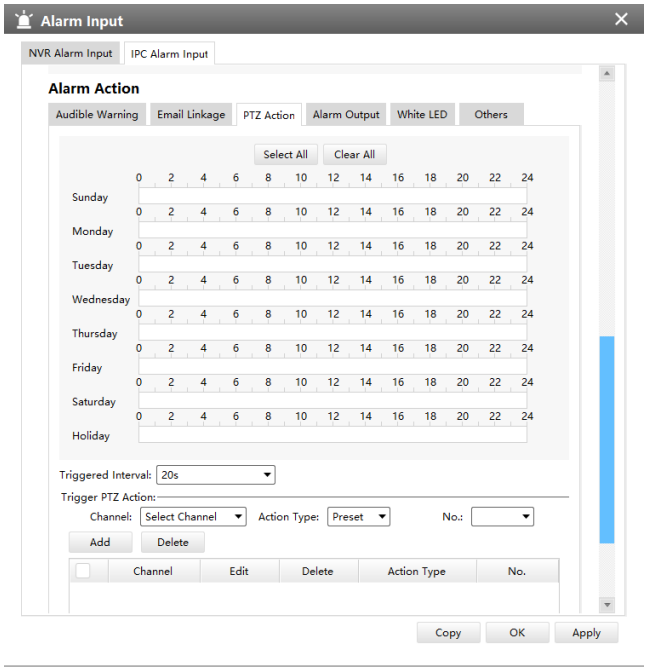
- Audible Warning



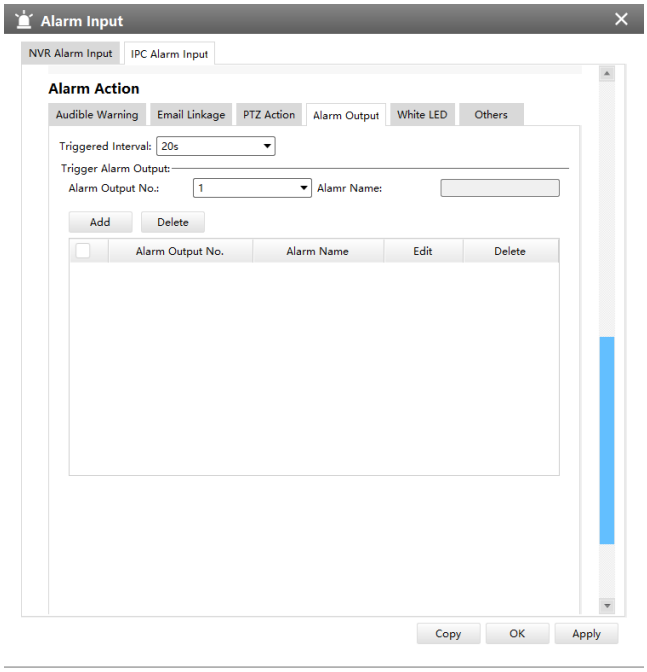
- Email Linkage



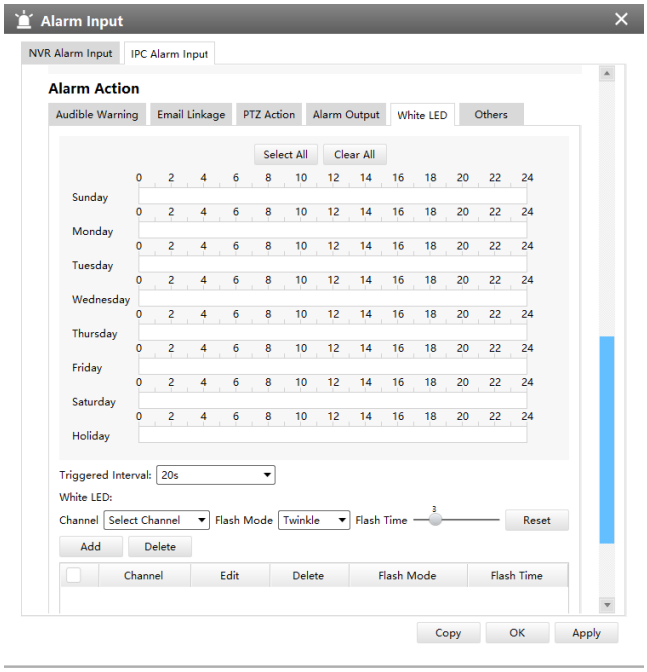
- PTZ Action



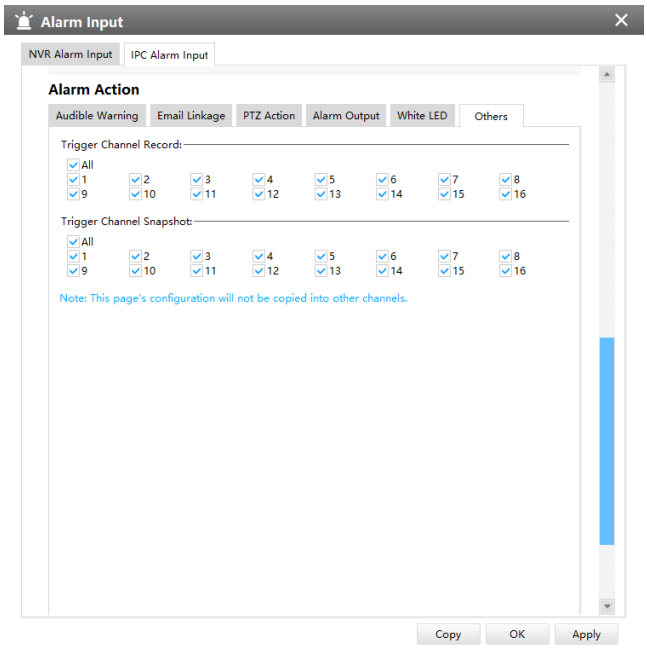
- Alarm Output



- White LED



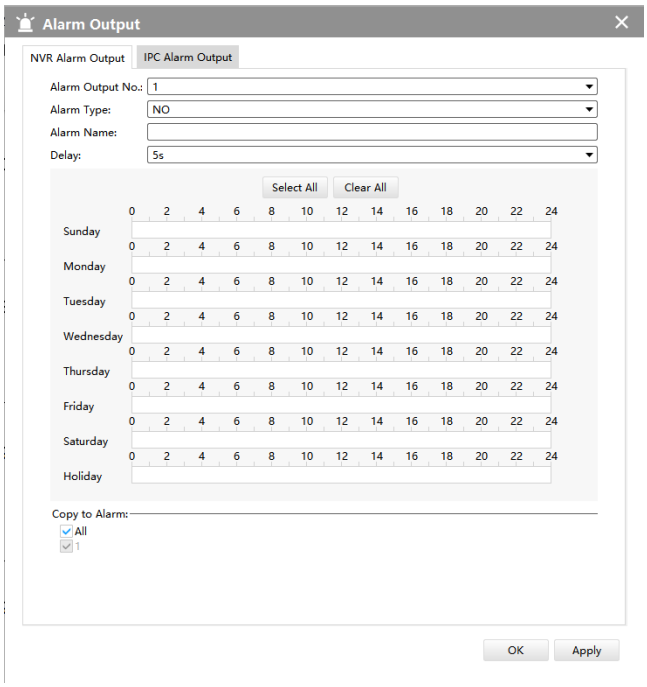
- Others



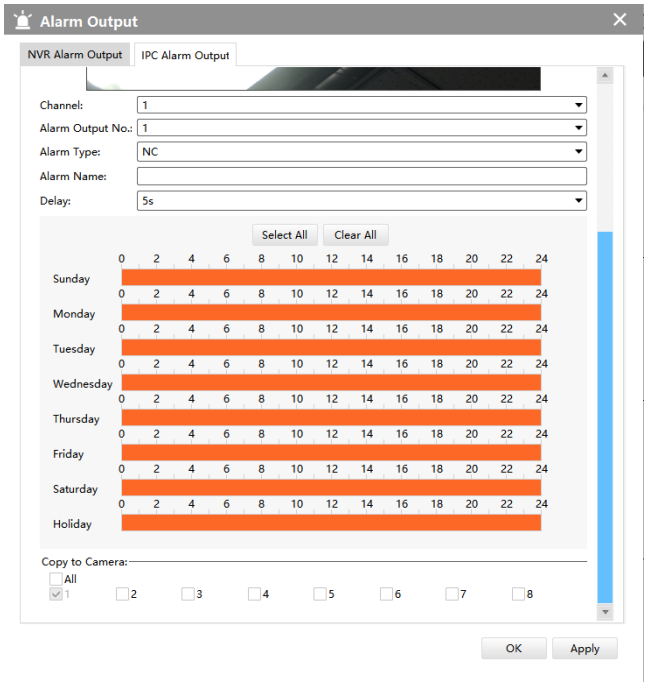
2. Alarm Output

The setting window will pop up as below by clicking the Alarm Output button, and then you can modify alarm output settings.

[NVR Alarm Output]



[Camera Alarm Output]

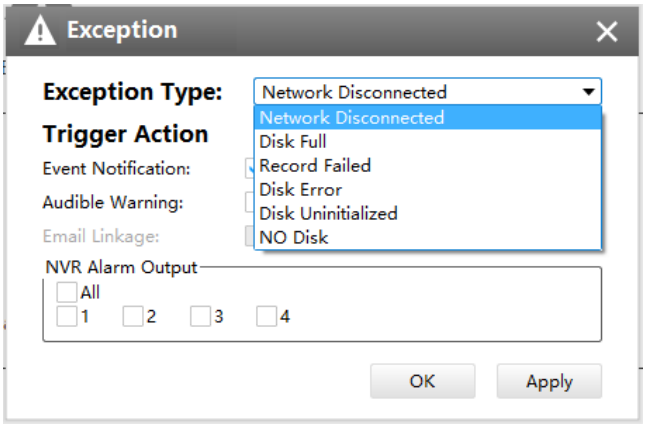


The “Alarm Input”/“Alarm Output” settings enable you to set up alarm input/output type, effective time, corresponding triggers, and you also can copy the settings to other channels.

After setting up one channel or some channels, click the Apply button **[Apply]**.

3. Exception

Click the Exception button, the setting window will pop up as below:



The meanings of the items on the Exception page can be referred to the table below:

Table 5. Description of the buttons

Item	Function Introduction
Exception Type	There are “Network Disconnected”, “Disk Full”, “Record Failed”, “Disk Failed”, “Disk Uninitialized” and “NO Disk”
Trigger Action	Enable or disable the Event Notification
	Enable or disable the Audible Warning
	Enable or disable the E-mail Linkage
	Select All or specify the number of NVR Alarm Output

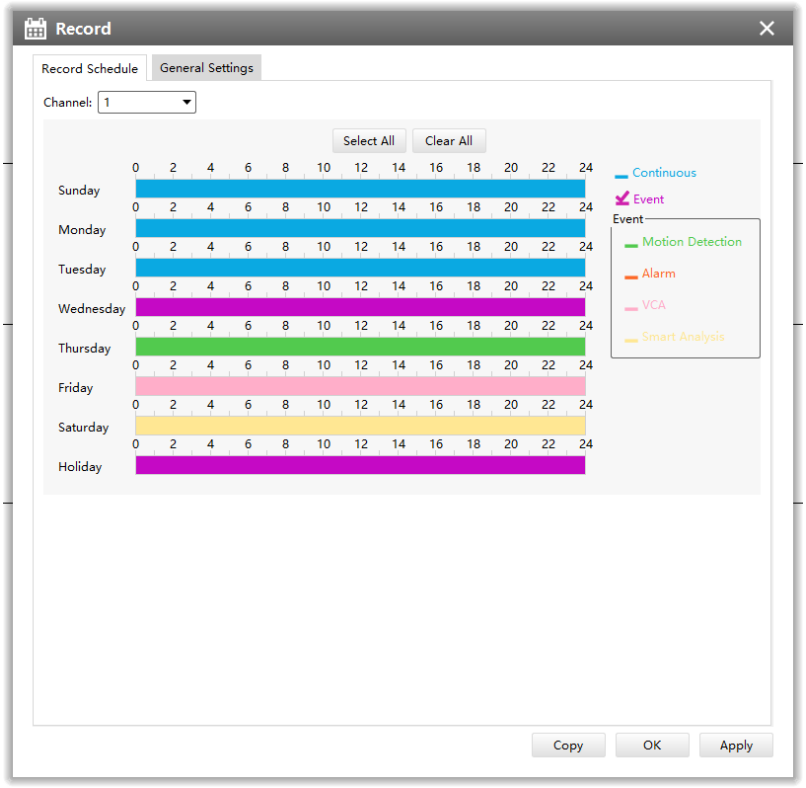
After finishing the settings, you can click the Apply button **[Apply]** to apply your settings to the CMS software.

3.2.1.3 Storage

1. Record

[Record Schedule]

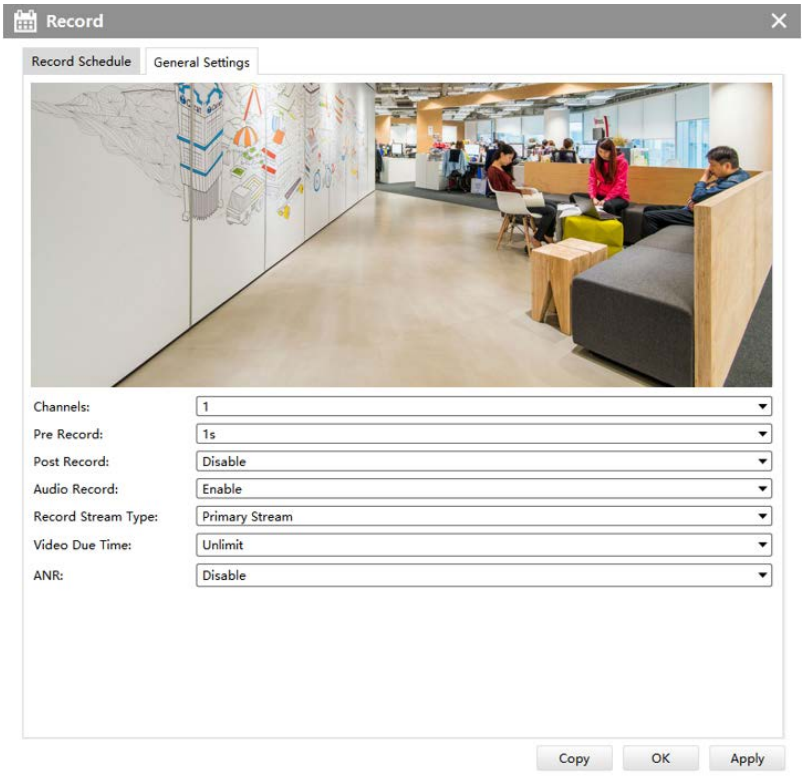
Click the Schedule button, the setting window will pop up as below:



You can set channel recording schedules in “Record Schedule”, If you want the channels to record by schedule, you need to select one of the recording types and then set the time. You can click [Copy] to copy the settings to other channels. After setting the schedule for one channel or some channels, click the Apply button [Apply].

[General Settings]

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



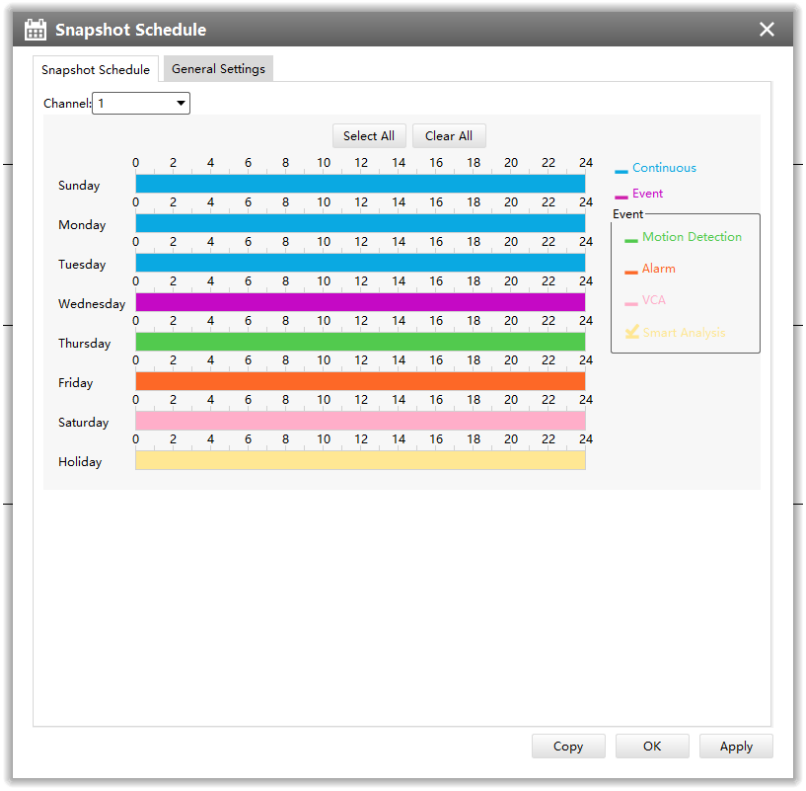
- **Channel:** Select the channel which will be set.
- **Pre Record:**Event pre-record duration time. It will start recording before the event is triggered. Note that NVR model ends with letter T doesn't support pre-record.
- **Post Record:**Event post-record duration time. It will keep recording after the event is over.
- **Audio Record:** Select to record audio or not.
- **Record Stream Type:** Select Main stream or sub stream for record.
- **Video Due Time:** Set the due time of recording files, 1~120 days or unlimited are available.
- **ANR:** With this option enabled, when the connection between camera and NVR is lost, the camera would start continuous recording and store videos in SD card instead. Then after reconnection, NVR automatically retrieves missed continuous videos from camera SD card in a period of time to prevent data missing. And you can check the corresponding ANR recording directly in the playback interface.

Note: NVR needs to be upgraded to v7X.9.0.6 or above, and CMS needs to be upgraded to v2.4.0.6 or above to support ANR function.

2. Snapshot

[Snapshot Schedule]

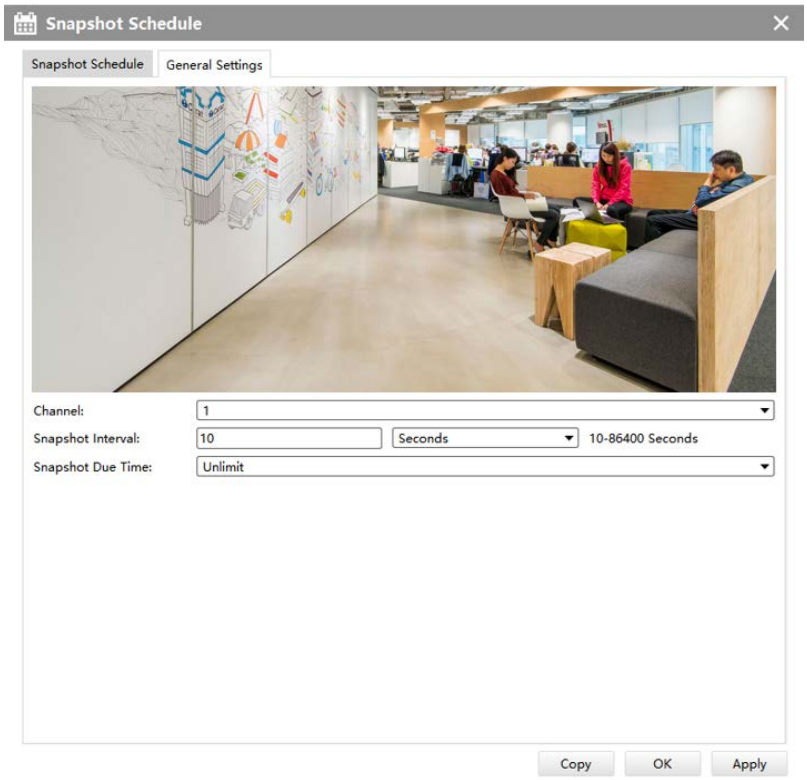
Click the Schedule button, the setting window will pop up as below:



You can set channel snapshot schedules in “Snapshot Schedule”, If you want the channels to snapshot by schedule, you need to select one of the snapshot types and then set the time. You can click [Copy] to copy the settings to other channels. After setting the schedule for one channel or some channels, click the Apply button [Apply].

[General Settings]

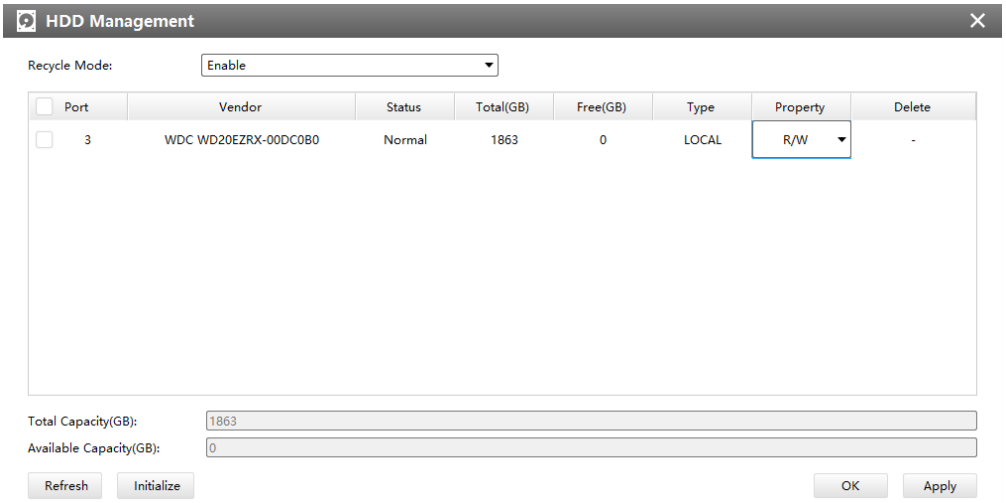
Make general configuration for selected channels. Click [Copy] to copy the same configuration to other channels.



- **Channel:** Select the channel which will be set.
- **Snapshot Interval:** Set the snapshot Interval, 10~86400 seconds are available.
- **Snapshot Due Time:** Set the due time of snapshot files, 1~120 days or unlimit are available.

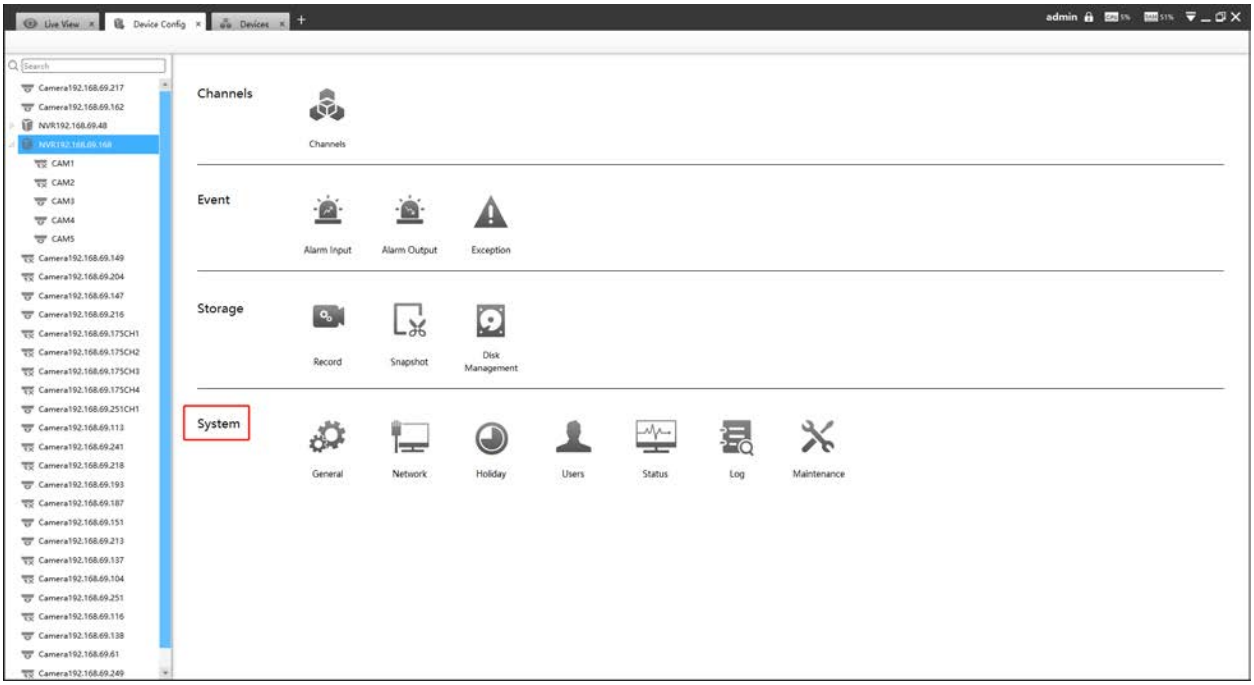
3. Disk Management

Click the Disk Management to manage the disk, as the window shows, you can check the disk status and format the disk. In addition, you can enable or disable Recycle Mode for the storage device.



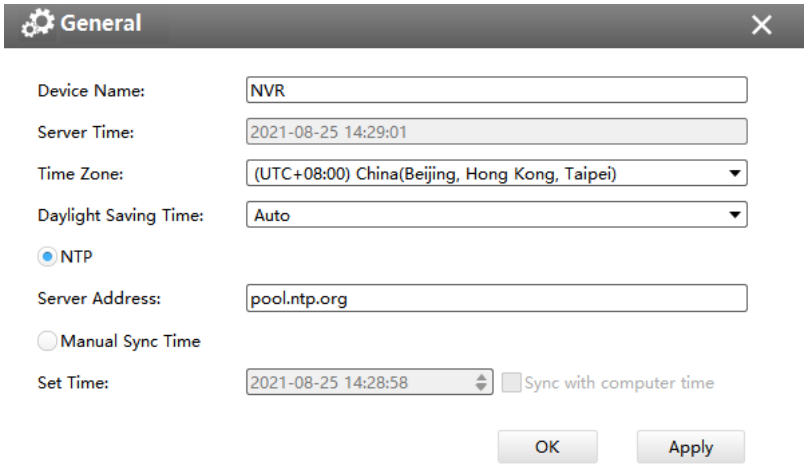
3.2.1.4 System

There are six parts in the System pages: General, Network, Holiday, Users, Status, Maintenance.



1. General

Click the General button, a window will pop up as below:



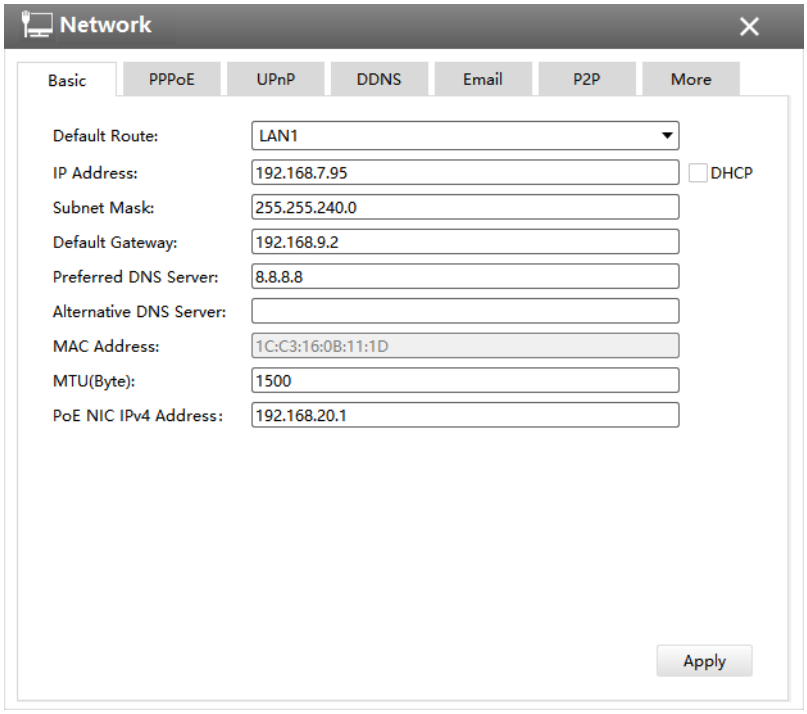
Device name and ID can be made up by yourself, and Server Time depends on the time zone and daylight saving time you choose, which can be synchronized through NTP or manually. After complete the settings, click [Apply] to save and apply the settings to CMS.

2. Network

In the Network part, you can use several network functions.

[Basic]

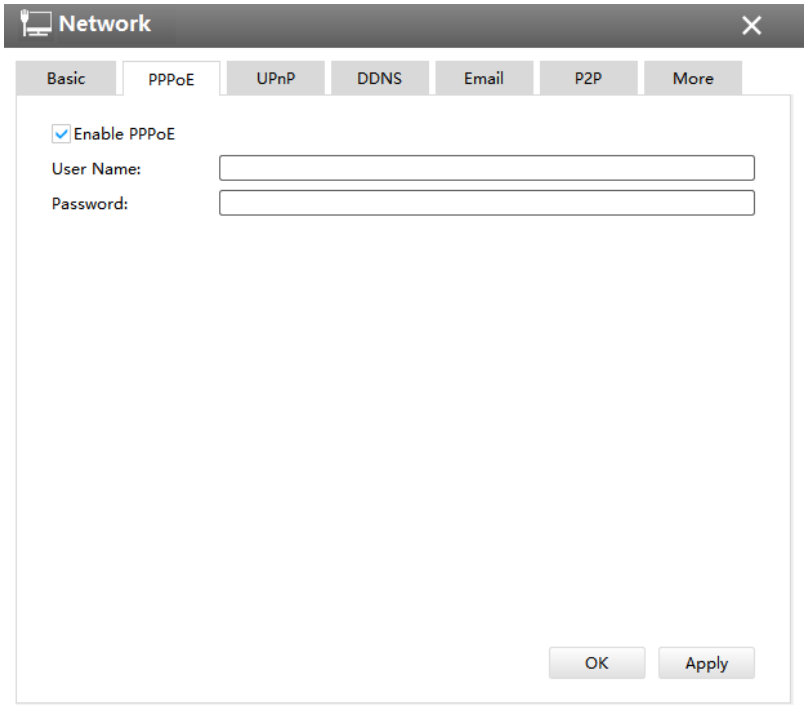
Basic configuration includes Default Route, IP Address, Subnet Mask, Default Gateway, Preferred DNS server, Alternative DNS server, MAC Address, MTU(Byte), PoE NIC IPv4 Address.



Note: The Default Route is compatible with 7X.9.0.12 version or above of Milesight NVRs.

[PPPoE]

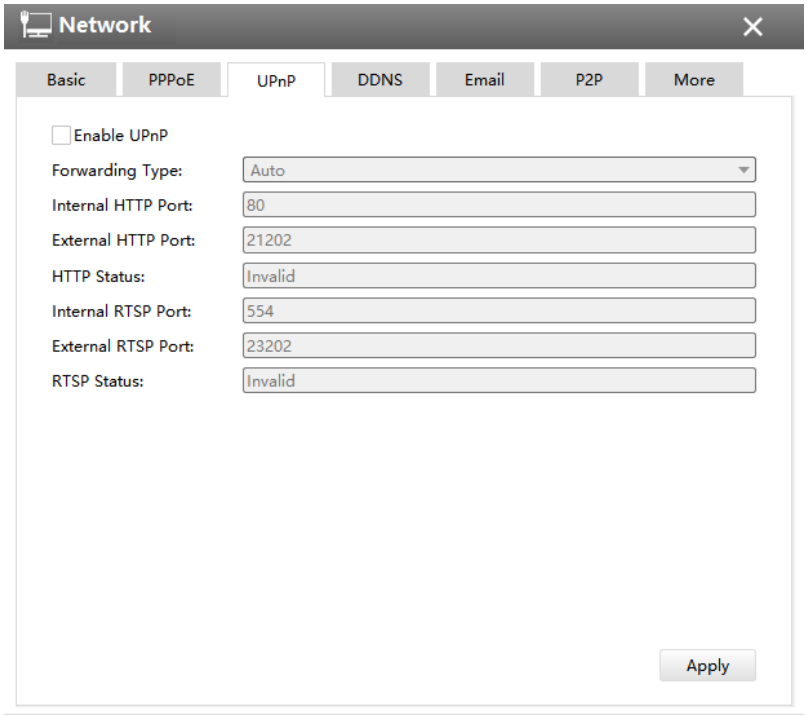
With the function enabled, Ethernet hosts can be connected to a remote access concentrator via a simple bridging device.



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

[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**.



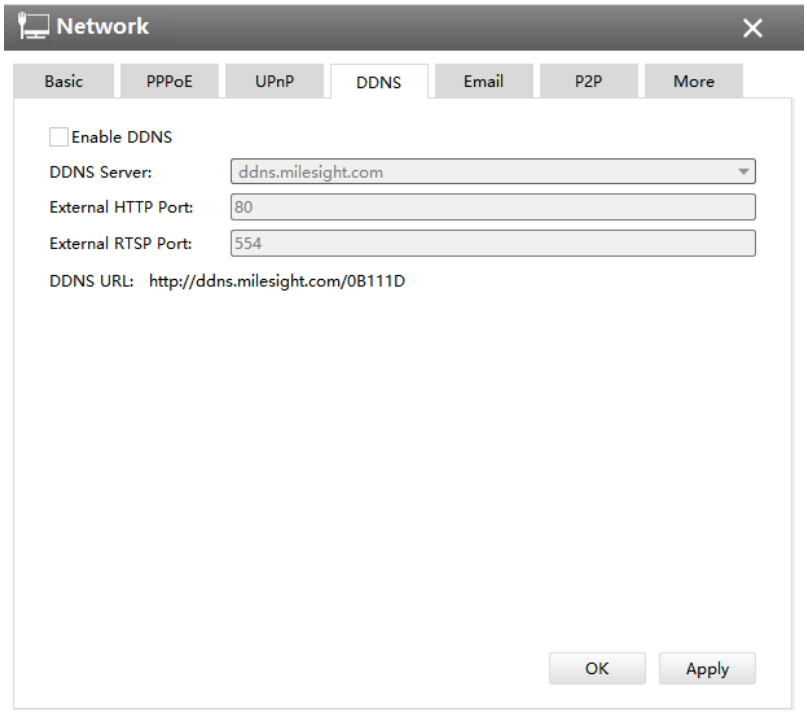
[DDNS]

DDNS (Dynamic Domain Name System) solves the dynamic IP address problems.

Check DDNS check-box to enable it, then select a DDNS Server, 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.

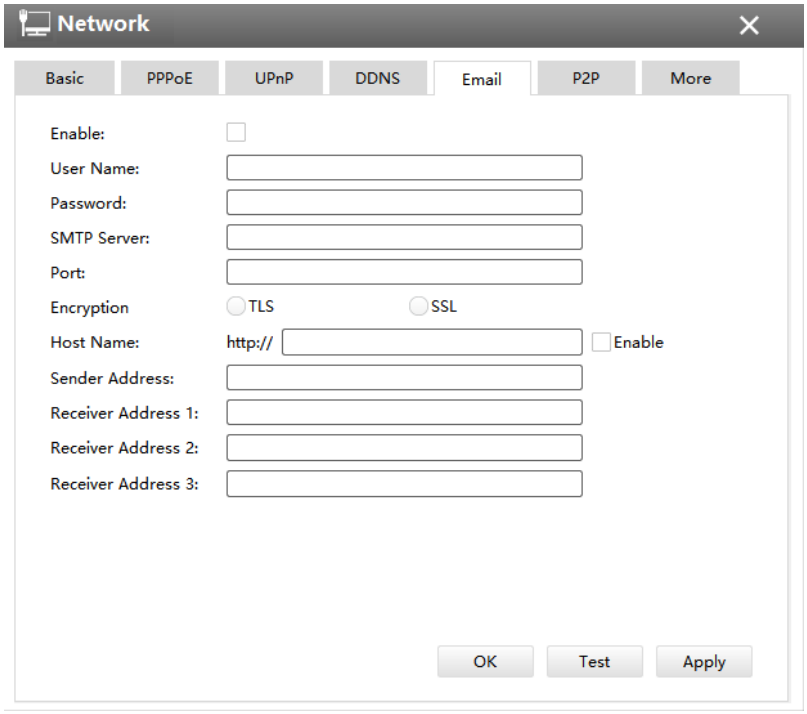
Note: "Host Name" must begin with letters, and it can only contain number, letters, and hyphen.



[Email]

Check whether the SMTP port can be set or not. Please enable SSL/TLS according to actual mailbox. (Some SMTP server needs to secure connection)

Set the Sender E-mail Address, User Name, Password, and SMTP Server:



The meanings of the items on the Network page can be referred to the table below:

Table 6. Description of the buttons

Item	Function Introduction
Enable	Check the checkbox to enable Email **Note:** You can edit the configuration only when you enable the function.
User Name	The E-mail address you chose to send emails
Password	The password of the E-mail
SMTP Server	The SMTP Server of your E-mail
Port	The port of SMTP Server, it's usually 25
Encryption	Check the checkbox to enable SSL or TLS if it is required by the SMTP server.
Host Name	The host address of the E-mail
Sender Name	Named by yourself for the Sender E-mail

Item	Function Introduction
Sender Address	It must be the same as [User name]
Select Receiver	You can have 3 receivers at one time
Receiver Name	Named by yourself for the Receiver E-mail
Receiver Address	E-mail Address for the receivers

[P2P]

You can watch remote NVR live view in WAN by P2P on M-Sight Pro without doing port forwarding on router.

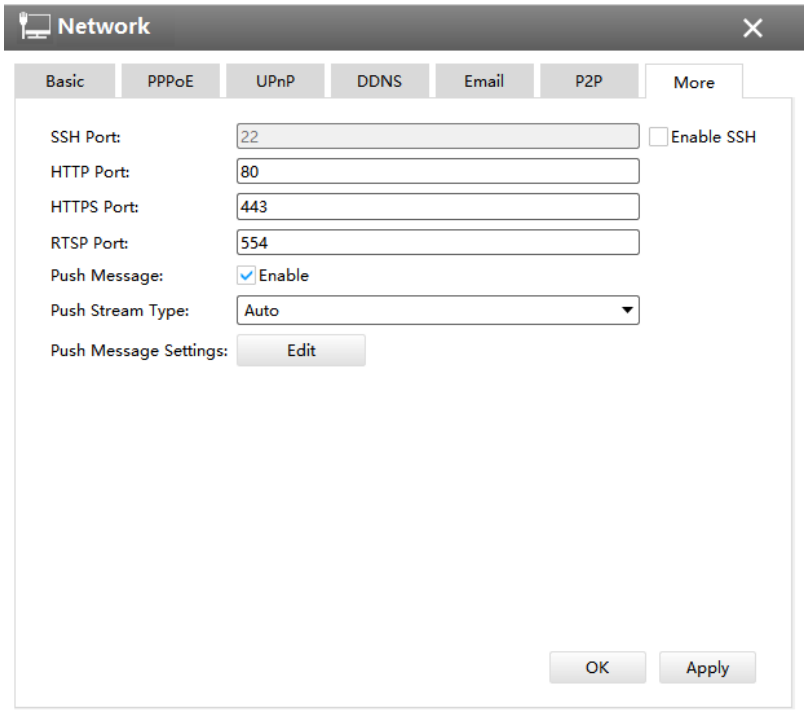
Click “Enable” and “Save” to enable P2P.

P2P is enabled successfully when P2P Status shows “Activated”.

After enabling, you can add the NVR on the APP M-Sight Pro for live view via scanning the QR code on the “P2P” page directly, or inputting the MAC address manually.



[More]



- **SSH Port:**The default SSH port is 22. Only for Milesight R&D debugging.

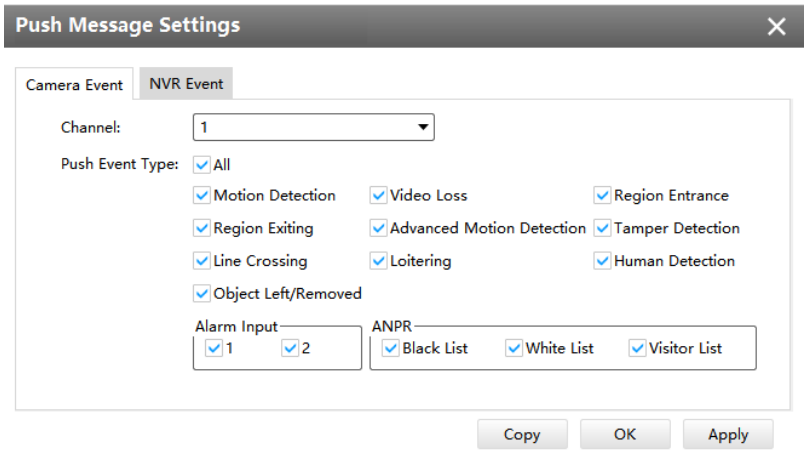
- **HTTP Port:**The default HTTP port is 80. Please modify HTTP ports according to actual application.

- **HTTPS Port:**The default HTTPS port is 443. Please modify HTTPS ports according to actual application.

- **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.

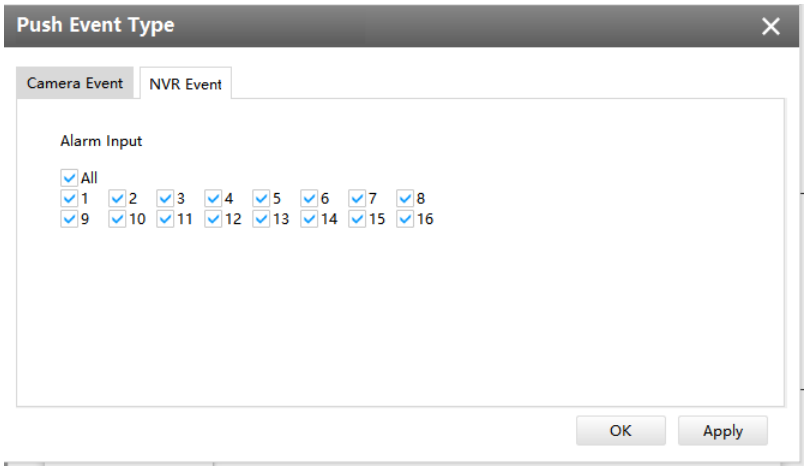
- **Push Message:**With this option enabled, you can receive the alarm message on the mobile application.
- **Push Stream Type:**Select video stream which will be pushed to APP M-Sight Pro. Auto, Primary Stream and Secondary Stream are available.
- **Push Message Settings:**Select Push Event Type which will be pushed to APP M-sight Pro.

(1) Camera Event: You can select different Event Types for different channels, including 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. The ANPR event related message including Black List, White List and Visitor List.



Note: The ANPR compatible in 7X.9.0.12 version or above of Milesight NVRs.

(2) NVR Event: Select channels which you want to push the Alarm Input Event of NVR.

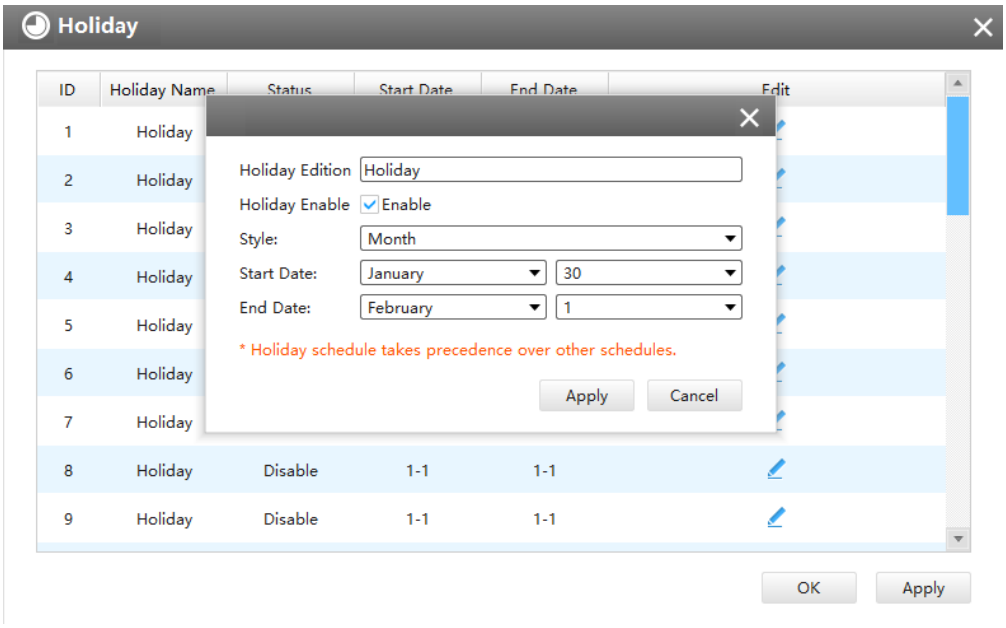


Note:

- Check the DHCP checkbox if there is a DHCP server running in networks;
- The valid range of MTU is 500~9676;
- Do not input an IP address conflicted with another device;
- “Host Name” must begin with letters, and it can only contain number, letters, and hyphen;
- It will email you a screenshot when motion detection is triggered;
- If your NVR has a port forwarding IP for Host Name, please input the complete address that contains the port;
- The default SSH port is 22, and the default HTTP port for IE browser is 80, while the valid range of RTSP port is 554 or 1024~65535.
- There would be no NVR Event interface if your NVR doesn’t have alarm input interface.

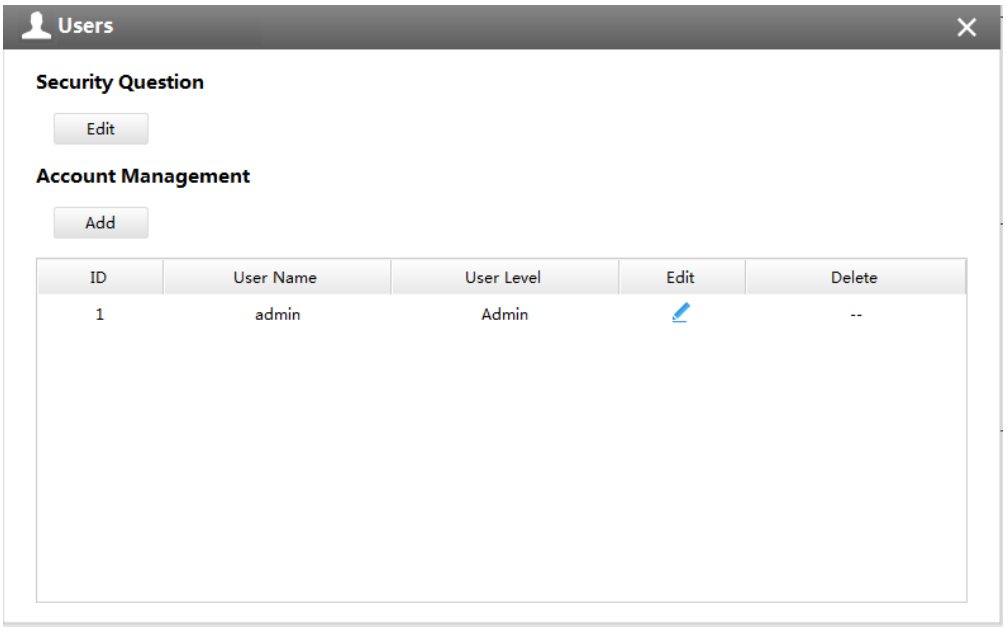
3. Holiday

Click the Holiday button, the Holiday window will pop up. Click the Edit button to edit the selected holiday schedule as below:



4. Users

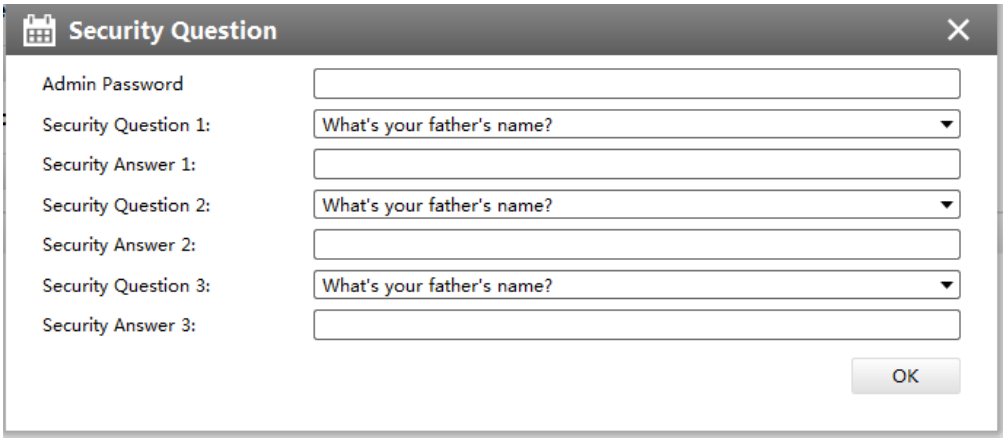
Click the Users button, the setting window will pop up as below:



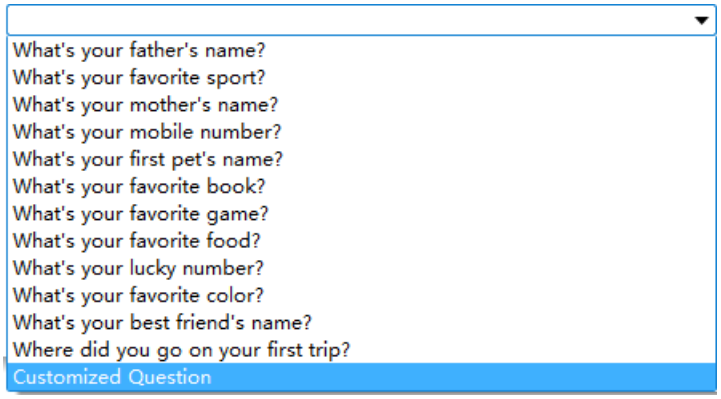
[Security Question]

You can set the Security Question for your NVR, in case you forget the password, you can reset the password by answering the Security Question correctly.

Click “Edit” button, input Admin Password, and set three Security Question for your NVR, then click “OK”.

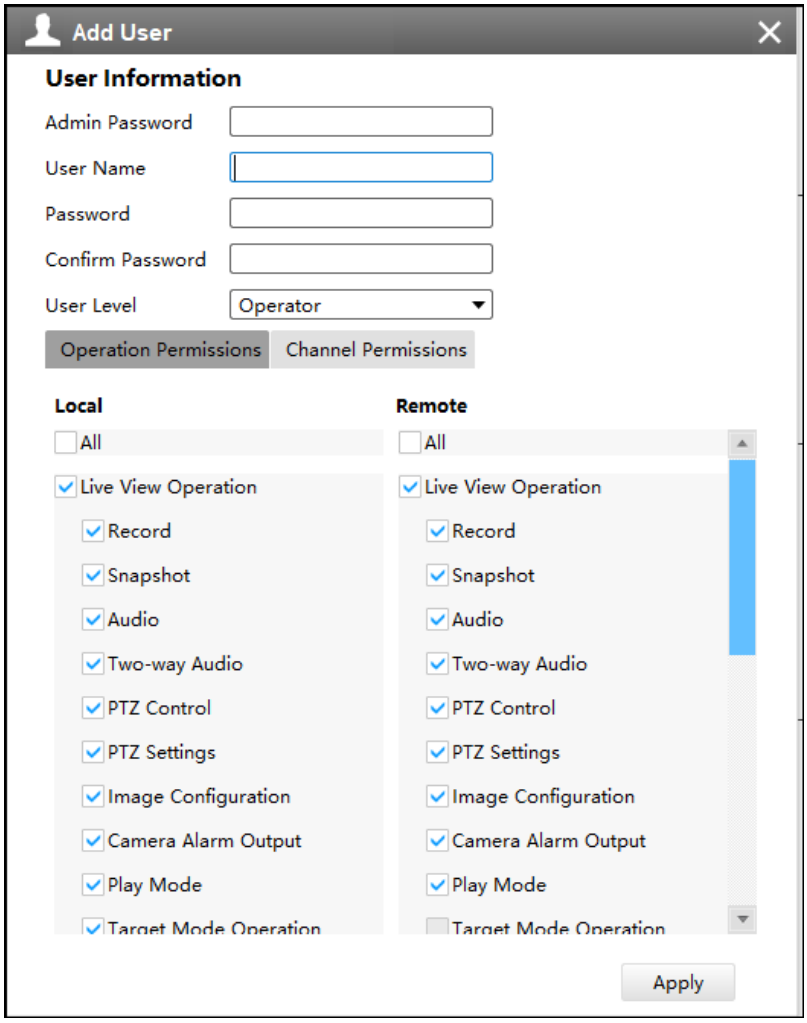


There are twelve default questions below, you can also customize the Security Question.



[Account Management]

There are three user levels in User option: Admin, Operator and Viewer, and you can click the Delete icon to delete “Operator” and “User” while unable to delete “Admin”. Click the Edit icon , setting window will show as Figure below:

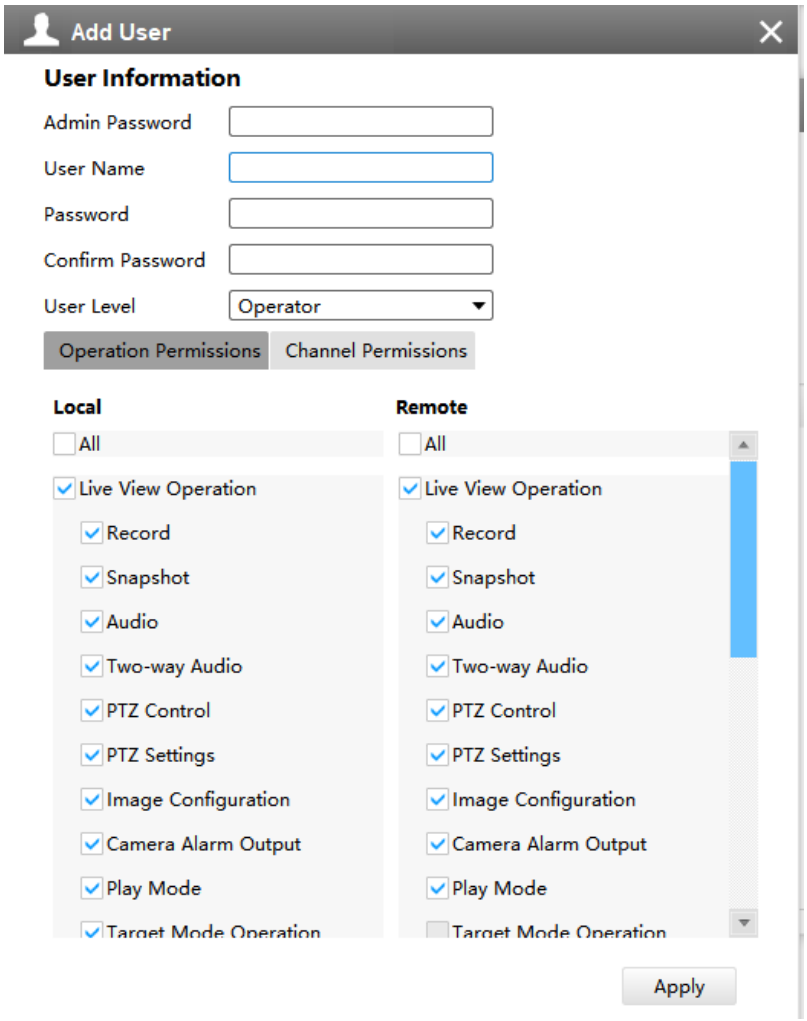


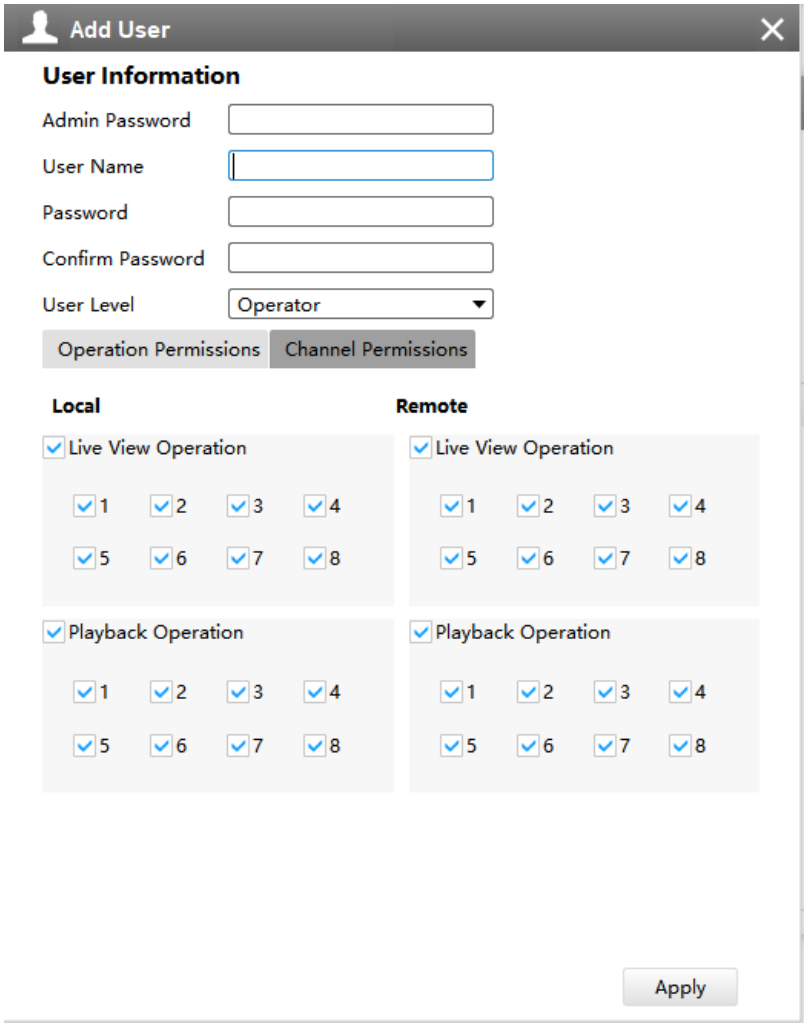
The meanings of the items on the Edit User page can be referred to the table below:

Table 7. Description of the buttons

Item	Function Introduction
User Level	There are two user levels to choose from, operator and viewer
User Name	A name made by yourself to identify users
Admin Password	You should input the admin password before editing the user type
Password	Set the password for different user type
Confirm password	Re-input the same password to ensure the password
Operation Permission	Show the permission including local permissions and remote permissions in different user types, you can scroll the blue bar to get more information
Channel Permission	Choose different channels for different user types

Click the Add button [Add], the setting window will pop up as below:



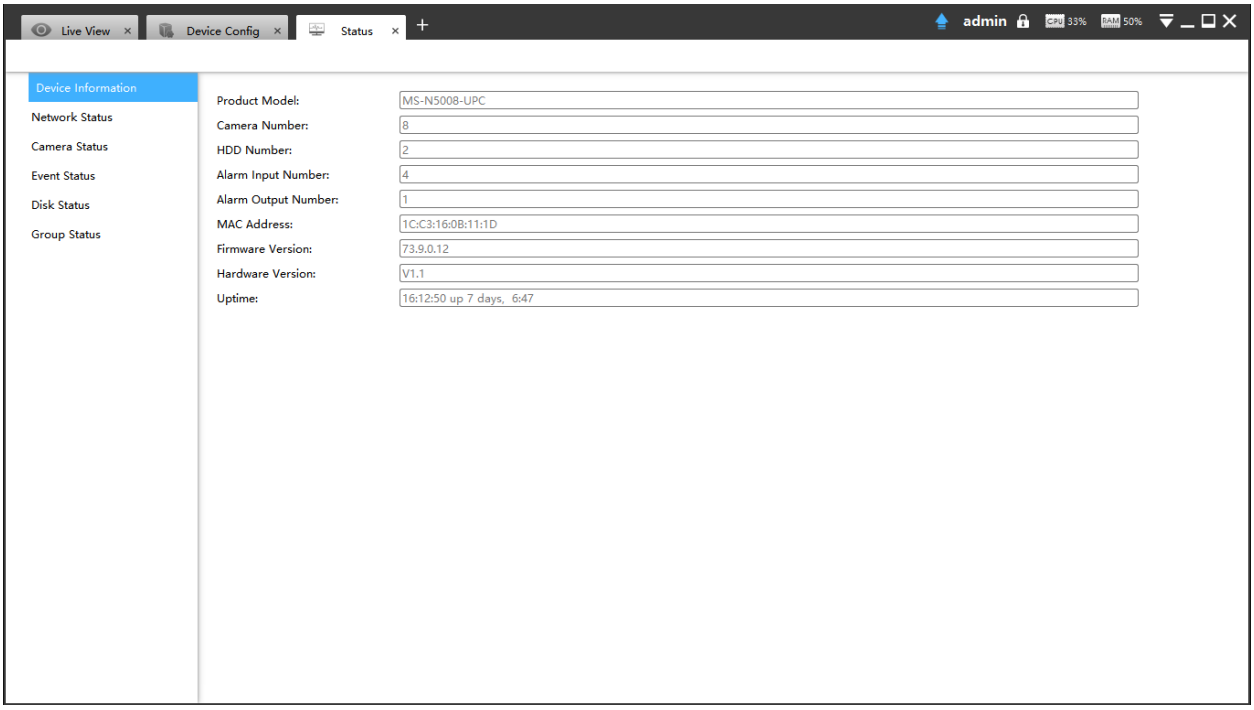


5. Status

Status includes Device Information, Network Status, Camera Status, Event Status and Disk Status. Status adopts the page form to display the contents.

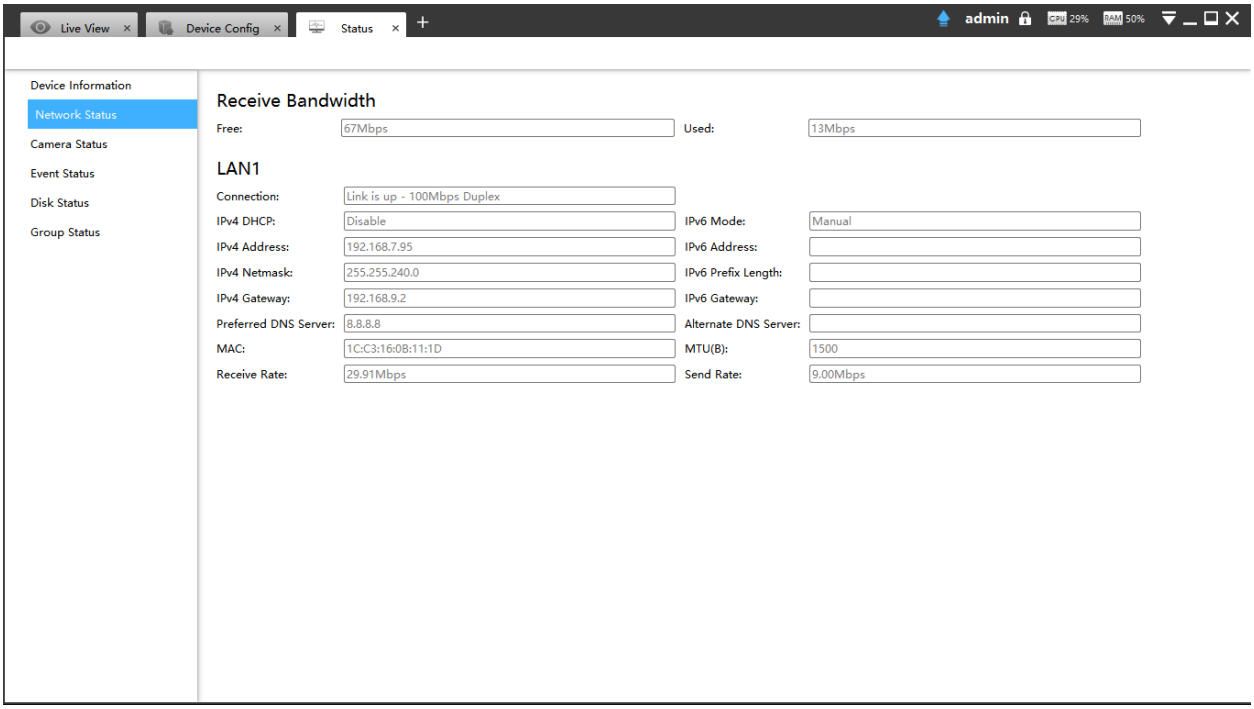
[Device Information]

From this page, you can check the Device ID, Product Model, Camera Number(The maximum number of camera can be added to the NVR), HDD number(The maximum number of HDD can be supported to the NVR), Alarm Input Number, Alarm Output Number, MAC Address, Firmware Version, Hardware Version, Uptime and SDK Version.



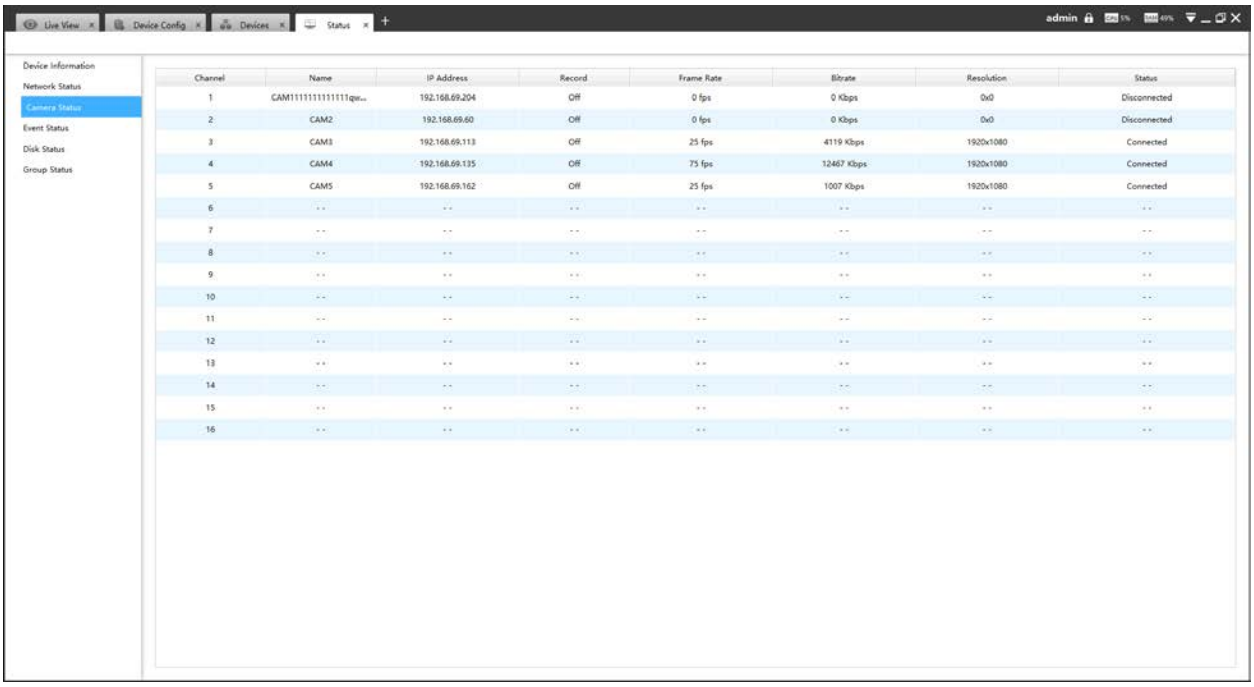
[Network Status]

It will show you information about the network, including: Receive Bandwidth, Connection, Mode, DHCP, MTU(B), IP Address, Subnet Mask, Gateway, MAC Address, Preferred DNS Server, Alternate DNS Server, Receive Rate, and Send Rate.



[Camera Status]

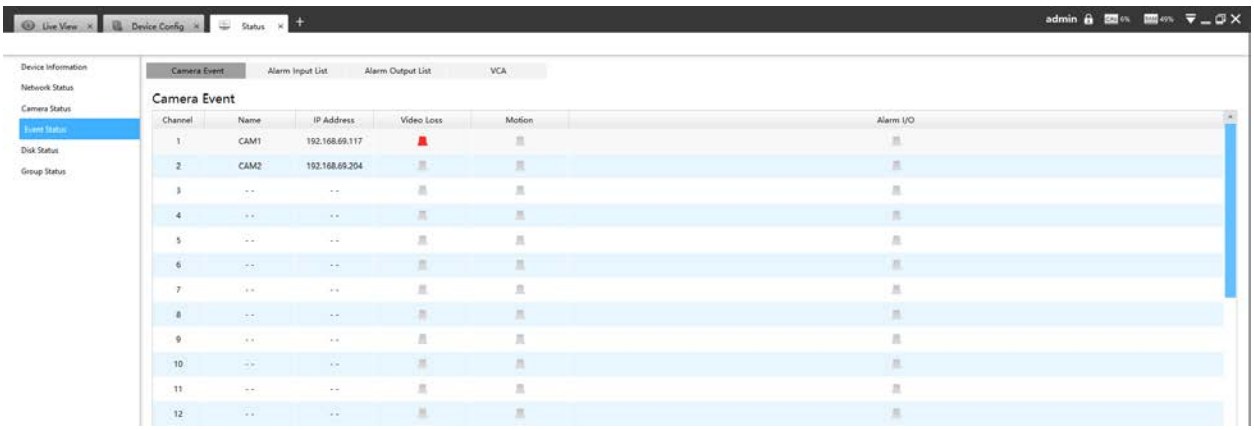
It will show you the Channel, Name, IP address, Record or not, Frame Rate, Bitrate, Resolution of main stream, Status of connection.



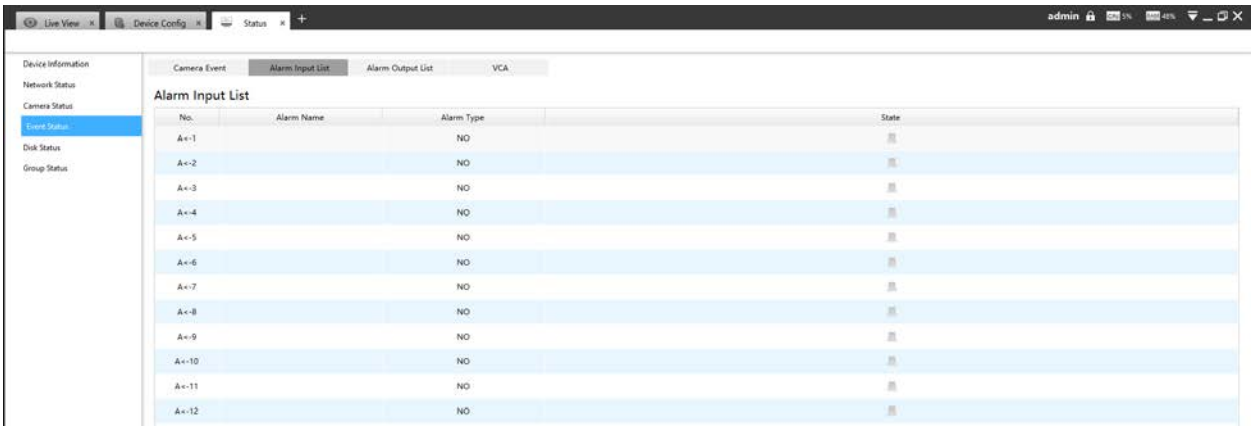
[Event Status]

The icon will turn to red when the device is in the event status:

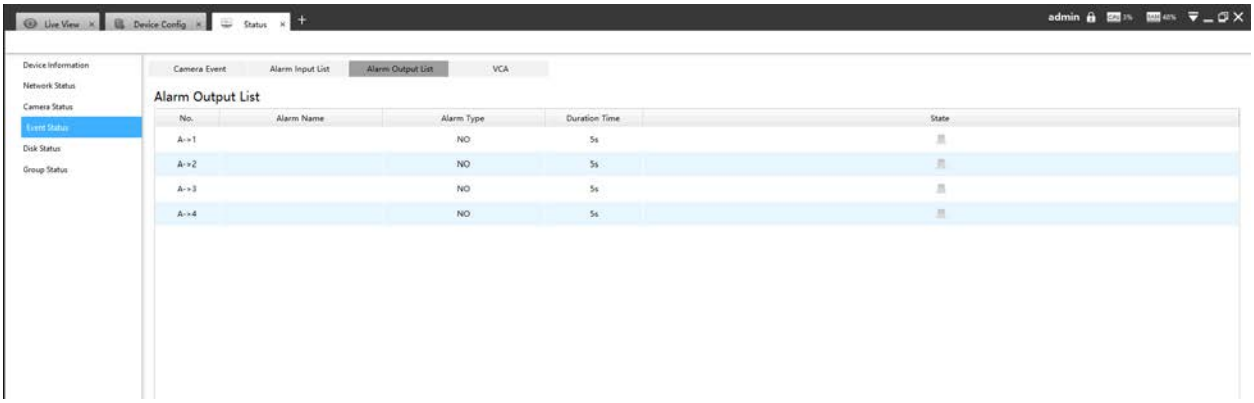
- Camera Event



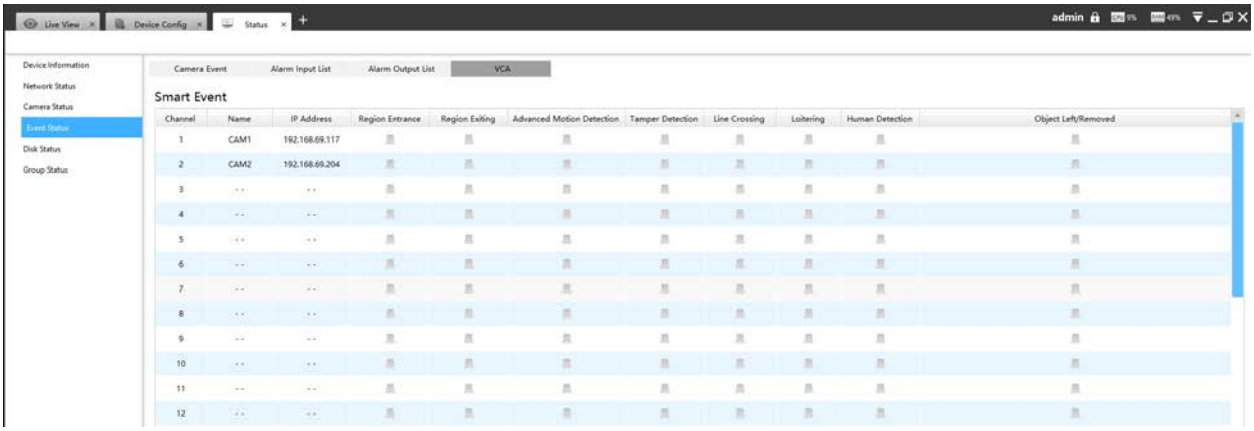
• Alarm Input List



• Alarm Output List

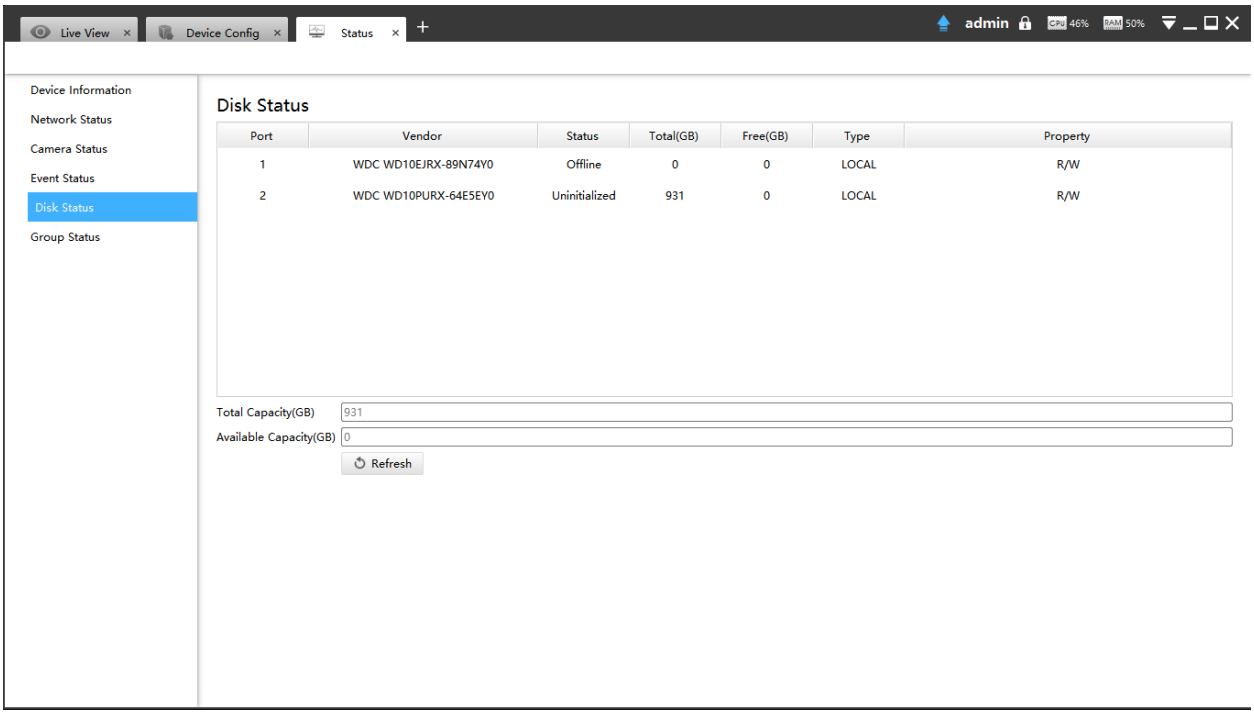


• VCA



[Disk Status]

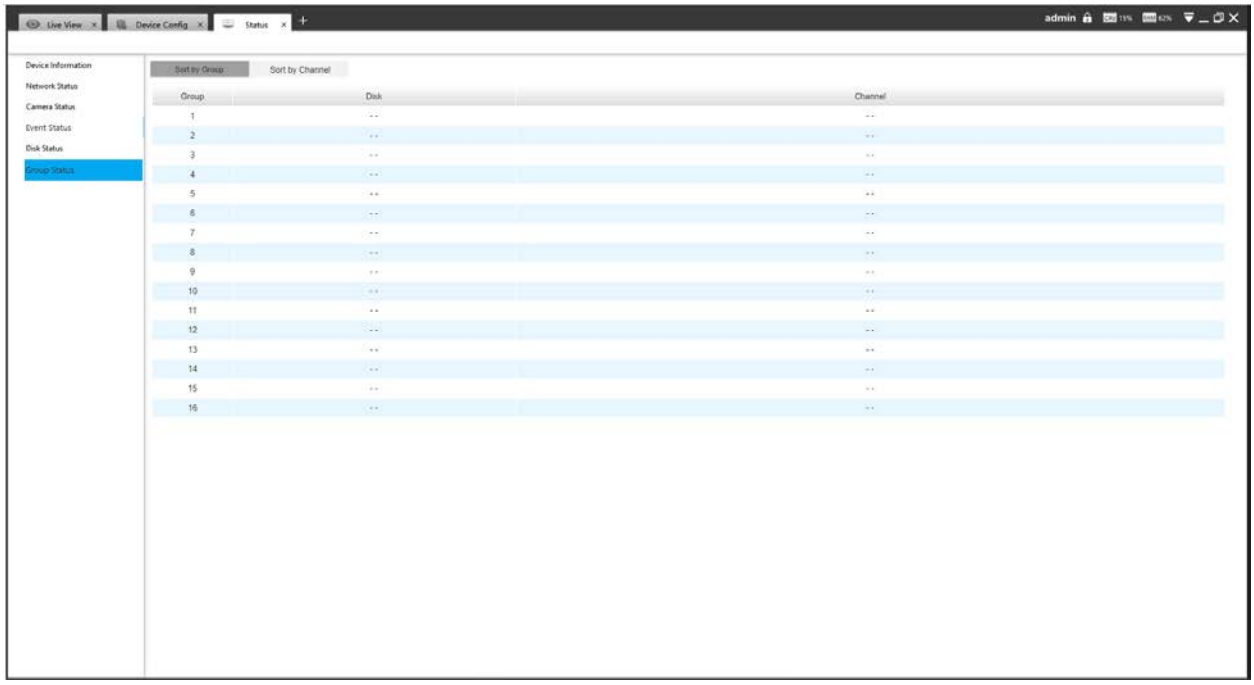
It will show you the Disk port, Vendor, Status, Total capability, Used capability, Free capability HDD type, In use or not and Recycle Mode on or off.



