

**DIVERSITY** HD Network Camera

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**IP CAMERA USER MANUAL**

Please read this manual carefully for correct use of the product.

Please preserve this manual for reference purposes.

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# Introduction

Thank you for using our network camera products. Our network camera products are integrated and developed for network video monitoring, including Storage Network Bullet, Wireless Storage Network Bullet, IR Network Dome, IR Network Weather-Proof Cameras and High-Speed Network Ball. High-performance single SOC chips are used in media processor for audio/video acquisition, compression and transmission/transfer. Standard H.264/H.265 encoding algorithm is applied to ensure clear and smooth video representation and transfer performance. Embedded Web Server offers users access to real-time surveillance and remote control of front-end camera through IE browser. The network cameras are easy to install and operate. The network cameras are applicable to large and medium-size enterprises, governmental projects, large mall, chain supermarkets, intelligent buildings, hotels, Hospitals and schools and other group customers, as well as to applications requiring remote network video transmission and monitoring.

## Instructions:

- For purpose of this manual, IP camera means network camera.
- Single click means a single click on the left mouse button.
- Double click means a double-click on the left mouse button.
- The default factory IP address for IP camera is 192.168.1.168.
- The default factory administrator user name for IP camera is admin (in lowercase), and the password is admin (in lowercase).
- The default Web port number is 80 and the default media port number is 9000. The ONVIF port number is synchronized with the web port number.

## Statement:

Some information contained in this manual may differ from the actual product. For any problems you cannot solve with the use of this manual, please contact our technical support or the authorized dealers. This manual may be subject to change without prior notice.

## CAUTION

**RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS**

# Chapter 1 Overview

## 1.1 Range of Application

The network cameras with powerful image processing capacity may be applied at various public places such as mall, supermarket, school, factory and workshop, as well as in environments requiring HD video image such as bank and traffic control system, as shown below



## 1.2 Product Description

An IP camera is a digital online surveillance camera embedded with Web server and capable of independent operation, giving user access to real-time monitoring through web browser or client software from any place across the world.

IP camera is based on the latest digital solution, an integrated media processing platform for audio/video acquisition, compression and network transmission on a single board. It is in compliance with H.264/ H265 High Profile encoding standards. Any remote user can have access to real-time monitoring by entering the IP address or domain name of the IP camera in web browser. This network camera solution is applicable to residential or business environments as well as a wide range of situations requiring remote network video monitoring and transmission. The IP camera products are easy to install and operate.

The IP cameras can be managed by several users with different authorization levels.

IP cameras allows mobile detection, and sends e-mail and snapshot taken in case of emergency and store the image or video snapshot in SD card for retrieval.

## 1.3 Operation Environment

**Operating system:** Windows 7/Windows 8/Windows 2008 (32/64-bit), Windows 2003/Windows XP /Windows 2000 (32-bit)

**CPU:** Intel Core Duo II dual-core processor or higher

**Memory:** 1G or more Video memory: 256M or more

**Display:** 1024 x 768 or higher resolution

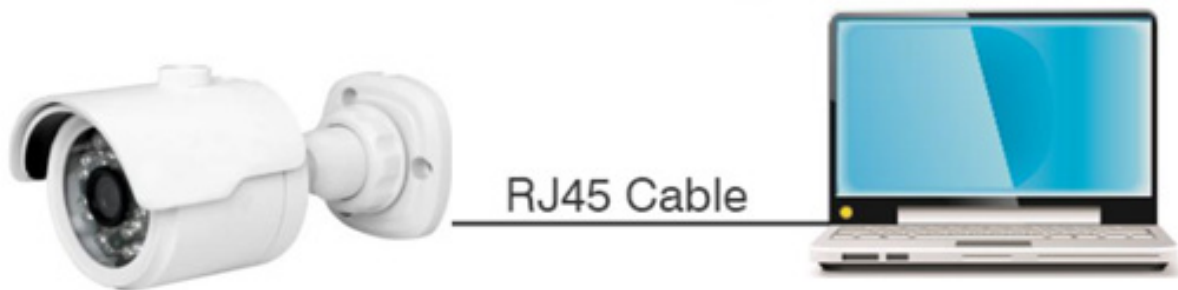
**IE:** IE 10 or higher version

## Chapter 2 Device Connection

IP camera can be connected in two ways:

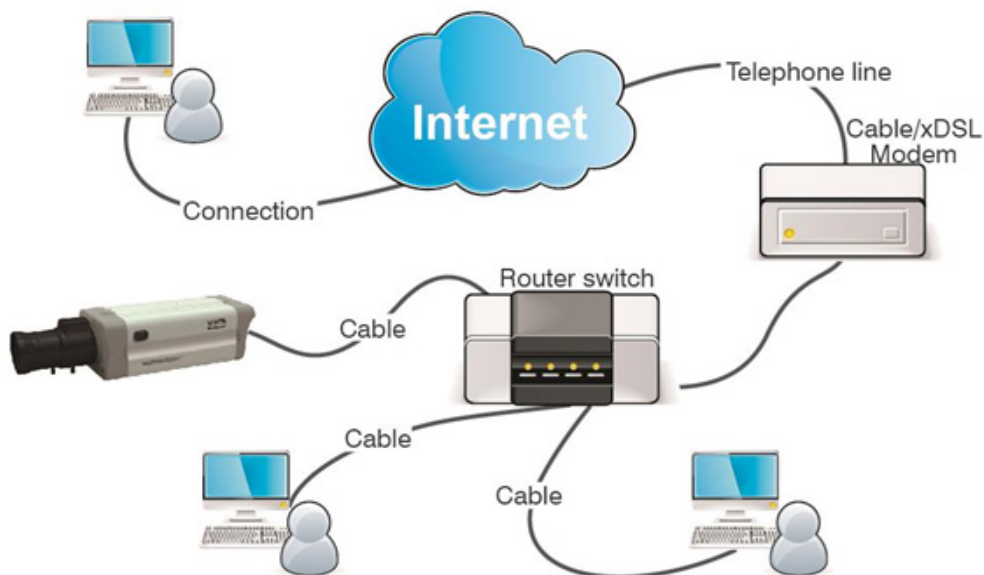
### 1. Connection to PC

Connect IP camera to PC via straight-through network cable, with power input connected to DC 12V adaptor, and set the IP addresses of the PC and IP camera in one network segment. The IP camera will communicate with PC within one minute after being powered on if the network operates normally.



### 2. Connection to PC

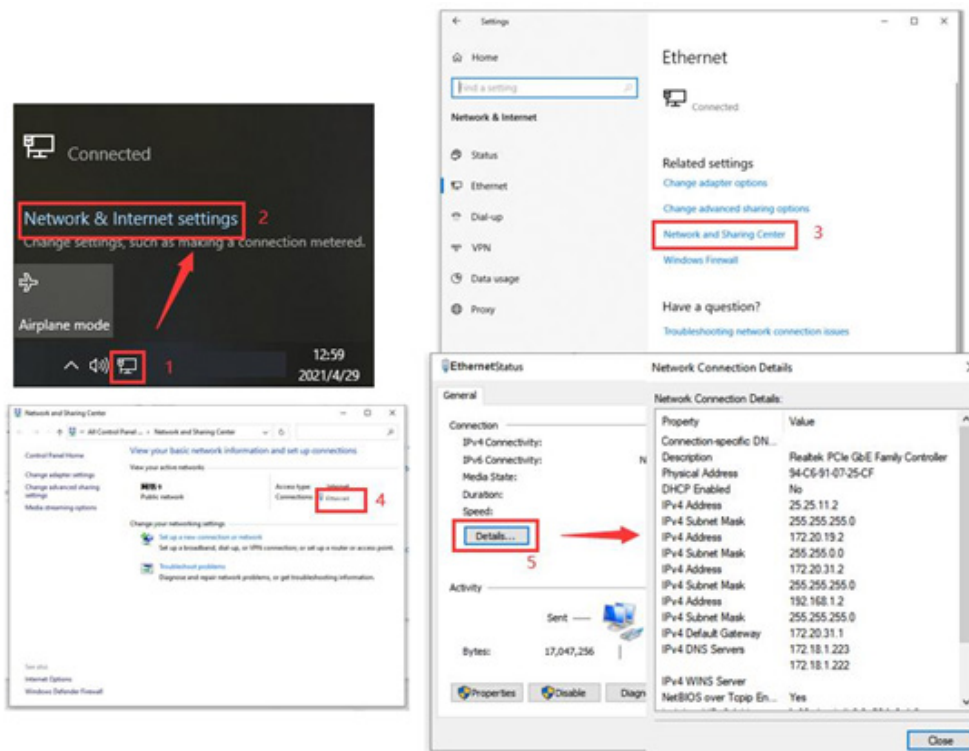
This is more commonly used in connecting the IP camera to Internet, where the camera and PC are connected to LAN ports of a router/switch, with gateway of the camera set to the IP address of the router.




## Chapter 3 Setting IP Address via Device Config Tool

Devices that communicate with each other on the Internet must follow the constraints of the network protocol. For example, the PC and IPC are in the same local area network, and the setting IP of the IPC must be in the same network segment as the IP of the PC in order to communicate normally. Take the camera in factory mode as an example:

**Step 1:** Obtain the basic setting information of the current network. Open Network on the PC (Win10) of Open Network and **Internet Settings**→**Network Sharing Center**→**Ethernet**→**Details** to view the setting information of the current network.



**Step 2:** Run Device Config Tool  and click Search to get the IPC information as shown in Figure 3.1. The IPC can be located according to the P2P or Mac address.

### 3 Setting IP Address via Device Config Tool

No.	IP	Status	Media Port	Web Port	Channel	Device Name	Device Type	Device Version	Net Mask	Gateway	MAC	Network Mode	P2P ID
1	192.168.1.43		9000	80	1	AVC-NLB51M	AVC-NLB51M	V18.25.8.2.2_2205...	255.255.255.0	192.168.1.1	00-23-63-8E-64-A5	DHCP	SV0KCNHX7LEBAJ6F111A
2	192.168.1.55		9000	80	16	AVYCON Smart AI Demo	AVR-NSV16P16	V8.2.3-20221214	255.255.255.0	192.168.1.1	28-36-13-D0-23-87	DHCP	W0UBV6Z6666BCYZC111A
3	192.168.1.78		9000	80	16	Avycon Demo	AVR-HSV16E2N	V8.1.0-20220222	255.255.255.0	192.168.1.1	28-36-13-D0-00-92	DHCP	K7886GZ6PGMU8U6F711A
4	192.168.100.92		9000	80	1	AVC-NCE51F28	AVC-NCE51F28	V31.35.8.2.3_221101	255.255.255.0	192.168.100.1	28-36-13-D0-69-B1	DHCP	4VWGBSK54CNZ1HH11A
5	192.168.100.81		9000	80	10	AVR-DSV804H	AVR-DSV804H	V8.2.2-20220818	255.255.255.0	192.168.100.1	28-36-13-D0-00-4D	DHCP	JFY5HCBUSIFULMFY111A
6	192.168.100.93		9000	80	1	AVC-NSB51F28	AVC-NSB51F28	V21.45.8.2.3_221102	255.255.255.0	192.168.100.1	00-23-63-8D-40-40	DHCP	S763M2QMMHJKLJ111A
7	192.168.100.77		9000	80	1	AVC-NSB51F28-G	AVC-NSB51F28-G	V21.45.8.2.3_221102	255.255.255.0	192.168.100.1	00-23-63-8D-41-A8	DHCP	J6CS8JLJLXMFY111A
8	192.168.100.81		9000	80	1	Jay-Office	IP CAMERA	V12.45.5.0_190926	255.255.255.0	192.168.100.1	00-23-63-78-C1-66	DHCP	RSV190700791H12
9	192.168.100.83		9000	80	10	AVR-DSV804H	AVR-DSV804H	V8.2.3-20221014	255.255.255.0	192.168.100.1	28-36-13-D0-1C-FE	DHCP	NFNHX7WYD9U7CNRX111A
10	192.168.100.86		9000	80	1	SIREN PTZ	SAMPLE	V40.45.8.2.3_2210...	255.255.255.0	192.168.100.1	00-23-63-9E-2E-B2	DHCP	URRRESHNRUPWPA6111A
11	192.168.100.99		9000	80	1	RS-CH240H6NE-DF-WA2812PW-BC	IP CAMERA	V20.55.6.0_200722	255.255.255.0	192.168.100.1	00-23-63-56-80-67	DHCP	391B9UX8Y5MDASJ111A
12	192.168.100.102		9000	80	1	AVC-NP81F28	SAMPLE	V26.34.8.2.3_221102	255.255.255.0	192.168.100.1	00-23-63-8F-46-D0	DHCP	K9KB9DLPHMCBA8H111A
13	192.168.100.103		9000	80	36	AVR-DSV516H	AVR-DSV516H	V8.1.0-20210909	255.255.255.0	192.168.100.1	28-36-13-D0-0C-87	DHCP	JBWVRVYYPYS3WZGR111A
14	192.168.100.105		9000	80	1	AVC-NCE51M	AVC-NCE51M	V31.35.8.2.3_221101	255.255.255.0	192.168.100.1	28-36-13-D0-13-48	DHCP	USL2X8DL6JUTSKM111A
15	192.168.100.122		9000	80	1	CH251H7CM-TF-LW36PW-M-BC	IP CAMERA	V12.45.6.0_210108	255.255.255.0	192.168.100.1	00-23-63-81-4F-5A	Static	2J9LMB3TUHF4ZDN111A
16	192.168.100.131		9000	80	40	AVR-DSV816H	AVR-DSV816H	V8.2.3-20221215	255.255.255.0	192.168.100.1	00-23-63-97-46-A4	DHCP	66MWX853KLXJLXT111A
17	192.168.100.137		9000	80	1	RS-CH240H6NE-DF-WA2812PW-BC	IP CAMERA	V20.55.6.0_200722	255.255.255.0	192.168.100.1	00-23-63-AD-D8-AD	DHCP	GSZ43JTRW74JEBB111A
18	192.168.100.150		9000	80	1	AVC-NBS1F28	AVC-NBS1F28	V12.45.6.0_200813	255.255.255.0	192.168.100.1	00-23-63-86-9F-69	DHCP	E29X8TSAZSSFSH4111A
19	192.168.100.155		9000	80	1	AVC-NSB81M	AVC-NSB81M	V21.45.8.2.3_221102	255.255.255.0	192.168.100.1	28-36-13-D0-88-C0	DHCP	R39SRC6WV6Z6FVA111A
20	192.168.100.163		9000	80	32	AVR-NSV32E2N	AVR-NSV32E2N	V8.2.3-20221214	255.255.255.0	192.168.100.1	28-36-13-D0-6C-0F	DHCP	LZY11TKV9H9KPEEA111A
21	192.168.100.169		9000	80	1	AVC-NSE81M	AVC-NSE81M	V21.45.8.2.2_2207...	255.255.255.0	192.168.100.1	28-36-13-D0-45-52	DHCP	EZFZMWZWXRX6J18H111A
22	192.168.100.171		9000	80	1	Fisheye	IP CAMERA	V4.41.5.2_200301	255.255.255.0	192.168.100.1	00-23-63-8E-88-A6	DHCP	RSV1707059713728
23	192.168.100.187		9000	80	1	AVC-NP851M50	AVC-NP851M50	V31.35.8.2.3_221101	255.255.255.0	192.168.100.1	28-36-13-D0-8A-63	DHCP	3JT78AJEBWJBDJGB111A
24	192.168.100.197		9000	80	8	AVR-NSV808P8	AVR-NSV808P8	V8.2.2-20220920	255.255.255.0	192.168.100.1	28-36-13-D0-95-85	DHCP	2SX5WV2J8CX55V6L111A
25	192.168.100.232		9000	80	1	IP CAMERA	IP CAMERA	V12.45.6.0_200513	255.255.255.0	192.168.100.1	00-23-63-81-4F-52	Static	Y1YPPRBSZL6K9A35111A

**Note:**

The default IP of the camera is **192.168.1.168**, the default account is **admin**, and the default password is **admin**

**Step 3:** As shown in Figure 3.1, select the corresponding device, enter the account and password, edit the corresponding network information, and click Modify to save the information.

**Note:**

If the current network supports DHCP to distribute network, change Network Mode to DHCP to obtain IP.

## Chapter 4 IE Login

### 4.1 Access to IPC Web Port

Use Device Config Tool to search the IPC of the current network. Click on the searched IP and log in to the camera with IE browser as shown in Figure 4.1.1.

No.	IP	Status	Media Port	Web Port	Channel	Device Name	Device Type	Device Version	Net Mask	Gateway	MAC	Network Mode	P2P ID
1	192.168.1.1		9000	80	1	AVC-NLB5M	AVC-NLB5M	V18.25.8.2_2015	255.255.255.0	192.168.1.1	09-23-63-8E-64-A5	DHCP	5VCKNKH7LEBA0F111A
2	192.168.1.2		9000	80	16	AVYCON Smart AI Demo	AVR-NV18P16	V8.2.3-2021214	255.255.255.0	192.168.1.1	28-36-13-02-23-87	DHCP	WXLUBZ566B1CYZ111A
3	192.168.1.3		9000	80	16	Avycon Demo	AVR-NV18E2N	V8.1.6-2020222	255.255.255.0	192.168.1.1	28-36-13-02-60-92	DHCP	K7B6GZ0P9N1UW7111A
4	192.168.100.1		9000	80	1	AVC-NCE51F28	AVC-NCE51F28	V31.38.8.2_21101	255.255.255.0	192.168.100.1	28-36-13-02-69-81	DHCP	4V9G0B854C2N3HH111A
5	192.168.100.1		9000	80	10	AVR-DV508H	AVR-DV508H	V8.2.3-2020818	255.255.255.0	192.168.100.1	28-36-13-02-8D-4D	DHCP	JFV9HC0D5JLUMY111A
6	192.168.100.3		9000	80	1	AVC-NBS1F28	AVC-NBS1F28	V21.40.8.2_21102	255.255.255.0	192.168.100.1	09-23-63-8E-64-A5	DHCP	5F83D058A1J0L111A
7	192.168.100.17		9000	80	1	AVC-NSE1F28-G	AVC-NSE1F28-G	V31.40.8.2_21102	255.255.255.0	192.168.100.1	09-23-63-8E-64-A5	DHCP	J6C3B3JL1L14V111A
8	192.168.100.19		9000	80	1	Jay-0104	IP CAMERA	V12.45.5.0_100105	255.255.255.0	192.168.100.1	09-23-63-76-21-66	DHCP	RSV90707819112
9	192.168.100.83		9000	80	10	AVR-DV508H	AVR-DV508H	V8.2.3-2020818	255.255.255.0	192.168.100.1	28-36-13-02-10-FE	DHCP	N7A107105D10K0W111A
10	192.168.100.88		9000	80	1	SHEN-FITZ	SAMPLE	V40.61.3.1_2110	255.255.255.0	192.168.100.1	09-23-63-8E-3E-62	DHCP	UR8E03E1B8E1P9F411A
11	192.168.100.89		9000	80	1	RS-CH04M9E-CF-WA312PW-BC	IP CAMERA	V20.55.6.0_200722	255.255.255.0	192.168.100.1	09-23-63-8E-80-67	DHCP	3P8B0819Y8K0D5A111A
12	192.168.100.90		9000	80	1	AVC-NP18F28	SAMPLE	V20.34.8.2_21102	255.255.255.0	192.168.100.1	09-23-63-8E-46-50	DHCP	K3B10E1P16C3A111A
13	192.168.100.103		9000	80	38	AVR-DV515H	AVR-DV515H	V3.1.0.3010069	255.255.255.0	192.168.100.1	28-36-13-02-9C-87	DHCP	4B9B0E1P32C2W0R111A
14	192.168.100.105		9000	80	1	AVC-NCE51M	AVC-NCE51M	V31.38.8.2_21101	255.255.255.0	192.168.100.1	28-36-13-02-53-48	DHCP	UR2X50E1E1J7D111A
15	192.168.100.122		9000	80	1	CH0191CMA-3F-LR19P1M-BC	IP CAMERA	V12.45.6.0_210108	255.255.255.0	192.168.100.1	09-23-63-81-4F-5A	DHCP	J2R1M01U1H1EDN111A
16	192.168.100.123		9000	80	40	AVR-DV515H	AVR-DV515H	V3.2.3-2021215	255.255.255.0	192.168.100.1	09-23-63-8E-46-5A	DHCP	6M4W3K10L1JAT111A
17	192.168.100.127		9000	80	1	RS-CH04M9E-CF-WA312PW-BC	IP CAMERA	V20.55.6.0_200722	255.255.255.0	192.168.100.1	09-23-63-8E-80-67	DHCP	05X4J1R1W14E1E111A
18	192.168.100.128		9000	80	1	AVC-NBS1F28	AVC-NBS1F28	V12.45.6.0_200813	255.255.255.0	192.168.100.1	09-23-63-8E-80-67	DHCP	E2X31A125F1E1E111A
19	192.168.100.129		9000	80	1	AVC-NBS1M	AVC-NBS1M	V31.45.8.2_21102	255.255.255.0	192.168.100.1	28-36-13-02-88-C0	DHCP	R3B3RC0W36K1H111A
20	192.168.100.130		9000	80	32	AVR-NV32E2N	AVR-NV32E2N	V8.2.3-2021214	255.255.255.0	192.168.100.1	28-36-13-02-60-9C	DHCP	L2V11TK0W36K1H111A
21	192.168.100.139		9000	80	1	AVC-NSE1M	AVC-NSE1M	V31.45.8.2_21101	255.255.255.0	192.168.100.1	28-36-13-02-45-52	DHCP	E2V2M0W36K1H111A
22	192.168.100.171		9000	80	1	FineEye	IP CAMERA	V4.41.5.2_200301	255.255.255.0	192.168.100.1	09-23-63-8E-86-A6	DHCP	RSV9070781913726
23	192.168.100.192		9000	80	1	AVC-NP18M05	AVC-NP18M05	V31.38.8.2_21101	255.255.255.0	192.168.100.1	28-36-13-02-8A-63	DHCP	J17B1A1E1W14E1E111A
24	192.168.100.193		9000	80	8	AVR-NV18P16	AVR-NV18P16	V8.2.3-2020809	255.255.255.0	192.168.100.1	28-36-13-02-05-85	DHCP	25X5W1023C05W111A
25	192.168.100.222		9000	80	1	IP CAMERA	IP CAMERA	V12.45.6.0_200513	255.255.255.0	192.168.100.1	09-23-63-81-4F-52	Static	Y1P1P1E1B1Z10A0A111A

Figure 4.1.1

You can also directly open the IE browser and enter HTTP://ip:web port. Take device shown in Figure 4.1 as an example, the IP of the current device to be accessed is 172.20.62.26, the web port is 80, and the combined URL is http://172.20.62.26:80.

#### Note:

In actual use scenario, the http access method will default to port 80.

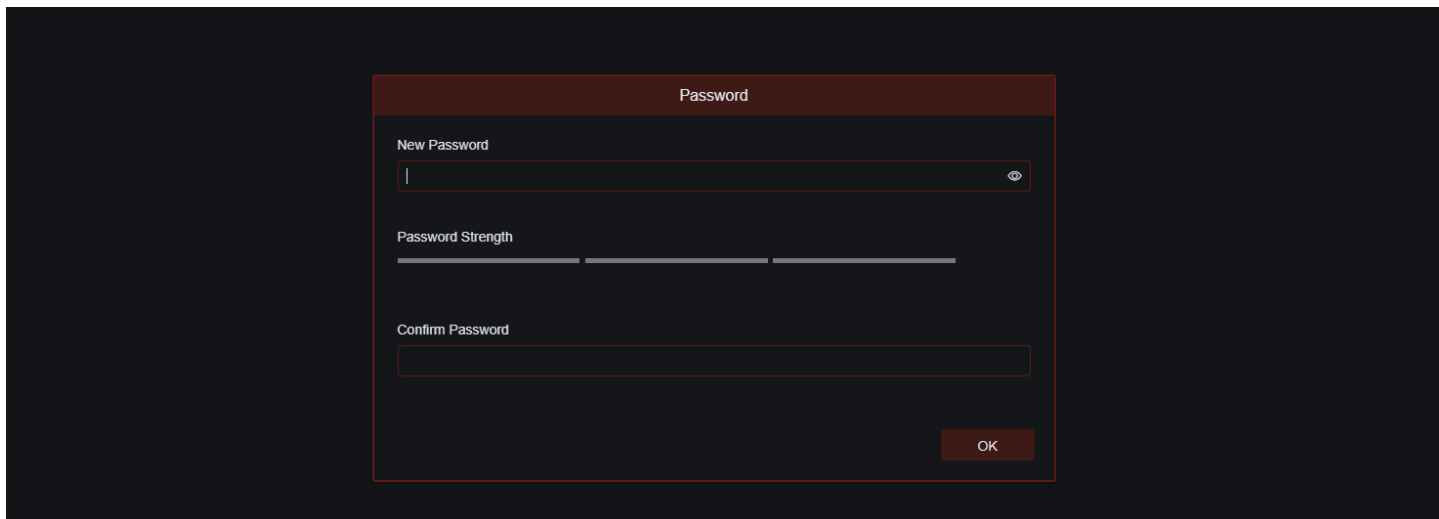
### 4.2 Initial Login

In the first time accessing the web of the camera, the program will remind you to set a more complicated password as the default password of the device is too simple. The interface as shown in Figure 4.2.1 will be popped up.

**Click  to check password requirements:**

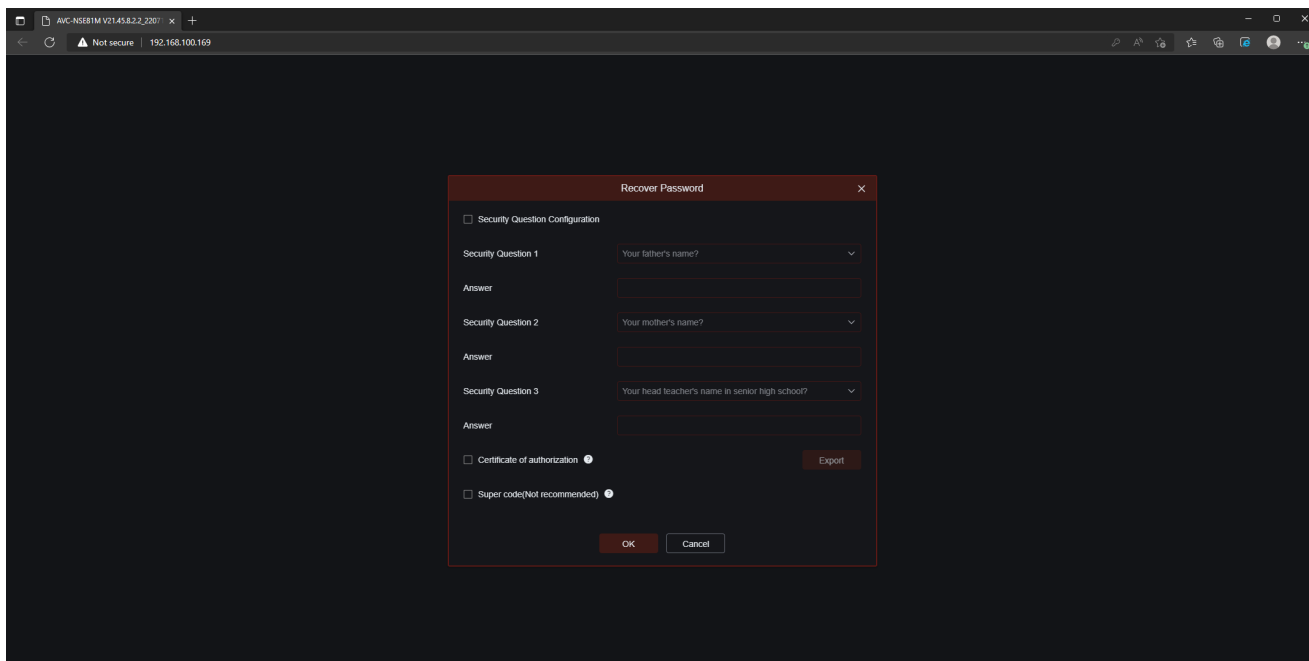
The password should be 8-15 characters, including letters, numbers or special characters.

- 8~9 characters:** The combination should consist of at least 3 uppercase letters, lowercase letters, numbers or special characters.
- 10~15 characters:** The combination should consist of at least 2 uppercase letters, lowercase letters, numbers or special characters.
- It is forbidden to repeat and continuous characters exceeding 4 digits.
- It is forbidden for the continuous keys of the keyboard pattern to exceed 4 digits.



**Figure 4.2.1**

Set a new password, click OK to save, the interface as shown in Figure 4.2.2 will pop up. You can check to choose the corresponding password retrieval method, or cancel the setting directly without checking, and the password retrieval function will not be enabled.



**Figure 4.2.2**



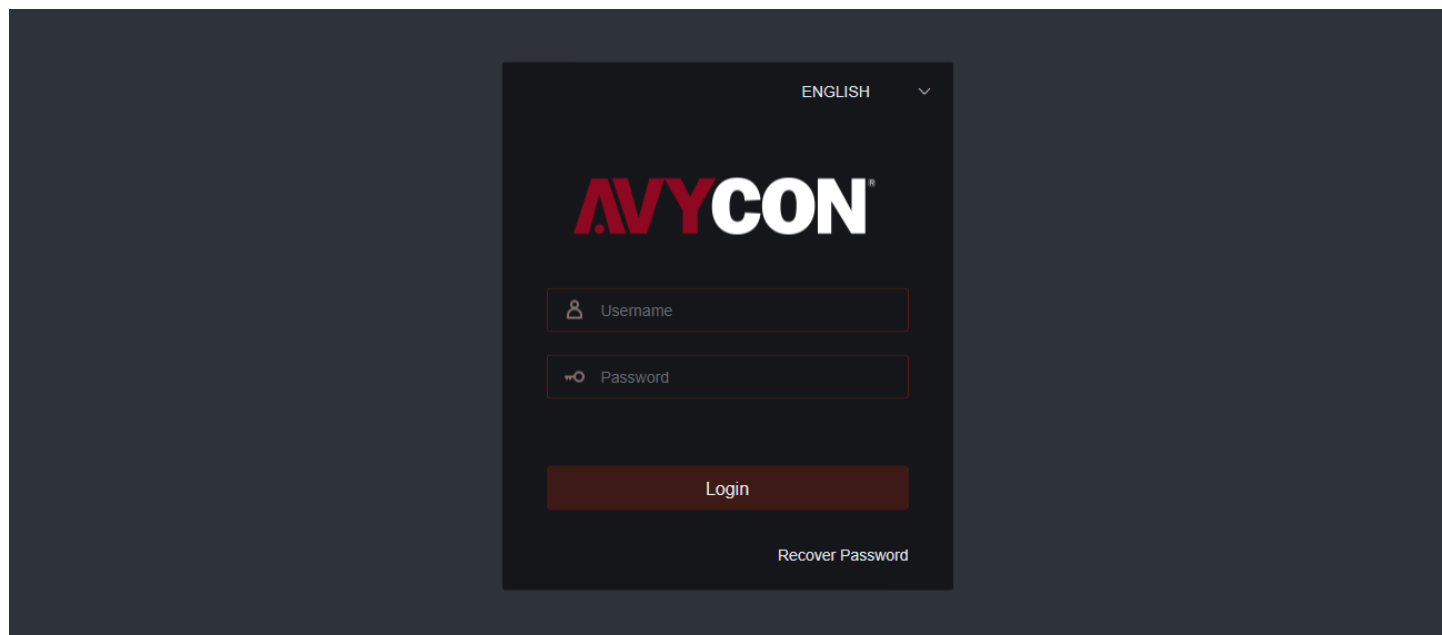
1. **Security Question Configuration:** to modify the main user's password by question verification. After enabling, you need to select 3 of the 15 frequently used questions and set the answer required to retrieve the password. The maximum length of the answer is 64 characters.
2. **Certificate of authorization:** to modify the main user's password by key. After it is enabled, you need to click Export to download the key file namely certificate.txt.
3. **Super code (Not recommended):** Use the super verification code to modify the main user's password. A super verification code can be calculated by current camera's Mac address and the camera system time to modify the main user's password. However, the camera's Mac is broadcast on the network, and the camera system time can be obtained directly when logging in to the Web and using Super code to modify the master user password. There are certain security risks, so it is not recommended for users to turn it on.

