Central Management System

User Manual

V2.05

Milesight Technology Co.,Ltd.

Content

1. Introduction

1.1 Introduction

The Milesight Central Management System(hereinafter referred to as CMS) software works to give you access and control of 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 usage 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 Features

- ✧ A central management system for Milesight cameras and Milesight NVR
- ✧ User-friendly UI design
- ✧ Support alarm pop-up window
- ✧ Support multiple monitors
- ✧ Support 1/ 4/ 8/ 9/ 16/ 36/ 64 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 Transcoding for remote playback.
- ✧ Support P2P remote access.
- ✧ 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)
- ✧ Active cameras and NVRs when using them for the first time

1.3   System Requirements

OS: Windows 7/8/10/Vista/Server 2003/Server 2008/Server 2012

CPU: 2.6GHZ or faster

Memory: 2G MB or more

Graphic memory: 1G or more

Internet protocol: TCP/IP

2. 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>';

Figure 2-1-1 Accept the terms

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

Figure 2-1-2 Installation

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

Figure 2-1-3 Finished 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 [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.

Figure 2-2-1 Log In

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

Figure 2-2-2 Live View

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

Table 2-2-1 Live View

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 Down the interface
☐	Maximize the interface
✕	Close the software
← 1/64 →	Switch to the previous group cameras / next group cameras when click the left arrow / right arrow button.
CPU :13%	To check the real-time CPU status on PC
RAM :40%	To check the real-time RAM memory on PC

Click the Menu button ▽ , the interface is as below:

⚙ Configuration	**General:** Auto Login, Run CMS when Windows startup, Language, Log Retention Period, Video Save Path, Snapshot Save Path, Play Mode, Automatically delete video files. **Display:** Provide the Video Card Information and High resolution display adaptation, in addition, you also can choose whether to display the Live Stream Information in the live view page. **Alarm:** Enable Alarm Popup (when the motion detection or VCA alarm are triggered, the channel window will pop up). **Advance:** Dual Stream Connection Mode: this mode will provide more smoothly stream switch, but this may increase the network load pressure. Sync Multi-channel Alarm Timeline: disable this function, each channel will continuously play different time periods of alarm files.
ⓘ About	Information of the CMS, Milesight webpage link and Check for Update
⇥ Logout	Log out of the current account
⊗ Exit	Close the software

Note

- CMS currently supports 9 languages: English, Simplified Chinese, Traditional Chinese, Korean, German, Czech, Japanese, Thai and Arabic;
- Dual Stream Connection Mode: Enable it to optimize the speed of switching stream but will increase the pressure to the network.

2.2.2 Logout

Click ⧩ →[Log out] to exit the current account, or click ☒ to exit the CMS.

Figure 2-2-3 Log Out

Notes

- Password is necessary for logging out.

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3. 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]**.
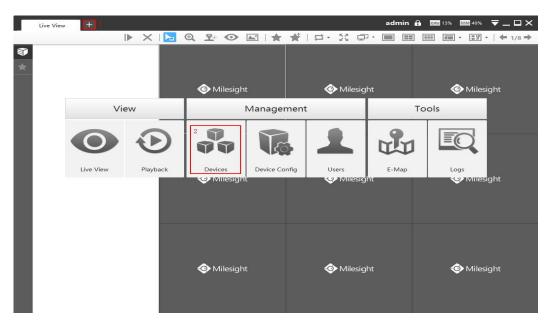
Figure 3-1-1 Adding Device

◆ **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.

Figure 3-1-2 Adding Device Manually

The meanings of the items on the page can be referred to the table 3-1-1.

Table 3-1-1 Adding Device Manually

Item	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 here. **Note:** 1. P2P requires higher bandwidth for stability. 2. P2P connection is only for NVR, please make sure P2P is enabled on the NVR.
Domain Name	If you choose Milesight DDNS as connection type, enter the Domain Name of the device here.
Port	The port of the device, the default port is 80
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: 1. Network Camera: ms1234 2. NVR: ms1234
Transport Protocol	TCP and UDP are available
Stream Mode	There are two options, "Primary Stream" and "Secondary Stream"

◆ **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, 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 is added failed, you need to click the **[OK]** button to add the device again;

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

Figure 3-1-3 Adding Group Device

🛈Note

● Clicking [Refresh] button to refresh the status of the added devices;

● Clicking [No.] button can 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(Include camera and NVR).