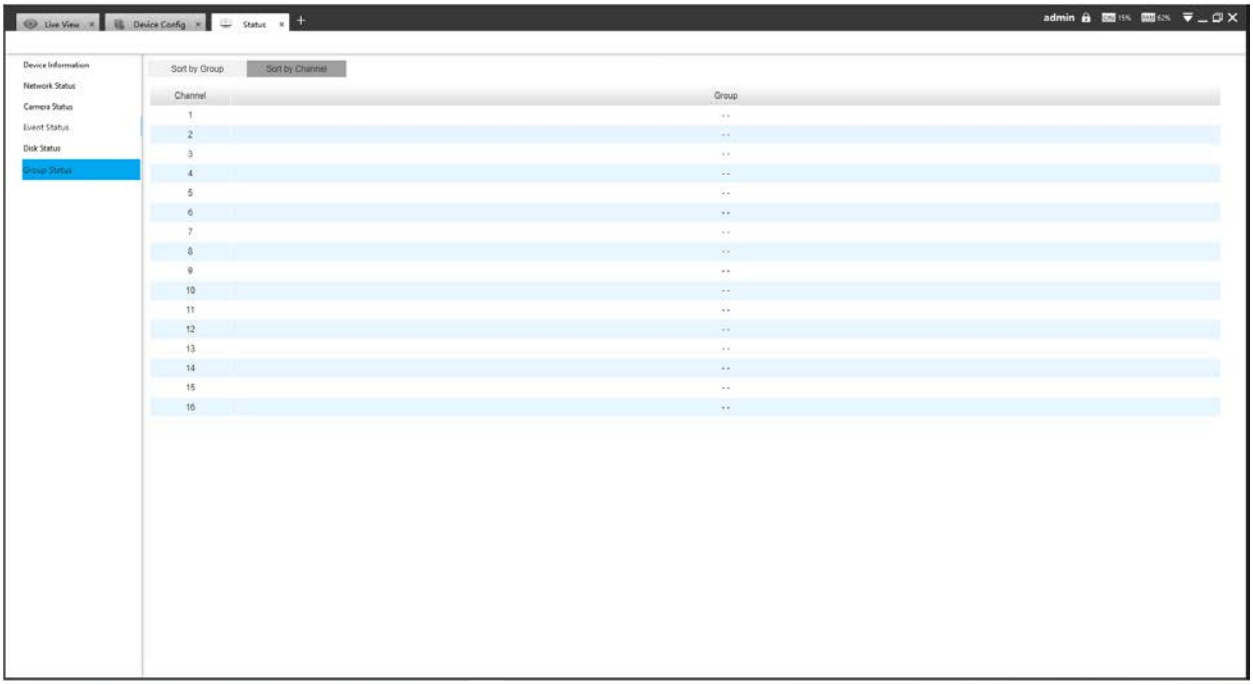
[Group Status]

The page will show data about NVR including Group, Disk and Channel.

- Sort by Group



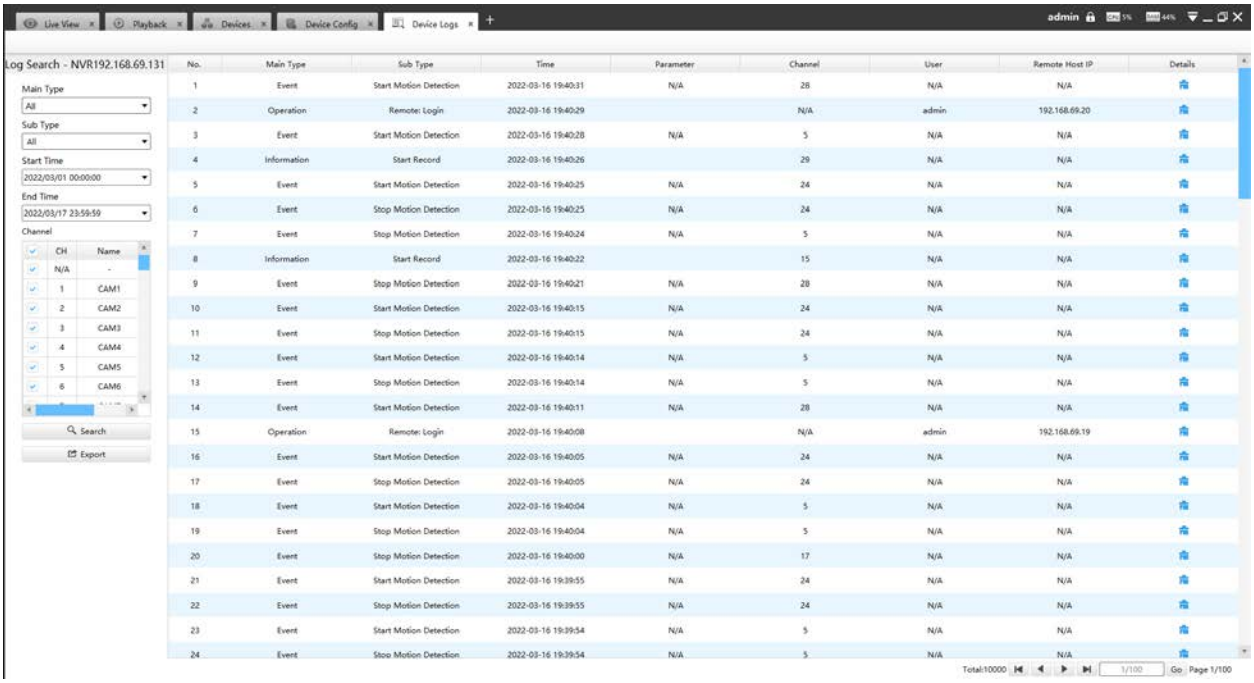
- Sort by Channel



6. Log

In Log interface, you can check, search and export logs. By selecting the Main Type , Sub Type, Channel, Start Time and End Time which can narrow down the scale of logs, you can search for logs that you need and then export them locally.

The Logs page is as below:



The meanings of the items can be referred to the table below:

Table 8. Description of the buttons

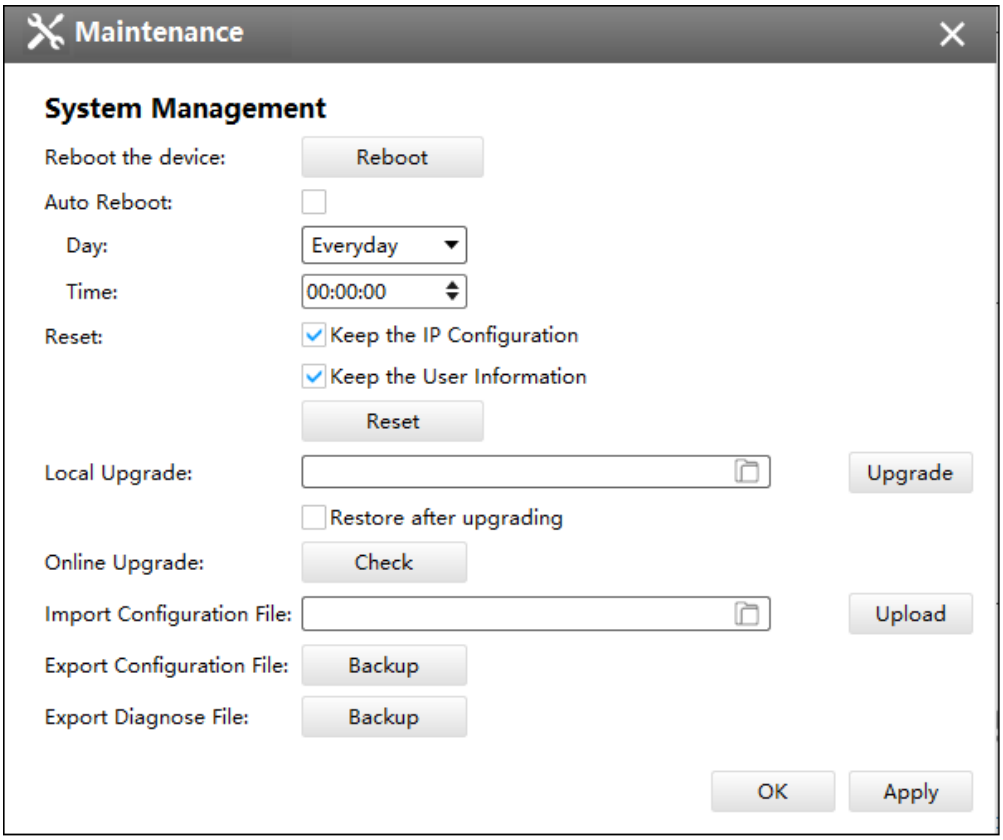
Parameters	Function Introduction
Main Type	There are three main log types: [**All**], [**Event**], [**Operation**], [**Information**], [**Exception**], [**Debug**]
Sub Type	On the premise of main type has been selected, select the sub type to narrow the range of logs
Start Time	The time log starts
End Time	The time log ends
Channel	Check to select the log of the corresponding channel

Parameters	Function Introduction
Search	Click the button to search the matched logs
Export	Export the log file

You can click the button to check the log details, and you can also click the bar to list the log by items such as Log ID, Time, User, Main Type, Sub Type, Device Name, Device Type, etc.

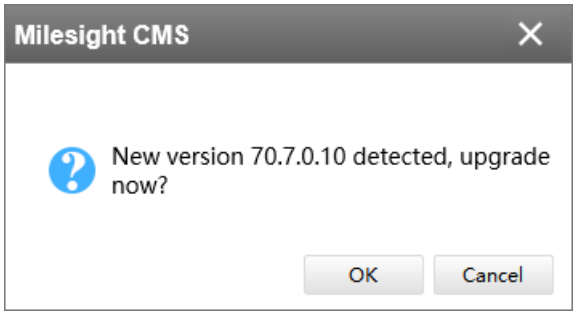
7. Maintenance

The Maintenance page is as below:



The meanings of the items on System page can be referred to the table below:

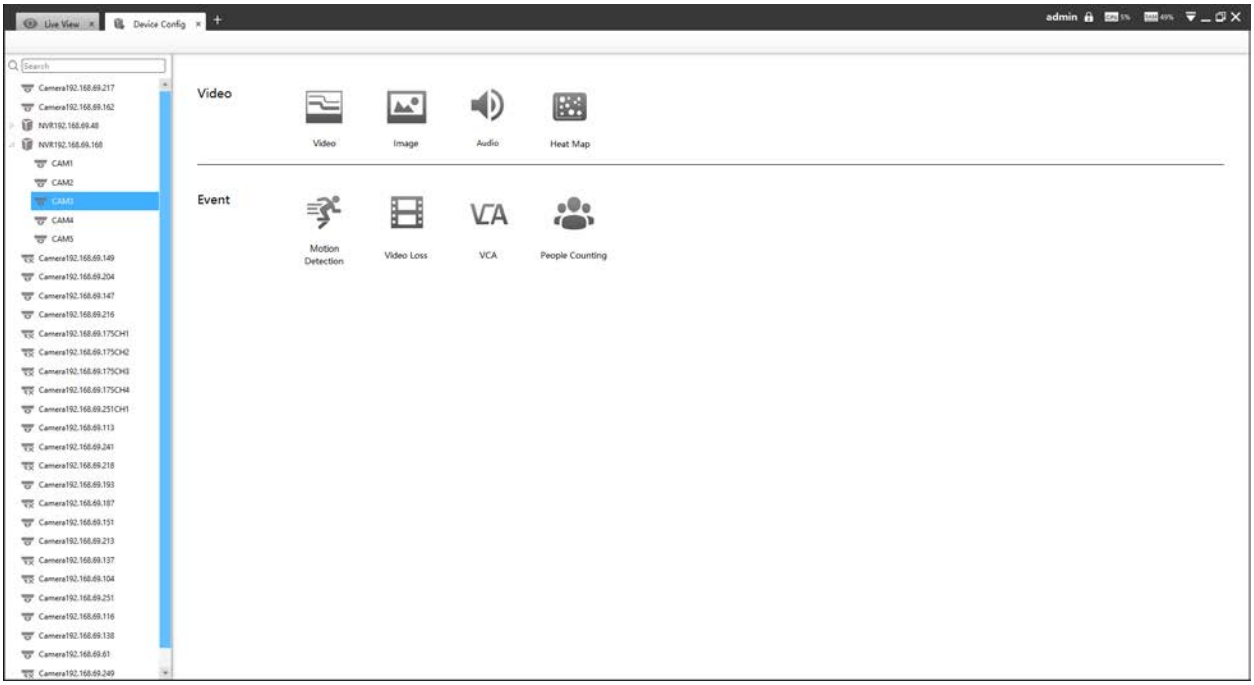
Table 9. Description of the buttons

Parameters	Function Introduction
Reboot the device	Click Reboot button to reboot the device
Auto Reboot	Set day and time for reboot, and the NVR will reboot automatically at the set time. **Day:**Everyday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday. **Time:** Adjustable range from 00:00:00 to 23:59:59. **Note:** Make sure the NVR's version is 7X.9.0.12 or above.
Reset	Click Reset button to reset the settings to the default one. **Keep the IP Configuration:** keep the IP configuration when resetting the device. **Keep the User Information:** keep the User configuration when resetting the device. **Note:** If you disable the "Keep the User Information" option when resetting the device, the device will be reset to the 'Inactive' status, you need to set a password for it again.
Local Upgrade	Click the button to import the firmware file from PC, and click the Upgrade button to upgrade. Enable Restore after upgrading option to restore the settings to the default one after upgrading the device.
Online Upgrade	Click the Check button to check for update, then click OK to update to the latest version when new version is detected. 

Parameters	Function Introduction
Import Configuration File	Click the button to import the configuration file from PC, and click Upload button to import the configuration file.
Export Configuration File	Click Backup button to export the configuration file.
Export Diagnose File	Click Backup button to export logs and system information of the device operation status.

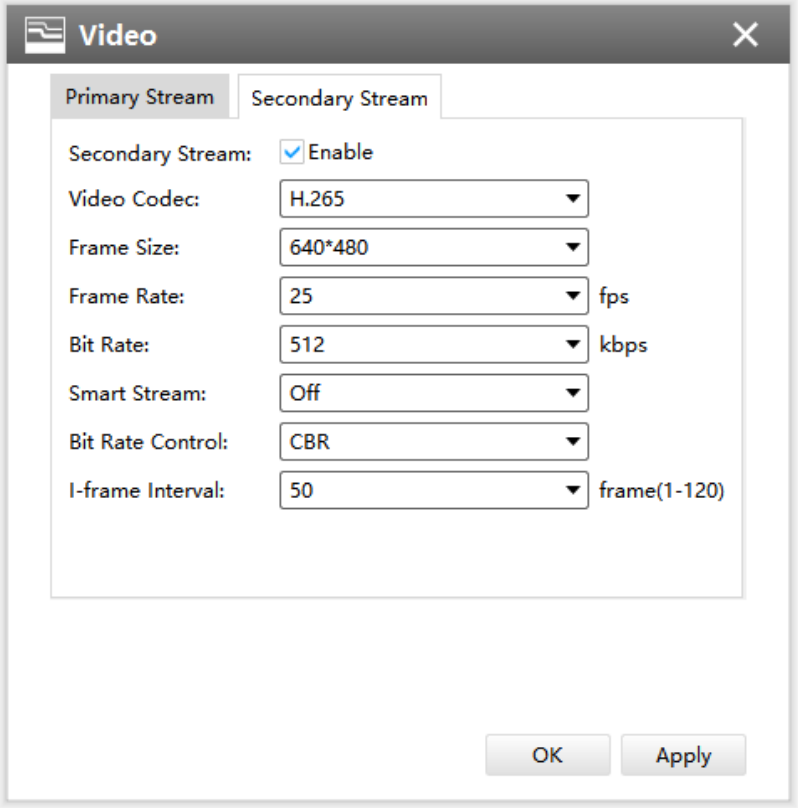
3.2.1.5 Camera

The Device Configuration for Network Camera which inside NVR is as below:



Video

The Video page is as below:



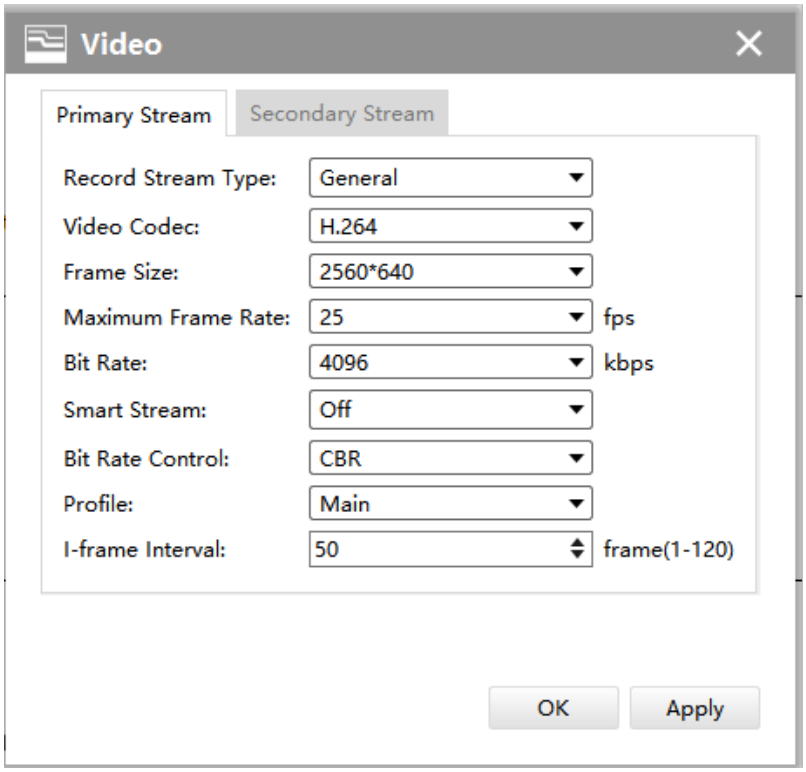
The meanings of the items on the page can be referred to the Table below:

Table 10. Description of the buttons

Parameters	Function Introduction
Record Stream Type	This function supports separate settings of different bit rate and frame rate for different Recording Stream Types including General and Event. For example, you can set lower frame rate or bit rate for General recording while higher frame rate or bit rate for Event recording. The recording storage space can be greatly reduced by using this function. **Note:** Event Record Stream Configuration includes Events like Motion Detection, VCA, Camera Alarm Input and Smart Analysis.
Video Codec	H.265/H.264 available
Frame Size	Options include 4M(2592*1520),3M(2048* 1536), 1080P(1920*1080), 2M(1600 *1200), 1.3M(1280*960), 720P(1280*720), D1 (704*576)
Maximum Frame Rate	Maximum refresh frame rate per second

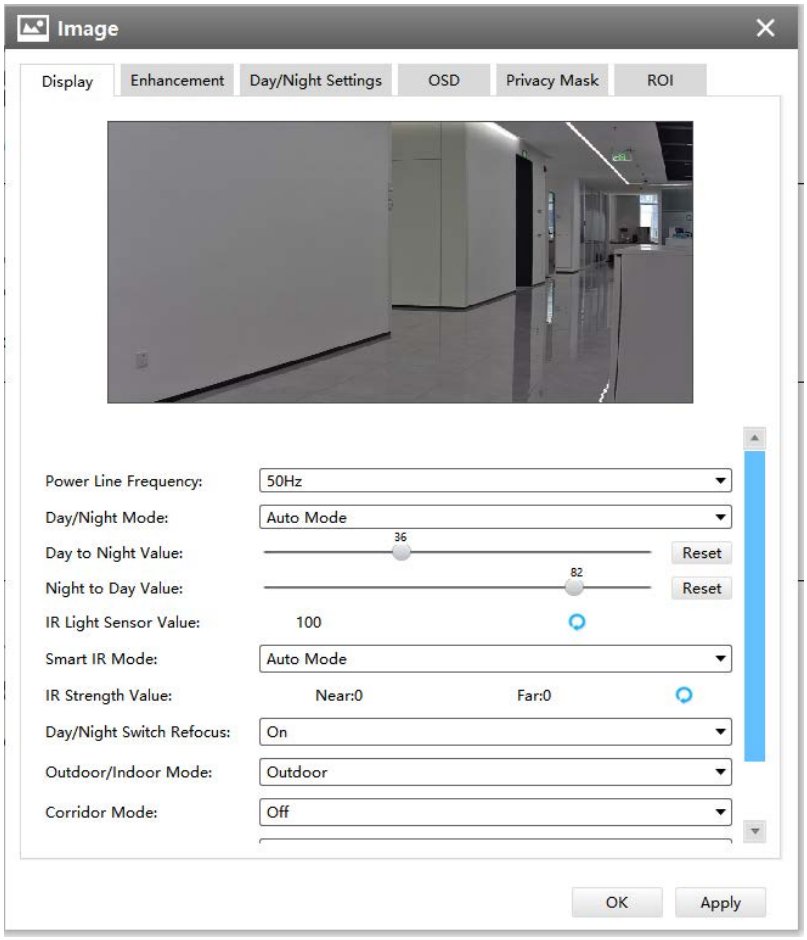
Parameters	Function Introduction
Bit Rate	Transmitting bits of data per second, this item is optional only if you select the H.264
Smart Stream	Smart Stream mode remarkably reduces the bandwidth and the data storage requirements for network cameras while ensuring the high quality of images, and it is a 10-level adjustable codec. It is optional to turn On/Off Smart Stream mode. **Level:** Level 1~10 are available to meet your need.
Bit Rate Control	**CBR:** Constant Bitrate. The rate of CBR output is constant **VBR:** Variable Bitrate. The rate of VBR output will be variable according to the occupation of bandwidth
Profile	The option is for H.264. Base/Main/High can be selected according to your needs
I-frame Interval	Set the I-frame interval to 1~120, this item is optional only if you selected the H.264

Note: If you choose other display modes of fisheye under Multi-channel mode except 1O/1P/2P, then you can not edit secondary stream page as shown below:



Image

Display



Referring to the following table for the illustration of each item on the image page:

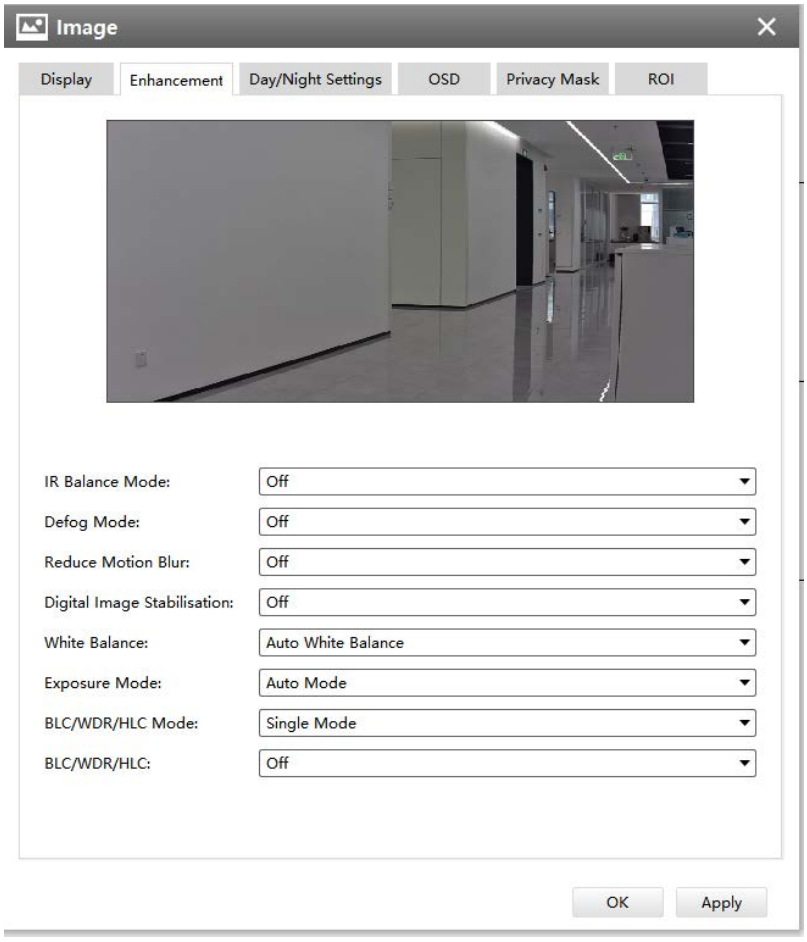
Table 11. Description of the buttons

Parameters	Function Introduction
Power Line Frequency	60HZ flicker for NTSC mode and 50HZ flicker for PAL mode

Parameters	Function Introduction
Day/Night Mode	There are several parameters associated with this mode such as Exposure Level, Maximum Exposure Time and IR-CUT Interval, etc. **Night Mode:** Shown in the live view based on Night Mode settings **Day Mode:** Shown in the live view based on Day Mode settings **Auto Mode:** Shown in the live view based on environment, set the sensitivity for switching Day Mode to Night Mode, or Night Mode to Day Mode **Customize:** Shown in the live view based on your own settings' time to start/end Night Mode
Day To Night Value	This is the sensitivity for switching **Day Mode** to **Night Mode**. When IR Light Sensor Current Value is lower than this value, it will switch Day Mode to Night Mode
Night To Day Value	This is the sensitivity for switching **Night Mode** to **Day Mode**. When IR Light Sensor Current Value is higher than this value, it will switch Night Mode to Day Mode
IR Light Sensor Value	The current value of the IR light sensor
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 intensity of the IR to **Auto Mode** or **Customize** to achieve the best effect.
Near view level	Adjust the light intensity of Low-Beams LED light level from 0 to 100.
Far view level	Adjust the light intensity 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
Outdoor/Indoor Mode	Select indoor or outdoor mode to meet your needs
Corridor Mode	There are three options available, you can select one to meet your need **Off:** Keep the image in normal direction **Clockwise 90°:** Rotate the image by 90° clockwise **Anticlockwise90°:** Rotate the image by 90° anticlockwise

Parameters	Function Introduction
Image Rotation	There are four options available, you can select one to meet your need **Off:** Keep the image in normal direction **Rotating 180°:** Invert the image **Flip Horizontal:** Flip the image horizontally **Flip vertical:** Flip the image vertically
Keep Correct Aspect Ration	With this option enabled, the camera will prevent the image from distortion when resolution ratio is changed

Enhancement



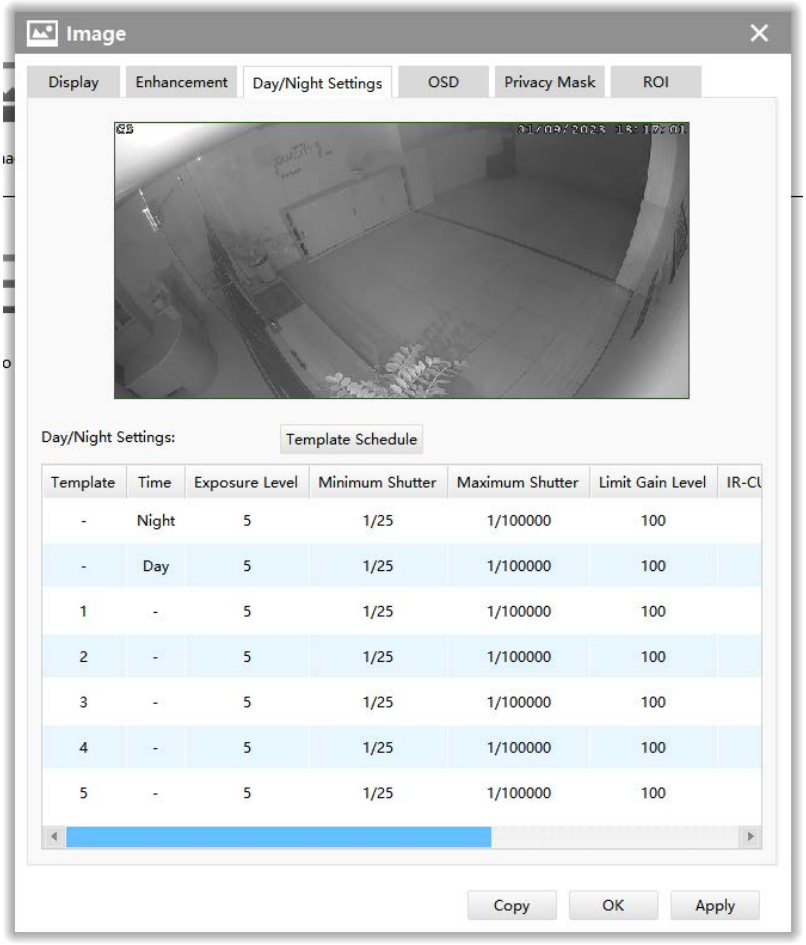
The meanings of the items on Image page can be referred to the table below:

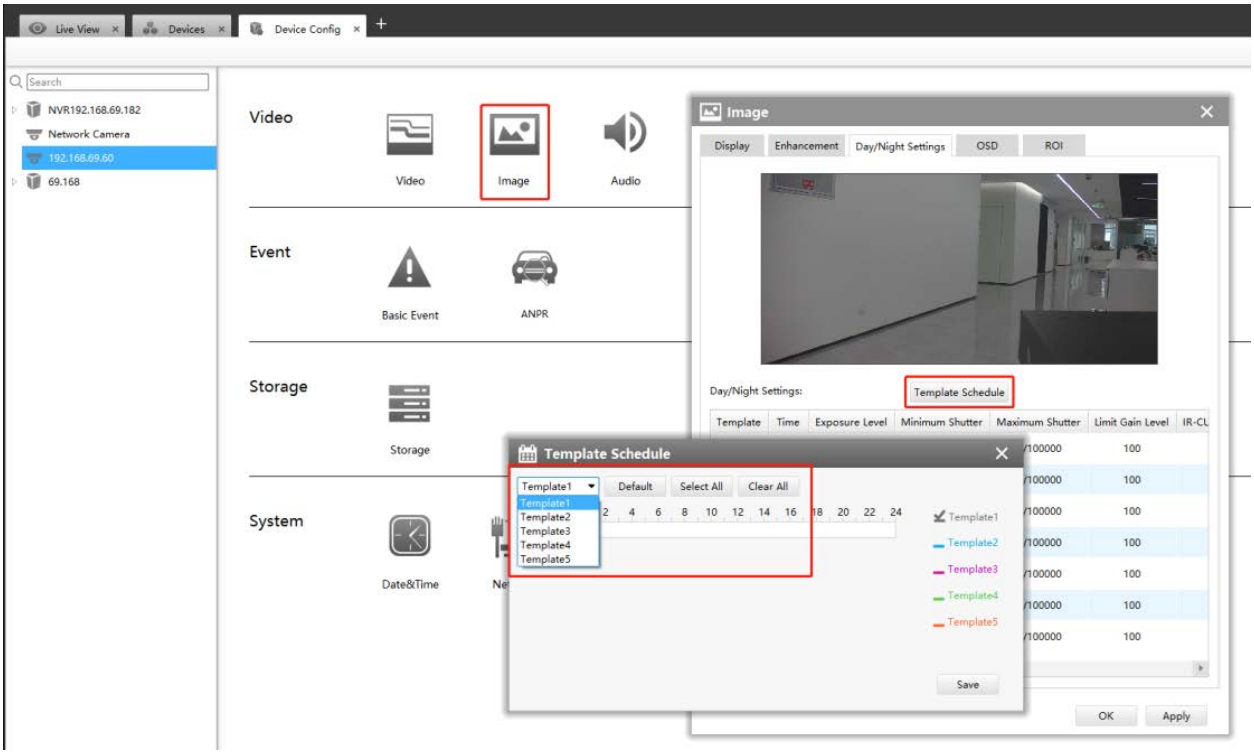
Table 12. Description of the buttons

Parameters	Function Introduction
IR Balance Mode	There is an option to turn On/Off the IR LED. IR Balance Mode would avoid the problem of overexposure and darkness, and the IR LED will change according to the actual illumination.
Defog Mode	Better image effect in foggy weather.
Reduce Motion Blur	Enable this function to reduce the motion blur of objects effectively. You can adjust the deblur level from 1 to 100.
Digital Image Stabilisation	Decrease the blur and shakiness of the image.
White Balance	To restore white objects, removed color distortion caused by the light of the environment **Auto White Balance:**This option will automatically enable the White Balance function **Manual White Balance:** This option is only for H.265 series. Set Red Gain Level and Blue Gain Level manually. **Incandescent Lamp:** Select this option when light is similar with incandescent lamp **Warm Light Lamp:** Select this option when light is similar with warm light lamp **Natural Light**: Select this option when there is no other light but natural light **Fluorescent Lamp:** Select this option when light is similar with Fluorescent Lamp **Schedule mode:** Select this option that you can customize the schedule to enable/ disable above modes
Exposure Mode	Auto Mode, Manual Mode and Schedule Mode are available. **Auto Mode:** The camera will adjust the brightness according to the light environment automatically; **Manual Mode:** The camera will adjust the brightness according to the value you set, you can set the exposure time from 1~1/100000s, the higher the value is, the brighter the image is; **Schedule Mode:** You can customize the schedule to enable/disable Auto Mode and Manual Mode.
BLC/WDR/HLC Mode	**Single Mode:** Set single mode for BLC/WDR/HLC. **Day/Night Mode:** Support BLC/WDR/HLC on Day Enhancement Mode/Night Enhancement Mode separately. **Schedule Mode:** Set schedule mode for BLC/WDR/HLC.

Parameters	Function Introduction
BLC Region	Off, Customize, and Centre are available (in single mode, only enable when WDR is disable) **Off:** Calculate the full range of view and offer appropriate light compensation **Customize:** This option enables you to customize inclusive or exclusive region manually **Centre:** This option will automatically add an inclusive region in the middle of the window and give the necessary light compensation **Note:** If you choose other display modes of fisheye under Multi-channel or Bundle-Stream mode except display mode with Original view, then you can not set the option.
Wide Dynamic Range	This function which can capture and display both bright and dark areas in the same frame enables details of objects in both bright and dark areas to be visible. **Off:** Disable WDR function **On:** Enable the WDR, there are three levels of **Low/High/Auto** **Customize:** Customize the schedule to enable/disable the WDR function and set the levels with Low/High/Auto
Wide Dynamic Level	Set WDR with **Low/High/Auto** level
Anti-flicker Level	Reduce flickers that appear on screen in some lighting conditions and there are 10 levels of anti-flicker adjustments
High Light Compensation	This function is only for H.265 series to adjust the brightness to a normal range when the light is strong, refers to Figure 4-4-11 **Off:** Disable HLC function **General Mode:** Enable the general mode of HLC, and there is a setting for HLC Level **Enhanced Mode:** Enable the enhanced mode of HLC, and there is a setting for HLC Level
HLC Level	Select level for HLC
Day Enhancement Mode	BLC/WDR/HLC are available.
Night Enhancement Mode	BLC/WDR/HLC are available.

Day/Night Settings


Image
Display
Enhancement
Day/Night Settings
OSD
Privacy Mask
ROI
Day/Night Settings:
Template Schedule
Template
Time
Exposure Level
Minimum Shutter
Maximum Shutter
Limit Gain Level
IR-CU
- Night 5 1/25 1/100000 100
- Day 5 1/25 1/100000 100
1 - 5 1/25 1/100000 100
2 - 5 1/25 1/100000 100
3 - 5 1/25 1/100000 100
4 - 5 1/25 1/100000 100
5 - 5 1/25 1/100000 100
Copy
OK
Apply



Referring to the following table for the illustration of each item on the image page:

Table 13. Description of the buttons

Parameters	Function Introduction
Exposure Level	Level 0~10 are available to meet your need
Minimum Shutter	Minimum Shutter is the same as Maximum Exposure Time. Set the minimum Shutter to 1~1/100000s
Maximum Shutter	Maximum Shutter is the same as Minimum Exposure Time. 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
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

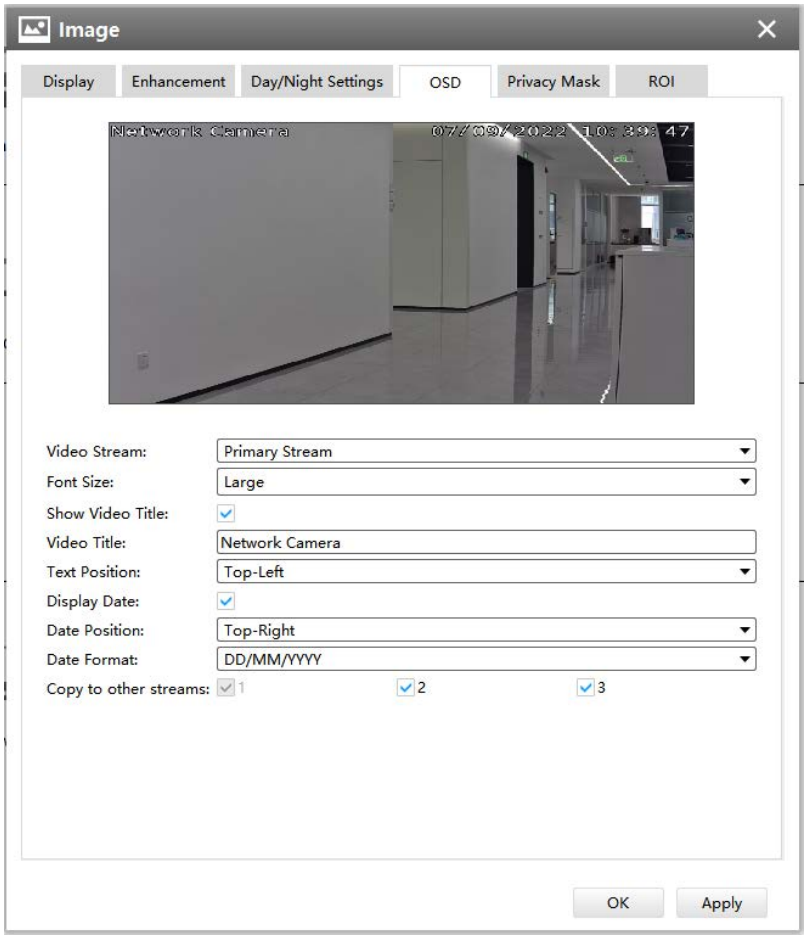
Template setting:

If you want to preset a template for day / night switching to the set image mode, you can do it under the template schedule ,

Set the corresponding time period under the template schedule, and then click the icon to set the image parameters corresponding to the time.

It can currently support 5 template settings but please ensure that the version of the camera reaches XX.8.0.1 or above

OSD



Referring to the following table for the illustration of each item on the image page:

Table 14. Description of the buttons

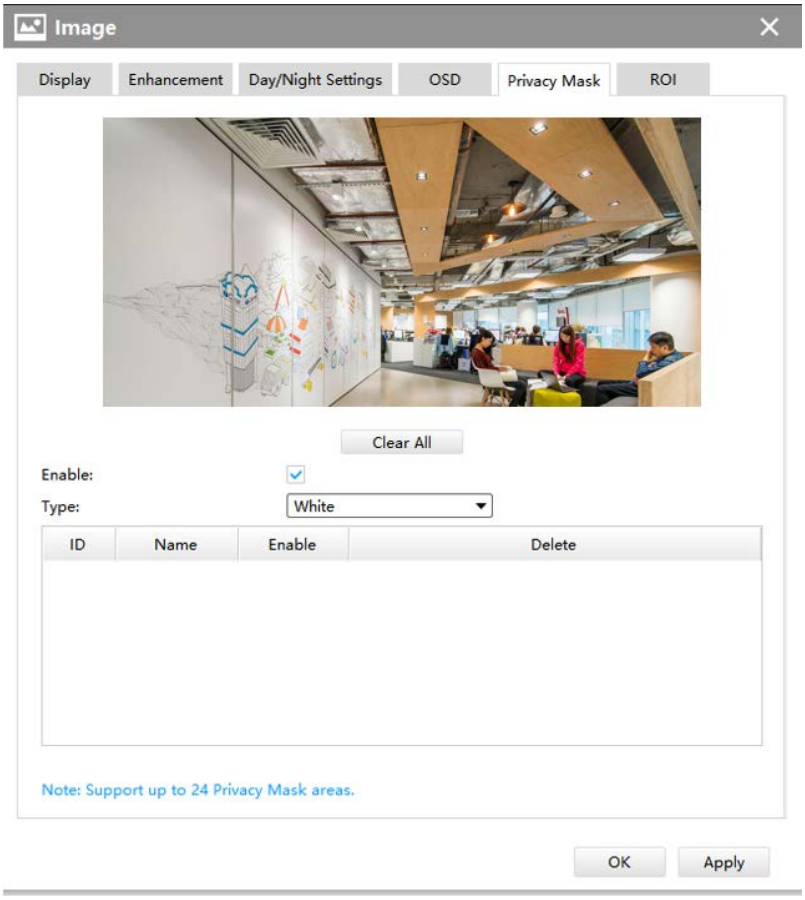
Parameters	Function Introduction
Video Stream	Enable to set OSD for primary stream and secondary stream **Note:** This option is not available for cameras that enable Area Cropping.
Font Size	Smallest/Small/Medium/Large/Largest/Auto are available for title and date

Parameters	Function Introduction
Show Video Title	Check the checkbox to show video title
Video Title	Customize the OSD content
Text Position	OSD display position on the image
Display Date	Check the checkbox to display date on the image
Date Position	Date display position on the image
Date Format	The format of date
Copy to Other Streams	Copy the settings to other streams **Note:** This option is not available for cameras that enable Area Cropping.

Privacy Mask

- For non-AI series

It supports up to 24 areas, the setting steps are as below:



Step1: Enable the Privacy Mask function;

Step2: Choose the mask color;

Step3: Hold down the mouse to draw the area in the preview window and click [Add] button to apply settings;

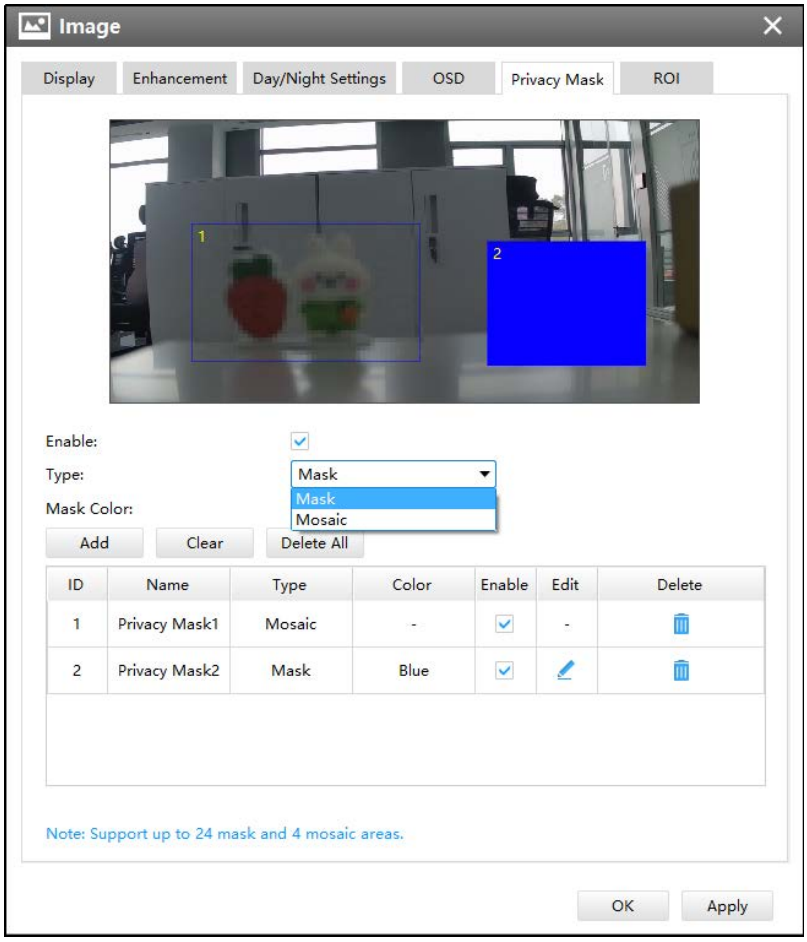
Step4: Click the button to delete mask area, or click [Delete All] button to clear all drawn areas, then click the [Apply] button.

- For AI series

It supports up to 28 areas, which include 24 mask areas and 4 mosaic areas.

Note: Make sure your camera version is Vxx.7.0.79 or above.

The setting steps are as below:



Step1: Enable the Privacy Mask function;

Step2: Choose the mask type as Mask or Mosaic;

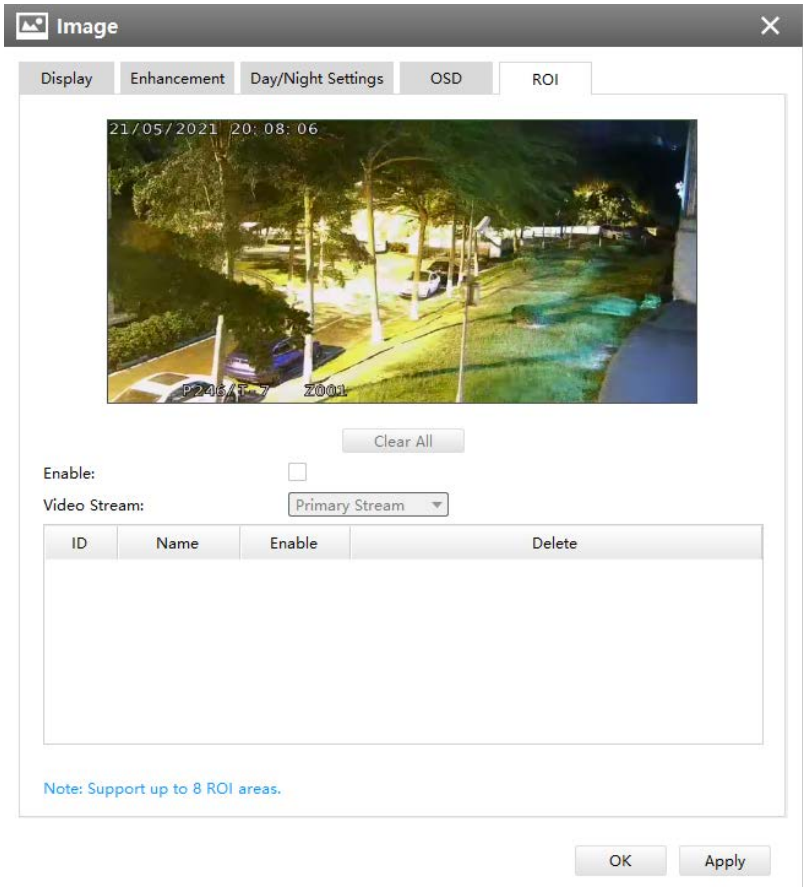
Step3: Hold down the mouse to draw the area in the preview window. If you choose the mask type as Mask, you can Change the color of Mask area, there are eight colors available: White, Black, Blue, Yellow, Green, Brown, Red and Purple.

Step4: Click button to enable or disable the corresponding areas, or click button to delete the areas.

Step5: click the [Apply] button to apply the settings, or click [Delete All] button to clear all drawn areas.

Note: If you choose other display modes of fisheye camera under Multi-channel or Bundle-Stream mode except display mode with Original view, then you can not use the function.

ROI



CMS supports ROI and supports setting up to 8 areas for primary and secondary streams respectively. The setting steps are shown as below:

Step1: Check the checkbox to enable the ROI function;

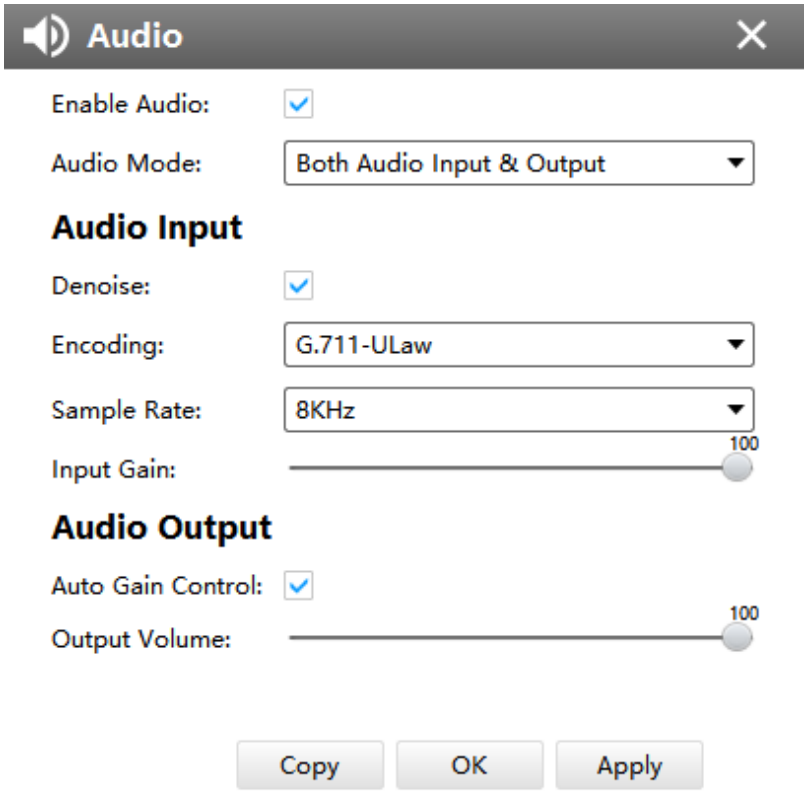
Step2: Choose the video stream type as primary or secondary stream;

Step3: Hold down the mouse to draw the area and click [Apply] button to apply settings;

Step4: Click the [Clear All] button to clear all drawn area.

Audio

This audio function allows you to hear the sound from the camera or transmit your sound to the camera side. A two-way communication is also possible to be achieved with this feature. Alarm can be triggered when the audio input is above a certain alarm level you set, and configured audio can be played when an alarm occurs.



The meanings of the items on Audio page can be referred to the table below:

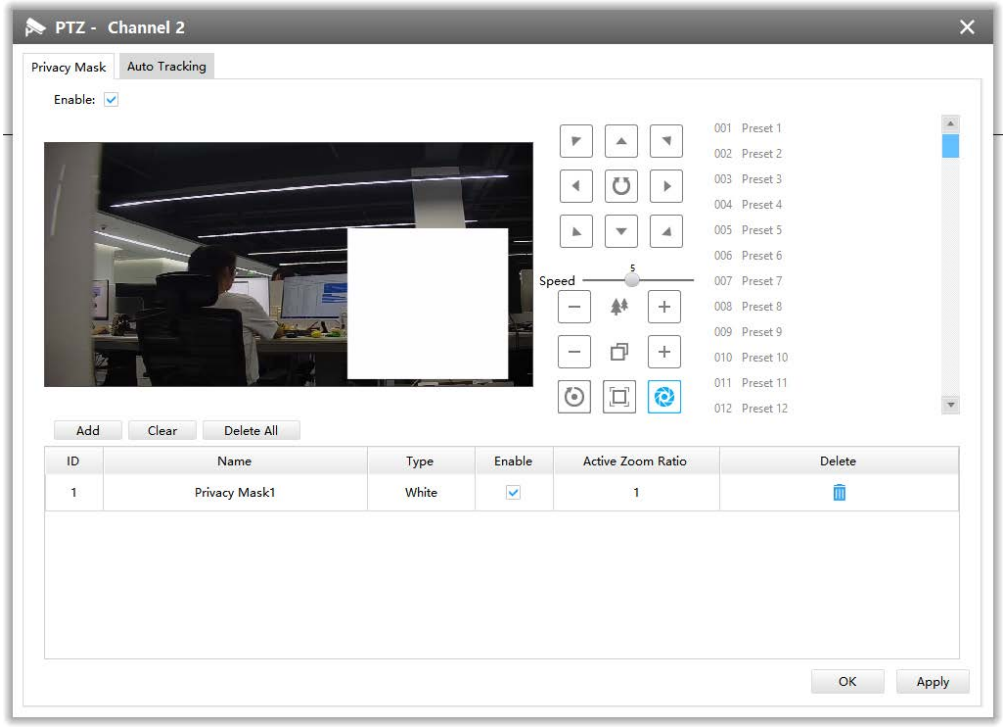
Table 15. Description of the buttons

Parameters	Function Introduction
Enable Audio	Check the checkbox to enable audio feature
Audio Mode	Only Mic, Only Speaker, Both Mic and Speaker are available
Audio Input	**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. **Input Gain:** Input audio gain level, 0-100
Audio Output	**Auto Gain Control:** Set it as On/Off **Output Volum:** Output level, 0-100

PTZ

Privacy Mask

Milesight CMS supports privacy mask with up to 24 areas.



The meanings of the items on Privacy Mask page can be referred to the table below:

Table 16. Description of the buttons

Parameters	Function Introduction
Enable	Check the checkbox to enable the Privacy Mask function
Add	Add the current drawing area as Privacy Mask
Clear	Clear the current drawing area
Clear All	Clear all areas you drew before
Name	Support to customize the name of Privacy Mask
Type	Select the color for the privacy areas, there are eight colors available: White, Black, Blue, Yellow, Green, Brown, Red, Purple
Enable	Check the checkbox to enable or disable the corresponding area
Active Zoom Ratio	Set the value of Active Zoom Ratio according to your need, and then the mask will only appear when the zoom ratio is greater than the predefined value

Parameters	Function Introduction
Delete	Click to delete the selected area

The setting steps are shown as below:

Step1: Check the checkbox to enable the Privacy Mask function;

Step2: Hold the mouse to draw the privacy area and click [Add] button to add the area;

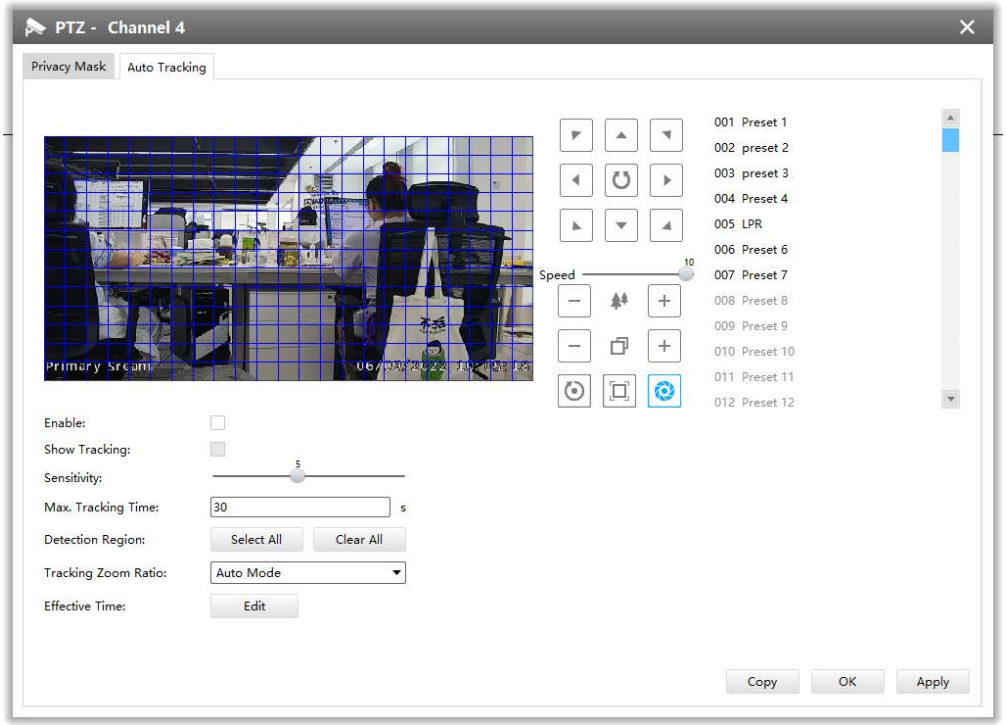
Step3: You can edit the added area information including Name, Type and Active Zoom Ratio;

Step4: Click [Apply] button to apply settings;

Step5: Click the [Clear] button to clear drawn area, while click the [Delete All] button to delete all added area.

Auto Tracking

- Auto Tracking (for AI PTZ cameras)



Milesight CMS supports Auto Tracking function on PTZ Camera Series. The setting steps are shown as below:

Step1: Check the checkbox to enable Auto Tracking;

Step2: Enable “Show Tracking” to show tracking in Auto Tracking function;

Step3: Set detecting sensitivity;

Step4: Set Max. Tracking Time which must be between 5~300s. The camera will stop tracking when the tracking time is up;

Step5: Set Detection Region;

Step6: 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 camera would adjust the zoom ratio automatically according to the distance and speed of moving object under Auto Mode. If select Customize, PTZ camera would adjust to the zoom ratio you set before when tracking the target.

How to set Customize Tracking Zoom Ratio:

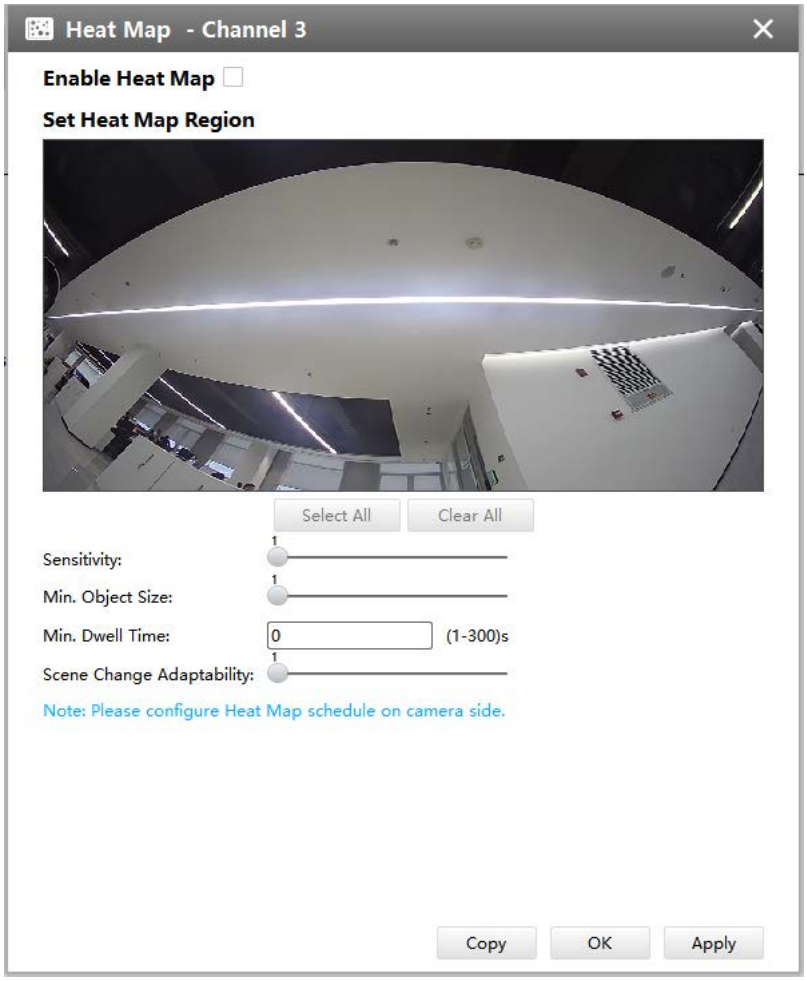
- Set zoom ratio by clicking  button.
- Click to [Set] save your configuration.

Step7: Set Auto Tracking effective time;

Step8: Click the [Apply] button.

Heat Map

Milesight CMS supports to enable Heat Map and make some configurations for panoramic cameras.



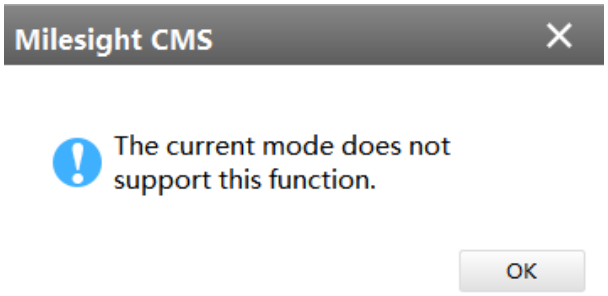
The meanings of the items on Heat Map can be referred to the table below:

Table 17. Description of the buttons

Parameters	Function Introduction
Enable Heat Map	Check the checkbox to enable the Heat Map function
Set Heat Map Region	Draw the heat map area
Select All	Select the current drawing area as Heat Map Region
Clear All	Clear all areas you drew before
Sensitivity	Level 1~10 are available, and the default level is 5. The higher the sensitivity, the easier it is for moving objects to be recorded in the results

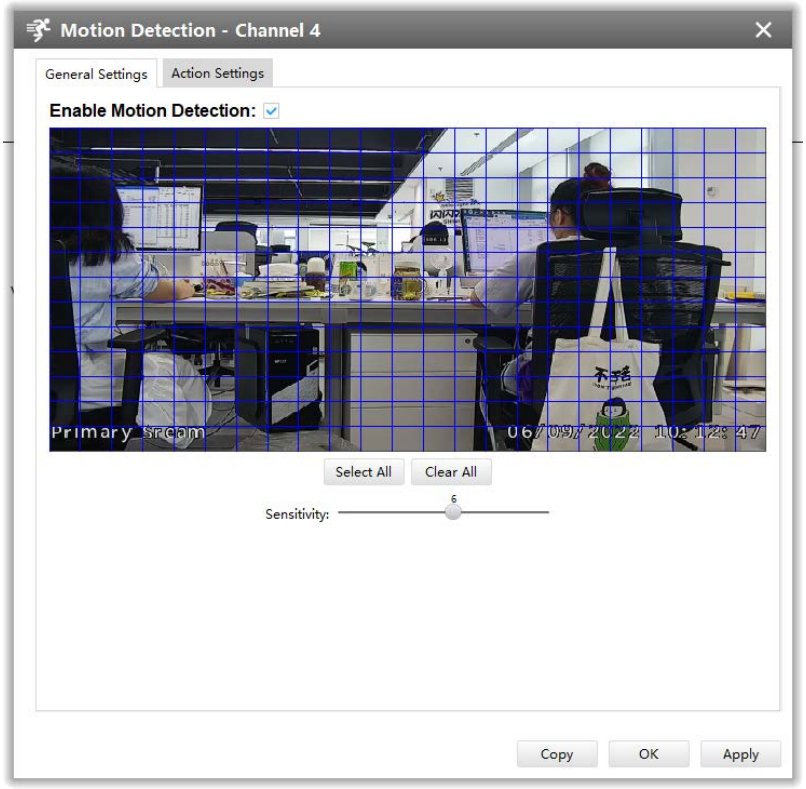
Parameters	Function Introduction
Min. Object Size	Set the minimum object size from 1 to 100, and the default value is 10. Objects smaller than this value will not be recorded in the result
Min. Dwell Time	Set the minimum dwell time from 1 to 300, and the default value is 30. If the object stays in the area longer than the set "Minimum Dwell Time", it will not be recorded in the result
Scene Change Adaptability	Level 1~10 are available, and 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 better adapts to faster changing scenes if the value is higher

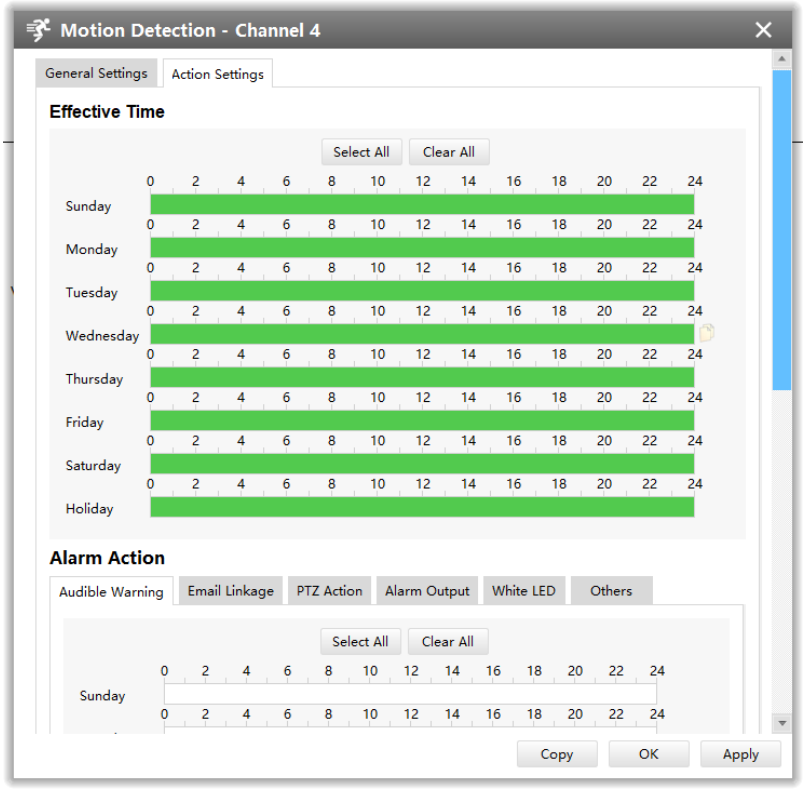
Note: If you choose other display modes of fisheye under Multi-channel mode except display mode with O view, then there will be a pop-up prompt window as shown below when you click the icon button.



Motion Detection

The Motion Detection page is as below:





[General Settings]

Check the checkbox to enable the Motion Detection function, you can draw the interested area or click the Select All button [Select All] to select all area interested. And the sensitivity ranges from 0 to 10.

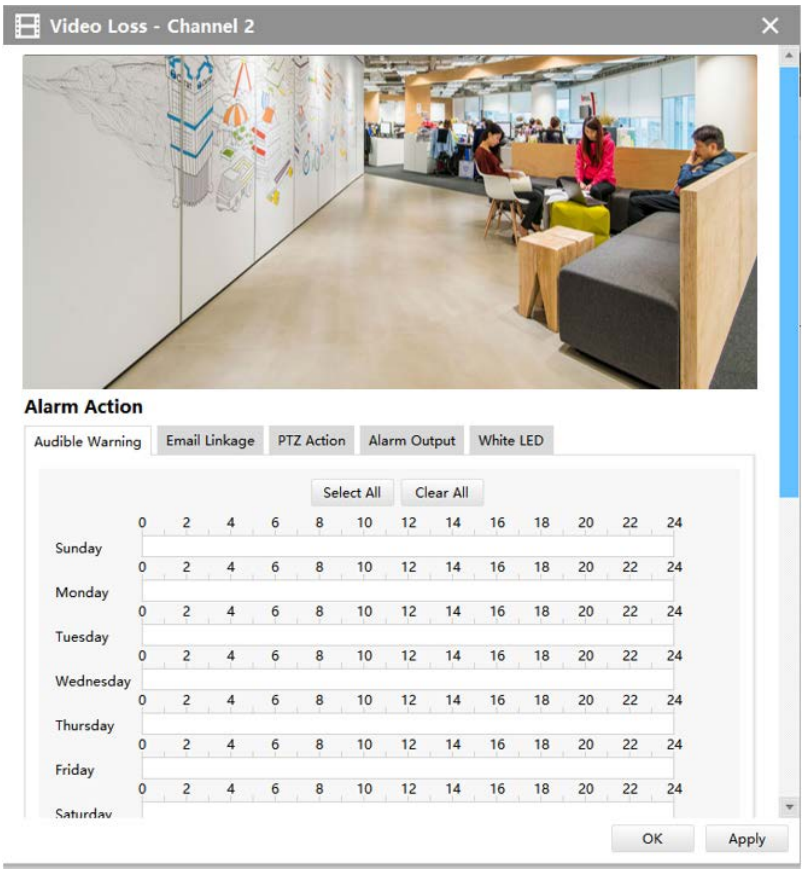
[Action Settings]

Set Effective Time of advance motion detection in this page. Here are five options for Action Settings **[Audible Warning] [Email Linkage] [PTZ Action] [Alarm Output] [White LED] [Others]** that you can select. After choosing the alarm action you can draw the schedule. And then click **[OK]** or **[Apply]** after all set.

Note: For fisheye camera, only when you choose the 2P/4P display under Multi-Channel mode or 1O/1P/4R display under Bundle-Stream mode, then you can use the function.

Video Loss

The Video Loss page is as below:



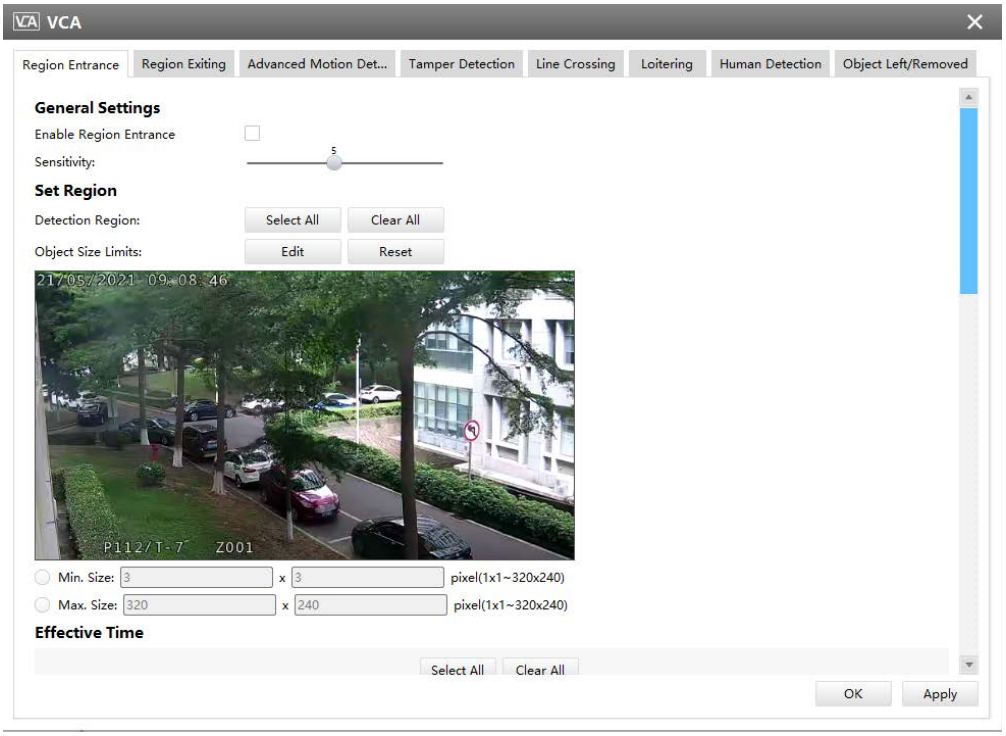
Here are four options for alarm action **[Audible Warring] [Email Linkage] [PTZ Action] [Alarm Output] [White LED]** that you can select. After choose the alarm action you can

draw the schedule. And then click **[OK]** or **[Apply]** after all set. You also can copy the settings to other channels.