**Note:**

When enabling the password retrieval function, please keep the verification information properly.

### 4.3 General Login

To access the camera web interface, the login interface will be entered as shown in Figure 4.3.1. Enter the corresponding account password, then click login, you can access the camera's operating interface. At the same time, you can select the desired language when log in.



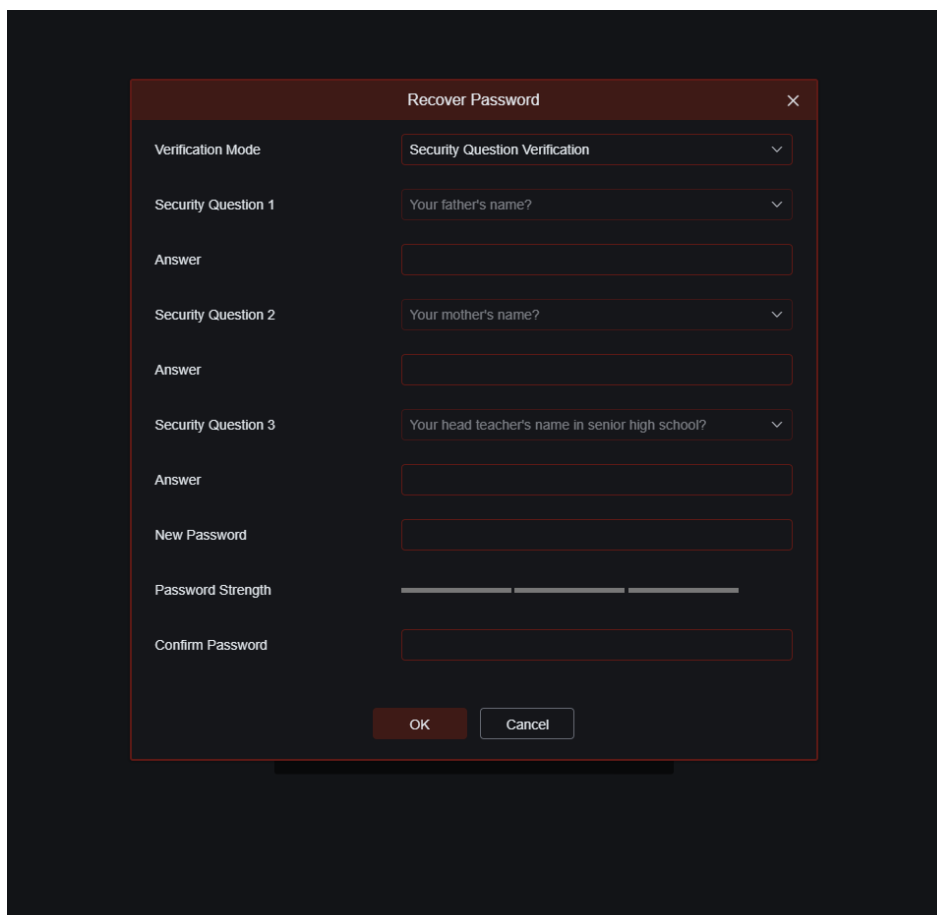
**Figure 4.3.1**

## 4.4 Retrieve Password

When you forget the login information, you can click Recover Password on the login interface to enter the password retrieval interface. According to the first login settings, it supports three modes: security question verification, key file, and super password.

### 4.4.1 Security Question Verification

Reset the main user password through the security question and open the password retrieval interface. As shown in Figure 4.4.1, the default interface is to retrieve the password through the problem verification. Fill in the corresponding answer in the security question, you can directly modify the password of the current main user.



The screenshot displays a 'Recover Password' dialog box with a dark background and red text. The dialog is titled 'Recover Password' and has a close button (X) in the top right corner. It contains the following fields and options:

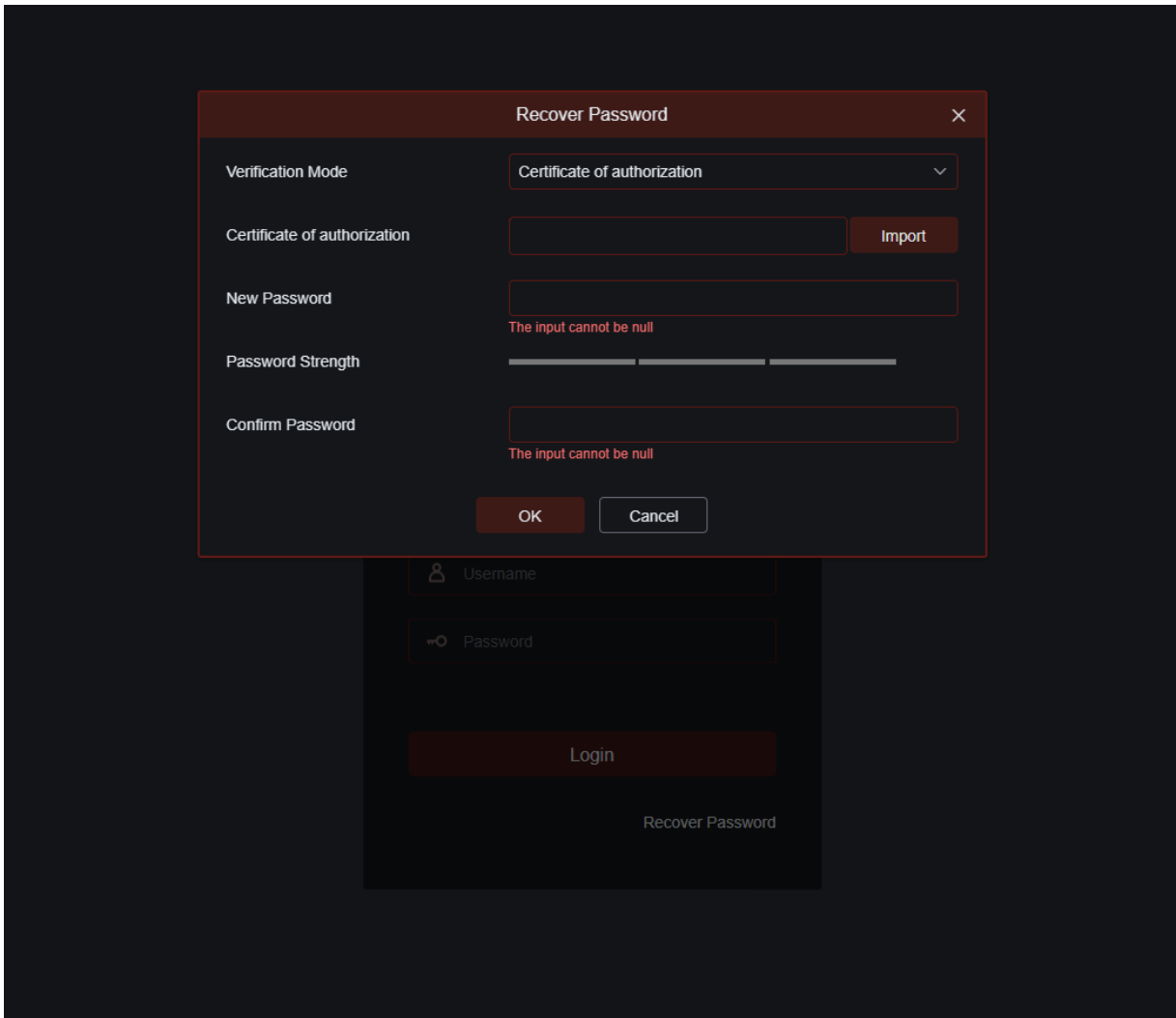
- Verification Mode:** A dropdown menu set to 'Security Question Verification'.
- Security Question 1:** A dropdown menu with the text 'Your father's name?'.
- Answer:** An empty text input field.
- Security Question 2:** A dropdown menu with the text 'Your mother's name?'.
- Answer:** An empty text input field.
- Security Question 3:** A dropdown menu with the text 'Your head teacher's name in senior high school?'.
- Answer:** An empty text input field.
- New Password:** An empty text input field.
- Password Strength:** A progress bar consisting of three segments, with the first two filled.
- Confirm Password:** An empty text input field.

At the bottom of the dialog, there are two buttons: 'OK' and 'Cancel'.

**Figure 4.4.1**

#### 4.4.2 Key File

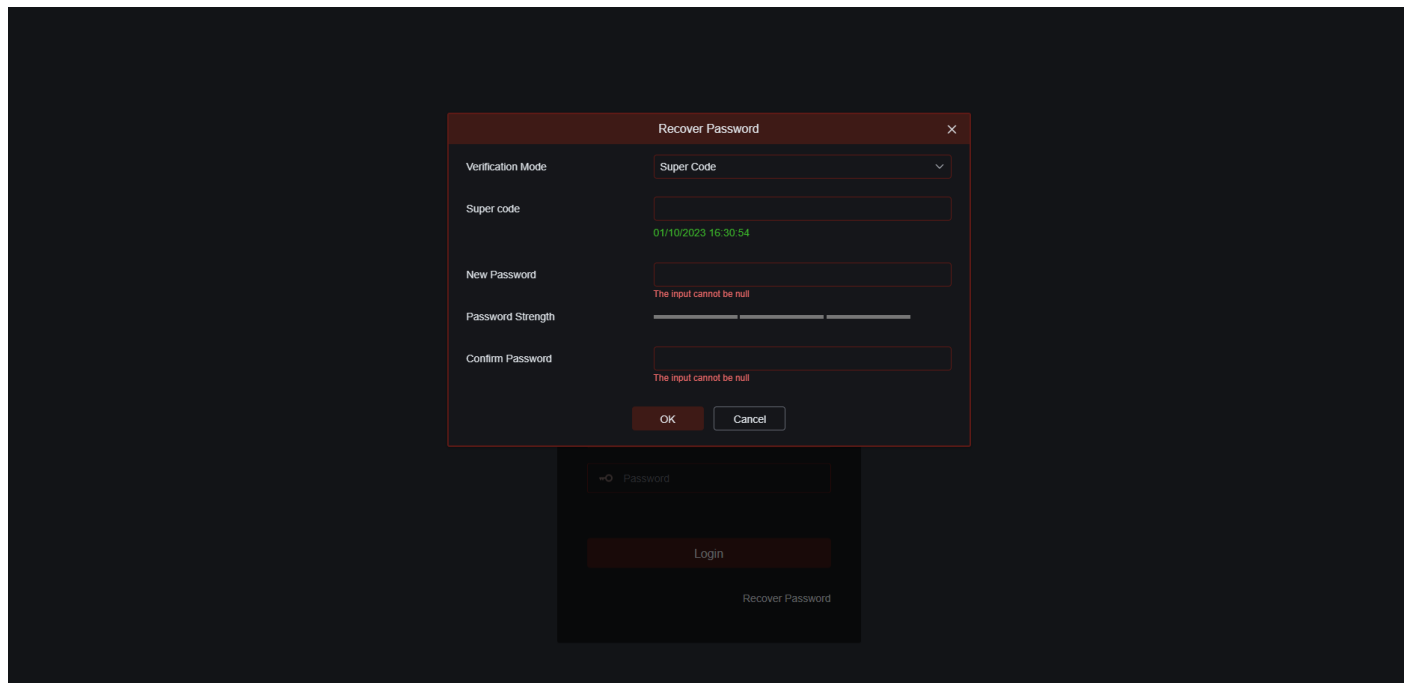
When set up the password authentication questions in initial login, you can turn on the key search and modify password function and prompt to download the key file certificate.txt. Open the password retrieval interface, switch to the Certificate of authorization mode, and the interface is converted as shown in Figure 4.4.2. Click Import to select the key file certificate.txt. After the Import is successful, enter the new password to modify the main user's password.



**Figure 4.4.2**

### 4.4.3 Super Password

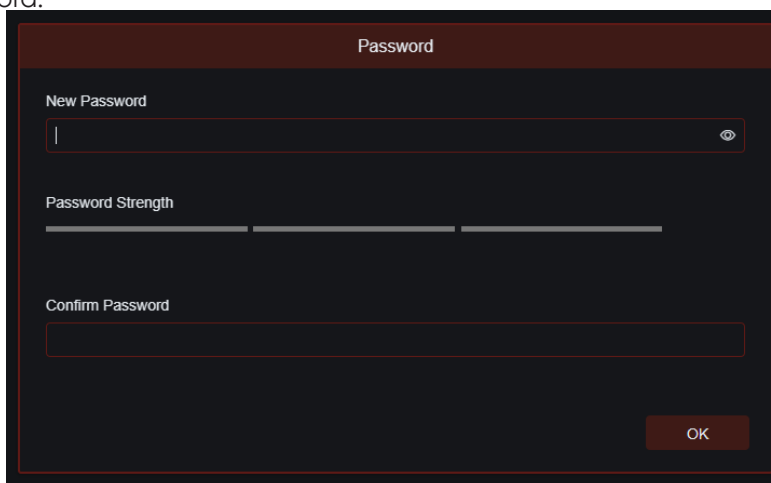
The super password is a very insecure way to retrieve the password. According to the Mac of the camera and the time prompted by the super verification code, the verification code can be calculated based on certain rules. By filling in the verification code, the main user's password can be modified.



**Figure 4.4.3**

### 4.5 Password Expired

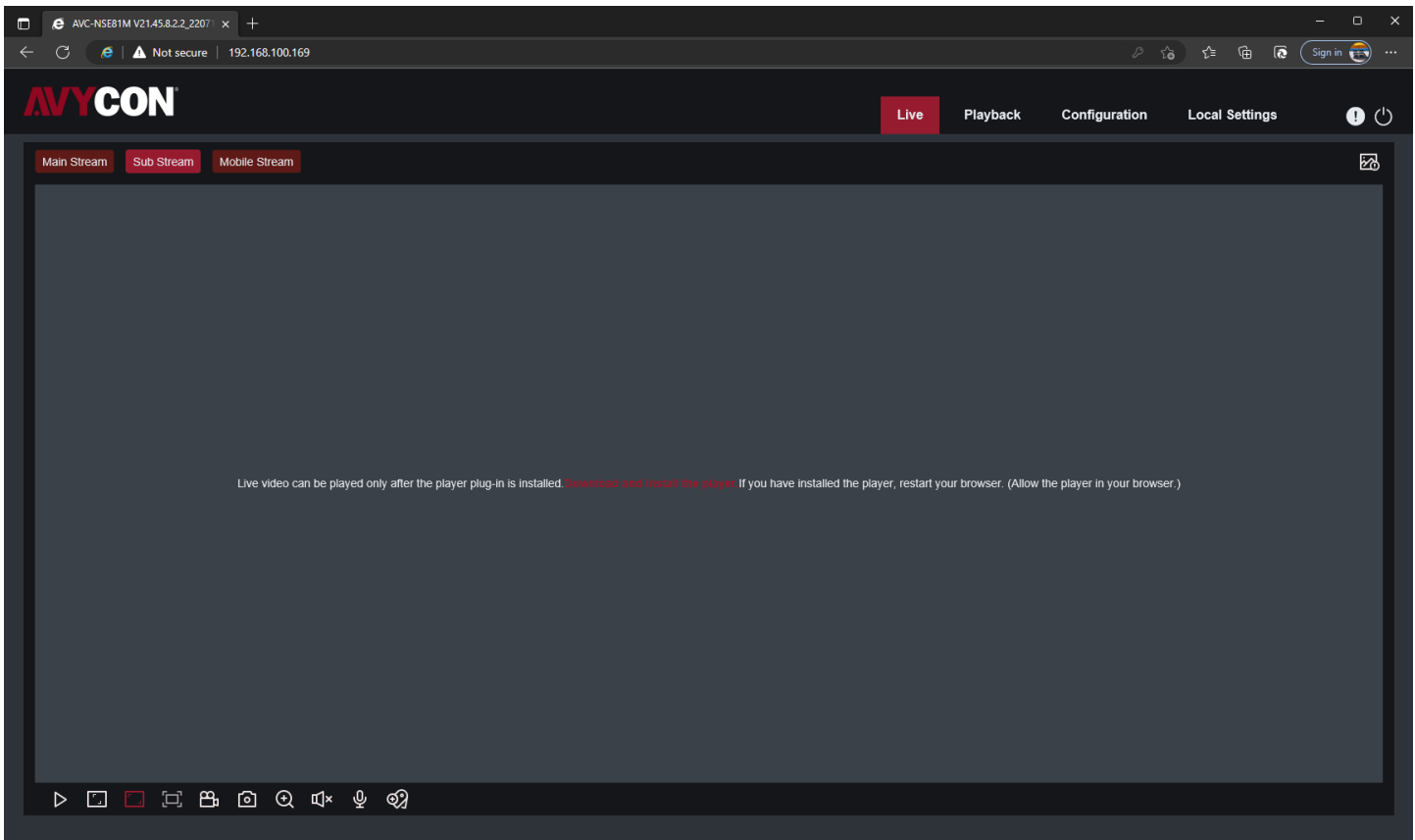
Using the same password for a long time poses a great security risk. For this reason, the program will record the system time of the last password modification. If the system time of current login is 90 days later than the system time of the last password modification, the user will be reminded to change the password. When user decides to change the password, the interface jumps to Figure 4.5.1. According to the interface prompts, user can set a new password by verification with old password.



**Figure 4.5.1**

## Chapter 5 Plug-In Installation

Use IE browser to log in, you need to install the plug-in to preview the image normally. When the prompt in Figure 5.1.1 appears, please download and install the plug-in according to the prompt.



**Figure 5.1.1**

**Note:**

Programs without plug-ins are supported. When using Safari 12 and above, Chrome57 and above, Firefox 52 and above, Edge 41 and other browsers for web access, the plug-in installation steps can be ignored.

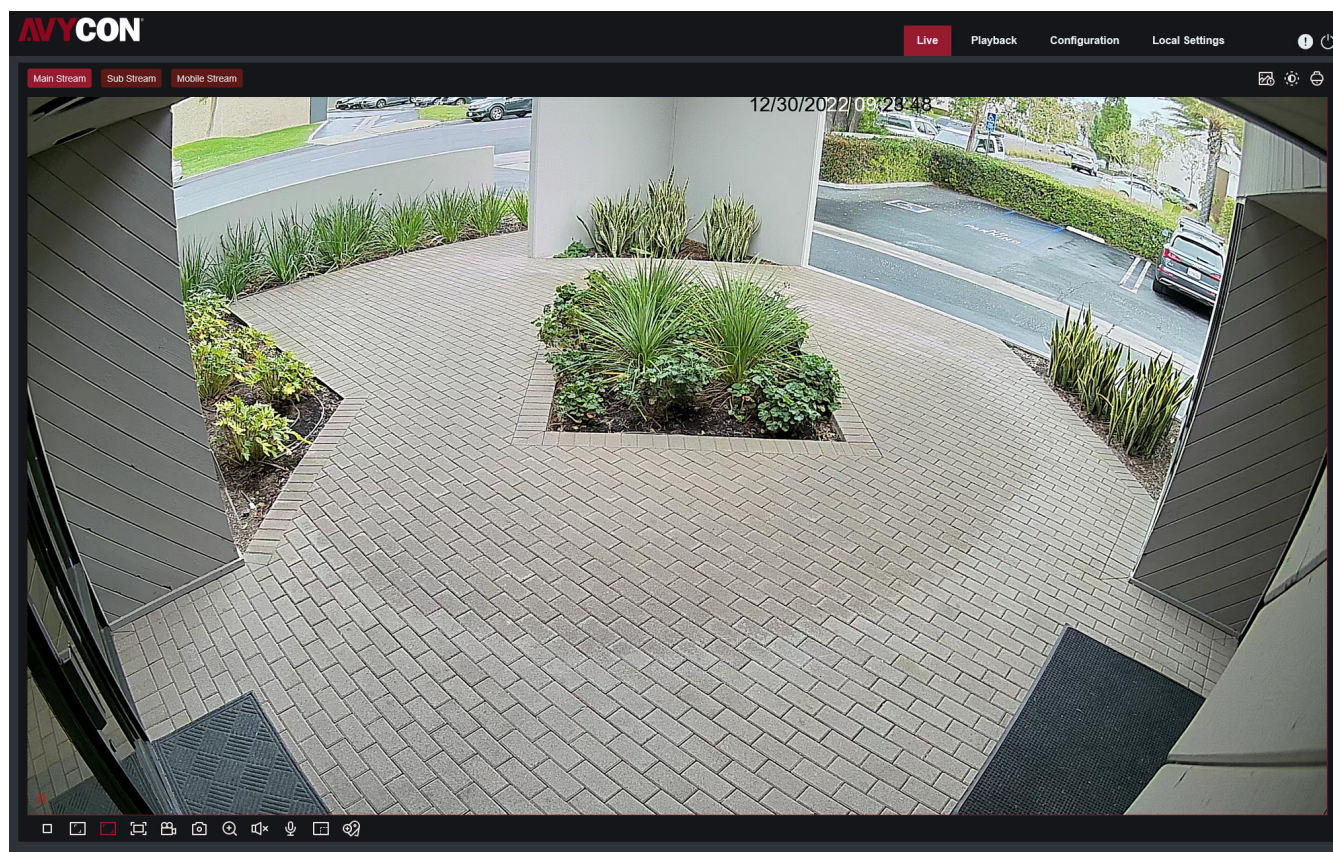
## Chapter 6 Preview

### 6.1 Live

After the login is successful, the web terminal enters the login preview interface, which is shown in the following figure.

**Note:**

*The functions of different products are different, please refer to the actual situation.*



**Code stream switching menu:** the upper left corner can switch the image quality of the current preview interface:

**Main stream:** The image is clearer, but the stream bandwidth is large, which requires higher performance on the PC-side interface

**Sub stream:** Bandwidth and requirements for the PC are moderate, but the image will be worse than the main stream.

**Mobile stream:** The bandwidth and requirements for the PC are the lowest, but the image is also the worst.

**Main menu switching bar:** Switch the function interface of the web. The web terminal has 4 menus: Live, Playback, Remote Setting, and Local Settings.

**Info:** Display the currently logged-in user, web version and plug-in version.

**AI alarm:** Open the alarm push bar on the right, and push the corresponding picture when performing functions such as face alarm, human and vehicle detection.

**Color:** Adjust the current image settings, such as image saturation, sharpness, etc.

**PTZ Setting:** Open the pan/tilt operation setting and re-adjust the focus of camera.

**Exit:** Exit the current login

**Recording alarm status:** Prompt the alarm and recording status of camera, please refer to section 6.2 for details

**Stop/Play:** Open and close the current stream preview

**Original Proportions:** Display the current preview image in original proportions

**Stretch:** Display the current preview image in a way that fills the display area

**Full Screen:** Display the current preview screen in full screen, you can double-click the screen to turn on/off the function, and press Esc to exit the full screen when enabling the function

**Record:** Manually record the stream of current preview

**Capture:** Manually capture the picture of the current stream

**Digital Zoom:** Electronically zoom in on certain area of the display screen

**Audio:** turn on/off, adjust the sound in current preview

**Voice Intercom:** Talk to the camera

**Warning Light:** Manually turn on/off the white light

**Siren:** Manually turn on/off the white light

**Pixel Counter:** Select the area by frame to check the pixel size of the area in the code stream.

**Bullet Box Information:** When some alarms are triggered, the lower right corner will prompt the current alarm

## 6.2 Recording Status

The recording status is a simple reminder from the web to the current alarm of the camera, which can show whether the recording is normal. There can be multiple alarms at the same time. For specific instructions, please refer to the following introduction:

No icon: The SD card of camera is normal, but no video is being recorded.

**R** :The camera is performing general recording.

**Note:**

*When the camera performs alarm recording, the mark will disappear, but general recording will continue.*

**H** :The SD card is in an abnormal state, please check the SD card.

**M** :The camera is in motion alarm, but motion alarm recording is not enabled.

**M** :The camera is in motion alarm, and motion alarm recording is performing.

**I** :The camera is in IO alarm, but IO alarm recording is not enabled.

**I** :The camera is in IO alarm, and IO alarm recording is performing.

**PIR** :The camera is in PIR alarm, but PIR alarm recording is not enabled.

**PIR** :The camera is in PIR alarm, and PIR alarm recording is performing.

**S** :The camera is in smart alarm, but the smart alarm recording is not performed.

**Note:**

*Intelligent alarms include Face alarm, Human&Vehicle alarm, etc.*

**S** :The camera is in smart alarm and smart alarm recording is performing.



## Chapter 7 Playback

The camera not only needs to allow us to see the real-time image, but also needs to save the image information so that it can be retrieved and viewed when needed.

### 7.1 General Playback

The playback function is mainly composed of General video search and AI search functions. The following figure shows the video search.



**Search Mode:** Switch the current search mode. As shown in the figure above, the default is General search, and the search information is ordinary video files. You can switch to AI search.

**Search date:** Set the date to search for the video, click search, it will prompt the date of the video file.


**Search Type:** Display the search type supported by the camera. You can search and view part of the video according to your demand.


**Search:** Search and display the videos in the SD card according to the search settings.


 **Pause/Play:** Pause/Play playback stream

 **Stop:** Close the playback stream


 **Forward by One Frame:** Play one frame of image every time you click

 **Record:** Manually record the current preview stream


 **Capture:** Manually capture the picture of the current stream

 **Download:** Download the currently searched video

 **Speed:** Playing speed. Support speed adjustment like 1/8, 1/4, 1/2, 1, X2, X4, X8


 **Audio:** Turn on/off, adjust the sound of playback stream

**Playback Progress Bar:** The time bar below shows the current playback progress bar in different colors according to the search results.

 **Digital Zoom:** Electronically zoom in on certain area of the display stream

 **Original Proportions:** Display the current preview image in original proportions

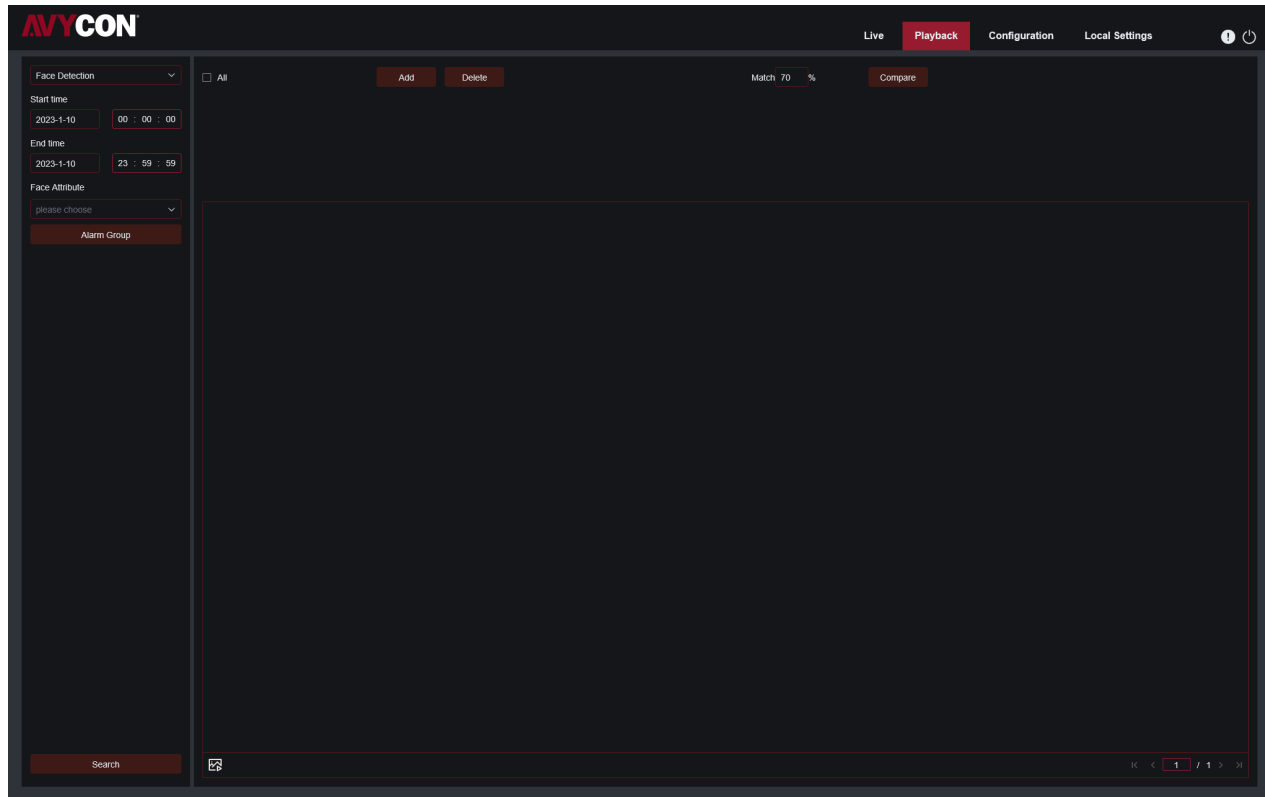
 **Stretch:** Display the current preview image in a way that fills the display area

 **Full Screen:** Display the current preview image in full screen, you can double-click the screen to turn on/off the function, and press Esc to exit the full screen when enabling the function

**Playback progress bar zoom in/out:** the progress bar defaults to display the progress of 24 hours. By this function, you can more accurately jump to the corresponding playback position. This function also works through the mouse wheel.

## 7.2 Playback Searched by Face

The camera performs the face detection function, stores the acquired face information to the TF card, and saves the image-related information at the same time. When searching, you can quickly retrieve the face capture according to your demand. The video can also be located based on the capture. The face search playback interface is shown in the figure below



**Search Mode:** Switch the search mode. Current search mode is AI-Face Detection

**Start time:** Set the start time of search

**End time:** Set the end time of search

**Face Attribute:** The face attribute is not clicked by default. When enabled, it will only search for the face snapshot pictures when the facial attribute detection is started. The current firmware supports five types of facial attribute

**Detection:** Gender, Age Group, Mask, Glasses, and Expression.

**Alarm Group:** When capturing face picture, the camera matches the picture to the corresponding combination according to the settings of the face database. With this setting, you can search for pictures of the desired group.

**Search:** Search face data according to settings.

**Add:** Add pictures to the picture display area for the Compare function. You can add local pictures and captured pictures.