● 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

◆ 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'.

Figure 3-1-4 Device Activation

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

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

Figure 3-1-5 Device Activation

◆ 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'.

Figure 3-1-6 Device Activation

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:

◆ **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.

Figure 3-1-7 Removing a single Device

◆ **Removing Group Devices**

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

Step1: Click 　☑　　No.　　 to select all the added devices or check the checkbox to select several devices;

Step2: Click the 🗑 Delete 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.

Figure 3-1-8 Removing Group Device

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 ⟶ ;

Figure 3-1-9 Disable the Added Device on Device Management Page

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

Figure 3-1-10 Disable the Added Device on Live View Page

⓵**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

◆ 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.

Figure 3-1-11 Editing Device

◆ 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 and

IP address. See as below:

Figure 3-1-12 Editing Device

Note: Password must be 8 to 32 characters long.

The meanings of parameters can be referred to the table 3-1-1.

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.

3.2.1 NVR

The NVR Configuration page is as below:

Figure 3-2-1 NVR Page

3.2.1.1 Channels

 Channels

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

Figure 3-2-2 Channels Management

[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.

Figure 3-2-3 Adding Channel

ONVIF: Camera which supports ONVIF protocol;

RTSP: Primary: rtsp://IP:Port/main

Secondary: rtsp://IP:Port/sub

(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
.

Figure 3-2-4 Editting Channel

3.2.1.2 Event

Alarm Input

Click the Alarm Input button, the setting window will pop up as below, you can modify alarm input settings. Here are four options for Alarm Action **[Channel Record] [Audible Warring] [Email Linkage] [Alarm Output]** that you can select. After choose the alarm action you can choose the alarm channel. And then click **[OK]** or **[Apply]** after all set.
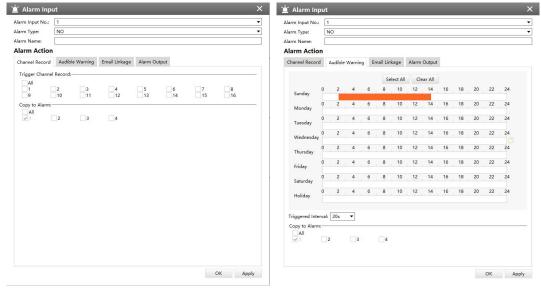
Figure 3-2-5 Channel Record   Figure 3-2-6 Audible Warring

Figure 3-2-7 Email Linkage   Figure 3-2-8 Alarm Output

Alarm Output

Click the Alarm Output button, the setting window will pop up as below, you can modify alarm input settings:

Figure 3-2-9 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   .

⚠ Exception

Click the Exception button, the setting window will pop up as below:
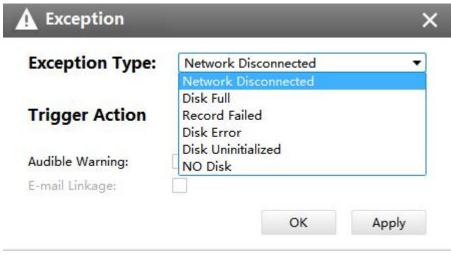
Figure 3-2-10 Exception

The meanings of the items on the Exception page can be referred to the table 3-2-1 below:

Table 3-2-1 Schedule

Item	Function Introduction
Exception Type	There are "Network Disconnected"、"HDD Full"、"Record Failed"、"HDD Failed"、"HDD Unformat"、"NO Disk"
Trigger Action	Enable or disable the Pop Up Alarm
	Enable or disable the Audible Warning
	Enable or disable the E-mail Linkage

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

3.2.1.3 Storage

📅 Record Schedule

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

Figure 3-2-11 Record Schedule

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. "Copy to Camera" can copy the settings to other channels. After setting the schedule for one channel or some channels, click the Apply button Apply .

Also you can choose to batch set the channels to Record or Stop in "Batch Settings".