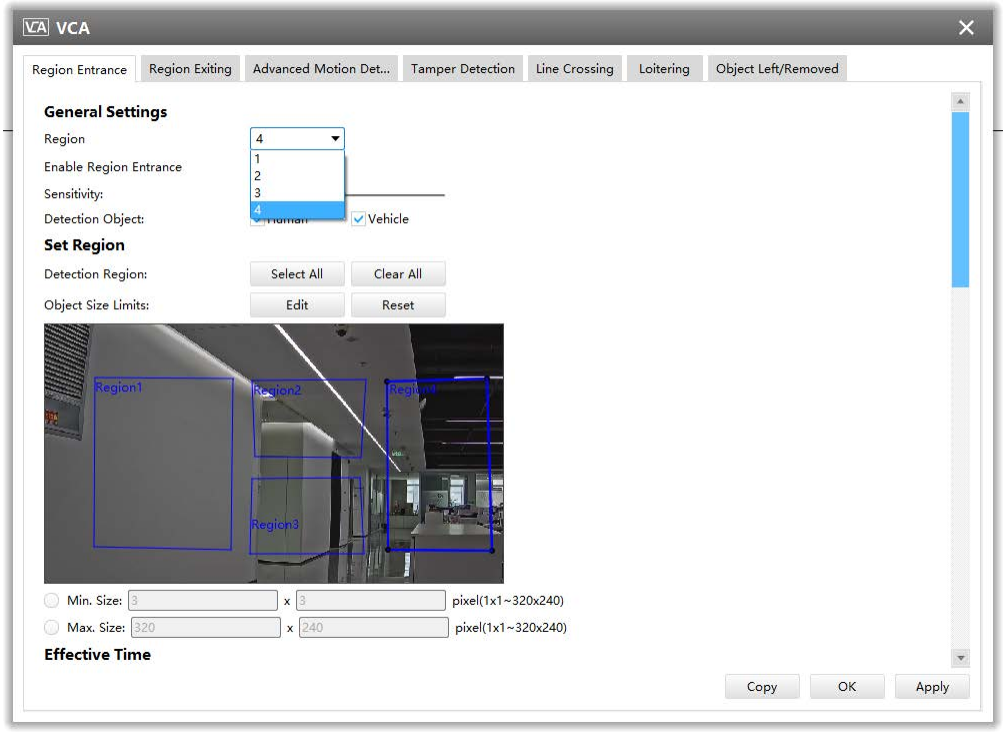
VCA

The VCA page is as below:

- VCA(for non-AI cameras)



- VCA(for AI cameras)



Note: For fisheye camera, only when you choose the original view and the panoramic view under Multi-Channel mode or 1O/1P display under Bundle-Stream mode, then you can use the function.

Here are eight options for VCA page **[Region Entrance] [Region Exiting] [Advanced Motion Detection] [Tamper Detection] [Line Crossing] [Loitering] [Object Left/ Removed]** that you can select.

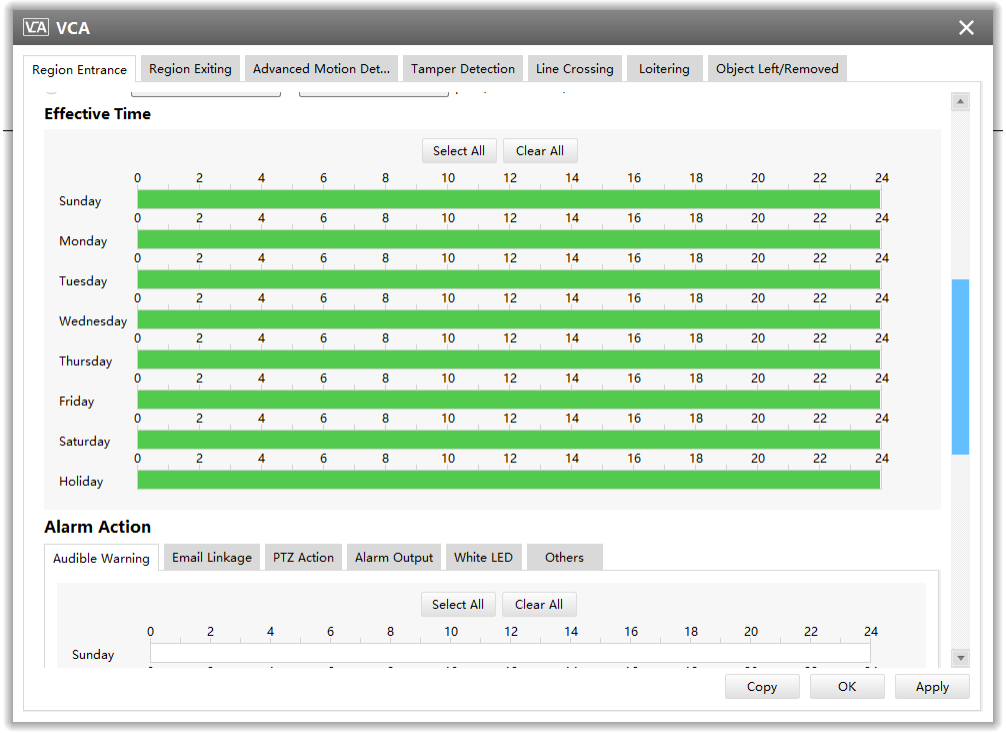
Step 1: Select detection region or line and enable the VCA event that you choose. Then set detecting sensitivity;

Step 2: Choose detection object. Check Human or Vehicle attribute, and the camera will alarm once detecting people or vehicle and triggering related events;

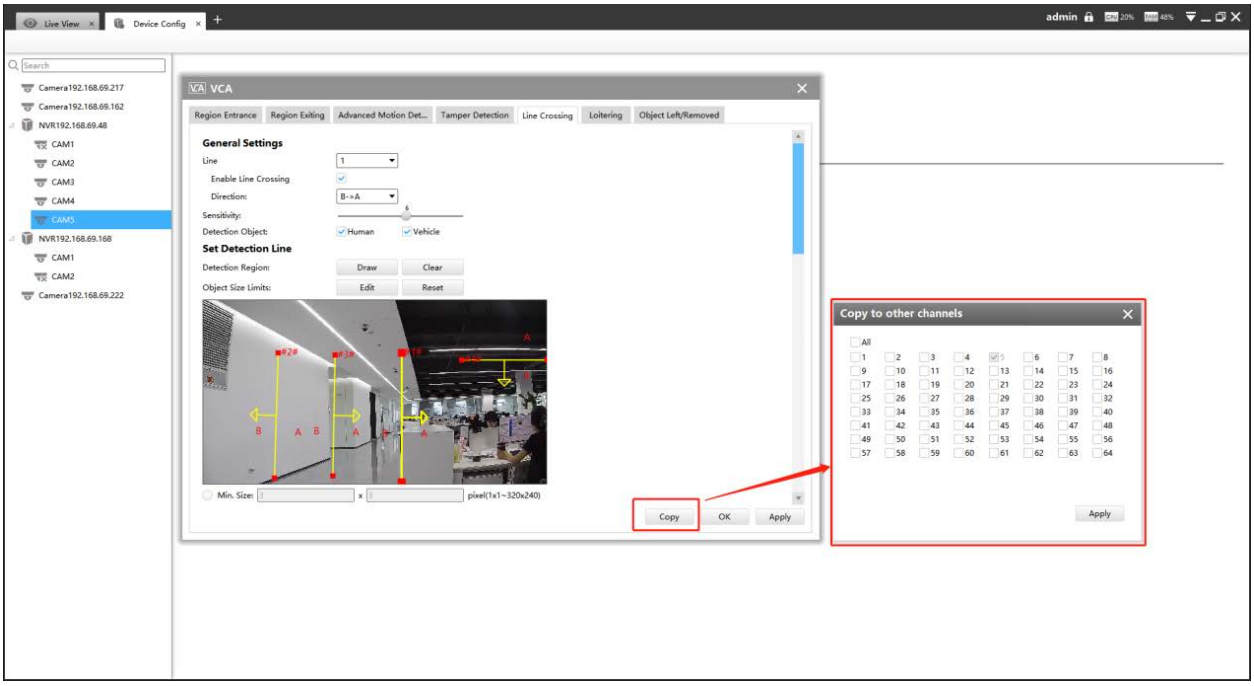
Note: All AI Cameras support this function.

Step 3: You can draw the interested area or click the Select All button **[Select All]** to select all area interested, and set object size limits;

Step 4: Draw the schedule and set alarm action. And then click **[OK]** or **[Apply]** after all set.



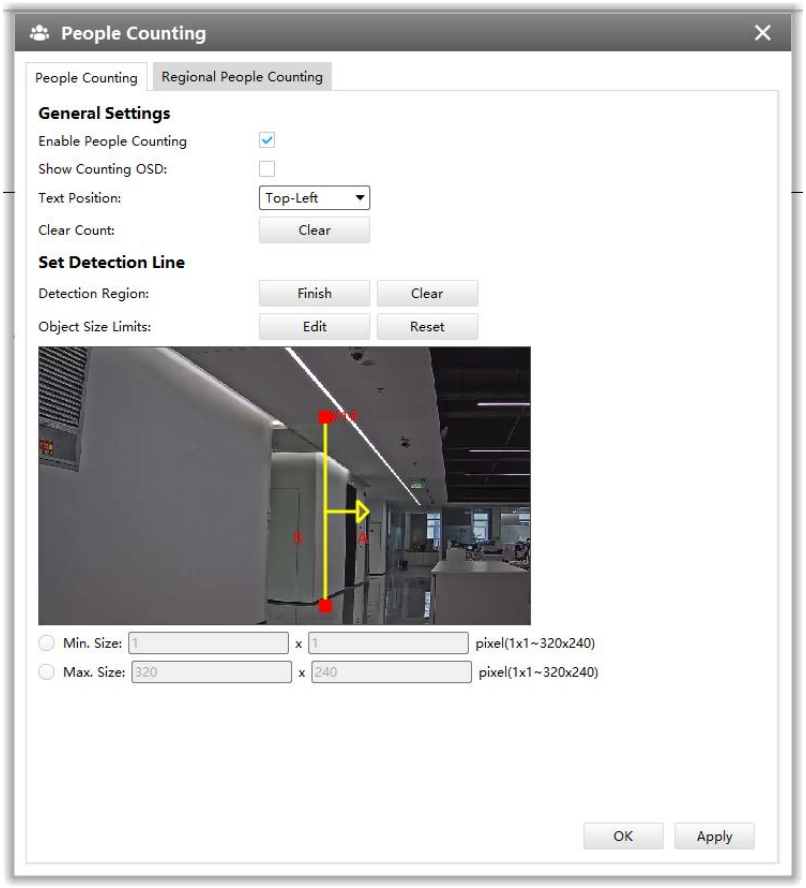
Step 5: Click **[Copy]** button to copy configuration to other channels.



People Counting

People Counting

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



Step 1: Enable People Counting

Step 2: You click the button to show Counting OSD, and select the Text Position of the OSD.

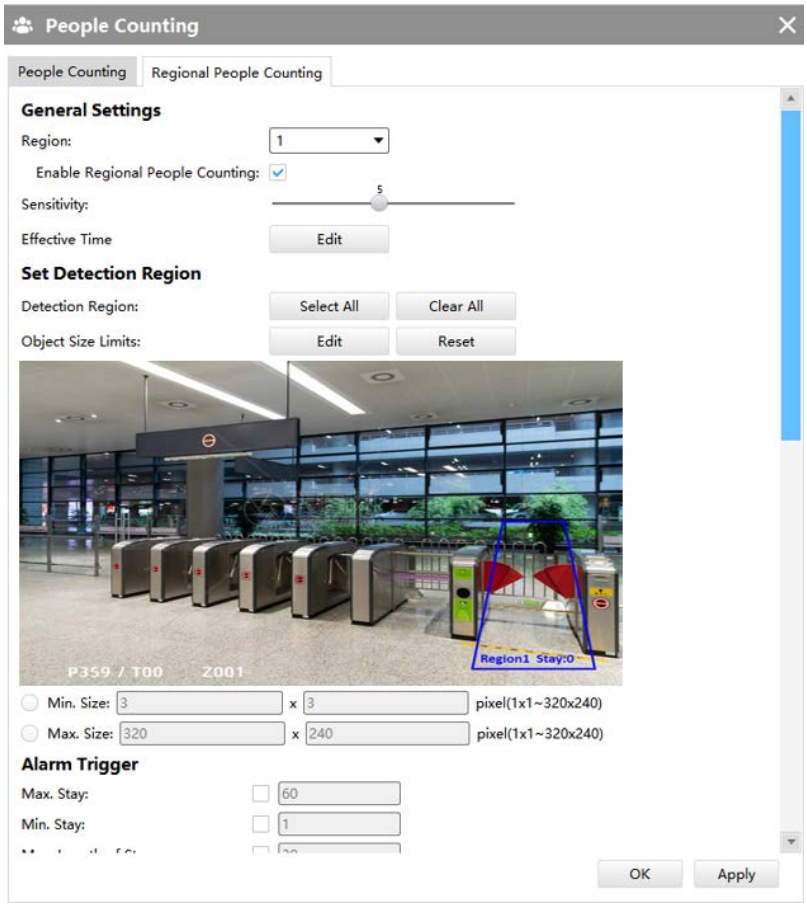
Step 3: You can click the button to clear the current count;

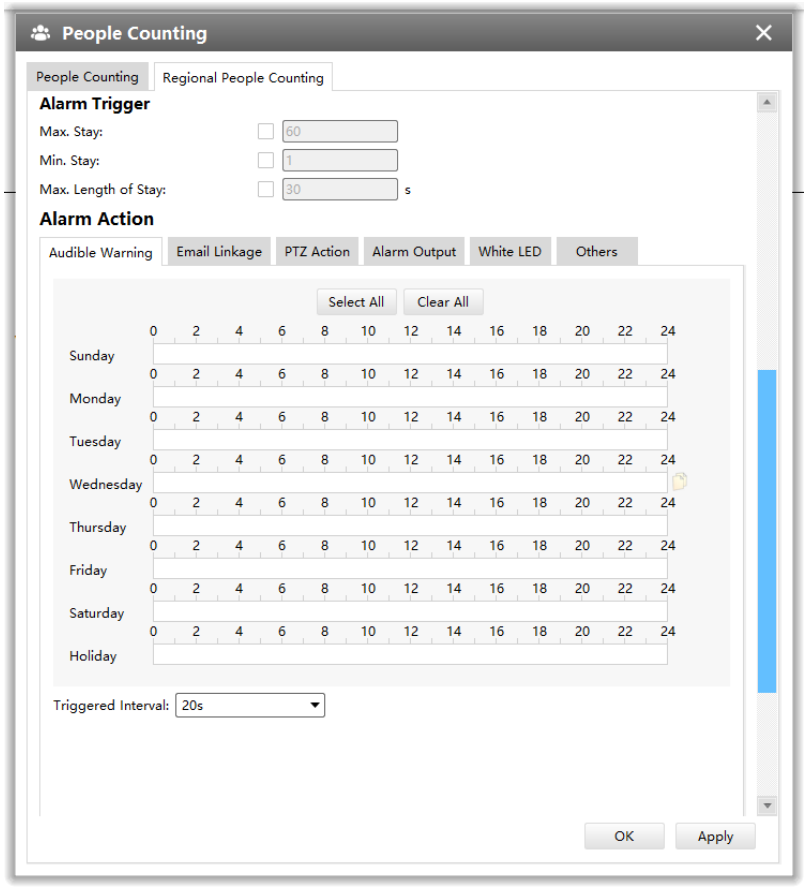
Step 4: Set detection lines and object size limits.

Note: Crossing along the direction of the arrow will record as “In”, opposite as “Out”.

Regional People Counting

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.


People Counting
People Counting
Regional People Counting
General Settings
Region:
1
Enable Regional People Counting:
Sensitivity:
5
Effective Time
Edit
Set Detection Region
Detection Region:
Select All
Clear All
Object Size Limits:
Edit
Reset
P359 / T00 Z001
Region1 Stay:0
Min. Size:
3
x
3
pixel(1x1~320x240)
Max. Size:
320
x
240
pixel(1x1~320x240)
Alarm Trigger
Max. Stay:
60
Min. Stay:
1
OK
Apply



Step1: Select region and enable Regional People Counting. Then set detecting sensitivity;

Step2: Set Detection Region and Object Size Limits.

Step3: Set Alarm Trigger. Alarm will be triggered when the threshold exceeds the certain value;

Step4: Set Alarm Action;

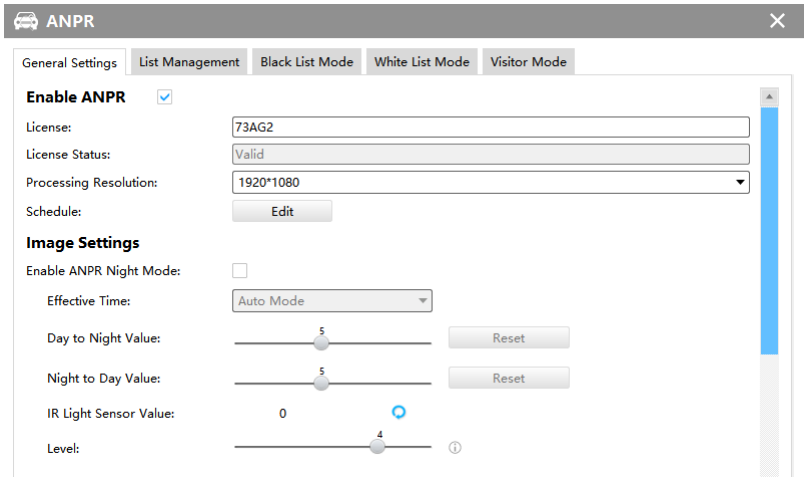
Note:

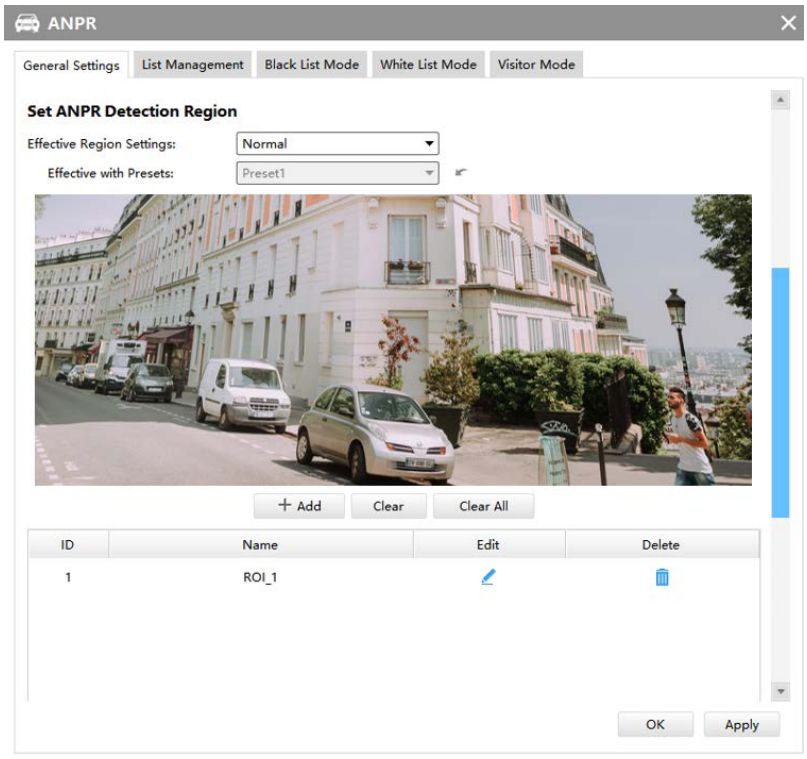
- Users can check the real-time number of people and the time of each person's stay in the detection region on Live View interface.
- For Regional People Counting, please make sure your camera model is MS-CXXXX-XXC.
- Support up to 4 detection regions for Regional People Counting.

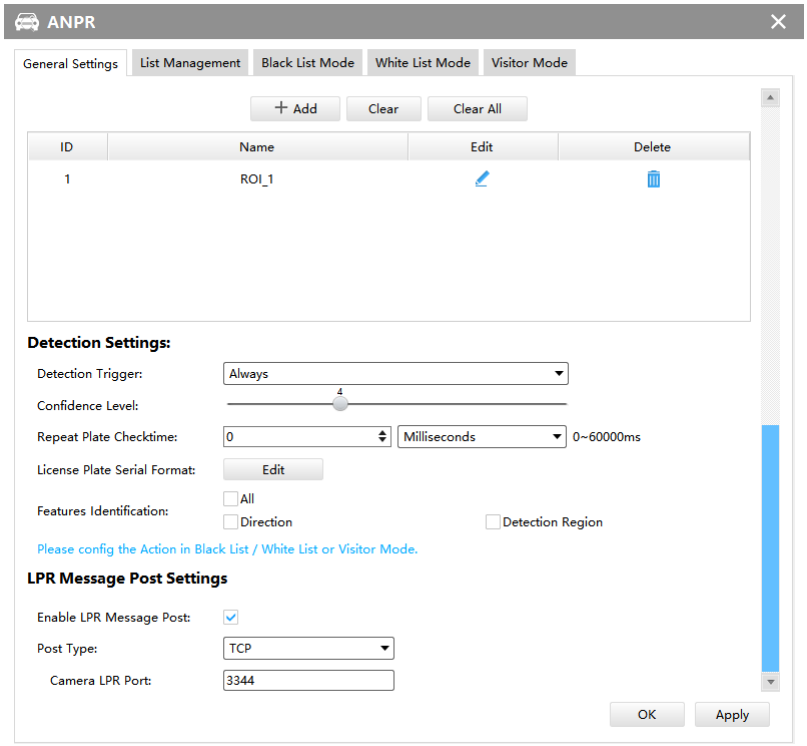
ANPR

The ANPR function will automatically detect and capture license plate in real time and compares to a predefined list, then takes appropriate action such as generating an alert once the license plate is on the predefined black list.

General Settings







Step1: Enable ANPR function;

- **License:** Generated by camera's information
- **License Status:** Show present license status, including Valid, Invalid, Expired, Inactivated

Step2: Select processing resolution. The further distance you detect, the higher resolution is needed. 1280*720 by default;

Step3: Set Schedule.

Step4: Enable ANPR Night Mode, then you can set ANPR Night Mode Effective Time. There are two options available: Customize and Auto Mode. Auto Mode 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 Mode is available for Effective Time option.

Step5: Set the detected ROI region which can be up to 4 regions. License plate will only be detected in the ROI regions;

Step6: Set Detection Settings including Detection Trigger, Confidence Level, Repeat Plate Checktime, Lisence Plate Serial Format and Features Identification;

- **Detection Trigger:** Always and Alarm Input are available. It will only detect when alarm input is triggered if you select Alarm Input.
- **Confidence Level:**Set the degree of reliability according to the actual situation.
- **Repeat Plate Checktime:** The same license plate information won't be received on network cameras within the time you set.
- **Lisence Plate Serial Format:** Set license plate format you want to recognize.
- **Features Identification:** The selected features identification will be shown in ANPR logs interface.

Step7: Enable LPR Message Post. It will push information to some third-party devices or software that are compatible with ours.

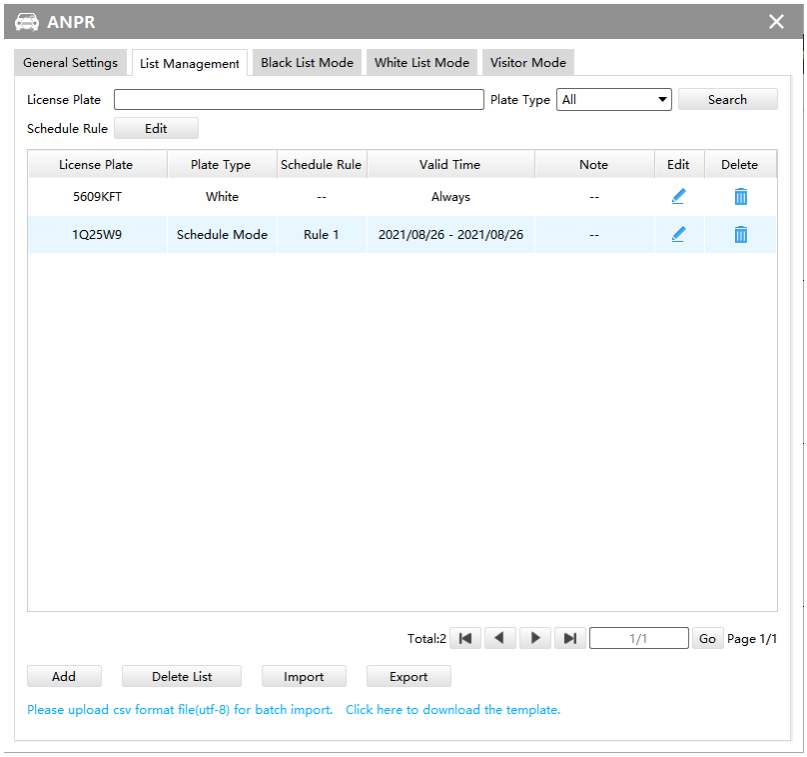
- **Post Type:** Information can be pushed by RTSP, TCP or HTTP.
- **HTTP Method:** There are two HTTP push methods, including Post and Get.
- **Snapshot Type:** Three kinds of snapshot can be chosen: All, License Plate and Full Snapshot. When you choose All, License Plate Snapshot and Full Snapshot will be pushed.

Note: This option is available just for Post HTTP Method.

- **HTTP Notification URL:** LPR camera can use the API URL to send LPR information to back-end devices when the license plate is recognized. API URL format fills as follow: http://IP:Port/api/lpr
- **User Name:** Receiver name.
- **Password:** Receiver Password.

List Management

Make a license plate list for your own camera ANPR system. You can upload license plates and set them with different license type here. Besides, users can set the license plate to Schedule Mode and choose a custom schedule rule that can configure the license plate as Black List or White List at different times. 10000 plates can be added at most.



Note: Support setting up to 4 Schedule Rules for Schedule Mode.

There are two methods to add license plates:

1. Add one by one.

Step1: Click Add button;

Step2: Input the license plate and select license type, the valid time of select license type and note;

Step3: Click [Save] and then the license plate will be added into the list;

2. Batch adding by importing template.

Step1: Click Click here to download the template., select a path and click “Choose” to download Template;

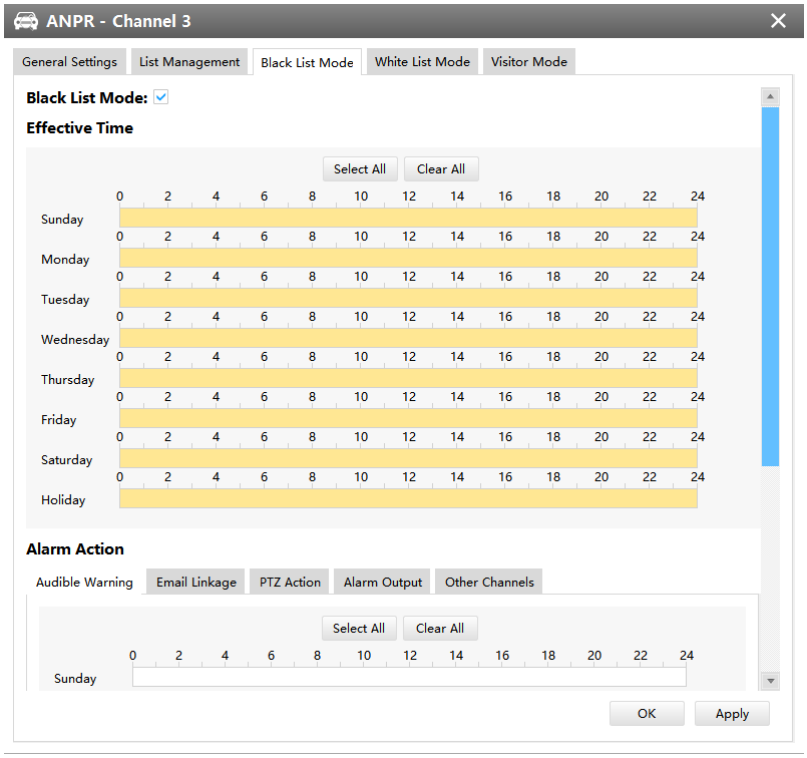
Step2: Input all license type and license plate number as Template shows;

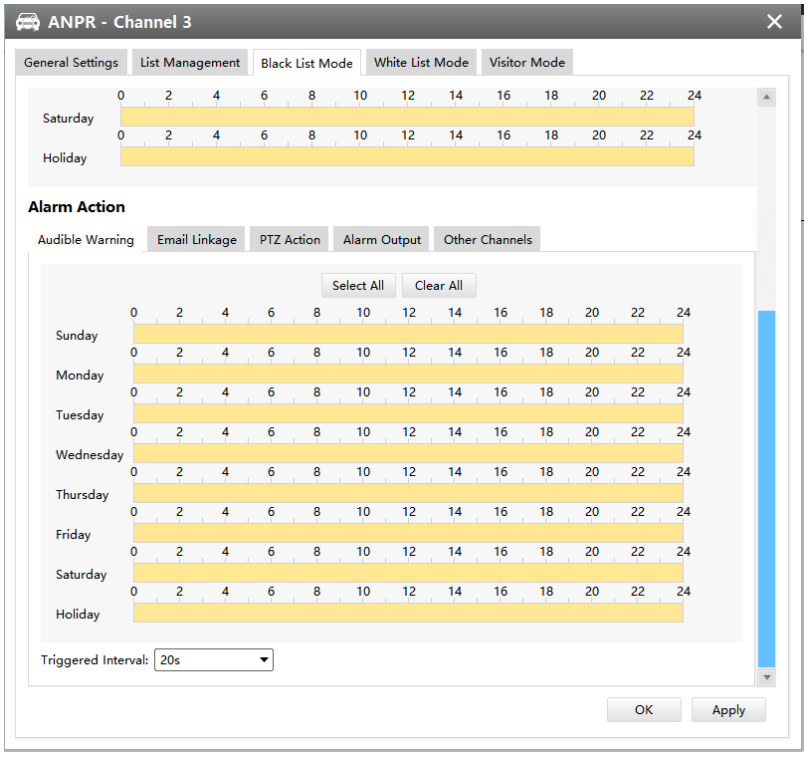
Step3: Click [Import] button, select the file and click “Open” to add all license plates into list.

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.





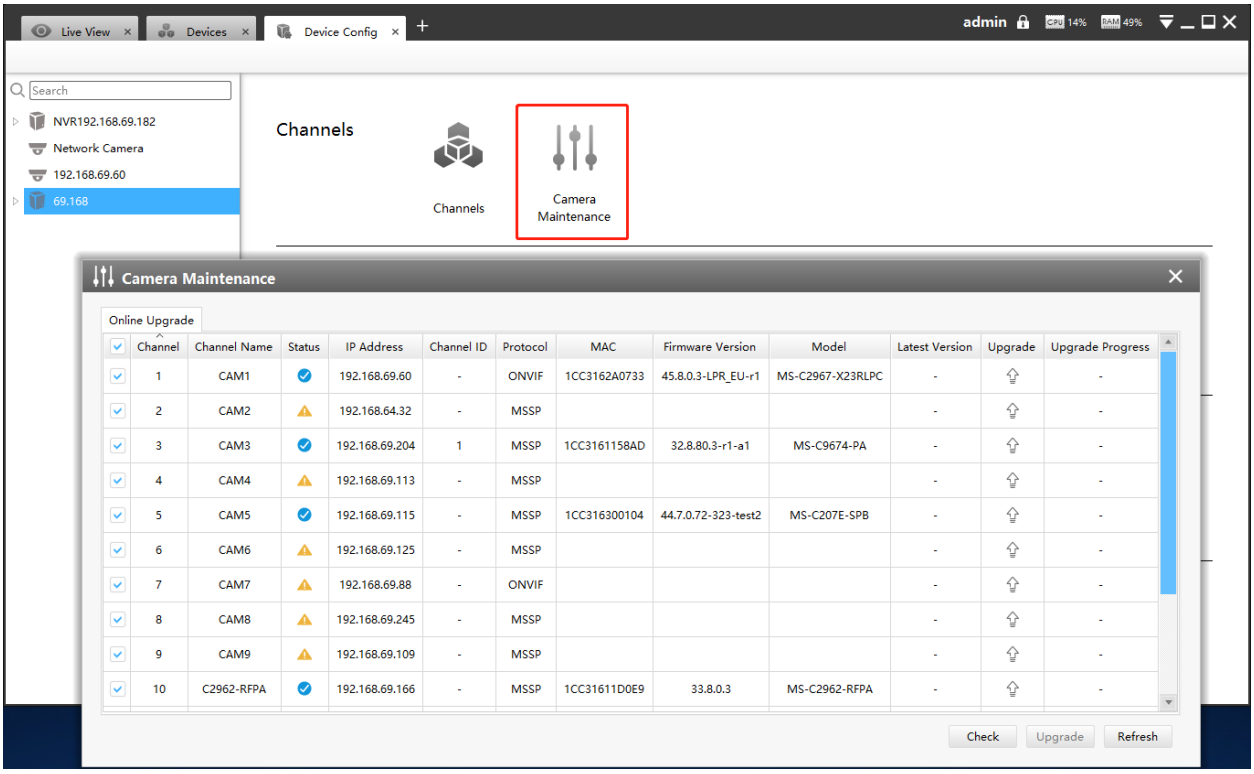
Step 1: Enable Black List Mode/White List Mode/Visitor Mode as needed;

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

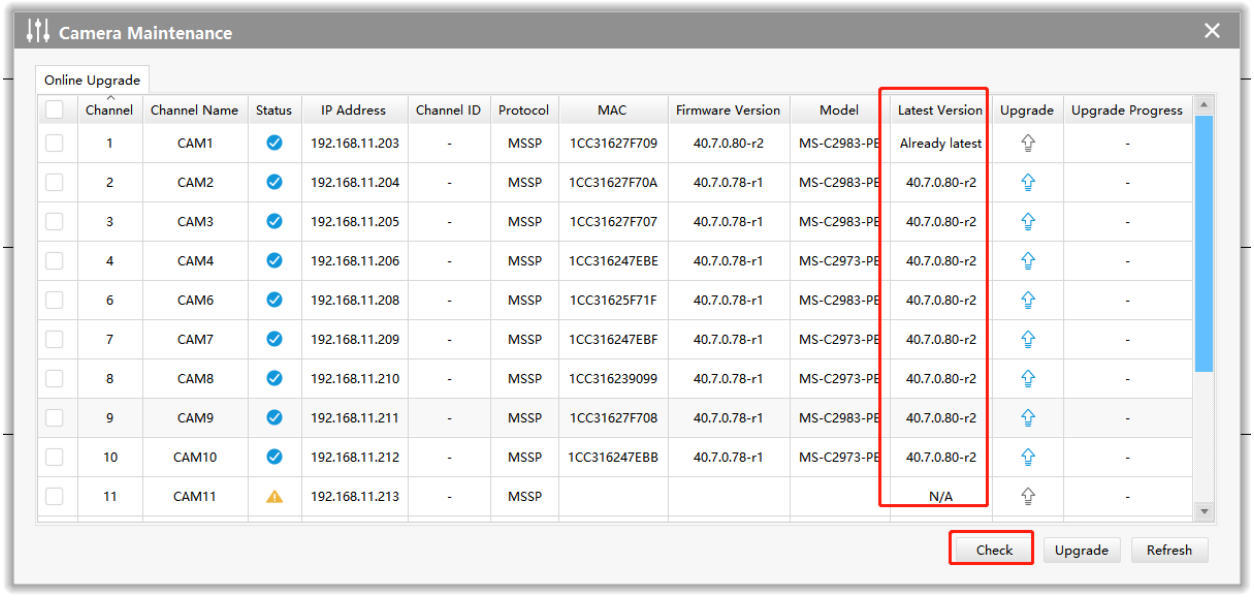
Step 3: Set action including Audible Warning, Email Linkage, PTZ Action, Alarm Output, Other Channels.

Camera Maintenance

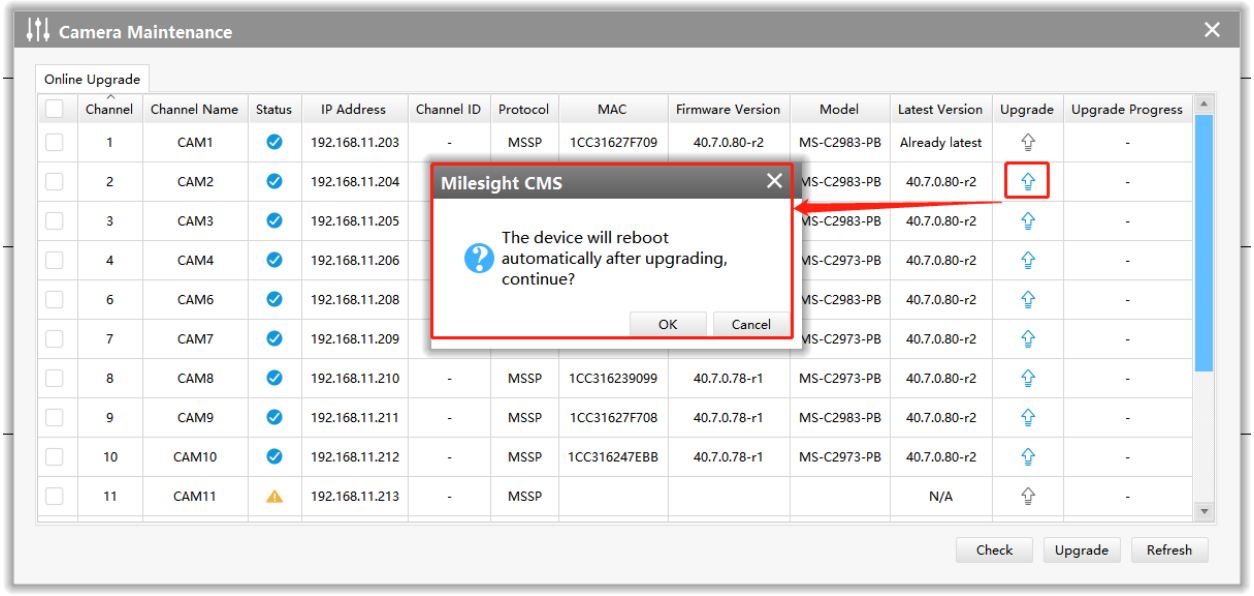
Upgrading the camera firmware version in the NVR is available under Camera Maintenance interface.



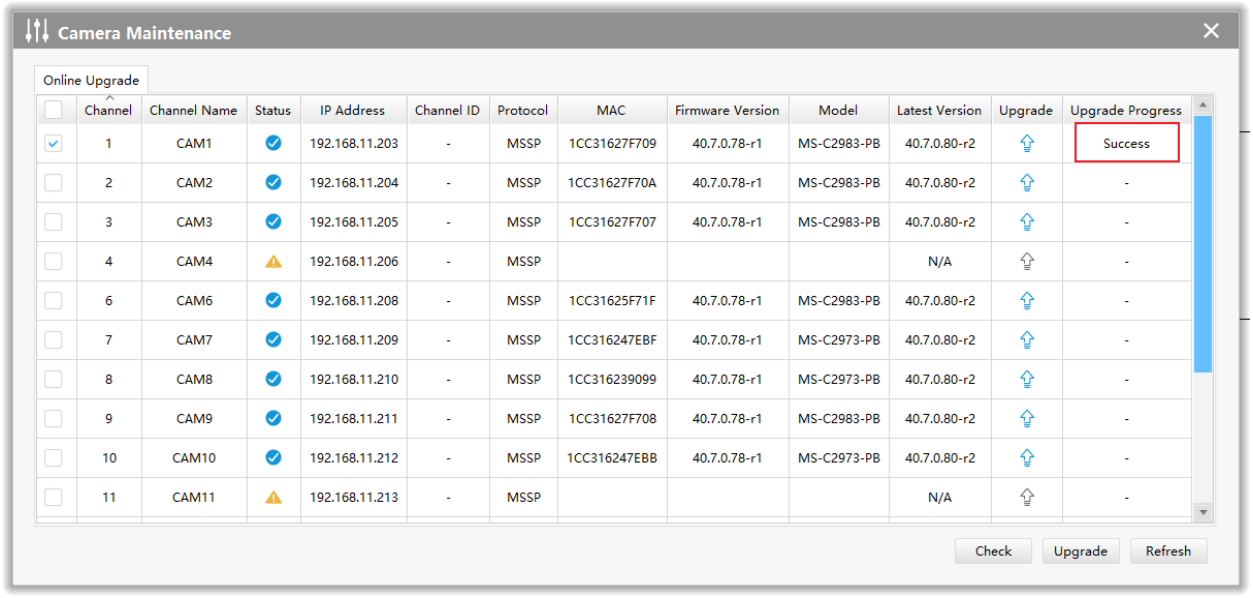
Step 1: If a new version of the camera is released, it will be displayed in the latest version column.



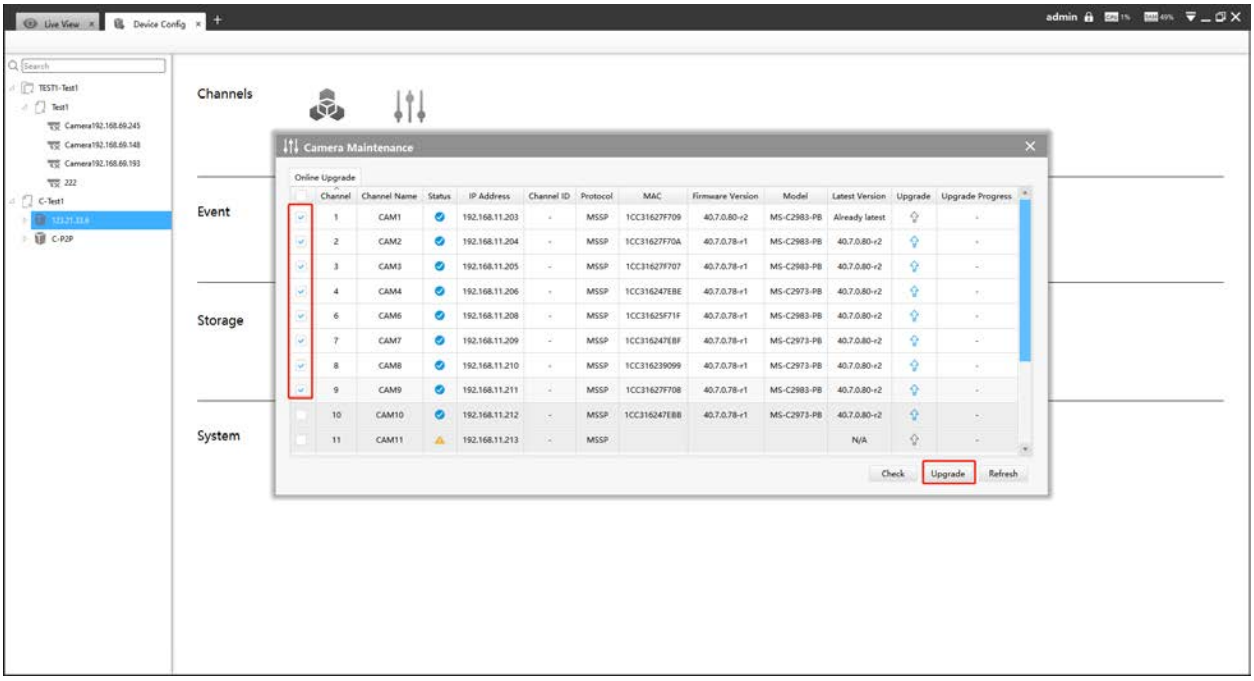
Step 2: When you click on the icon ⇧ , the information displayed below will appear.



Step 3: After clicking the OK button, the device will display "Success" in the Upgrade Progress column.



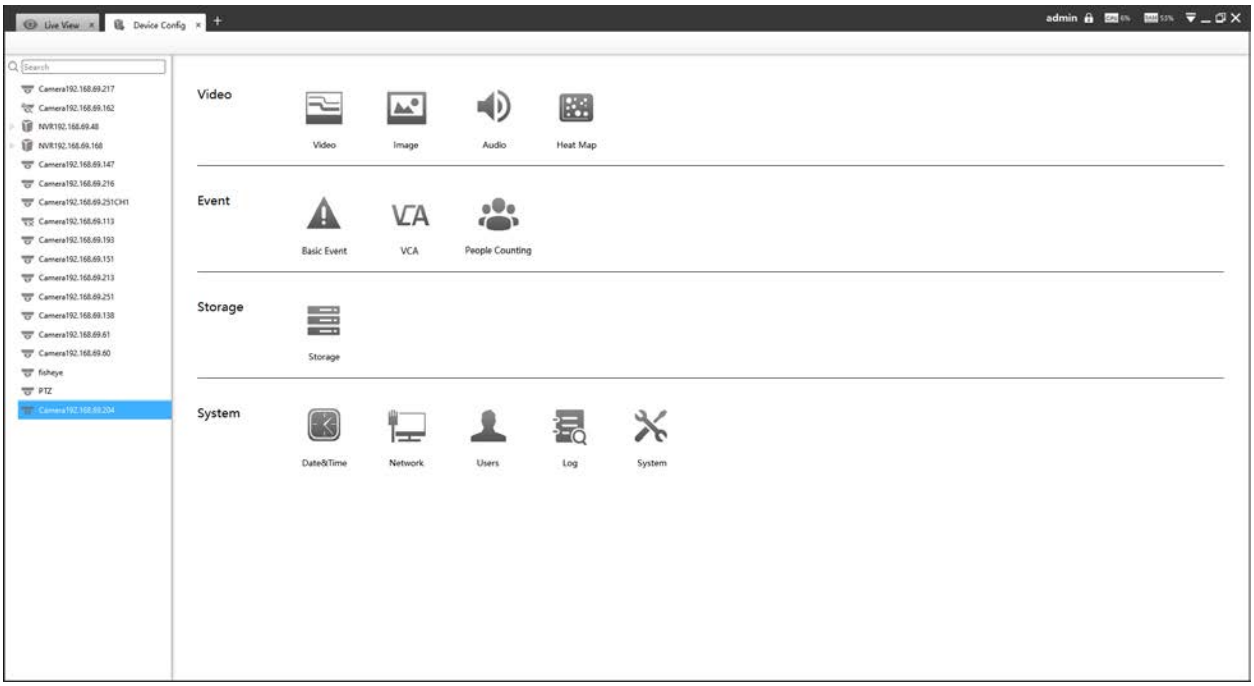
Step 4: If you need to upgrade camera versions in batches, select the corresponding camera and click the upgrade button.



Note: Make sure the NVR's version is 7X.9.0.17 or above.

3.2.2 Camera

The Device Configuration for Network Camera is as below:

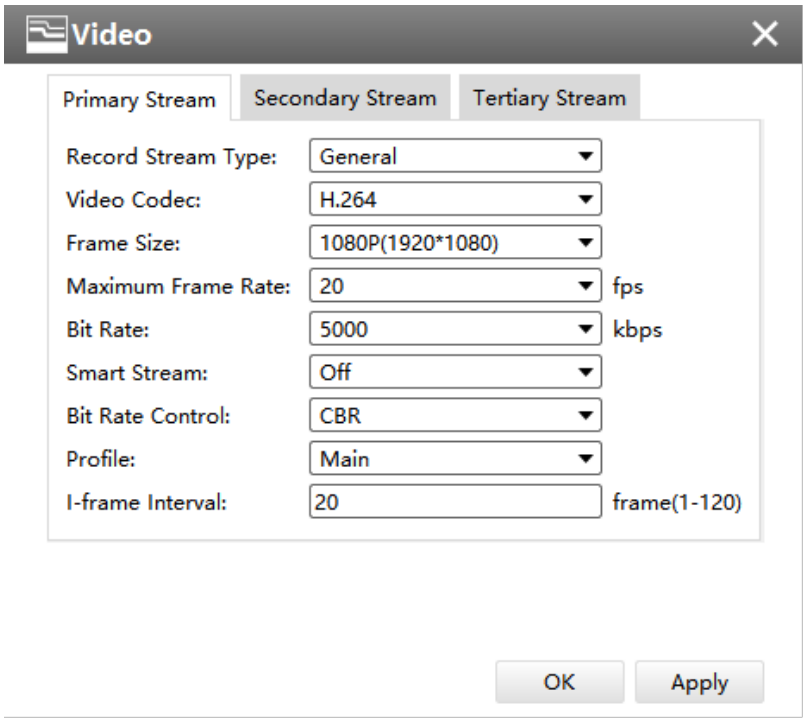


3.2.2.1 Video

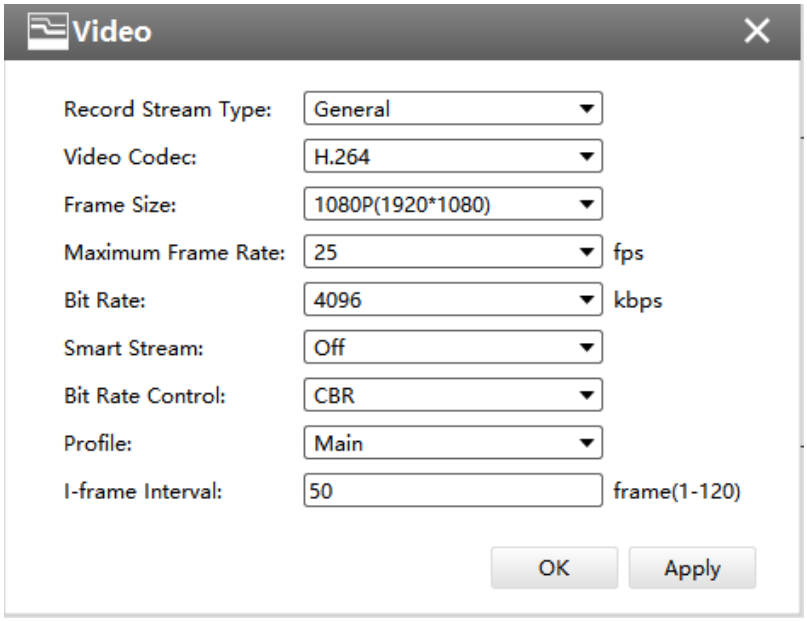
Video

The Video page is as below:

- General camera



- Area Cropping camera



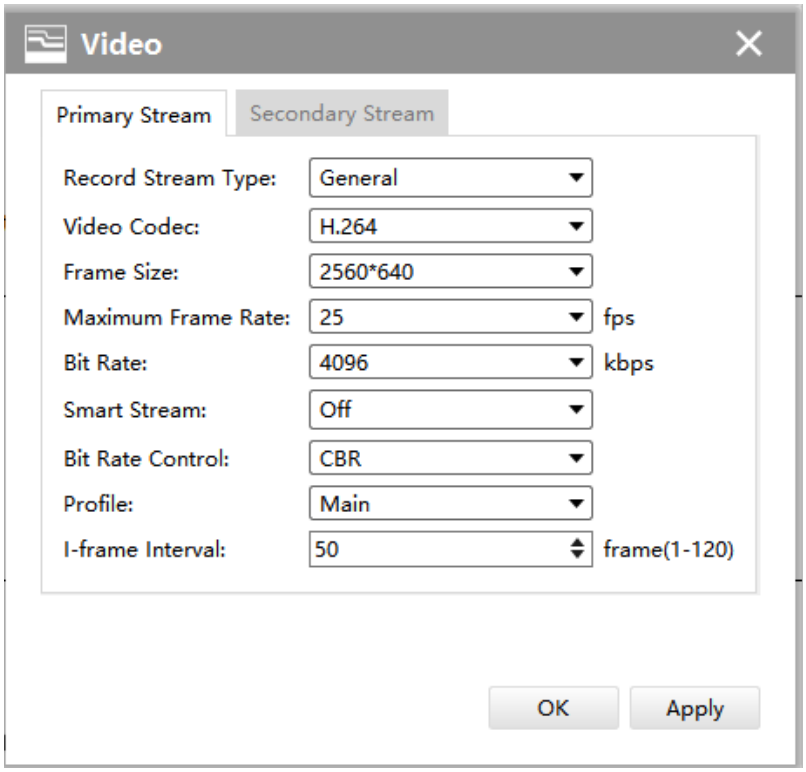
The meanings of the items on Video page can be referred to the table below:

Table 18. Description of the buttons

Parameters	Function Introduction
Record Stream Type	This function supports separate settings of different bit rate and frame rate for different Recording Stream Types including General and Event. For example, you can set lower frame rate or bit rate for General recording while higher frame rate or bit rate for Event recording. The recording storage space can be greatly reduced by using this function. **Note:** Event Record Stream Configuration includes Events like Motion Detection, VCA, Camera Alarm Input and Smart Analysis.
Video Codec	H.265/H.264 available
Frame Size	Options include 4M(2592*1520),3M(2048* 1536), 1080P(1920*1080), 2M(1600 *1200), 1.3M(1280*960), 720P(1280*720), D1 (704*576)
Maximum Frame Rate	Maximum refresh frame rate per second
Bit Rate	Transmitting bits of data per second, this item is optional only if you select the H.264

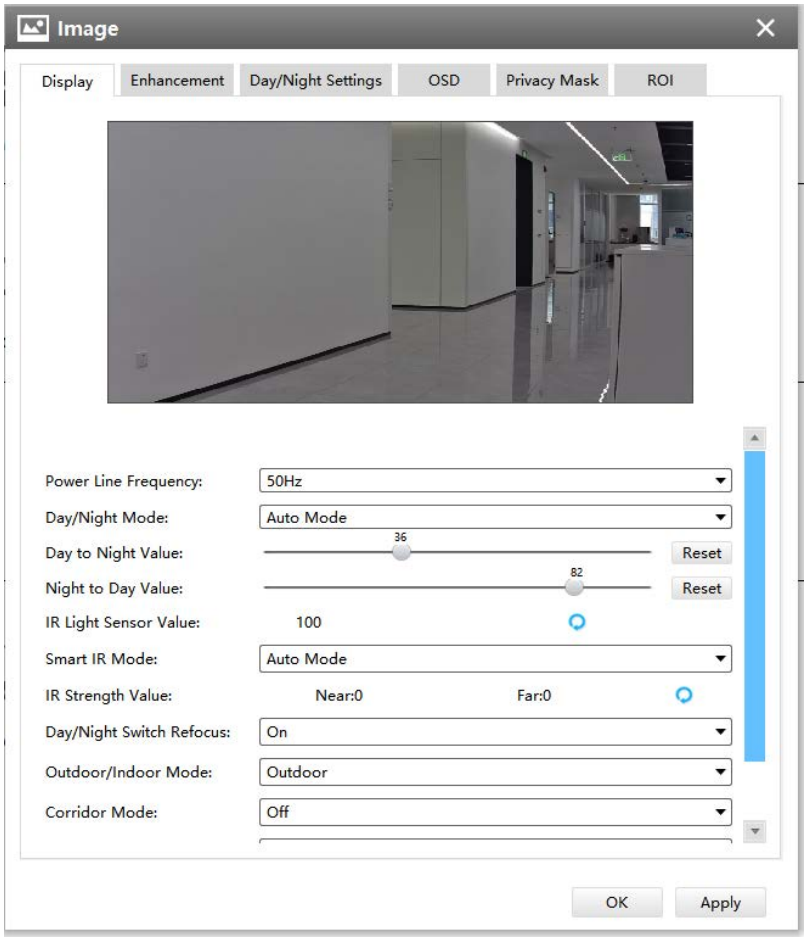
Parameters	Function Introduction
Smart Stream	Smart Stream mode remarkably reduces the bandwidth and the data storage requirements for network cameras while ensuring the high quality of images, and it is a 10-level adjustable codec. It is optional to turn On/Off Smart Stream mode. **Level:** Level 1~10 are available to meet your need.
Bit Rate Control	**CBR:** Constant Bitrate. The rate of CBR output is constant **VBR:** Variable Bitrate. The rate of VBR output will be variable according to the occupation of bandwidth
Profile	The option is for H.264. Base/Main/High can be selected according to your needs
I-frame Interval	Set the I-frame interval to 1~120, this item is optional only if you selected the H.264

Note: If you choose other display modes of fisheye under Multi-channel mode except 1O/1P/2P, then you can not edit secondary stream page as shown below:



Image

Display



Referring to the following table for the illustration of each item on the image page:

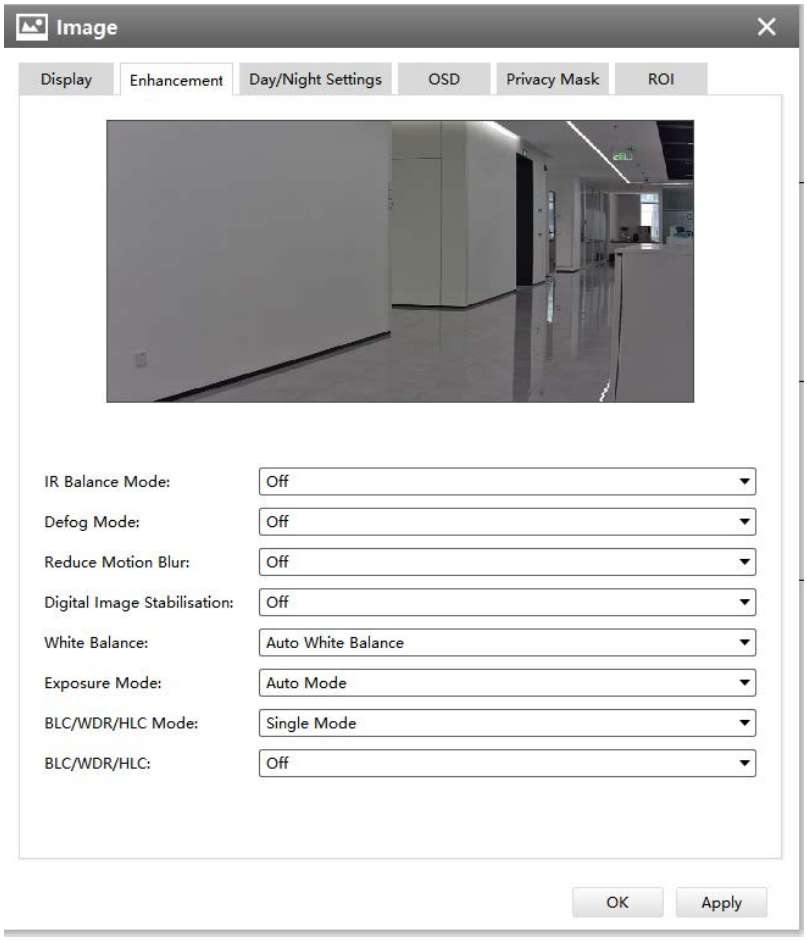
Table 19. Description of the buttons

Parameters	Function Introduction
Power Line Frequency	60HZ flicker for NTSC mode and 50HZ flicker for PAL mode

Parameters	Function Introduction
Day/Night Mode	There are several parameters associated with this mode such as Exposure Level, Maximum Exposure Time and IR-CUT Interval, etc. **Night Mode:** Shown in the live view based on Night Mode settings **Day Mode:** Shown in the live view based on Day Mode settings **Auto Mode:** Shown in the live view based on environment, set the sensitivity for switching Day Mode to Night Mode, or Night Mode to Day Mode **Customize:** Shown in the live view based on your own settings' time to start/end Night Mode
Day To Night Value	This is the sensitivity for switching **Day Mode** to **Night Mode**. When IR Light Sensor Current Value is lower than this value, it will switch Day Mode to Night Mode
Night To Day Value	This is the sensitivity for switching **Night Mode** to **Day Mode**. When IR Light Sensor Current Value is higher than this value, it will switch Night Mode to Day Mode
IR Light Sensor Value	The current value of the IR light sensor
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 intensity of the IR to **Auto Mode** or **Customize** to achieve the best effect.
Near view level	Adjust the light intensity of Low-Beams LED light level from 0 to 100.
Far view level	Adjust the light intensity 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
Outdoor/Indoor Mode	Select indoor or outdoor mode to meet your needs
Corridor Mode	There are three options available, you can select one to meet your need **Off:** Keep the image in normal direction **Clockwise 90°:** Rotate the image by 90° clockwise **Anticlockwise90°:** Rotate the image by 90° anticlockwise

Parameters	Function Introduction
Image Rotation	There are four options available, you can select one to meet your need **Off:** Keep the image in normal direction **Rotating 180°:** Invert the image **Flip Horizontal:** Flip the image horizontally **Flip vertical:** Flip the image vertically
Keep Correct Aspect Ration	With this option enabled, the camera will prevent the image from distortion when resolution ratio is changed

Enhancement



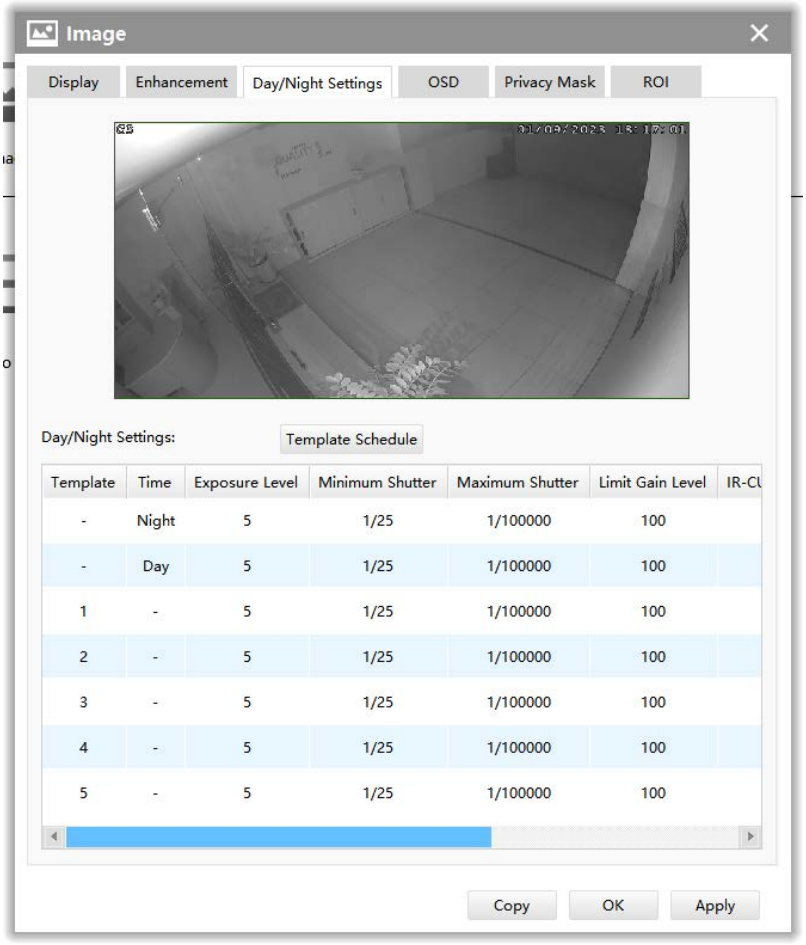
The meanings of the items on Image page can be referred to the table below:

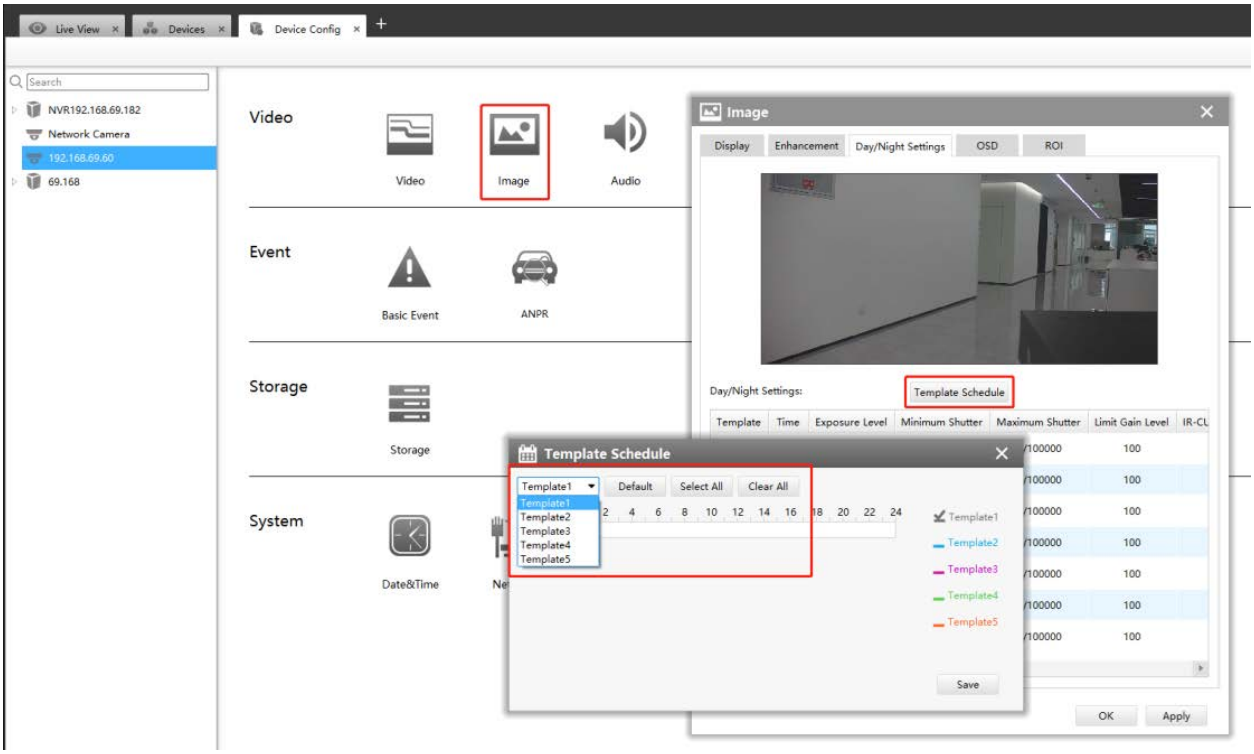
Table 20. Description of the buttons

Parameters	Function Introduction
IR Balance Mode	There is an option to turn On/Off the IR LED. IR Balance Mode would avoid the problem of overexposure and darkness, and the IR LED will change according to the actual illumination.
Defog Mode	Better image effect in foggy weather.
Reduce Motion Blur	Enable this function to reduce the motion blur of objects effectively. You can adjust the deblur level from 1 to 100.
Digital Image Stabilisation	Decrease the blur and shakiness of the image.
White Balance	To restore white objects, removed color distortion caused by the light of the environment **Auto White Balance:**This option will automatically enable the White Balance function **Manual White Balance:** This option is only for H.265 series. Set Red Gain Level and Blue Gain Level manually. **Incandescent Lamp:** Select this option when light is similar with incandescent lamp **Warm Light Lamp:** Select this option when light is similar with warm light lamp **Natural Light**: Select this option when there is no other light but natural light **Fluorescent Lamp:** Select this option when light is similar with Fluorescent Lamp **Schedule mode:** Select this option that you can customize the schedule to enable/ disable above modes
Exposure Mode	Auto Mode, Manual Mode and Schedule Mode are available. **Auto Mode:** The camera will adjust the brightness according to the light environment automatically; **Manual Mode:** The camera will adjust the brightness according to the value you set, you can set the exposure time from 1~1/100000s, the higher the value is, the brighter the image is; **Schedule Mode:** You can customize the schedule to enable/disable Auto Mode and Manual Mode.
BLC/WDR/HLC Mode	**Single Mode:** Set single mode for BLC/WDR/HLC. **Day/Night Mode:** Support BLC/WDR/HLC on Day Enhancement Mode/Night Enhancement Mode separately. **Schedule Mode:** Set schedule mode for BLC/WDR/HLC.

Parameters	Function Introduction
BLC Region	Off, Customize, and Centre are available (in single mode, only enable when WDR is disable) **Off:** Calculate the full range of view and offer appropriate light compensation **Customize:** This option enables you to customize inclusive or exclusive region manually **Centre:** This option will automatically add an inclusive region in the middle of the window and give the necessary light compensation **Note:** If you choose other display modes of fisheye under Multi-channel or Bundle-Stream mode except display mode with Original view, then you can not set the option.
Wide Dynamic Range	This function which can capture and display both bright and dark areas in the same frame enables details of objects in both bright and dark areas to be visible. **Off:** Disable WDR function **On:** Enable the WDR, there are three levels of **Low/High/Auto** **Customize:** Customize the schedule to enable/disable the WDR function and set the levels with Low/High/Auto
Wide Dynamic Level	Set WDR with **Low/High/Auto** level
Anti-flicker Level	Reduce flickers that appear on screen in some lighting conditions and there are 10 levels of anti-flicker adjustments
High Light Compensation	This function is only for H.265 series to adjust the brightness to a normal range when the light is strong, refers to Figure 4-4-11 **Off:** Disable HLC function **General Mode:** Enable the general mode of HLC, and there is a setting for HLC Level **Enhanced Mode:** Enable the enhanced mode of HLC, and there is a setting for HLC Level
HLC Level	Select level for HLC
Day Enhancement Mode	BLC/WDR/HLC are available.
Night Enhancement Mode	BLC/WDR/HLC are available.

Day/Night Settings


Image
Display
Enhancement
Day/Night Settings
OSD
Privacy Mask
ROI
Day/Night Settings:
Template Schedule
Template
Time
Exposure Level
Minimum Shutter
Maximum Shutter
Limit Gain Level
IR-CU
- Night 5 1/25 1/100000 100
- Day 5 1/25 1/100000 100
1 - 5 1/25 1/100000 100
2 - 5 1/25 1/100000 100
3 - 5 1/25 1/100000 100
4 - 5 1/25 1/100000 100
5 - 5 1/25 1/100000 100
Copy
OK
Apply



Referring to the following table for the illustration of each item on the image page:

Table 21. Description of the buttons

Parameters	Function Introduction
Exposure Level	Level 0~10 are available to meet your need
Minimum Shutter	Minimum Shutter is the same as Maximum Exposure Time. Set the minimum Shutter to 1~1/100000s
Maximum Shutter	Maximum Shutter is the same as Minimum Exposure Time. 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
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

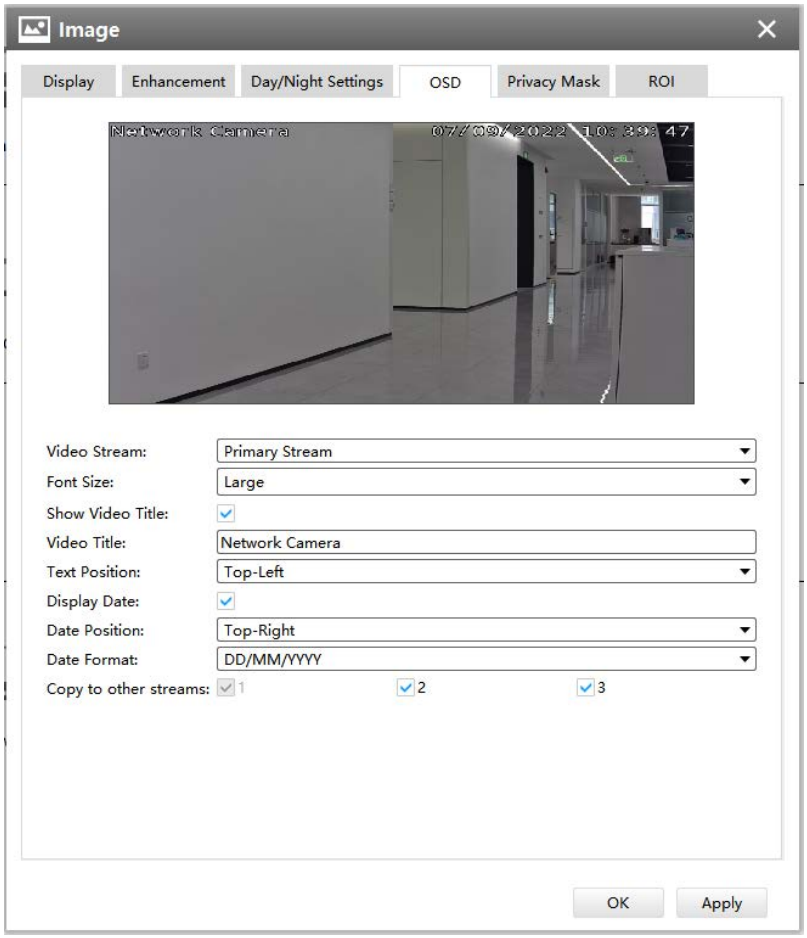
Template setting:

If you want to preset a template for day / night switching to the set image mode, you can do it under the template schedule ,

Set the corresponding time period under the template schedule, and then click the icon to set the image parameters corresponding to the time.

It can currently support 5 template settings but please ensure that the version of the camera reaches XX.8.0.1 or above

OSD



Referring to the following table for the illustration of each item on the image page:

Table 22. Description of the buttons

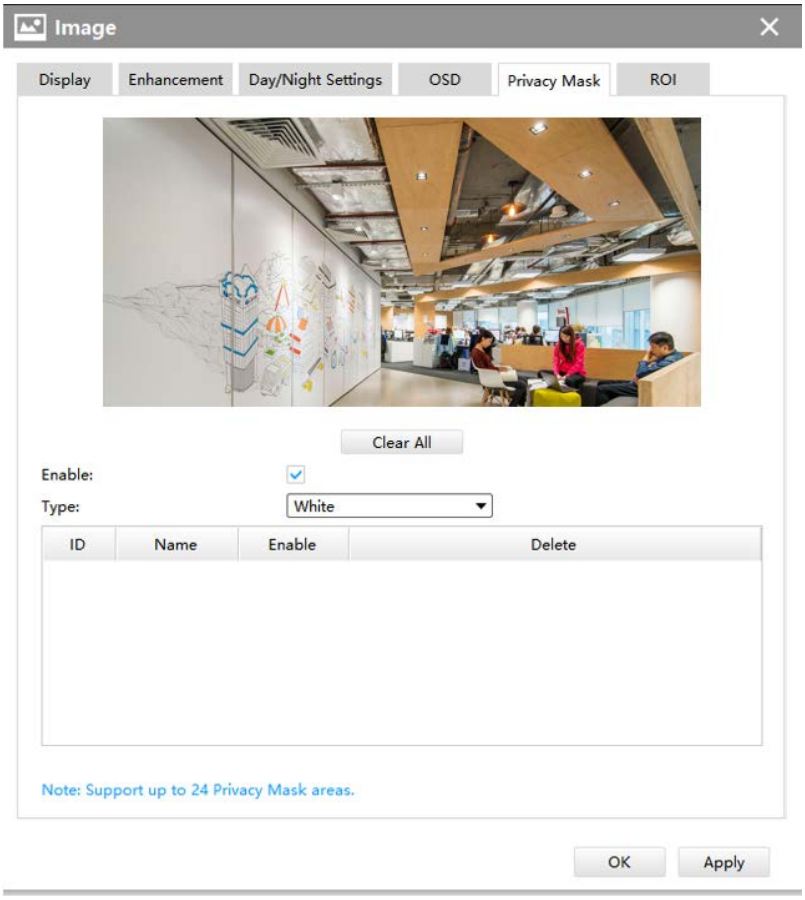
Parameters	Function Introduction
Video Stream	Enable to set OSD for primary stream and secondary stream **Note:** This option is not available for cameras that enable Area Cropping.
Font Size	Smallest/Small/Medium/Large/Largest/Auto are available for title and date

Parameters	Function Introduction
Show Video Title	Check the checkbox to show video title
Video Title	Customize the OSD content
Text Position	OSD display position on the image
Display Date	Check the checkbox to display date on the image
Date Position	Date display position on the image
Date Format	The format of date
Copy to Other Streams	Copy the settings to other streams **Note:** This option is not available for cameras that enable Area Cropping.