**Delete:** Delete the currently added picture.

**Similarity:** Set the minimum similarity of the feature values matching faces when using Compare function.

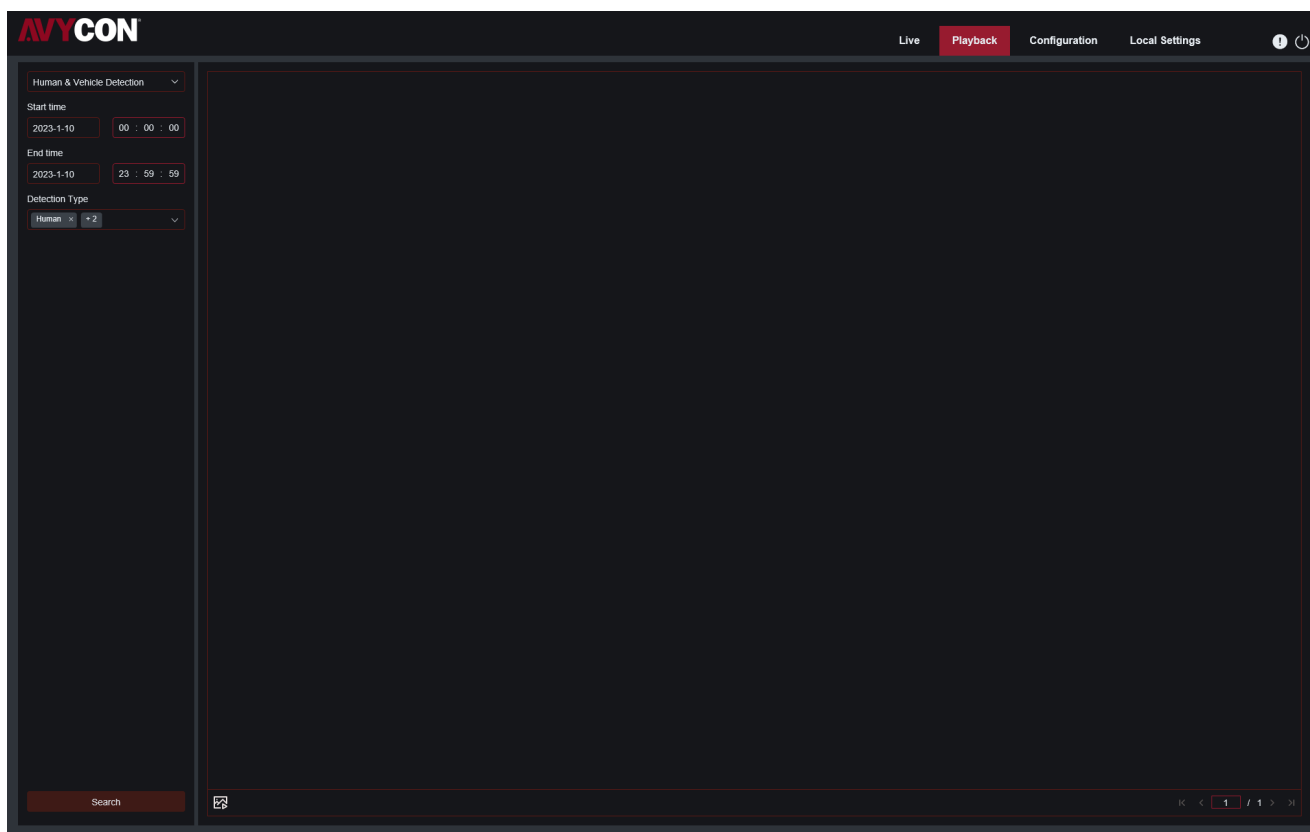
**Compare:** According to the set search time, the group of captured images, and the selected face, face capture search performs by making comparison with reference image.

**Added Image Display Area:** Display the pictures that have been added and can be used for Compare search.

**Search Result Display Area:** On the right side, the searched face captures will be displayed according to Search and Compare functions. You can double-click the picture to see the playback for a short period before and after the detection.

### 7.3 Playback Searched by Human & Vehicle

Similar to the face capture function, the camera can distinguish between people or cars, and record them, so as to search for the required records. The interface is shown in the figure below.



**Search Mode:** Switch the search mode. The current search mode is AI-Human & Vehicle Detection

**Start time:** Set the start time of search.

**End time:** Set the end time of search.

**Detection Type:** Set the captures of human or car to be searched, and you can also search both at the same time.

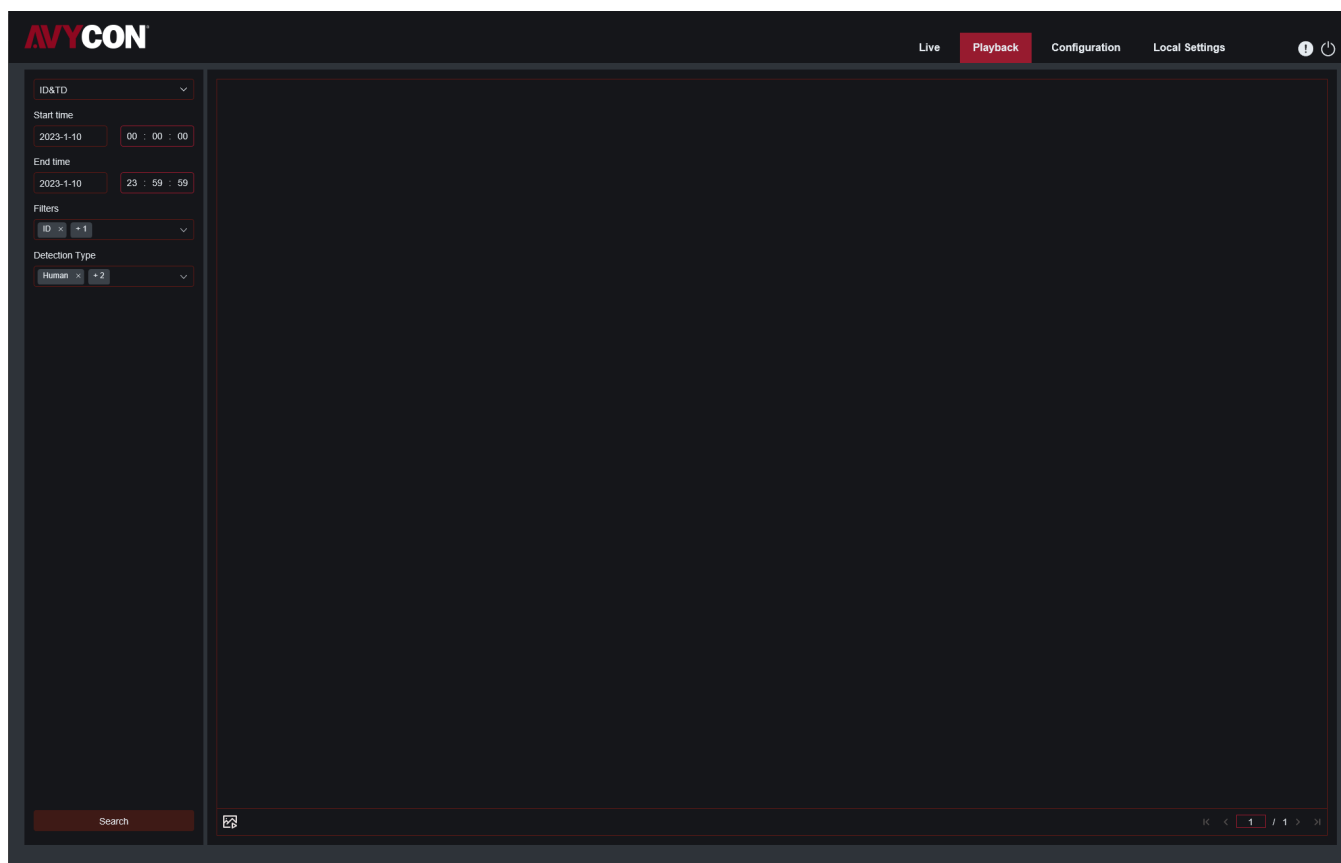
**Search:** Search for human&vehicle captures according to the search element settings.

**Search Results Display Area:** Display the search results. Double-click the picture to enter the playback for a short period of time before and after the detection.

**Search results Flip:** You can flip the search results in the lower right corner.

## 7.4 ID & TD

With the development of technology, AI-ID & TD is added human&vehicle detection function, can alarm the target of human&vehicle only. Besides, the picture or video is recorded, which is easy to search and view. The interface is shown in the figure below.



**Search Mode:** Switch the search mode. The current search mode is AI-ID&TD.

**Start time:** Set the start time of search.

**End time:** Set the end time of search.

**Vigilance:** Set the capture mode of triggering the alarm to ID or TD, and it can also be set at the same time.

**Detection Type:** Set the captures of human or car to be searched, and you can also search both at the same time.

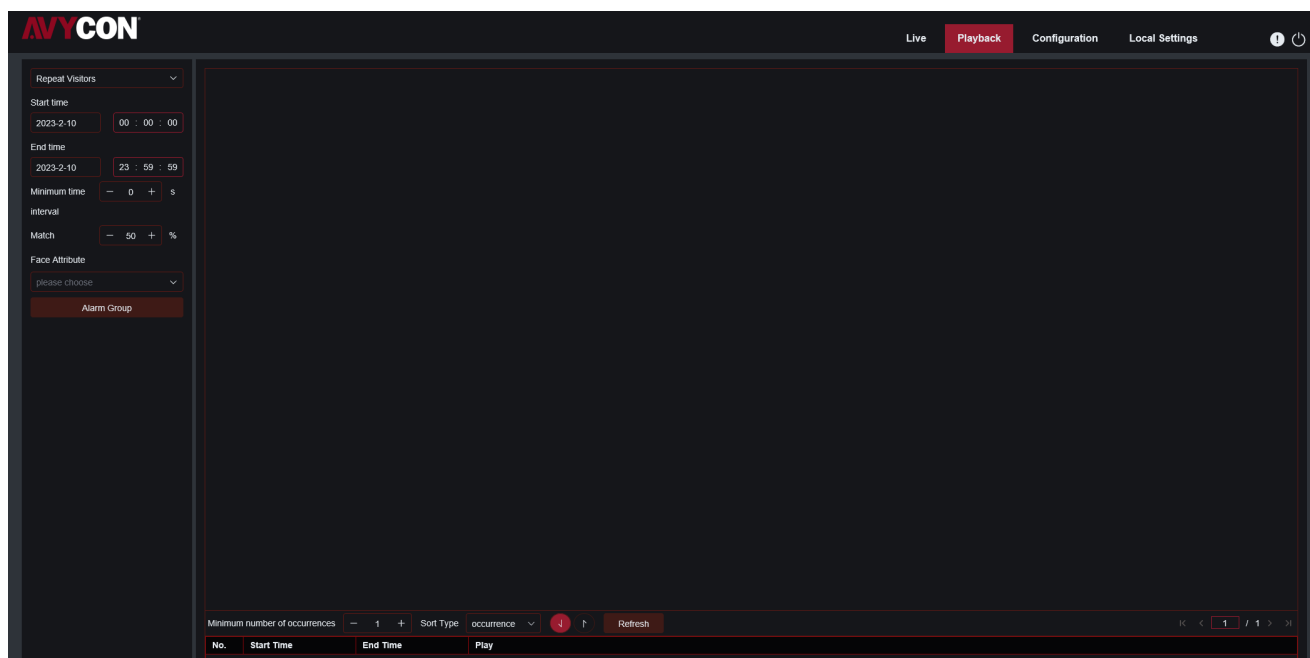
**Search:** Search for human & car captures according to the search element settings.

**Search Results Display Area:** Display the search results. Double-click the picture to enter the playback for a short period of time before and after the detection.

**Search results Flip:** You can flip the search results in the lower right corner.

## 7.5 Repeat Customer Detection

When using the face recognition function, the camera not only can alarm in time, but also can dig out in-depth data to meet customer's demand. For example, with the repeat customer function, you can find out whether customers stay in specific area to see products. You can also monitor an area to see if there are suspicious targets often appearing in the area. The repeat customer function interface is shown in the figure below.



**Search Mode:** Switch the search mode. The current search mode is AI-Repeat customer.

**Start time:** Set the start time of search.

**End time:** Set the end time of search.

**Minimum time interval:** Set the minimum interval between two captures of the same target to increase search accuracy.

**Similarity:** The minimum similarity setting between other pictures and the reference picture when matching repeat customers.

**Note:**

*This setting only takes effect when grouping is not checked.*

**Face Attribute:** Filter and search pictures based on facial feature values.

**Note:**

*When this option is not set, all pictures can be searched. When this option is set, only the captures with face attribute turned on are searched.*

**Search result display area:** Display the search results in a stacked manner. Double-click the displayed picture information to list the stacked pictures in the lower area in detail, and click the corresponding picture again to jump to the corresponding quick playback.

**Minimum number of occurrences:** Filter the search results according to the number of occurrences. You need to click Refresh to display.

**Sort Type:** Sort the search results by time or the number of captures. Ascending and descending order is available. You need to click Refresh to refresh.

**Refresh:** Refresh the IE sort according to Minimum number of occurrences and Sort Type.

**Search Result Secondary Display Area:** According to the information selected in the search result display area, the capture of the selected target is displayed in the form of an event list. Click Play button to switch to the corresponding quick playback.

## 7.6 Face Attendance

In addition to the above repeat customer function, there is also a face attendance function. Face Attendance (FA) function is to retrieve different groups (excluding stranger groups) saved in the SD card that match the human face at a specified time, and generate attendance results based on the captured records. The interface is shown in below figure.

The screenshot displays the AVYCON software interface for Face Attendance. The top navigation bar includes 'Live', 'Playback' (highlighted), 'Configuration', and 'Local Settings'. The main interface is divided into a sidebar and a main content area.

**Sidebar:**

- Face attendance (dropdown)
- Search time mode
- Day (dropdown)
- 2023-2-10 (date selector)
- Import type: By group (dropdown)
- Alarm Group (button)
- Search (button)

**Main Content Area:**

- Scheduled Days: Mon x 4
- Duty Time: 08:30:00 - 17:30:00
- Refresh (button)
- Export (button)

No.	Name	Group	Detail	Late	Early Departure	Absent
No data						
<span>✓ Normal</span> <span>→ Late</span> <span>← Early Departure</span> <span>↔ Late and Early Departure</span> <span>○ Absent</span>						

Navigation controls at the bottom of the table: < 1 / 1 >

**Search Mode:** Switch the search mode. The current search mode is AI-Face Attendance

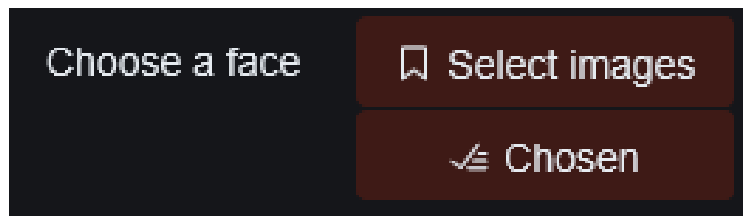
**Attendance Type:** There are day, week, month, customize and today. After selecting a type, the system will automatically change the start date and end date. Select day, it will automatically synchronize the end date and start date. Select week, it will automatically change the start date and end date to the Monday and Sunday of the week where the selected date is located. Select month, the start date and end date will be automatically changed to the first and last day of the month where the selected date is located. Select customize to customize the search date. Select today to automatically change the start date and end date to the current day.

**Start Date:** Set the start time of search.

**End Date:** Set the end time of search.

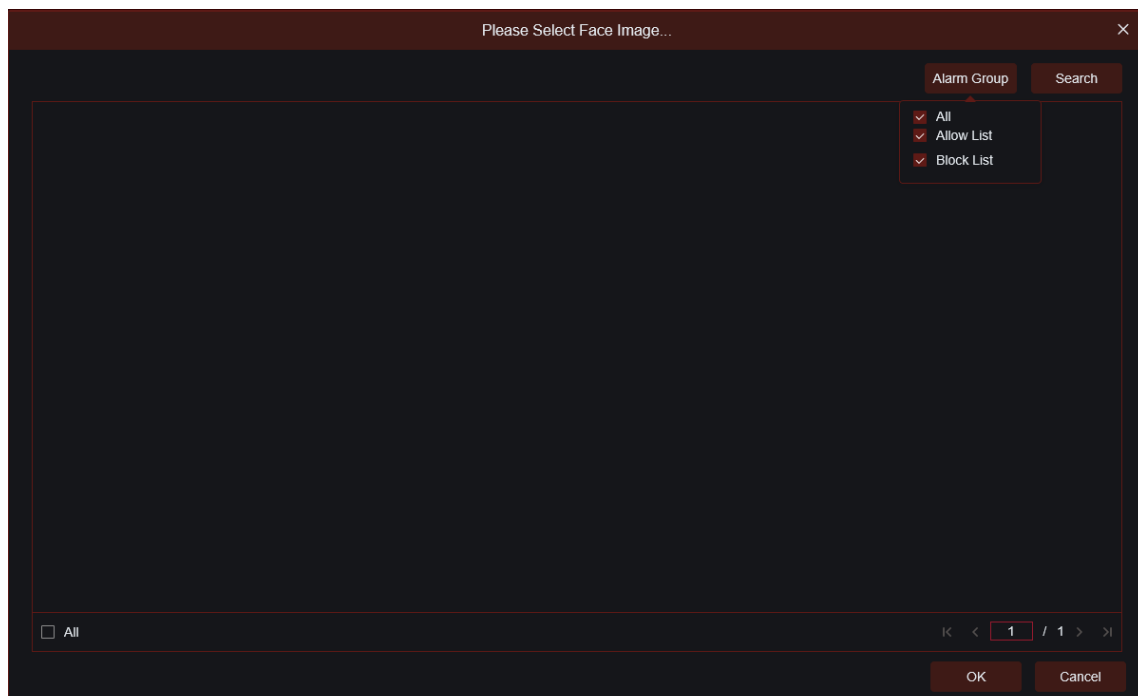
**Import type:** Select the import type. There are by group and by face. The former is to take all persons in the existing group as the detection object and search for matching results. The latter is to select people in a certain group to search for matching results.

**Alarm Group:** When selecting by group, search for face attendance results based on database grouping.



When by Face is selected, the interface will be replaced with the menu shown above.

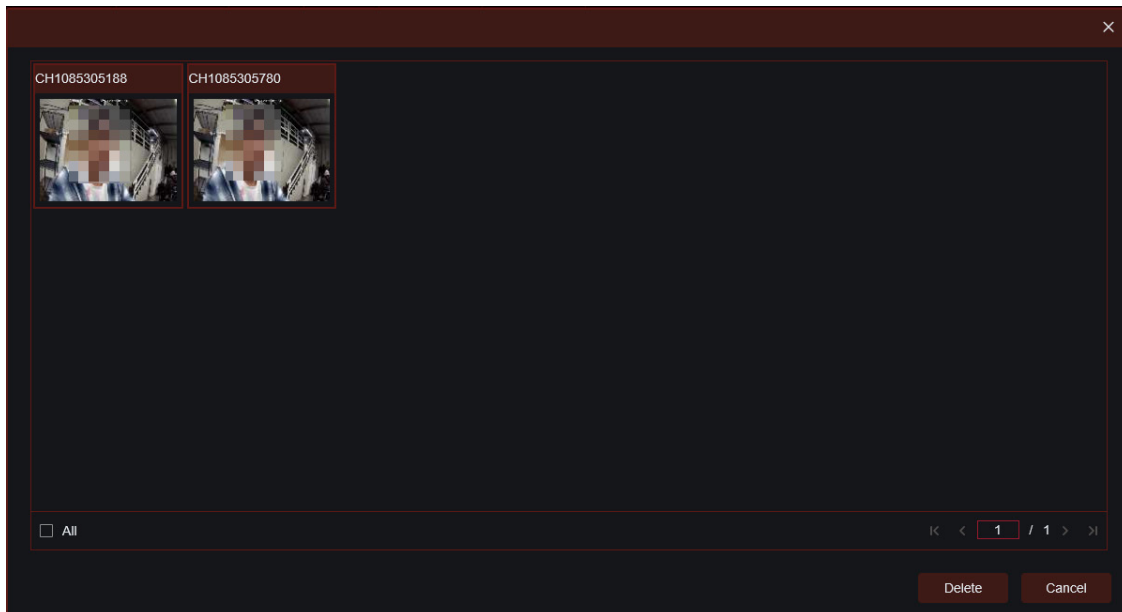
**Select Image:** Click to select the face to be detected. The window shown in the below will pop up.





Click Alarm Group to select a group, and then click Search, all faces in the group will be searched out. Select the face you want to perform face attendance detection, then click OK to add the face to the Chosen queue. Window can be closed by Cancel.

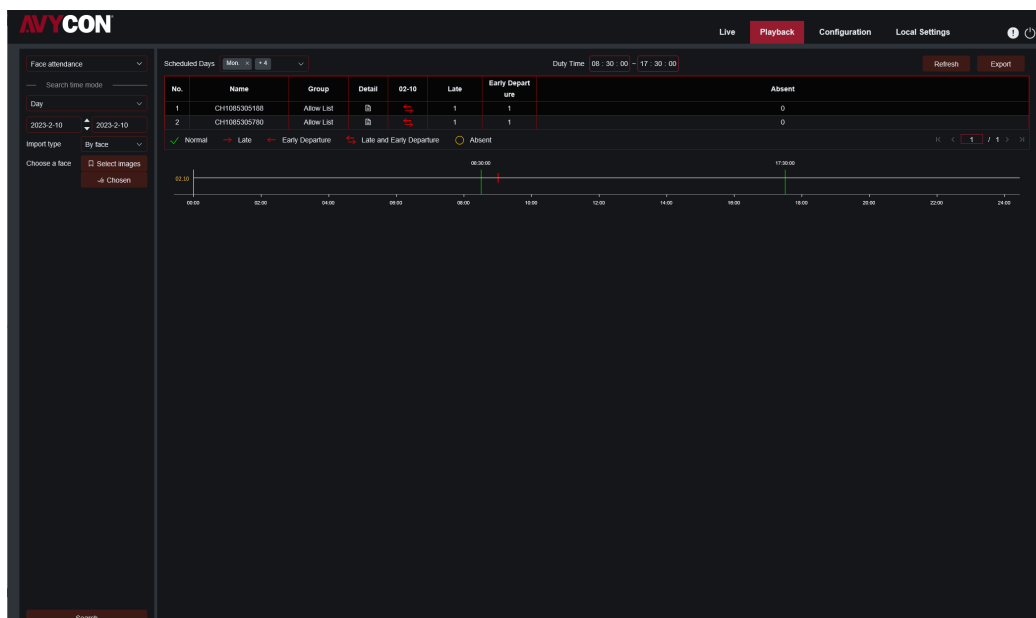
**Chosen:** The selected face queue. After clicking, a window shown in below will pop up.



Click Delete to remove the selected face from the queue, or click All to select all faces. Click Cancel to close the window.

**Search:** Search face attendance information

**Search Result Display Area:** Display the search results in the form of a table on the upper right side. As shown below.



**Working Day:** Click to set the working day.

**Duty Time:** Set attendance time.

**Refresh:** After changing attendance parameters, click to refresh the search results.

**Export:** Click to export the results to the computer.

**Attendance results:** "m" means leaving early, "l" means late, "ml" means both leave early and late, "n" means normal attendance. "o" means absence. The green line indicates the start and end time of attendance.

**Search Result Secondary Display Area:** Click on a person, and detailed time information will be displayed at the bottom right. The due time that matches this person will be marked with a red bar. Click the red bar to jump to the corresponding quick playback.

Click Detail icon to view detailed information. Click the playback icon to enter the corresponding quick playback.

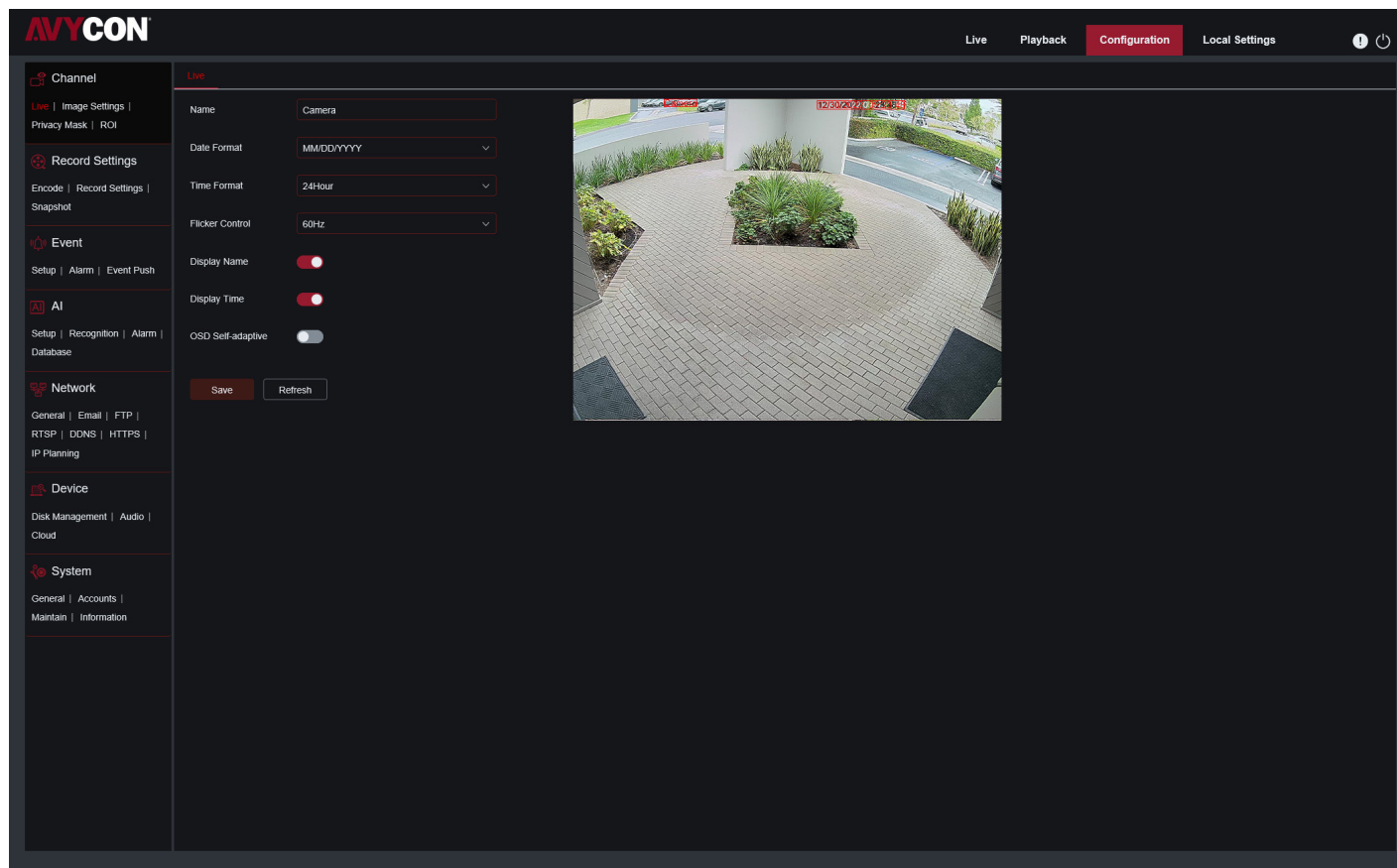
No.	Start time	End time	Playback
1	2023-2-10 08:55:19	2023-2-10 08:55:21	▶
2	2023-2-10 08:56:49	2023-2-10 08:56:54	▶
3	2023-2-10 09:17:09	2023-2-10 09:17:32	▶

Click the arrow in the lower right corner to flip the results.

## Chapter 8 Live

### 8.1 Live

The Live is to set the location where the channel name, device time, CC and other intelligent function statistics data and the image are superimposed. The interface is shown in the figure below.



**Name:** Set the channel name that camera shown on the OSD.

**Date Format:** Set OSD date format displaying.

*There are three types: MM/DD/YYYY, YYYY-MM-DD, and DD/MM/YYYY.*

**Time Format:** Set OSD time format. There are 12 hours and 24 hours optional.

**Flicker Control:** Set the refresh rate of the image. There are two options of 60Hz and 50Hz, corresponding to N standard and P standard.

**Show Name:** Set whether to display the channel name in the image.

**Show Time:** Set whether to show the channel time in the image.

**Channel Name Display Position:** Set by dragging the channel name on the image.

**Time Display Position:** Set by dragging the channel time on the image.

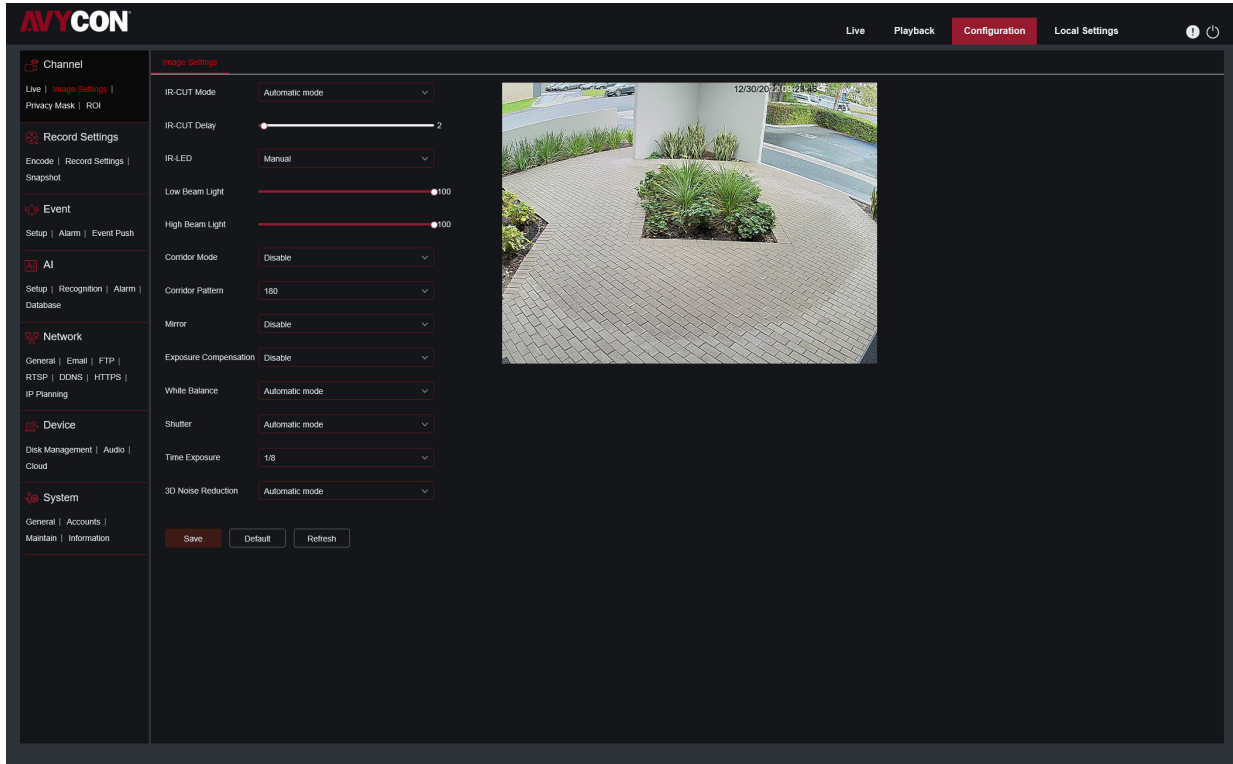
**Alarm Statistics Display Position:** Set by dragging the position of the channel alarm statistics on the image. This setting will only be displayed when the function is enabled.

**Save:** Save current modification

**Refresh:** Re-obtain the current interface parameters.

## 8.2 Image Control

Image control is to directly control and modify graphics parameters, such as color to black mode, wide dynamic, backlight supplement, etc. The interface is shown as below.



**IR-CUT Mode:** Set the day/night switching mode of the camera, a total of 5 modes.

**Automatic mode:** Automatically control switching mode. Color switching to black white is controlled by image, black white switching to color is controlled by photosensitive.