Figure 3-2-12 Batch Settings

⚙️ Record Settings

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/Picture Due Time: Set the due time of recording files/snapshot files, 1~120days or unlimit are available.
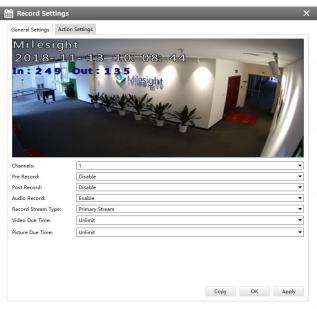
Figure 3-2-13 General Settings

Advanced Settings

Enable or disable Recycle Mode for all storage device.

Figure 3-2-14 General Settings

Disk Management

Click the Disk Management to manage the disk, as the window shows, you can check the disk status and format the disk.

Figure 3-2-15 Disk Management

3.2.1.4 System

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

Figure 3-2-16 Disk Management

⚙ General

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

Figure 3-2-17 General

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.

🖥 Network

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

[Basic]

Basic configuration includes IP Address, Subnet Mask, Default Gateway, DNS server, MAC Address, MTU.

Figure 3-2-18 Basic

[DDNS]

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

Figure 3-2-19 DDNS

[E-mail]

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:

Figure 3-2-20 E-mail

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

Table 3-2-2 E-mail

Item	Function Introduction
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
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.

Figure 3-2-21 P2P

[More]

SSH Port:

Check the SSH Enable checkbox to enable the feature and modify SSH 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.

Figure 3-2-22 More

> **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.

◉ Holiday

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

Figure 3-2-23 Holiday

👤 Users

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

Figure 3-2-24 User

[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".

Figure 3-2-25 Security Question

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

Figure 3-2-26 Security Question

[Account Management]

There are three user levels "Admin"、 "Operator"and "User"in User option, 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 3-2-27:

Figure 3-2-27 Edit User

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

Table 3-2-3 Edit User:
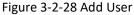
Item	Function Introduction
User Type	You can set three types of user, Admin\Operator\User
User Name	A name made by yourself to identify users
Old Password	You should input the old password before editing the user type
Password	Set the password for different user type
Confirm password	Re-input the same password to ensure the password
Basic Permission	Show the basic permission in different user types, you can scroll the blue bar to get more information
Camera Configuration	Choose different channels for different user types

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

Figure 3-2-28 Add User

🖵 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.
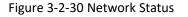
Figure 3-2-29 Device Information

[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.

Figure 3-2-30 Network Status

[Camera Status]

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

Figure 3-2-31 Camera Status

[Event Status]

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

Figure 3-2-32 Camera Event

Figure 3-2-33 Alarm Input List

Figure 3-2-34 Alarm Output List

Figure 3-2-35 Smart Event
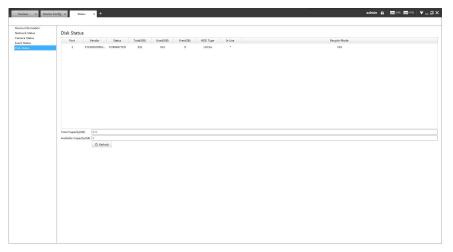
Figure 3-2-36 People Counting

[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.

Figure 3-2-37 Disk Status

⚒ Maintenance

The Maintenance page is as below:

Figure 3-2-38 System

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

Table 3-2-4 System

Parameters	Function Introduction
Reboot	Click the button to reboot the device
Reset	Click the button to reset the settings to the default one.
☑ Keep the IP Configuration ☑ Keep the User Information	**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.
Upgrade	Click the 📂 button to import the firmware file from PC, and click the **Upgrade** button to upgrade.
☐ Restore after upgrading	Enable this option to restore the settings to the default one after upgrading the device.

3.2.1.5 Camera

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

Figure 3-2-39 Camera inside NVR

![Parameters icon] Parameters

The Parameters page is as below:

Figure 3-2-40 Video of Camera inside NVR

The meanings of the items on the page can be referred to the Table 3-2-5.

Image

The Image page is as below:

Figure 3-2-41 Image of Camera inside NVR

The meanings of the items on the page can be referred to the Table 3-2-6.