Privacy Mask

- For non-AI series

It supports up to 24 areas, the setting steps are as below:



Step1: Enable the Privacy Mask function;

Step2: Choose the mask color;

Step3: Hold down the mouse to draw the area in the preview window and click [Add] button to apply settings;

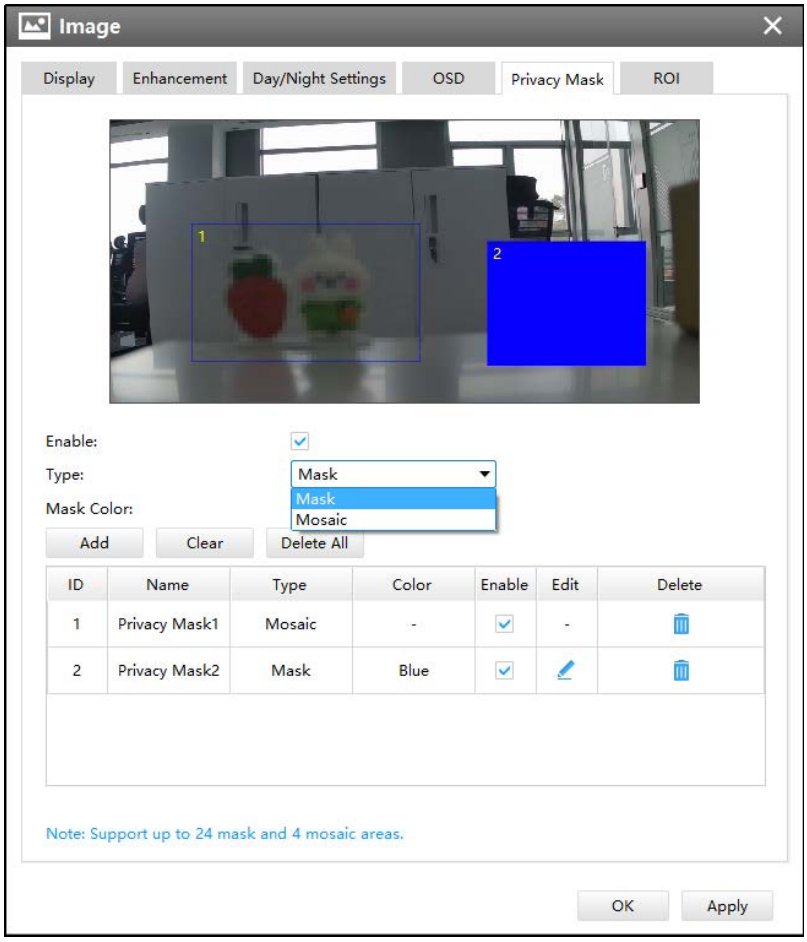
Step4: Click the button to delete mask area, or click [Delete All] button to clear all drawn areas, then click the [Apply] button.

- For AI series

It supports up to 28 areas, which include 24 mask areas and 4 mosaic areas.

Note: Make sure your camera version is Vxx.7.0.79 or above.

The setting steps are as below:



Step1: Enable the Privacy Mask function;

Step2: Choose the mask type as Mask or Mosaic;

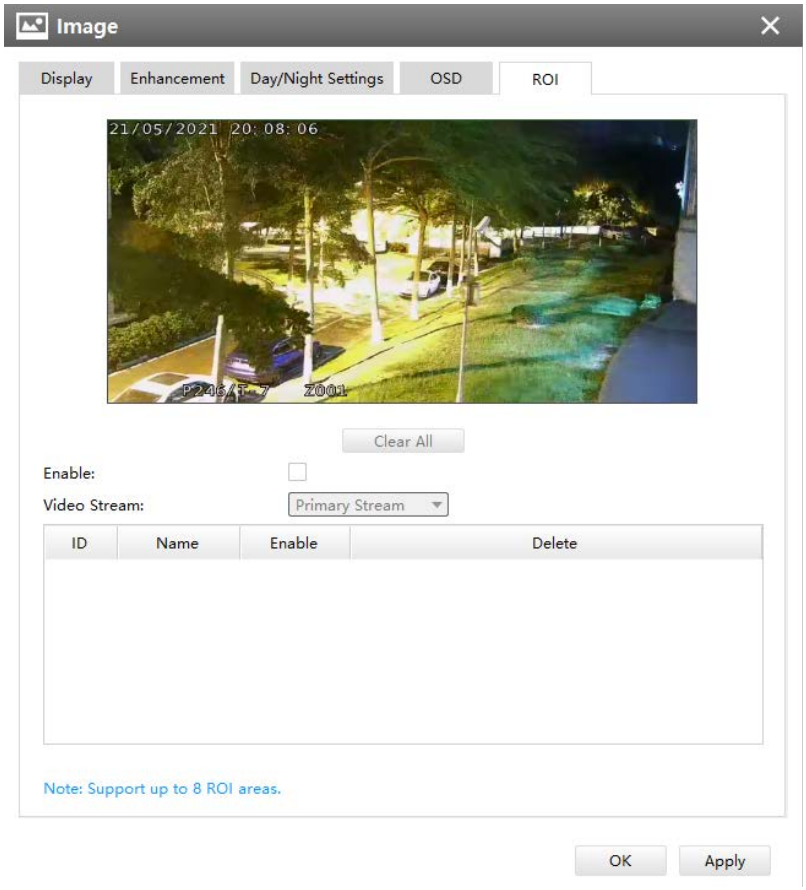
Step3: Hold down the mouse to draw the area in the preview window. If you choose the mask type as Mask, you can Change the color of Mask area, there are eight colors available: White, Black, Blue, Yellow, Green, Brown, Red and Purple.

Step4: Click button to enable or disable the corresponding areas, or click button to delete the areas.

Step5: click the [Apply] button to apply the settings, or click [Delete All] button to clear all drawn areas.

Note: If you choose other display modes of fisheye camera under Multi-channel or Bundle-Stream mode except display mode with Original view, then you can not use the function.

ROI



CMS supports ROI and supports setting up to 8 areas for primary and secondary streams respectively. The setting steps are shown as below:

Step1: Check the checkbox to enable the ROI function;

Step2: Choose the video stream type as primary or secondary stream;

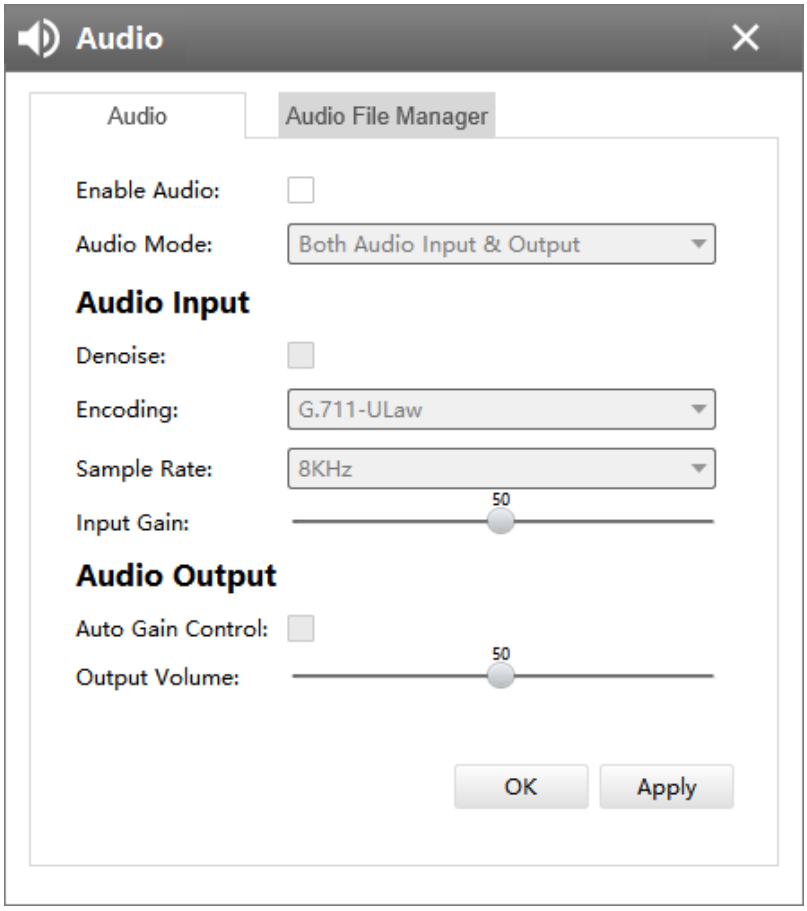
Step3: Hold down the mouse to draw the area and click [Apply] button to apply settings;

Step4: Click the [Clear All] button to clear all drawn area.

Audio

Audio

This audio function allows you to hear the sound from the camera or transmit your sound to the camera side. A two-way communication is also possible to be achieved with this feature. Alarm can be triggered when the audio input is above a certain alarm level you set, and configured audio can be played when an alarm occurs.



The meanings of the items on Audio page can be referred to the table below:

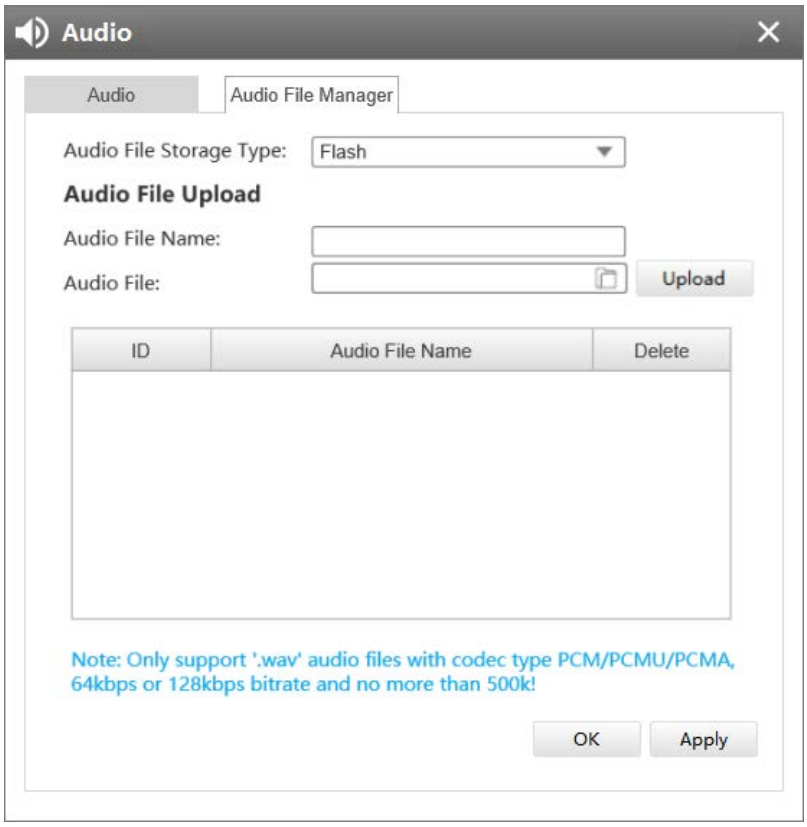
Table 23. Description of the buttons

Parameters	Function Introduction
Enable Audio	Check the checkbox to enable audio feature
Audio Mode	Only Mic, Only Speaker, Both Mic and Speaker are available
Audio Input	**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. **Input Gain:** Input audio gain level, 0-100

Parameters	Function Introduction
Audio Output	**Auto Gain Control:** Set it as On/Off **Output Volum:** Output level, 0-100

Audio File Manager

This audio file manager function can upload audio files. Users can configure the audio for Alarm Action. You can upload up to 5 audio files manually to Flash or SD Card on the Audio web page and you can also edit the audio file's name when upload.



Note:

- Only support '.wav' audio files with codec type PCM/PCMU/PCMA, 64kbps or 128 kbps and no more than 500k.
- Make sure your camera's version is 4X.7.0.78 or above.

PTZ

Basic

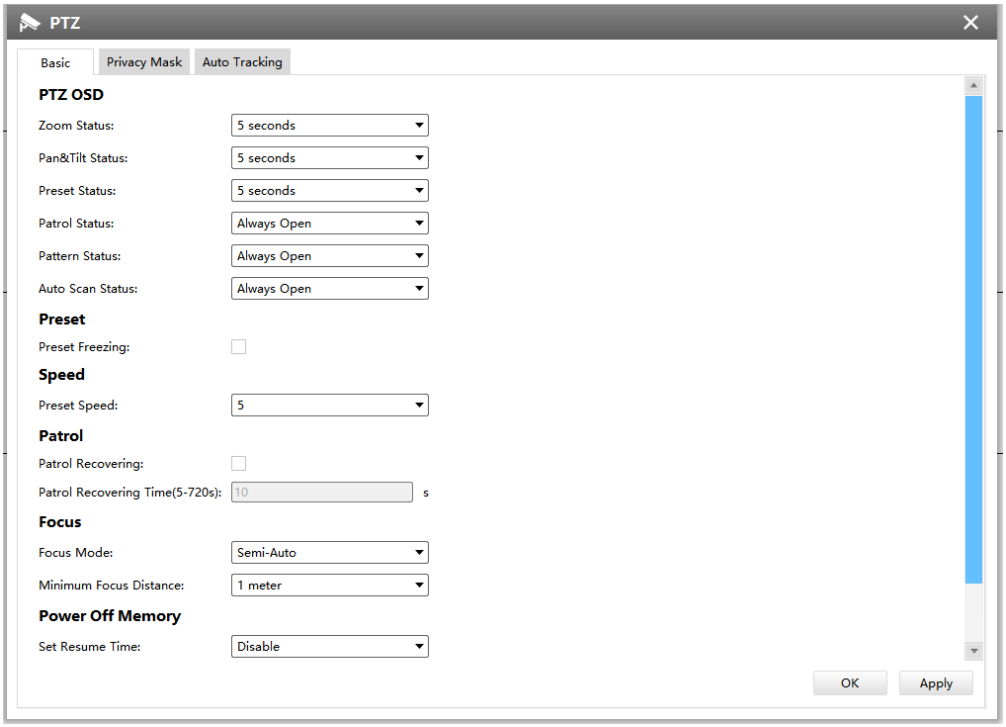


Table 24. Description of the buttons

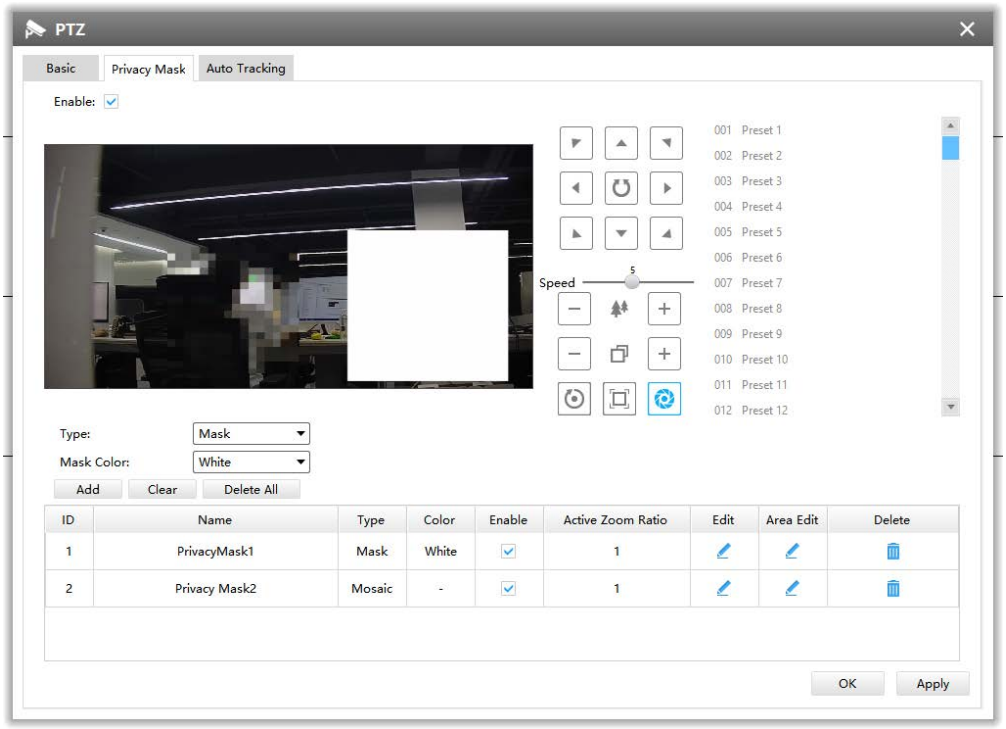
Parameters	Function Introduction
PTZ OSD	Configure the OSD parameter, you can set the **Zoom status OSD, Pan&Tilt Status, Preset Status** with Always Close/Always Open/2s/5s/10s, and **Patrol Status, Pattern Status, Auto Scan Status** with Always Open/ Always Close
Preset	If you enabled Preset Freezing, 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
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
Patrol	**Patrol Recovering:** Click to enable Patrol Recovering **Patrol Recovering Time:** Set time for Patrol Recovering, which is between 5 to 720 seconds
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

Parameters	Function Introduction
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
Dehumidifying	Configure the fan working mode for dehumidification. General/Enhancement/Constant are available **Note:** For PTZ Bullet Plus Camera, the "Off" option to Fan Working Mode meets different requirements.

Privacy Mask

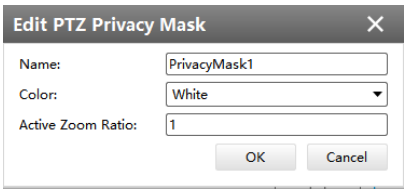
For AI PTZ series, Milesight CMS supports privacy mask with up to 28 areas, which include 24 mask areas and 4 mosaic areas.

Note: Make sure your camera version is Vxx.7.0.79 or above.



The meanings of the items on Privacy Mask page can be referred to the table below:

Table 25. Description of the buttons

Parameters	Function Introduction
Enable	Check the checkbox to enable the Privacy Mask function
Type	Choose the mask type as Mask or Mosaic
Mask Color	Select the color for the privacy areas, there are eight colors available: White, Black, Blue, Yellow, Green, Brown, Red, Purple **Note:** Mask Color is only available for Mask type.
Add	Add the current drawing area as Privacy Mask
Clear	Clear the current drawing area
Clear All	Clear all areas you drew before
Name	Support to customize the name of Privacy Mask
Type	Display the privacy mask type
Color	Select the color for the privacy areas, there are eight colors available: White, Black, Blue, Yellow, Green, Brown, Red, Purple
Enable	Check the checkbox to enable or disable the corresponding area
Active Zoom Ratio	Set the value of Active Zoom Ratio according to your need, and then the mask will only appear when the zoom ratio is greater than the predefined value
Edit	Edit the added area information including Name, Color and Active Zoom Radio 
Area Edit	Edit privacy mask drawing area
Delete	Click to delete the selected area

The setting steps are shown as below:

Step1: Check the checkbox to enable the Privacy Mask function;

Step2: Choose the mask type as Mask or Mosaic;

Step3: Hold down the mouse to draw the area in the preview window. If you choose the mask type as Mask, you can Change the color of Mask area, there are eight colors available: White, Black, Blue, Yellow, Green, Brown, Red and Purple.

Step4: Click [Add] button to add the area;

Step5: You can edit the added area information including Name, Mask Type Color and Active Zoom Ratio;

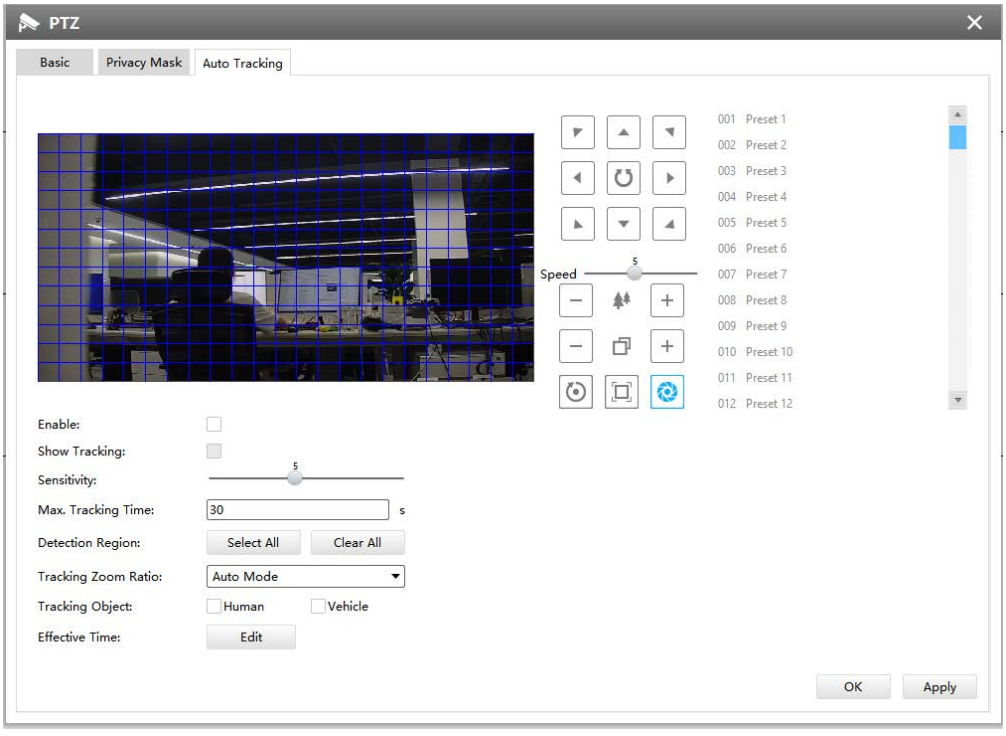
Step6: You can edit privacy mask drawing area

Step7: Click [Apply] button to apply settings;

Step8: Click the [Clear] button to clear drawn area, while click the [Delete All] button to delete all added area.

Auto Tracking

- Auto Tracking (for AI PTZ cameras)



Milesight CMS supports Auto Tracking function on PTZ Camera Series. The setting steps are shown as below:

Step1: Check the checkbox to enable Auto Tracking;

Step2: Enable “Show Tracking” to show tracking in Auto Tracking function;

Step3: Set detecting sensitivity;

Step4: Set Max. Tracking Time which must be between 5~300s. The camera will stop tracking when the tracking time is up;

Step5: Set Detection Region;

Step6: 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 camera would adjust the zoom ratio automatically according to the distance and speed of moving object under Auto Mode. If select Customize, PTZ camera would adjust to the zoom ratio you set before when tracking the target.

How to set Customize Tracking Zoom Ratio:

- Set zoom ratio by clicking  button.
- Click to [Set] save your configuration.

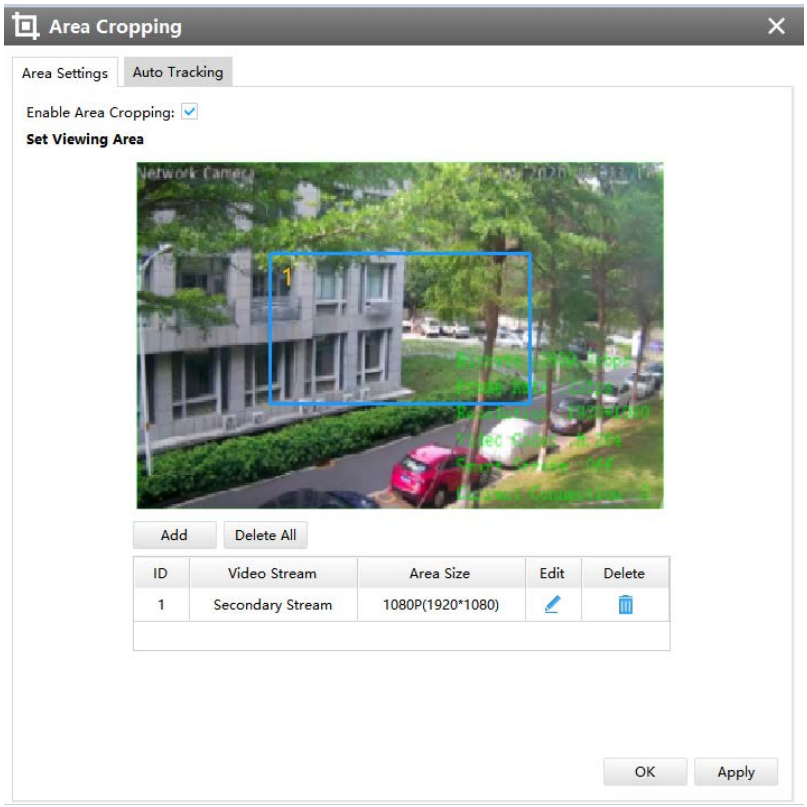
Step7: Set Auto Tracking effective time;

Step8: Click the [Apply] button.

Area Cropping

Milesight CMS supports 4K Area Cropping. The function is to crop the framed area according to the user's settings to form a stream channel, thereby obtaining more area details; user can also set auto tracking for cropping areas.

[Area Settings]



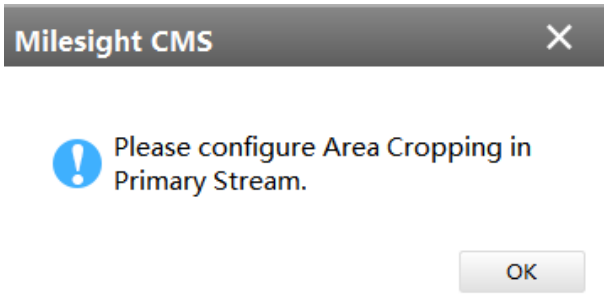
Setting Area Cropping can refer to steps as below:

Step1: Enable Area Cropping function;

Step2: Click [Add] to add Cropping area, and you can also drag the Cropping area on the screen;

Step3: Choose area size, then click [Save]

Note: Only the Primary Stream channel can be made Area Cropping configuration.

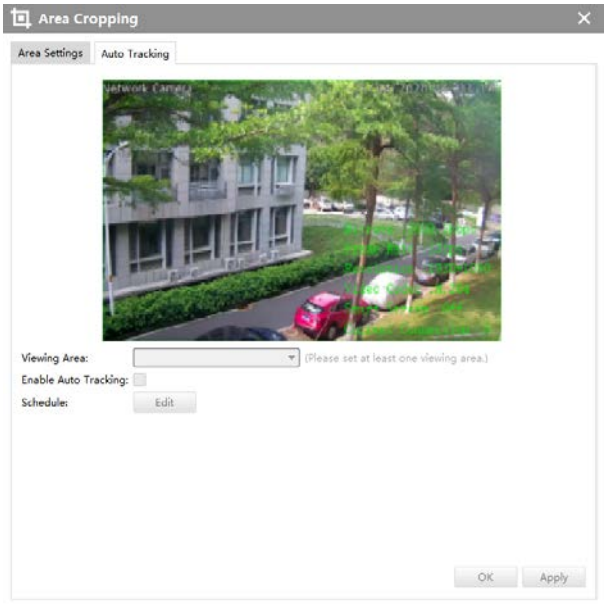
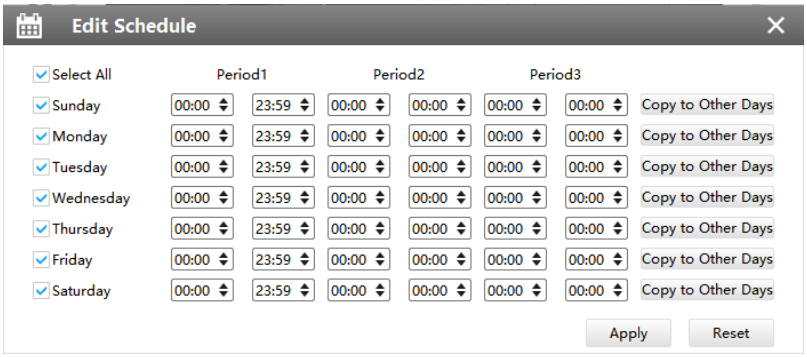


[Auto Tracking]



The meanings of the items can be referred to the table below:

Table 26. Description of the buttons

Parameters	Function Introduction
Viewing Area	Choose cropping area that you set before to set **Note:** If you do not add viewing areas, then you can not use the function as shown below: 
Enable Auto Tracking	Check the checkbox to enable Auto Tracking
Schedule	Click [Edit] to set Auto Tracking schedule as shown below: 

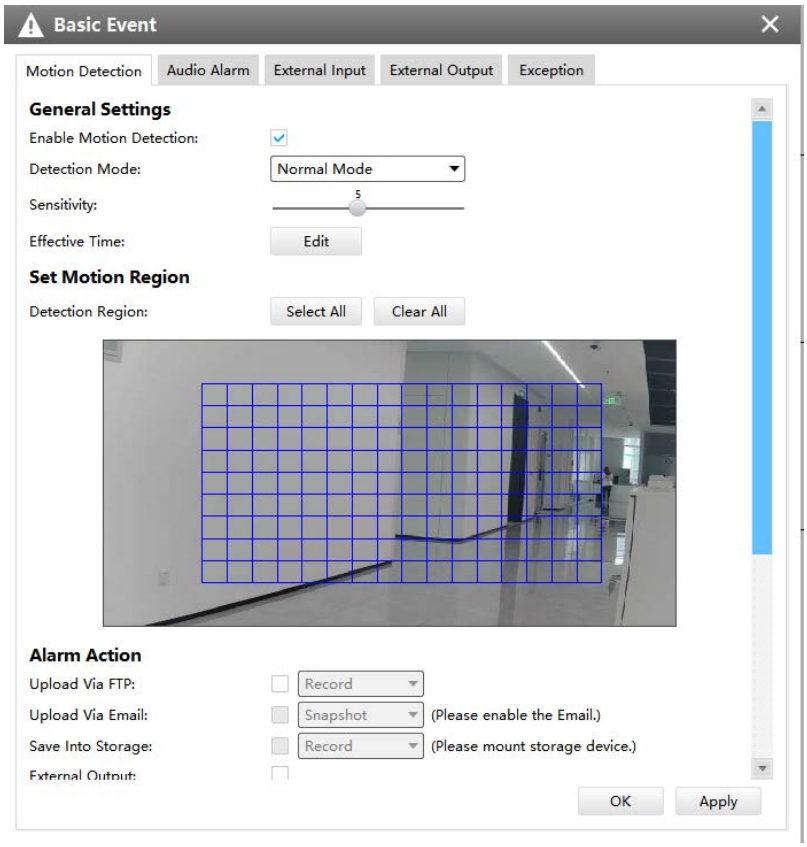
Note: You can not use both the auto tracking of VCA events and auto tracking of Area Cropping at the same time.

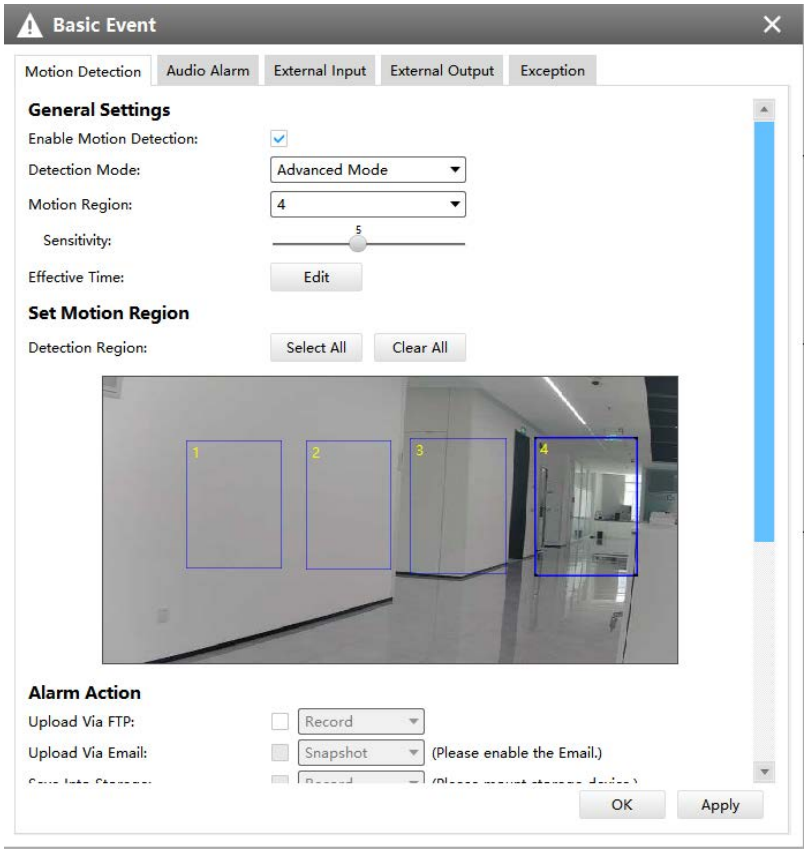
3.2.2.2 Event

Basic Event

Motion Detection

Check the checkbox to enable the Motion Detection function and select the detection mode, the sensitivity ranges from 0 to 10, and set Motion Detection effective time. You can draw the interested area or click the Select All button [Select All] to select all area interested. Here are eight options for alarm action, **[Upload Via FTP]**, **[Upload Via Email]**, **[Save Into Storage]**, **[External Output], [Play Audio], [HTTP Notification], [White LED]**and**[PTZ Motion]**. And set alarm setting, then apply the settings.




Basic Event
Motion Detection
Audio Alarm
External Input
External Output
Exception
General Settings
Enable Motion Detection:
Detection Mode:
Advanced Mode
Motion Region:
4
Sensitivity:
5
Effective Time:
Edit
Set Motion Region
Detection Region:
Select All
Clear All
1
2
3
4
Alarm Action
Upload Via FTP:
Record
Upload Via Email:
Snapshot
(Please enable the Email.)
OK
Apply

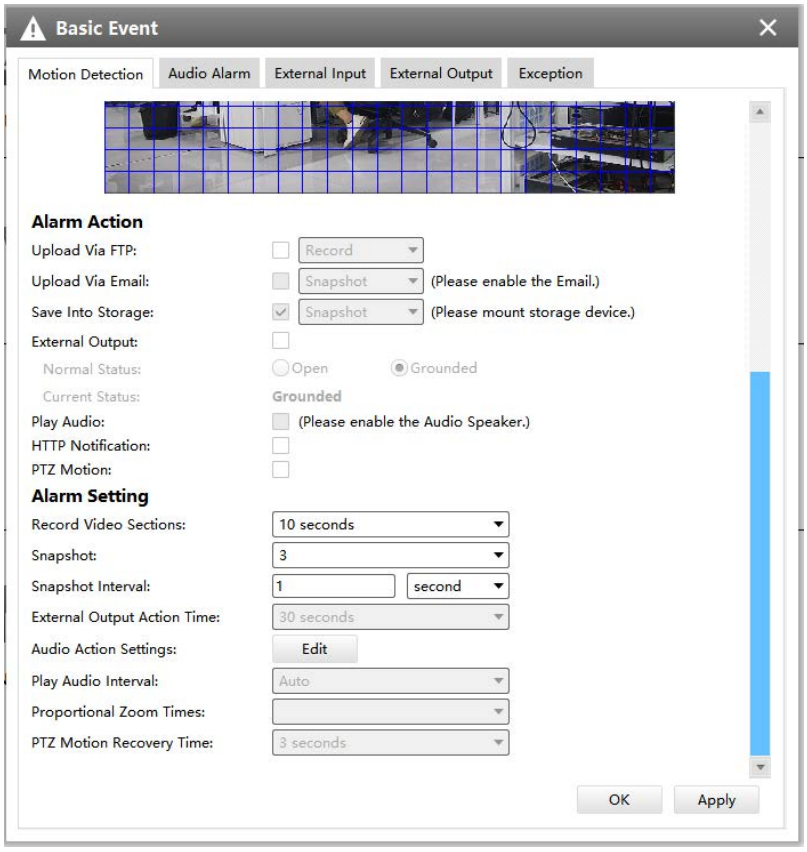
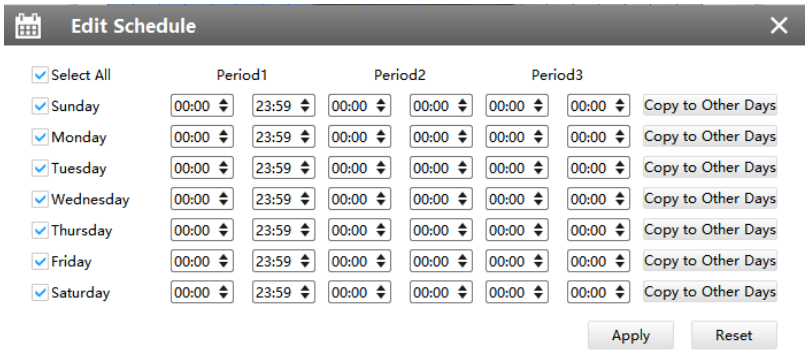
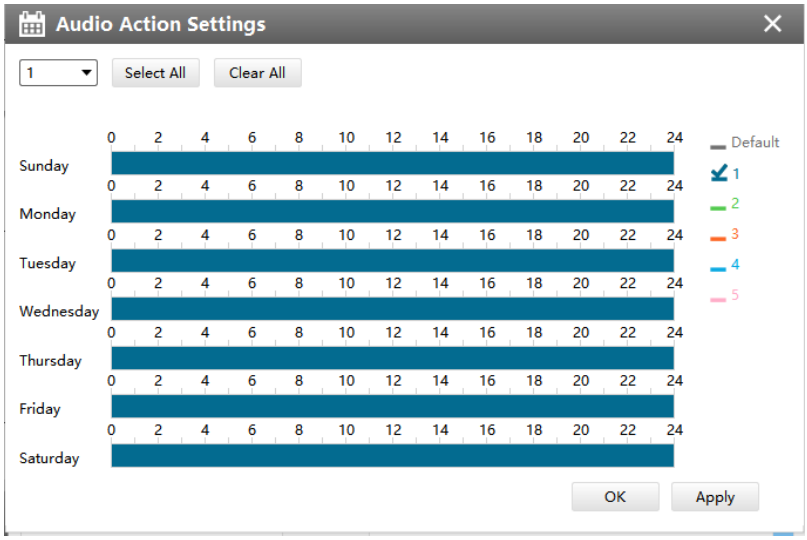


Table 27. Description of the buttons

Parameters	Function Introduction
General Settings	**Enable Motion Detection:** Check the checkbox to enable Motion Detection function **Detection Mode:** Normal Mode and Advanced Mode are available for the option. When Advanced Mode is selected, users can configure up to 4 detection regions and sensitivity for each detection region. **Note:** For this option, please make sure your camera version is Vxx.7.0.79 or above. **Sensitivity:** Sensitivity level, 1~10 **Effective Time:** Click [Edit] to set schedule as shown below: 
Set Motion Region	**Select All:** Click the button, the motion in the area will be detected **Clear All:** Click the button, the area drawn before will be removed
Alarm Action	**Upload Via FTP:** Upload the recording files via FTP **Upload Via Email:** Upload the files via Email **Save Into Storage:** Save alarm recording files into SD Card or NAS **External Output:** If the camera equips with External Output, you can enable the action after configuring the trigger duration **Play Audio:** If the camera equips with Speaker, you can enable the action after configuring the audio speaker. **HTTP Notification:** Support to pop up the alarm news to specified HTTP URL. **Note:** • Three HTTP notifications at most can be added to the same event. • HTTP Notification supports Basic & Digest authentication. **White LED:** When the alarm is triggered, White LED will be turned on to warn the detected objects (Only for Mini PTZ Bullet) **PTZ Motion:** When the motion alarm is triggered, PTZ Motion allows the camera to move the lens to the motion trigger position and zoom in

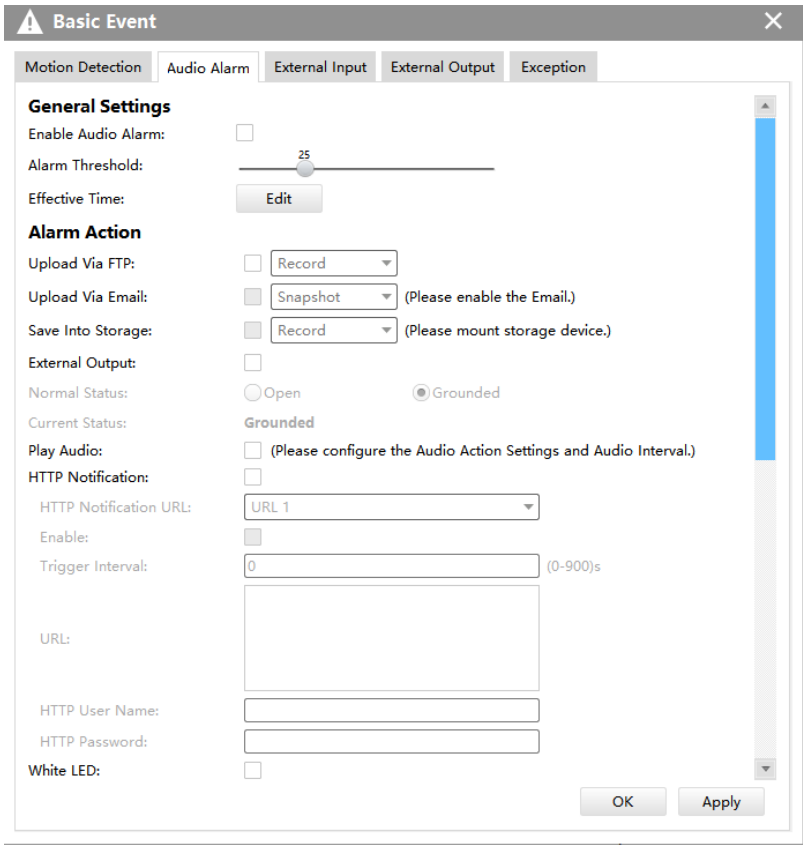
Parameters	Function Introduction
Alarm Setting	**Record Video Sections:** Six different periods are available(5, 10, 15, 20, 25, 30 sec) **Snapshot:** The number of snapshot, from 1 to 5 **Snapshot Interval:** It cannot be edited unless you choose more than 1 to Snapshot **External Output Action Time:** Length of time an alarm lasts, this cannot be edited unless when you enable the External Output on the Alarm Action firstly **Audio Action Settings:** Click [Edit] to set audio action schedule as shown below:  **Play Audio Interval:** Auto/ 10 seconds/ 30 seconds/ 1 minute/ 5 minutes/ 10 minutes are available **White LED Flash Mode:** • **Twinkle:** The White LED will continuous flashing before recovered • **Always:** The White LED will always open before recovered **White LED Flash Time:** The duration of flash Twinkle from 1 second to 10 seconds Always from 1 second to 60 seconds **White LED Effective Mode:** • **Always:** The White LED Flash Mode will always open when you choose the mode • **Light Environment:** You can choose the option according to light intensity of environment. 1. Current Light Intensity: show current environment light Intensity; 2. Effective Light Intensity: you can choose light intensity from 0 to 100. • **Customize:** You can customize effective time of LED Flash Mode **Proportional Zoom Times:** Support to zoom proportionally when PTZ Motion is triggered **PTZ Motion Recovery Time:** The duration of one alarm. It must be longer than flash time

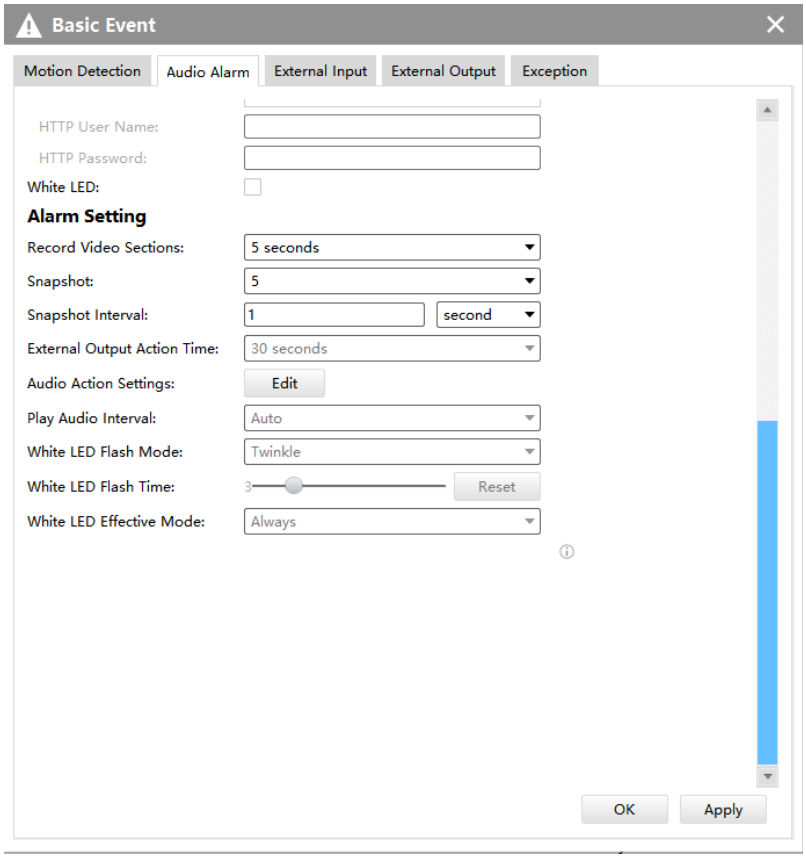
Note:

- If you choose other display modes of fisheye under Multi-channel mode except display mode with O or P view, then you can not use the function.
- You can not use both PTZ Motion and Auto Tracking at the same time.

Audio Alarm

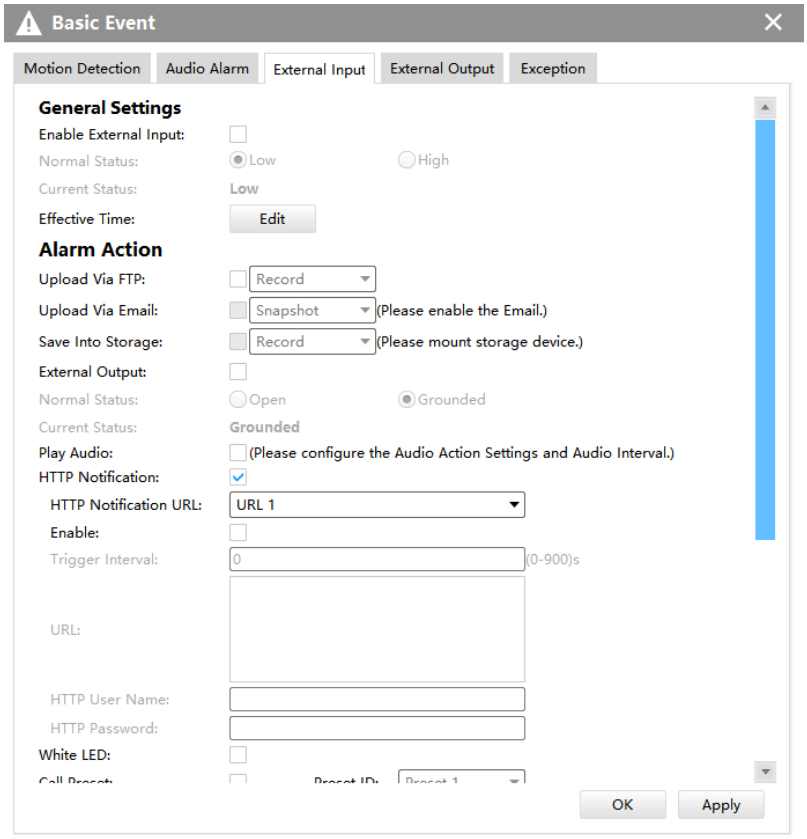
Audio function should be enabled before enabling Audio Alarm. CMS supports several alarm actions when alarm has been triggered. And alarm settings are supported. Do not forget setting FTP and SMTP before enabling the alarm function.

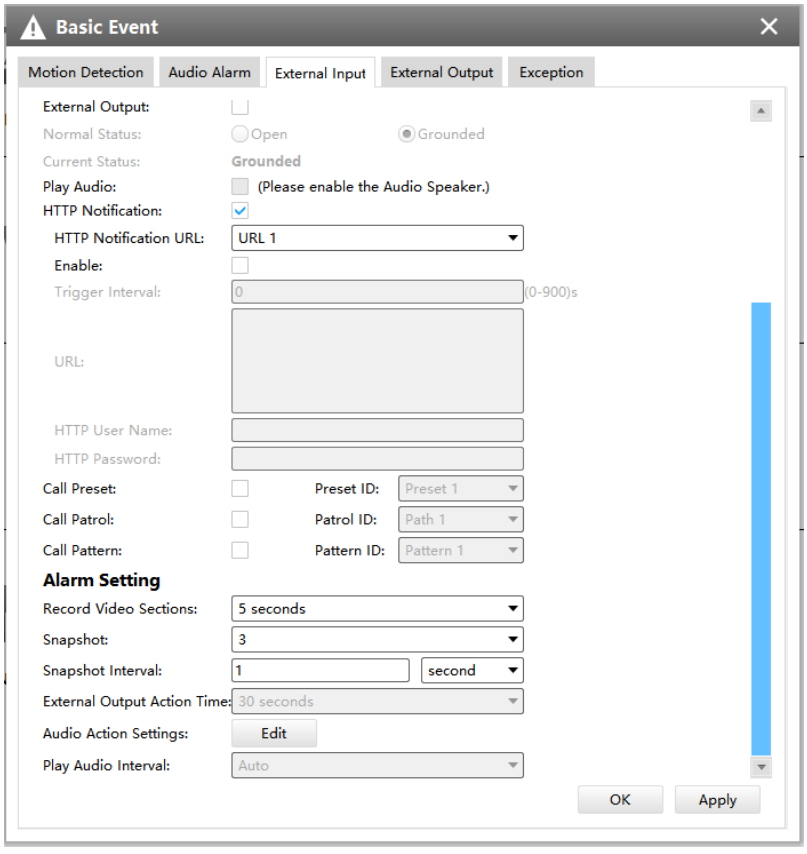




External Input

Enable the function first before you using it. CMS supports several alarm actions when alarm has been triggered. And alarm settings are supported. Do not forget setting FTP and SMTP before enabling the external input function.

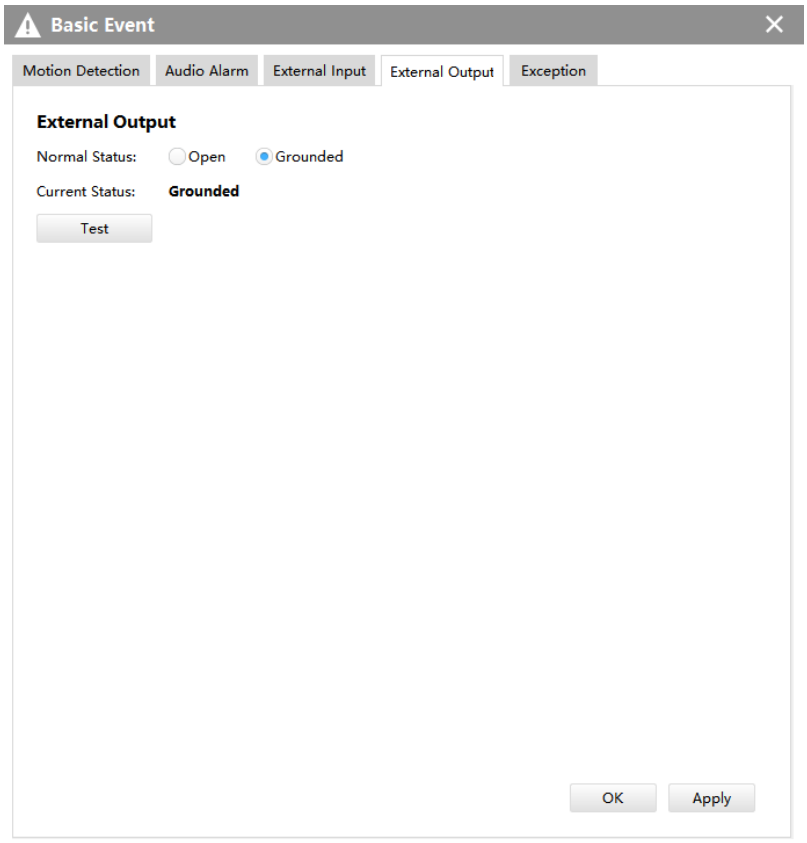

Basic Event
Motion Detection
Audio Alarm
External Input
External Output
Exception
General Settings
Enable External Input:
Normal Status:
Low
High
Current Status:
Low
Effective Time:
Edit
Alarm Action
Upload Via FTP:
Record
Upload Via Email:
Snapshot
(Please enable the Email.)
Save Into Storage:
Record
(Please mount storage device.)
External Output:
Normal Status:
Open
Grounded
Current Status:
Grounded
Play Audio:
(Please configure the Audio Action Settings and Audio Interval.)
HTTP Notification:
HTTP Notification URL:
URL 1
Enable:
Trigger Interval:
0
(0-900)s
URL:
HTTP User Name:
HTTP Password:
White LED:
OK
Apply


Basic Event
Motion Detection
Audio Alarm
External Input
External Output
Exception
External Output:
Normal Status:
Open
Grounded
Current Status:
Grounded
Play Audio:
(Please enable the Audio Speaker.)
HTTP Notification:
HTTP Notification URL:
URL 1
Enable:
Trigger Interval:
0
(0-900)s
URL:
HTTP User Name:
HTTP Password:
Call Preset:
Preset ID:
Preset 1
Call Patrol:
Patrol ID:
Path 1
Call Pattern:
Pattern ID:
Pattern 1
Alarm Setting
Record Video Sections:
5 seconds
Snapshot:
3
Snapshot Interval:
1
second
External Output Action Time:
30 seconds
Audio Action Settings:
Edit
Play Audio Interval:
Auto
OK
Apply

Note: You can not choose all three options including Call Preset, Call Patrol and Call Pattern at the same time.

External Output

If the camera equips with External Output, you can enable the action after configuring the trigger duration.



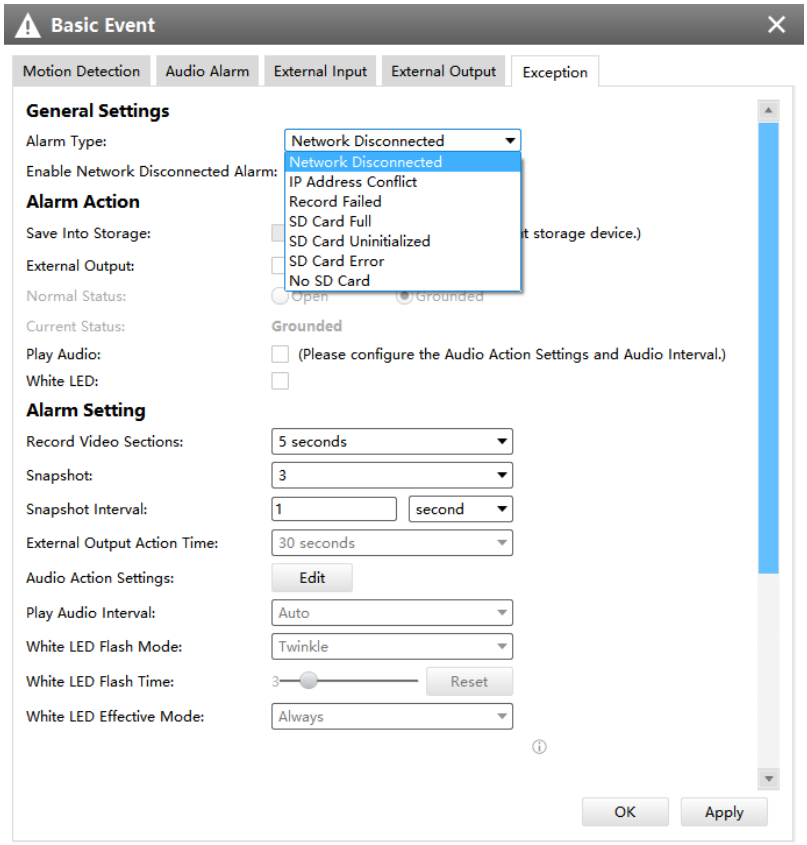
Note: Please set the **Normal Status** firstly, when the **Current Status** is different with **Normal Status**, it will lead to the alarm.

Exception

Step1: Network Disconnected, **IP Address Conflicted, Record Failed, SD Card Full, SD Card Uninitialized, SD Card Error** and **No SD Card** are available.

Step2: Check the checkbox to enable the selected alarm type.

Step3: If the camera equips with External Output, you can enable the External Output in Alarm Action. And alarm settings are supported.



Note:

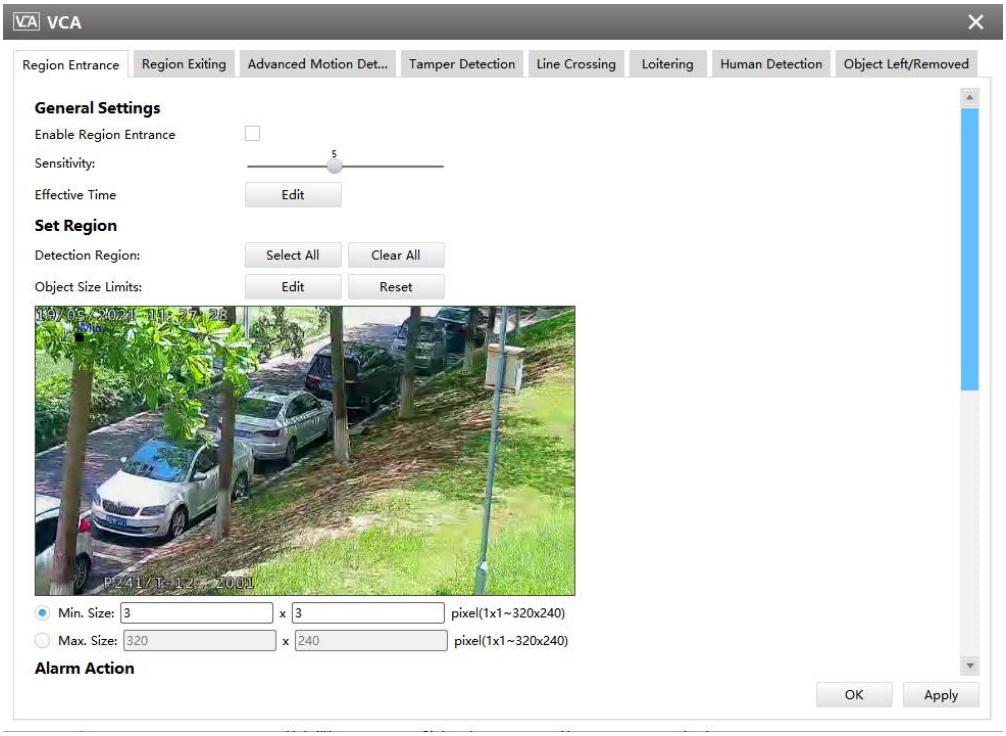
- Please finish the relevant settings in the Network part before using the the Alarm function on CMS;
- It will activate the alarm when the current status is different from normal status on Alarm I/O page, you can set the status by yourself.

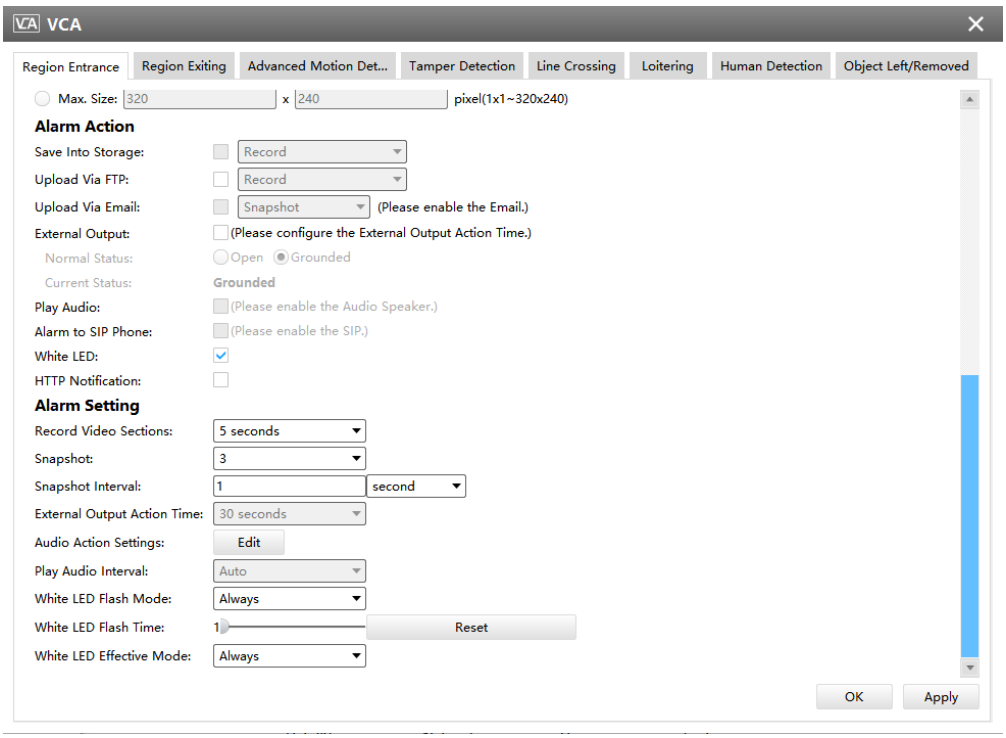
VCA

Region Entrance

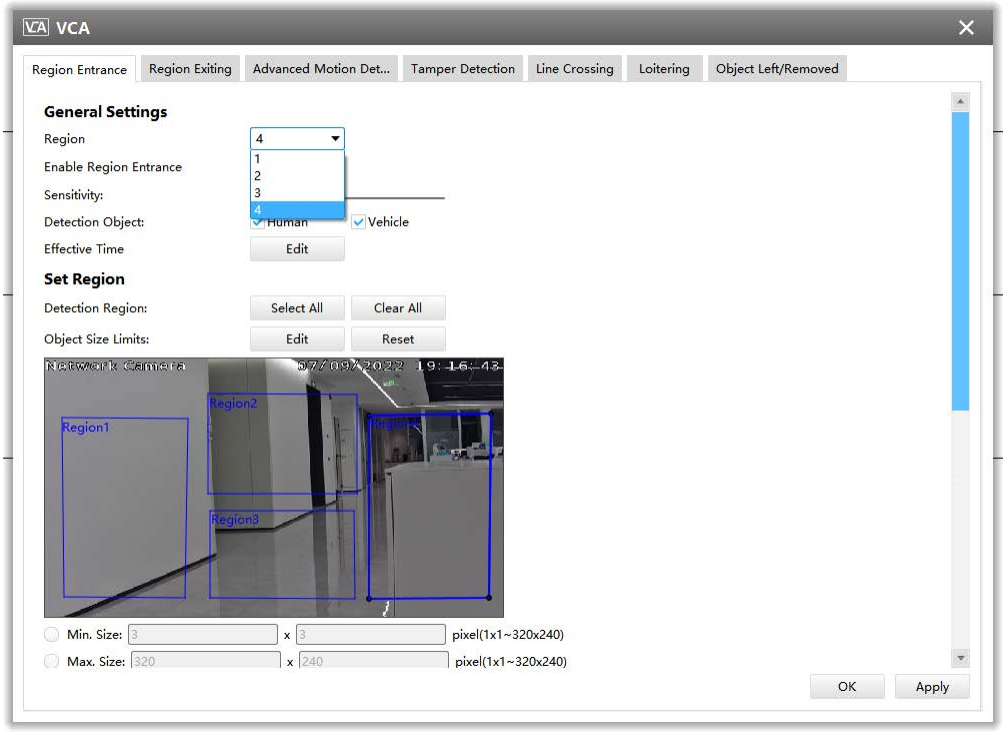
Region entrance helps to protect a special area from potential threat of suspicious person's or object's entrance. An alarm will be triggered when objects enter the selected regions by enabling region entrance.

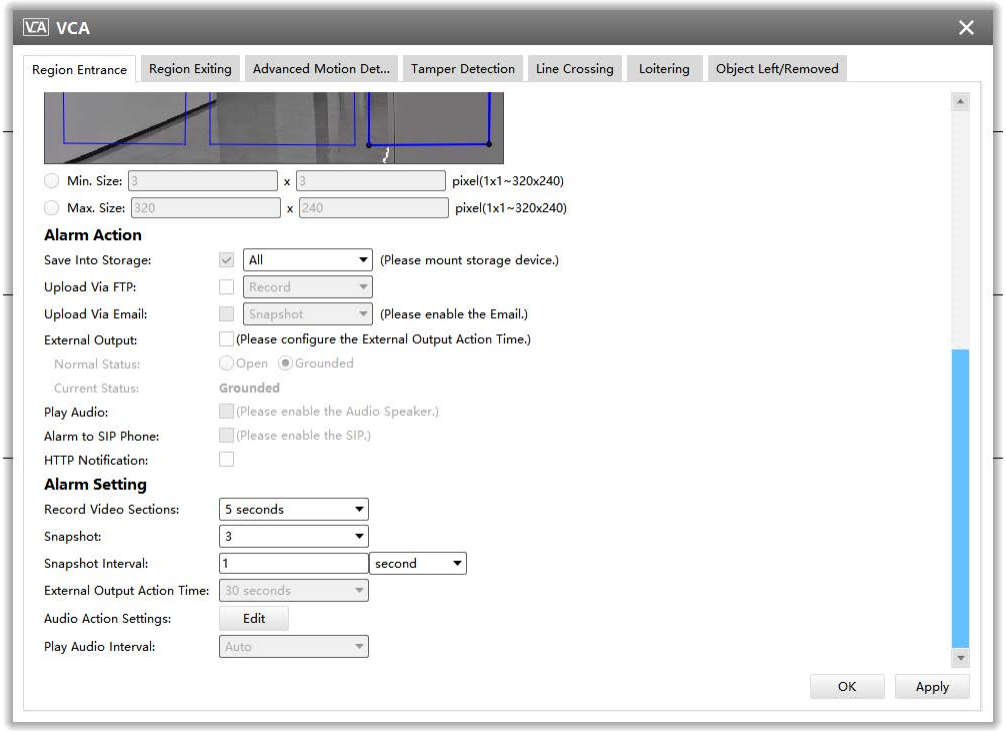
- Region Entrance(for non-AI cameras)





- Region Entrance(for AI cameras)





Step1: Select detection region and enable Region Entrance detection. Then set detecting sensitivity;

Step2: Choose detection object. Check Human or Vehicle attribute, and the camera will alarm once detecting people or vehicle and triggering related events;

📝 **Note:** All AI Cameras support this function.

Step3: Set detection schedule;

Step4: Set Entrance Detection region and object size limits;

- **Min. Size:** Draw the screen or input pixel number to set the minimum size of the detected object. When the object is smaller than this size, it will not be detected. The default minimum size is 3*3
- **Max. Size:** Draw the screen or input pixel number to set the maximum size of the detected object. When the object is larger than this size, it will not be detected. The default maximum size is 320*240

📝 **Note:** Support the Irregular Area Drawing function in 4x.7.0.78 version or above of Milesight cameras.

Step5: Set alarm action;

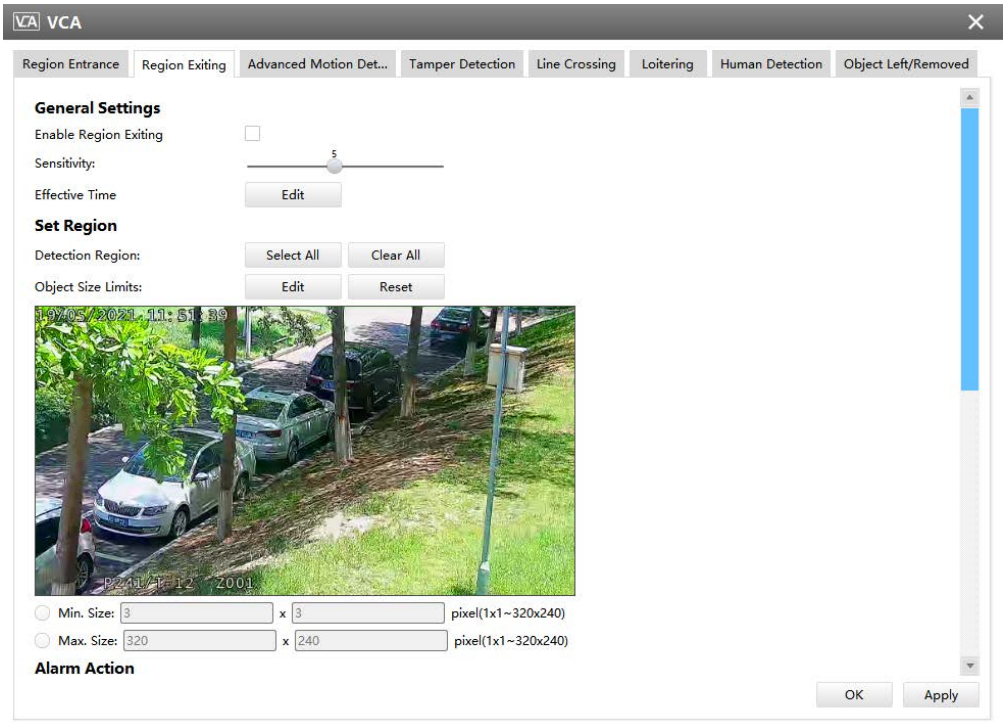
Step6: Set alarm settings. If you enable External Output and choose Constant External Output Action Time, when objects enter the selected regions, External Output Action alarm time will be always constant till the alarm is released.

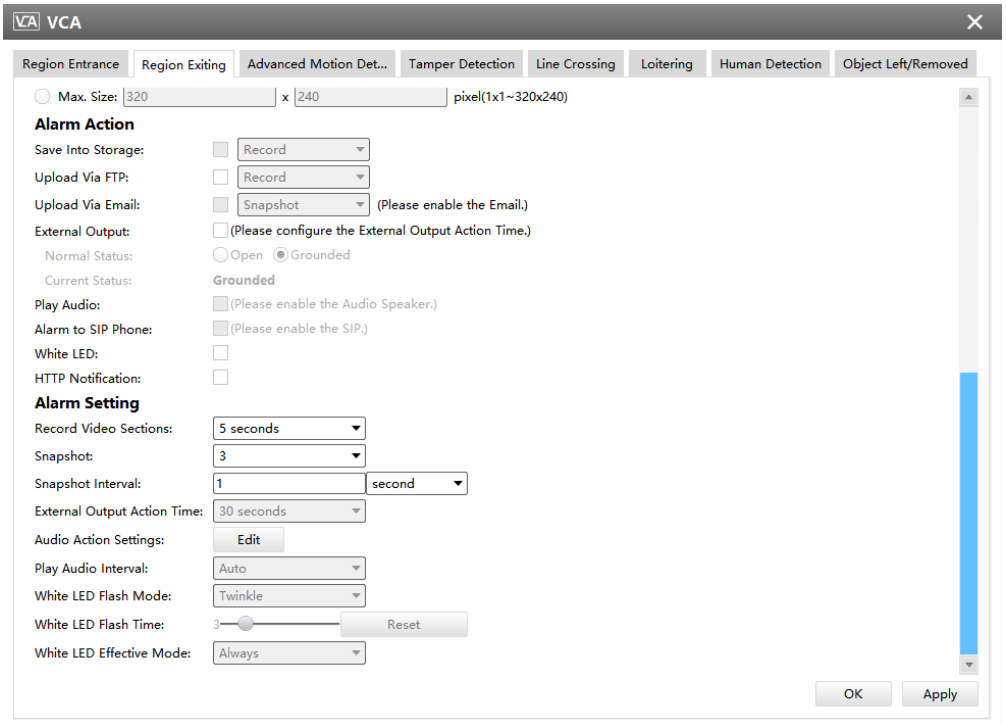
Step7: Click **[OK]** or **[Apply]** after all set.

Region Exiting

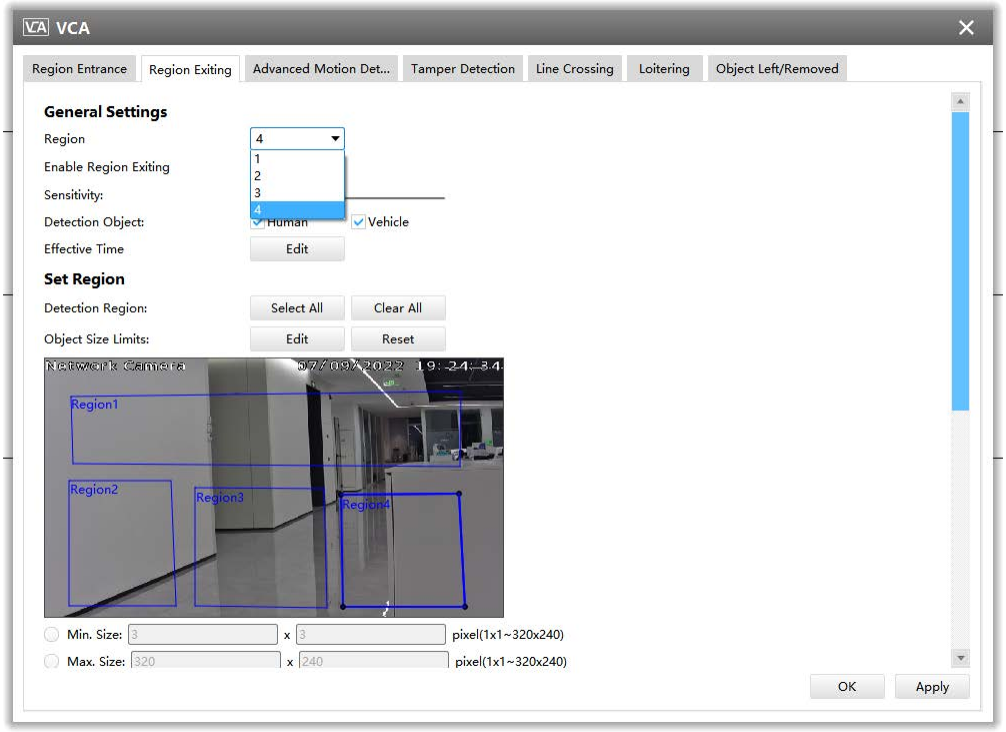
Region Exiting is to make sure that any person or object won't exit the area that is being monitored. Any exit of people or objects will trigger an alarm.