**Color Mode:** Mandatory color mode, do not switch to black white mode.

**Black White Mode:** Mandatory black white mode, do not switch to color mode.

**Image Mode:** Similar to the automatic mode, the color-to-black and the black-to-color modes are controlled through the image (supported by some models)

**Schedule:** Switch between black white and color through the schedule setting. To enable this function, you need to set the start and end time of night vision.

**IR-CUT Delay:** Automatic mode and Image Mode switch between day and night, the duration of IR-CUT need to be determined. For example, when switching the night vision, the night vision switch will only be performed when the camera is in the dark for the set time.

**IR-LED:** Set the fill light effect of the camera's IR LED during night vision, there are 2 modes. SmartIR Intelligently control the intensity of the IR LED's fill light, and dynamically control the IR LED's fill light according to the focal length and whether the picture is over-exploded.

**Manual:** Manual mode, fill light with the set brightness of the IR LED.

**Angle Trad:** Image rotation setting. The camera is inverted from the preset in some scenarios. For example, it is designed to be used upside down, but in practice it is used horizontally. The image can be adjusted by this value.

**Mirror:** Set the mirror mode to adjust the picture effect, there are 4 modes.

**Disable:** Turn off the mirror mode.

**Vertical:** Mirror mode in vertical direction, which makes the images of the screen interactive up and down.

**Horizontal:** Mirror mode in horizontal direction, which makes images of the screen are interactive left and right.

Manual mode, fill light with the set brightness of the IR LED.

**All:** Turn on Vertical and Horizontal at the same time, the effect is similar to 180° rotation, but the realization principle is different.

**Backlight:** Set the performance of the firmware in backlight, there are 4 modes:

**WDR:** Wide dynamic mode, according to the set value to make the overall picture in a balanced state, bright and dark areas can be seen clearly.

**HLC:** Highlight Compensation. Make the objects in the highlighted area clearer in the image. (Supported by some models)

**Back Light:** Make objects clearer in dark places.

**Disable:** Turn off Back Light.

**White Balance:** Use three primary colors of red, green, and blue to generate white after mixing, which is an indicator of color adjustment. There are 2 modes.

**Automatic mode:** Use the default parameters of the firmware to adjust the white light.

**Manual:** The user actively sets the red, green, and blue gains to synthesize white light.

**Shutter:** Set the shutter exposure time, there are 2 modes.

**Automatic mode:** According to the set Time Exposure value, the firmware automatically selects an appropriate exposure time.

**Manual:** Directly use the time set in Time Exposure.

**Time Exposure:** Set the camera's exposure time, used in conjunction with Shutter. When the exposure time is long, the image will be overexposed, and when the exposure time is short, the picture will be dark.

**Defog:** Foggy weather will cause the image to be bad. The defog function can offset this shortage. There are three settings:

**OFF:** Disable defog function

**Automatic mode:** The camera automatically defog.

**Manual:** Defog according to the manually set value.

**3D Noise Reduction:** Reduce the noise in the image and make the picture clearer. There are three modes:

**Automatic mode:** The camera automatically selects the noise reduction according to the algorithm.

**OFF:** Disable noise reduction.

**Manual:** Reduce noise manually.

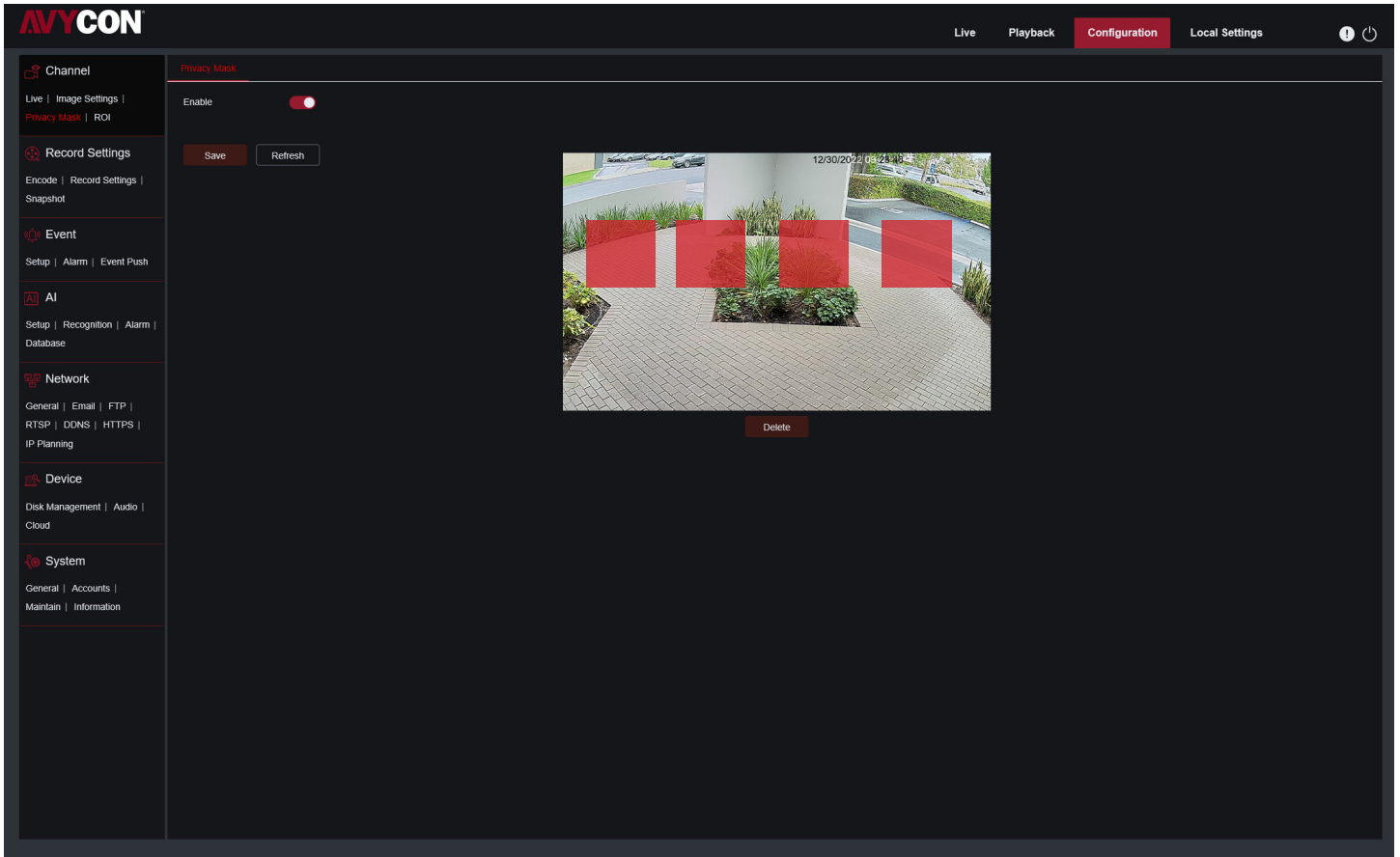
**Save:** Save parameters.

**Default:** Restore parameters to the default.

**Refresh:** Re-obtain parameters.

### 8.3 Video Cover

In actual use, some areas are not suitable for monitoring and recording. Those areas can be hidden in the video through this function. The interface is shown in the figure below.



**Enable:** Switch to turn on the function.

**Cover Area:** Set the area that needs to be covered on the monitoring screen. When setting, the covering block is red, and the corresponding area of the screen is black when it is enabled. 4 covering blocks can be set.

**Delete:** Remove the selected covering block.

## 8.4 ROI

ROI allows that you can select an area as an important or sensitive area from the video. This area can be set to a different frame rate and resolution with the non-selected area.

The screenshot displays the AVYCON web interface for configuring ROI (Region of Interest) settings. The interface is divided into a left sidebar with navigation menus and a main content area. The main content area is split into a settings panel on the left and a video preview on the right.

**Navigation Sidebar (Left):**

- Channel:** Live | Image Settings | Privacy Mask | ROI
- Record Settings:** Encode | Record Settings | Snapshot
- Event:** Setup | Alarm | Event Push
- AI:** Setup | Recognition | Alarm | Database
- Network:** General | Email | FTP | RTSP | DDNS | HTTPS | IP Planning
- Device:** Disk Management | Audio | Cloud
- System:** General | Accounts | Maintain | Information

**ROI Configuration Panel (Left):**

- Stream Type:** MainStream
- Region ID:** 1
- Enable Region:**
- ROI Level:** Lowest
- Non-ROI Fps(1-29):** 29
- Buttons:** Save, Refresh

**Video Preview (Right):**

- Shows a live video feed of an outdoor area with a red square highlighting the ROI.
- Timestamp: 12/30/2021 08:21:28
- Buttons:** Delete

**Bitrate:** Select the bitrate to be set.

**Region ID:** Select the region ID, up to eight regions can be set.

**Enable Region:** Turn on.

**ROI Level:** Set the image quality in the area. The higher the quality is, the higher the resolution and frame rate are.

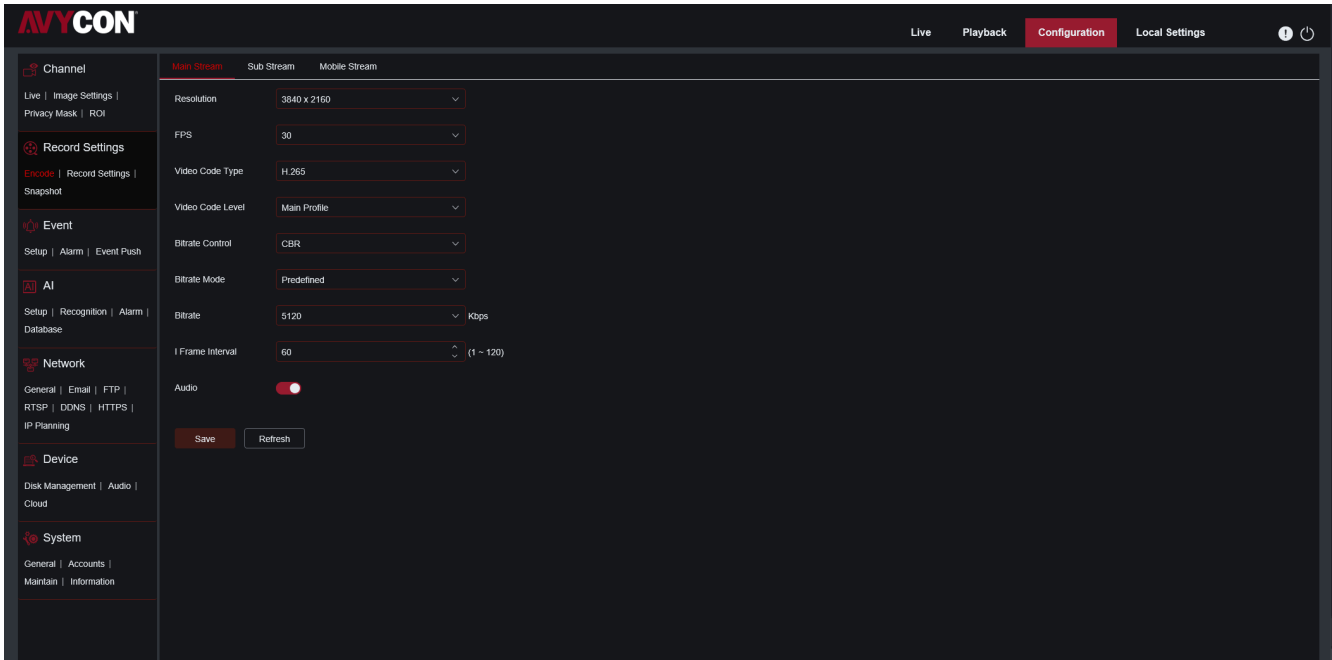
**Non-ROI FPS:** Set the frame rate outside the region.

## 8.5 Record

This menu allows you to configure the preview and recording parameters.

### 8.5.1 Encode

This menu allows you to configure the image quality of recorded video or network transmission. Generally, the main stream is the quality of the recorded video that will be saved in the HDD; the sub stream is the preview video quality through remote access (such as Web client and CMS). The mobile stream which can be disabled defines the preview quality of the mobile device through remote access.



**Resolution:** The resolution of the recorded image.

**FPS:** The number of frames recorded by IPC.

**Video Code Type:** Decoding type, there are H264, H265, H264+, H265+ and MJPEG (MJPEG mode only exists in sub-stream mode)

**Video Code Level:** Video quality level, including Bestline, Main Profile and High Profile (for H265, only Main Profile is available).

**Bitrate Control:** Select the bitrate level. For simple scenes, such as gray walls, a constant bit rate (CBR) is suitable. For more complex scenes, such as busy streets, variable bit rate (VBR) is more suitable.



**Bitrate Mode:** If you want to set the bitrate yourself, please select the “Custom” mode. If you want to select a preset bitrate, select “Preset Mode”.

**Bitrate:** The data transmission speed that IPC uses to record. Video with higher bitrate will have better quality.

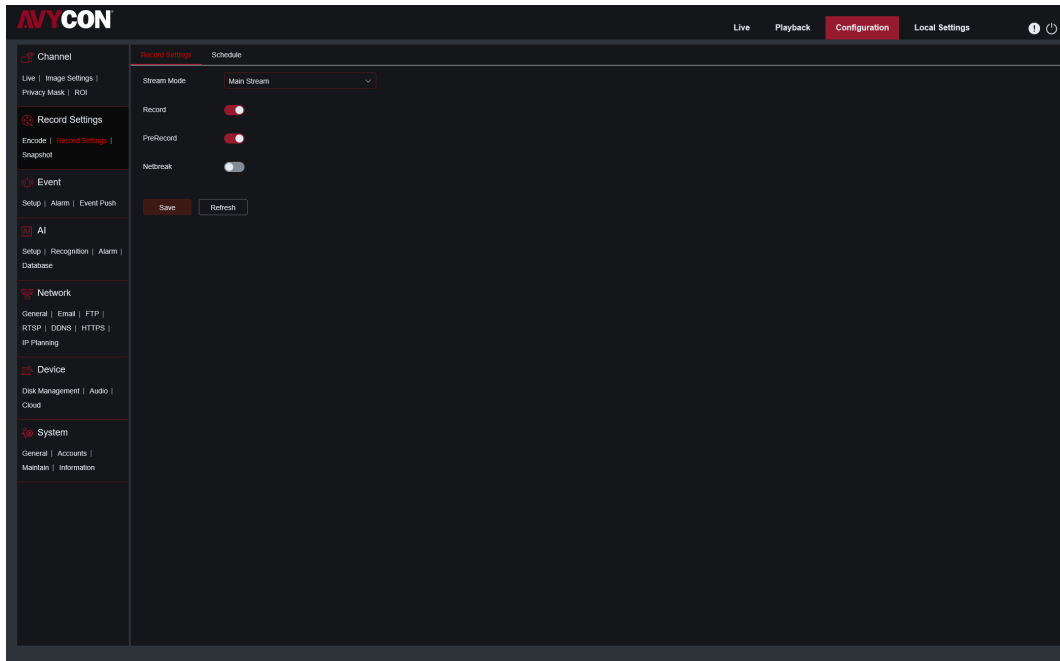
**I Frame Interval:** Set the I frame interval, only IPC can be set.

**Audio:** If you want to record audio and video at the same time, and connect a microphone to the IPC or use a camera with audio capabilities, please select this option.

## 8.5.2 Record Setting

### 8.5.2.1 Recording Parameters

Recording parameters can be set by this menu.



**Stream Mode:** The video stream to be saved in the SD card in recording mode. The default is the main stream.

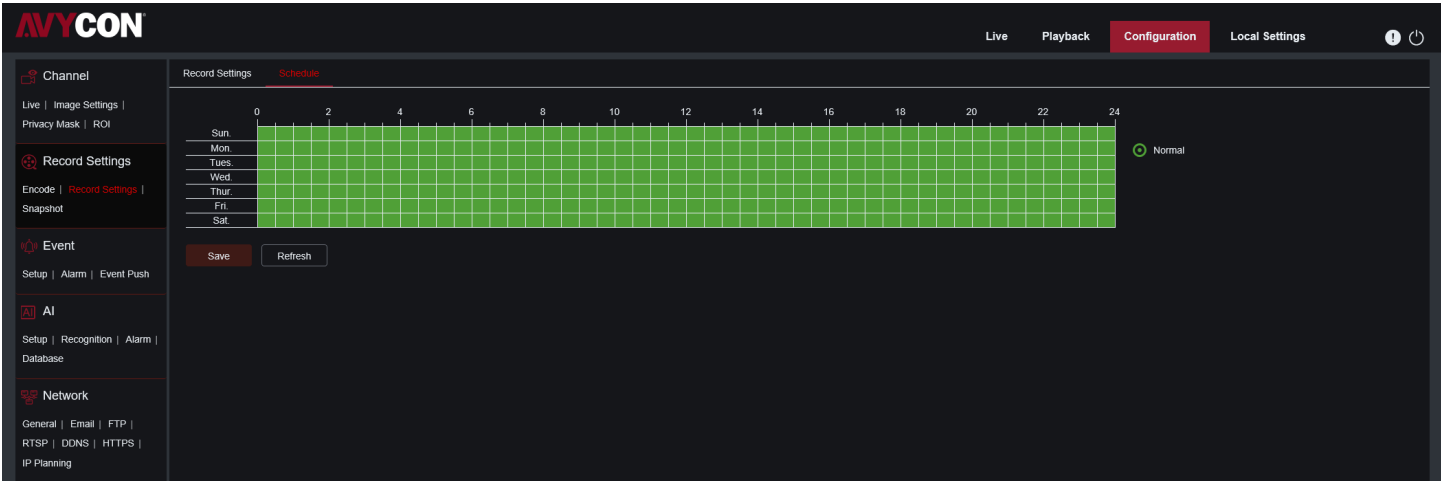
**Record:** Check to enable recording.

**PreRecord:** If this option is enabled, the IPC will start recording a few seconds before the alarm event occurs. If your camera’s main recording type is based on motion detection or I/O alarm, it is recommended to use this option.

**Netbreak:** Recording when the network is disconnected

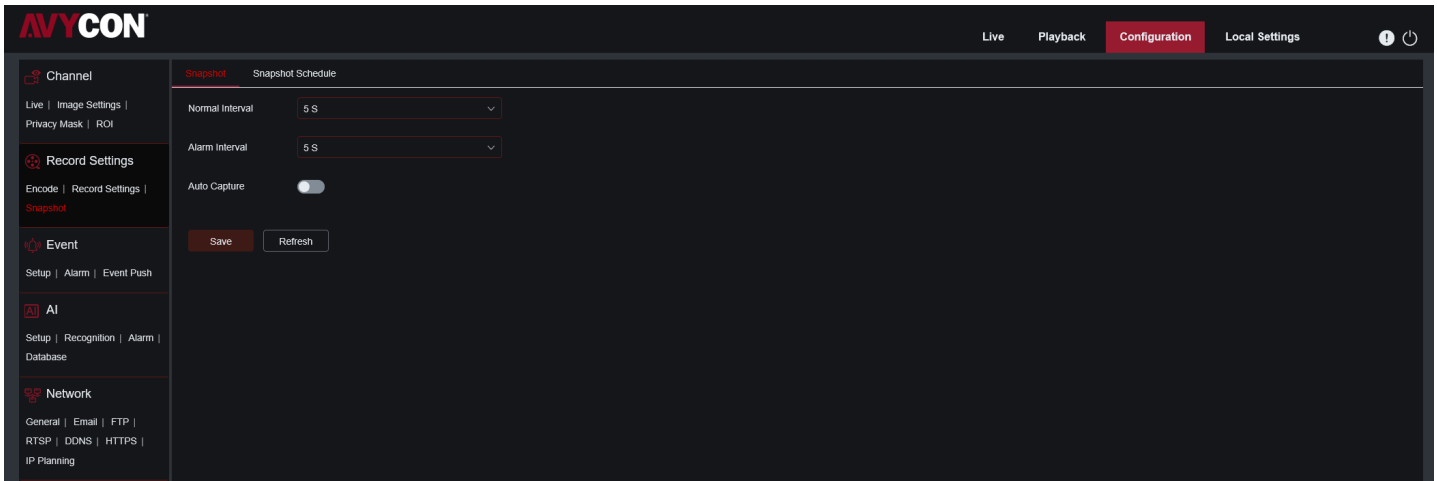
### 8.5.3 Recording Schedule

This menu allows you to specify when the IPC will record video, which can be set in the recording schedule. Only during the selected time period will the recording be performed. Drag the cursor to mark the area.



#### 8.5.3.1 Snapshot

This menu allows to configure the image snapshot function.



- Auto Snapshot:** Enable or disable automatic capturing on the camera.
- Stream Type:** Select the image resolution by mainstream or substream.
- Normal Interval:** Time interval to capture an image in normal recording.
- Alarm Interval:** Time interval to capture an image when motion, IO alarm, or PIR is triggered.
- Manual Capture:** Enable or disable manual capture in the channel.

### 8.5.3.2 Snapshot Schedule

This menu allows you to specify when the IPC will take a snapshot, which can be set in the snapshot schedule. The camera will only take snapshot during the selected time period for Normal, Motion, IO detection. Drag the cursor to mark the area.



**Camera:** Enable or disable motion detection.

**Normal:** When the time slot is marked green, this indicate the channel perform normal capture for that time slot.

**Motion:** When the time slot marked yellow, this indicate the channel capture images only when a motion is detected during that time slot.

**IO:** When the time slot is marked red, this indicates the channel capture images only when the sensor is triggered during that time slot.

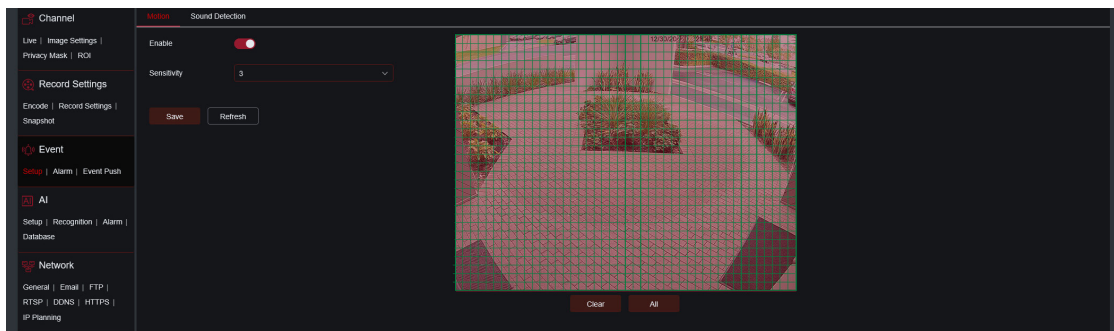
**No Capture:** A time slot marked black means that it won't capture any images for the time slot, but you can manually capture images if you enable the manual capture function in the channel.

## 8.6 Event

### 8.6.1 Setup

#### 8.6.1.1 Motion Detection

This menu allows you to configure motion detection parameters. When motion is detected, a series of alarms are triggered, such as sending an email alert with additional images from the camera (if this option is enabled), pushing notifications via mobile APP.



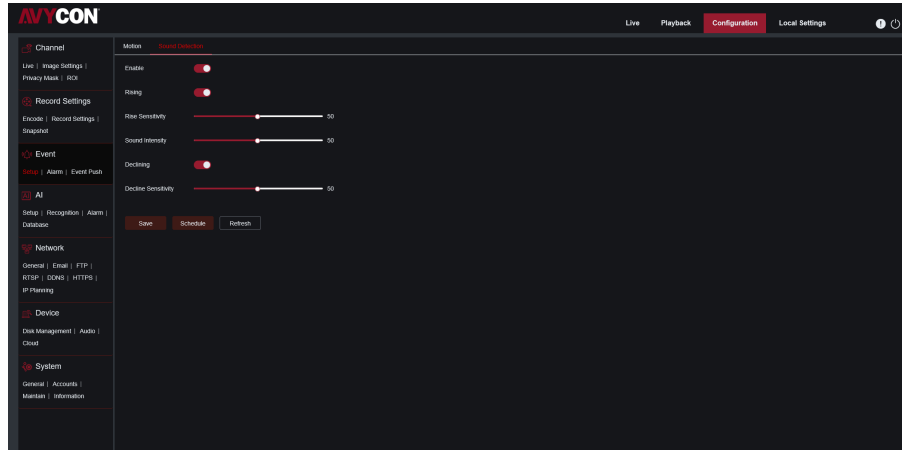
Drag the left mouse button to delimit the detection area in the right window. Only movement in the area will trigger an alarm.

**Enable:** Enable or disable motion detection.

**Sensitivity:** Set the sensitivity of motion detection. There is more large value, there is more sensitive.

### 8.6.1.2 Sound Detection

When the camera detects a change in the connected audio and meets the requirements of the alarm detection setting, an alarm will be triggered.



**Enable:** Turn on/off sound detection.

**Rise:** The alarm will be triggered only when the volume rises steeply.

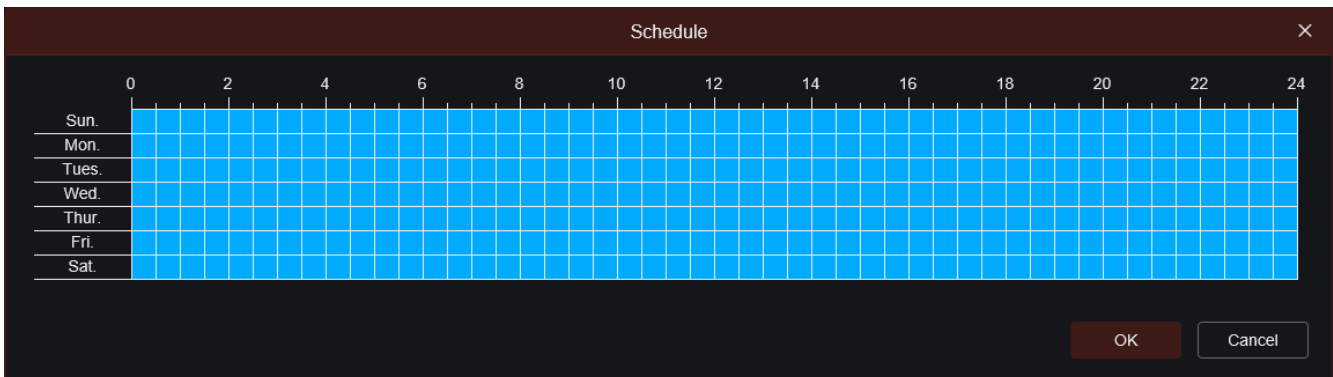
**Rise Sensitivity:** Fine-tuning sound rise sensitive detection, and the sensitivity can be set to 1-100. The larger the value the lower the sound detection threshold.

**Sound Intensity:** Coarse-tuning sound rise sensitive detection, and the sensitivity can be set to 1-100. The larger the value, the higher sound detection threshold. Hard to trigger alarm.

**Decline:** Turn on the sound drop detection, when the sound suddenly increases and decreases in a short period of time, trigger the sharp drop alarm.

**Decline Sensitivity:** The decline sensitive can be set to 1-100, and the higher the value is, the higher the sensitivity. More easy to trigger alarm.

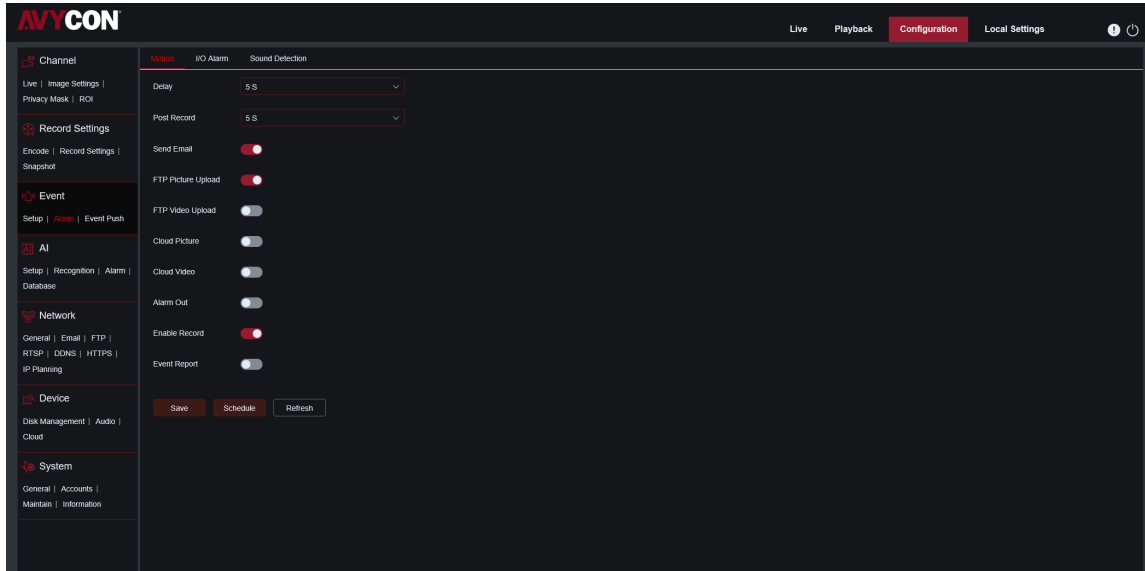
**Schedule:** Set the time schedule of sound detection. It is fully enable by default. The user can customize the time period of touch sound alarm.



## 8.6.2 Alarm

This menu can set the actions to be executed when various alarms are triggered.

### 8.6.2.1 Motion Detection



**Delay:** Set the external alarm triggering time when motion is detected.

**Post Recording:** Set the duration of the device's recording after the event occurs. There are 5s, 10 s, 20s, and 30s optional. The default recording time is 5s. The max is 30s.

**Send Email:** Set the camera to send email to your mailbox when it detects motion.

**FTP Picture Upload:** Upload the alarm picture to the FTP server after the alarm is triggered.

**Cloud Picture:** Upload the alarm picture to the cloud server after the alarm is triggered.

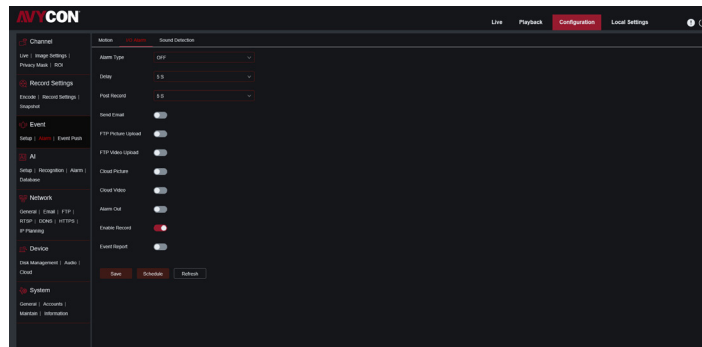
**Alarm Out:** Optional function. If your camera supports to connect an external alarm device, you can enable this function to activate the external alarm device.

**Enable Record:** When checked, this type of recording will be enabled when an alarm is triggered.

**Schedule:** Set the scheduled time of each alarm action. A series of alarm actions will be executed within the scheduled time.

### 8.6.2.2 I/O Alarm

This is an optional function. This function can be enabled only if the camera supports I/O sensors and meanwhile is connected an external I/O alarm device.



**Alarm Type: Three types are optional:** Normally open, Normally close and Off. Select a type that matches your sensor type, or select "Off" to turn off the sensor trigger function.

**Delay:** The time that the camera IO alarm continues to alarm after the alarm ends.

**Post Recording:** Set the duration of the device's recording after the event occurs. There are 5s, 10 s, 20s, and 30s optional. The default recording time is 5s. The max is 30s.