Motion Detection

The Motion Detection page is as below:
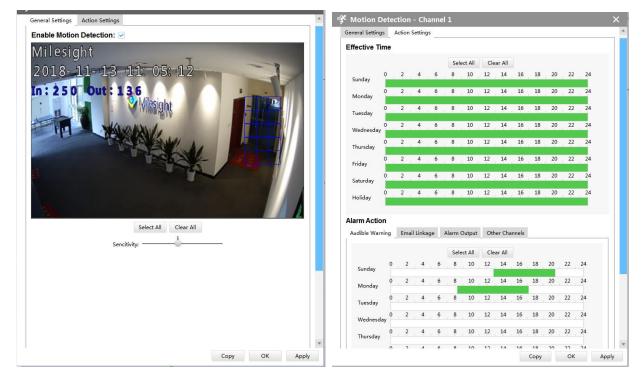
Figure 3-2-42 Motion Detection of Camera inside NVR

[General Settings]

Step1: 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.

Step2: Here are four options for alarm action **[Audible Warring] [Email Linkage] [Alarm Output] [Other Channels]** that you can select. After choose the alarm action you can draw the schedule. And then click **[OK]** or **[Apply]** after all set.

[Advanced Settings]

Set Effective Time of advance motion detection in the Advanced Settings page.

Video Loss

The Video Loss page is as below:
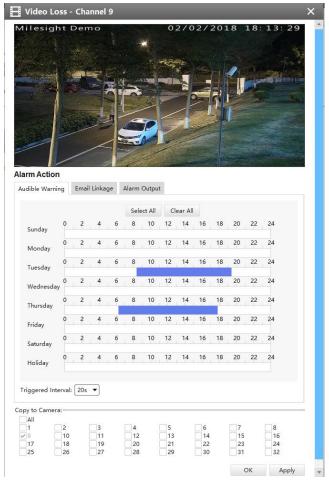
Figure 3-2-43 Video Loss

Here are three options for alarm action **[Audible Warring] [Email Linkage] [Alarm Output]** 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 Smart Event

The Smart Event page is as below:

Figure 3-2-44 Smart Event

Here are nine options for Smart Event-General Settings page **[Region Entrance] [Region Exiting] [Advanced Motion Detection] [Tamper Detection] [Line Crossing] [Loitering] [Human Detection] [People Counting]** that you can select. Beside, you can choose the **[Settings]** to do some basic setup.

Step1: Check the checkbox to enable the smart event that you choose, you can draw the interested area or click the Select All button <u>Select All</u> to select all area interested.

Figure 3-2-45 Action Settings

Step2: After general settings you can draw the schedule in the **Action Settings** page. And then click **[OK]** or **[Apply]** after all set. You also can copy the settings to other channels.
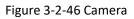
Notes
● If you haven't activated the VCA function, please contact Milesight sales first.

3.2.2 Camera

The Device Configuration for Network Camera is as below:

Figure 3-2-46 Camera
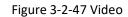
3.2.2.1 Video

🖼 Video

The Video page is as below:

Figure 3-2-47 Video

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

Table 3-2-5 Video

Parameters	Function Introduction
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
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

Image

The Image page is as below:

Figure 3-2-48 Image

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

Table 3-2-6 Image

Parameters	Function Introduction
Video Stream	Choose the stream which you want to edit
Font Size	Smallest/Small/Medium/Large/Largest/Auto are available for title and date
Show Video Title	Check the checkbox to show video title
Video Title	You can customize the video title
Text Position	OSD 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
Power Line Frequency	60HZ flicker for NTSC mode and 50HZ flicker for PAL mode
Day/Night Mode	There are several parameters such as Exposure Level, Maximum Exposure Time and IR-CUT Interval, etc. associated with this mode **Night Mode:** To switch camera Live View image to Night mode **Day Mode:** To switch camera Live View image to Day mode **Auto Mode:** To enable Live View image changing Day or Night mode automatically based on the environment light **Customize:** To customize the settings of switching Day and Night Mode
Start/End time of night	Choose the start and the end of night time
Corridor Mode	There are three options available, you can select one to meet your need **Off:** Keep the image in normal direction **Clockwise 90°:** Clockwise rotate the image by 90° **Anticlockwise 90°:** Anticlockwise rotate the image by 90°
Image Rotation	There are four options available, you can select one to meet your need **Off:** Keep the image in normal direction **Rotating 180°:** Upside down the image **Flip Horizontal:** Flip the image horizontally **Flip vertical:** Flip the image vertically
IR Balance Mode	There is an option to turn Off/On 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.
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
Digital Anti-fog Mode	This function is only for H.265 series. Better image effect in foggy weather
Digital Image Stabilisation	This function is only for H.265 series. Decrease the blur and shakiness of the image
BLC Region	Off 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 **Centre:** This option will automatically add an inclusive region in the middle of the window and give the necessary light compensation
Wide Dynamic Range	This function enables capture and display both bright and dark areas in the same frame. **Off:** Disable WDR function **On:** Enable the WDR, there are **Low/High/Auto** three levels **Customize:** Customize the schedule to enable/disable the WDR function and set the levels with Low/High/Auto
High Light Compensation	This function is only for H.265 series to adjust the brightness to a normal range when the light is strong **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