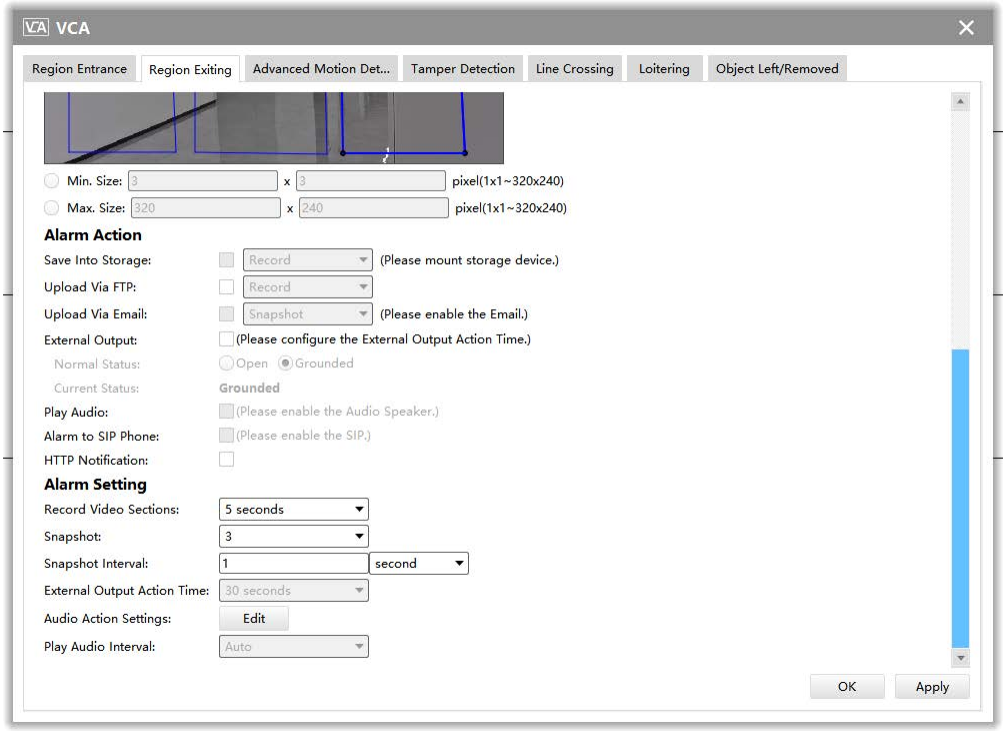
- Region Exiting(for non-AI cameras)





- Region Exiting(for AI cameras)





Step1: Select detection region and enable Region Exiting detection. Then set detecting sensitivity;

Step2: Choose detection object. Check Human or Vehicle attribute, and the camera will alarm once detecting people or vehicle and triggering related events;

Note: All AI Cameras support this function.

Step3: Set detection schedule;

Step4: Set Exiting Detection region and object size limits;

- **Min. Size:** Draw the screen or input pixel number to set the minimum size of the detected object. When the object is smaller than this size, it will not be detected. The default minimum size is 3*3
- **Max. Size:** Draw the screen or input pixel number to set the maximum size of the detected object. When the object is larger than this size, it will not be detected. The default maximum size is 320*240

Note: Support the Irregular Area Drawing function in 4x.7.0.78 version or above of Milesight cameras.

Step5: Set alarm action;

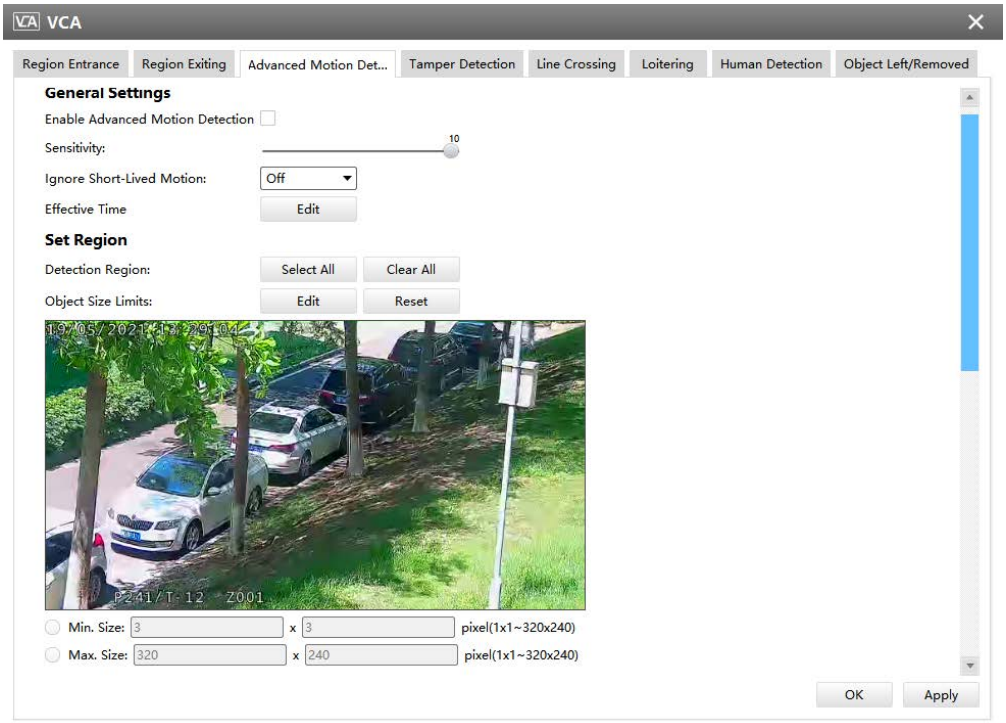
Step6: Set alarm settings. If you enable External Output and choose Constant External Output Action Time, when objects exit the selected regions, External Output Action alarm time will be always constant till the alarm is released.

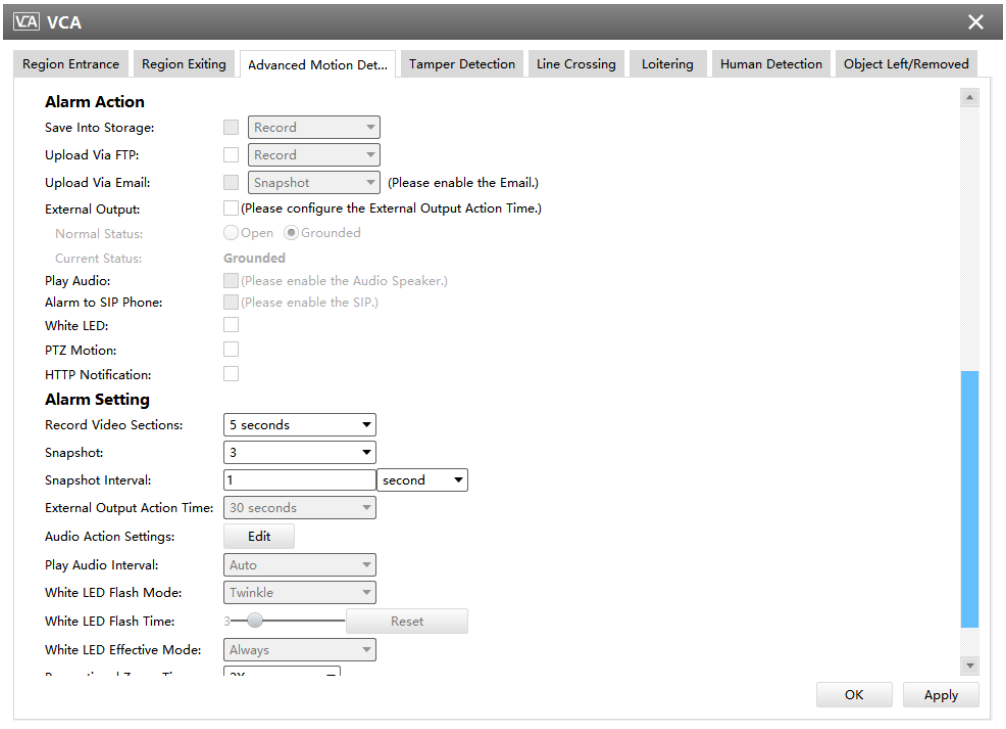
Step7: Click **[OK]** or **[Apply]** after all set.

Advanced Motion Detection

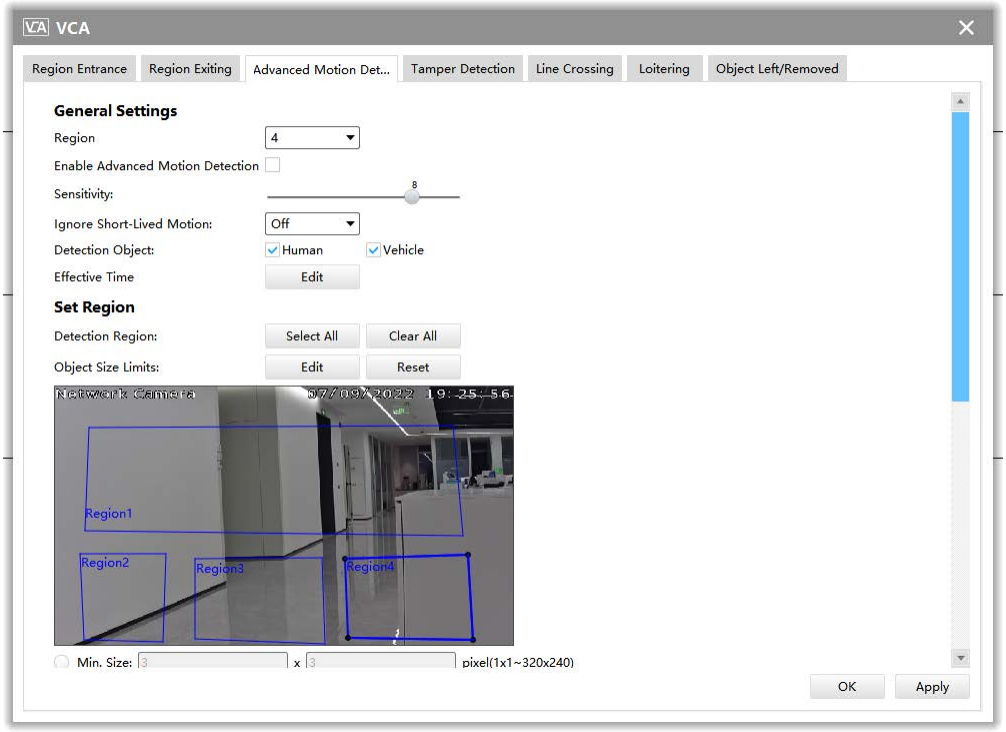
Different from traditional motion detection, Advanced Motion Detection can filter out “noise” such as lighting changes, natural tree movements, etc. When an object moves in the selected area, it will trigger alarm.

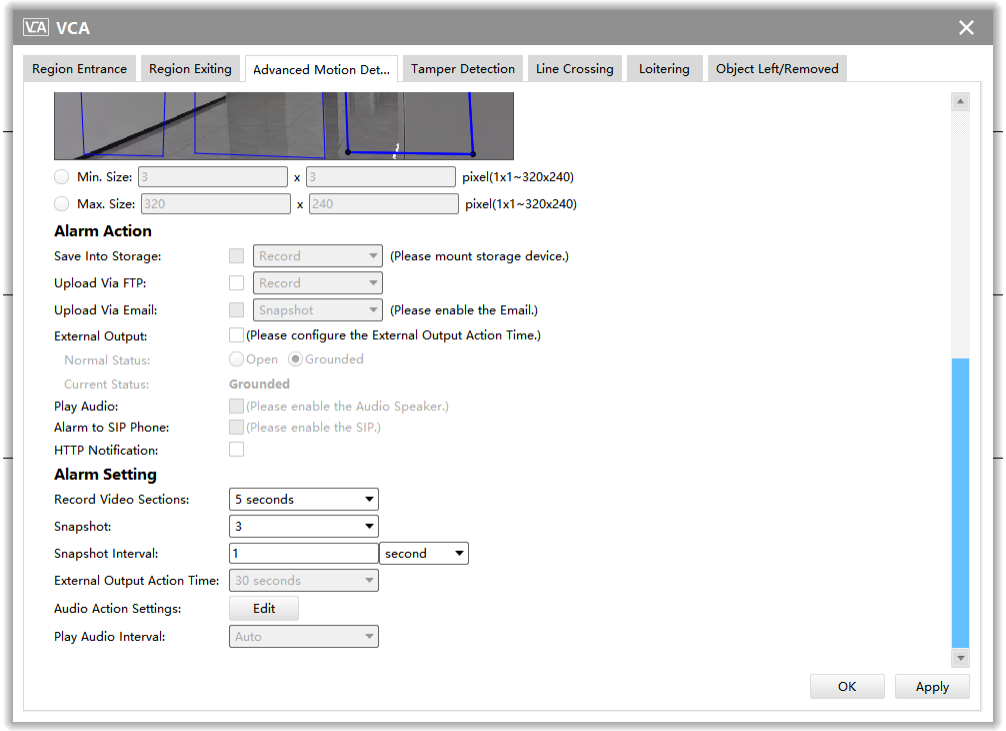
- Advanced Motion Detection(for non-AI cameras)





- Advanced Motion Detection(for AI cameras)





Step1: Select detection region and enable Advanced Motion Detection. Then set detecting sensitivity;

Step2: Set Ignore Short-Lived Motion time. If you set the time, when the moving duration of an object is within the setting time, the alarm will not be triggered;

Step3: Choose detection object. Check Human or Vehicle attribute, and the camera will alarm once detecting people or vehicle and triggering related events;

📝 **Note:** All AI Cameras support this function.

Step4: Set detection schedule;

Step5: Set Advanced Motion Detection region and object size limits.

📝 **Note:** Support the Irregular Area Drawing function in 4x.7.0.78 version or above of Milesight cameras.

Step6: Set alarm action;

Step7: Set alarm settings. If you enable External Output and choose Constant External Output Action Time, when object motion time is longer than the Ignore Short-Lived Motion time which you set in the selected regions, External Output Action alarm time will be always constant till the alarm is released.

Step8: Click **[OK]** or **[Apply]** after all set.

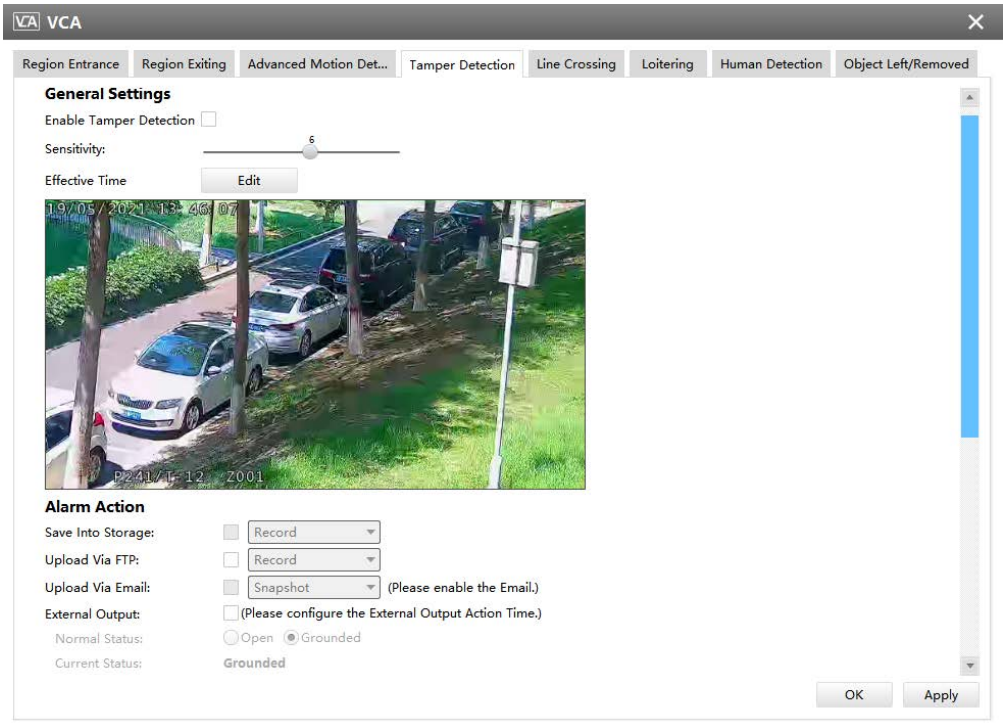
📝 **Note:**

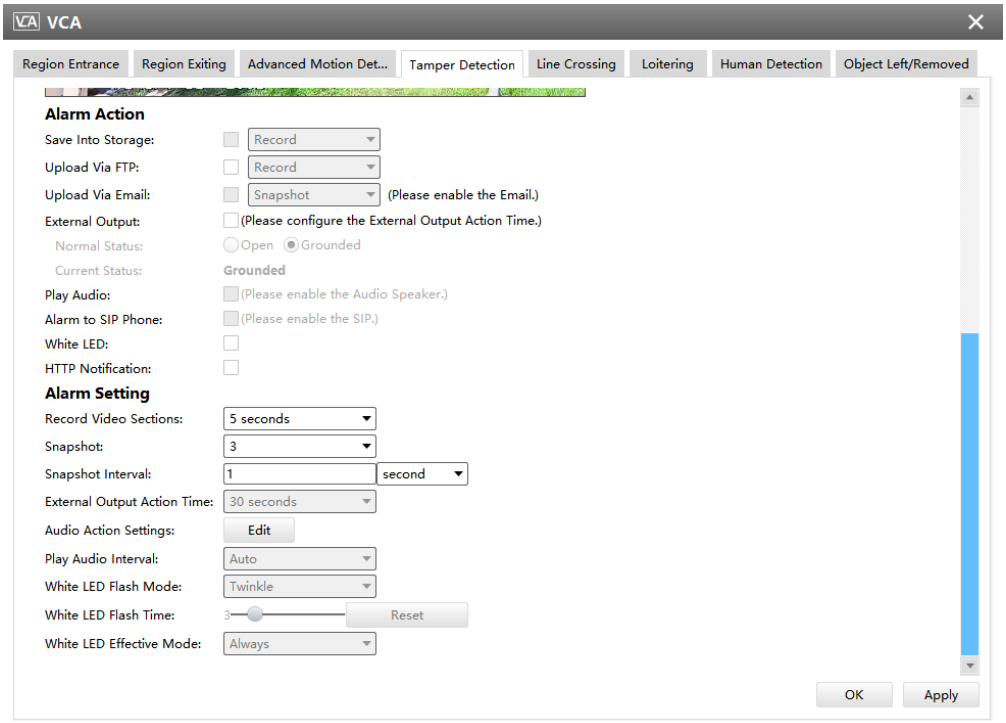
- The sensitivity can be configured to detect various movement according to different requirements. When the level of sensitivity is low, slight movement won't trigger the alarm.
- Ignore Short-Lived Motion time is to avoid false alarm caused by instant object movement within time setting.

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.

- Tamper Detection(for non-AI and AI cameras)





Step1: Enable Tamper Detection and set detecting sensitivity;

Step2: Set detection schedule;

Step3: Set alarm action;

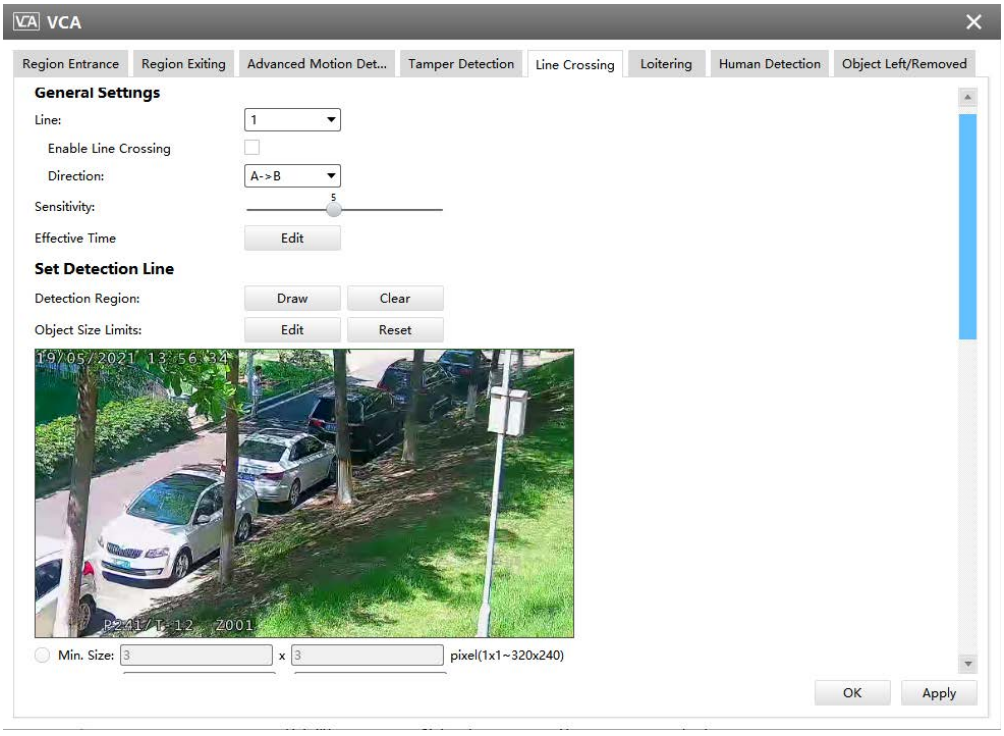
Step4: Set alarm settings. If you enable External Output and choose Constant External Output Action Time, when possible tampering is detected, External Output Action alarm time will be always constant till the alarm is released.

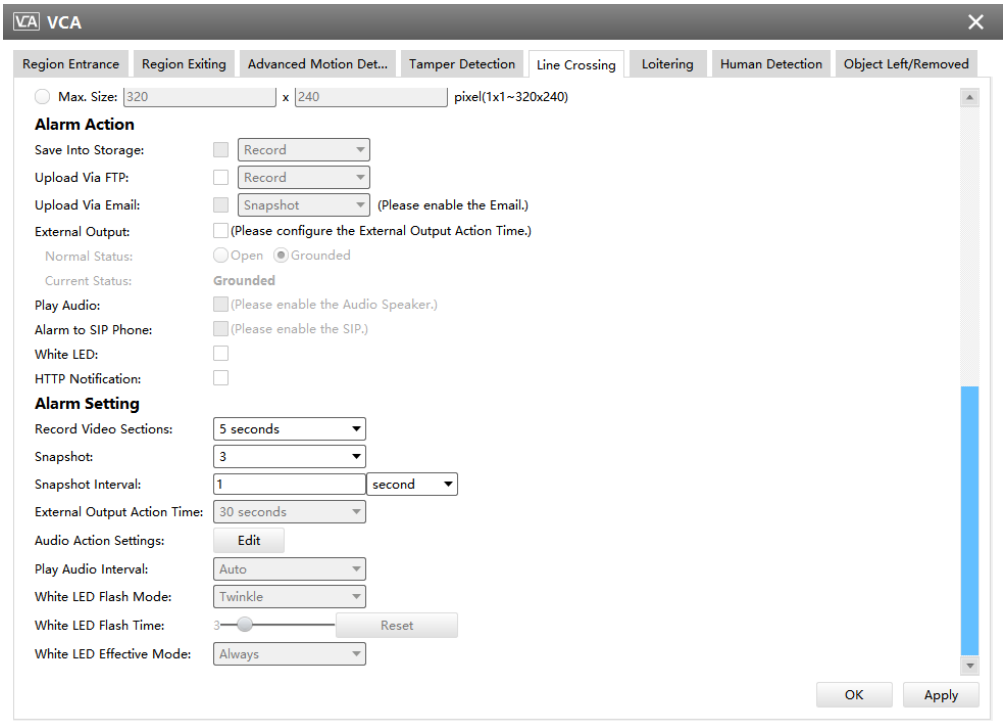
Note: The algorithm supports defocus detection in Tamper Detection function.

Line Crossing

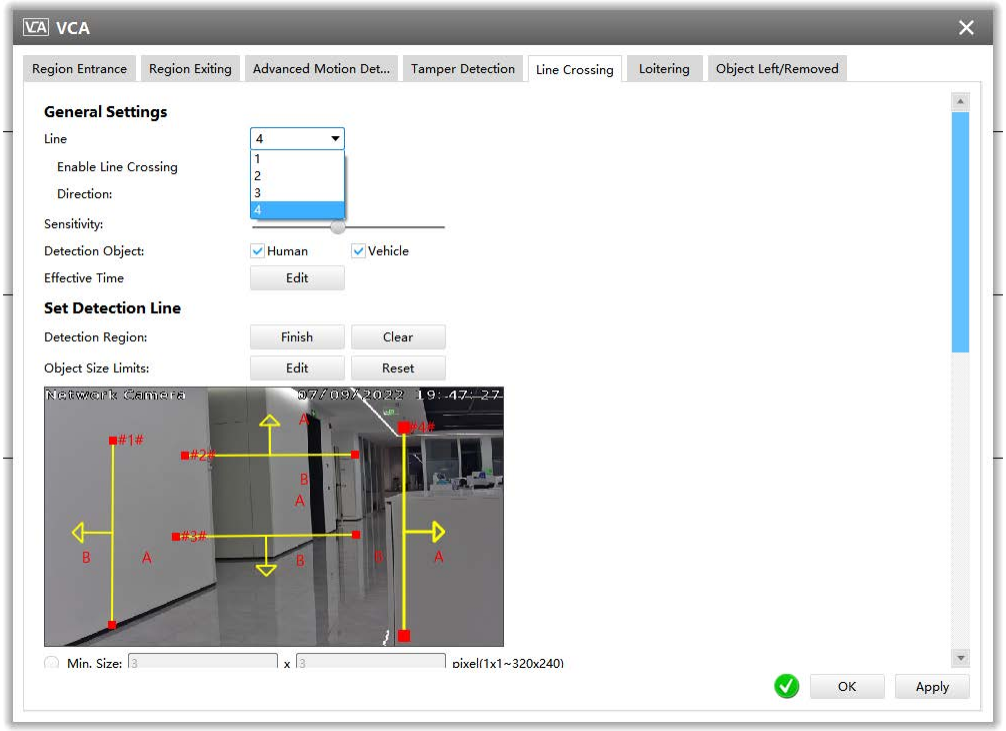
Line Crossing detection is designed to work in most indoor and outdoor environment. An event will be triggered every time when the camera detects objects crossing a defined virtual line.

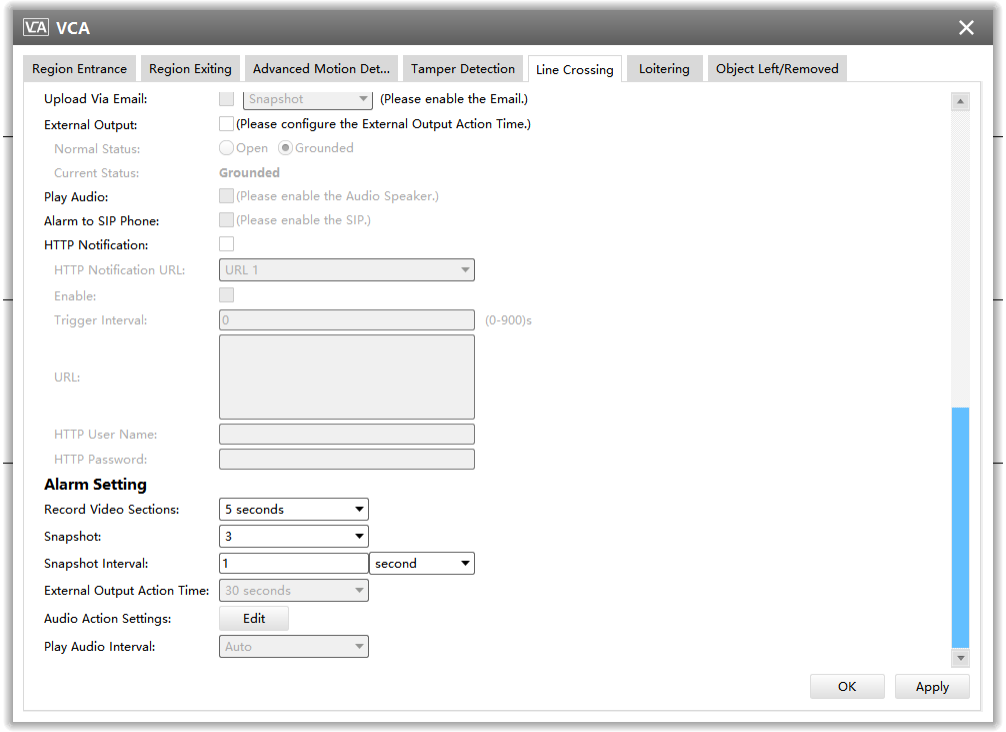
- Line Crossing(for non-AI cameras)





- Line Crossing(for AI cameras)





Step1: Choose a line number;

Step2: Enable Line Crossing detection and define its direction;

Step3: Set detecting sensitivity;

Step4: Choose detection object. Check Human or Vehicle attribute, and the camera will alarm once detecting people or vehicle and triggering related events;

Note: All AI Cameras support this function.

Step5: Set detection schedule;

Step6: Draw detection lines and set object size limits.

Step7: Set alarm action;

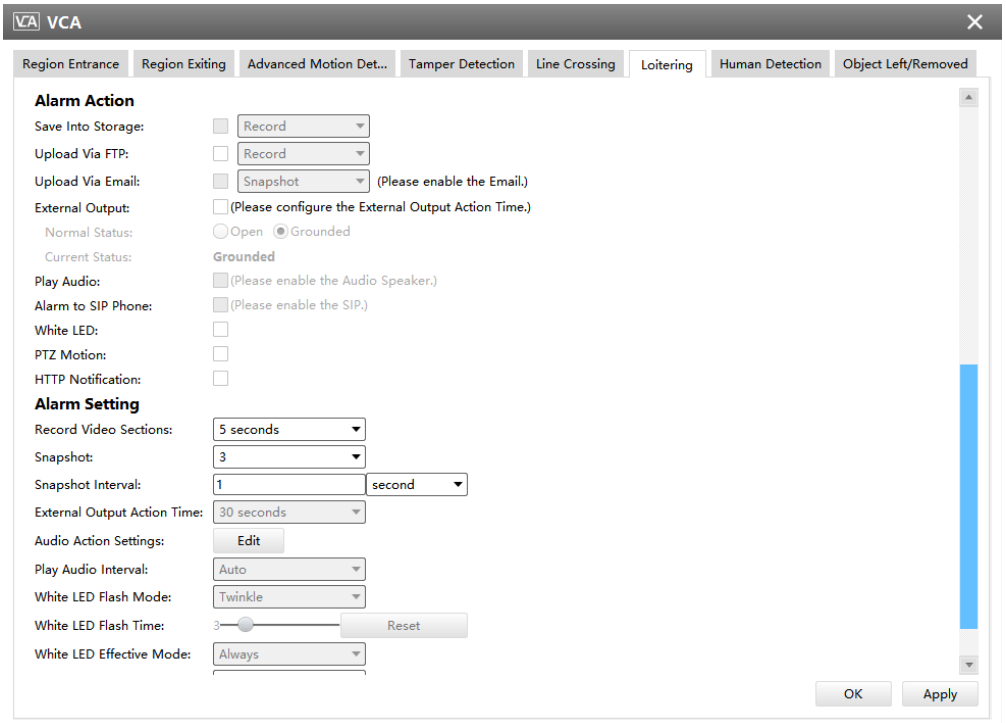
Step8: Set alarm settings. If you enable External Output and choose Constant External Output Action Time, when objects cross a defined virtual line, External Output Action alarm time will be always constant till the alarm is released.

Note: You can 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.

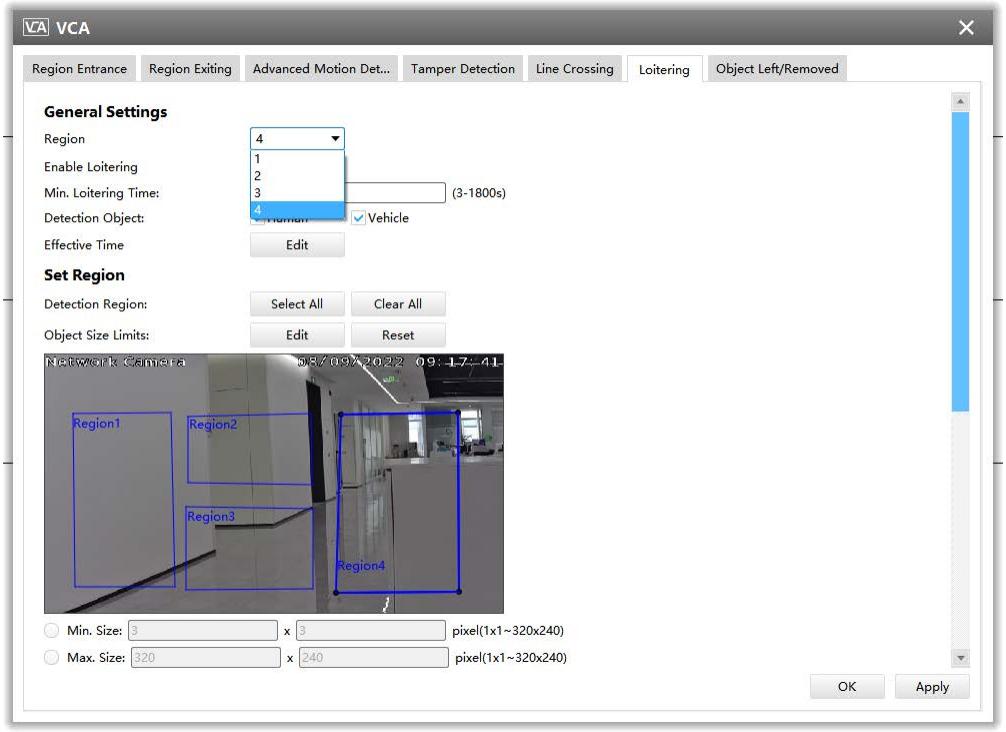
Loitering

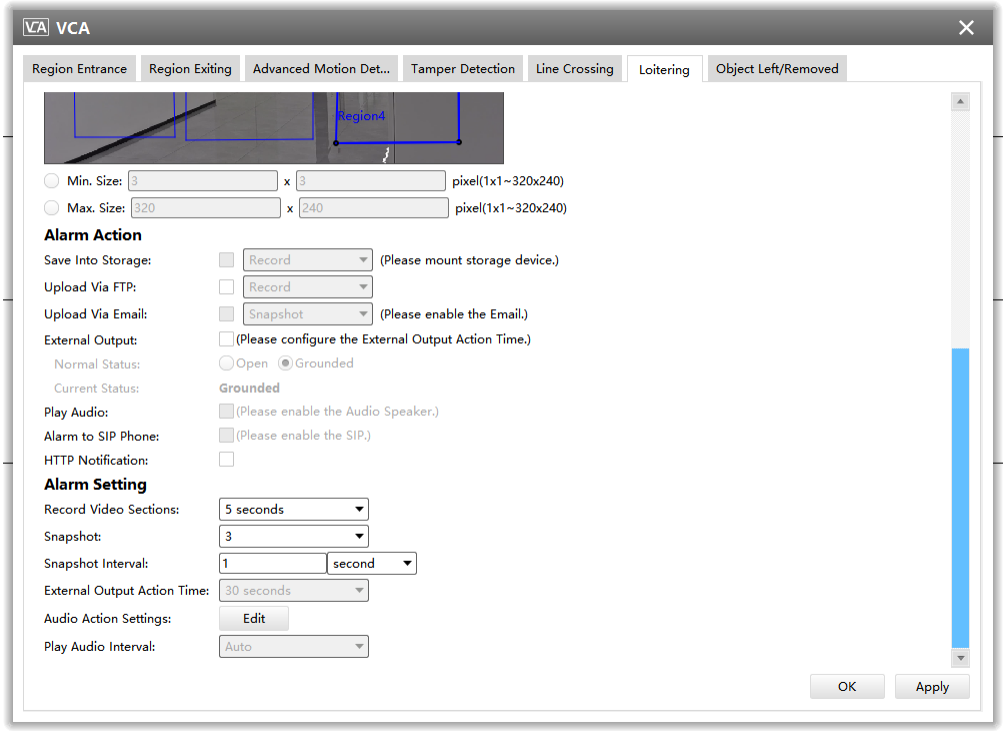
When objects are loitering in a defined area for a specific period of time, it would trigger an alarm.

- Loitering(for non-AI cameras)



- Loitering(for AI cameras)





Step1: Select detection region and enable Loitering detection. Then set minimum loitering time;

Step2: Choose detection object. Check Human or Vehicle attribute, and the camera will alarm once detecting people or vehicle and triggering related events;

Note: This function is supported for all AI cameras.

Step3: Set detection schedule;

Step4: Set Loitering detection region and object size limits.

Note: Support the Irregular Area Drawing function in 4x.7.0.78 version or above of Milesight cameras.

Step5: Set alarm action;

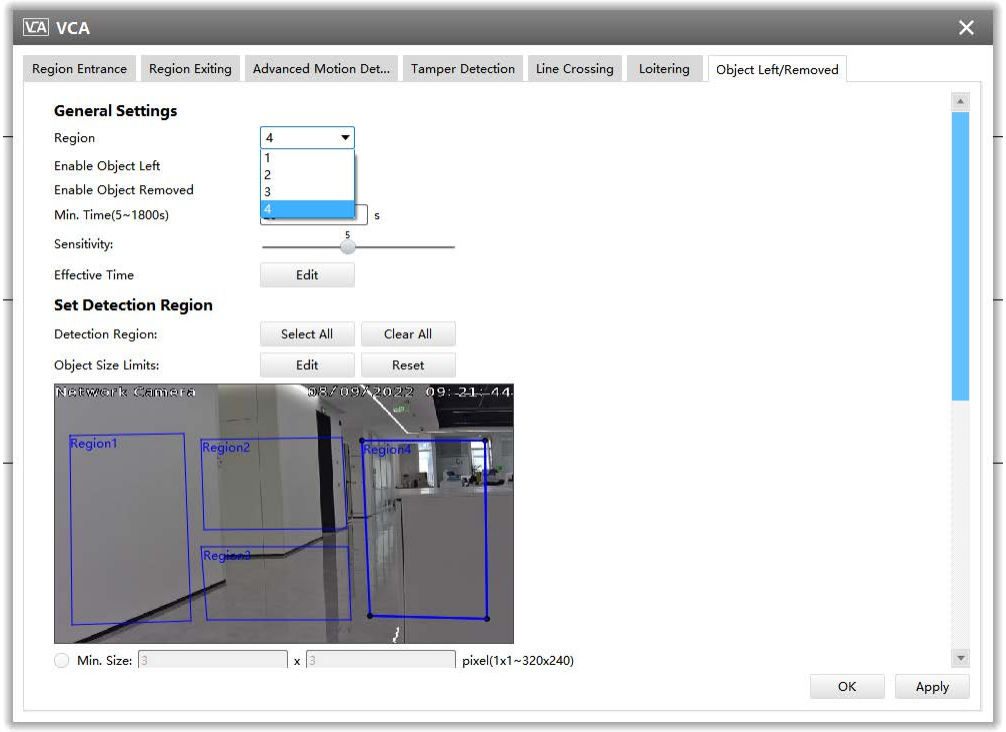
Step6: Set alarm settings. If you enable External Output and choose Constant External Output Action Time, when objects loiter in the selected regions, External Output Action alarm time will be always constant till the alarm is released.

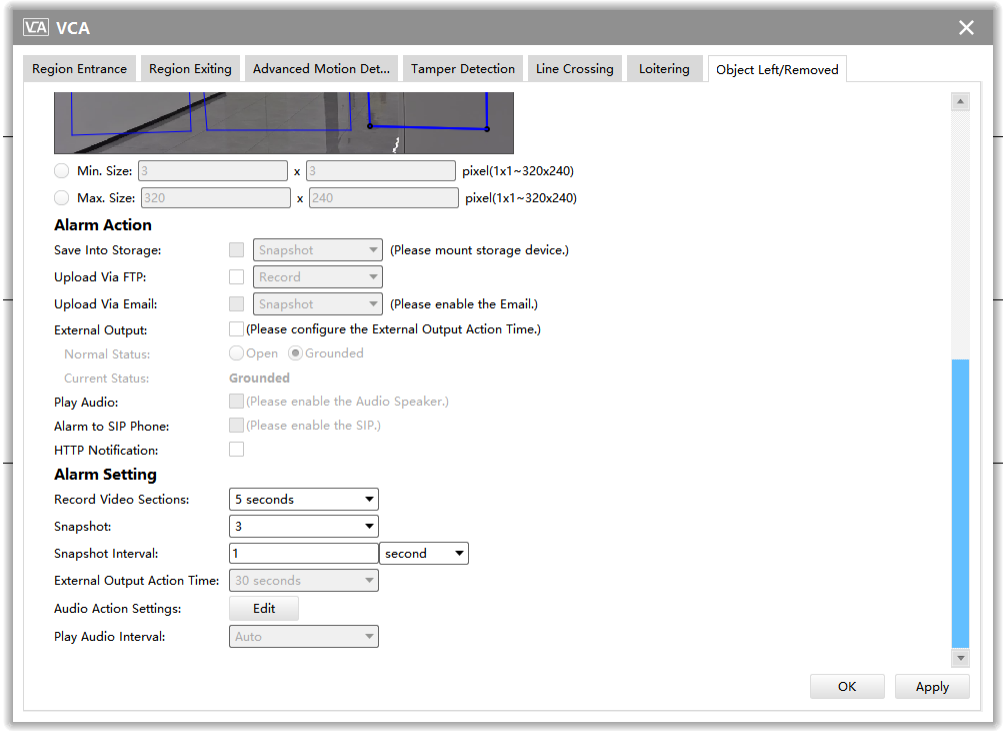
Note: After setting minimum loitering time from 3s to 1800s, any objects loitering in the selected area over the minimum loitering time will trigger the alarm.

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.

- Object Left/Removed(for non-AI and AI cameras)





Step1: Select detection region and enable Object Left or Object Removed (Or you can enable both features at the same time);

Step2: Set minimum time;

Step3: Set detecting sensitivity;

Step4: Set detection schedule;

Step5: Set detection region and object size limits.

📝 **Note:** Support the Irregular Area Drawing function in 4x.7.0.78 version or above of Milesight cameras.

Step6: Set alarm action;

Step7: Set alarm settings. If you enable External Output and choose Constant External Output Action Time, when an object is left/removed from the selected regions, External Output Action alarm time will be always constant till the alarm is released.

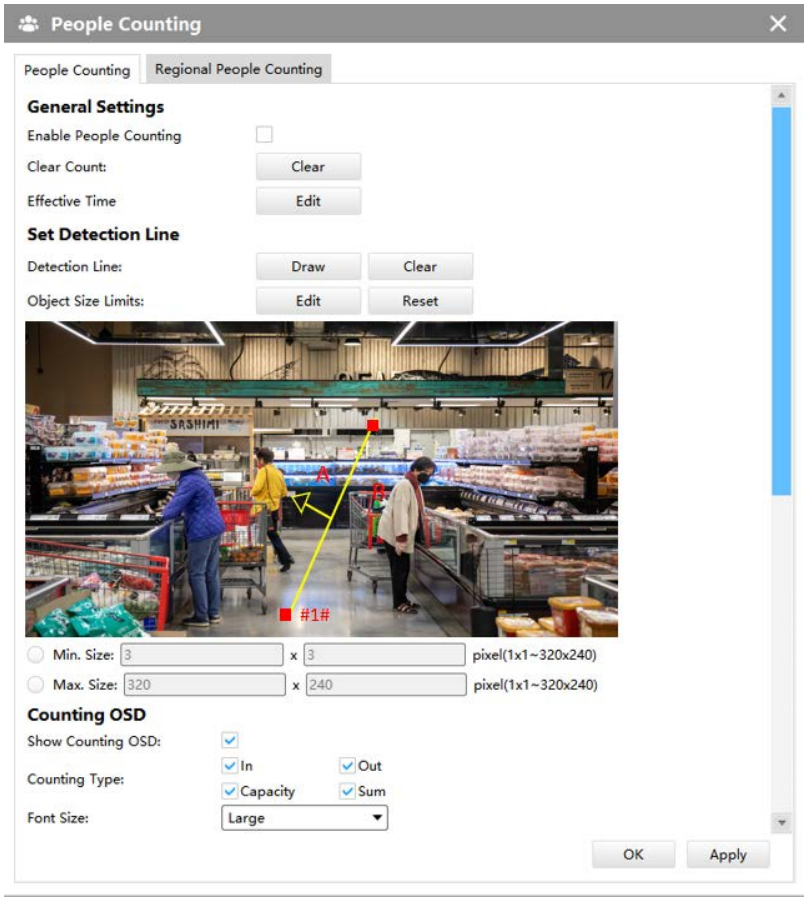
📝 **Note:**

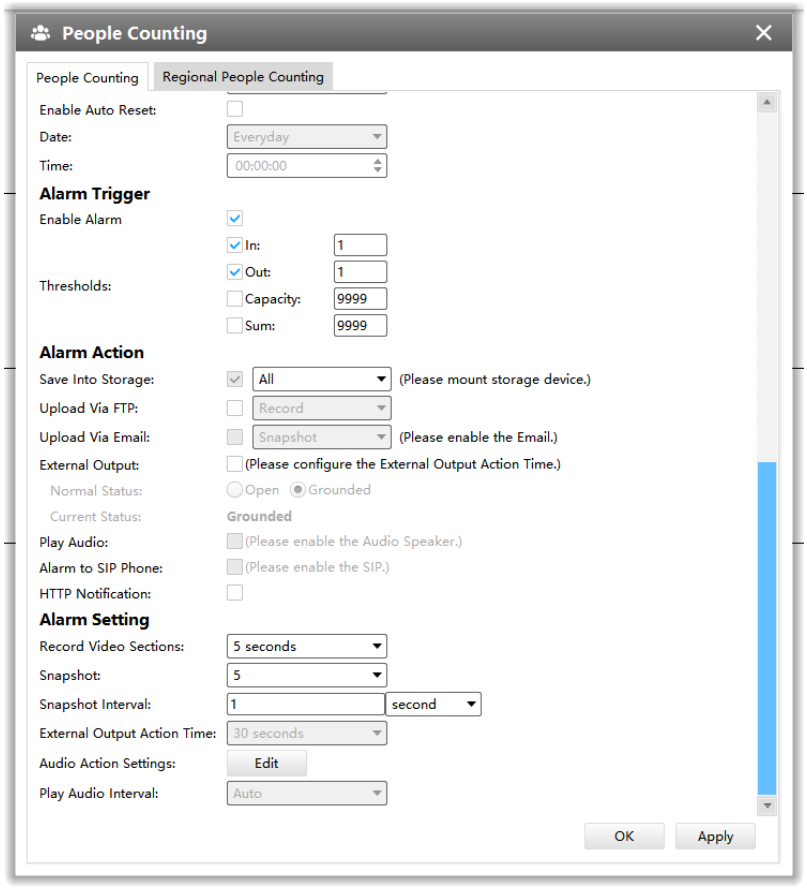
- After setting minimum time from 10s to 1800s, any objects are left in the selected area or removed from the selected area over the minimum time will trigger the alarm.
- Object Left/Removed is optional, if you need this function, please contact your sales first.

People Counting

People Counting

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


People Counting
People Counting
Regional People Counting
General Settings
Enable People Counting
Clear Count:
Clear
Effective Time
Edit
Set Detection Line
Detection Line:
Draw
Clear
Object Size Limits:
Edit
Reset
A
B
#1#
Min. Size: 3 x 3 pixel(1x1~320x240)
Max. Size: 320 x 240 pixel(1x1~320x240)
Counting OSD
Show Counting OSD:
Counting Type:
In
Out
Capacity
Sum
Font Size:
Large
OK
Apply



Step1: Enable People Counting, and you can clear the current count;

Step2: Set detection schedule;

Step3: Set detection line and object size limits.

Step4: Set counting OSD;

Step5: Set alarm trigger. Alarm will be triggered when the thresholds reaches to a certain value from 1 to 9999.

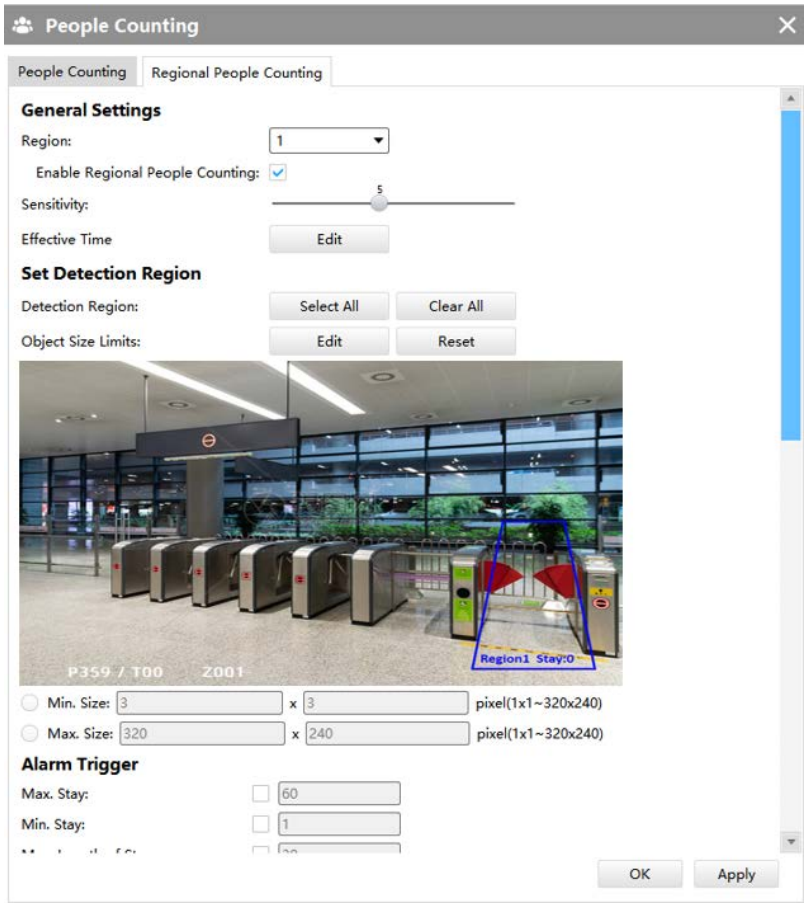
Step6: Set alarm action;

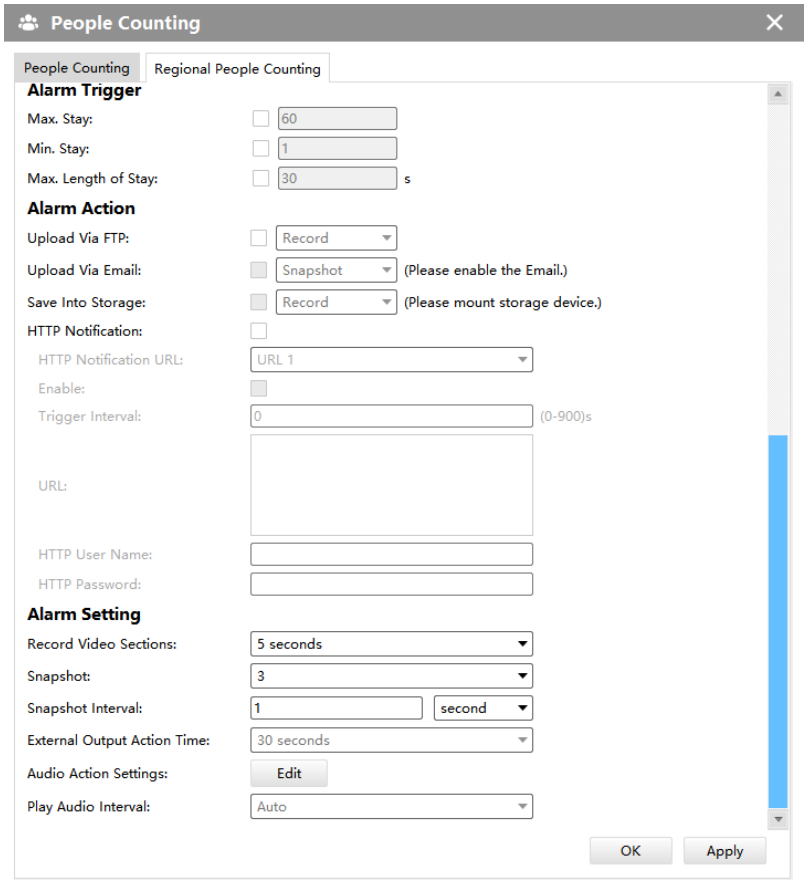
Step7: Set alarm settings. If you enable External Output and choose Constant External Output Action Time, when the thresholds reach to a certain value you set, External Output Action alarm time will be always constant till the alarm is released.

Note: Crossing along the direction of the arrow will record as “In”, opposite as “Out”.

Regional People Counting

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.





Step1: Enable Region People Counting;

Step2: Set Detection Schedule;

Step3: Set Detection Region and Object Size Limits.

Step4: Set Detection Schedule;

Step5: Set Alarm Trigger. Alarm will be triggered when the threshold exceeds the certain value;

Step6: Set Alarm Action;

Step7: Set Alarm Settings. If you enable External Output and choose Constant External Output Action Time, when the threshold exceeds the certain value you set, External Output Action alarm time will be always constant till the alarm is released.

Note:

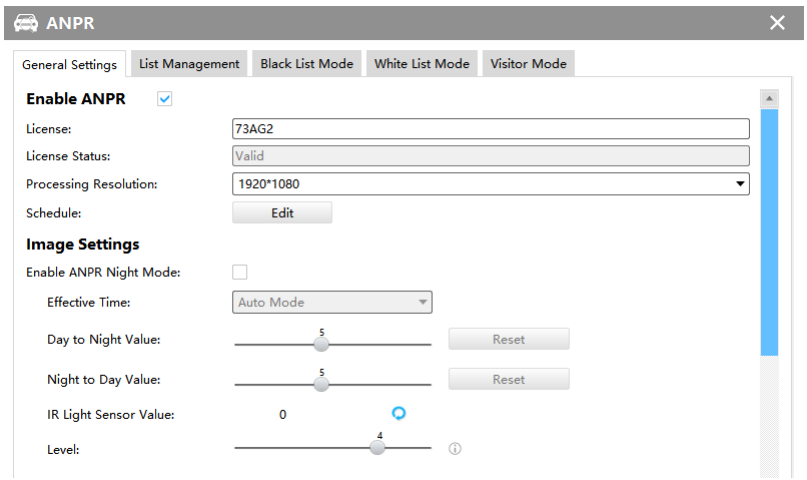
- Users can check the real-time number of people and the time of each person's stay in the detection region on Live View interface.

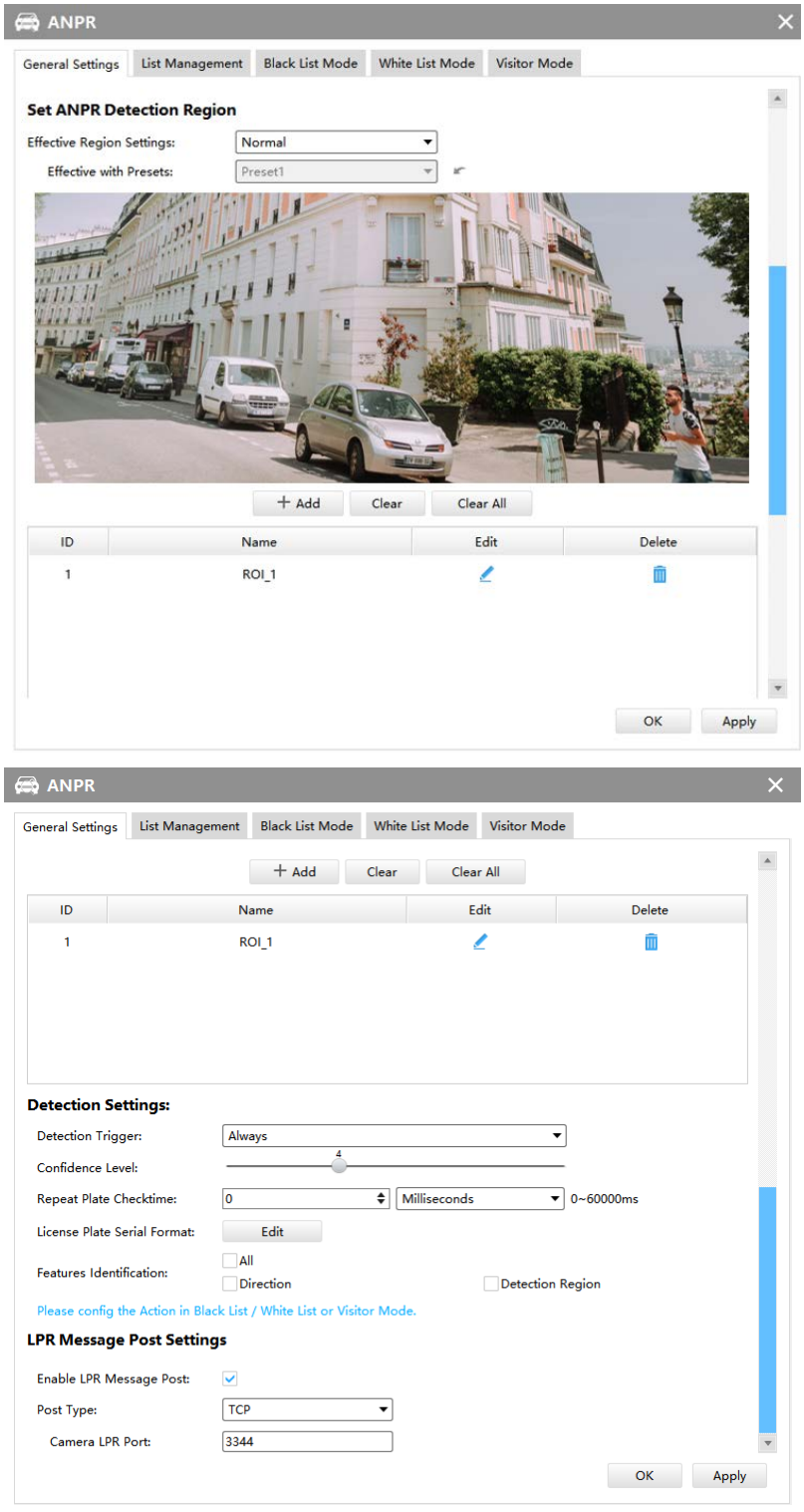
- For Regional People Counting, please make sure your camera model is MS-Cxxxx-xxC.
- Support up to 4 detection regions for Regional People Counting.
- Region People Counting function compatible in AI models.

ANPR

The ANPR function will automatically detect and capture license plate in real time and compares to a predefined list, then takes appropriate action such as generating an alert once the license plate is on the predefined black list.

General Settings





Step1: Enable ANPR function;

- **License:** Generated by camera's information

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

Step2: Select processing resolution. The further distance you detect, the higher resolution is needed. 1280*720 by default;

Step3: Set Schedule.

Step4: Enable ANPR Night Mode, then you can set ANPR Night Mode Effective Time. There are two options available: Customize and Auto Mode. Auto Mode 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 Mode is available for Effective Time option.

Step5: Set the detected ROI region which can be up to 4 regions. License plate will only be detected in the ROI regions;

Step6: Set Detection Settings including Detection Trigger, Confidence Level, Repeat Plate Checktime, Lisence Plate Serial Format and Features Identification;

- **Detection Trigger:** Always and Alarm Input are available. It will only detect when alarm input is triggered if you select Alarm Input.
- **Confidence Level:**Set the degree of reliability according to the actual situation.
- **Repeat Plate Checktime:** The same license plate information won't be received on network cameras within the time you set.
- **Lisence Plate Serial Format:** Set license plate format you want to recognize.
- **Features Identification:** The selected features identification will be shown in ANPR logs interface.

Step7: Enable LPR Message Post. It will push information to some third-party devices or software that are compatible with ours.

- **Post Type:** Information can be pushed by RTSP, TCP or HTTP.
- **HTTP Method:** There are two HTTP push methods, including Post and Get.
- **Snapshot Type:** Three kinds of snapshot can be chosen: All, License Plate and Full Snapshot. When you choose All, License Plate Snapshot and Full Snapshot will be pushed.

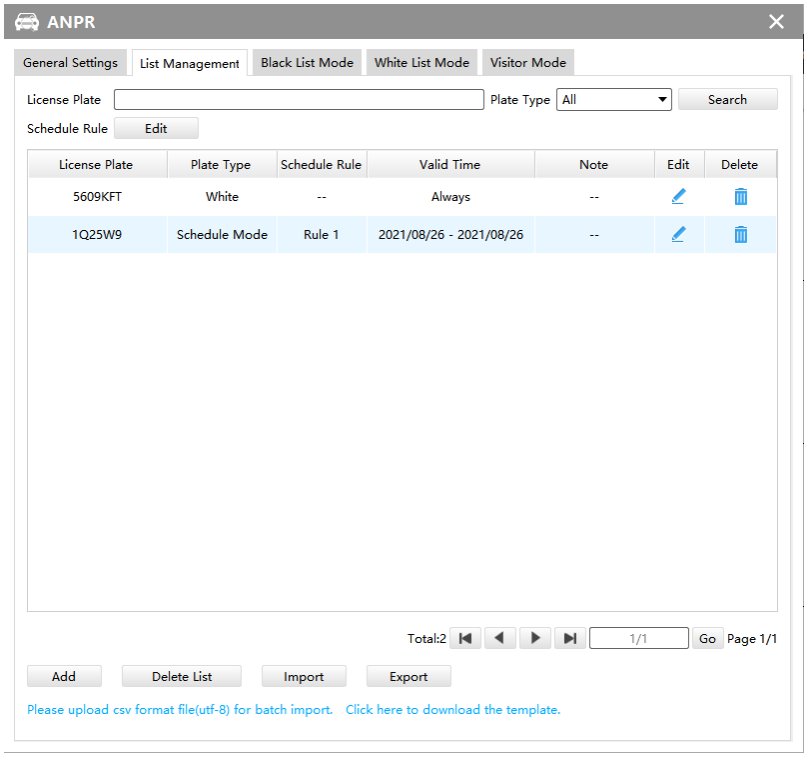
Note: This option is available just for Post HTTP Method.

- **HTTP Notification URL:** LPR camera can use the API URL to send LPR information to back-end devices when the license plate is recognized. API URL format fills as follow: http://IP:Port/api/lpr
- **User Name:** Receiver name.

- **Password:** Receiver Password.

List Management

Make a license plate list for your own camera ANPR system. You can upload license plates and set them with different license type here. Besides, users can set the license plate to Schedule Mode and choose a custom schedule rule that can configure the license plate as Black List or White List at different times. 10000 plates can be added at most.



Note: Support setting up to 4 Schedule Rules for Schedule Mode.

There are two methods to add license plates:

1. Add one by one.

Step1: Click Add button;

Step2: Input the license plate and select license type, the valid time of select license type and note;

Step3: Click [Save] and then the license plate will be added into the list;

2. Batch adding by importing template.

Step1: Click Click here to download the template. , select a path and click “Choose” to download Template;

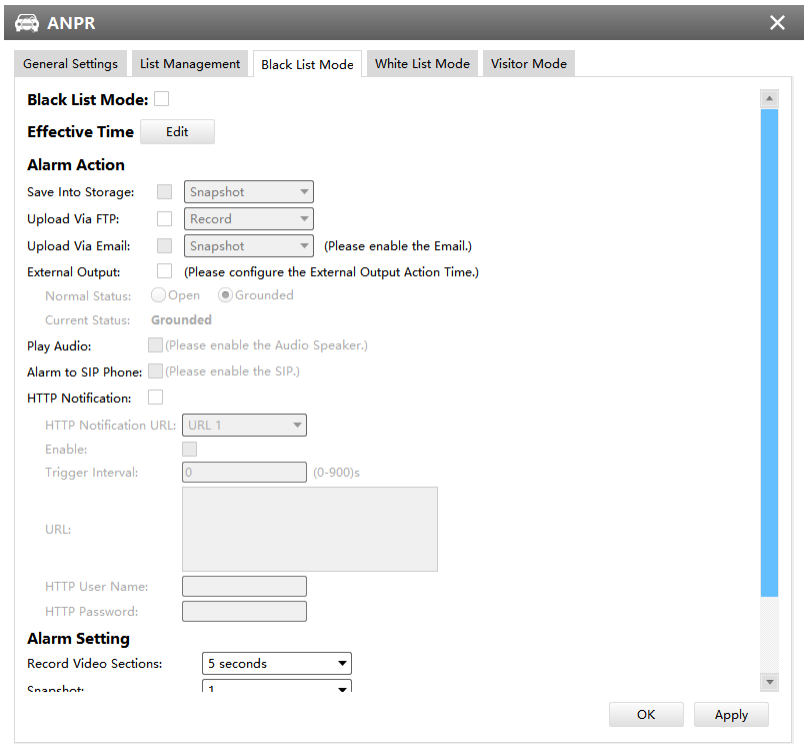
Step2: Input all license type and license plate number as Template shows;

Step3: Click [Import] button, select the file and click “Open” 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.



Step1: Enable Black List Mode/White List Mode/Visitor Mode as needed;

Step2: Set effective time which means Mode works during that period;

Step3: Set action including Save Into Storage, Upload Via FTP, Upload Via Email, External Output, Play Audio, Alarm to SIP Phone and HTTP Notification;

- **Save Into Storage:** Save alarm recording files into SD Card or NAS.

- **Upload Via FTP:** Upload the recording files via FTP.
- **Upload Via Email:** Upload the files via Email.
- **External Output:** If the camera equips with External Output, you can enable the action after configuring the trigger duration.
- **Play Audio:** If the camera equips with Speaker, you can enable the action after configuring the audio speaker.
- **Alarm to SIP Phone:** Call the SIP phone after enable the SIP function.
- **HTTPNotification:** Pop up the alarm news to specified HTTP URL. Three HTTP notifications at most can be added to the same event. HTTP Notification supports Basic & Digest authentication.

3.2.2.3 IoT

IoT modules that support LPWAN technology are embedded in the camera to communicate wordlessly over long distances using lower power consumption.

You can manage end device and set the alarm settings here after connecting the 5G Series Network Camera to CMS **via P2P type**.

Radios Settings

Currently our IoT camera supports **three IoT frequency bands of 915M** (The corresponding channel plan is **US915/AU915/KR920/AS923/AS923-2**), **868M** (The corresponding channel plan is **IN865/EU868/RU864**) and **470M** (The corresponding channel plan is **CN470**). Before buying the camera, you need to contact our sales to choose the frequency band that is supported in your country.

For example, here I choose the IoT camera with the frequency bands of 470M or reference document regional parameters for LoRaWAN, and it will show that the current channel plan is CN470 on the page.

Note: Usually you can directly use the default settings without configuring Radio Settings. If you need to customize some radio settings, you can make further settings as shown below.

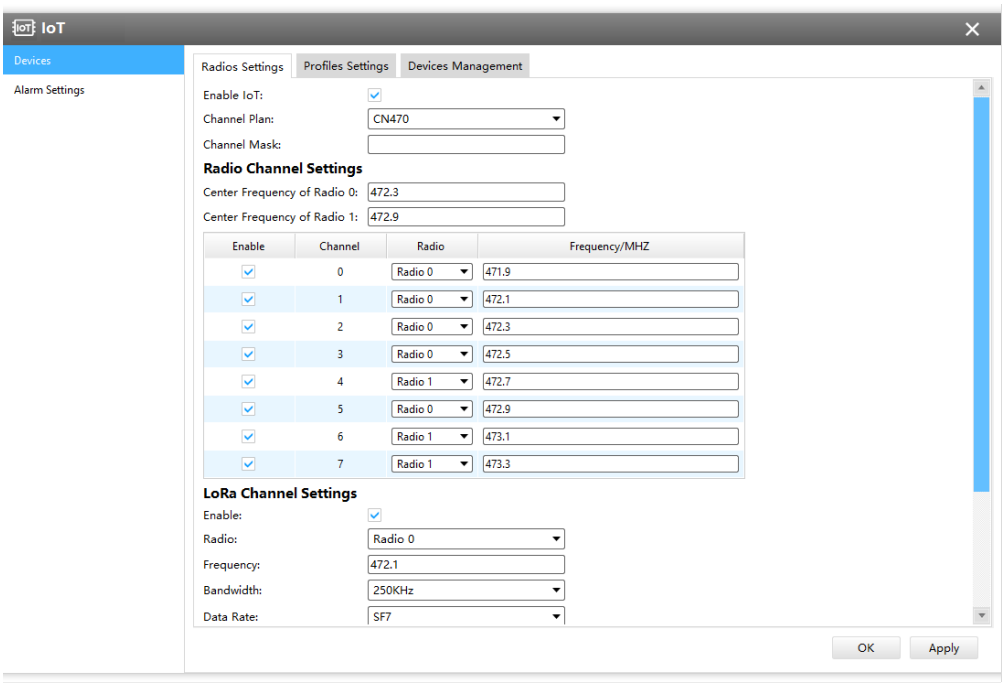
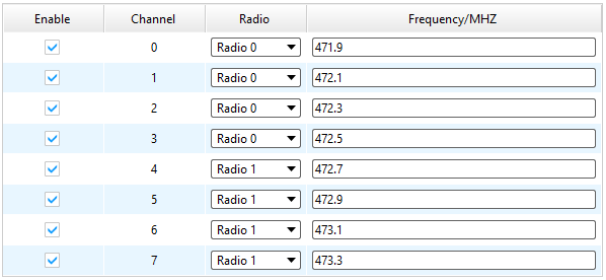


Table 28.

Parameters	Function Introduction
Enable IoT	Enable/Disable the IoT function.
Channel Plan	The required Channel Plan can be selected according to the country region. For example, here I choose the IoT camera with the IoT frequency band of 915M, then it will list all the channel plans supported by this frequency band, including US915, AU915, AS923, AS923-2 and KR920, then I need to select the corresponding channel plan.
Channel Mask	Enabled frequencies are controlled using channel mask. Leave it blank means using all the default standard usable channels specified in the LoRaWAN® regional parameters document. A bit in the Channel Mask field set to 1 means that the corresponding channel can be used for uplink transmissions if this channel allows the data rate currently used by the end-device. A bit set to 0 means the corresponding channels should be avoided.This option is optional for CN470, US915 and AU915.

<table>
<tr><th colspan="2">Parameters</th><th>Function Introduction</th></tr>
<tr><td rowspan="3">Radio Channel Settings</td><td>Center Frequency of Radio 0</td><td>Supports transmitting and receiving packet;
Note: For details of default value and configuration ranges in different regions, please refer to Milesight Troubleshooting-5G AIoT Camera.</td></tr>
<tr><td>Center Frequency of Radio 1</td><td>Only supports receiving packet from nodes;
Note: For details of default value and configuration ranges in different regions, please refer to Milesight Troubleshooting-5G AIoT Camera..</td></tr>
<tr><td>Multi-channel list</td><td>The radio and frequency corresponding to all channels will be listed here. All channels are enabled by default. You can also check the box to enable the corresponding channel.

</td></tr>
<tr><td rowspan="4">LoRa Channel Settings</td><td>Enable</td><td>Enable/Disable the LoRa Channel.</td></tr>
<tr><td>Radio</td><td>Choose Radio 0 or Radio 1 as center frequency.</td></tr>
<tr><td>Frequency</td><td>Enter the frequency of this channel.
For example:
• The frequency range formula of US915 and AU915: Center frequency ±0.55;
• The frequency range formula of other regions (except US915 and AU915): Center frequency ±0.4625;
For example, the center frequency is configured with 867.5, then the frequency range corresponding to each channel: 867.5-0.4625~867.5+0.4625.</td></tr>
<tr><td>Bandwidth</td><td>Enter the bandwidth of this channel. 125KHz, 250KHz and 500KHz are available. The default option is 250KHz;
Note: The default option is 500KHz for AU915 and US915.</td></tr>
</table>

Parameters		Function Introduction
	Data Rate	From SF7 to SF12, the transmission rate decreases and the transmission distance increases. In general, the range of Data Rate is SF7 ~ SF12, the default value would be SF7. Only the default value of the Channel Plan AU915 and US915 is SF8.
FSK Channel Settings	**Enable**	Enable/Disable the FSK Channel.
	Radio	Choose Radio 0 or Radio 1 as center frequency.
	Frequency	Enter the frequency of this channel.
	Bandwidth	Enter the bandwidth of this channel. 125KHz, 250KHz and 500KHz are available. The default option is 125KHz. **Note:** The default option is 250KHz for AU915 and US915.
	Data Rate	Enter the data rate. The Date Rate must be between 500~250000.

Note: The configurations here should be the same with those in End Device.

Profiles Settings

Usually you can use the default settings without configuring Profiles Settings. If you need to customize some profiles settings, you can click the Profiles Settings button to make further settings and click Apply button, it will list the Device-profiles you created.

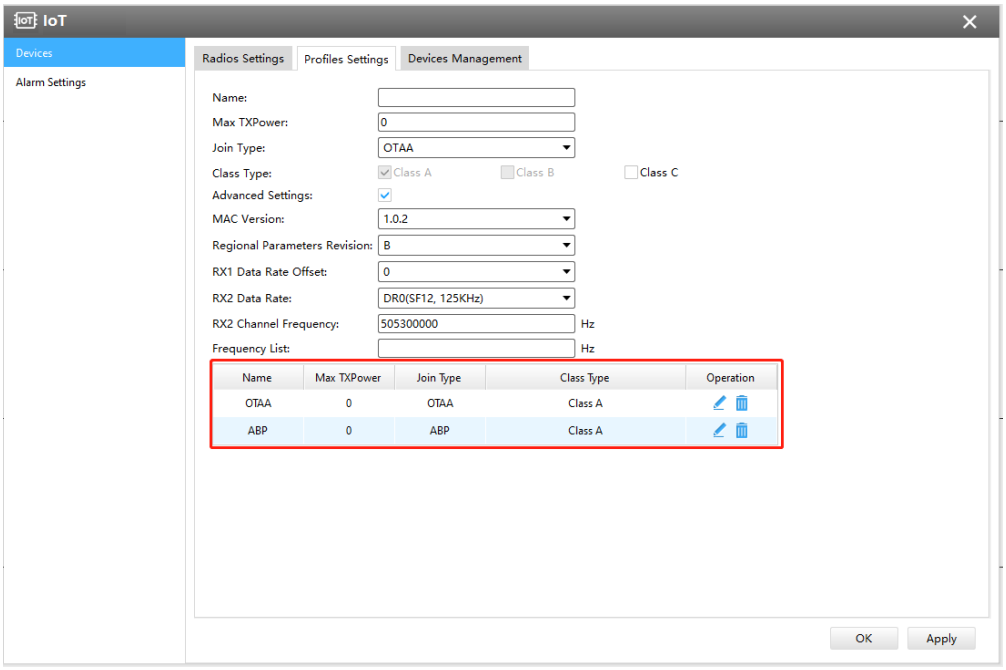


Table 29.

Parameters	Function Introduction
Name	Customize the profile name.
Max TXPower	Enter the maximum transmit power. The TXPower indicates power levels relative to the Max EIRP level of the end-device. 0 means using the max EIRP. EIRP refers to the Equivalent Isotropically Radiated Power. The Max TXPower must be between 0~16.
Join Type	OTAA and ABP are optional, the default option is OTAA. • **OTAA:** Over-the-Air Activation. For over-the-air activation, end-devices must follow a join procedure prior to participating in data exchanges with the network server. An end-device has to go through a new join procedure every time as it has lost the session context information. • **ABP:** Activation by Personalization. Under certain circumstances, end-devices can be activated by personalization. Activation by personalization directly ties an end-device to a specific network by passing the join request - join accept procedure.

Parameters	Function Introduction
Class Type	Device type is Class A by default. Users can check the box of Class B or Class C to add the class type
MAC Version	Choose the version of the LoRaWAN® supported by the end-device. 1.0.0/1.0.1/1.0.2/1.1.0 are optional, the default option is 1.0.2.
Regional Parameters Revision	Revision of the Regional Parameters document is supported by the end-device.A and B are optional, the default option is B.
RX1 Data Rate Offset	The offset used for calculating the RX1 data-rate is based on the uplink data-rate.
RX2 Data Rate	Enter the RX2 datarate which is used for the RX2 receive-window.
RX2 Channel Frequency	RX2 channel frequency is used for the RX2 Frequency receive-window.
Frequency List	List of factory-preset frequencies. The range is based on what is specified in the LoRaWAN® regional parameters document.