**Send Email:** Set the camera to send email to your mailbox when it detects I/O.

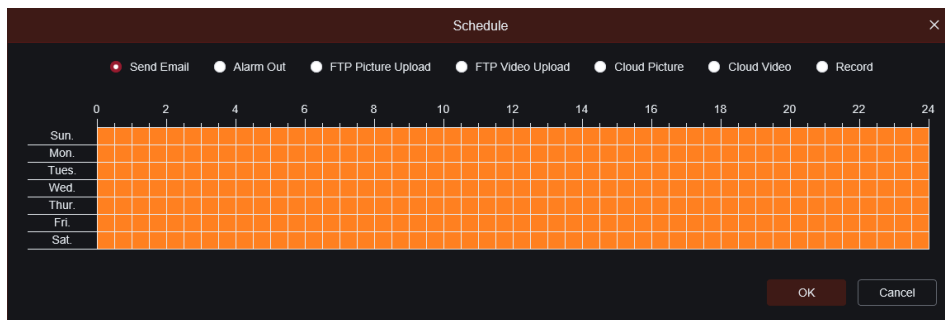
**FTP Picture Upload:** Upload the alarm picture to the FTP server after the alarm is triggered.

**Cloud Picture:** Upload the alarm picture to the cloud server after the alarm is triggered.

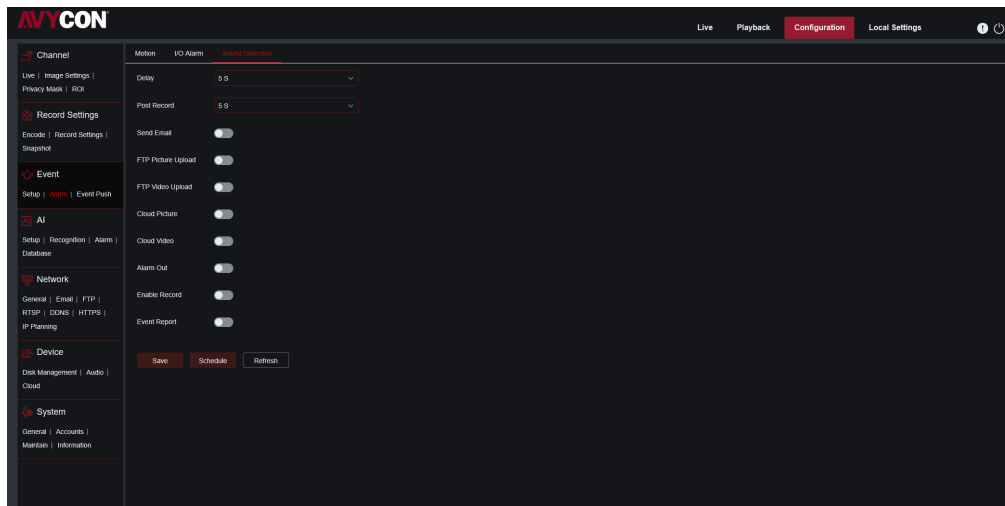
**Alarm Out:** Optional function. If your camera supports to connect an external alarm device, you can enable this function to activate the external alarm device.

**Enable Record:** When checked, this type of recording will be enabled when an alarm is triggered.

**Schedule:** Set the scheduled time of each alarm action. A series of alarm actions will be executed within the scheduled time.



### 8.6.2.3 Sound Alarm



**Delay:** Set the external alarm triggering time when motion is detected.

**Post Recording:** Set the duration of the device's recording after the event occurs. There are 5s, 10 s, 20s, and 30s optional. The default recording time is 5s. The max is 30s.

**Send Email:** Set the camera to send email to your mailbox when it detects sound.

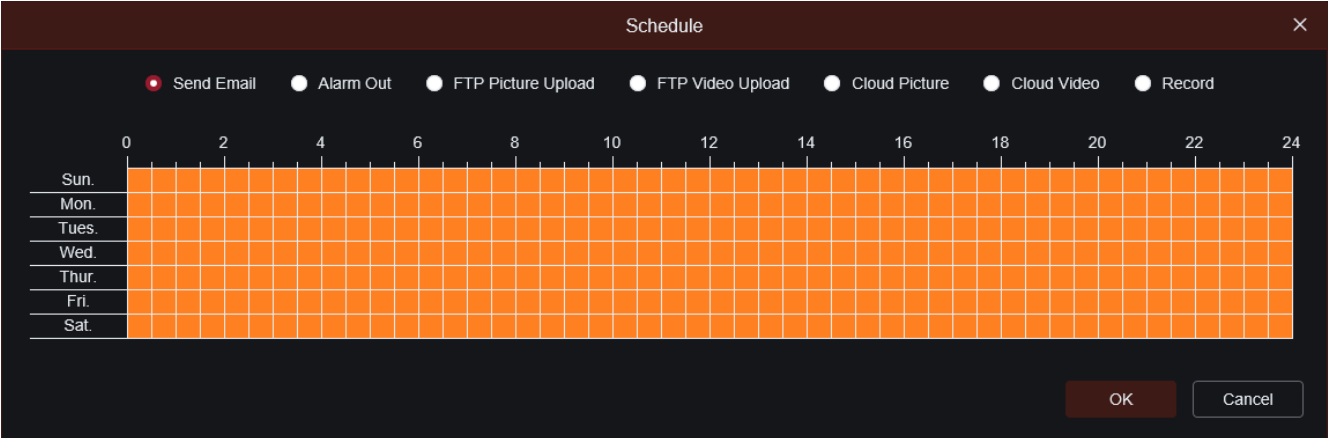
**FTP Picture Upload:** Upload the alarm picture to the FTP server after the alarm is triggered.

**Cloud Picture:** Upload the alarm picture to the cloud server after the alarm is triggered.

**Alarm Out: Optional function.** If your camera supports to connect an external alarm device, you can enable this function to activate the external alarm device.

**Enable Record:** When checked, this type of recording will be enabled when an alarm is triggered.

**Schedule:** Set the scheduled time of each alarm action. A series of alarm actions will be executed within the scheduled time.



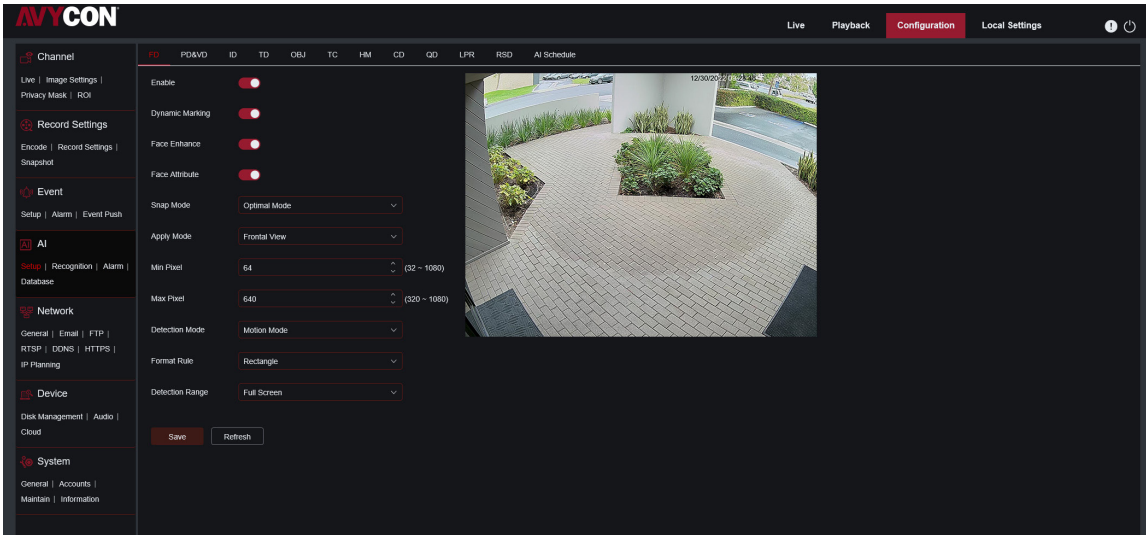
## 8.7 AI

### 8.7.1 Setup

To use AI smart alarm, you need to enable the corresponding alarm function in the Setup menu first. This function requires the computing power of the camera. Due to the limitation of the camera's performance, HM and other functions can be enabled at the same time, whereas ID, TD, SOD, FD, PD&VD, TC, CD, and QD cannot be enabled at the same time.

#### 8.7.1.1 FD

By enabling this function, the cameras detect the face target to obtain captures that meet the requirements, then calculate the facial feature data of the captures through the face model algorithm, and compare it with the face database to trigger alarm.



**Enable:** Turn on/off the function

**Dynamic Marking:** Display the detection frame. Enable/disable the detection rule line.

**Face Enhance:** Increase the capture effect of moving targets. Meanwhile, it also adjusts the brightness of the face closest to the camera to optimize the snapshot effect.

**Face Attribute:** Detect face capture by recognizing attributes, like age, gender, mask, glasses, expressions, etc.

**Note:**

*This function needs to be enabled to use AD alarm.*

**Snap Mode:** Set snapshot mode. You can enable the push reception on the preview interface or connect to the NVR to view the push effect. The firmware supports 3 kinds of snapshot modes.

**Optimal Mode:** The camera detects the target until the target disappears, and only pushes an optimal picture when target disappears.

**RealTime Mode:** When camera detects the target, it immediately pushes a picture. When the target disappears, it will push the best picture.

**Interval Mode:** Set the number of snapshots and the interval between snapshots and pushes. Snap Num can be set as: 1,2,3 and unlimited

**Snap Frequency:** The time range is 1-255 seconds. If set to 5 seconds, a push will be generated at 5, 10, and 15 seconds when the target is detected.

**Apply Mode:** Filter the captures. That means only the captures meet the angle setting, can the push be generated. There are 3 modes.

**Frontal View:** Only push the frontal image of the target.

**Multi Angle:** It can push the image that only detects the side face.

**Customize:** Customize the angle of the target that can be pushed. Selecting this function, the settings items like Roll Range, Pitch Range, Yaw Range, Picture Quality, as well as Frontal Default and Multi Default buttons will be added.

**Roll Range:** Set the rotation angle of the capture in 3D model. When the angle does not meet the settings, face detection can be performed but not pushed.

**Pitch Range:** Set the pitch angle of the capture in 3D model. When the angle does not meet the settings, face detection can be performed but not pushed.

**Yaw Range:** Set the horizontal deflection angle of the capture in 3D model. When the angle does not meet the settings, face detection can be performed but not pushed.

**Picture Quality:** It used to filter out non-face captures that are detected by mistake.

**Min Pixel:** Based on the resolution of 1080P, face pictures that are less than min pixel will be filtered out. The default resolution is 64x64 pixels, and the setting range is 32~1080 pixels.

**Max Pixel:** Based on the resolution of 1080P, face targets that are over max pixel will be filtered out. The default resolution is 640x640 pixels, and the setting range is 32~1080 pixels.

**Detection Mode:** Filter the behavior of the target in camera, there are 2 modes:

**Static Mode:** Detect all faces.

**Motion Mode:** Filter out static faces, such as the face of portraits and statues.

**Rule Kind:** There are 2 kinds of detection rule.

**Rect:** Only detect face targets in the set area.

**Line:** The face target is tracked after crossing the detection line according to the setting.

**Detection Range:** Set detection area. There are 2 modes.

**Full Screen:** Detect all areas that can be monitored by camera

**Customize:** Only detect the area selected by the quadrilateral frame.

**Rule Type:** This setting item is only available when Rule Kind is used. There are two triggering modes: A-->B and B-->A.

**Frontal Default Apply Mode:** It is available when select Customize. Set the push angle value to

**Range: 30      Pitch Range: 30      Yaw Range: 45      Picture Quality: 100**

**Multi Default Apply Mode:** It is available when select Customize. Set the push angle value to

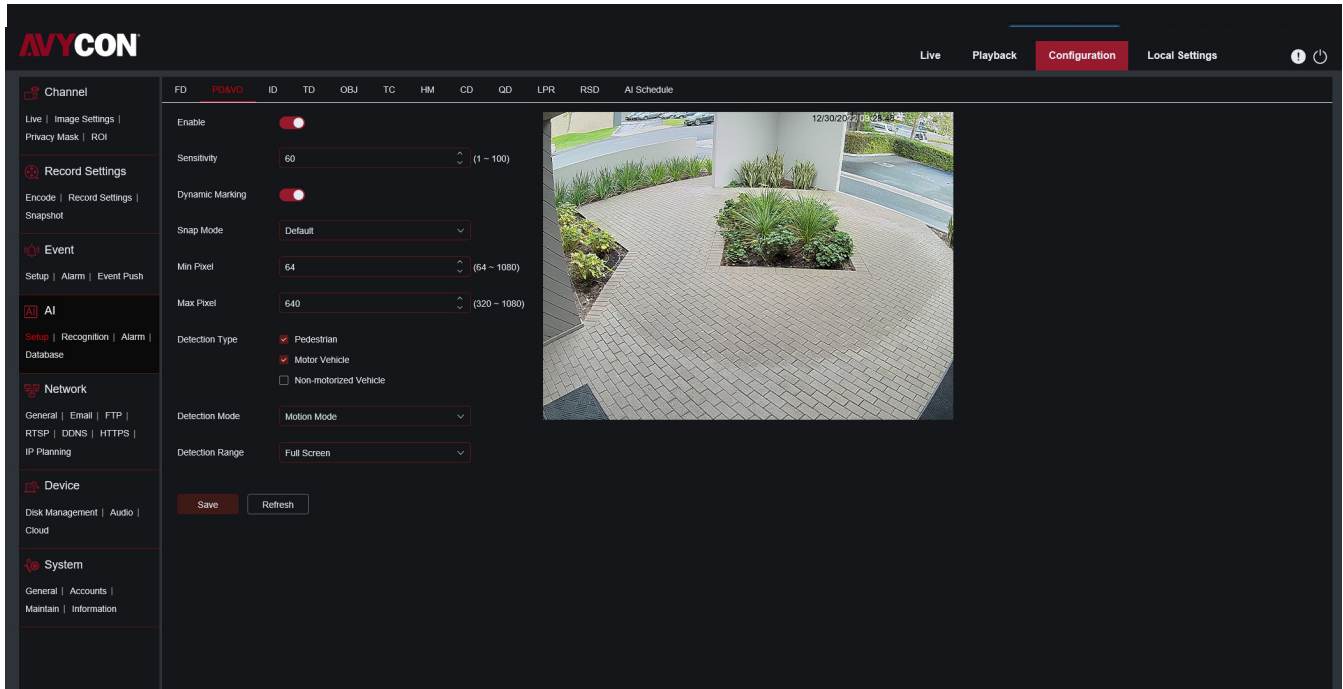
**Range: 180      Pitch Range: 180      Yaw Range:180      Picture Quality:100**

**Rule Setting Area:** The quadrilateral detection rule or trigger line can be set in this area.



### 8.7.1.2 PD & VD

Through this function, camera can recognize pedestrian or vehicle in the image, trigger an alarm, and record the corresponding screenshot.



**Enable:** Enable/disable the function.

**Sensitivity:** The larger the value is, the more accurate the detection is. But false alarm will also be more.

**Dynamic Marking:** Display the detection frame. Enable/disable the detection rule line.

**Snap Mode:** Set snapshot mode. You can enable the push reception on the preview interface or connect to the NVR to view the push effect. The firmware supports 3 kinds of snapshot modes.

**Default:** Camera detects until the target disappears. One picture relating human or vehicle will be pushed when the target disappears.

**RealTime Mode:** When camera detects the target, it immediately pushes a capture. When the target disappears, it will push a capture again.

**Interval Mode:** Set interval to push captures

**Snap Num:** Based on the interval set in Snap Frequency, camera pushes pictures by one time, two times, three times or unlimited times for the same target.

**Snap Frequency:** Camera pushes picture in the set time.

**Min Pixel:** Based on the resolution of 1080P, person or vehicle pictures that are less than min pixel will be filtered out.

**Max Pixel:** Based on the resolution of 1080P, person or vehicle pictures that are over max pixel will be filtered out.

**Detection:** There are 4 modes, like no detection, pedestrian detection only, vehicle detection only and pedestrian&vehicle detection.

**Detection Mode:** Filter the behavior of the target in camera, there are two modes:

**Static Mode:** Detect all pedestrians or vehicles.

**Motion Mode:** Filter out static pedestrians or vehicles.

**Detection Range:** Set detection area. There are two modes:

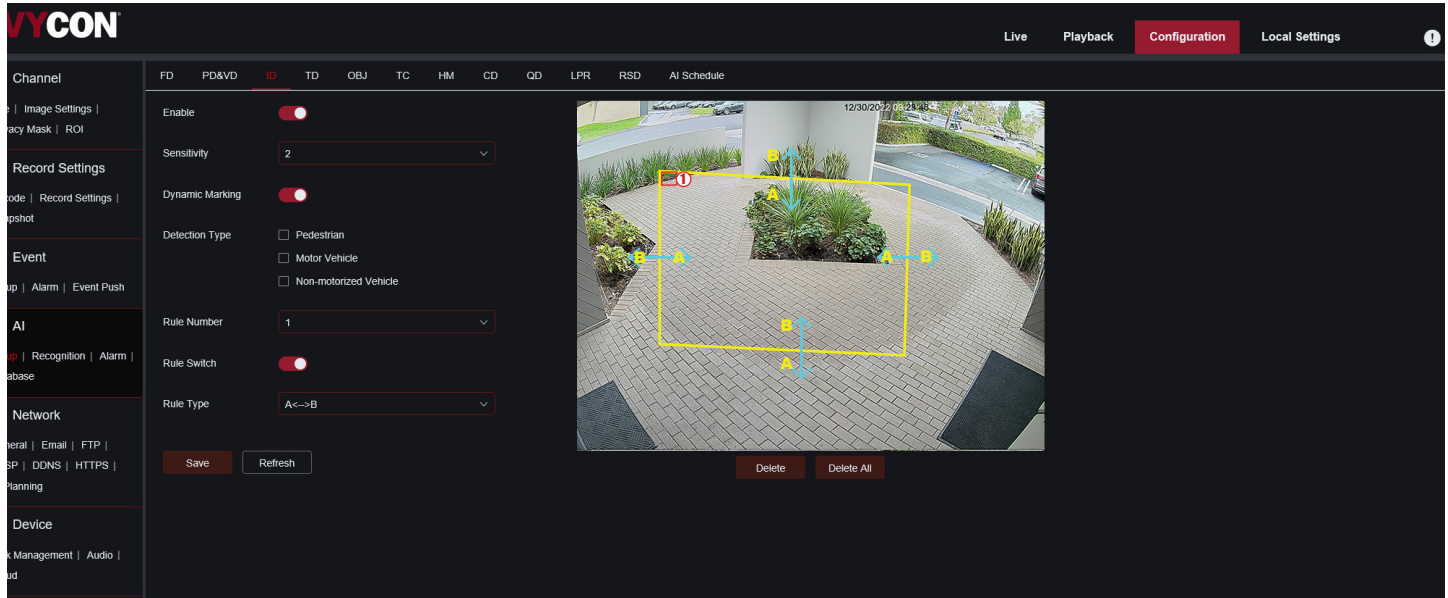
**Full Screen:** The detection area is the camera all cover area.

**Customize:** Select this mode and a region box will appear on the small window. User can drag or stretch this box to set a region for detection.

**Rule Setting Area:** When select Customize mode, detection rule can be set in this area.

### 8.7.1.3 ID

When target enters or leaves the alarming zone, the alarm will be triggered through Intrusion Detection (ID) function.



**Enable:** Enable/disable PD

**Sensitivity:** If the detected object sensitivity is higher, the moving Object can be detected easily.

**Dynamic Marking:** Display the detection frame. Enable/disable the detection rule.

**Detection Type:** Set the objects to be detected. There are four types:

**OFF:** Detect all objects passing through the line, like carton, pedestrian, vehicle, etc.

**Pedestrian:** Only detect pedestrian passing through the line.

**Vehicle:** Only detect vehicle passing through the line.

**Pedestrian & Vehicle:** Only detect pedestrian and vehicle passing through the line.

**Rule Number:** Choose rule. There are 4 rules can be chosen.

**Rule Switch:** The switch to enable/disable each rule

**Rule Type:** Setup for each rule. A->B means can detect A to B direction moving, B->A means can detect B to A direction moving, A <->B means can detect two directions moving.

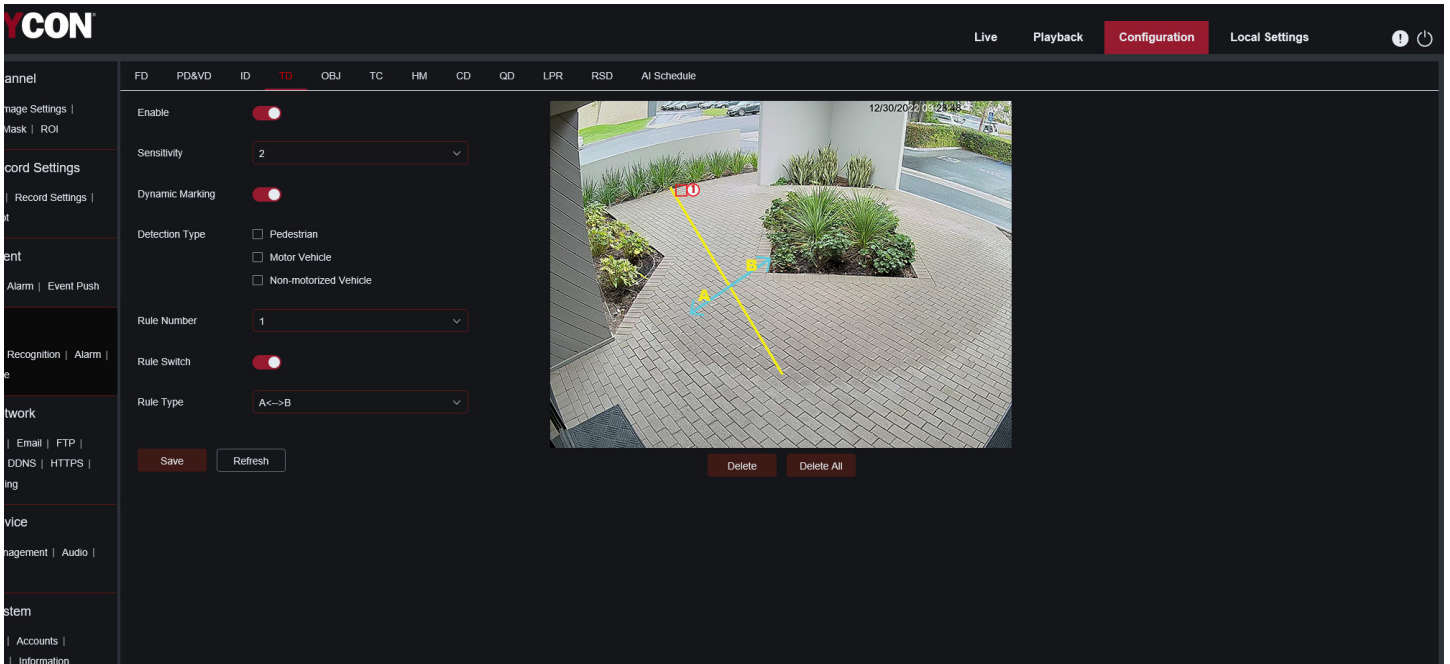
**Rule Setting Area:** Edited rule can be set or displayed in this area.

**Delete:**Delete rule

**Delete All:**Delete all rules

### 8.7.1.4 TD

When detected target cross the preset line, the alarm will be triggered through Tripwire Detection (TD).



**Enable:** Enable/disable TD

**Sensitivity:** If the detected object sensitivity is higher, the moving Object can be detected easily.

**Dynamic Marking:** Display the detection frame. Enable/disable the detection rule.

**Detection Type:** Set the objects to be detected. There are four types:

**OFF:** Detect all objects crossing the line, like carton, pedestrian, vehicle, etc.

**Pedestrian:** Only detect pedestrian crossing the line.

**Vehicle:** Only detect vehicle crossing the line.

**Pedestrian & Vehicle:** Only detect pedestrian and vehicle crossing the line.

**Rule Number:** Choose rule. There are 4 rules can be chosen.

**Rule Switch:** The switch to enable/disable each rule

**Rule Type:** Setup for each rule. A-B means can detect A to B direction moving, B-A means can detect B to A direction moving, A <->B means can detect two directions moving.

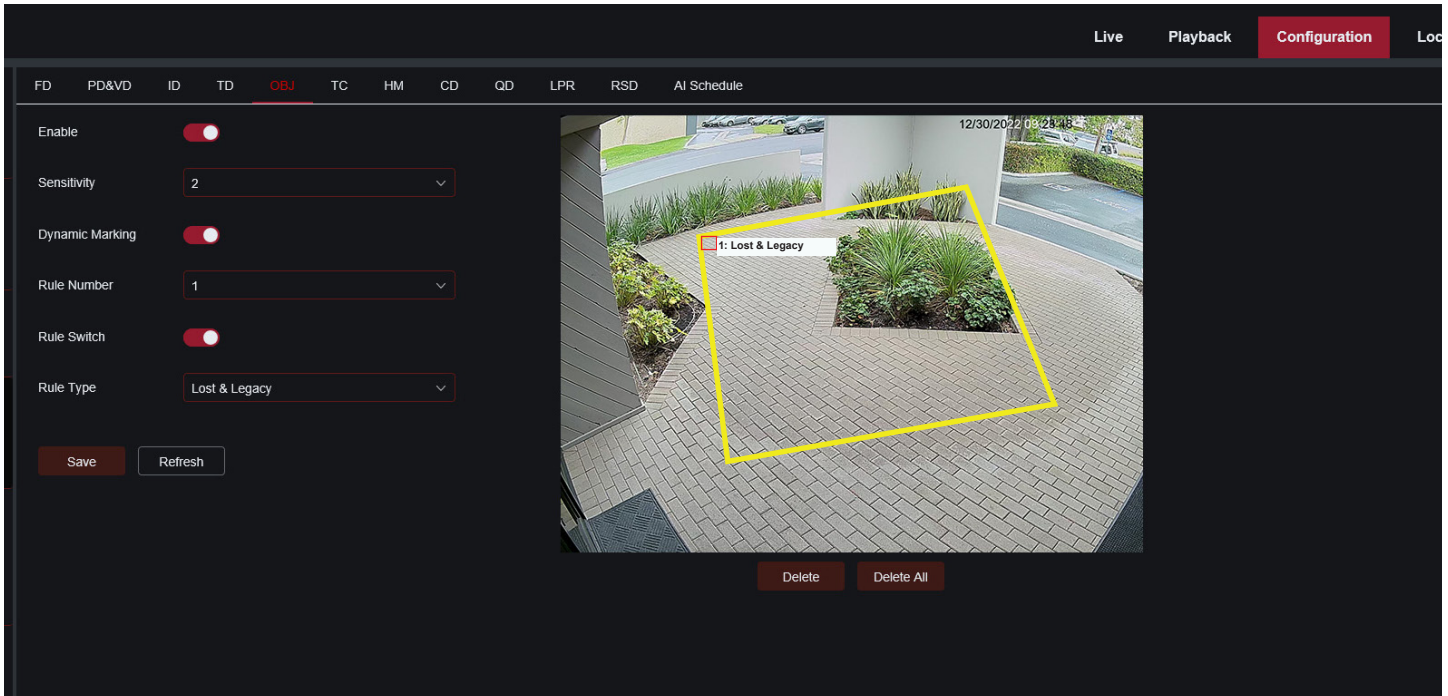
**Rule Setting Area:** Edited rule can be set or displayed in this area.

**Delete:** Delete rule

**Delete All:**Delete all rules

### 8.7.1.5 SOD

By this function, alarms are triggered when legacy or lost items is found in monitoring area.



**Enable:** Enable/disable SOD

**Sensitivity:** If the detected object sensitivity is higher, the moving Object can be detected easily.

**Dynamic Marking:** Display the detection frame. Enable/disable the detection rule.

**Rule Number:** Choose rule. There are 4 rules can be chosen.

**Rule Switch:** The switch to enable/disable each rule

**Rule Type:** Setup for each rule. There are three rules like Legacy > Lost, Lost & Legacy.

**Rule Setting Area:** Edited rule can be set or displayed in this area.

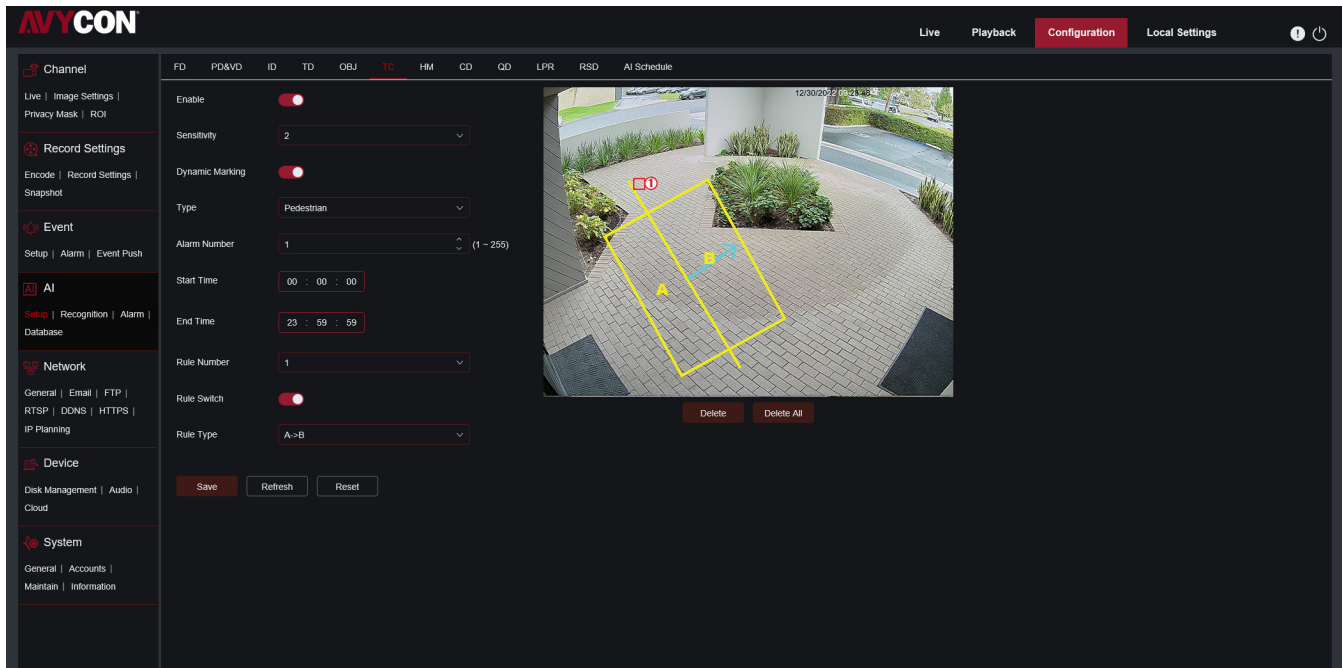
**Delete:** Delete rule

**Delete All:** Delete all rules

### 8.7.1.6 TC

Camera can record the specific objects crossing line in monitoring area by Tripwire Count (TC) function. Set the crossing line, there are two areas (A and B) on two sides of line.