▨ Privacy Mask

Milesight CMS supports privacy mask and maximum support for 4 areas of privacy mask(8 areas for PTZ series). The setting steps are as below:

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

Step2: Choose the mask type;

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.

Figure 3-2-49 Privacy Mask

🔊 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.

Figure 3-2-50 Audio

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

Table 3-2-7 Audio

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:** G711-ULaw, G711-ALaw and AAC LC are available **Sample Rate:** There are 8KHz/16KHz two options **Input Gain:** Input audio gain level, 0-100 **Alarm Level:** Alarm will be triggered if voice alarm is enabled and input gained volume is higher than the alarm level, 0-100 **Auto Gain Control:** Set it as On/Off. **Output Volum:** Output level, 0-100

3.2.2.2 Event

 Motion Detection

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. Here are four options for alarm action, **[Upload Via FTP]**, **[Upload Via SMTP]**, **[Save Into SD Card]**, **[External Output]** and **[HTTP Notification]**. And click the Edit Schedule button Edit Schedule to edit the time to enable the Motion Detection, then apply the settings.

Figure 3-2-51 Motion Detection

Audio Alarm

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

Figure 3-2-52 Audio Alarm

External Input

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

Figure 3-2-53 Alarm I/O

Other Alarm

There are two Alarm Types in Exception: Network Lost and IP Conflict. See Figure 3-2-37:

Figure 3-2-54 Other Alarm

VCA Smart Event

The Smart Event-General Settings is as below:

Figure 3-2-55 Smart Event-General Settings

Here are nine options for Smart Event-General Settings page **[Region Entrance] [Region Exiting] [Advanced Motion Detection] [Tamper Detection] [Line Crossing] [Loitering] [Human Detection] [People Counting]** that you can select. Beside, you can choose the **[Settings]** to do some basic setup.

Step1: Check the checkbox to enable the smart event that you choose, you can draw the interested area or click the Select All button Select All to select all area interested.

Figure 3-2-56 Action Settings

Step2: After general settings you can draw the schedule and setting **Alarm Action** in the **Action Settings** page. And then click **[OK]** or **[Apply]** after all set. You also can copy the settings to other channels.

ⒾNotes

● If you haven't activated the VCA function, please contact Milesight sales first.

3.2.2.3 Record

🎥 Record

CMS supports to record video in SD card of camera or NAS. You can set the record file size from 10M to 256M, select the record frame type for All or Key and set the time to record. The Record page is as below:

Figure 3-2-57 Record

3.2.2.4 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.

Figure 3-2-58 Date&Time

💻 Network
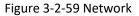
[Network]

The Network page is as below:

Figure 3-2-59 Network

[SMTP]

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

Figure 3-2-60 SMTP

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

Table 3-2-8 SMTP

Parameters	Function Introduction
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

[FTP]

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

Figure 3-2-61 FTP

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

Table 3-2-9 FTP

Parameters	Function Introduction
Server	FTP server address
Server Port	The port of the FTP server. Generally it is 21
User Name	User name that used to log in to the FTP sever
Password	User password
FTP Folder Name	Path where video will be uploaded to on the FTP server

[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.

Figure 3-2-62 DDNS

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

Table 3-2-10 DDNS

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.com and Customize
User name	Account name obtained from DDNS provider
Password	Account password
Host name	DDNS name enabled in the account

[Port]

You can set HTTP and RTSP port here.

Figure 3-2-63 Port

👤 Users

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

Figure 3-2-64 User

[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".

Figure 3-2-65 Security Question

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

Figure 3-2-66 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.