Devices Management

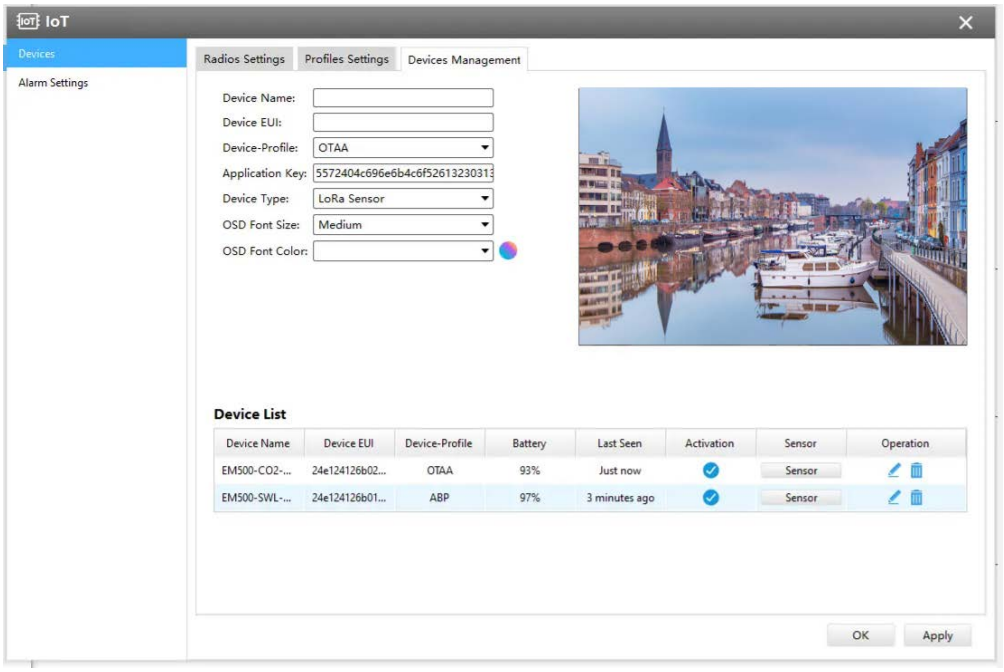
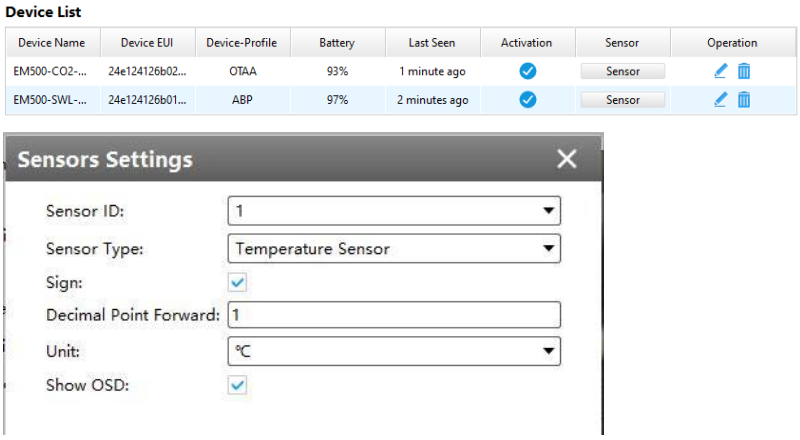
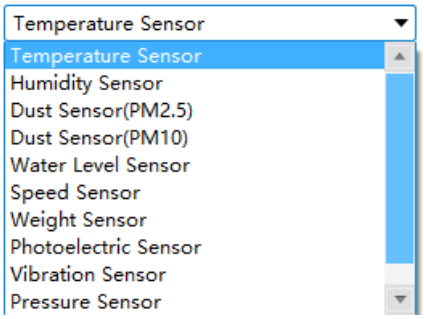
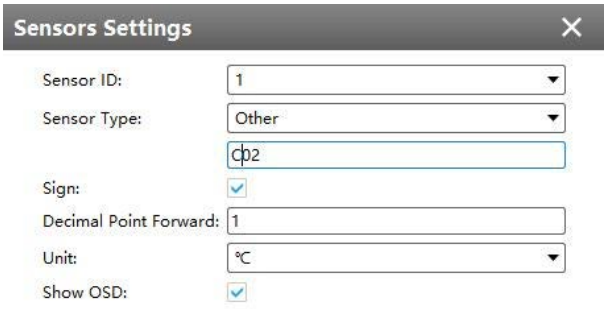


Table 30.

Parameters	Function Introduction
Device Name	Customize the device name.
Device EUI	Fill in Device EUI which can be obtained from the device label. You can also get Device EUI from Milesight Tool Box if you use Milesight Lora Sensor.
Device-profile	OTAA and ABP are optional, the default option is OTAA.
Application Key	Whenever an end-device joins a network via over-the-air activation, the application key is used for derive the Application Session key. It is mainly used to generate corresponding Device Address/Network Session Key/Application Session Key. **Note:** • The default key can be obtained from the end-device; • Milesight Sensors' default key is 5572404c696e6b4c6f52613230313823.
Device Address/Network Session Key/Application Session Key	Information needed to access the network. If you choose ABP network access mode, you need to fill in these items. And you can obtain them from End Device. For example, you can get such information from Milesight Tool Box when you use Milesight Lora Sensor. **Device Address:** The device address identifies the end-device within the current network. **Network Session Key:** The network session key is specific for the end-device. It is used by the end-device to calculate the MIC or part of the MIC (message integrity code) of all uplink data messages to ensure data integrity. The default key of Milesight Sensor is 5572404c696e6b4c6f52613230313823. **Application Session Key:** The AppSKey is an application session key specific for the end-device. It is used by both the application server and the end-device to encrypt and decrypt the payload field of application-specific data messages. The default key of Milesight Sensor is 5572404c696e6b4c6f52613230313823.
Device Type	Select the device type according to the actual situation. Lora Sensor and Lora Sensor Node are optional. Lora Sensor is a kind of sensor that supports LoraWAN protocol, while Lora Sensor Node is a kind of device which receives data from interfaces of RS485, AI and GPIO.
OSD Font Color	Configure the OSD font color.
OSD Font Size	Configure the OSD font size.

Parameters	Function Introduction
Device List	**Step 1:** You can enter sensor configuration page by clicking [Sensor]. After the configuration is finished, you can click [Apply] to save your configuration or click to cancel your configuration.  **[Sensor ID]** Select the Sensor ID that you want to configure. The number of sensor IDs depends on how many kinds of data the sensor has and there is a one-to-one relationship between ID and data. **[Sensor Type]**Sensor Type configuration. We have several common used sensor types as shown below: 

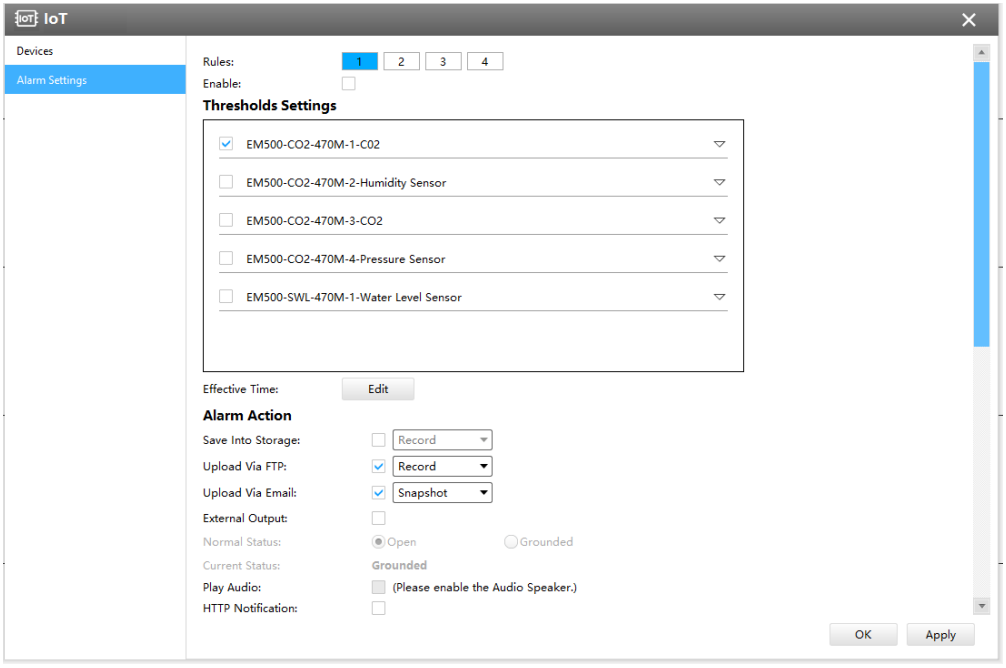
Parameters	Function Introduction
Device List	Or you can also customize it:  **[Sign]**The tick indicates that the value has a plus or minus sign. **[Decimal Place]** Decimal configuration. For example, when you fill in 1, you are moving the decimal point one to left, and you get a decimal. **[Unit]** Data unit configuration. We have some common units here and users can also customize it. **[Show OSD]** Once you enable this function, you can see the detected data on the screen as the picture shown below.  **Note:** • The channel ID and Sign should be consistent with those in End Device. • Decimal Place is set according to the properties of the sensor. For example, you need to set this value to 1 to get the correct temperature when using the Milesight temperature sensor.

Parameters	Function Introduction
Device List	**Step 2:** You can click to modify the configuration in End Device Management.  **Step 3:** You can click to delete the device you added. 

Note:

- Device Name and Device EUI cannot be repeated.
- Device EUI, Application Key, Device Address, Network Session Key and Application Session Key should be consistent with the configuration of End Device.
- Uplink Frame-counter and Downlink Frame-counter can be reset only in ABP mode.

Alarm Settings

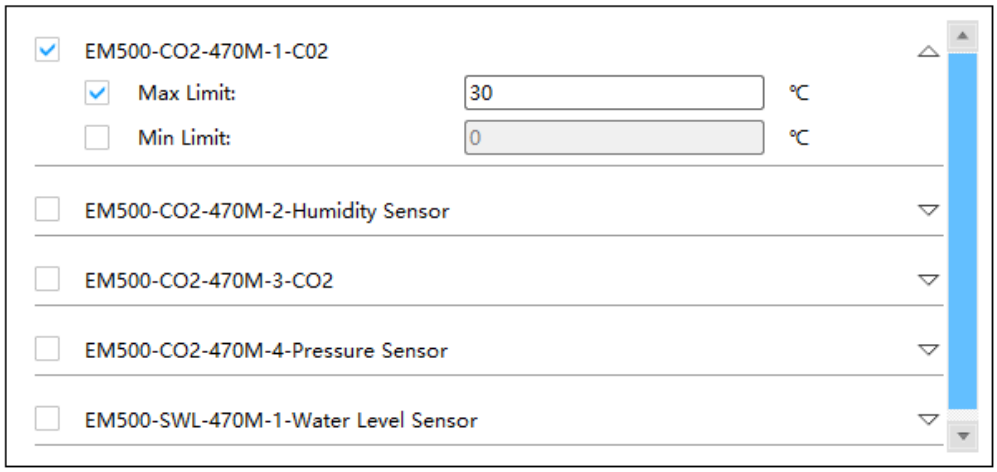


Step 1: Select the alarm rule that you want to set and you can configure four kinds of rules.

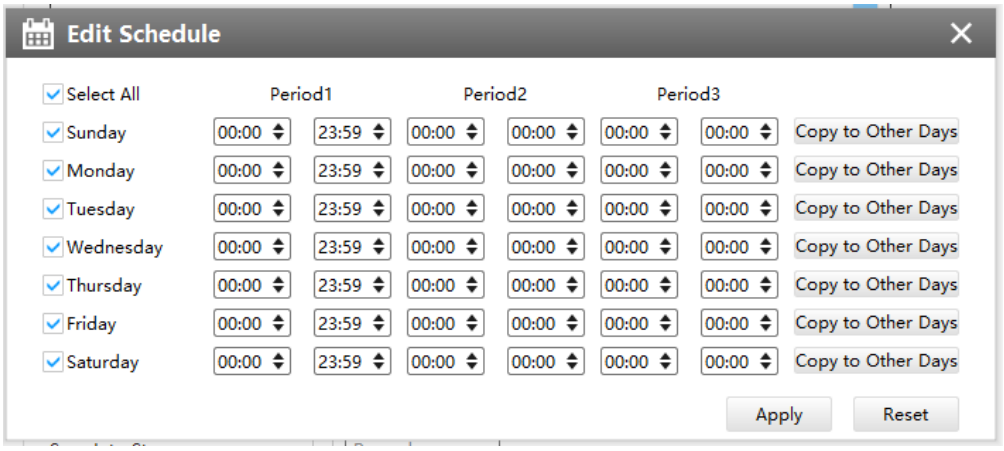
Step 2: Check the checkbox to enable Alarm Rules.

Step 3: Click ”Edit” to select the sensor to alarm.

Step 4: Set threshold for the selected sensor. When the data reaches the critical value, the alarms will be triggered. Both upper and lower thresholds are configurable. You can also only configure upper or lower threshold.



Step 5: Click ”Edit” to set the Effective Time for IoT.



Step 6: Set Alarm Action.

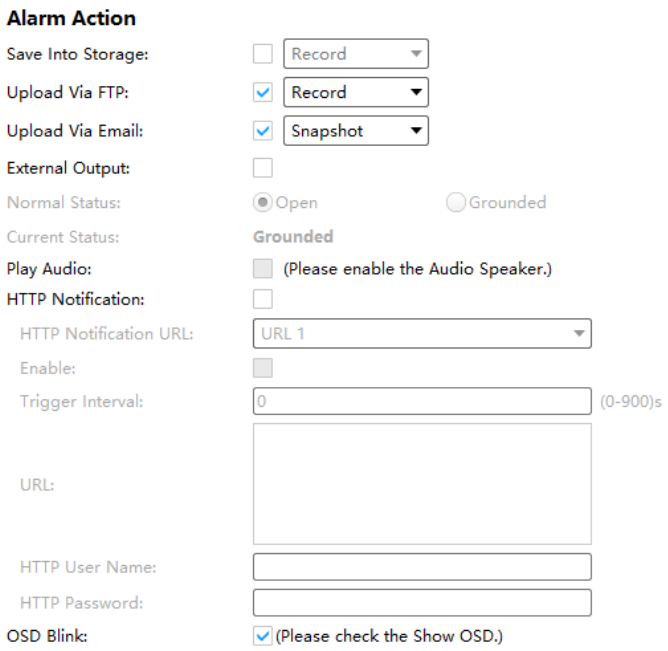


Table 31.

Parameters	Function Introduction
Save Into Storage	Save alarm recording files into SD Card or NAS.
Upload Via FTP	Upload the recording files via FTP.
Upload Via Email	Upload the files via Email.
External Output	If the camera equips with External Output, you can enable the action after configuring the trigger duration.
Normal Status	Open/Grounded are available.
Current Satus	Grounded
Play Audio	Auto/ 10 seconds/ 30 seconds/ 1 minute/ 5 minutes/ 10 minutes are available.
HTTP Notification	Support to pop up the alarm news to specified HTTP URL.
OSD Blink	If the Show OSD in the page of sensor configuration is checked, the OSD will blink when alarm is triggered.

Step7: Set alarm settings.

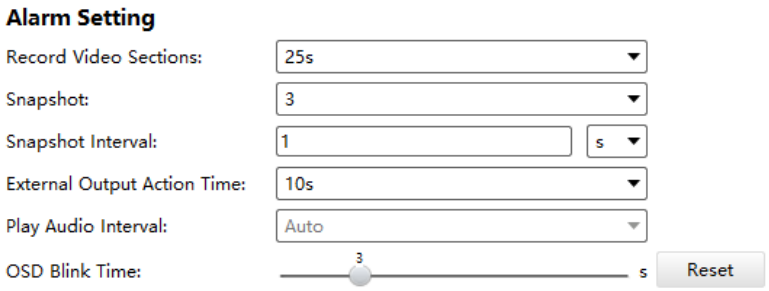
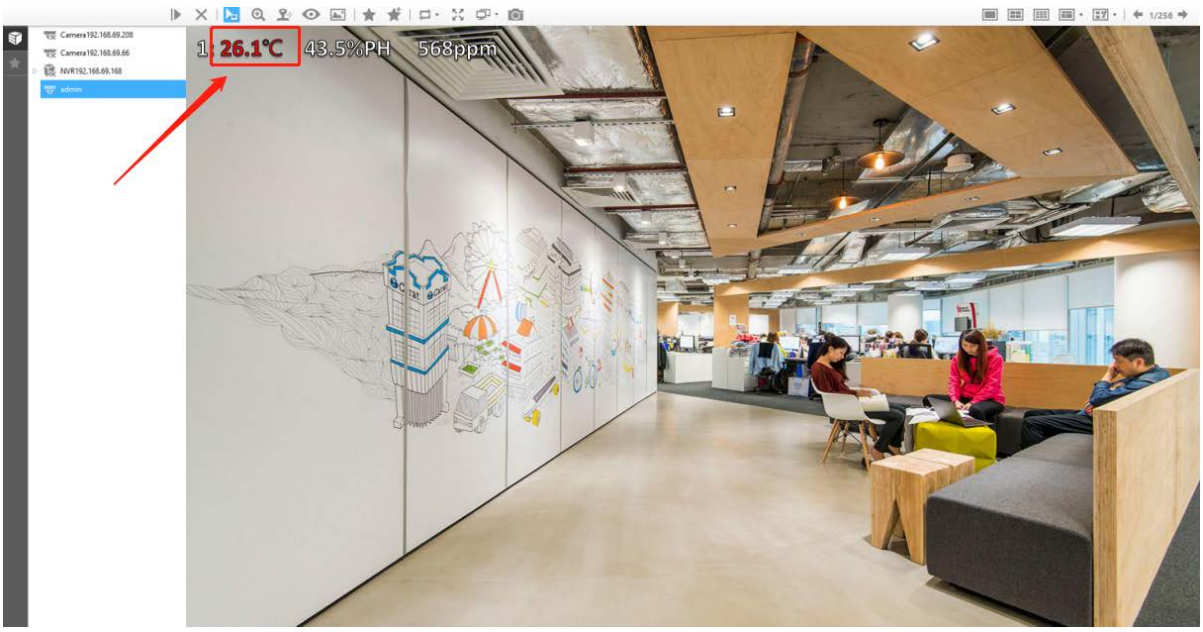


Table 32.

Parameters	Function Introduction
Record Video Sections	Six different periods are available (5s, 10s, 15s, 20s, 25s, 30s).
Snapshot	The number of snapshot, 1~5.
Snapshot Interval	This cannot be edited unless you choose more than 1 Snapshot.
External Output Action Time	Length of time that an alarm lasts, this cannot be edited unless you enable the External Output on the Alarm Action firstly.
Play Audio Interval	Auto/ 10 seconds/ 30 seconds/ 1 minute/ 5 minutes/ 10 minutes are available.
OSD Blink Time	Support to set the blinking duration of the OSD, 1~10 are Available.

For example, here I set the alarm action as OSD blink with an interval of 3 seconds, when the data reaches the critical value, the alarms will be triggered, we will see the OSD blinking on the live view interface.

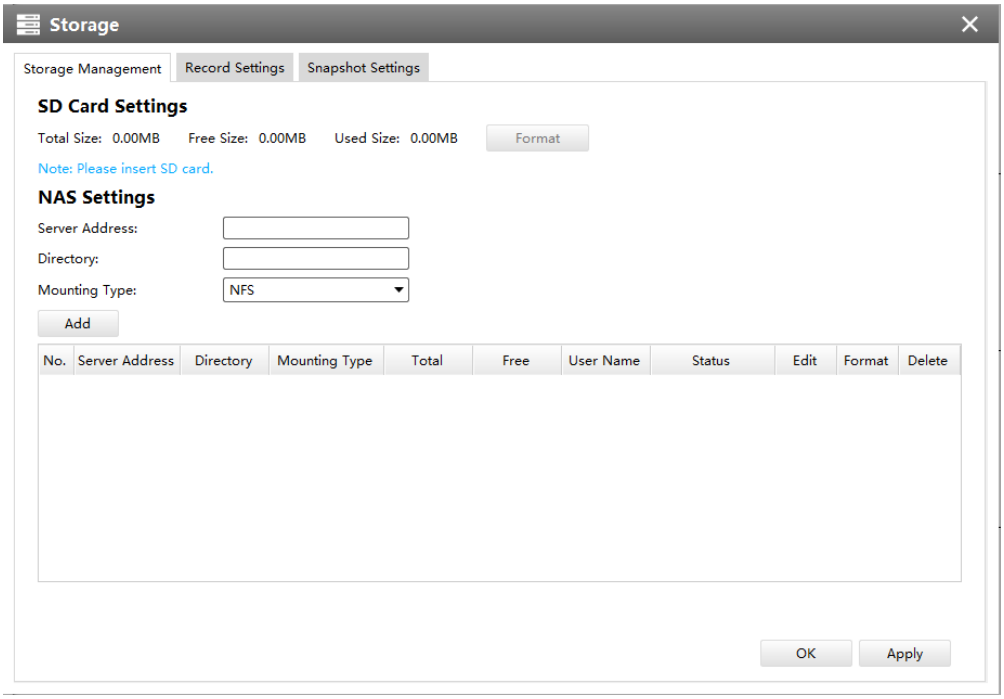


3.2.2.4 Storage

Before you start:

To configure Record Settings, please make sure that you have the network storage device within the network or the SD card inserted in your camera. Choose the storage mode according to your needs.

[Storage Management]



SD Card Settings:

Table 33. Description of the buttons

Parameters	Function Introduction
Format	Format SD card, the files in SD card will be removed

NAS Settings:

The network disk should be available within the network and properly configured to store the recorded files, etc.

NAS (Network-Attached Storage), connecting the storage devices to the existing network, provides data and files services.

Table 34. Description of the buttons

Parameters	Function Introduction
Server Address	IP address of NAS server
Directory	Input the NAS file path, e.g. “\path”.
Mounting Type	NFS and SMB/CIFS are available. And you can set the user name and password to guarantee the security if SMB/CIFS is selected

Note: Up to 5 NAS disks can be connected to the camera.

[Record Settings]

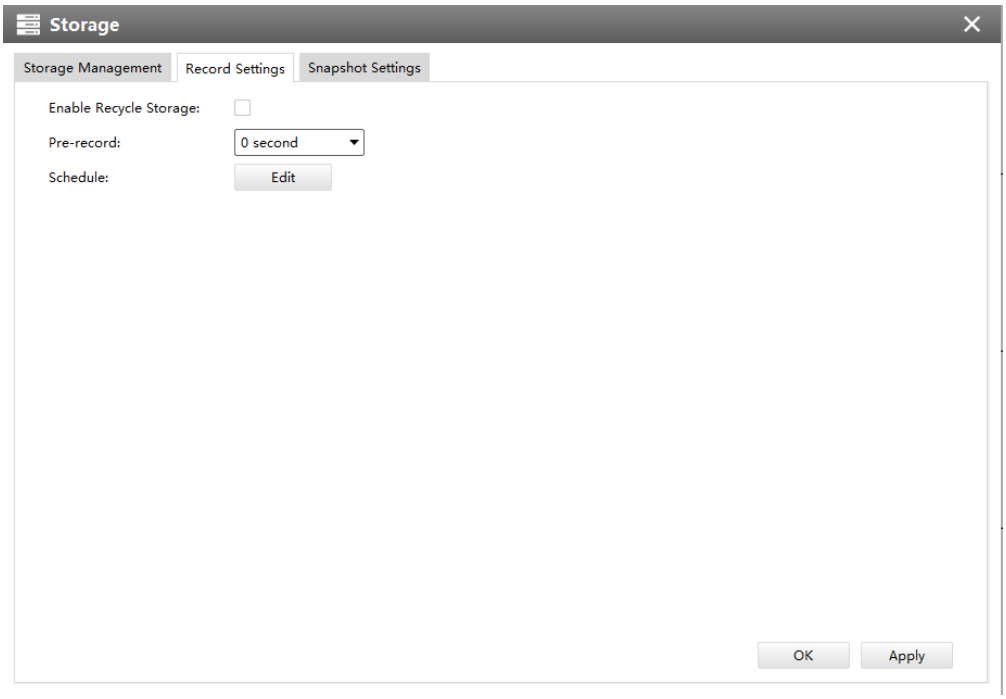


Table 35. Description of the buttons

Parameters	Function Introduction
Enable Recycle Storage	Enable/Disable Recycle Storage, if you enable this option, it will delete the files when the free disk space reach a certain value.
Pre-record	Reserve the record time before alarm, 0~10 sec
Schedule	Click the Edit button to edit record schedule

Note: SD Card or NAS are available.

[Snapshot Settings]

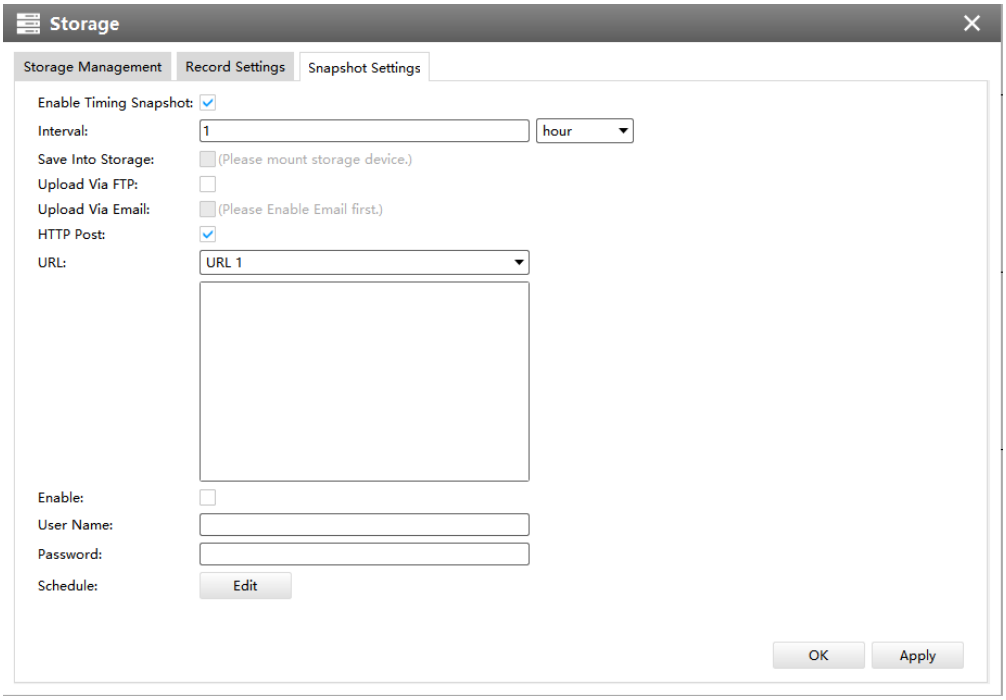


Table 36. Description of the buttons

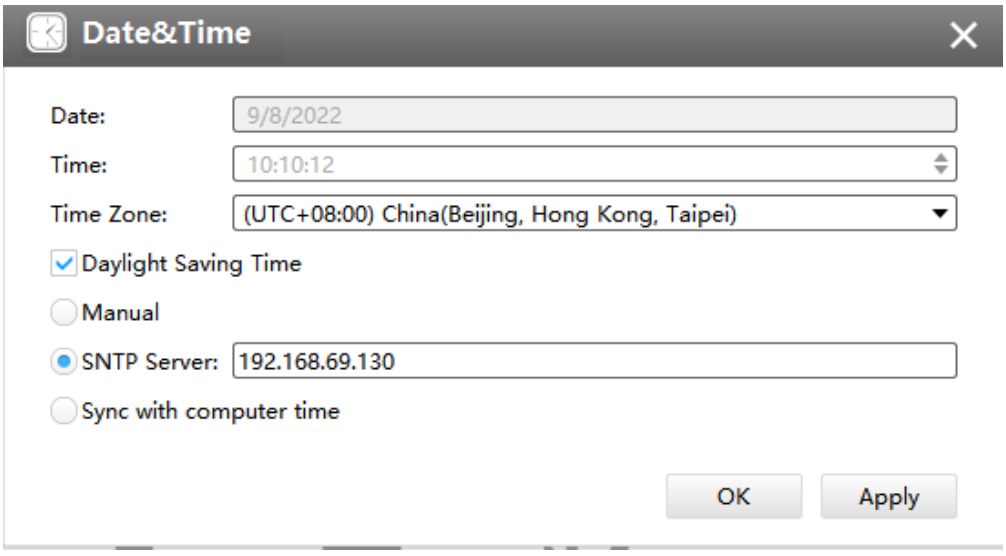
Parameters	Function Introduction
Enable Time Snapshot	Check the checkbox to enable the Timing Snapshot function
Interval	Set the snapshots interval, input the number and choose the unit(millisecond, second, minute, hour, day)

Parameters	Function Introduction
Save Into Storage	Save the snapshots into SD card or NAS
Upload Via FTP	Upload the snapshots via FTP
Upload Via Email	Upload the snapshots via Email
HTTP Post	Support to upload the snapshots to specified HTTP URL. **Note:** • Three HTTP notifications at most can be added. • HTTP Notification supports Basic & Digest authentication.
Schedule	Click the Edit button to edit snapshot schedule

3.2.2.5 System

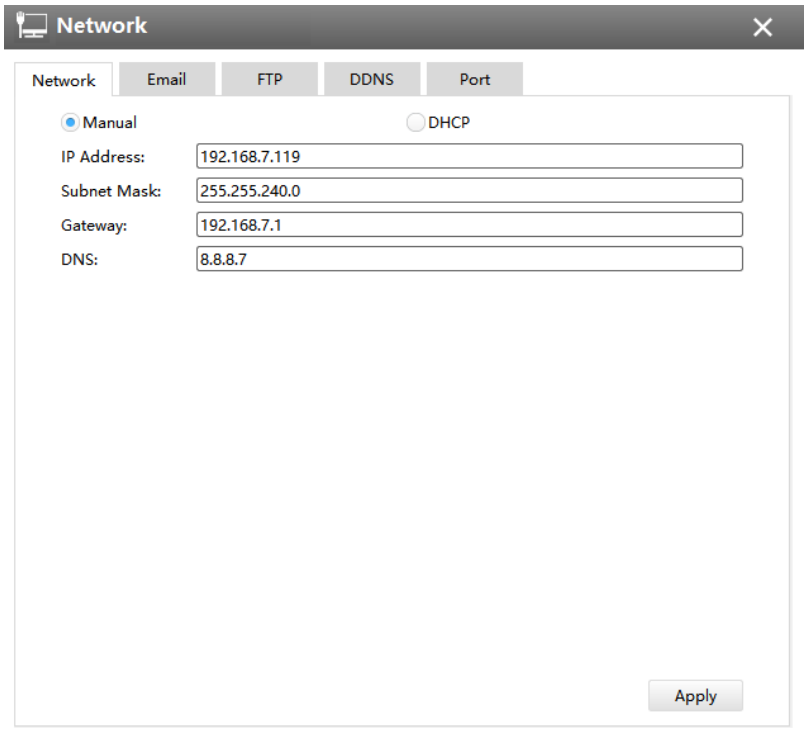
Date&Time

You can select the time zone and decide whether to enable the Daylight Saving Time or not. It also supports to sync date and time with NTP or set the time manually. After finishing the settings, click the Apply button [Apply] to save and apply the settings to the CMS.



Network

The Network page is as below:



[Email]

Alarm video files will be sent to specific mail account through SMTP server. Please make sure that the Email settings were correctly set before using it.

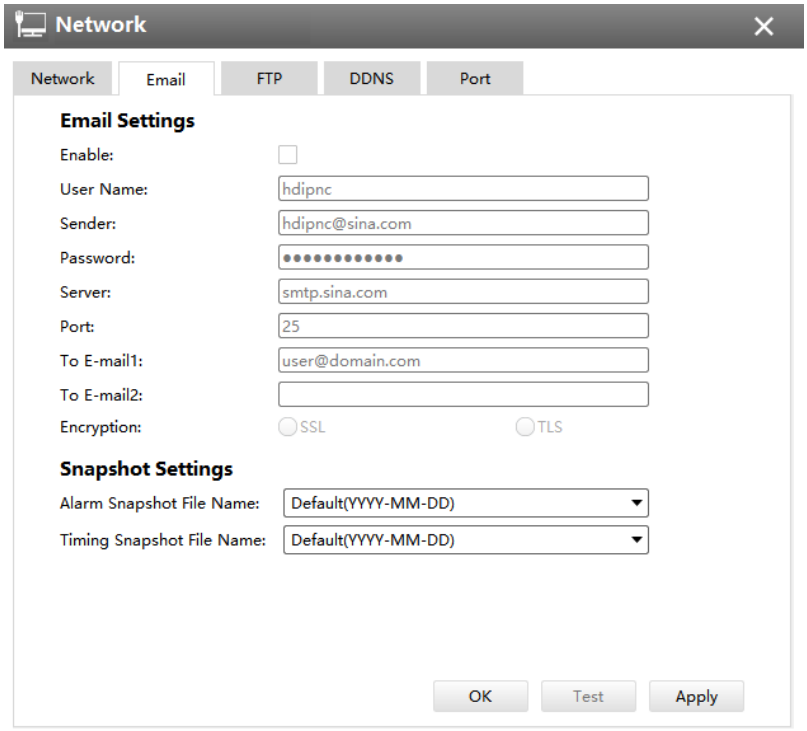


Table 37. Description of the buttons

Parameters	Function Introduction
Enable	Check the checkbox to enable Email
User Name	The sender's name. It is usually the same as the account name
Sender	Email address to send video files attached to emails
Password	The password of the sender
Server	The SMTP server IP address or host name(e.g.smtp.gmail.com)
Port	The port of SMTP server. The default TCP/IP port for SMTP is 25(not secured). For SSL/TLS port, it depends on the mail you use
To E-mail	E-mail address to receive video files
Encryption	Check the checkbox to enable SSL or TLS if it is required by the SMTP server

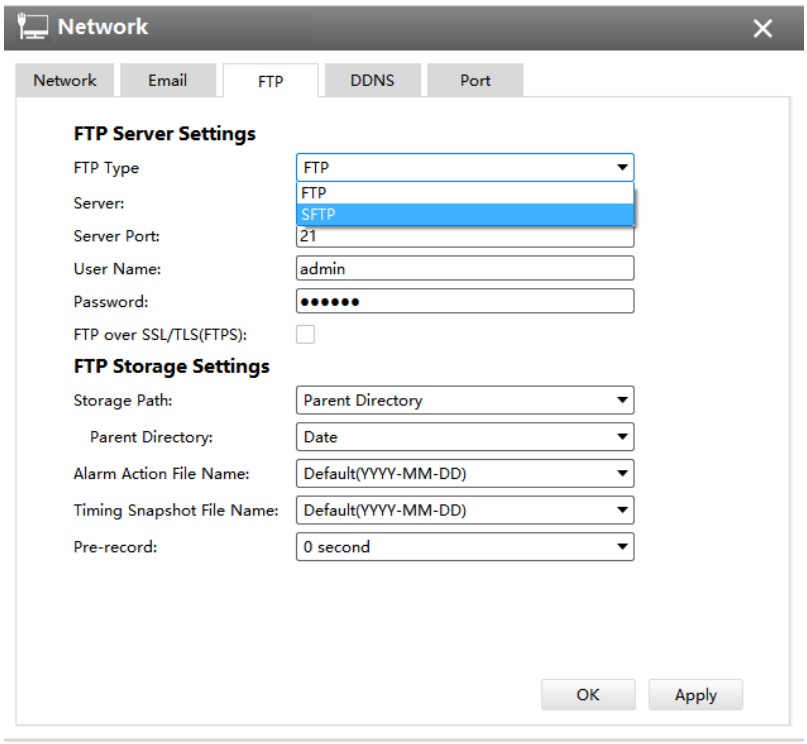
Parameters	Function Introduction
Alarm Snapshot File Name	Default(YYYY-MM-DD) /MM-DD-YYYY/ DD-MM-YYYY/ Add prefix/ Overwrite with the base file name/ Customize are available.
Time Snapshot File Name	Default(YYYY-MM-DD) /MM-DD-YYYY/ DD-MM-YYYY/ Add prefix/ Overwrite with the base file name/ Customize are available.

Note: You can refer to the following file name tip to customize the file name.

File Name Tip:
&Device - Device Name
&Y - Year
&M - Month
&D - Day
&h - hour
&m - minute
&s - second
&& - &

[FTP]

Alarm video files will be sent to specific FTP server. Please make sure that the FTP settings were correctly set before using it.



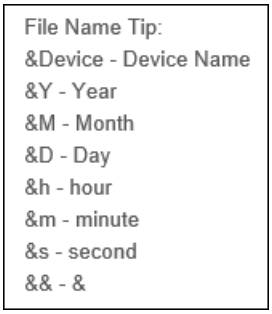
The meanings of the items on FTP page can be referred to the table below:

Table 38. Description of the buttons

Parameters	Function Introduction
FTP Type	FTP and SFTP are optional.
Server	FTP/SFTP server address
Server Port	The port of the FTP server. Generally it is 21. The port of the SFTP server. Generally it is 22.
User Name	User name that used to log in to the FTP/SFTP sever
Password	User password
Storage Path	Storage Path where video and image will be uploaded to the FTP server. Four FTP storage path types are available, including Root Directory, Parent Directory, Child Directory and Customize.
Parent Directory	Choose IP Address/ Device Name/ Date as the folder name of Parent Directory, or customize the folder name.
Alarm Action File Name	Choose the default(YYYY-MM-DD) or customize the alarm action file name.
Timing Snapshot File Name	Default(YYYY-MM-DD) /MM-DD-YYYY/ DD-MM-YYYY/ Add prefix/ Overwrite with the base file name/ Customize are available.

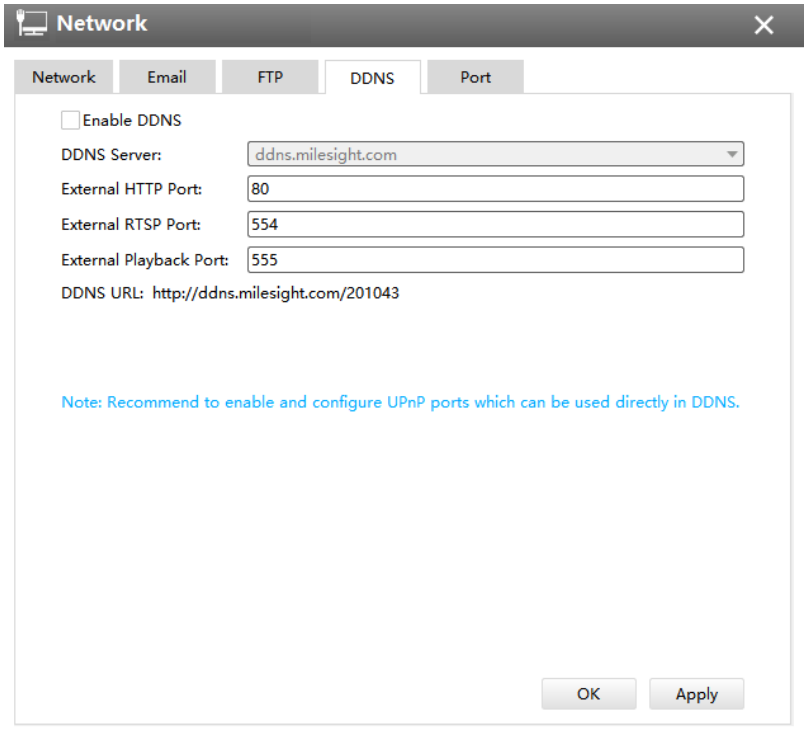
Note:

- Parent Directory will be under Root Directory
- Users can refer to the following file name tip to customize the file name.



[DDNS]

DDNS allows you to access the camera via domain names instead of IP address. It manages to change IP address and update your domain information dynamically. You need to register an account from a provider.



The meanings of the items on DDNS page can be referred to the table below:

Table 39. Description of the buttons

Parameters	Function Introduction
Enable DDNS	Check the checkbox to enable DDNS service
Name	Support DDNS from now dyndns.org, freedns.afraid.org, www.no-ip.com, www.zoneedit.comand Customize
User name	Account name obtained from DDNS provider
Password	Account password
Host name	DDNS name enabled in the account

You can choose “ddns.milesight.com” as provider for DDNS. After enabling it, you can access the device via the URL “http://ddns.milesight.com/MAC address” .

Note:

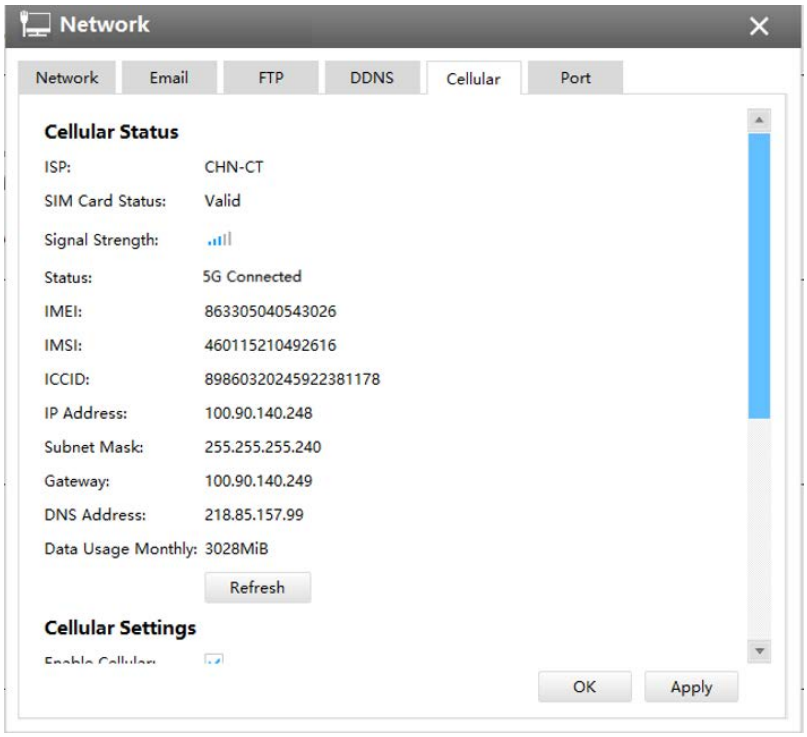
- Please do the Port Forwarding of HTTP Port and RTSP Port before you use Milesight DDNS.
- Make sure that the internal and the external port number of RTSP are the same.

[Cellular]

The 5G Series Network Camera provides a fresh experience of UHD image quality,

low latency and fast transmission speed to some scenarios where network wiring is inconvenient.

You can check the cellular status and set the cellular settings here after connecting the 5G AIoT Pro Bullet Plus Network Camera to CMS via P2P type, as shown below:



Note:

- If you use the 5G camera for the first time, it is necessary to connect the camera through the network port to access the web page of the camera for basic configuration.

- Before using the 5G network, please insert the SIM card into the SIM card slot at the bottom of the camera. It supports Nano SIM for SIM card slot.

Step1: Fill in the information provided by your Internet Service Provider (ISP) to Cellular Settings

interface, then click Save to access the network successfully.

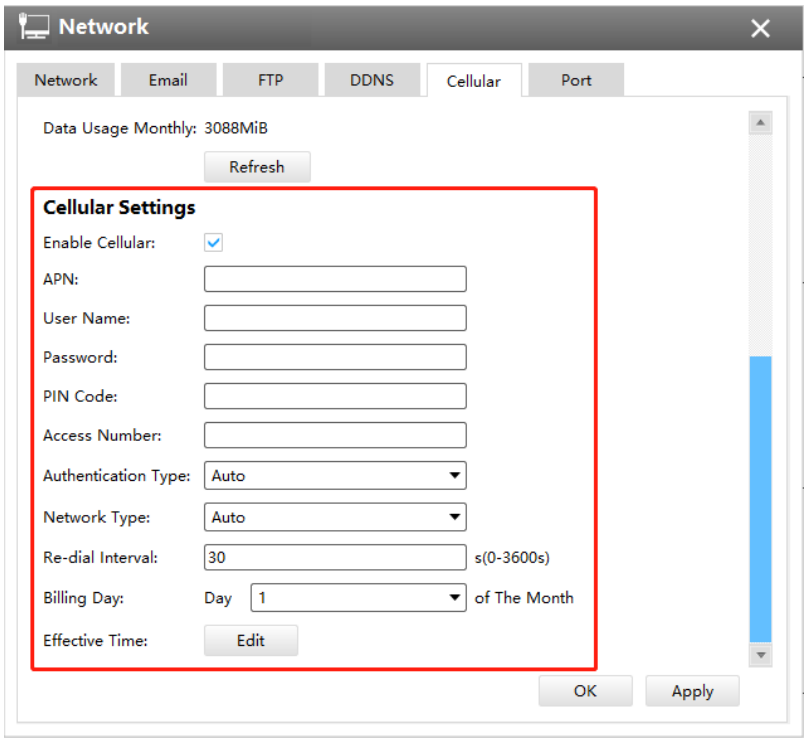
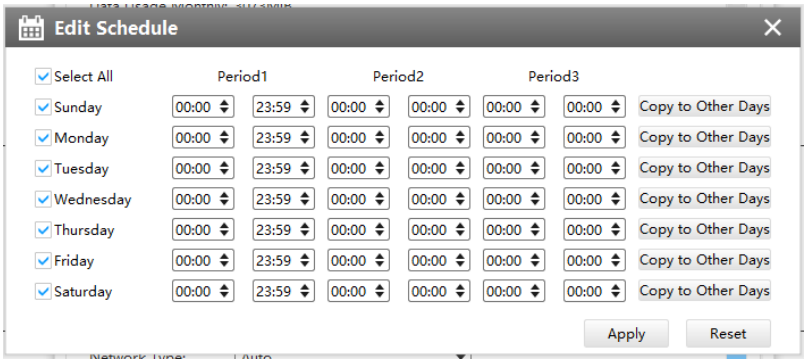


Table 40. Description of the buttons

Parameters	Function Introduction
Enable Cellular	Check this option to enable 5G network.
APN	Enter the Access Point Name for cellular dial-up connection provided by local ISP.
Username	Enter the username for cellular dial-up connection provided by local ISP.
Password	Enter the password for cellular dial-up connection provided by local ISP.
PIN Code	Enter a 4-8 characters PIN code to unlock the SIM.
Access Number	Enter the dial-up center NO. For cellular dial-up connection provided by local ISP.

Parameters	Function Introduction
Authentication Type	Select the Authentication Type. There are five options including **Auto, PAP, CHAP, MS-CHAP, MS-CHAPv2** to match different Internet Service Providers. The default option is **Auto**, which can automatically match Internet Service Provider.
Network Type	Select the network type of cellular network. There are five options including Auto, 5G, 4G, 3G and 2G. **Auto:** connect to the network with the strongest signal automatically.
Re-dial Interval	Fill in the re-dial interval time. When the 5G network is offline, it will re-dial according to the interval you set. The Re-dial Interval must be between 0-3600s.
Billing Day	Select the date for clearing the data each month. Users can choose from 1st to 31st, and the system will clear the data on the date you set each month.
Effective Time	Set the schedule, the 5G network will take effect according to the schedule you set. 

Note: For some Internet Service Provider, users only need to insert the SIM card directly to access the 5G network without additional configuration.

Step2: After connecting to the network successfully, you can check the cellular status information on Cellular Status interface, as shown below.

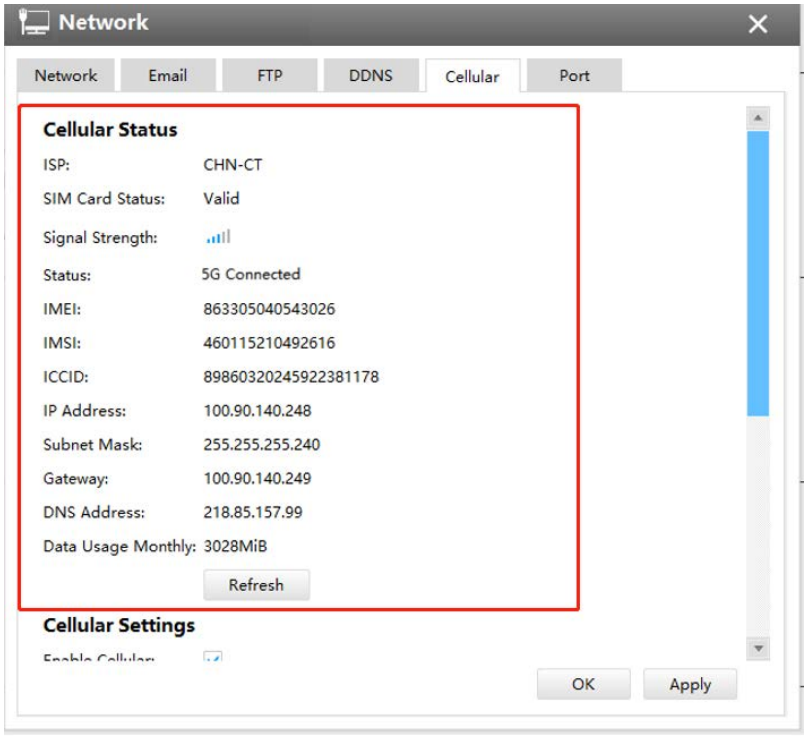


Table 41. Description of the buttons

Parameters	Function Introduction
ISP	Show the network provider which the SIM card registers on. **Note:** It will display "-" when the SIM card is not inserted or not recognized.
SIM Card Status	Display the connection status of SIM card. **No SIM Card:** The SIM card is not inserted. **Invalid:** The SIM card has been inserted but failed to connect to the network. **Valid:** The SIM card has been inserted and successfully connected to the network.
Signal Strength	Display the current signal strength of the network.
Status	Display the connection status of the network, including “3G/4G/5G Connected” and “Disconnect”.
IMEI	Show the IMEI of the module.
IMSI	Show IMSI of the SIM card.

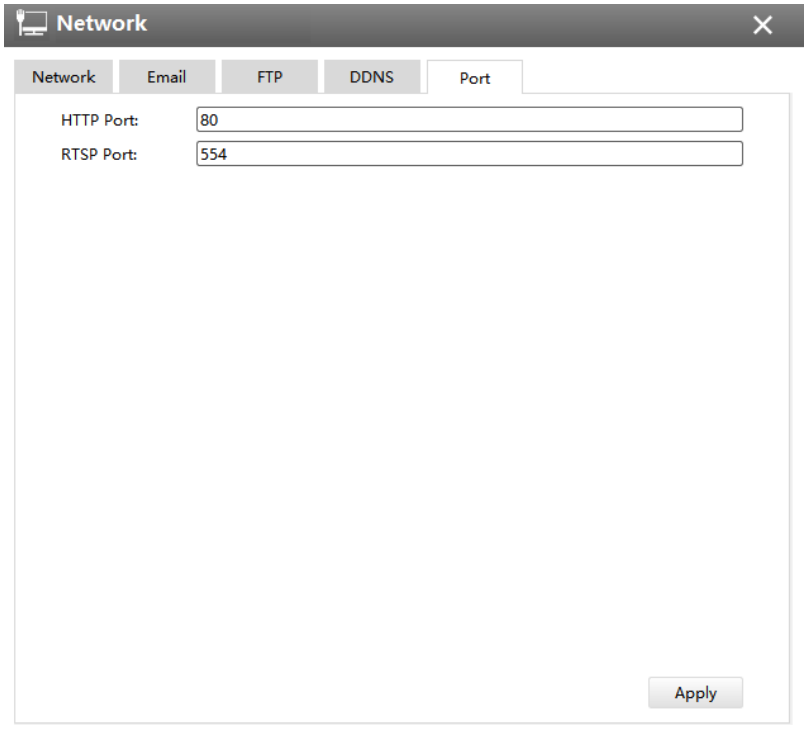
Parameters	Function Introduction
ICCID	Show ICCID of the SIM card.
IP Address	Display the IP Address, Subnet Mask, Gateway and DNS Address of the current network. If the SIM card is not inserted or not recognized, it will display 0.0.0.0.
Subnet Mask	
Gateway	
DNS Address	
Data Usage Monthly	Display current monthly used data.
Refresh	Click this button to manually refresh the above status.

Step 3: After configuring the cellular settings, you also need to complete other basic configurations of the camera if needed, such as events, recordings, etc.

Step 4: After completing the basic settings of the camera, you can access the camera using 5G network without connecting the network cable.

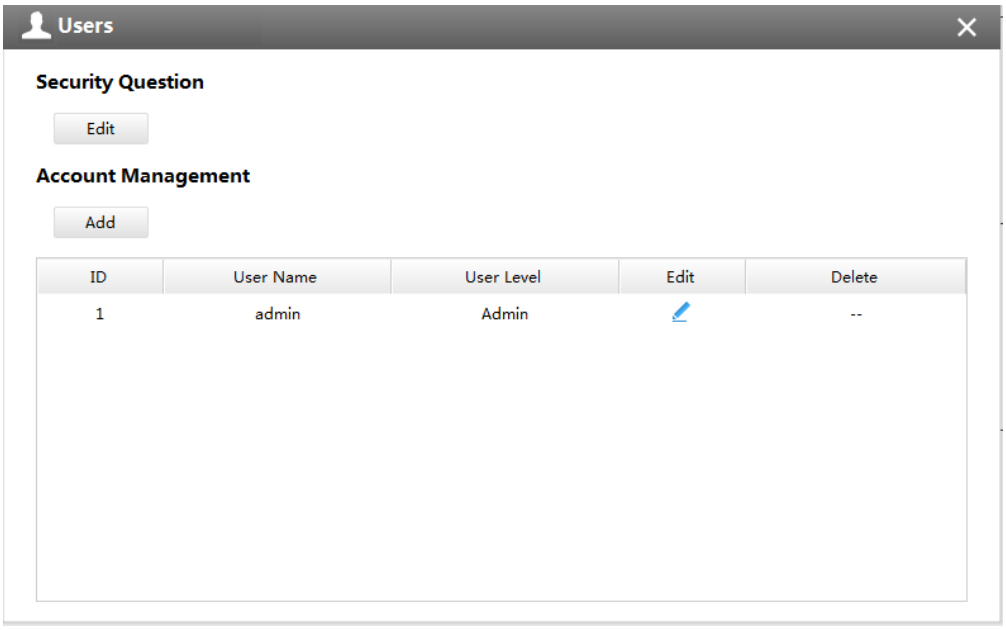
[Port]

You can set HTTP and RTSP port here.



Users

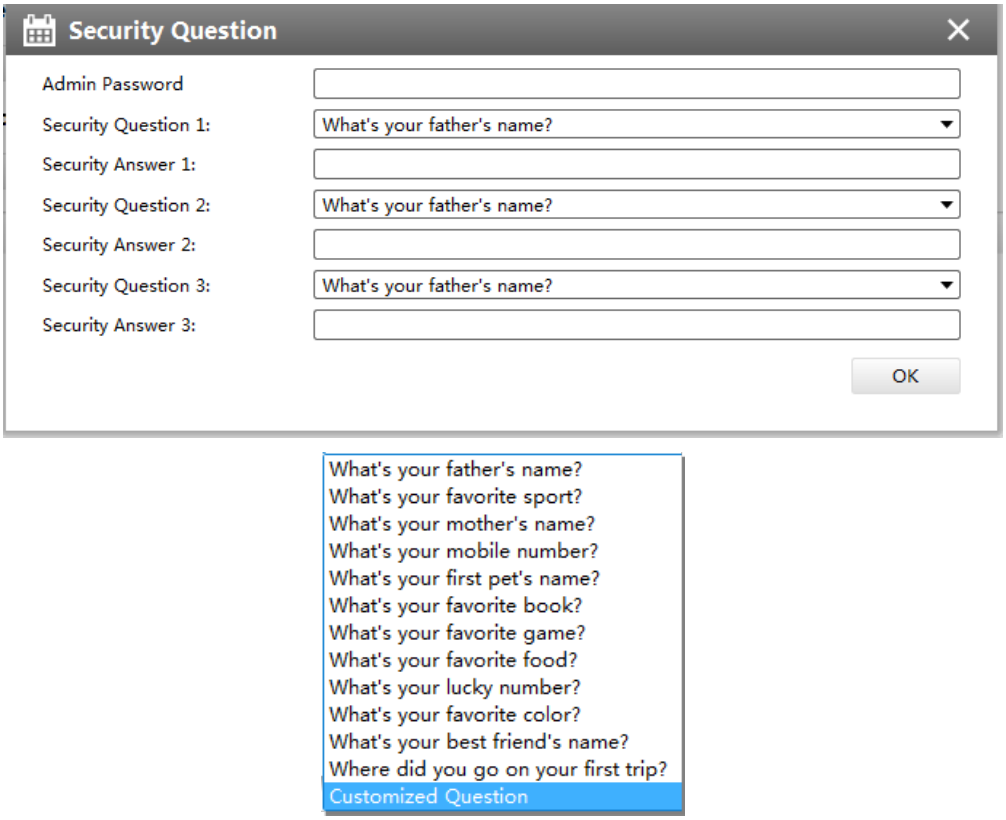
Click the Users button, the setting window will pop up as below:



[Security Question]

You can set the Security Question for your camera, in case you forget the password, you can reset the password by answering the Security Question correctly.

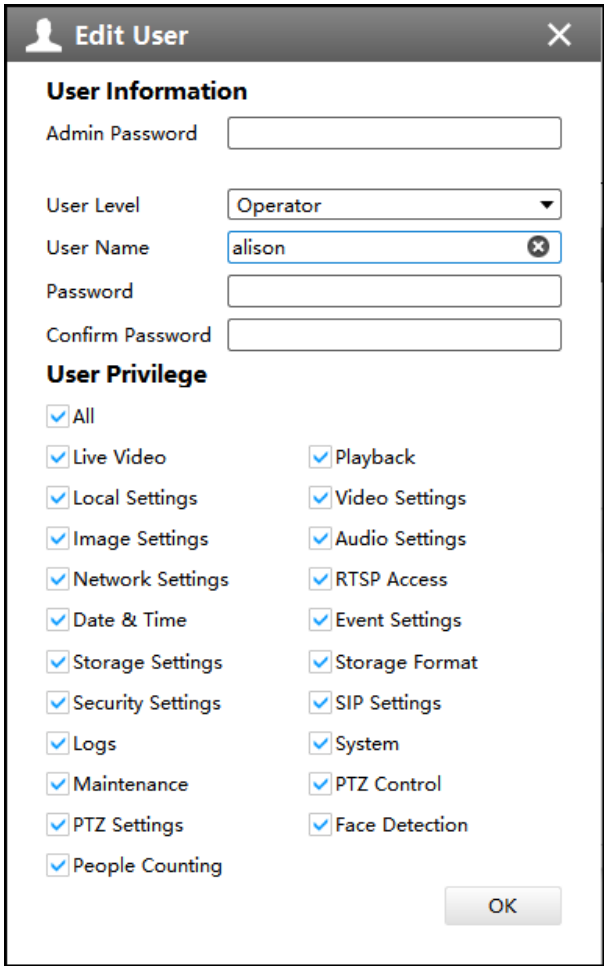
Click “Edit” button, input Admin Password, and set three Security Question for your camera, then click “OK”.



There are twelve default questions below, you can also customize the Security Question.

[Account Management]

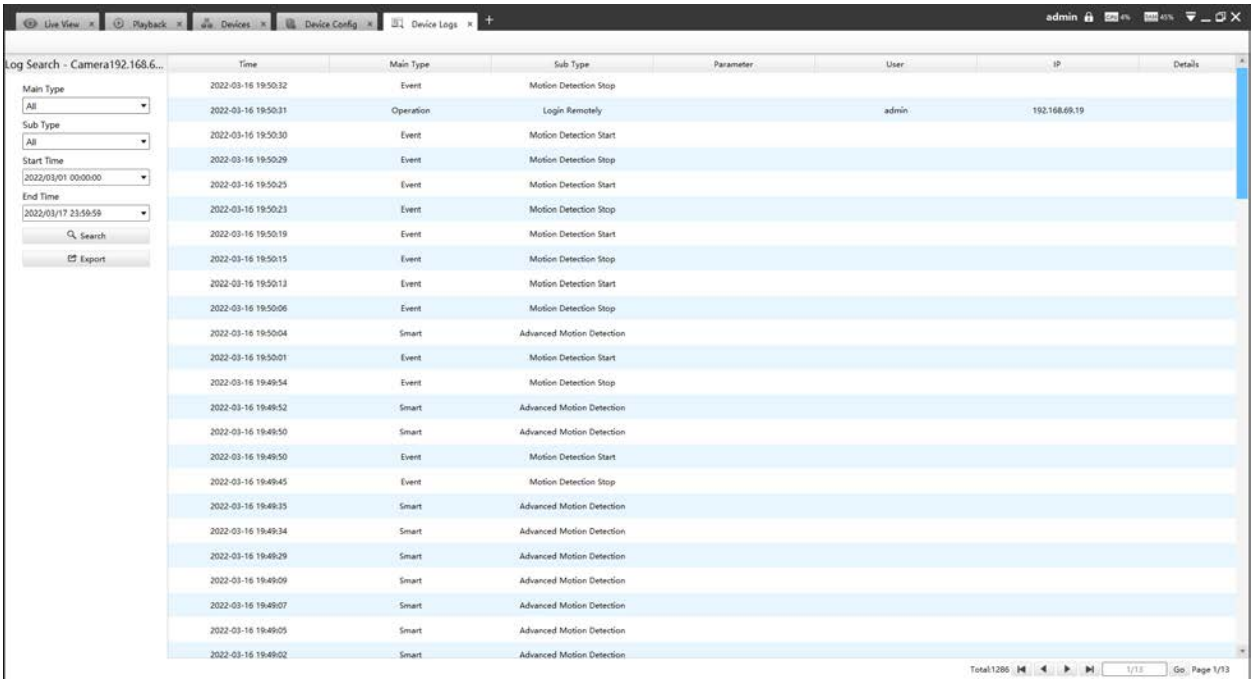
There are three levels of Users: Admin, Operator, and Viewer. Admin can not be deleted and you can only change its password. Operator and Viewer can be added, edited or deleted.



Log

In Log interface, you can check, search and export logs. 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 and then export them locally.

The Logs page is as below:



The meanings of the items can be referred to the table below:

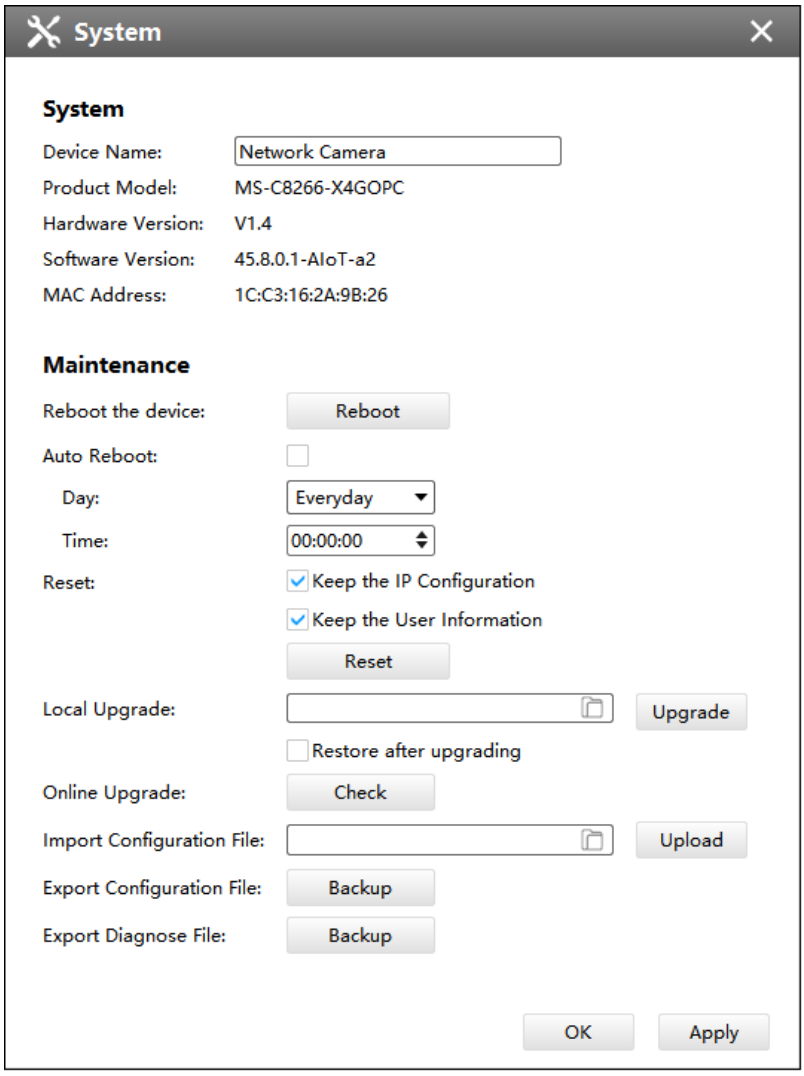
Table 42.

Parameters	Function Introduction
Main Type	There are three main log types: [**All**], [**Event**], [**Operation**], [**Information**], [**Exception**], [**Smart**]
Sub Type	On the premise of main type has been selected, select the sub type to narrow the range of logs
Start Time	The time log starts
End Time	The time log ends
Search	Click the button to search the matched logs
Export	Export the log file

You can click the bar to list the log by items such as Time, Main Type, Sub Type, User, IP, etc.

System

The System page is as below:

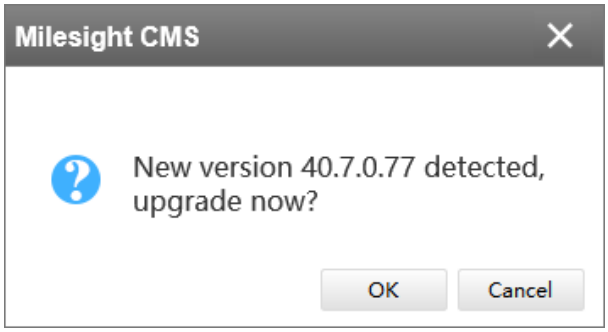


The meanings of the items on System page can be referred to the table below:

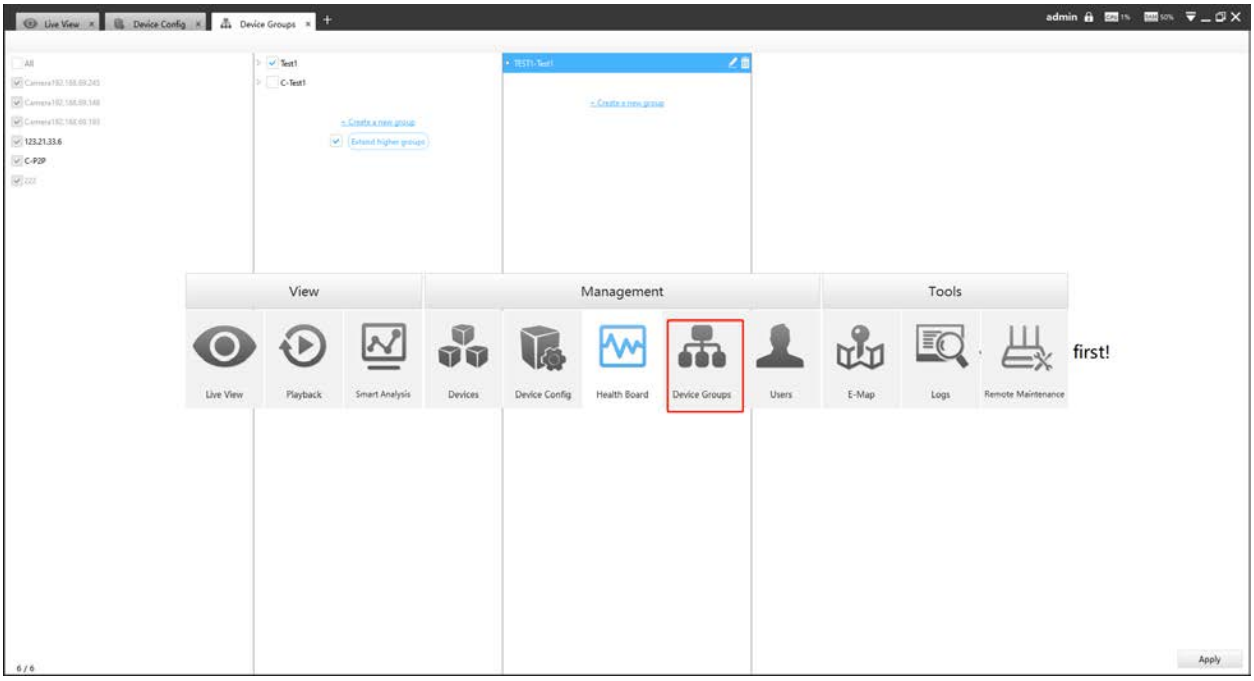
Table 43.

Parameters	Function Introduction
Device Name	The device name can be customized. It will be seen in file names of video files
Product Model	The product model of the camera

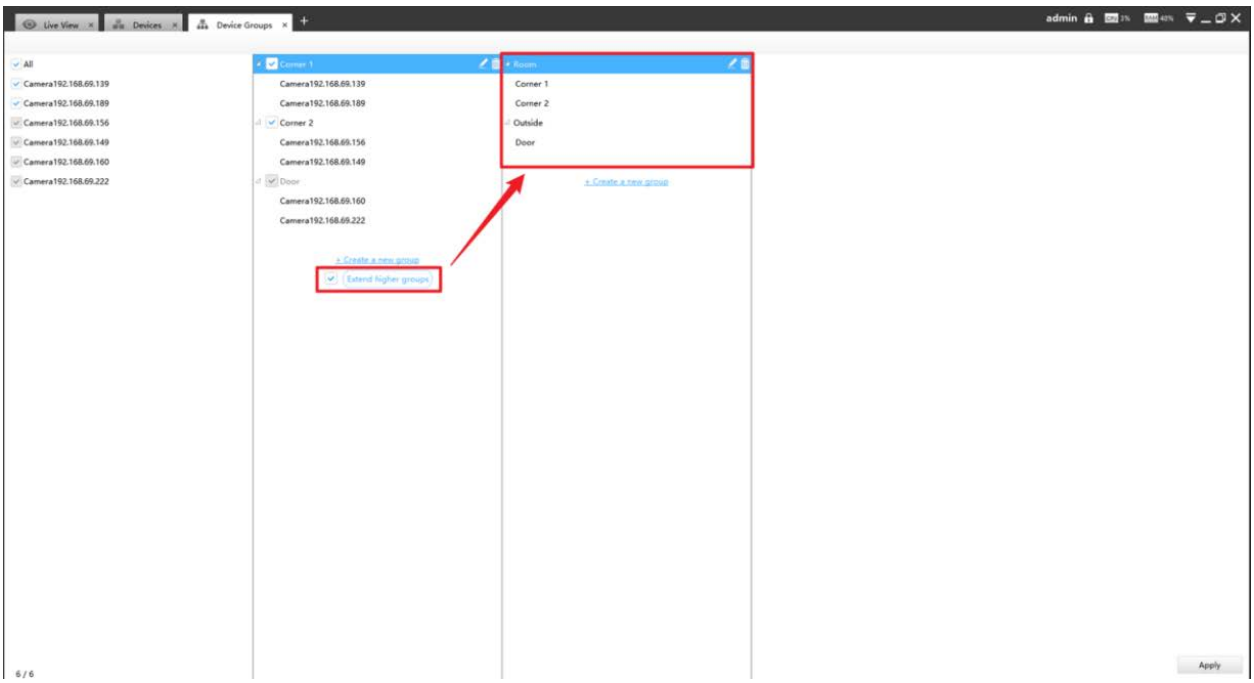
Parameters	Function Introduction
Hardware Version	The hardware version of the camera
Software Version	The software version of the camera can be upgraded
MAC Address	Media Access Control address
Reboot	Click the button to reboot the device
Auto Reboot	Set day and time for reboot, and the NVR will reboot automatically at the set time. **Day:**Everyday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday. **Time:** Adjustable range from 00:00:00 to 23:59:59. **Note:** Make sure the camera's version are 4X.7.0.78 or above.
Reset	Click the button to reset the settings to the default one. **Keep the IP Configuration:** keep the IP configuration when resetting the device. **Keep the User Information:** keep the User configuration when resetting the device. **Note:** If you disable the "Keep the User Information" option when resetting the device, the device will be reset to the 'Inactive' status, you need to set a password for it again.
Local Upgrade	Click the button to import the firmware file from PC, and click the [Upgrade] button to upgrade. And you can enable Restore after upgrading option to restore the settings to the default one after upgrading the device.

Parameters	Function Introduction
Online Upgrade	Click the [Check]button to check for update. Click OK to update to the latest version when new version is detected. 
Import Configuration File	Click the button to import the configuration file from PC, and click [Upload] button to import the configuration file.
Export Configuration File	Click [Backup] button to export the configuration file.
Export Diagnose File	Click [Backup] button to export logs and system information of the device operation status.