When the rule is A-B, it means object crosses the line from area A to area B. The count in increases by one. When the object enters from area B and cross the line to area A, the count out increases by one. The alarm will only be triggered when the count in minus the count out is greater than or equal to the set Alarm Number count. The interface is as shown in the figure below.



**Enable:** Enable/disable TC

**Sensitivity:** If the detected object sensitivity is higher, the moving Object can be detected easily.

**Dynamic Marking:** Display the detection frame. Enable/disable the detection rule.

**Type:** Setup the detected objects type. There are three modes. Switching to save will clear the current count.

**Motion:** Detect all objects including carton, pedestrian, vehicle, etc.

**Person:** Only detect pedestrian

**Vehicle:** Only detect vehicle

**Alarm Number:** Set the condition of alarm. Camera can update the account. When the count in minus the count out is greater than or equal to the set Alarm Number count, the alarm will be triggered.

**Start Time CC:** Set the start time of TC function.

**End Time CC:** Set the end time of TC function.

**Rule Number:** Choose rule. There are only one rule can be chosen.

**Rule Switch:** The switch to enable/disable rule

**Rule Type:** Setup for rule. There are two directions of count in and count out including A->B and B->A. For example, A->B means objects enter from area A and leave from area B, count in will increase. When objects enter from area B and leave from area A, count out will increase.

**Reset Count:** Clear the displayed count.

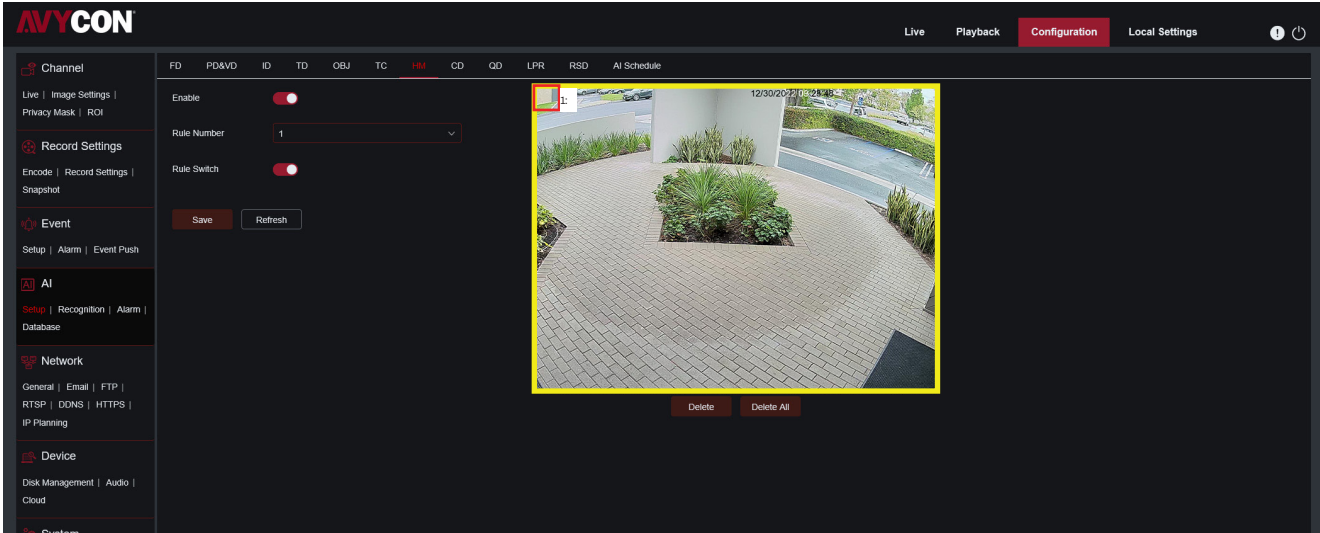
**Rule Setting Area:** Rule can be set in this area.

**Count Area:** Display the count. You can refer to Chapter 8.1 to adjust the specific display position.



### 8.7.1.7 HM

The Heat Map(HM) statistics function uses a logic similar to motion to judge whether there is a change in transmission in each area of the monitoring area, and save and upload the change at 10 minute intervals. Through a large number of statistics, user can view the change in each area in the scene. This function only supports data logging, not alarm.



**Enable:** Enable/disable HM

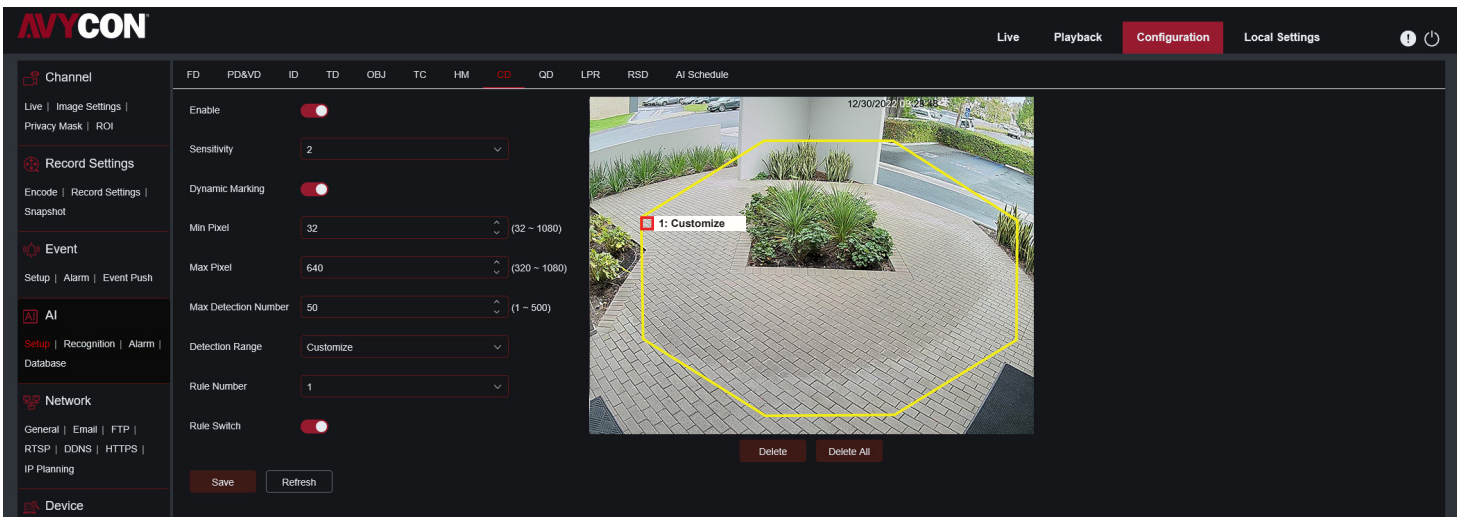
**Rule Number:** Choose rule. There are only one rule can be chosen.

**Rule Switch:** The switch to enable/disable rule

**Monitoring Area Setting:** Set the preferred area. All areas are selected by default.

### 8.7.1.8 CD

Crowd Density(CD) detection, the way of identifying the human head through the human figure recognition function, recognizes the number of people in the monitoring area. The alarm will be triggered when the number of people exceeds the preset value.



**Enable:** Enable/disable CD

**Sensitivity:** If the detected object sensitivity is higher, the moving Object can be detected easily.

**Dynamic Marking:** Display the detection frame. Enable/disable the detection rule.

**Min Pixel:** Based on the resolution of 1080P, the picture of heads that are less than min pixel will be filtered out.

**Max Pixel:** Based on the resolution of 1080P, the picture of heads that are over max pixel will be filtered out.

**Max Detection Number:** The maximum number of heads allowed to be detected in the detection area. If this number is exceeded, an alarm will be triggered.

**Detection Range:** Set detection area. There are two modes:

**Full Screen:** The detection area is the camera all cover area.

**Customize:** Only detect the area selected by the quadrilateral frame

**Rule Number:** Choose rule. There are only one rule can be chosen. This option is available when Customize mode is selected.

**Rule Switch:** The switch to enable/disable rule. This option is available when Customize mode is selected.

**Detection Range:** This option is available when Customize mode is selected. It needs to set an octagonal detection area.

**Count Display Area:** Display the number of people in monitoring area. You can refer to Chapter8.1 to adjust the specific display position.

### 8.7.1.9 QD

When the queue or the waiting time is too long, an alarm will be triggered by Queuing Detection(QD) function.

The screenshot displays the AVYCON web interface for configuring the Queuing Detection (QD) function. The interface is organized into several sections:

- Navigation:** A top bar includes 'Live', 'Playback', 'Configuration' (highlighted), and 'Local Settings'. A left sidebar lists various system settings categories like Channel, Record Settings, Event, AI, Network, Device, and System.
- Configuration Panel:** A central panel lists settings for QD:
  - Enable:** A toggle switch is turned on.
  - Sensitivity:** A dropdown menu is set to '2'.
  - Dynamic Marking:** A toggle switch is turned on.
  - Min Pixel:** A numeric input is set to '32' (range 32-1080).
  - Max Pixel:** A numeric input is set to '640' (range 320-1080).
  - Max Detection Number:** A numeric input is set to '10' (range 1-100).
  - Max Pro Time:** A numeric input is set to '60' (range 1-3600).
  - Detection Range:** A dropdown menu is set to 'Customize'.
  - Rule Number:** A dropdown menu is set to '1'.
  - Rule Switch:** A toggle switch is turned on.
- Live Video Feed:** On the right, a live camera view shows an outdoor paved area. A yellow octagonal detection area is overlaid on the scene. A red box with the text '1: Customize' is positioned over the detection area. Below the video feed are 'Delete' and 'Delete All' buttons.

**Enable:** Enable/disable QD

**Sensitivity:** If the detected object sensitivity is higher, the moving Object can be detected easily.

**Dynamic Marking:** Display the detection frame. Enable/disable the detection rule.

**Min Pixel:** Based on the resolution of 1080P, the picture of heads that are less than min pixel will be filtered out.

**Max Pixel:** Based on the resolution of 1080P, the picture of heads that are over max pixel will be filtered out.

**Max Detection Number:** The maximum number of heads allowed to be detected in the detection area. If this number is exceeded, an alarm will be triggered.

**Max Pro Time:** Set the time that allows target leave the detection area. An alarm will be triggered when no one has left the detection area for a long time.

**Note:**

*The counting is restarted only when target leaves the detection area. If the target suddenly disappears in the area and it will be ignored. It is only counted when the target is detected in the area.*

**Detection Range:** Set detection area. There are two modes:

**Full Screen:** The detection area is the camera all cover area.

**Customize:** Only detect the area selected by the quadrilateral frame

**Rule Number:** Choose rule. There are only one rule can be chosen. This option is available when Customize mode is selected.

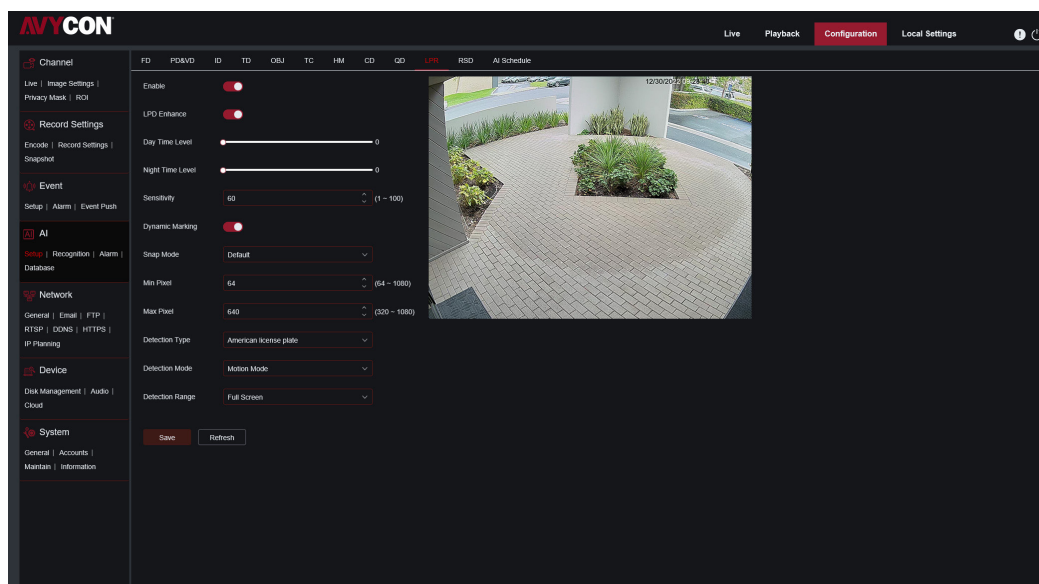
**Rule Switch:** The switch to enable/disable rule. This option is available when Customize mode is selected.

**Detection Range:** This option is available when Customize mode is selected. It needs to set an octagonal detection area.

**Count Display Area:** Display the number of people and waiting time in monitoring area. You can refer to Chapter 8.1 to adjust the specific display position.

### 8.7.1.10 LPD

License Plate Detection, detects a moving vehicle's license plate and enters the license plate information into the database. License plate detection currently only supports two regions license—Europe and America



**LPD Enhance:** You can adjust the brightness setting of the day and night images. the configuration between Day Time Level and Night Time Level do not interfere with each other

**Day Time Level:** increase the level to lower the brightness setting for the Day time image.

**Night Time Level:** Increase the level to lower the brightness setting for Night Time images



**Camera:** Select the camera you want to configure

**Snap Mode:** Snap mode, there are optimal mode < select the best quality picture push during the period from vehicle license plate appear>. and interval mode< push once when license plate appears, push once again when disappears> and interval mode< customised number of push sheet and time interval>.

**Min Pixel:** Minimum recognition pixel box, the license plate must be greater than the set minimum pixel to be recognized.

**Max Pixel:** Maximum recognition pixel box, the license plate should be less than the set maximum pixel to be recognized.

**Sensitivity:** Sensitivity, the larger the value the easier to detect the target

**Detection Type:** Detect type, there are two kind of license plate

**European License Plate:** The European license plate

**American License Plate:** American License plate

**Detection Mode:** License plate detection mode; there are two modes.

**Static Mode:** Check the static license plate in the picture

**Motion Mode:** Filter out the stationary vehicles and their license plate to detect only the license plate in the dynamic process.

**Detection Range:** There are two area for license plate detection as follow

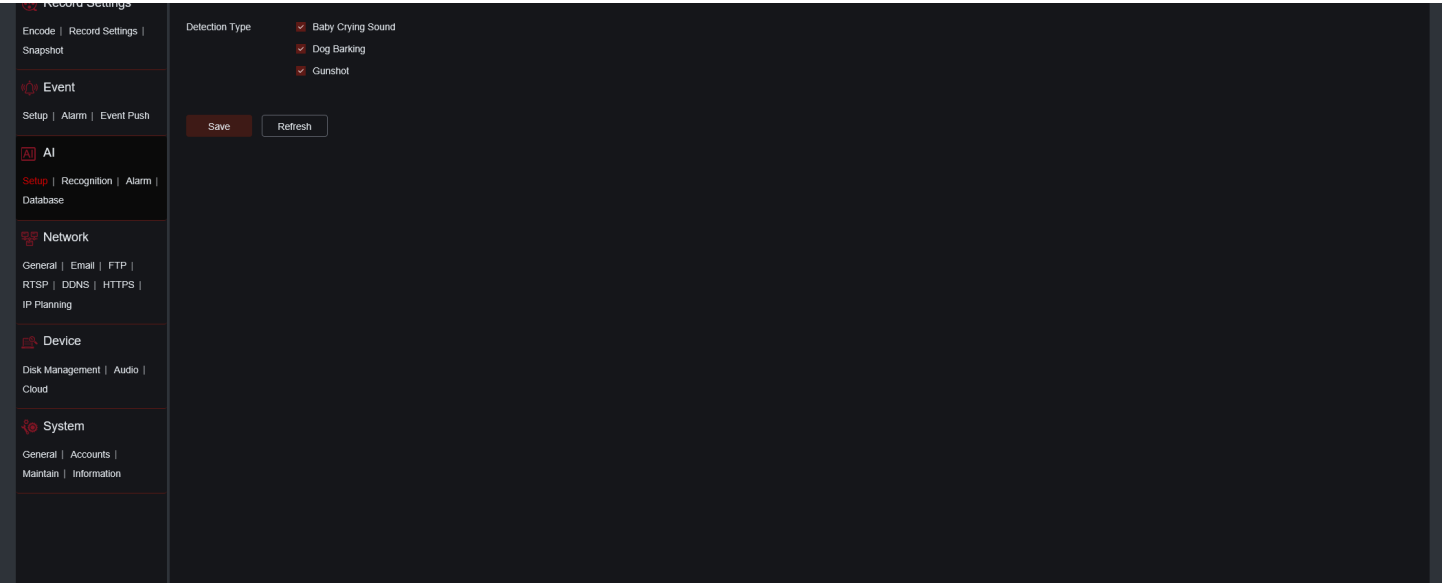
**Full Screen:** Full-Screen Detection

**Customize:** Custom detection area

**Dynamic Marking:** Tracking box

**8.7.1.11 Rare Sound Detection (RSD)**

Rare Sound Detection only detects specific rare sounds such as baby crying, gun shots, and dog barking



**Camera:** Camera Selection

**Sensitivity:** Sensitivity, 1 is the minimum, 100 in the maximum

**Detection Type:** Sensitivity, 1 is the minimum, 100 in the maximum

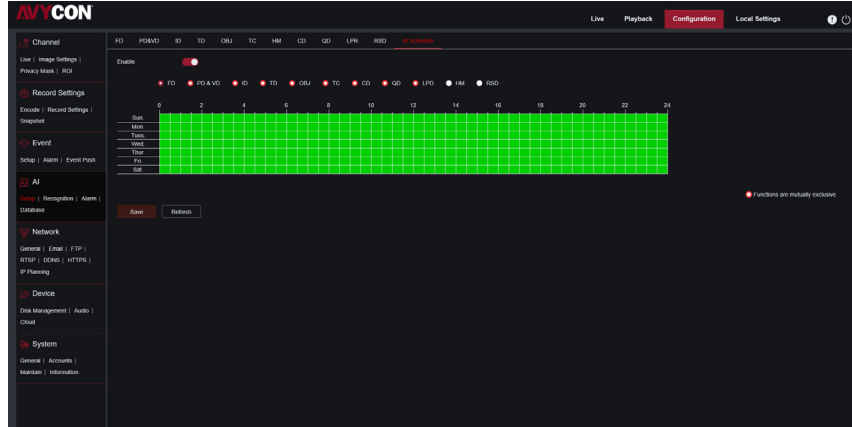
**Baby Crying Sound:** Click to check baby crying

**Dog Barking:** Click to check barking sound.

**Gunshot:** Click to check gunshot sound.

### 8.7.1.12 AI Schedule

AI schedule function allows you to configure the schedule for the AI function to activate at a specific time and date.



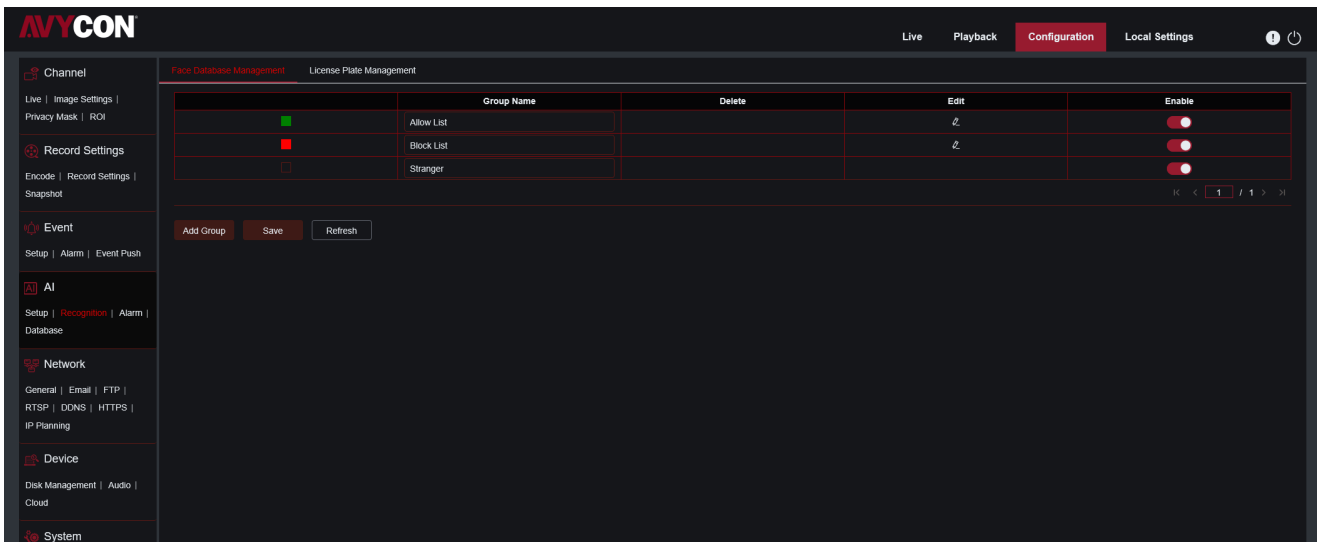
## 8.7.2 Recognition

### 8.7.2.1 Face Recognition

The face recognition function focuses on identifying the detected object, which requires basic data as a comparison. The firmware establishes a database foundation for face matching through database management functions.

**Note:**

*It takes a short period of time to reload the system to modify the database.*



**Alarm Policy Display:** In camera, it only serves as a policy reminder. Green represents the allow list, red represents the block list, and colorless represents stranger.

**Group Name:** Edit and modify the group name, and the specific group name will be prompted when the alarm is pushed.

**Delete:** Group delete function, the first 3 groups are not allowed to be deleted.

**Edit:** Open the picture settings for group reference, please refer to following figure for more details.

**Enable:** Face recognition uses group data for comparison.

**Add Group:** Add new database group. Max 16 database groups are supported Click Edit icon to set the data of the corresponding group. The interface is as shown in the figure below

**Added Picture Display Area:** Display the face database pictures of the added group.

**Info:** Show the information of selected picture.

**Detail Information:** Right-click Event to view the detailed information of the selected picture.

**Move To ...:** Right-click Event to move the selected picture to other group.

**Edit:** Right-click Event to enter the editing interface of selected picture.

**Delete:** Right-click Event to delete picture.

**Import:** Add new face data to the current group, you can import local pictures or pictures that have been captured by the camera.

**Delete:** To delete face data in the database in batches.

### 8.7.2.2 License Plate Recognition

This menu provides a license plate information database for comparing the detected license plate information.

Group Name	Delete	Edit	Enable
Allow List		℄	<input checked="" type="checkbox"/>
Block List		℄	<input checked="" type="checkbox"/>
Unknown			<input checked="" type="checkbox"/>

**Alarm Policy Display:** In camera, it only serves as a policy reminder. Green represents the allow list, red represents the block list, and colorless represents unknown.

**Group Name:** Edit and modify the group name, and the specific group name will be prompted when the alarm is pushed.

**Delete:** Group delete function, the first 3 groups are not allowed to be deleted.

**Edit:** Open the picture settings for group reference, please refer to following figure for more details.

**Enable:** Face recognition uses group data for comparison.

**Add Group:** Add new database group. Max 16 database groups are supported Click Edit icon to set the data of the corresponding group. The interface is as shown in the figure below

**Added Picture Display Area:** Display the license plate database pictures of the added group.

**Info:** Show the information of selected picture.

**Detail Information:** Right-click Event to view the detailed information of the selected picture

**Move To ...:** Right-click Event to move the selected picture to other group

**Edit:** Right-click Event to enter the editing interface of selected picture.

**Delete:** Right-click Event to delete picture.

**Import:** Add new license plate data to the current group, you can import local pictures or pictures that have been captured by the camera.

**Delete:** To delete license plate data in the database in batches.

### 8.7.3 Alarm

**The alarm can be realized by camera's AI function. It can be divided into 3 categories according to the implementation mode:**

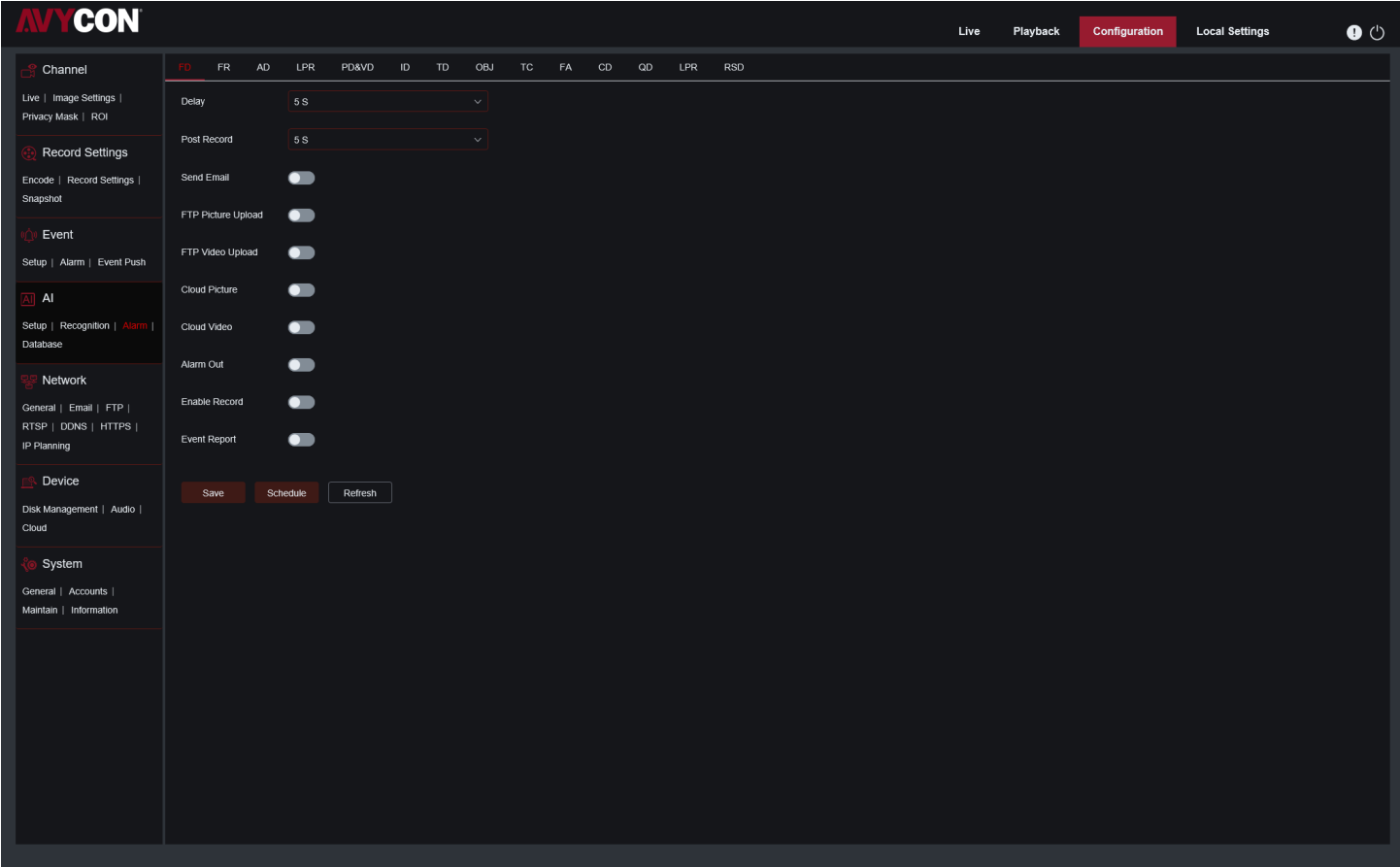
The first category includes FD, AD, PD&VD, ID, TD, SOD, TC, CD, QD. When the camera detects an alarm event, it directly triggers an alarm.

The second category is FR. The camera obtains the alarm picture, recognizes the facial feature value of the picture and compares it with the data in the database, and then trigger the alarm according to the corresponding alarm grouping settings.

The third category is FA. The camera automatically searches for data at a specific time and send an alarm push email.

#### 8.7.3.1 FD, AD, LPR, PD&VD, ID, TD, SOD, TC, CD, QD, LPD, RSD

When the camera detects an alarm event, it will directly trigger an alarm



**Alarm Type:** Special option for AD alarm. The camera can alarm by identifying whether the captured object is wearing a mask or not. There are 3 modes.

**Close:** Disable AD alarm.

**NO Mask:** Alarm when the target is not wearing a mask.

**Wear Mask:** Alarm when the target is wearing a mask.

**Delay:** The time that the camera IO alarm continues to alarm after the alarm ends.

*Note: The camera needs to support the IO output function, and the working time is controlled by the corresponding schedule.*

**Post Recording:** The duration of recording after the alarm ends.

*Note: At the same time, the effective time is controlled by the schedule.*

**Send Email:** Whether the camera sends an email when it alarms.

*Note: At the same time, the effective time is controlled by the schedule.*

**FTP Picture Upload:** The camera sends the picture to the associated FTP server when it alarms. When it is triggered continuously, it will be sent in a cycle of 10S until the alarm is end.

*Note: At the same time, the effective time is controlled by the schedule. And the FTP server needs to be associated first.*

**Cloud Picture:** The camera sends the picture to the associated cloud storage server when it alarms. When it is triggered continuously, it will be sent in a cycle of 10S until the alarm is end.

*Note: At the same time, the effective time is controlled by the schedule, and the cloud storage server needs to be associated first.*

**Alarm Out Delay:** Set the switch to enable.

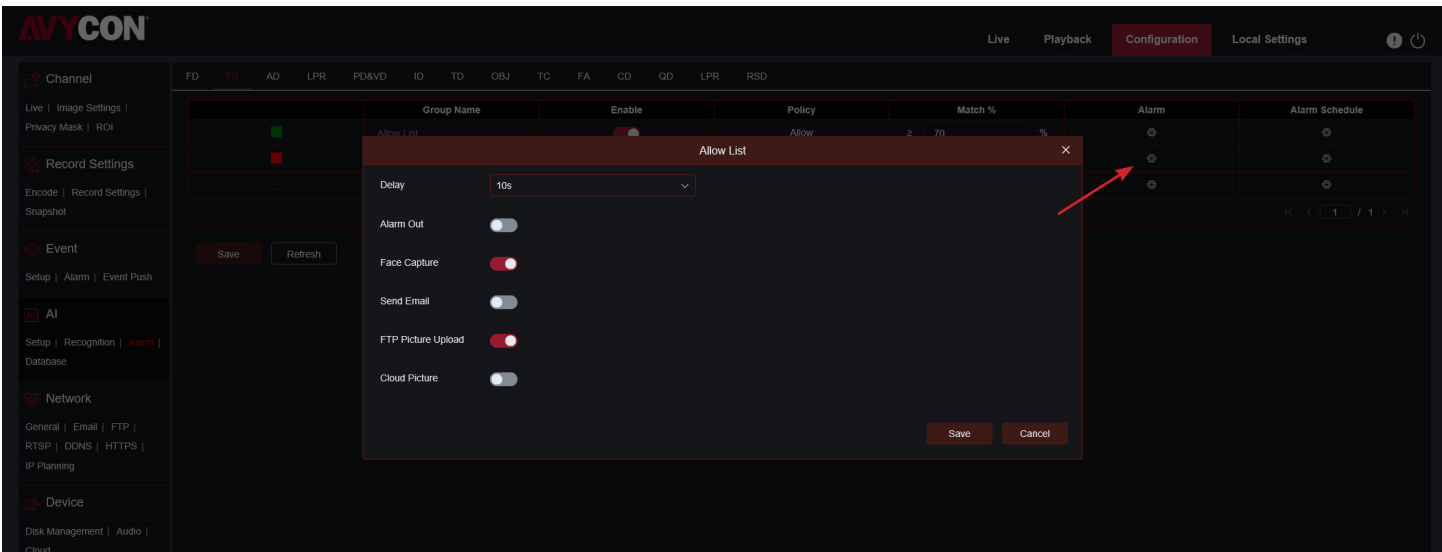
**Enable Record Post Recording:** Set the switch to enable.