Figure 3-2-67 Edit User

✕ System

The System page is as below:

Figure 3-2-68 System

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

Table 3-2-11 System

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
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
Reset	Click the button to reset the settings to the default one.

☑ Keep the IP Configuration ☑ Keep the User Information	**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.
Upgrade	Click the 📂 button to import the firmware file from PC, and click the Upgrade button to upgrade.
☐ Restore after upgrading	Enable this option to restore the settings to the default one after upgrading the device.

3.3   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:

Figure 3-3-1 User

4. 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 4-1-1:

Figure 4-1-1 Live View

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.
The icons on toolbar are as below:

Figure 4-1-2 Toolbar

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

Table 4-1-1 Toolbar

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 and Full Screen. Support to identify monitors of corresponding screens by clicking the Identify button.
▢ / ⊞ / ⊞⊞	1/4/9 Windows Button
▭ ▾	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

🗄 **Device**

Device column in the Live View shows what kind of devices are connected to the CMS:
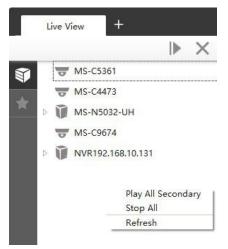
Figure 4-1-3 Live View device

Item	Function Introduction
Play	Play the Live View of the chosen device
Stop	Stop the Live View of the chosen device
Rename	Reset the name of the camera on the list
Disable	Log out of the device
Device Config	Configure the camera
Sync Name	Synchronize device name with the device
Sync All Name	Synchronize all name with the device
Play All Secondary	Play all the Live View
Stop All	Stop all the Live View

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

Item	Function Introduction
Play All Secondary	Play all the Live View
Stop All	Stop all the Live View
Refresh	Refresh the status of the device

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 All]** to display all cameras linked with the NVR. You can also double click the device or drag it into the selected window.

Table 4-1-2 Icon meanings of the device

Item	Function Introduction
▽ / ▣	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

⭐ View

Right-click on View:

```
Play View
Delete View
Rename View
Save
Save as...
```

Item	Function Introduction
Play View	Play the View
Delete View	Delete the View
Rename View	Rename the View
Save	Save the current view to replace the old one
Save as	Save the current view 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].

🛈**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.

Custom Layout

Click on the button and click Config to add a custom layout, the page is as below:
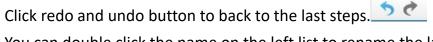
Figure 4-1-4 Add a custom layout

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.

Figure 4-1-5 Create a new custom layout

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.
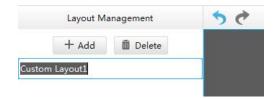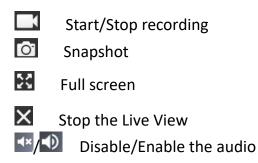
Figure 4-1-6 Rename a custom layout

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:

▣▸   Start/Stop recording

▢   Snapshot

⛶   Full screen

✕   Stop the Live View

🔇/🔊   Disable/Enable the audio

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

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
Stretch	Suit the size to the windows
Keep Aspect Ratio	Keep the size the same as original aspect ratio
Stream Type	Three stream types are available

Previous Screen	Turn to the previous screen
Next Screen	Play all the Live View
Full Screen	Display windows in full screen

PTZ

Click the PTZ button ![icon], 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. If the Network Camera is PTZ Camera, the interface is as below:

Figure 4-1-7 PTZ-1

If the Network Camera is remote focus and zoom camera but not PTZ Camera, the interface is as below:
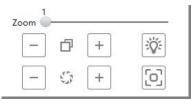
Figure 4-1-8 PTZ-2

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

Table 4-1-3 PTZ

Item	Function Introduction
	Navigation key is used to control the direction. The rotation key is used for auto-rotation.
PTZ Speed ——5——	To adjust the speed of pan/tilt movements, from 1 to 10
− 🌲 +	Click -/+ to zoom in and zoom out
− 🗗 +	Click to focus near or far of the lens
− ◑ +	Iris adjustment
💡	Click to open/ close the White LED for lighting 30s
[⊙]	Auto Focus
Preset / Patrol / Pattern 001 Preset 1 002 Preset 2 003 Preset 3	💾 save the setting of the current preset ✖ delete the preset ↰ call the preset
Preset / Patrol / Pattern Path1 Path2 Path3	▶ call the patrol ⚙ set the path ✖ delete the path
Preset / Patrol / Pattern Pattern1 Pattern2 Pattern3 Pattern4	▶ call the pattern ● record the pattern ✖ delete the pattern