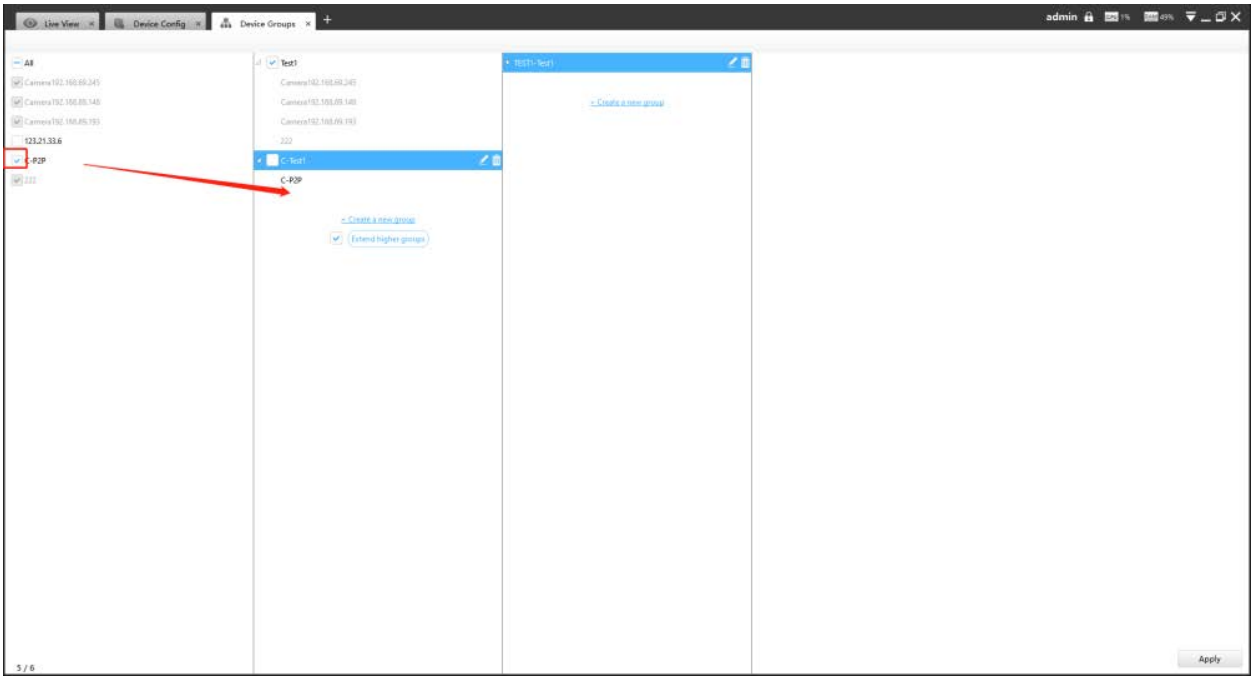
3.3 Device Grouping



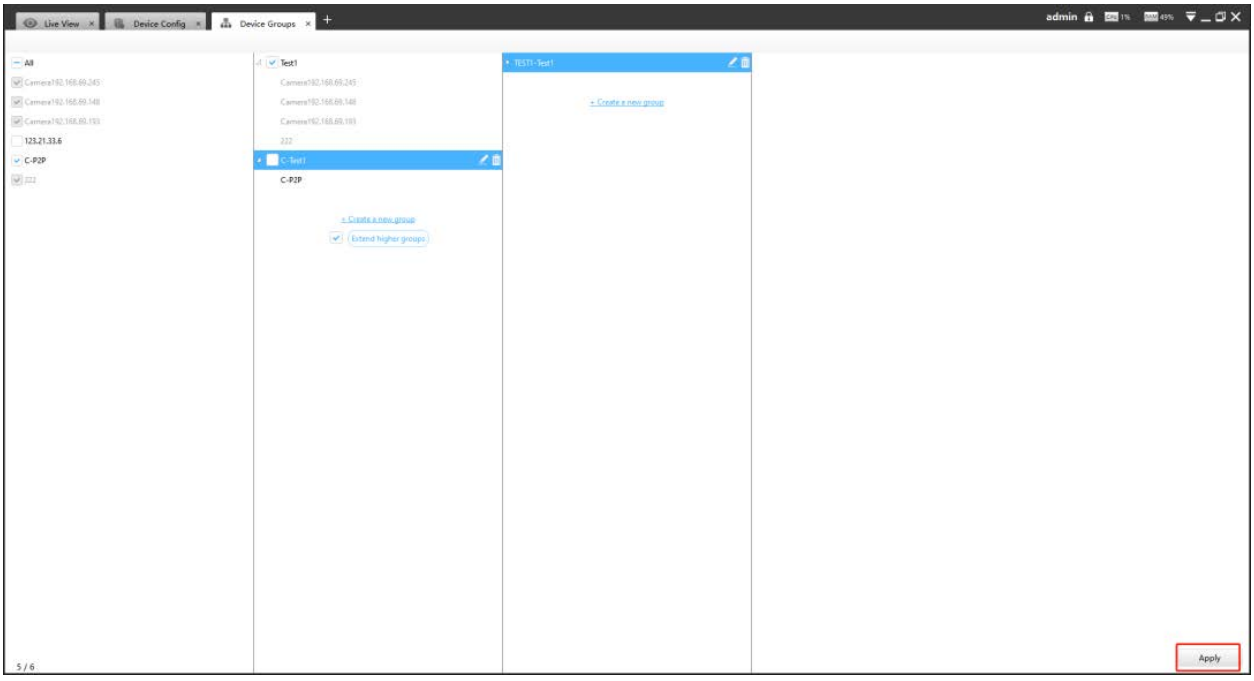
This function allows users to group devices up to three levels, with custom names for adding and deleting devices, facilitating device management and improving convenience.



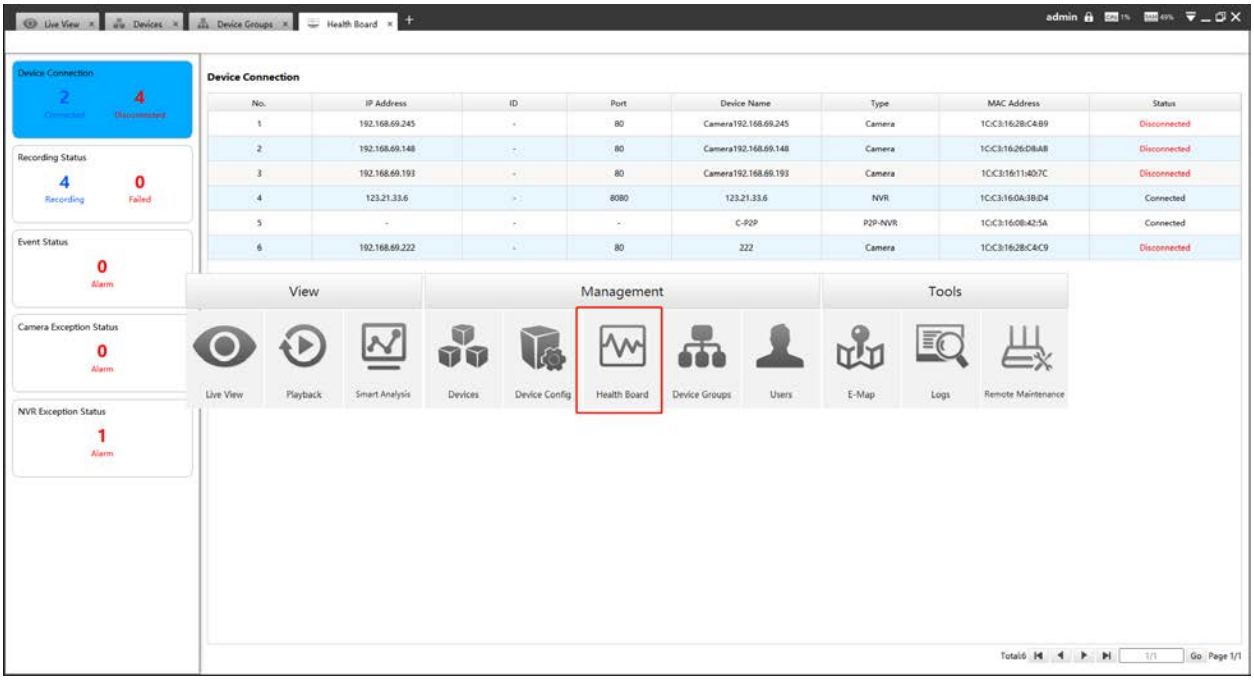
Click the icon to modify the device group name. Then, select the desired group and click the camera icon on the far left to add the camera to the corresponding group.



It is important to remember to click the "apply" button to ensure that the changes you have made to the content are saved and take effect.

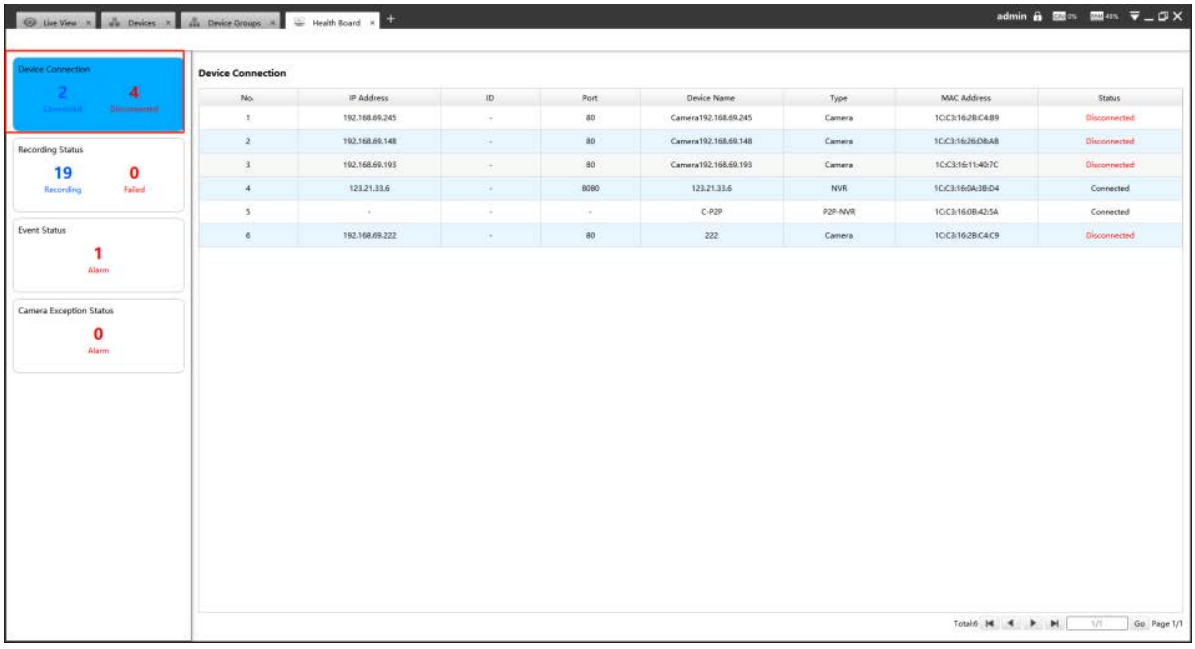


3.4 Health Broad

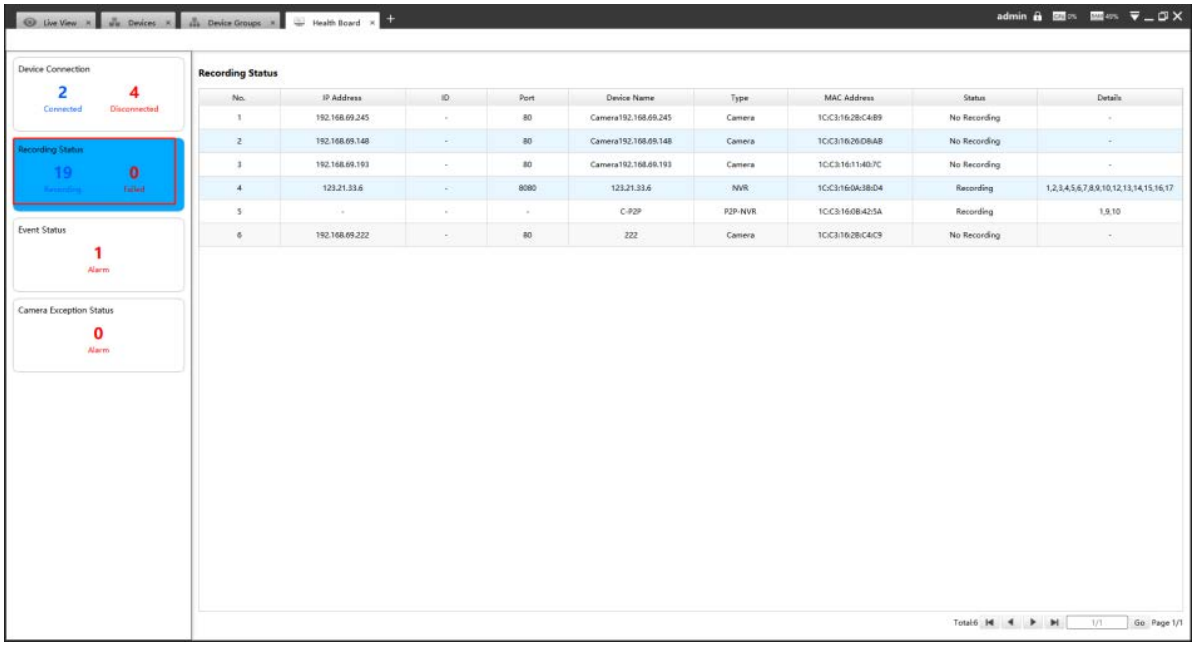


In this interface, you can easily check the connection and recording status, as well as these events status.

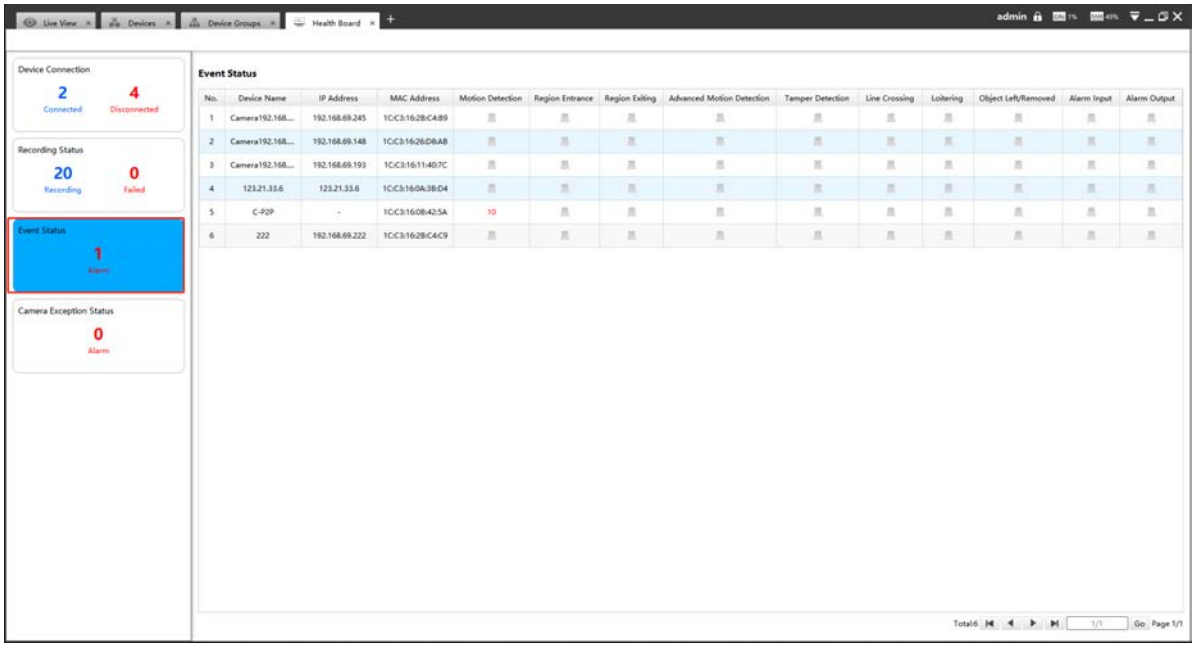
- **Device Connection**



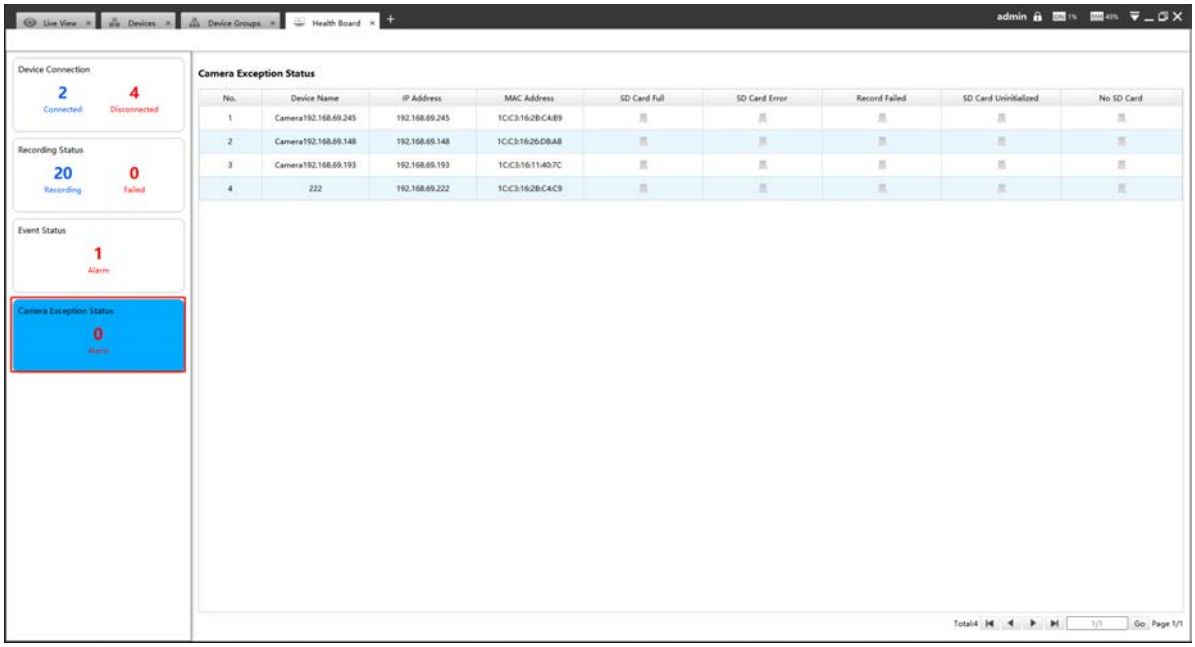
- **Recording Status**



- **Event Status**

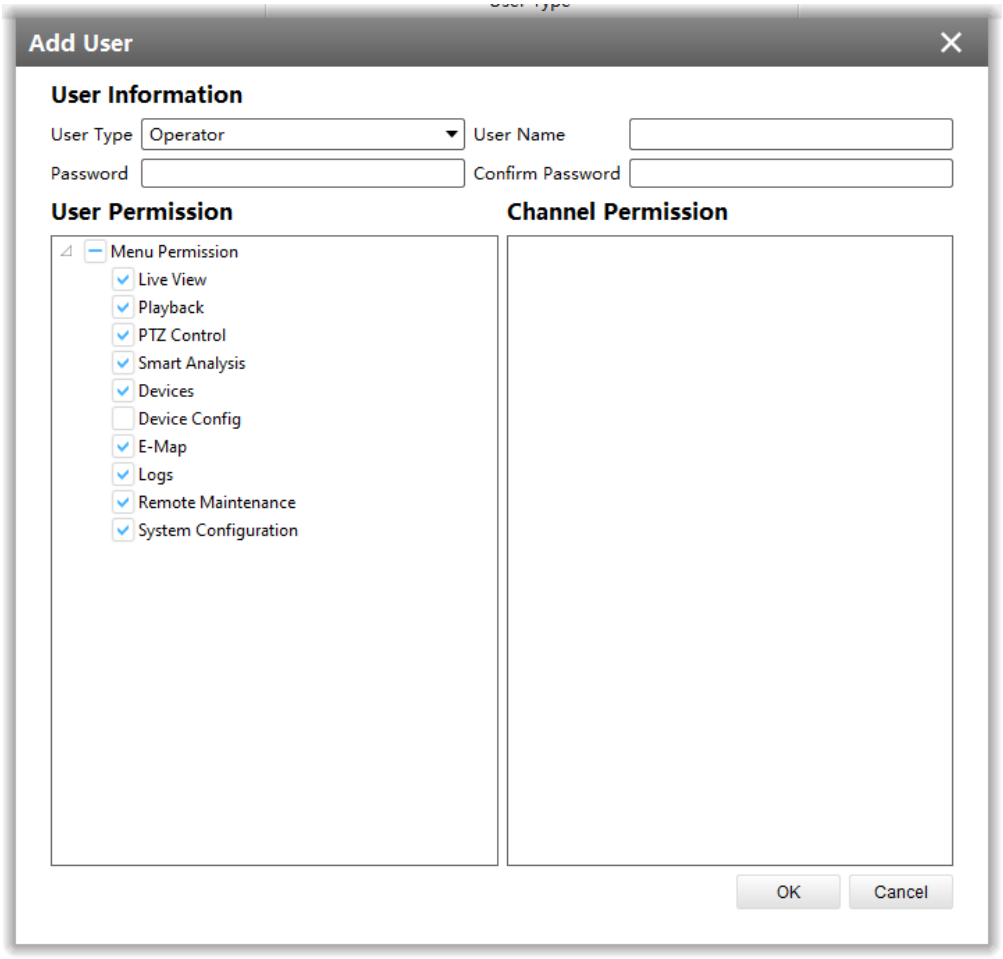


- **Camera Exception Status**



3.5 Users

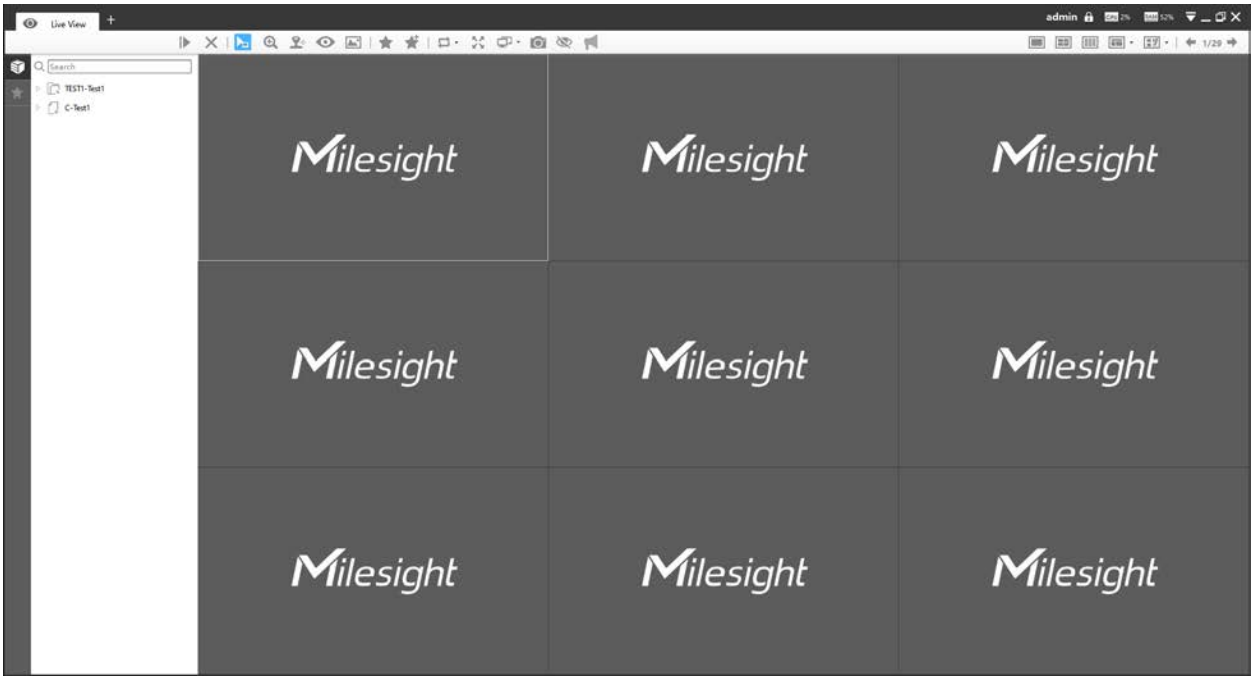
You can add, edit and delete the Operator or Viewer account while you are only allowed to edit the password of the Admin. The Add User page is as below:


Add User
User Information
User Type
Operator
User Name
Password
Confirm Password
User Permission
Channel Permission
Menu Permission
Live View
Playback
PTZ Control
Smart Analysis
Devices
Device Config
E-Map
Logs
Remote Maintenance
System Configuration
OK
Cancel

Chapter 5. View

4.1 Live View

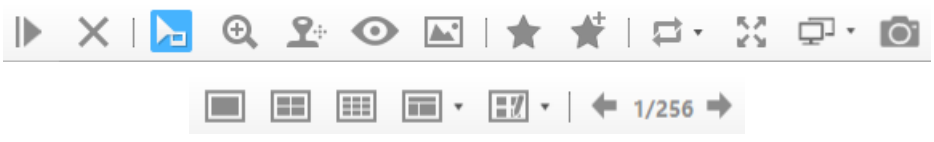
There are icons of PTZ, Image Configuration, View Settings, Carousel on Live View interface. Live View interface is shown as figure below.



After adding the devices, you can drag or double click device name to view windows to display their Live View. 1/4/8(1+7)(4+4)/9/16/36/64 view windows can be set to meet your needs. Also the custom layout function you can redesign all the layout.

You can click  button and enter a keyword to search for the target device in the added device list quickly.

The icons on toolbar are as below:



The description of the icons can be referred to the table below:

Table 44. Description of the buttons

Item	Function Introduction
	Play all the channels with Secondary stream
	Stop all the playing channels
	Cursor Mode
	Click the button will enable digital zoom the Live View
	PTZ Mode
	Fisheye Mode
	Image Settings of the playing channels
	Save View, save the current view to replace the old view
	New View, create a new view
	Carousel
	Full Screen
	Multi Screen, up to four screens with different function: Alarm Screen, Live View Screen, Full Screen and People Counting Screen. Support identifying monitors of corresponding screens by clicking the Identify button.
	Snapshot All function, click the button to snapshot all the playing channels.
	To hide or show the menu bar in the live view interface of the cameras
	Using the computer's public microphone, multiple cameras and NVR cameras can be conveniently and uniformly broadcasted on CMS
	1/4/9 Windows Button

Item	Function Introduction
	Click the button to get more options of display windows
	Click the button to draw a custom layout
	[Pre Page]/[Next Page] button

4.1.1 Live View interface

1. Device

Device column in the Live View shows what kind of devices are connected to the CMS:

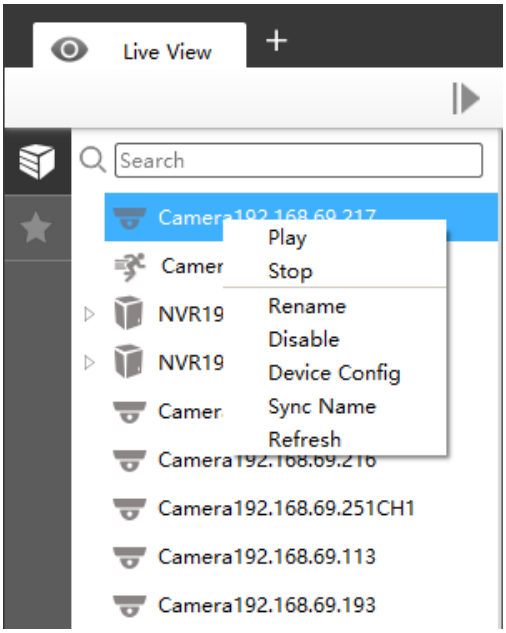


Table 45. Description of the buttons

Item	Function Introduction
Play	Play the Live View of the chosen device
Stop	Stop the Live View of the chosen device
Rename	Rename the device on the list

Item	Function Introduction
Disable	Disable the device
Device Config	Jump to the Device Config interface to configure the device
Sync Name	Synchronize device name with the device
Refresh	Refresh the status of the chosen device

Right-click on the blank space of the device list:

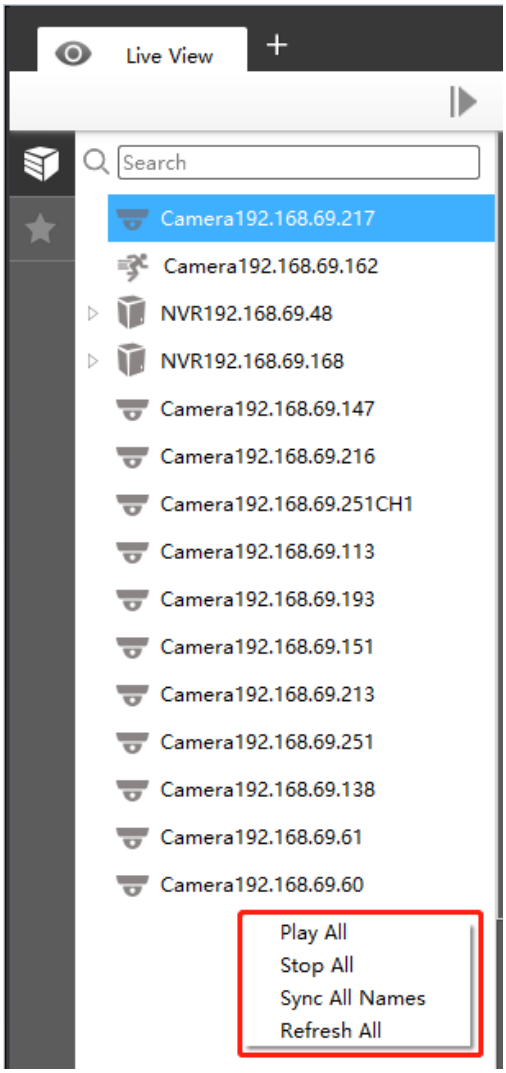


Table 46. Description of the buttons

Item	Function Introduction
Play All	Play all the Live View
Stop All	Stop all the Live View
Sync All Names	Synchronize names with all devices
Refresh	Refresh the status of all devices

There are steps to display device under the Device mode:

Step1: Make sure the device is available;

Step2: Select one window to display;

Step3: Right click a camera and choose [Play] to display the camera. When you choose a NVR, there is a **[Play]** to display all cameras linked with the NVR. You can also double click the device or drag it into the selected window.

Table 47. Description of the buttons

Item	Function Introduction
	Search the target device in the added device list quickly.
	Camera, which is playing
	Camera/NVR, which is connected
	Camera/NVR, which is not connected
	Camera/NVR, which logs out
	List Button, click the button to list/hide all cameras linked with the NVR
	Triggered Motion Detection Status
	Triggered VCA events Status
	Triggered Audio Alarm Status

2. View

Right-click on View:

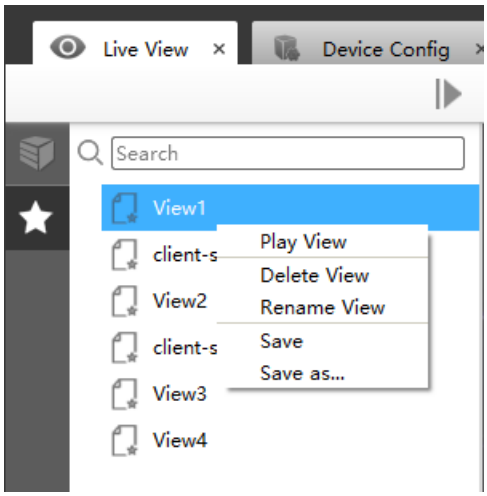


Table 48. Description of the buttons

Item	Function Introduction
Play View	Play the View
Delete View	Delete the View
Rename View	Rename the View
Save	Save the current view and the corresponding stream types of the channels to replace the old view
Save as	Save the current view and the corresponding stream types of the channels into a new View

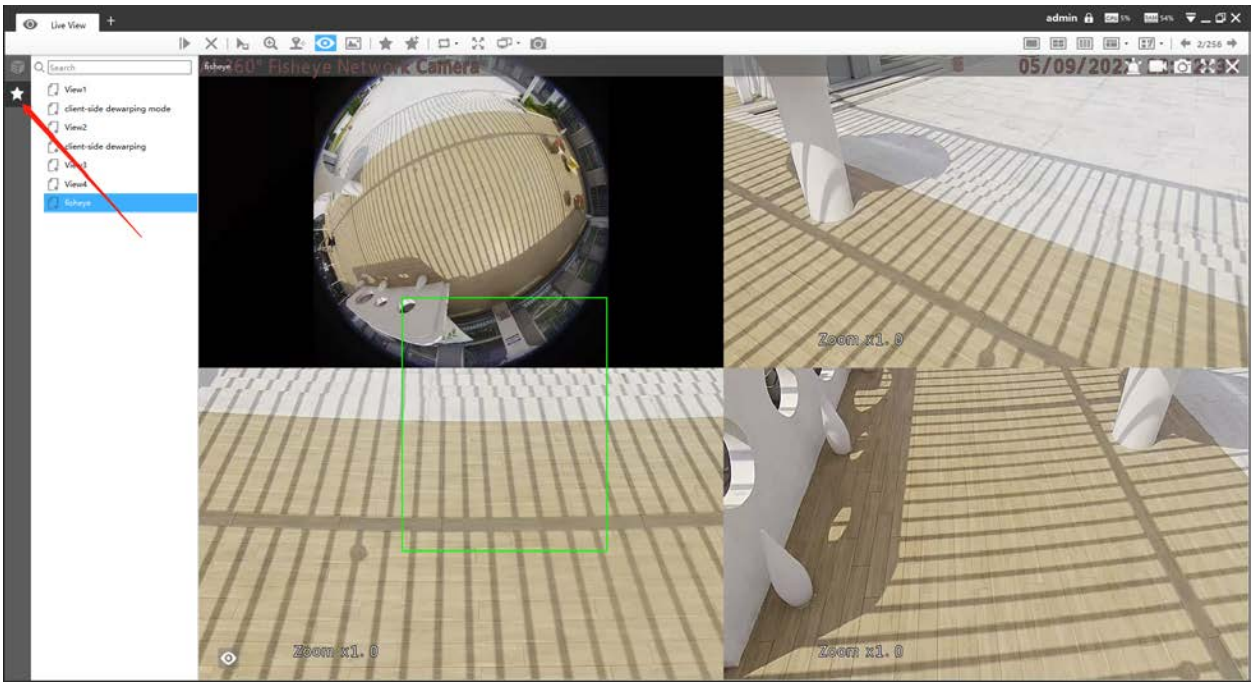
View helps you watch and manage the Live View more efficiently. By set Views, you can save time to manage the Live View:

Step1: Click the New View button to create a new View;

Step2: Display the cameras according to Device Part;

Step3: Click the Save View button to save the Live View. You can right-click the View and choose the [Play View].

For Fisheye camera, support Saving View of Client-side Dewarping mode. If the user saves the current view as a layout with the client-side dewarping mode that supports dragging the needed area under the fisheye model, it will display this dewarping mode when playing the layout next time.

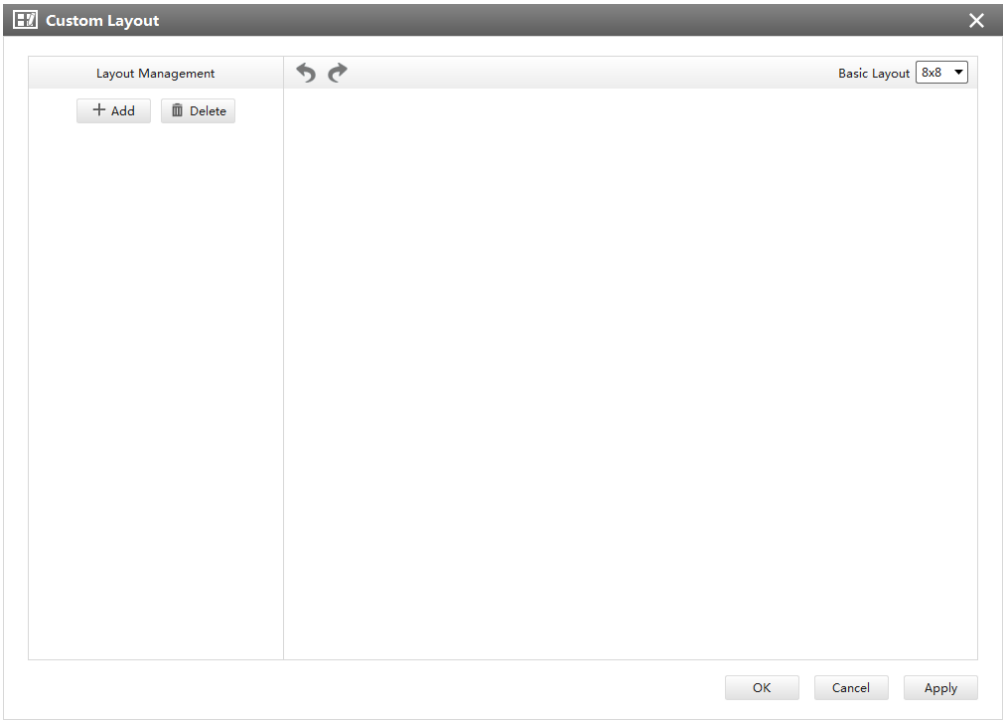


Note:

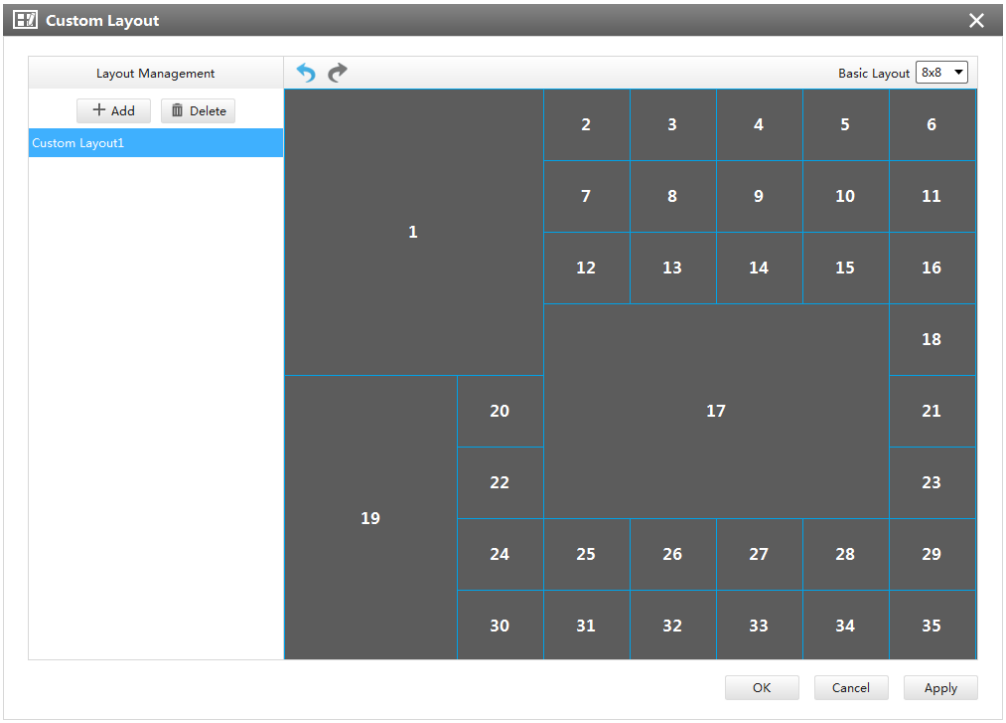
- Double clicking a NVR will lead to display all the cameras linked with the NVR;
- Once a window is selected, it's border color will turn into white.
- The View Layout list will keep the order of the last move when the CMS program restarts or covers installation.

3. Custom Layout

Click on the button and click Config to add a custom layout, the page is as below:

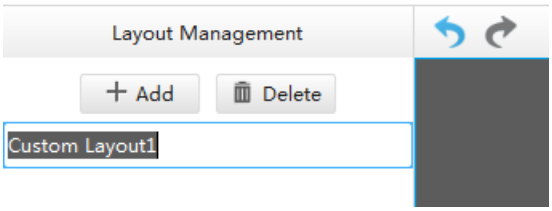


Click + Add to create a new layout,it will display a 8x8 layout by default, drag and drop your mouse to combine the grids into one single box, click OK when finished.



Click redo and undo button to back to the last steps.

You can double click the name on the left list to rename the layout.



After your modify, click Apply or OK to save the custom layout.

Back to Live View Page, the new layout will appear in the custom layout button .

4.1.2 Settings of Display the Live View

The toolbar of the Live View window:

Table 49. Description of the buttons

Item	Function Introduction
	Alarm Output
	Start/Stop recording
	Snapshot
	Full screen
	Stop the Live View
/	Disable/Enable the audio

Item	Function Introduction
/	Disable/Enable the Two-Way Audio: Support Two-Way Audio between CMS and NVR. With just one click, users can talk to the NVR's channel or the NVR to which the channel belongs 

Note: Make sure the NVR's version is 7X.9.0.12 or above.

Right-click the Live View window, the interface is as below:

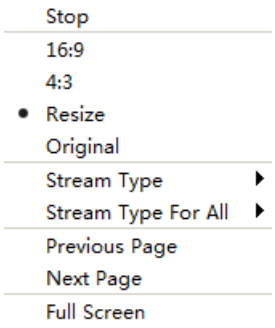


Table 50. Description of the buttons

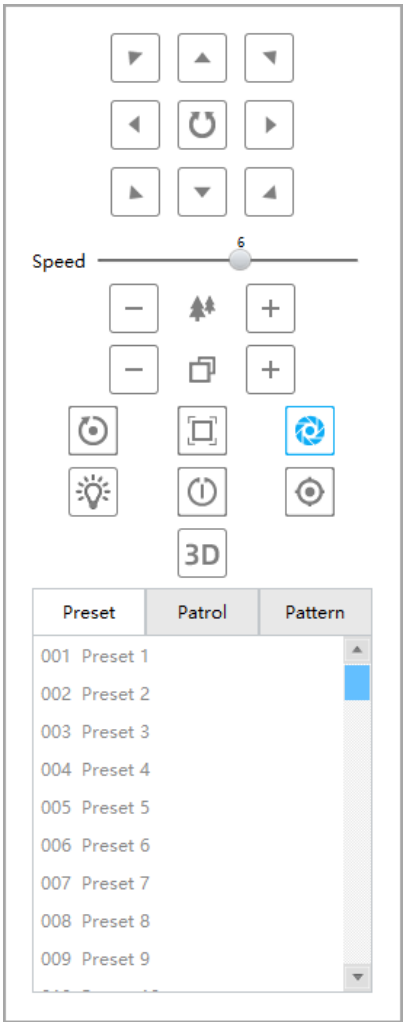
Item	Function Introduction
Stop	Stop playing the Live View
16:9	Ratio of length to width is 16:9
4:3	Ratio of length to width is 4:3
Resize	Suit the size to the windows
Original	Keep the size the same as original aspect ratio

Item	Function Introduction
Stream Type	You can choose Primary Stream or Secondary Stream **Note:** The Stream Type can not be edited for 4K Area Cropping camera and other display modes of fisheye camera under Multi-channel mode except 1O/1P/2P.
Stream Type For All	You can choose Primary Stream or Secondary Stream for all channels.
Previous Page	Turn to the previous page
Next Page	Turn to the next page
Full Screen	Display windows in full screen

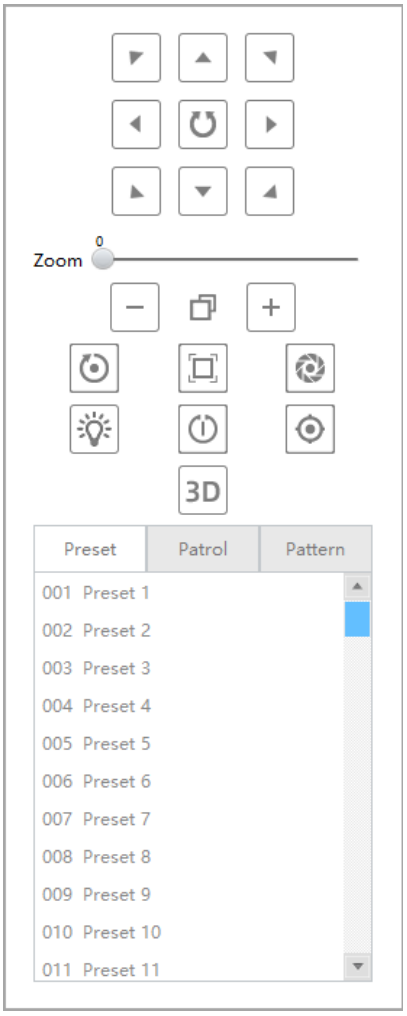
1. PTZ

Click the PTZ button  , there will be a same button in the bottom-left corner of the selected window. Click the button in the window, the PTZ function interface will appear. The interfaces of three network cameras are as below:

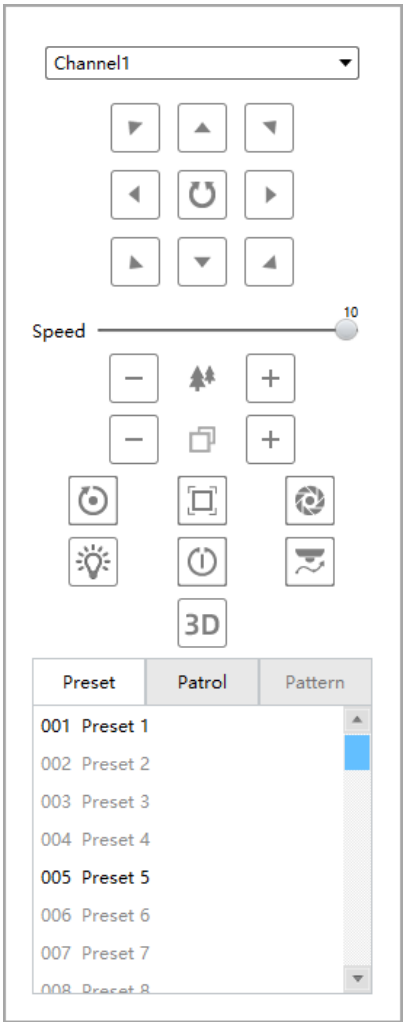
- PTZ camera



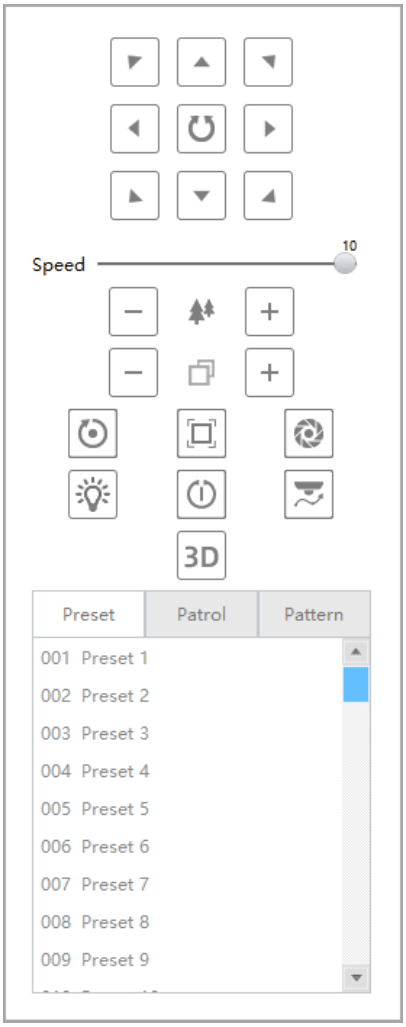
- Vari-focal lens camera



• Fisheye camera(Bundle Stream)

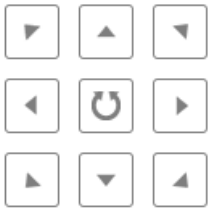
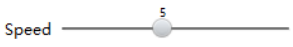


- Fisheye camera(Multi-channal)



The meanings of the items can be referred to the table below:

Table 51.

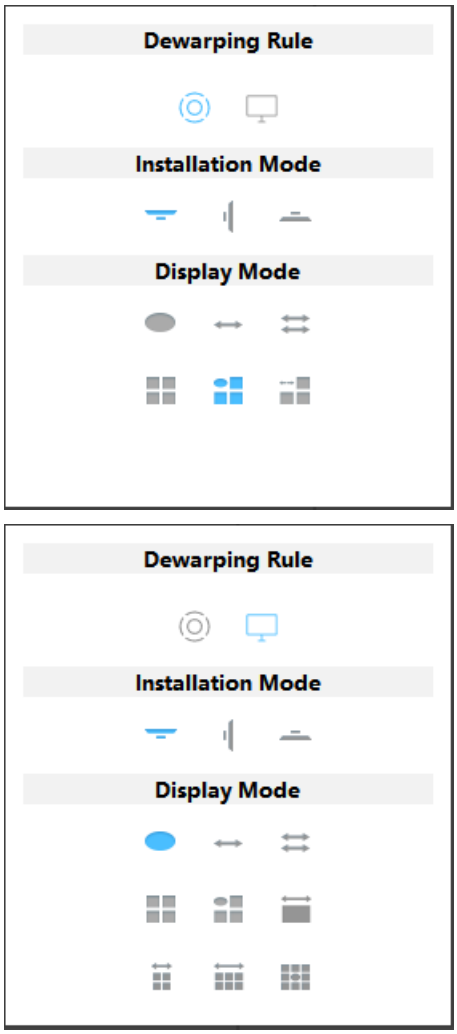
Item	Function Introduction
	Navigation key is used to control the direction. The rotation key is used for auto-rotation.
	To adjust the speed of pan/tilt movements, from 1 to 10.
	Click -/+ to zoom in and zoom out.

Item	Function Introduction
	Click to focus near or far of the lens.
	Lens Initialization, Auxiliary Focus and Auto Iris.
	Lighting For 30s: Click to open/ close the White LED for lighting 30s.
	One-touch Patrol: Click to carry out the patrol.
	Manual Tracking: The camera can track the object only after user frames the moving object on the screen.
	3D Positioning: For PTZ camera, 3D Positioning function allows users to easily adjust the angle of camera's view and zoom ratio by just using a mouse to get more details from region of interest.
	**Auto Tracking:** With this option enabled, the camera can perform the digital Pan/Tilt/ Zoom to track the moving objects automatically. **Note:** • Auto Tracking is only supported in **regional views**. • Auto Tracking is only supported in **ceiling mounting mode of on-board dewarping mode**.
	save the setting of the current preset delete the preset call the preset
	call the patrol set the path delete the path
	call the pattern record the pattern delete the pattern

Note: Both PTZ series camera or fisheye camera in NVR(V7x.9.0.4 and above) added by IP/Domain and P2P support PTZ configuration.

2. Fisheye

Click the Fisheye button , there will be a same button in the bottom-left corner of the selected window. Click the button in the window, the Fisheye function interface will appear (Only for Fisheye Camera). The interface is as below:



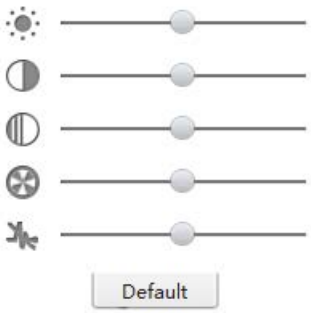
The meanings of the icons can be referred to the table below:

Table 52.

Item	Function Introduction
	On-board Dewarping
	Client-side Dewarping
	Click to select ceiling mounting
	Click to select wall mounting
	Click to select flat mounting
	Select live view of original fisheye view
	Select live view of 360° panoramic view
	Select live view of two180° panoramic views
	Select live view of four regional views
	Select live view of one original fisheye view and three regional views
	Select live view of one 360° panoramic view and three regional views
	Select live view of one 360° panoramic view and one regional view
	Select live view of one 360° panoramic view and four regional views
	Select live view of one 360° panoramic view and six regional views
	Select live view of one original fisheye view and eight regional views

3. Image

Click the Image button , there will be a same button in the bottom-left corner of the selected window. Click the button in the window, the Image function interface will appear. The interface is as below:



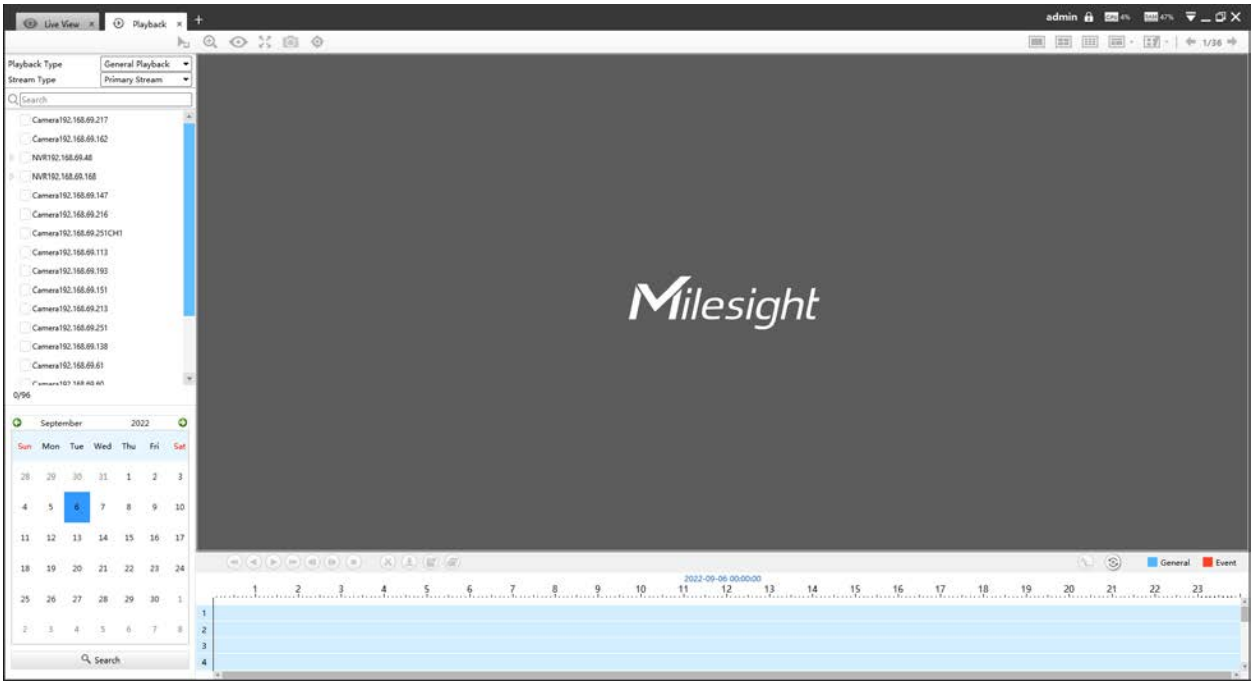
The meanings of the items can be referred to the table below:

Table 53.

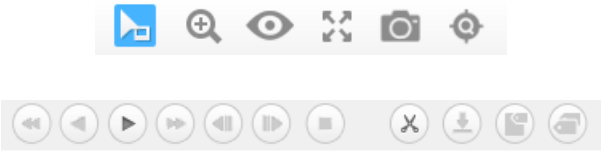
Item	Function Introduction
	Brightness
	Contrast
	Saturation
	Sharpness
	Noise Reduction

4.2 Playback

CMS supports playback. It can play recorded files on devices, the Playback page is as below:



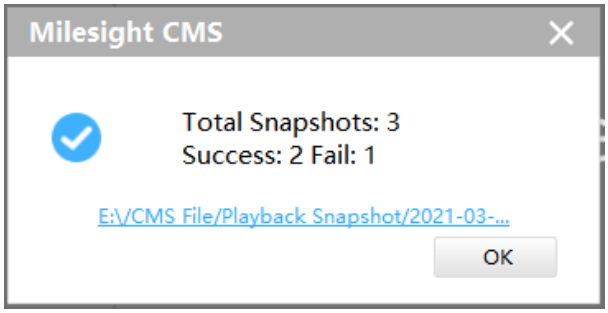
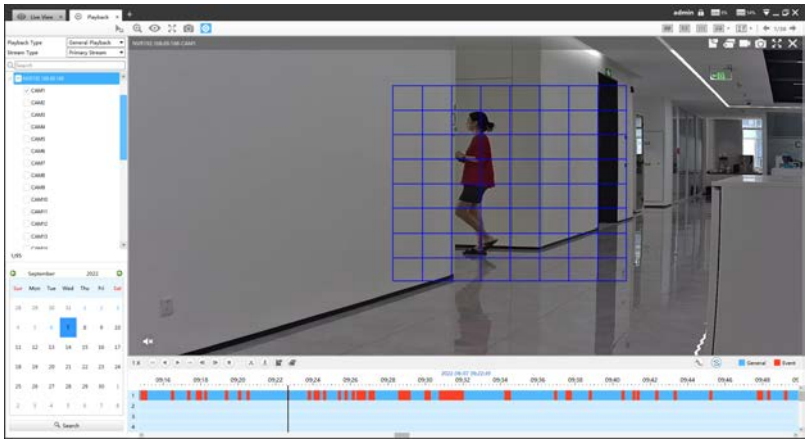
The icons on toolbar are as below:



The description of the icons can be referred to the table below:

Table 54. Description of the buttons

Item	Function Introduction
	Cursor Mode
	Click the button will enable digital zoom
	Fisheye Mode
	Full Screen

Item	Function Introduction
	Snapshot All Click to take a snapshot of all the channels currently playing on the playback panel, and then there will be a pop-up window as shown below: 
	Smart Search Click the icon and draw an area in the Playback window, then CMS will automatically search the video triggered by motion detection within the specific area.  **Note:** • Only available when playback with single channel. • Only available with the camera added in the NVR. • Make sure your NVR's version is 7X.9.0.10 or above.
	Speed Down
	Rewind

Item	Function Introduction
	Play
	Pause
	Speed Up
	Back Single Frame
	Forward Single Frame
	Stop
	Cut
	Download
	Quick tag: add a tag for the selected time period with just one click.
	Custom tag: customize the name of tag as needed.

You can refer to the steps as below to playback the recorded files:

Step1: Click 

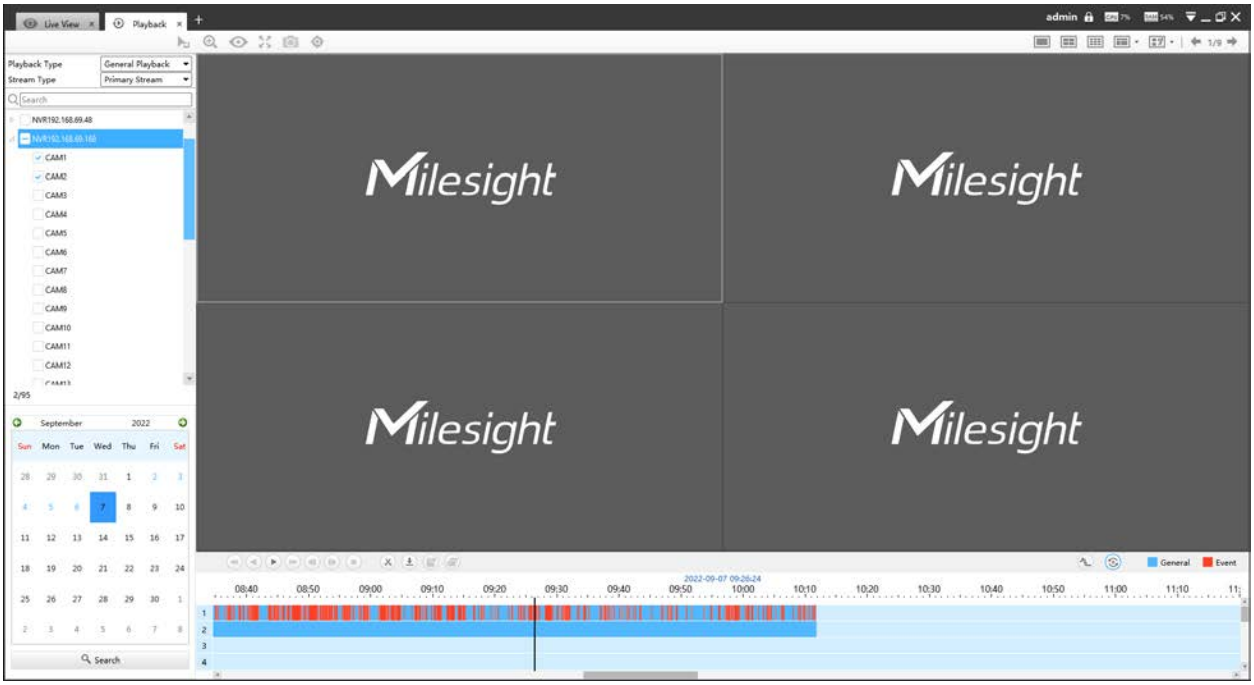
button and enter a keyword to search the target device in the added device list quickly.

Step2: Select the desired devices by checking the checkbox of the devices; the NVR has List button  to list the added cameras.

Step3: Select Playback Type, including General Playback, Event Playback and Picture Playback.

Note: Make sure the camera's version is XX.7.0.79 or above and the NVR's version is 7X.9.0.14 or above.

1. [General Playback]



Step1: Select Stream Type, including Primary Stream and Secondary Stream.

Step2: Choose the date of which typeface is blue(blue means there are recorded files, black means no file and red means weekend), the background will turn to blue once the date is selected; then click the Search button to find the recorded files.

The tool bar can display multi-event records. It shows that in this record period what kind of event has happened. The symbolic meaning of each color is shown below:

Blue—Timing

Red --- Event

Orange --- ANR

Step3: Check the time line to select the time to playback; click the  button to get the previous/next page of channels; put the mouse on the time line and scroll up or down to zoom in/out the time.

With this option  enabled by default, all selected channels will play the synchronous recording. If this option is disabled, then it will automatically jump to the next time point with video recording when the channel has no recording at this time.

Step4: Window border will turn into white once the window has been selected; the first window is the default window.

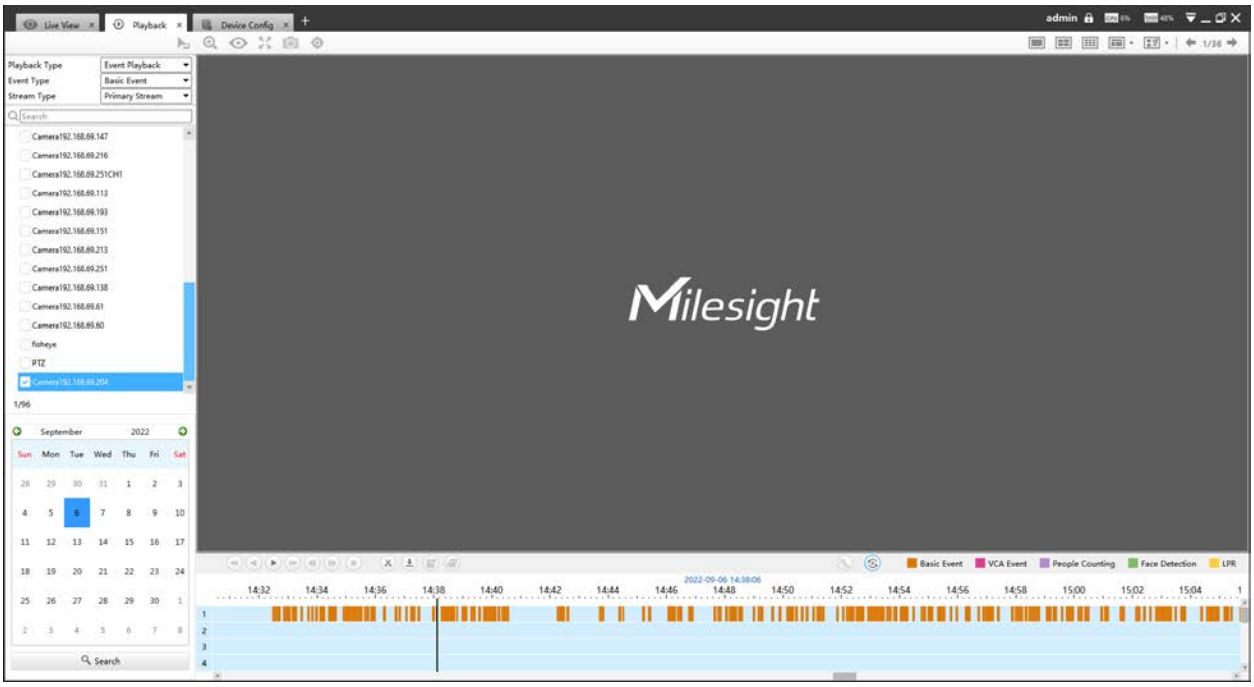
Step5: Click the Play button to playback; Speed Down, Speed Up and Single Step are available.

Step6: If you select the NVR, then choose cameras to playback -> click the Cut button -> then drag the timeline to select the start time and end time of video -> click the quick tag or custom tag -> Add tag for the selected time period -> click Download button to back up the NVR playback files.

Step7: If you select the camera to playback, then click the Cut button -> drag the timeline to select the start time and end time of video -> click Download button to back up the camera playback files.

2. [Event Playback]

Note: For Event Playback, support up to 1-ch for each NVR.



Step1: Select Event Type, including Basic Event, VCA Event, People Counting, Face Detection and LPR.

Step2: Select Stream Type, including Primary Stream and Secondary Stream.

Step3: Choose the date of which typeface is blue(blue means there are recorded files, black means no file and red means weekend), the background will turn to blue once the date is selected; then click the Search button to find the recorded files.

The tool bar can display multi-event records. It shows that in this record period what kind of event has happened. The symbolic meaning of each color is shown below:

Orange --- Basic Event

Rose Red --- VCA Event

Purple --- People Counting

Green --- Face Detection

Yellow --- LPR

Step4: Check the time line to select the time to playback; click the  button to get the previous/next page of channels; put the mouse on the time line and scroll up or down to zoom in/out the time.

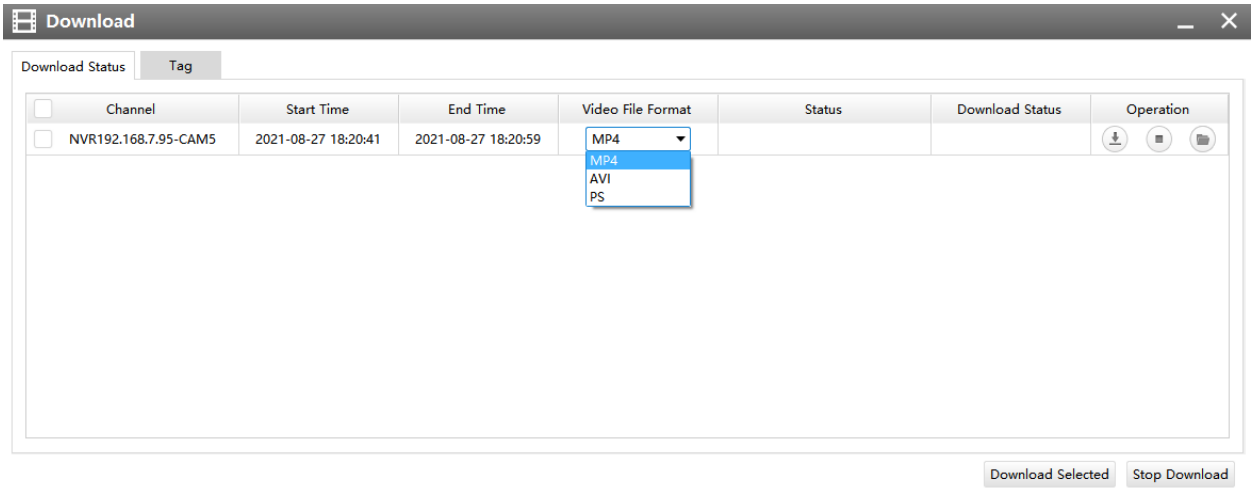
With this option  enabled by default, all selected channels will play the synchronous recording. If this option is disabled, then it will automatically jump to the next time point with video recording when the channel has no recording at this time.

Step5: Window border will turn into white once the window has been selected; the first window is the default window.

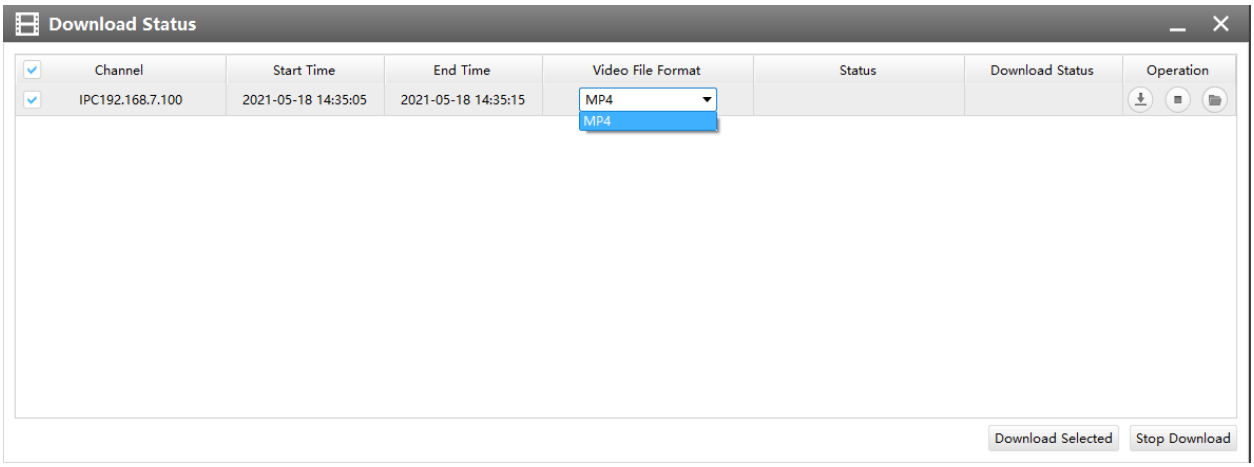
Step6: Click the Play button to playback; Speed Down, Speed Up and Single Step are available.

Step7: Click the cut button  -> then drag the timeline to select the start time and end time of video -> click Download button  to back up the playback files.

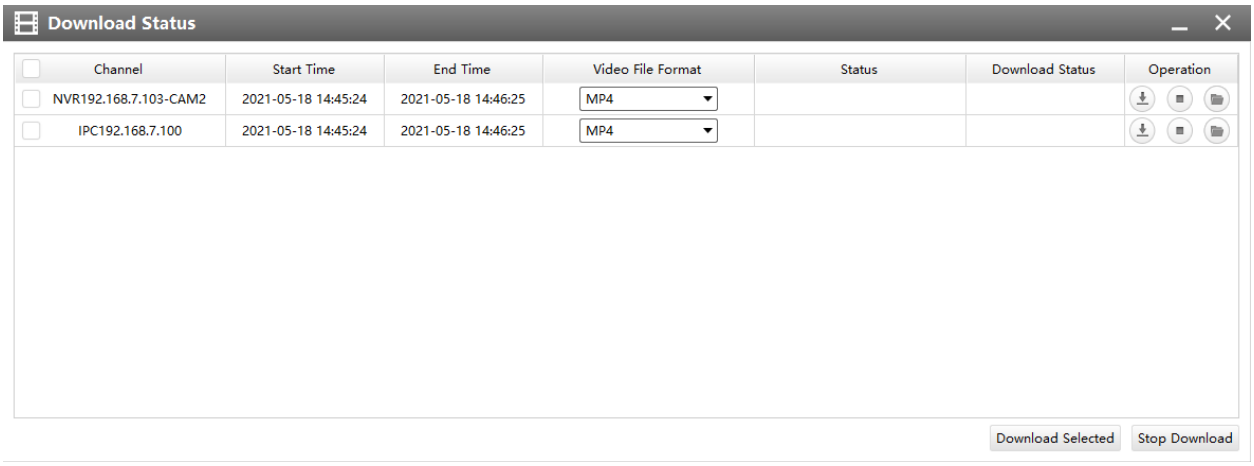
When the Download Status window pops up, you can download recording of NVR added by IP or P2P or Milesight DDNS and choose AVI, MP4 or PS format to export the file as shown below.



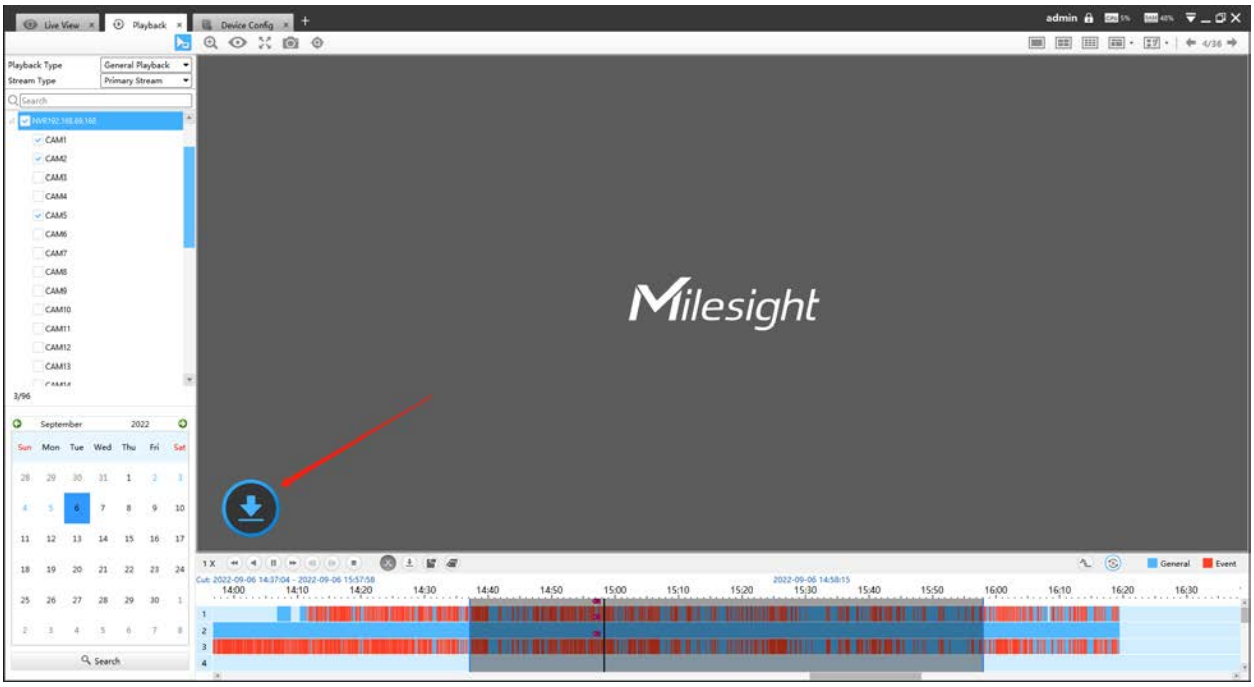
When the Download Status window pops up, you can download recording of camera added by IP or Milesight DDNS and choose MP4 format to export the file as shown below.