**Deterrent:** White light associated switch. When an alarm is triggered, the camera will respond to the alarm according to the setting of Remote Setting-Event-Setup-Deterrence. Specifically, it can be divided into white light response and speaker response, which are controlled by the schedule respectively. (Supported by some models with white light function)

**Schedule:** Set the schedule of Send Emails Alarm Out> FTP Picture Uploads Cloud Picture> Record,Light (Deterrent), Siren (Deterrent) ((Supported by some models with white light function)

### 8.7.3.2 Face Recognition Alarm

FR is a face recognition alarm response. The camera is monitoring and tracking the target to capture the face picture. It needs to match the database first, then obtain the related group of the picture, and then directly alarm based on the alarm. When modify parameters, it takes a short period of time to reload.



**Group Name:** Edit and modify the group name, and the specific group name will be prompted when the alarm is pushed

**Enable:** Switch to enable the alarm.

**Policy:** Alarm policy, the first 3 groups are not allowed to be modified. Other group can be customized as Allow, Deny.

**Similarity:** During face matching, if the similarity is greater than the setting, an alarm will be triggered.

**Alarm:** Switch on the group alarm setting.

**Alarm Schedule:** Set the effective time of Send Emails Alarm Out> FTP Picture Uploads Cloud Picture in group alarm.

**Delay:** The time that the IO alarm cable continues to alarm when the camera acquires the picture and matching is successful.

**Note:**  
The camera needs to support the IO output function, and the working time is controlled by the corresponding schedule.

**Alarm Out Delay:** Set the switch to enable.

**Save Picture:** Switch to save face snapshot to SD card.

This setting is not controlled by Enable.

**Save the Background:** The switch to save the face snapshot to the SD card and save the background snapshot at the same time.

This setting is not controlled by Enable.

**Send Email:** Switch to send emails when group face recognition matches successfully.

This setting is not controlled by Enable.

**FTP Picture Upload:** The camera sends the picture to the associated FTP server when matching is successful.

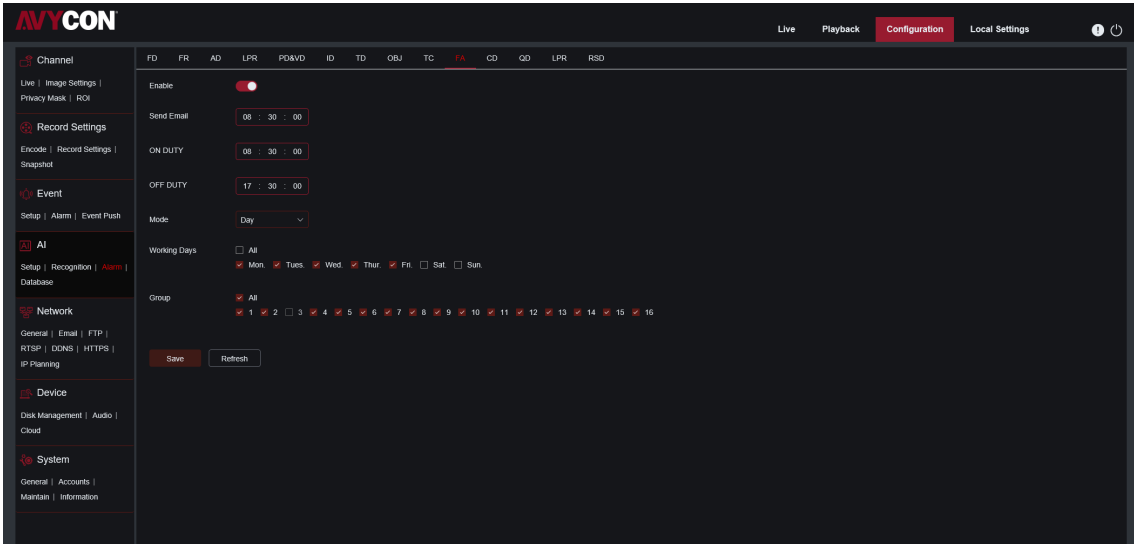
**Note:**  
At the same time, the effective time is controlled by the schedule, and the FTP server needs to be associated first.

**Cloud Picture:** The camera sends the picture to the associated cloud storage server when matching is successful.

**Note:**  
At the same time, the effective time is controlled by the schedule, and the cloud storage server needs to be associated first.

**8.7.3.3 FA (Face Attendance)**

By Face Attendance (FA) function, camera can retrieve different groups saved in SD card (excluding stranger group) matching the situation of human faces at a specified time. Attendance record can be generated based on the captured records, and can be sent to the associated mailbox.



**Enable:** Switch to generate the attendance record automatically by FA

**Send Email:** Send the time of FA check-in. The firmware retrieves once at a certain interval. When the retrieval time is longer than the set time, the attendance record is automatically generated and sent to email.

**Note:**  
*No email will be sent if there is no attendance record.*

**ON DUTY:** The reference time of on duty for generating the attendance record.

**OFF DUTY:** The reference time of off duty for generating the attendance.

**Mode:** Time for generating and sending attendance record, there are 3 modes.

**Day:** Send the attendance record of the previous day.

**Week:** If the time is set to Wednesday, the attendance record from last Wednesday to this Tuesday will be sent on Wednesday.

**Month:** If the time is set to the 15th of each month, the attendance record from the 15th of last month to the 15th of this month will be sent on the set time.

**working days:** The base number of working days for generating the attendance record.

**Group:** The group is required when generating attendance records.

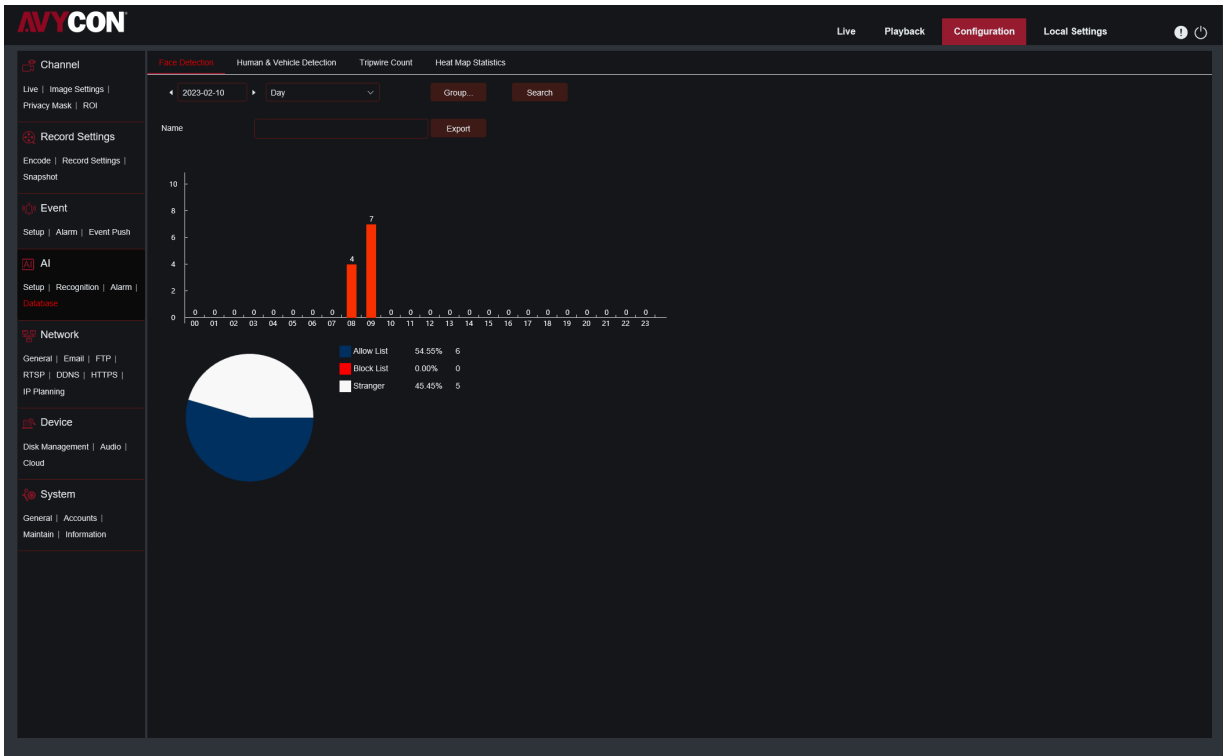
**Note:**  
*Stranger group does not support this function, so the group 3 is grayed out by default.*

### 8.7.4 Statistics

This is AI data statistical analysis function.

#### 8.7.4.1 Face Detection

According to the search settings, camera searches the face data stored in the SD card by face detection. The interface of FD data statistics is shown in the following figure.



**Time:** The reference time of the search mode.

**Search Mode:** It supports 5 time modes, such as Day, Week, Month, Quarter and Year

**Group:** The group to be retrieved when searching for statistics.

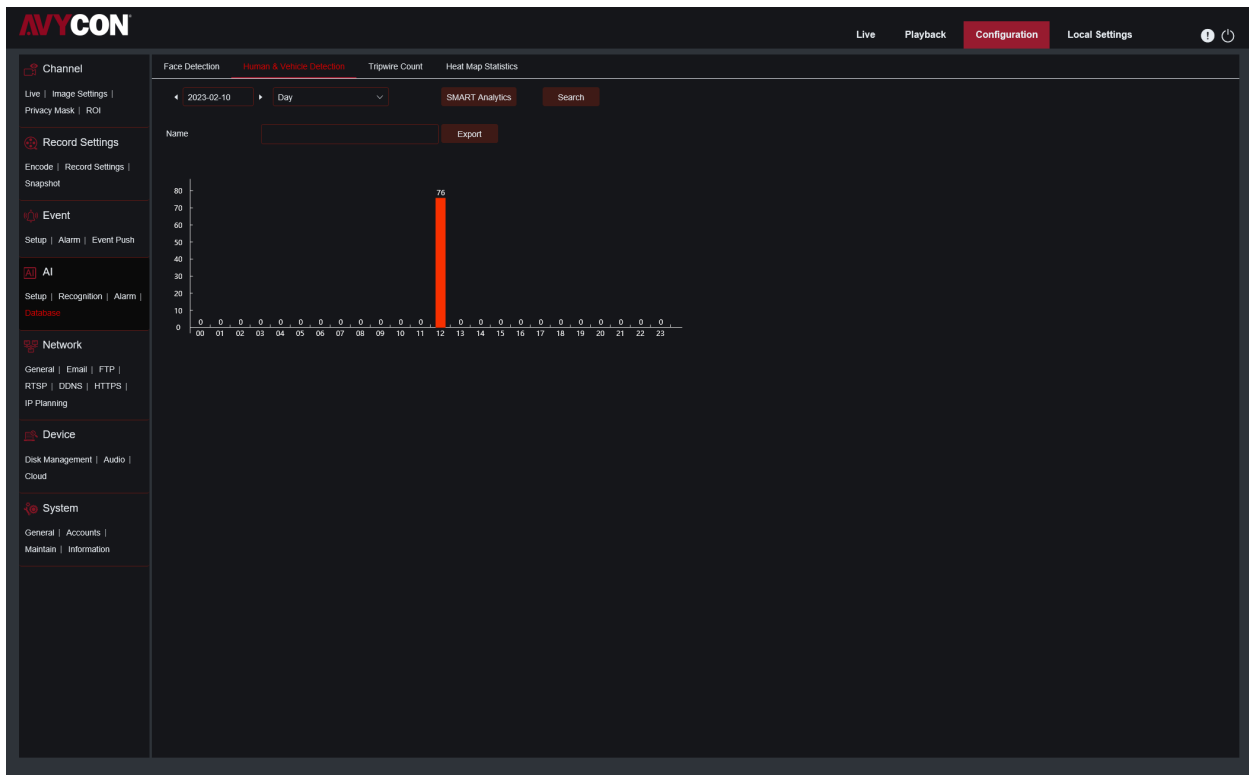
**Search:** Search the data again according to the search settings.

**Export:** Need to add the export file name, and export the search data by Excel file.

**Display Area:** Display the search results in the form of a chart in below.

### 8.7.4.2 Human & Vehicle Detection

Human & Vehicle data statistics includes PD&VD, ID, TD alarms. The interface of Human & Vehicle data statistics is shown as below.



**Time:** The reference time of the search mode.

**Search Mode:** It supports 5 time ranges, such as Day, Week, Month, Quarter and Year

**Intelligent:** Search based on the type of mark when capturing the snapshot.

**There are 6 types of snapshots: ID[Human], ID[Vehicle], TD[Human], TD[Vehicle], Human, Vehicle.**

**Search:** Search the data again according to the search settings.

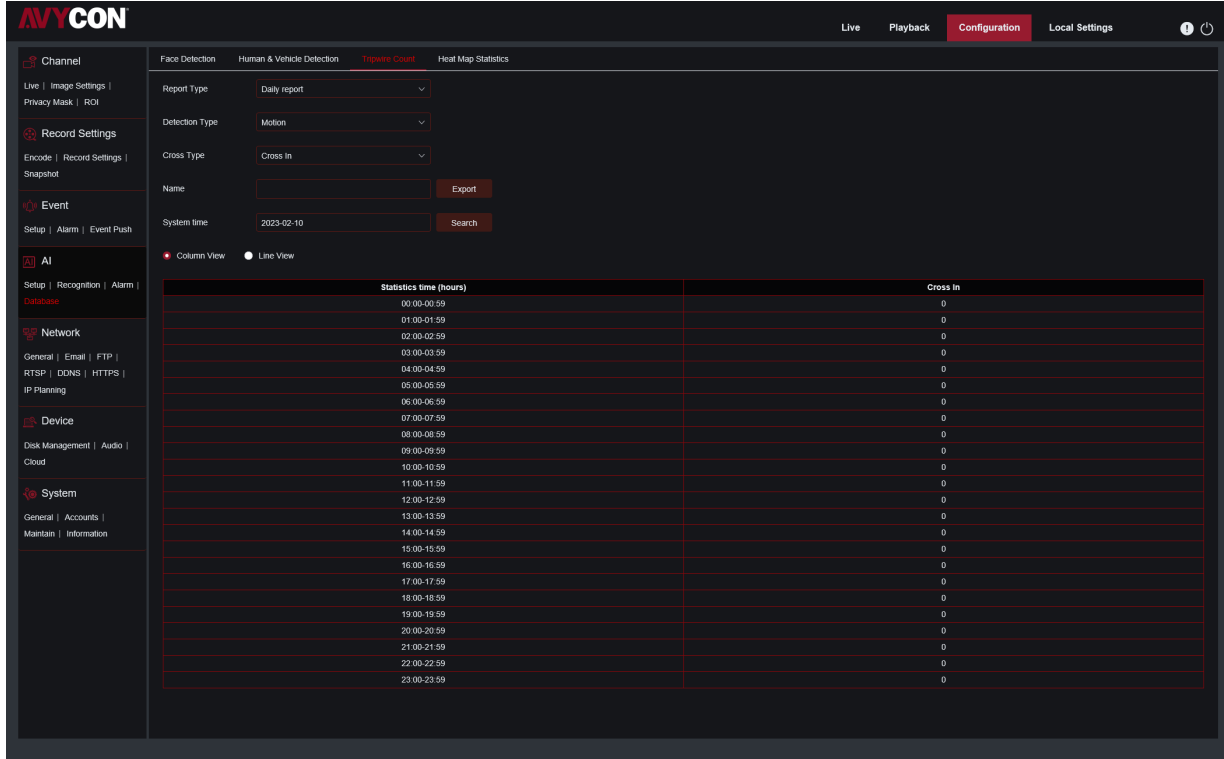
**Export:** Need to add the export file name, and export the search data by Excel file.

**Display Area:** Display the search results in the form of a chart in below.



### 8.7.4.3 Tripwire Count Statistics

The interface of Tripwire Count Statistics is shown as below.



**Report Type:** Data search supports four time ranges: Daily report, Weekly report, Monthly report, and Annual report.

**Detection Type:** Set the corresponding alarm type. There are three types, For example, if the data is from the alarm triggered by Motion, it cannot be searched by other alarm types like Person or Vehicle.

**Cross Type:** Search data according to the statistical method of crossing the line.  
There are two types: Cross In and Cross Out.

**Export:** Need to add the export file name, and export the search data by Excel file.

**System time:** The reference time of the selected Report Type.

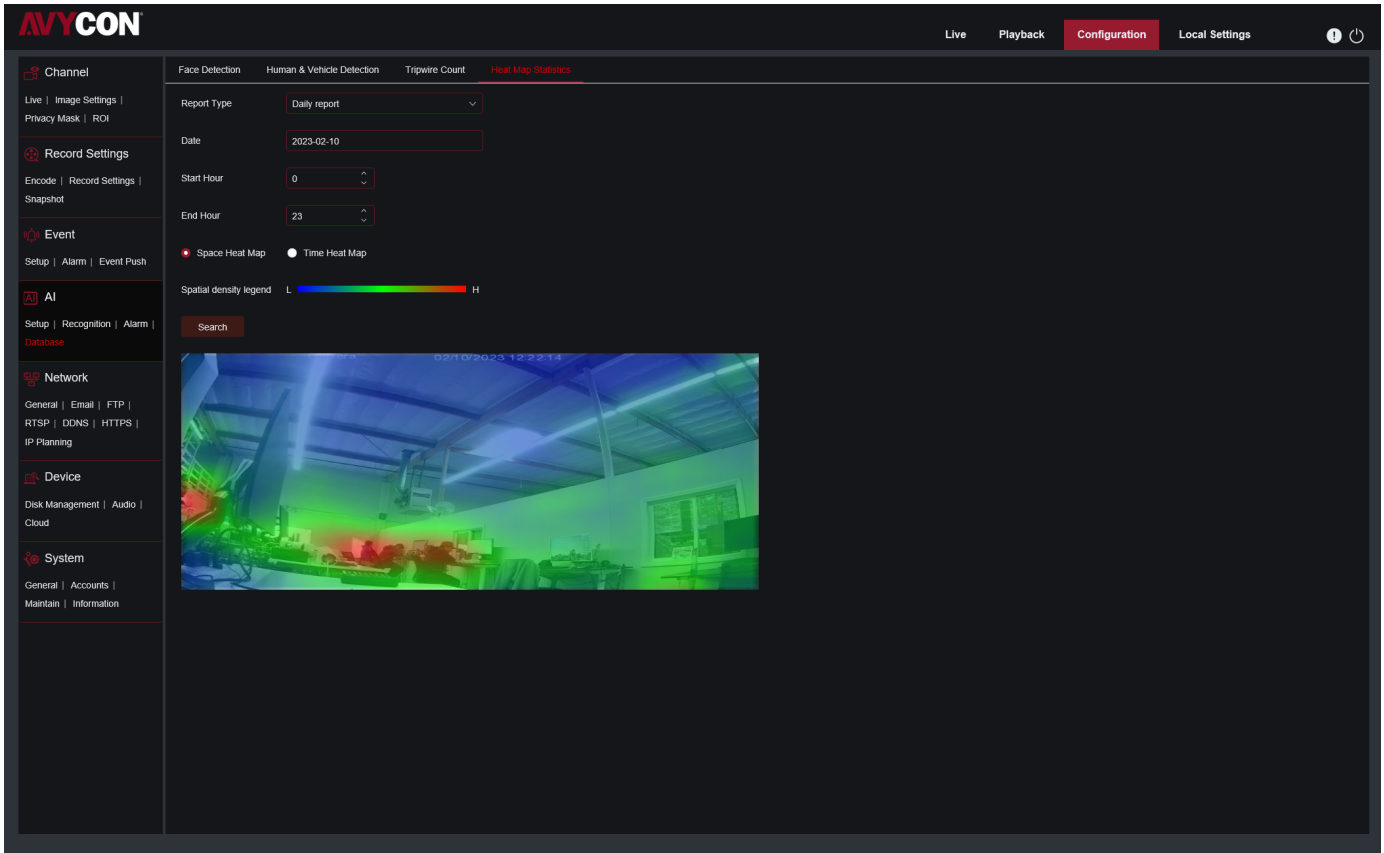
**Mode:** Choose to display the data as a bar graph or a line graph.

**Display Area:** Display the current search results in the form of graphs.

**Search:** Search the data again according to the search settings.

### 8.7.4.4 Heat Map Statistics

The heat map function is to record the changes in the monitoring area in a way similar to motion. Heat Map Statistics displays the data recorded in SD in an image format. The interface is shown in the below figure.



**Report Type:** Data search supports four time ranges: Daily report, Weekly report, Monthly report, and Annual report.

**Date:** The date that the data search refers to.

**Start Hour:** Only display when the Daily report is set. Set the specific hour when the search starts.

**End Hour:** Only displayed when the Daily report is set. Set the specific hour when the search ends.

**Mode:** Set the display way of the data when searching, there are two ways: graph and table

**Display Area:** Display the frequency of changes in the monitoring area in the form of graphs, and display the frequency of changes in the monitoring areas in different time periods in the form of tables.

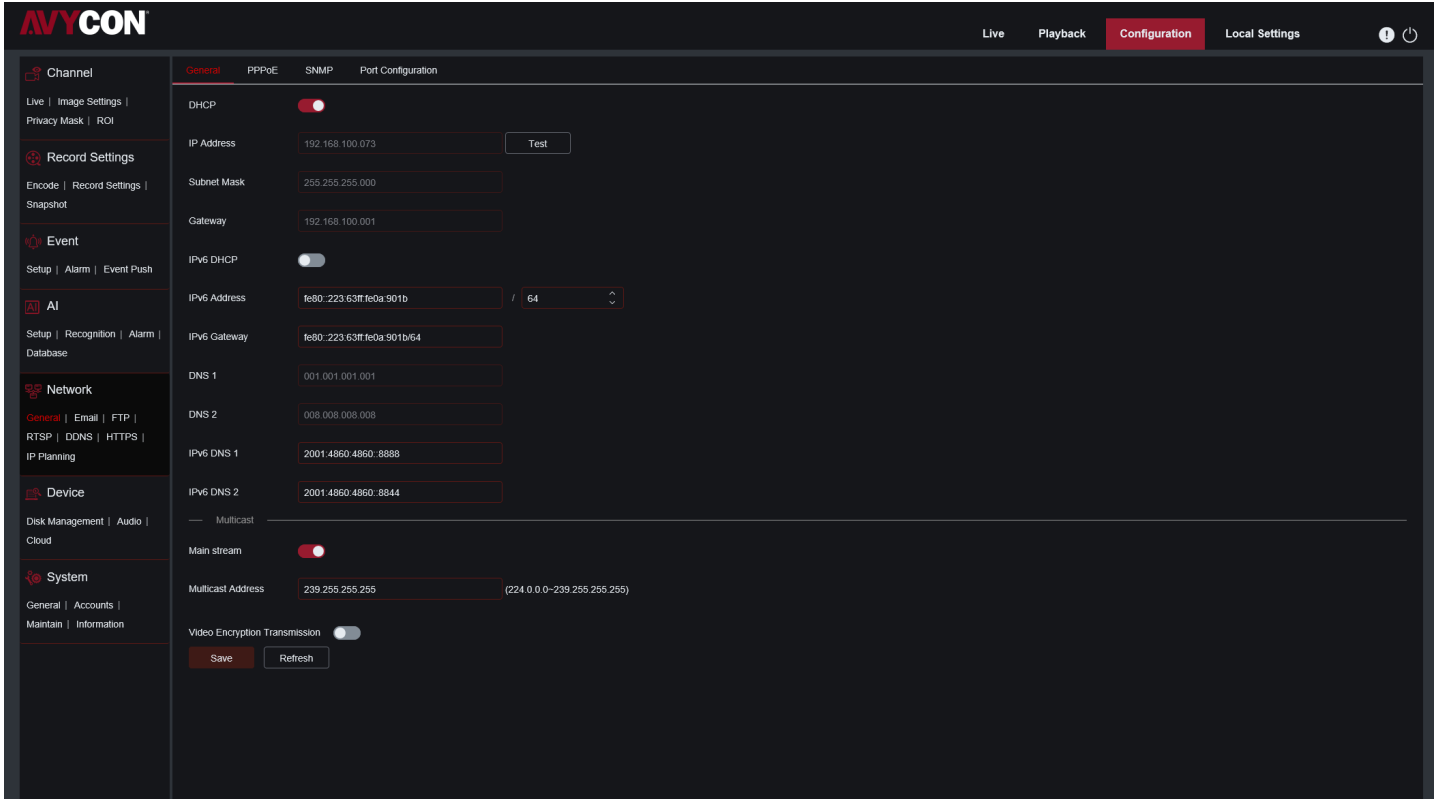
**Search:** Search data according to the settings.

## 8.8 Network

The heat map function is to record the changes in the monitoring area in a way similar to motion. Heat Map Statistics displays the data recorded in SD in an image format. The interface is shown in the below figure.

## 8.8.1 General

### 8.8.1.1 General



If connecting to a router that allows the use of DHCP, check the DHCP box. The router will automatically assign all network parameters to the camera unless you manually set the following parameters for the network:

**IP Address:** IP address is the identification of IPC in the network. It consists of four groups of numbers between 0 and 255, separated by periods. For example, "192.168.001.100".

**Subnet Mask:** It is a network parameter that defines the range of IP addresses that can be used in the network. If the IP address is like the street where you live, then the subnet mask is like a community. The subnet address also consists of four sets of numbers, separated by periods. For example "255.255.000.000"

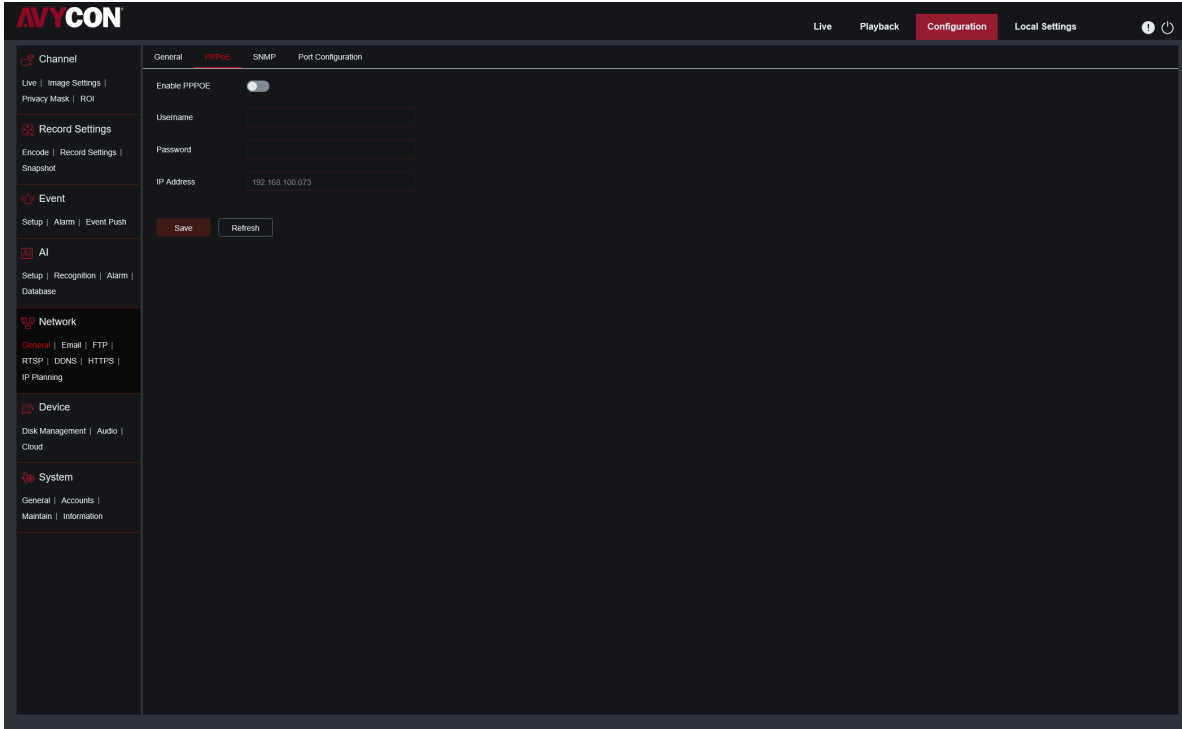
**Gateway:** This address allows IPC to access the network. The format of the gateway address is the same as the IP address. For example, "192.168.001.001".

**DNS1/DNS2:** DNS1 is the primary DNS server, and DNS2 is the backup DNS server. It is usually sufficient to enter the DNS1 server address.

**Main Stream:** After checking, you can use the main stream for multicast.

**Multicast Address:** Set the multicast address.

### 8.8.1.2 PPPoE



This is an advanced protocol that allows IPC to connect more directly to the network through a DSL modem. Check the “Enable PPPOE” box, and then enter the PPPoE username and password. Click “Apply” to save, and the system will restart to activate the PPPoE settings.

### 8.8.1.3 SNMP

Simple Network Management Protocol (SNMP), a standard application layer protocol, is specifically designed to manage network nodes (like servers, workstations, routers, switches, and HUBS, etc.) in an IP network.

The screenshot displays the AVYCON web interface for configuring SNMP. The top navigation bar includes 'Live', 'Playback', 'Configuration', and 'Local Settings'. The left sidebar lists various system settings categories. The main configuration area is titled 'SNMP' and contains the following fields:

- Enable:** A toggle switch currently turned on.
- SNMP Version:** A dropdown menu with the value 'V1,V2' selected.
- SNMP Port:** A numeric input field with the value '161' and a range indicator '(1 ~ 65535)'.
- Read Community:** A text input field with the value 'public'.
- Write Community:** A text input field with the value 'private'.
- Trap IP Address:** A text input field with the value '127.0.0.1'.
- Trap Port:** A numeric input field with the value '162' and a range indicator '(1 ~ 65535)'.

At the bottom of the configuration area, there are 'Save' and 'Refresh' buttons.

**Enable:** Enable or disable SNMP.

**SNMP Version:** Set the version of the SNMP server. V1, V2, V1, V2 and V3 are optional.

**SNMP Port:** Set the port of the SNMP server.

**Read Community:** Set the Read Community value of the SNMP server.

**Write Community:** Set the Write Community value of the SNMP server.

**Trap IP Address:** Set the Trap IP address of the SNMP server.

**Trap Port:** Set the Trap port of the SNMP server.

### 8.8.1.4 Port Configuration

The screenshot shows the AVYCON web interface. The top navigation bar includes 'Live', 'Playback', 'Configuration' (highlighted), and 'Local Settings'. The left sidebar contains various configuration categories: Channel, Record Settings, Event, AI, Network, Device, and System. The main content area is titled 'Port Configuration' and contains a table with the following data:

Server	Internal Port	External Port	Protocol	UPNP Status	Mapping Type	UPNP
HTTP Port	80	80	TCP	Inactive	Auto	<input type="checkbox"/>
Client Port	9000	9000	TCP	Inactive	Auto	<input type="checkbox"/>
HTTPS Port	443	443	TCP	Inactive	Auto	<input type="checkbox"/>
RTSP Port	554	554	TCP	Inactive	Auto	<input type="checkbox"/>

Below the table, there are several settings:

- Multicast Port: 10000 (range 1024-65535)
- P2P Switch:
- ARP:

Buttons for 'Save' and 'Refresh' are located at the bottom of the configuration area.