👁 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. It is only for Fisheye Camera. The interface is as below:

Installation Mode

Display Mode
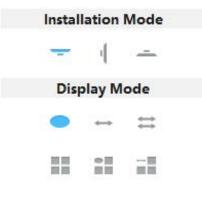
Figure 4-1-9 Fisheye

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

Table 4-1-4 Fisheye

Item	Function Introduction
	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 two 180° 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

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:

Figure 4-1-10 Image

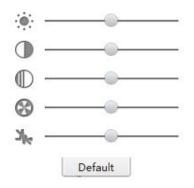The meanings of the items can be referred to the table below:

Table 4-1-5 Image

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:
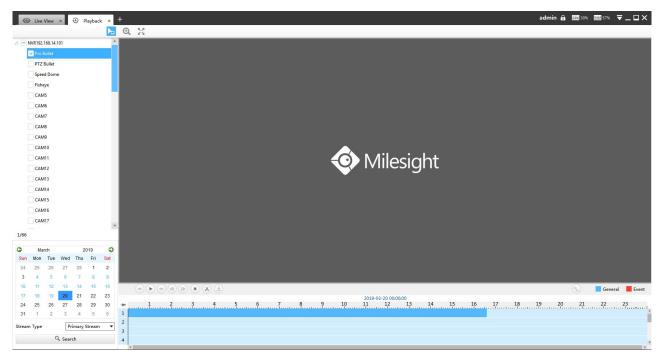

Figure 4-2-1 Playback

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

Step1: Select the desired devices by checking the checkbox of the devices; the NVR has List button ▷ to list the added cameras.

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

Step3: Choose the date of which typeface is blue(blue means there are record 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 record. 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

Step3: Check the time line to select the time to playback; there are four colors represent different record files; 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.

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: Select the NVR, choose cameras playback -> left-click the mouse on the selected time line -> click the Cut button ✄ -> left-click again in different place then you can cut a part of the playback file -> click Download button ⬇ to back up the NVR playback files.

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:

Figure 4-2-2 Playback Download

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

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
Window Size	Suit the size to the windows
Snapshot	Capture a snapshot
Full Screen	Playback window in full screen

Step7: 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.

Figure 4-2-3 Transcoding

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

Step3. Click Apply to make transcoding take effect.

5. 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:
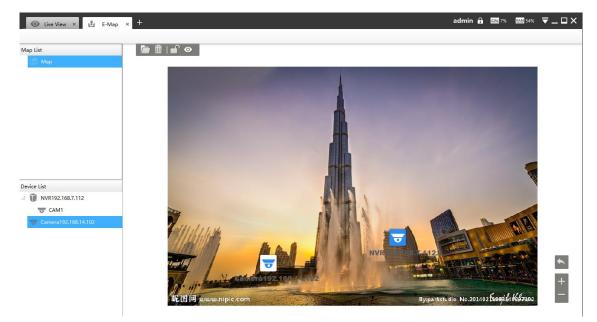
Figure 5-1-1 E-Map

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

Step2: Draw 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: Right-click the hot spot, select the [Play] to play the Live View of the hot spot.

Step5: Right-click the hot spot, select the [Delete] or click the Hot Delete button 📷 to delete the hot spot;

Step6: Click Map Delete button 🗔 to delete the electronic 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:

Figure 5-2-1 Logs

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

Table 5-2-1 Log

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.

4. Service

Milesight Technology Co., Ltd 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

MILESIGHT USA

TEL: +1-800-561-0485

Add: 7509 N.W. 36th Street, Miami, Florida 33166, USA

MILESIGHT KOREA

TEL: +82-2-839-3335

Add: 925, Anyang SK V1 Center, LS-ro 116beon-gil, Dongan-gu, Anyang-si, Korea

MILESIGHT CHINA

TEL: +86-592-5922772

Add: No.23 Wanghai Road,2nd Software Park, Xiamen, China

Milesight

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