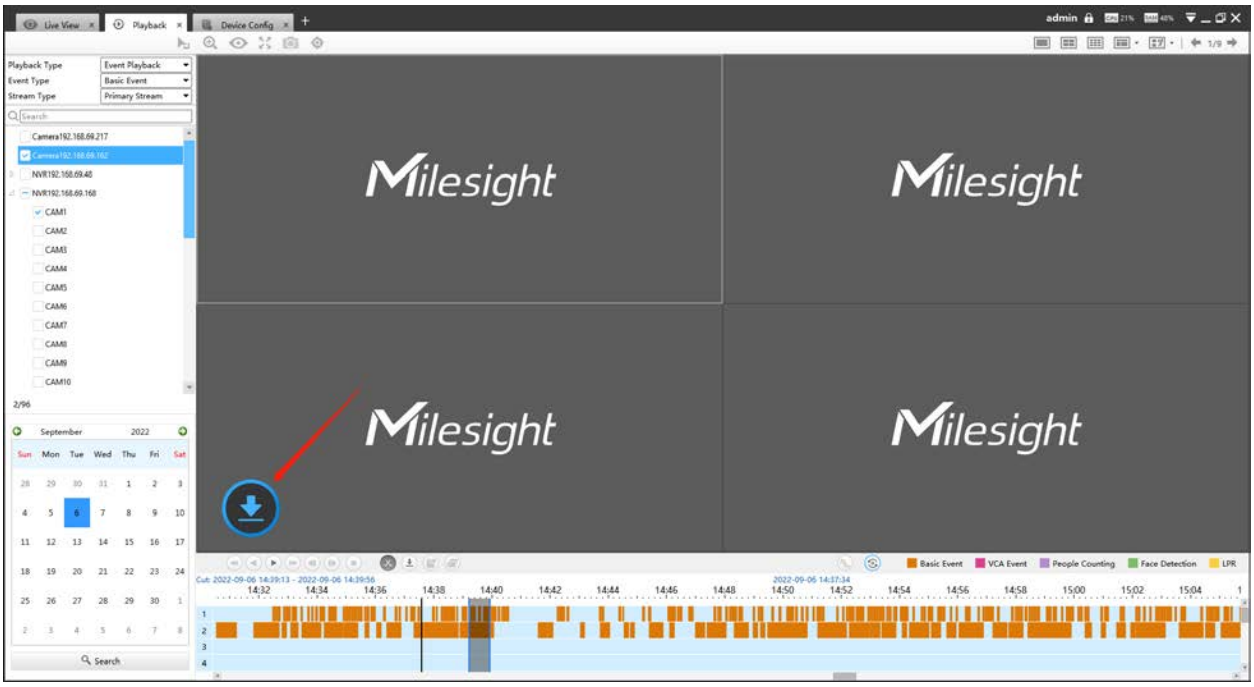


When more than one channel have recording, after you click Download button you can choose the channels that you want to download. The page is as below:

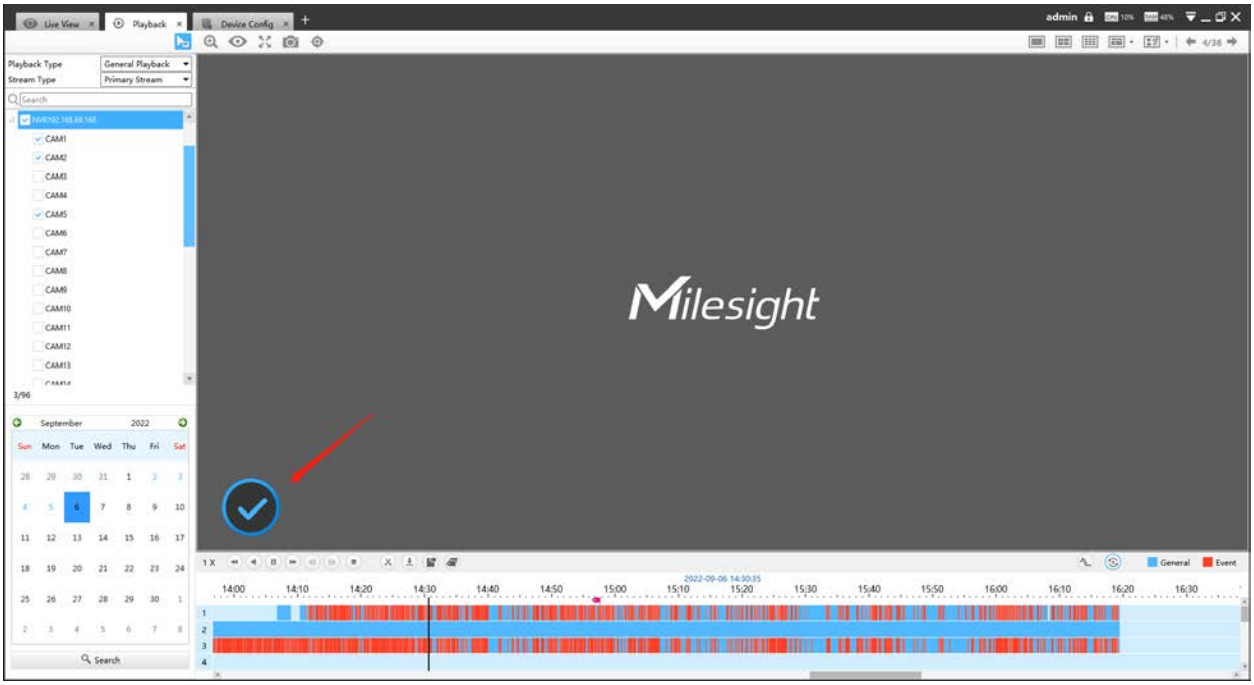


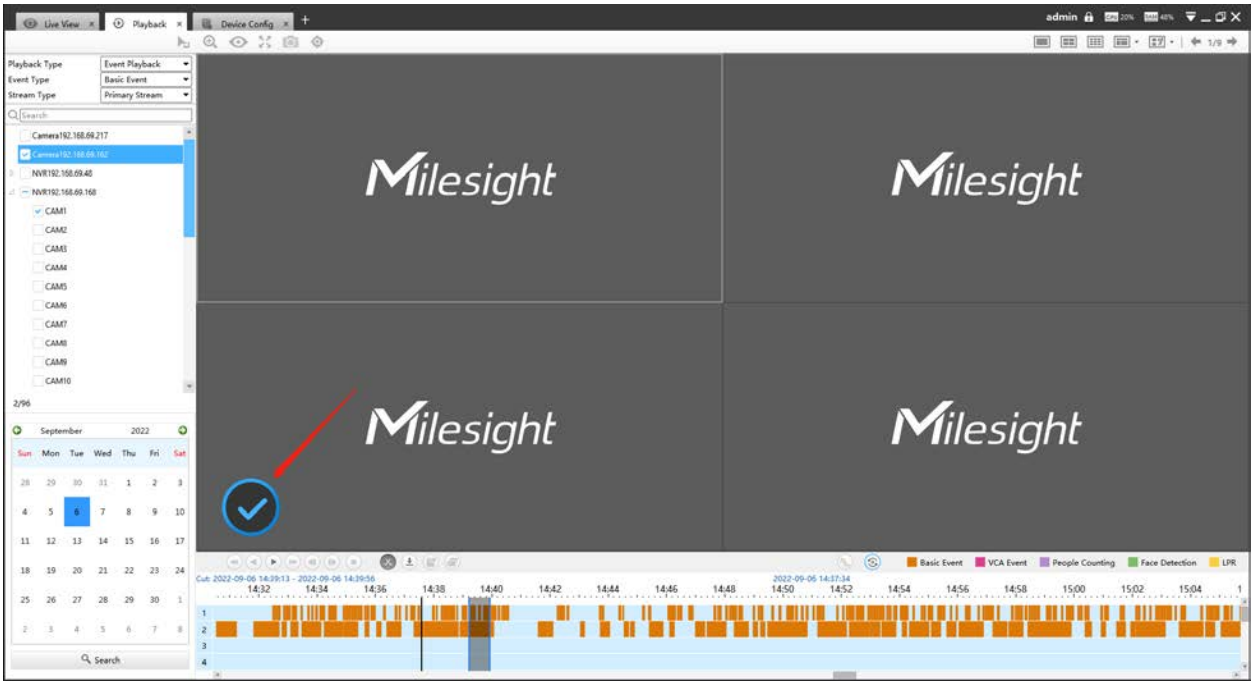
When you minimize the "Download Status" window, it will display the icon as shown below.





When the video file has been downloaded, it will display the icon as shown below.





Right-click the window during playback, it will pop up the interface as below:

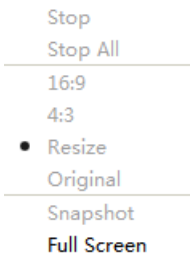
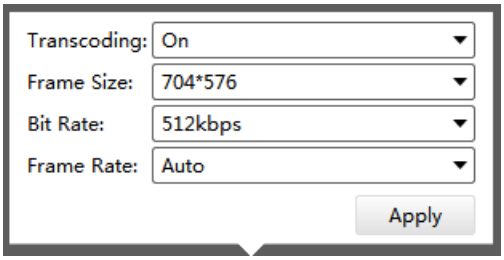


Table 55. Description of the buttons

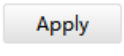
Item	Function Introduction
Stop	Stop playing
Stop All	Stop all the playback windows
16:9	Ratio of length to width is 16:9
4:3	Ratio of length to width is 4:3
Resize	Suit the size to the windows
Original	Keep the size the same as original aspect ratio
Snapshot	Capture a snapshot
Full Screen	Playback window in full screen

Step8: If the performance of playback is not good enough, we recommend you to enable transcoding. With transcoding function, remote playback will have a better performance no matter what network environment is.

After successfully searching out video, select the channel you want to transcoding and click  to expand trancoding panel.



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

And click  to make transcoding take effect.

3. [Picture Playback]

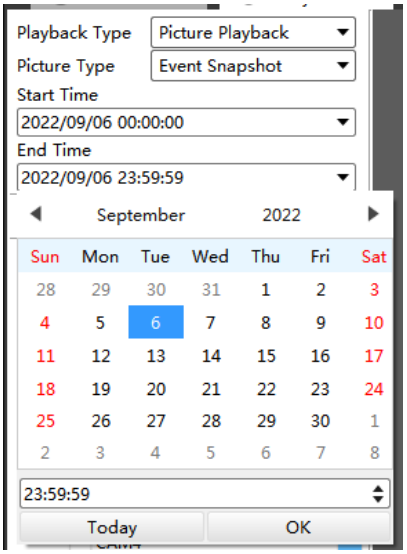
Note:

- Picture Playback supports up to 1 devices for each search.
- Picture Playback is unavailable on MS-Nxxxx-xxH.
- Make sure the camera's version is XX.7.0.79 or above and the NVR's version is 7X.9.0.14 or above.



Step1: Select Picture Type, including Continuous Snapshot and Event Snapshot.

Step2: Select the Start Time and End Time of picture playback.



Step3: Click 

button to search for playback pictures.

The Search Result page of Picture Playback is as follows:

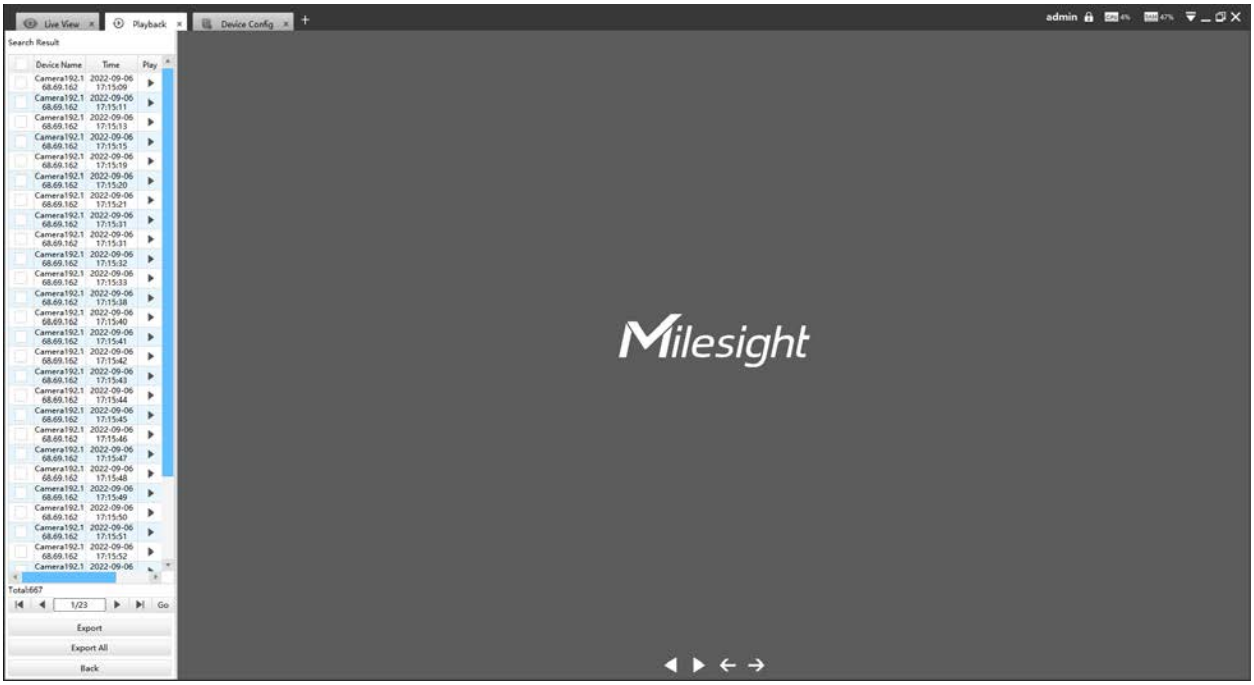


Table 56. Description of the buttons

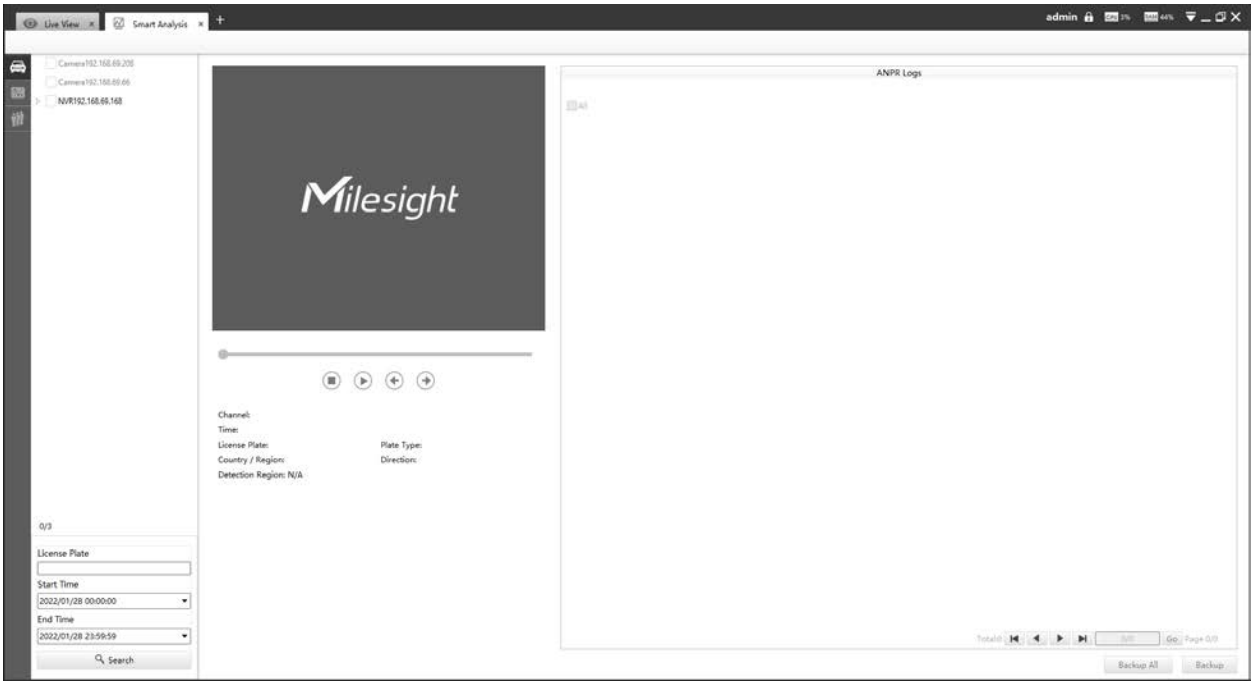
Item	Function Introduction
▶	Click to play the selected result.

Item	Function Introduction
/	[The first page]/[The last page] button
/	[Pre Page]/[Next Page] button.
Go	Enter the target page number and click Go to jump.
Export	Click to export the selected results.
Export All	Click to export all the search results.
Back	Click to back the playback interface.
	Rewind button.
	Play button.
	Previous button.
	Next button.

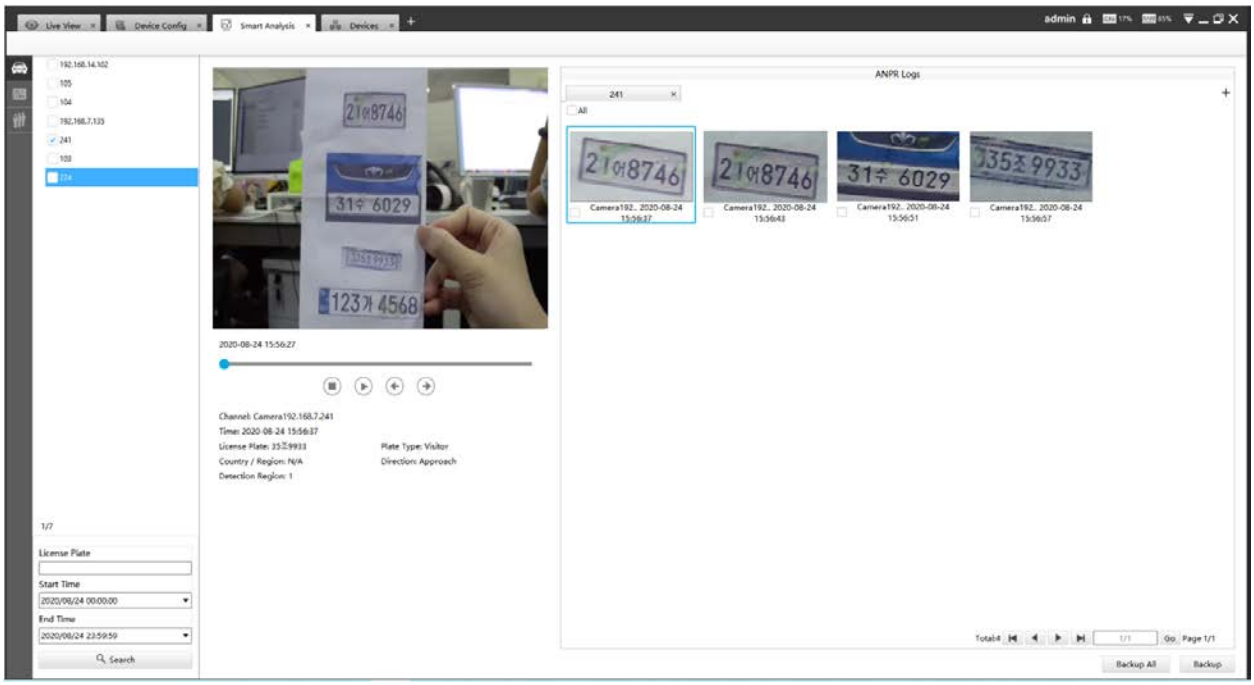
4.3 Smart Analysis

4.3.1 ANPR

You can get ANPR logs and backup them on this interface.



Input corresponded information and click search button Search 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 interface.



You can click  to play the video.



There are two methods to backup ANPR logs.

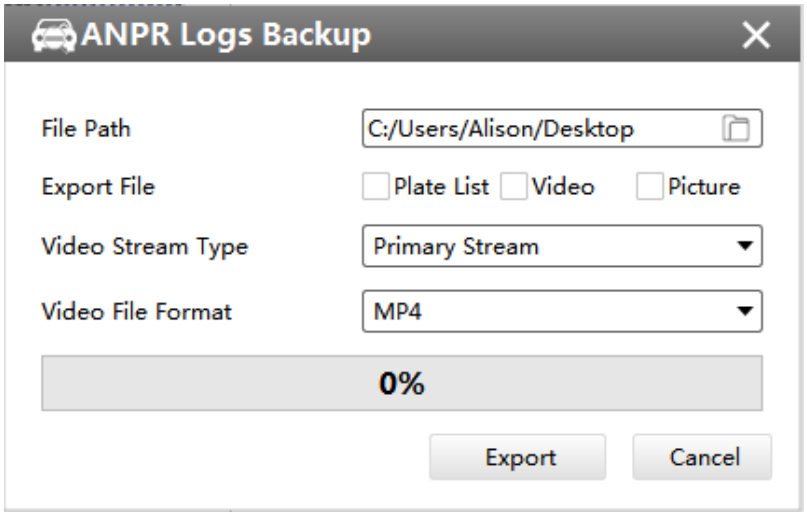
1. Backup license plates you want.

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

;

Step2: Choose a file path, and select the export file type, video stream type and video file format, then click export button.

When the progress bar reaches 100%, the backup is completed.



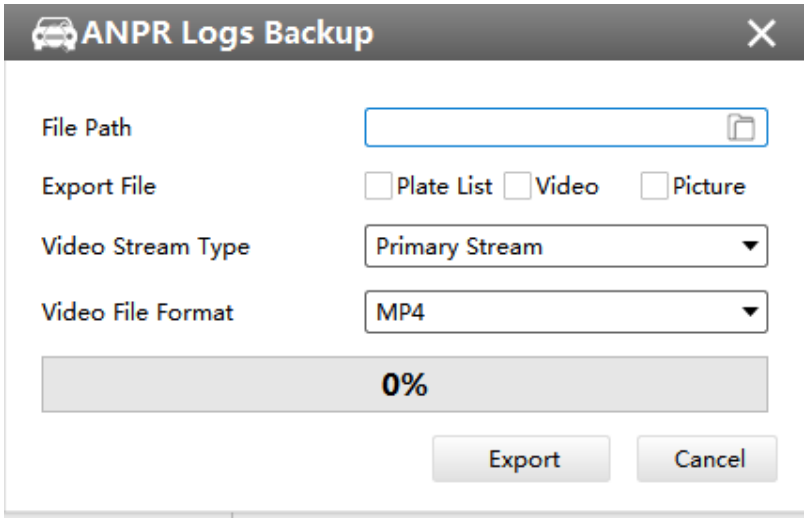
2. Backup all.

Step1: Click backup all 

button;

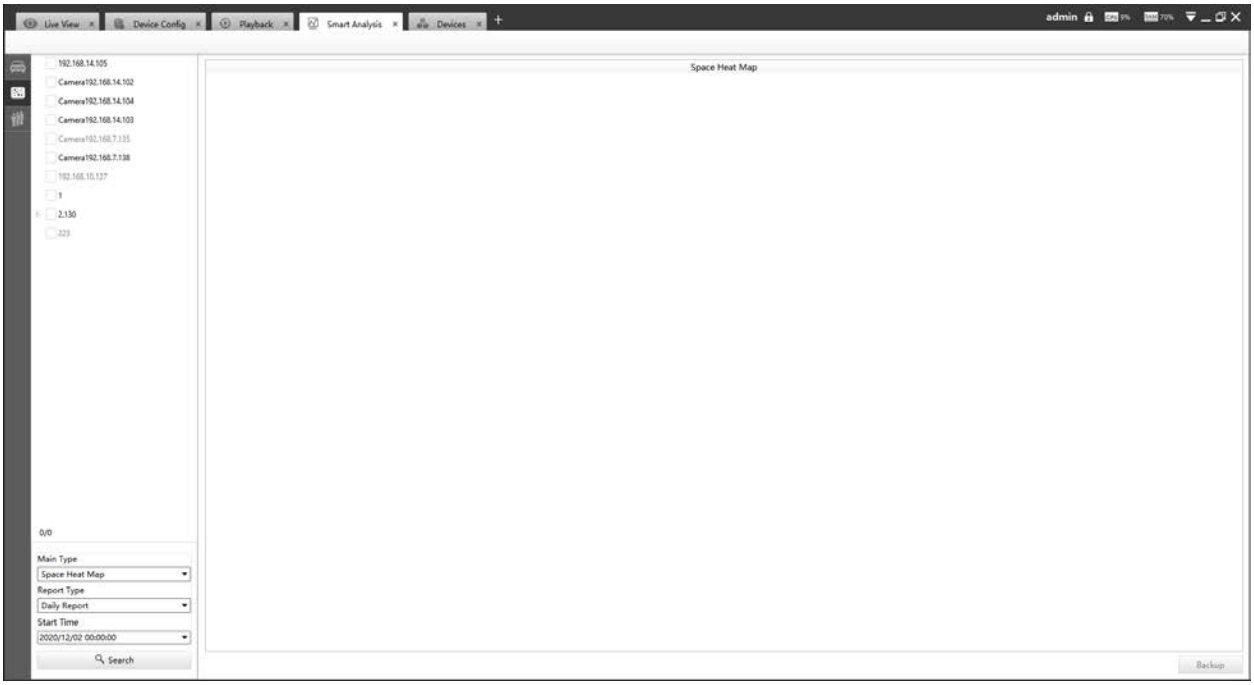
Step2: Choose a file path, and select the export file type, video stream type and video file format, then click export button.

When the progress bar reaches 100%, the backup is completed.



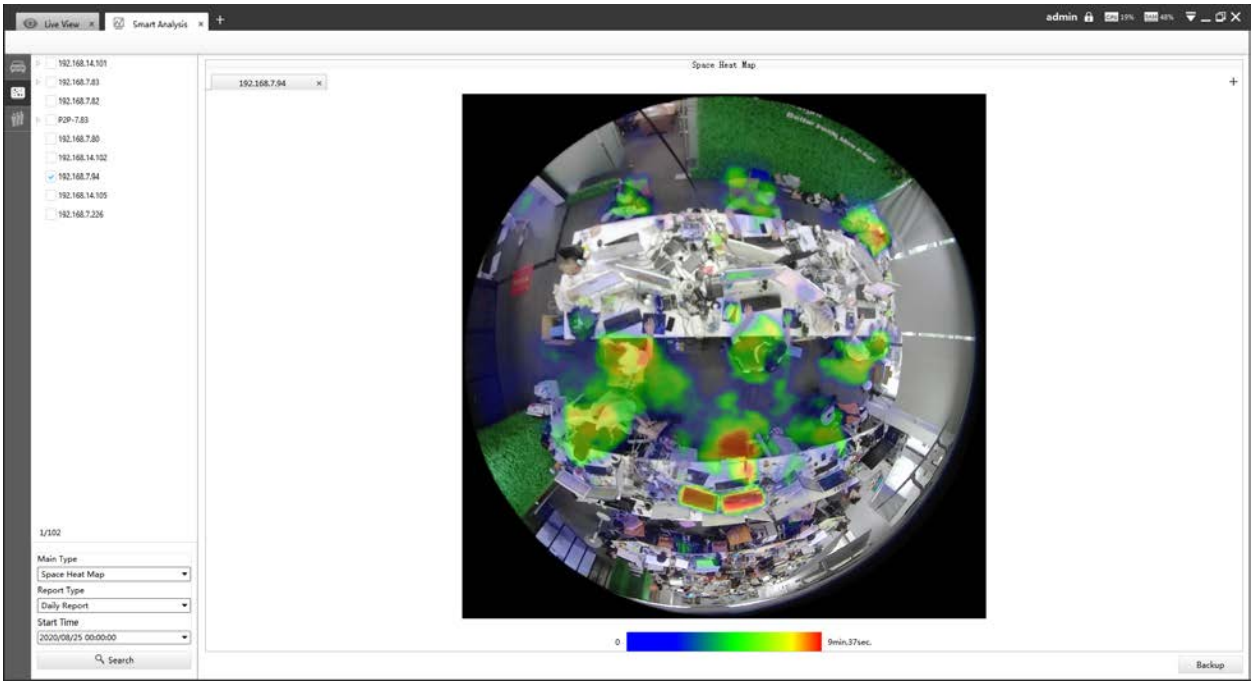
4.3.2 Heat Map

You can get Heat Map and backup them on this interface of panoramic series.

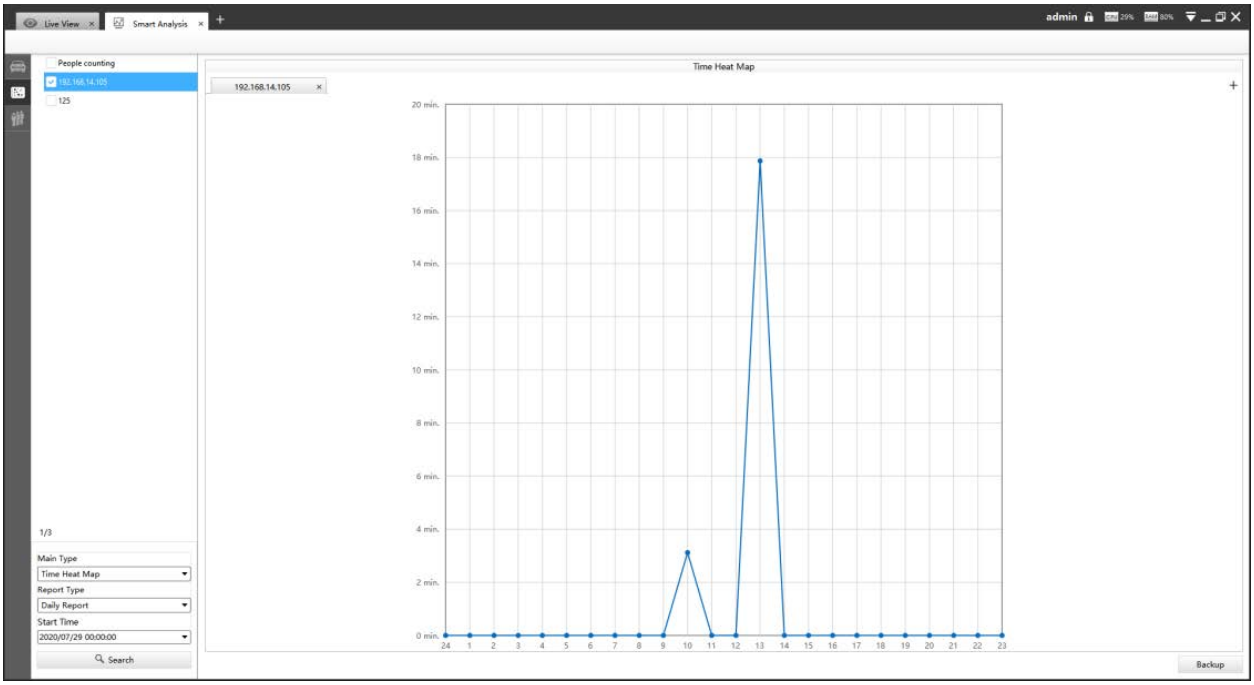


Step1: Select Main Heat Map Type;

[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.



[Time Heat Map]: Time Heat Map will be presented as a line chart to show the heat at different times.

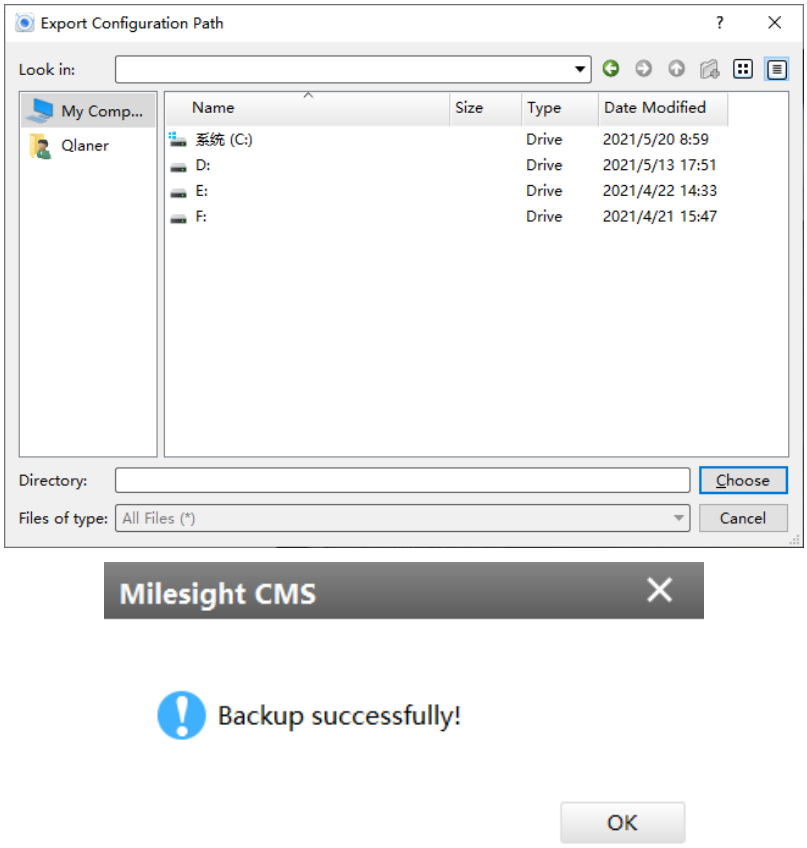


Note: If you choose other display modes of fisheye under Multi-channel mode except display mode with one O view, then you can only choose **[Time Heat Map]**.

Step2: Select Report Type including Daily Report, Weekly Report, Monthly Report and Annual Report;

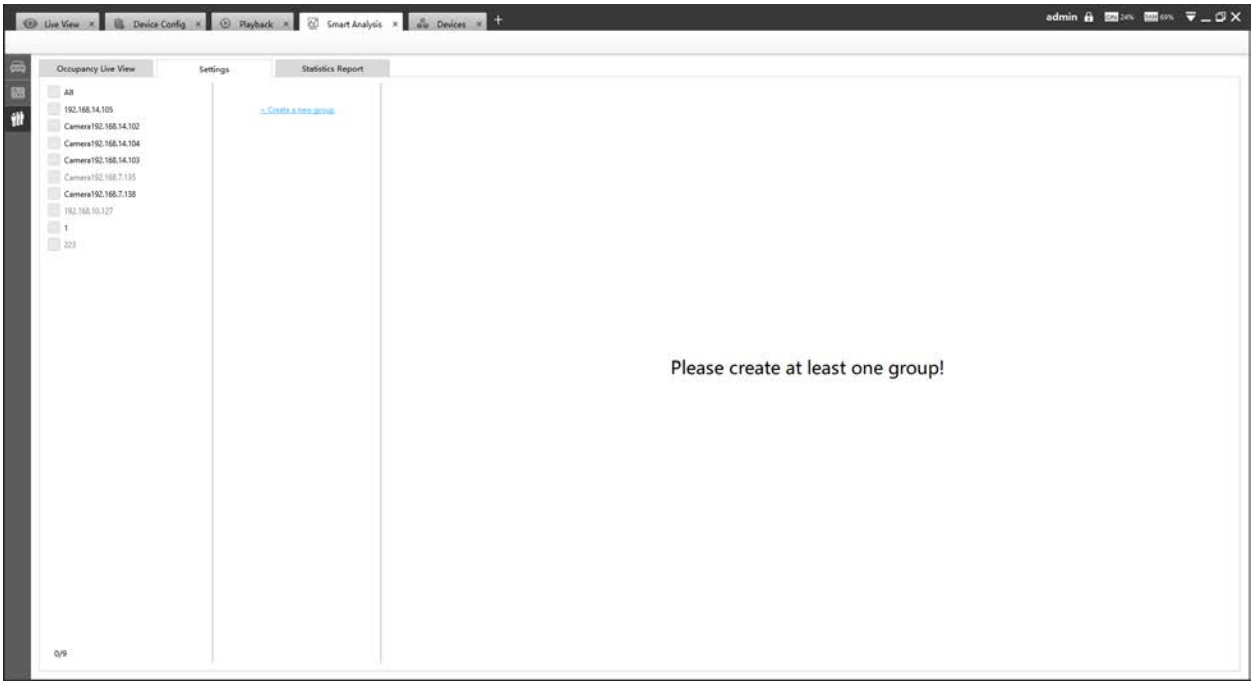
Step3: Select Start Time, then click the **“Search”** button. The camera will automatically count the data for the day/week/month/year (based on the report type selected by the user) from the start time and generate the corresponding report;

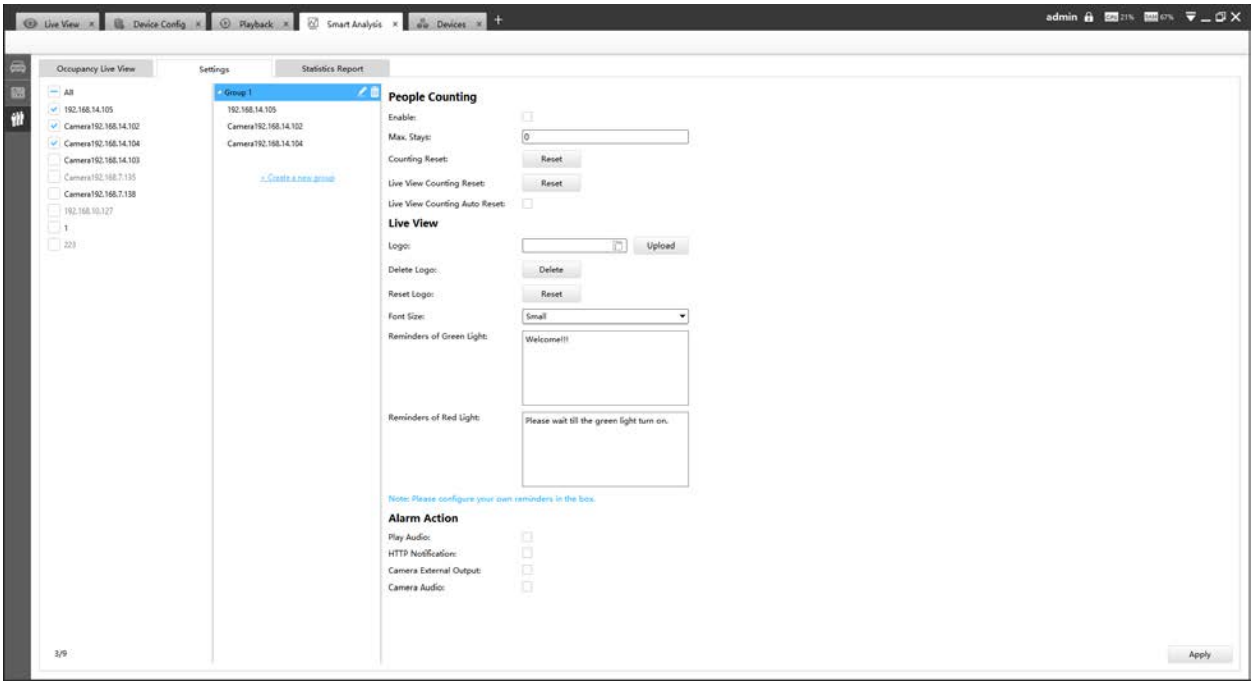
Step4: Click **“Backup”**button, then choose a file path and report type to export. When the window pops up as shown below, the backup is completed.



4.3.3 People Counting

4.3.3.1 Settings



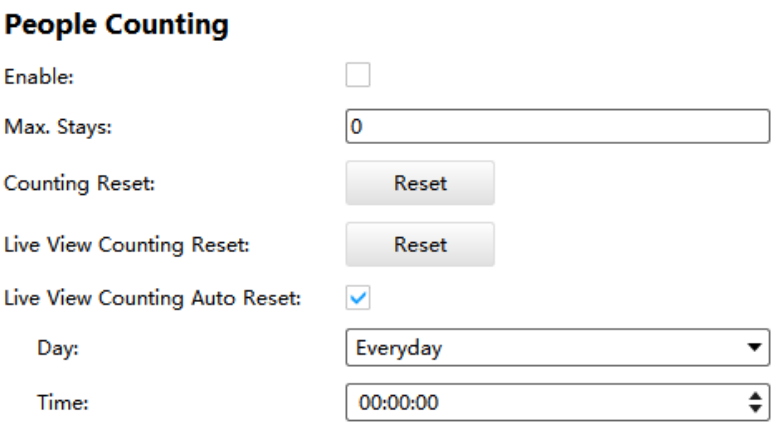


Step1: Click + Create a new group to create a group, supports adding up to 9 groups;

Step2: Select cameras into the group;

Step3: Enable People Counting function and start editing:

Step4: About People Counting



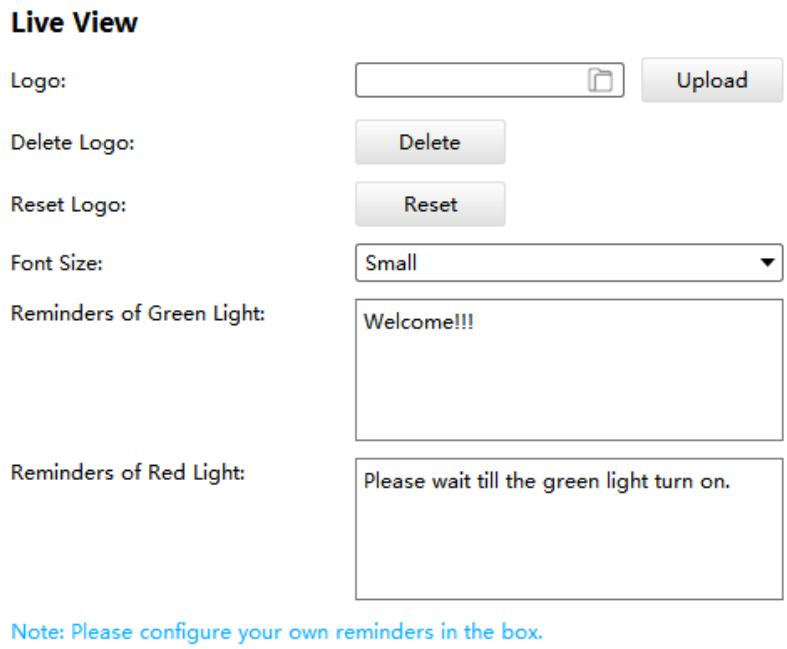
Max. Stays: Enter the maximum number you want to stay in your monitoring area;

Counting Reset: Click the button to reset the data of Occupancy Live View and Statistics Report;

Live View Counting Reset: Click the button to reset the data of Occupancy Live View;

Live View Counting Auto Reset: The Live View Counting data will be reset automatically according to your configuration.

Step5: About Live View



Logo: select an image file and click the “Upload” button, the Logo will be displayed in Occupancy Live View;

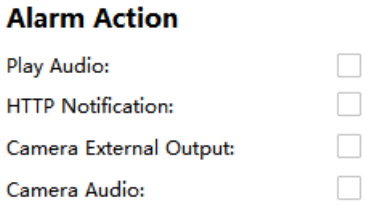
Delete Logo: Click the button to delete the uploaded Logo;

Reset Logo: Click the button to reset the logo to Milesight logo;

Font Size: Small, medium and large fonts are available;

Reminders of Green/Red Light: You can configure your reminders in the box, and the content will be displayed in the Live View right below the traffic light. The reminders in small and medium fonts support up to 80 characters. The large font supports up to 25 characters.

Step6: About Alarm Action



When occupancy limits are breached, an audio alarm can be triggered if anyone attempts to enter before the numbers go below that threshold;

Play Audio: Check the box to play audio when Available number turns into zero. You can choose default audio or customized audio; (CMS side)

HTTP Notification: Support popping up the alarm news to specified HTTP URL. Three HTTP notifications at most can be added to the same event. HTTP Notification supports Basic & Digest authentication;

Camera External Output: You can choose to have the alarm constantly on or set to any number between 1-999 seconds;

Camera Audio: Check the box to play audio when available number turns into zero. (Camera side)

Note: After editing is done, click "Apply" to save all the configuration.

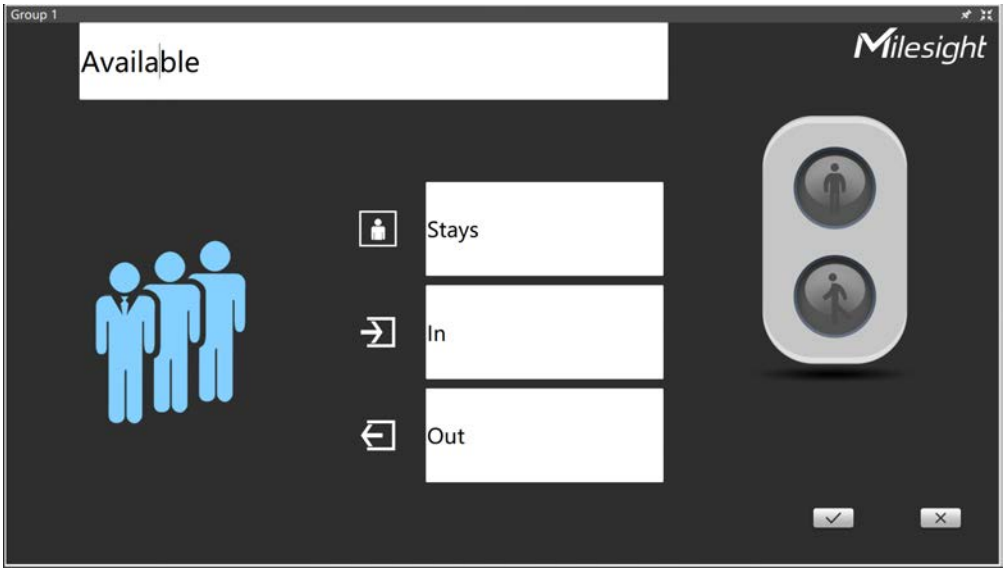
4.3.3.2 Occupany Live View

Occupancy Live View will be displayed by group;



Step1: Click to lock the toolbar;

Step2: You can double-click the screen or click the button to get a full screen;



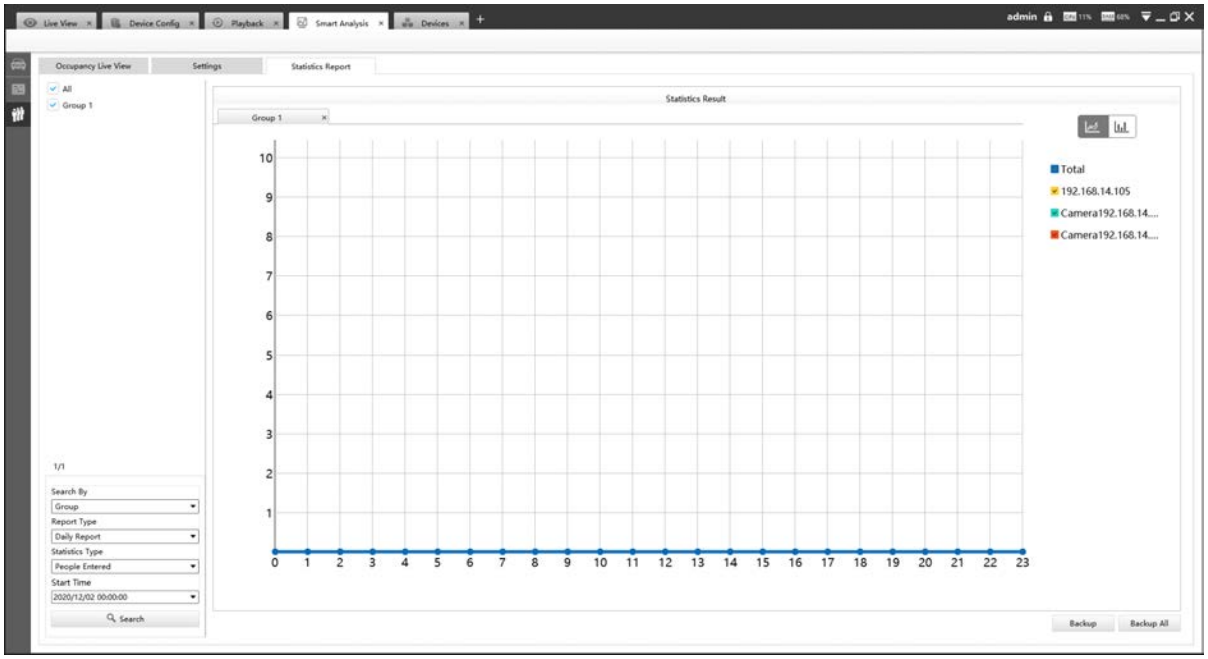
Step3: Click button to edit the content in Live View;

Step4: Click button to save the content, click the button to cancel;

Step5: Click the button to reset the data of Occupancy Live View.

4.3.3.3 Statistics Report

You can get Statistics Report and backup them on this interface.



Step1: The Search Type including People Counting by Group, People Counting by Camera and Region People Counting;

Step2: Select Report Type including Daily Report, Weekly Report and Monthly Report;

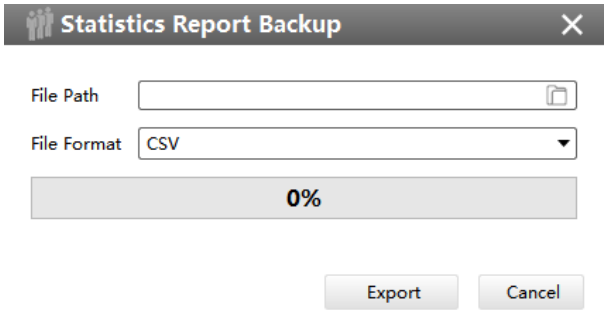
Step3: Select Statistics Type including People Entered, People Exited and Sum;

Step4: Select Start Time, then click the **“Search”** button, camera will automatically count the data for the day/week/month (based on the report type selected by the user) from the start time and generate the corresponding statistics chart. Besides, you can also choose Line Chart or Bar Chart to display the result;

Step5: Click **“Backup” or “Backup All”**button;

Step6: Choose a file path, and select the export file format including CSV, PDF and PNG, then click export button.

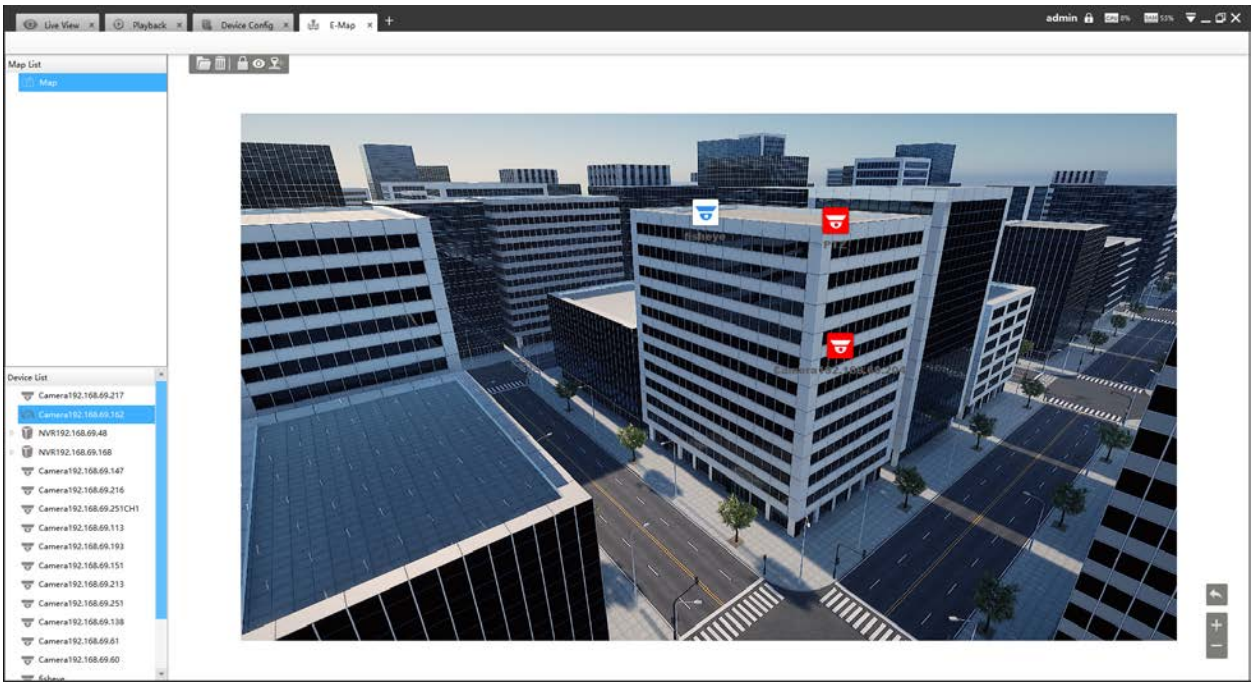
When the progress bar reaches 100%, the backup is completed.


Statistics Report Backup
File Path
File Format
CSV
0%
Export
Cancel

Chapter 6. Tools

5.1 E-Map

In this part, you can add an electronic map and draw the different cameras to the map. The display of map graphics in the Map window and the size of the map can be controlled, and the map can be moved in the window to show the area you want to view. The E-Map page is as below:

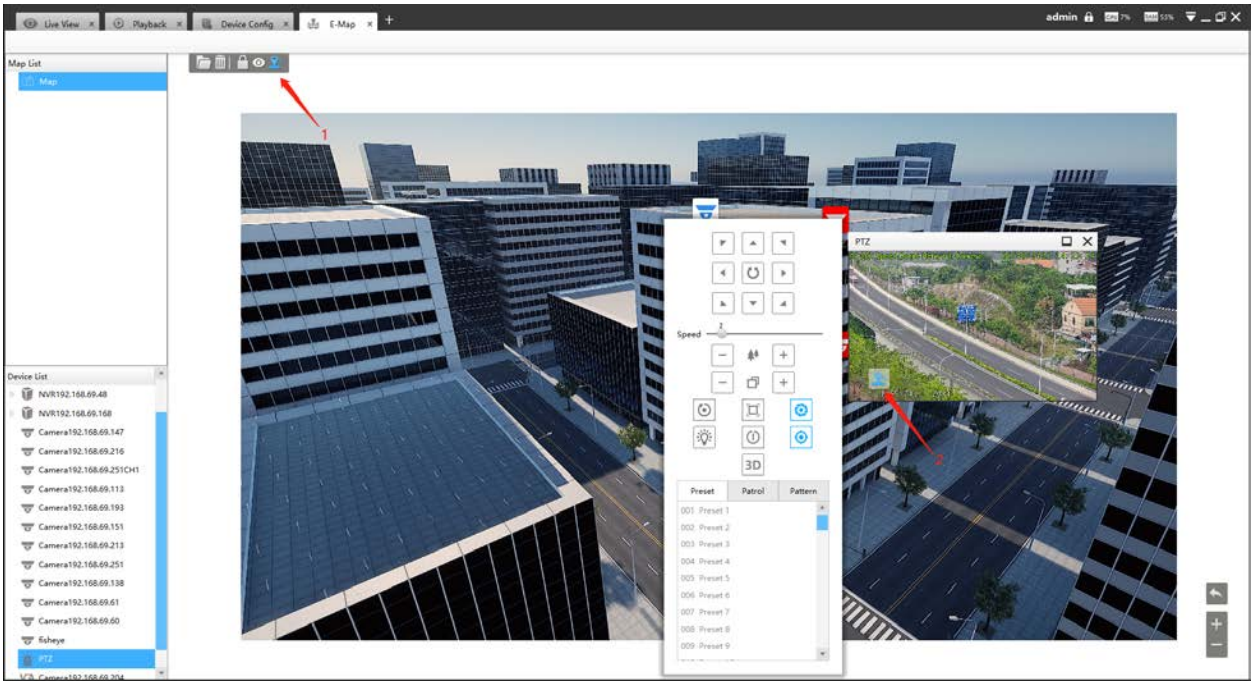


Step1: Click the Add button to add an electronic map.

Step2: Drag the different cameras to the map.

Step3: Use the zoom in / zoom out buttons or with the mouse wheel to adjust the map size, click the Resize button to restore the size of the map.

Step4: Left-click the hot spot, select the button to play the Live View of the hot spot. And click the button for PTZ operations, which allow users to adjust the monitoring angle of PTZ camera and other PTZ operations.



Step5: Left-click the hot spot, select the button to delete the hot spot.

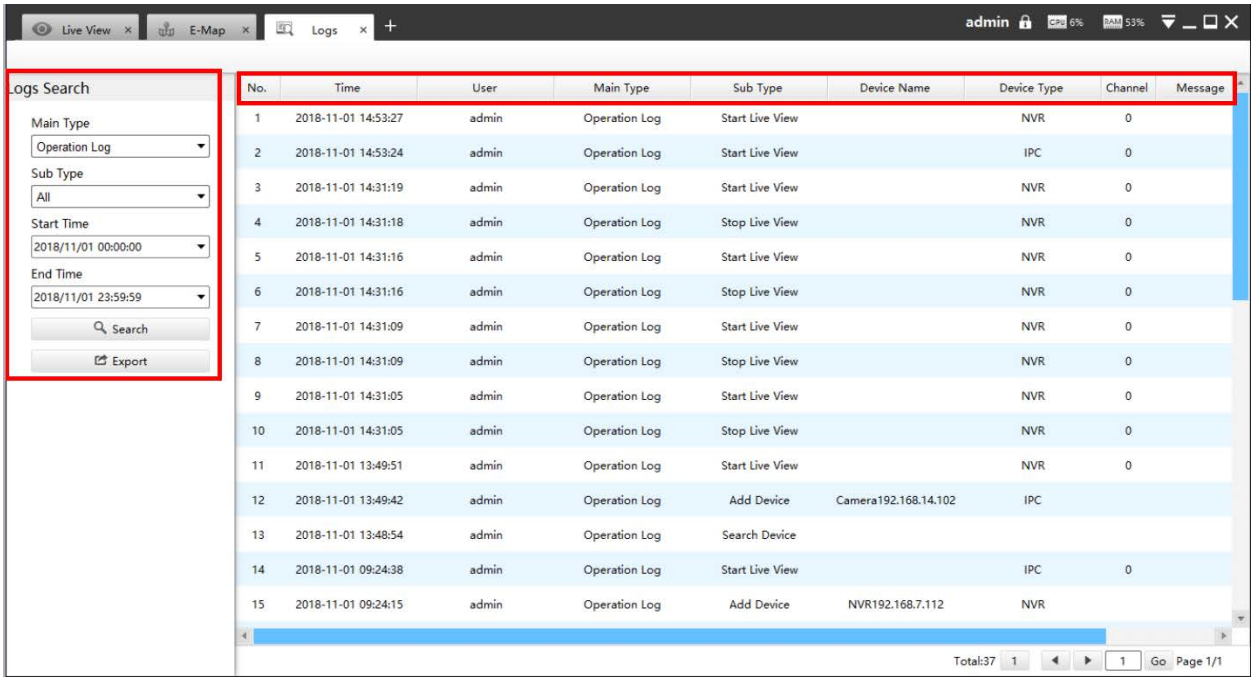
Step6: Click Map Delete button to delete the electronic map.

Note:

- The corresponding camera icon lights up and alarms when the event is triggered.
- Right click on the map in the Map List, it supports adding Sibling map and Child map to the current map.

5.2 Logs

The logs contain the information about the time and IP that has accessed the camera through web. The Logs page is as below:



The meanings of the items can be referred to the table below:

Table 57.

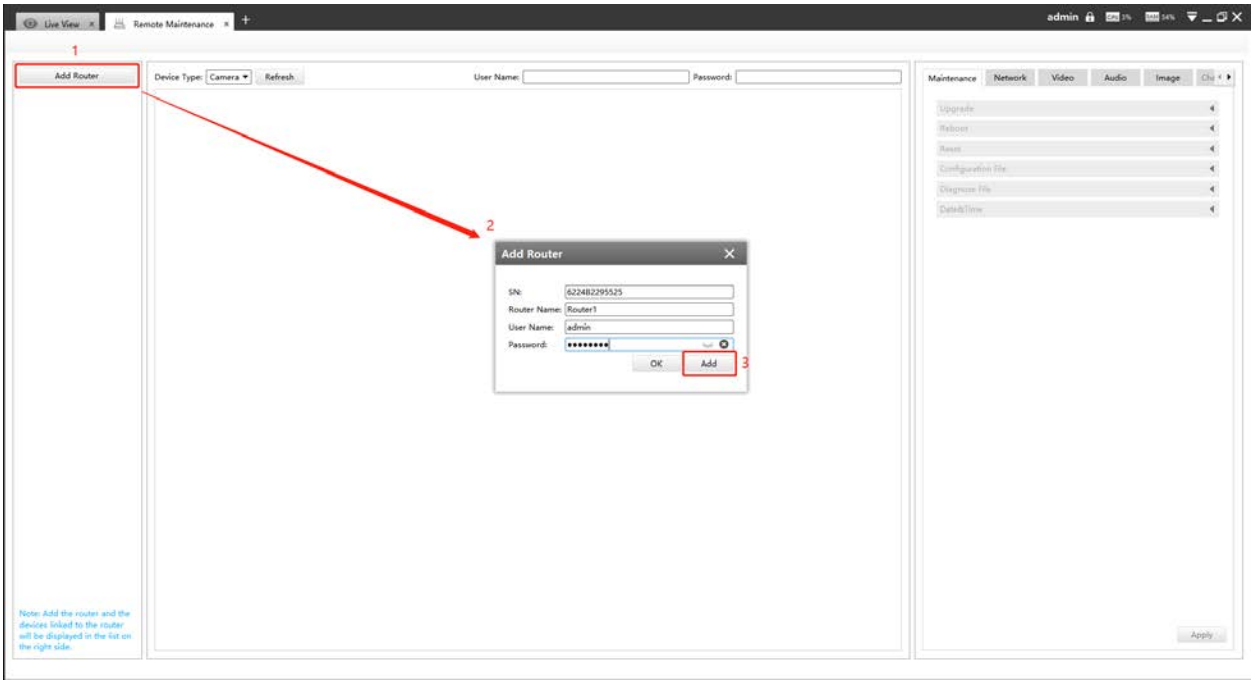
Parameters	Function Introduction
Main Type	There are three main log types: [All], [System Log], [Operation Log]
Sub Type	On the premise of main type has been selected, select the sub type to narrow the range of logs
Start Time	The time log starts
End Time	The time log ends
Search	Click the button to search the matched logs
Export	Export the log file

You can click the bar to list the log by items such as Log ID, Time, User, Main Type, Sub Type, Device Name, Device Type, etc.

5.3 Remote Maintenance

In this part, you can add Milesight CCTV Router UR32S to the CMS via SN code. The devices that have been granted permissions by user-side will be listed on CMS instantly, and you can enter device password to configure parameters in batch.

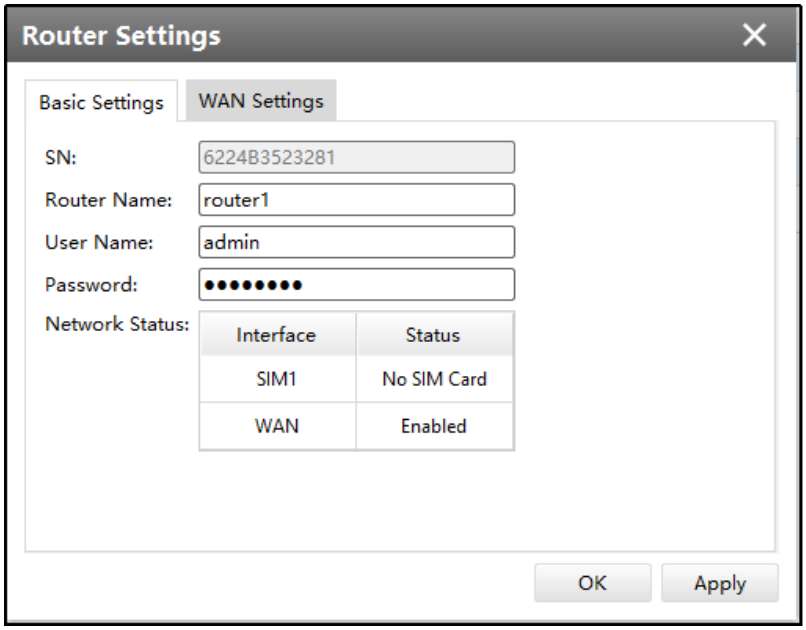
Step 1: Click “Add Router” button, enter the SN code, Router Name, User Name and Password, and then click “Add” button to add the router.



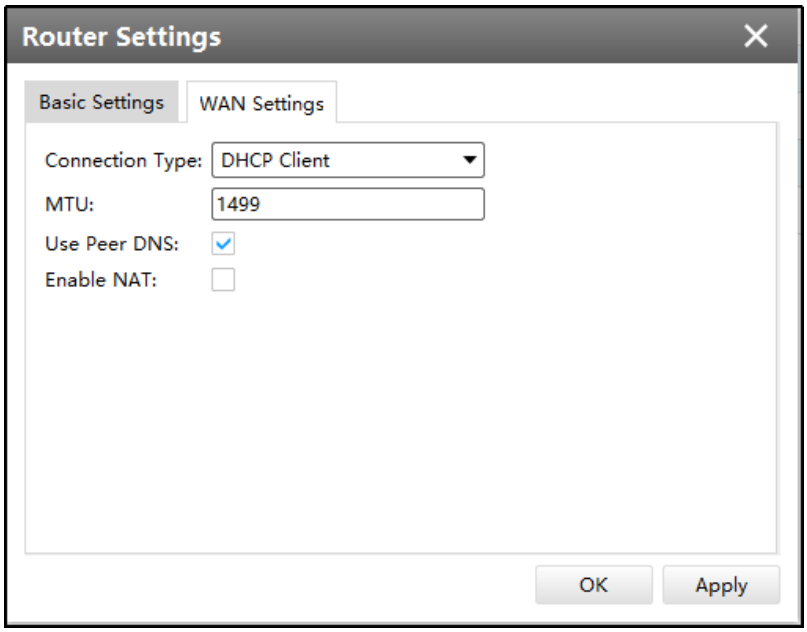
Note: You can check the SN code on the sticker or web GUI of the router.

After the router is successfully added, it will be displayed in the list on the left side, you can click the button to delete it, or you can click the button to configure the router.

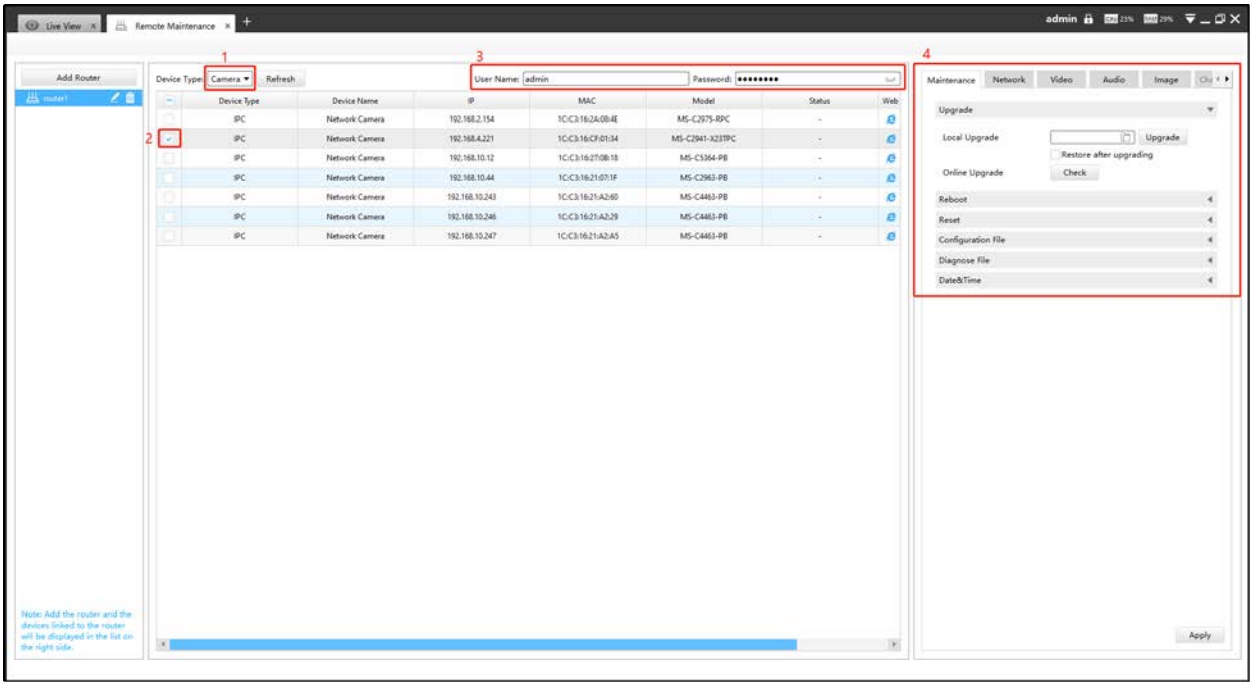
- Basic Settings



- WAN Settings



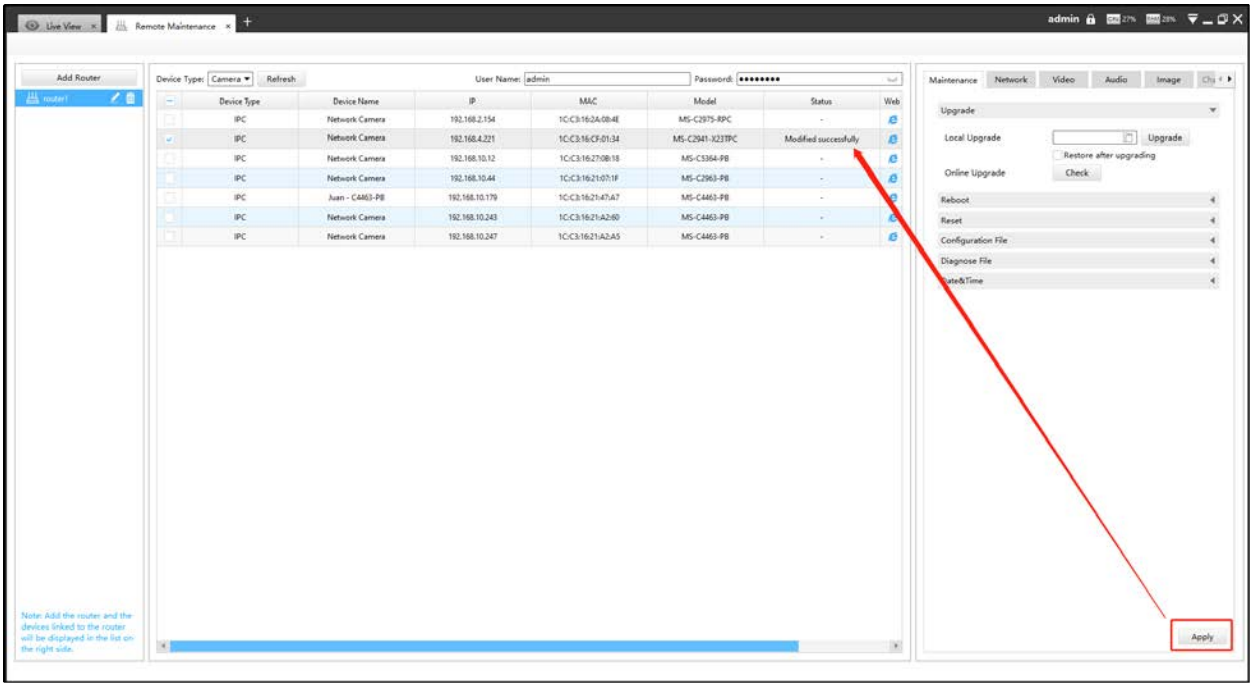
Step 2: The devices shared by the end user will be listed here. Select the device type, check the device you need to configure, then enter the user name and password, and you can modify the device parameters on the right side.



Currently the following configurations are supported:

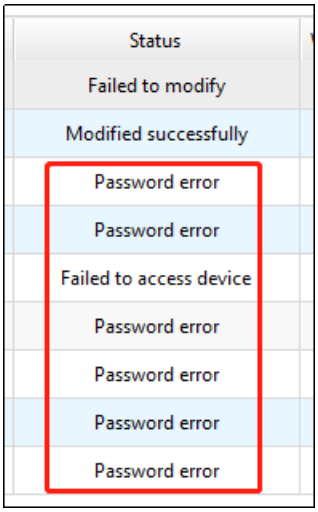
- **Maintenance:** Device Upgrade/Reboot/Reset/Configuration File/Diagnose File/Time Syn
- **Network:** Device Activation/Network Settings/DDNS Setup/UPnP Setup
- **Camera Configuration:** Video/Audio/Image parameters in detail
- **NVR Management:** Channel Status

Click the apply button, it will display "Modified successfully" in the status column.

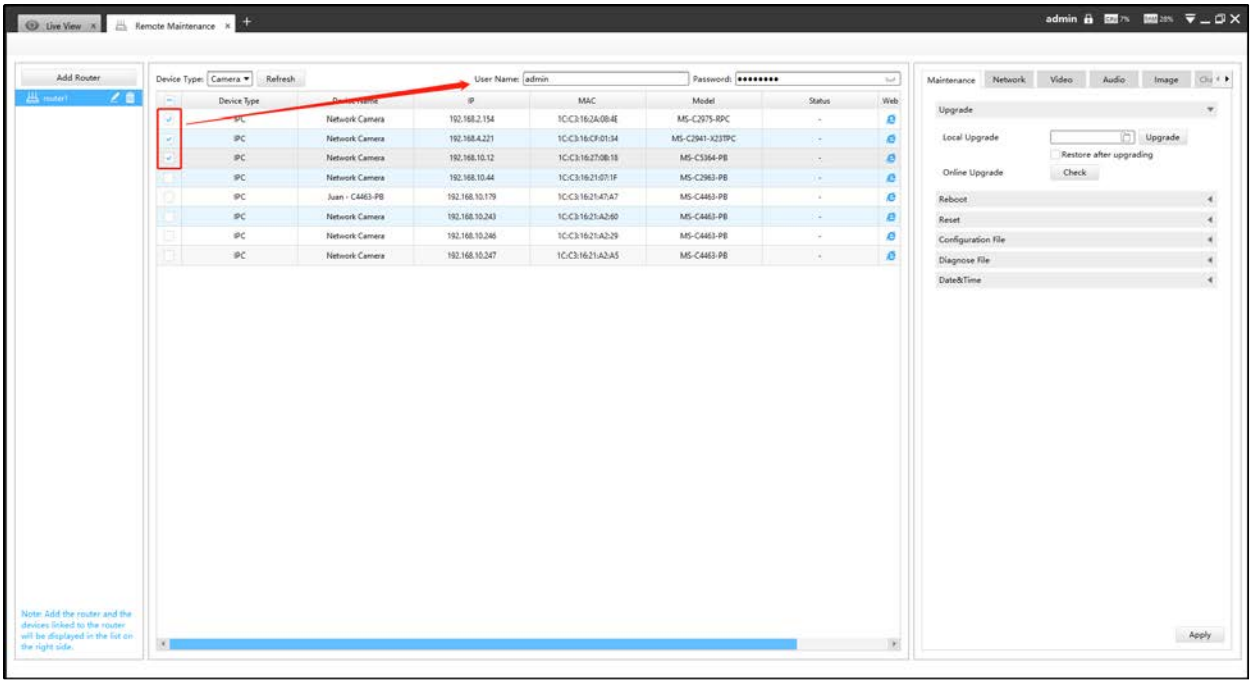


Note:

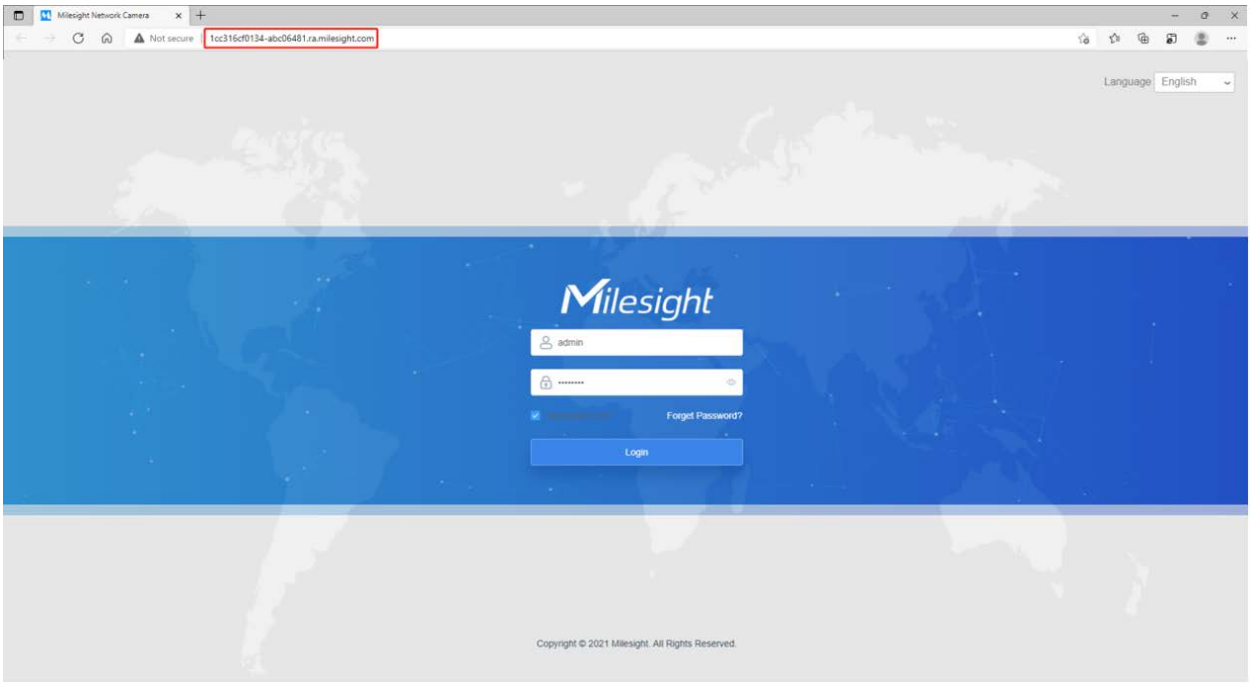
- If the configuration fails, you can also check the reason in the status column.



- It also supports batch configuration, just check multiple devices that need to be configured, and then enter the same username and password.



Step 3: Click the button to access the web GUI of the device for further configuration.



Chapter 7. Service

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/service/feedback.asp

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Add: Building C09, Software Park Phase III, Xiamen 361024, Fujian, China