**Web Port:** This is the port you use to log in to the IPC remotely (for example, using a web client). If other application is already using port 80, please change it.

**Client Port:** This is the port that IPC will use to send information (for example, using a mobile application). If other application already use the default port 9000, please change it.

**RTSP Port:** The default value is 554. If other applications have already used the default port 554, please change it.

**HTTPS:** It is an HTTP channel for security. On the basis of HTTP, the security of the transmission process is guaranteed through transmission encryption and identity authentication.

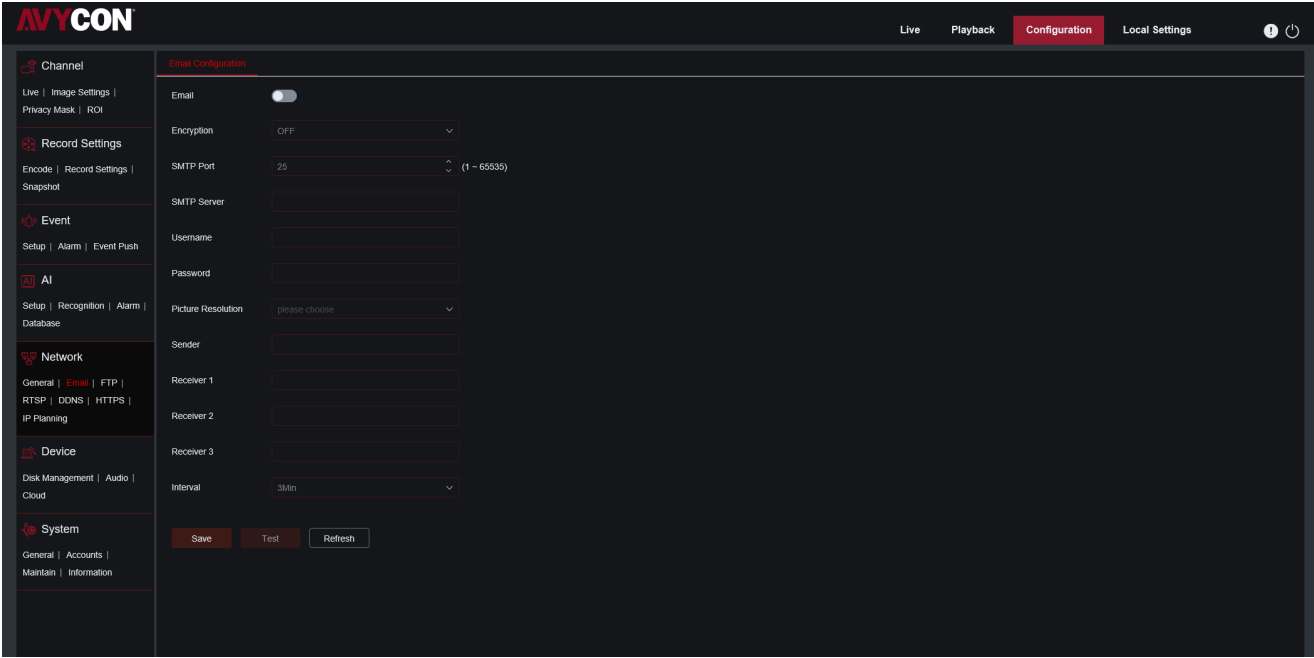
**UPNP:** If you want to use Web Client to log in to the device remotely, you need to complete port forwarding on the router. If your router supports UPnP, please enable this option. In this case, you do not need to manually configure port forwarding on the router. If your router does not support UPnP, please manually complete port forwarding on the router.

**Multicast prot:** Multicast port can be set.

**P2P Switch:** P2P switch, P2P will not take effect after it is turned off.

### 8.8.2 Mail Settings

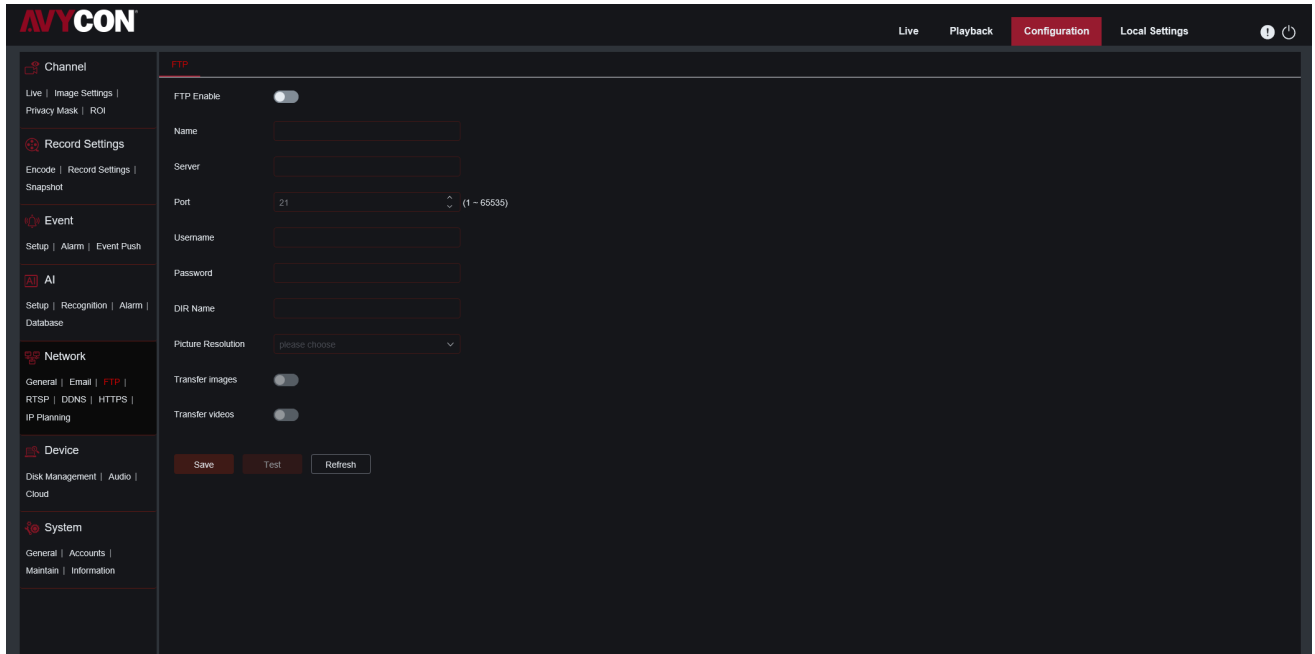
This menu allows you to configure email settings. If you want to receive notifications via email when an alarm is triggered or the hard drive is full, please complete these settings.



- Email:** Check to enable
  - Encryption:** If your email server requires SSL or TLS authentication, please enable it. If you are not sure, please set to "Auto".
  - SMTP Port:** Enter the SMTP port of the email server.
  - SMTP Server:** Enter the SMTP server address of the e-mail.
  - UserName:** Enter your email address
  - Password:** Enter your email password
  - Receiver 1~3:** Enter the email address you want to receive event notifications from IPC.
  - Interval:** Configure the time interval between IPC notification emails.
- To make sure all settings are correct, click "Test Email". An email will be sent to your mailbox. If you receive a test email, it shows the configuration parameters are correct.

### 8.8.3 FTP Server Settings

Through this menu, you can enable the FTP server to view pictures and videos uploaded from PC to FTP.



**FTP Enable:** Click to enable FTP function.

**Server:** Enter the IP address or domain name of your FTP server.

**Port:** Enter the FTP port.

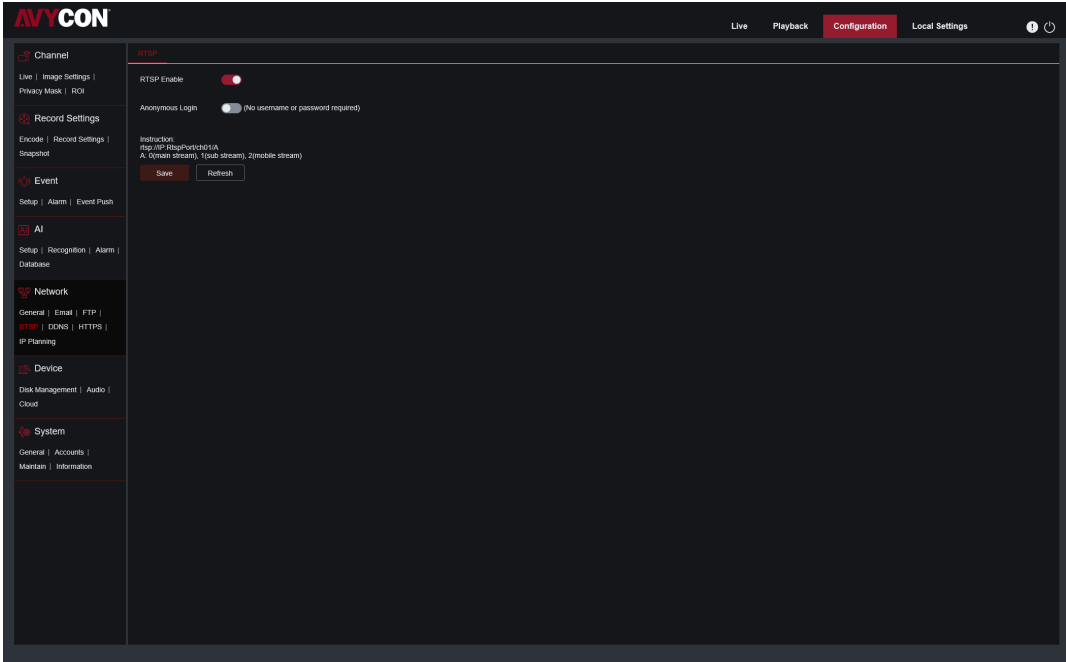
**Name/ Password:** Enter the username/password of your FTP server.

**Transfer images:** After checking, the alarm pictures will be uploaded to the FTP server, otherwise only text warnings will be uploaded.



### 8.8.4 RTSP Settings

RTSP (Real Time Streaming Protocol), RFC2326, is an application layer protocol in the TCP/IP protocol system. This protocol defines how one-to-many applications can effectively transmit multimedia data through an IP network. It allows you to view real-time images through video player.

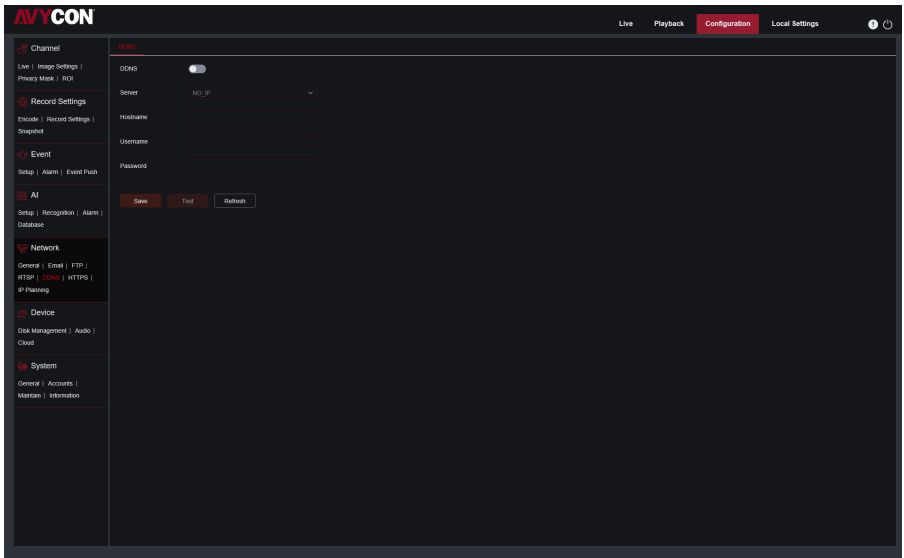


**RTSP Enable:** Turn on/off .This protocol can be used only after it is on.

**Anonymous Login:** Anonymous login. After it is enabled, the protocol can be used without authentication.

### 8.8.5 DDNS Settings

This menu allows you to set DDNS. DDNS provides a static address to simplify the remote connection with IPC. To use DDNS, you first need to create an account on the webpage of the DDNS service provider.



**DDNS:** Check to enable DDNS.

**Server:** Select the preferred DDNS server (DDNS\_3322, DYNDNS, NO\_IP, some support CHANGEIP, DNSEXIT).

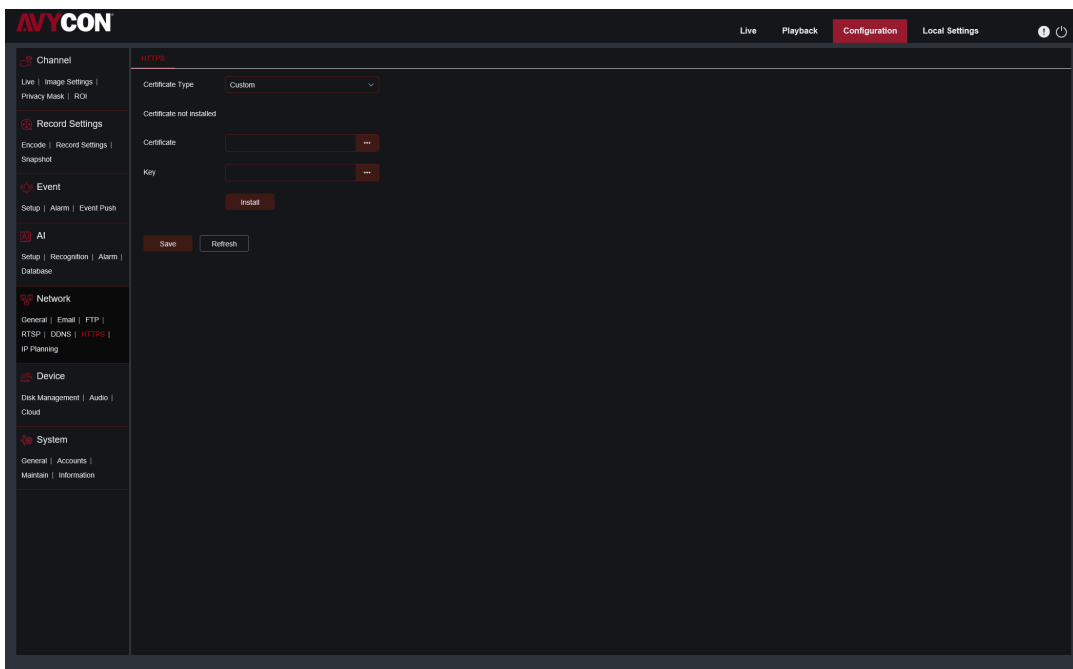
**Hostname:** Enter the domain name you created on the webpage of the DDNS service provider. This is the address you type in the URL box when you want to connect to the IPC remotely via a PC.

**User/Password:** Enter the user name and password of the account you created.

After entering all parameters, click "Test DDNS" to test the DDNS. If the test result is "Network unreachable or DNS error", please check whether the network is normal or whether the DDNS information is correct.

### 8.8.6 HTTPS Setting

The camera can be connected via HTTPS protocol, which can be set in this menu.



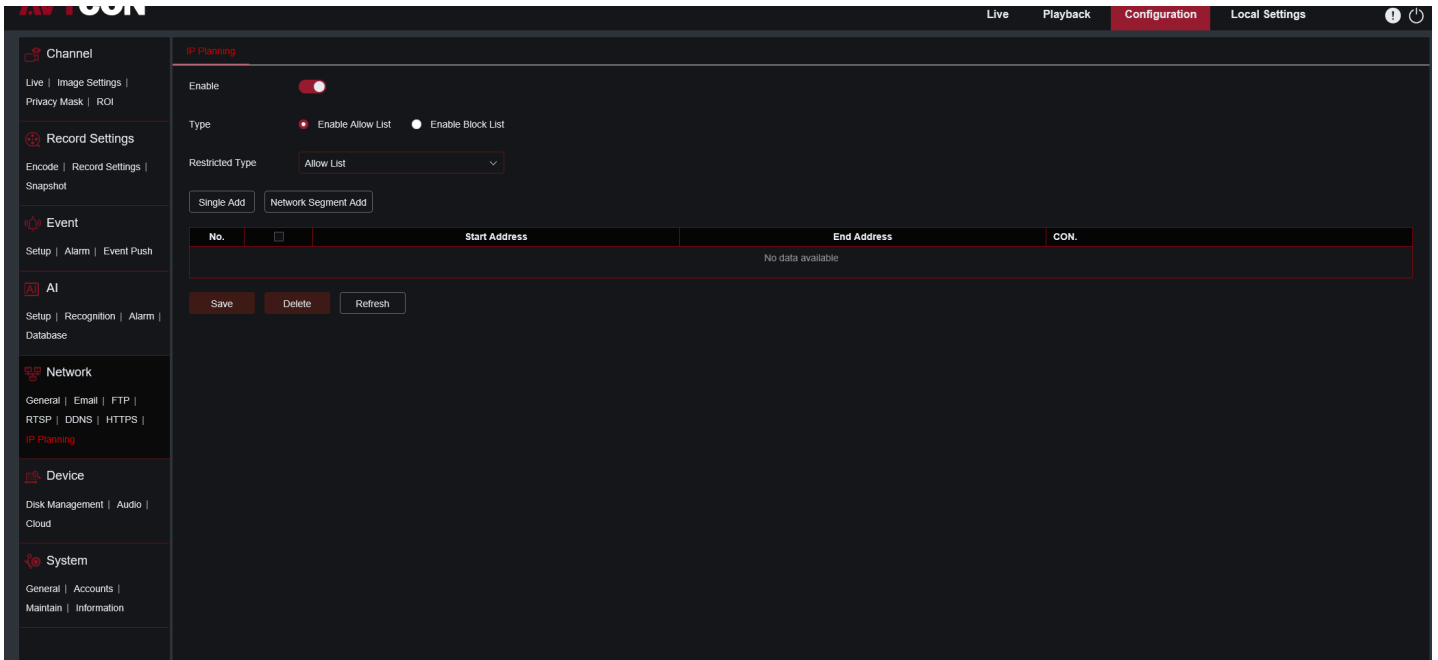
**Certificate Type:** Authentication type. There are two types: default and custom. Custom allows you to use your own certificate to connect to the camera.

**Certificate:** Under the custom type, a custom certificate must be selected.

**Key:** Under the custom type, a custom Key file must be selected.

### 8.8.7 IP Filter

This function can set the allow list and block list of camera.



**Enable:** Enable or disable filter function. After enabling, allow list and block list are optional.

**Restricted Type:** Select the list (allow list and block list) to be set.

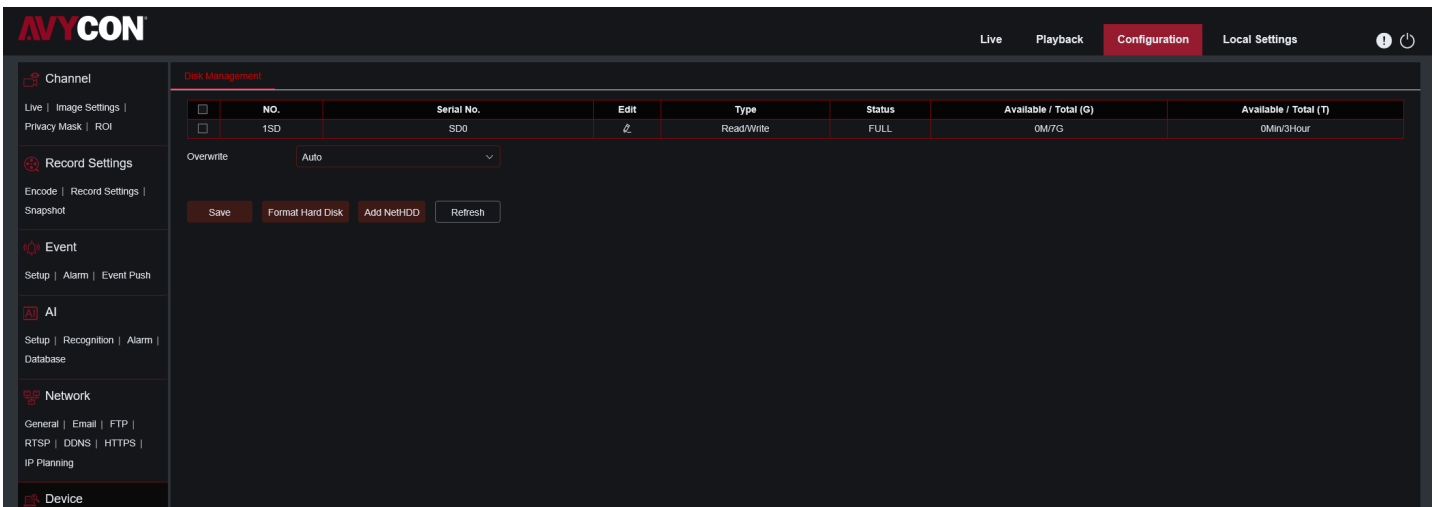
**Start Address:** Enter the start address.

**End Address:** Enter the end address.

## 8.9 Camera Management

### 8.9.1 Disk Management

This menu allows you to check and configure the internal TF card. Formatting is only required for the first access or when replacing a new TF card.



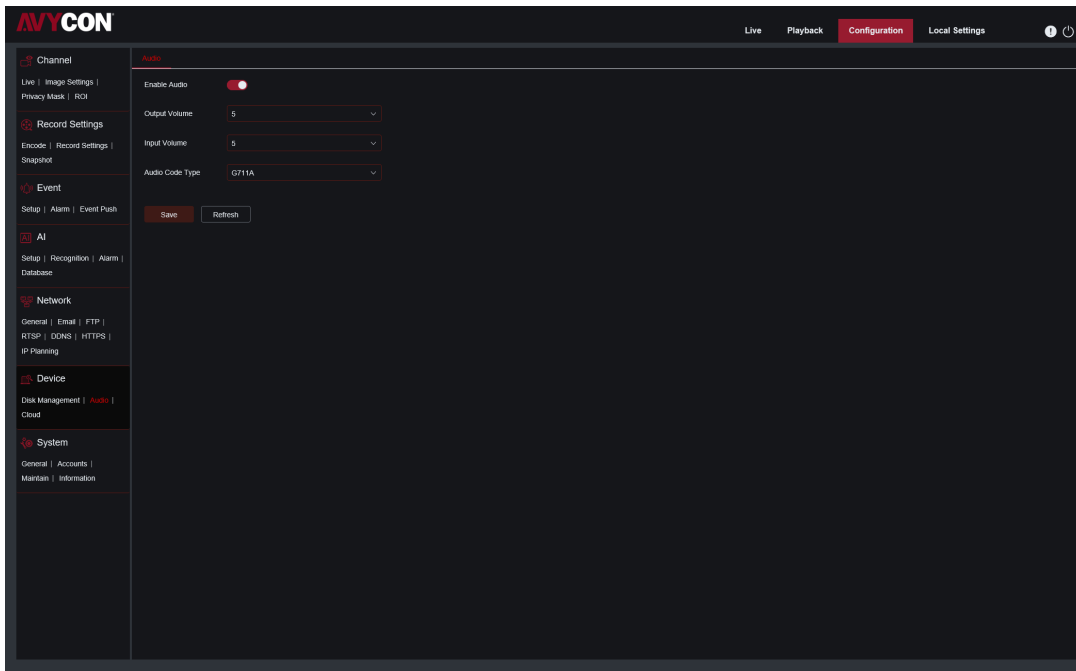
**Format Hard Disk:** Select the TF card to be formatted, and then click Format Hard Disk. To start formatting, you need to enter your username and password, and then click OK

**Overwrite:** When TF card is full, use this option to overwrite the old records on the TF card.

Select Auto, when the TF card is full, the initial data will be automatically overwritten. If you do not want any old videos to be overwritten, please select OFF. If this function is disabled, please check the TF card status regularly to ensure that the TF card is not full.

## 8.9.2 Audio Setting

This menu can set the volume of the camera.



**Enable Audio:** Turn on/off audio.

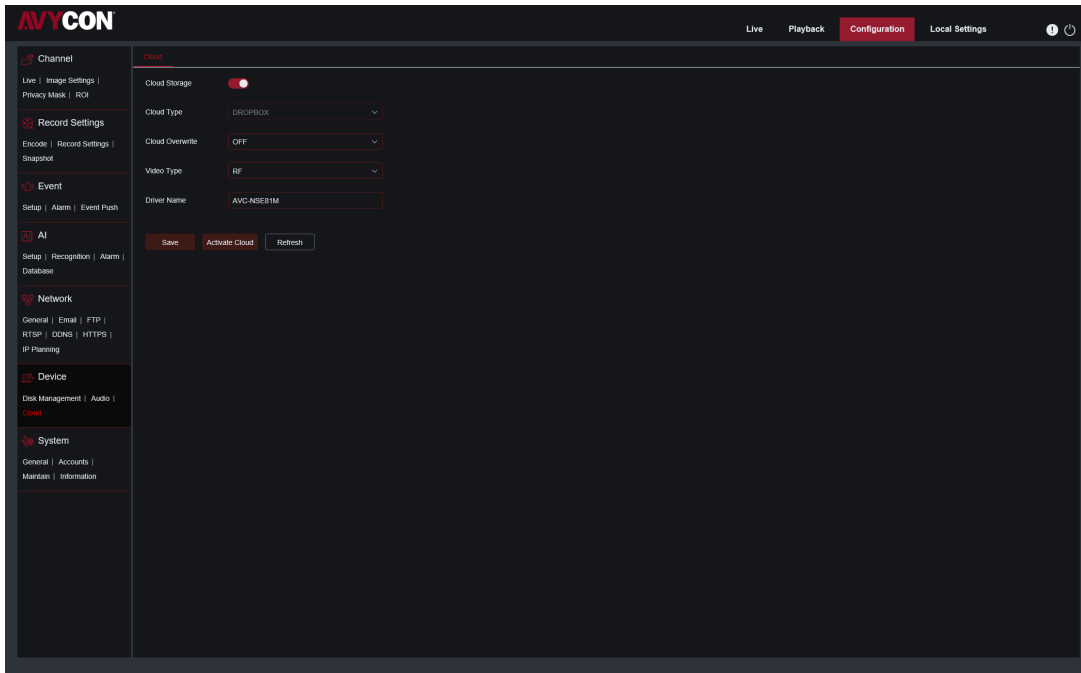
**Output Volume:** Set the volume of output audio.

**Input Volume:** Set the volume of input audio.

**Audio Code Type:** Set the audio decoding type. G711A and G711U are supported.

## 8.9.3 Cloud

The camera can upload snapshots or videos to cloud services through Dropbox, which is a free service that allows you to easily store and share pictures.



Before enabling the cloud storage function, it is recommended to create a Dropbox account with email username and password. After creation, log in to [www.dropbox.com](http://www.dropbox.com), enter the email address and password, and click the login button after agreeing to the terms.

**Cloud Storage:** Click to enable this function

**Cloud Type:** Choose cloud storage type, including Dropbox and Google Drive.

**Drive Name:** Enter the name of the folder created by your IPC in cloud storage

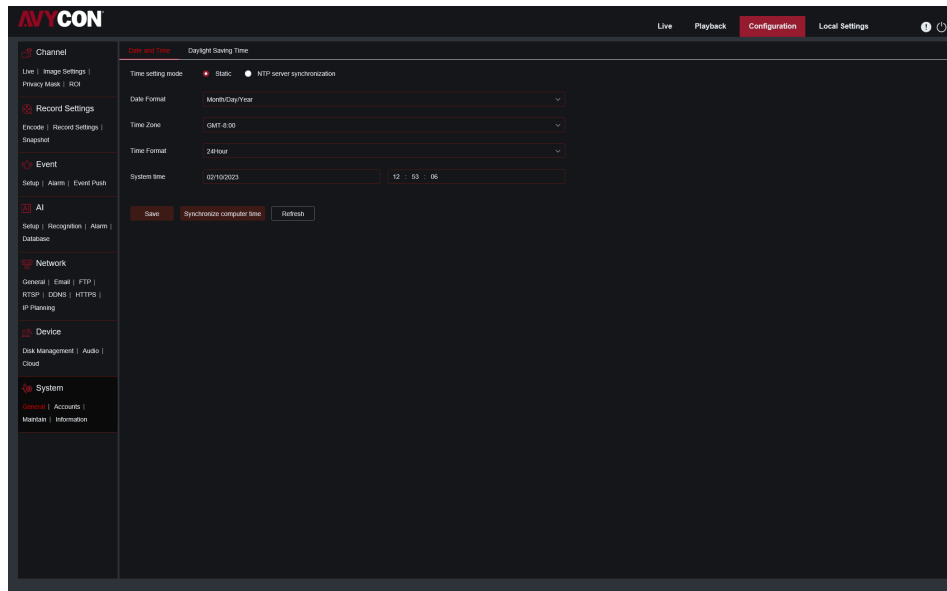
**Activate Cloud:** Click to activate this function. After a while, the web page will automatically jump to the associated link of Dropbox. Enter the correct username and password to associate.

## 8.10 System

It used to change system information, such as date, time and region, password and permissions, etc.

### 8.10.1 General

#### 8.10.1.1 Date and time



Time setting mode Time mode, there are static and NTP synchronization optional. Static time needs to be set by yourself, while NTP synchronization will perform time calibration via network.

**Date Format:** Set the date format.

**Time Zone:** Select the time zone related to your area or city.

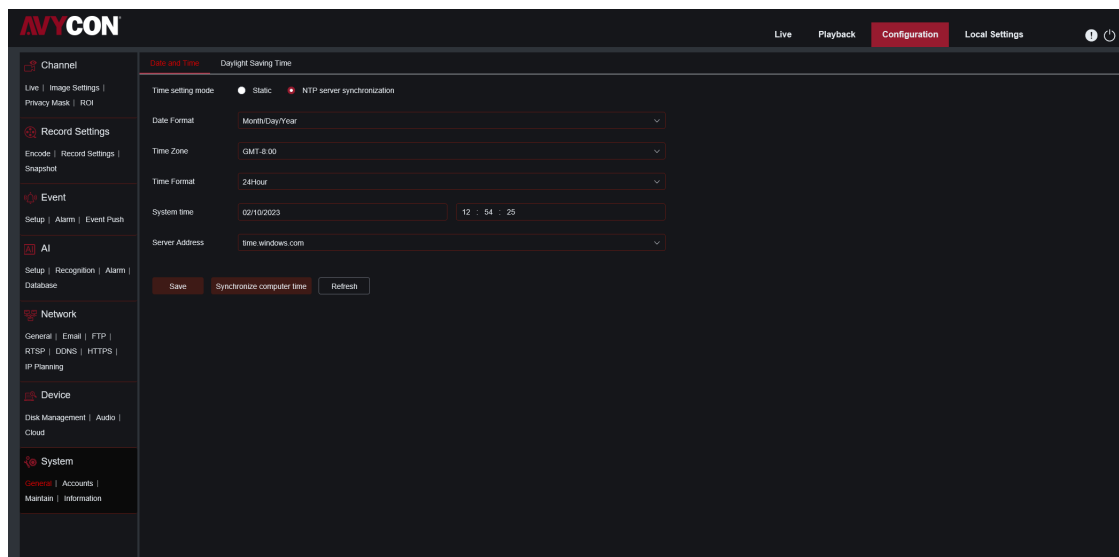
**Time Format:** Select the preferred time format.

**System Time:** Click the box to change the date and time.

**Synchronize computer time:** Synchronize the time to the computer time.

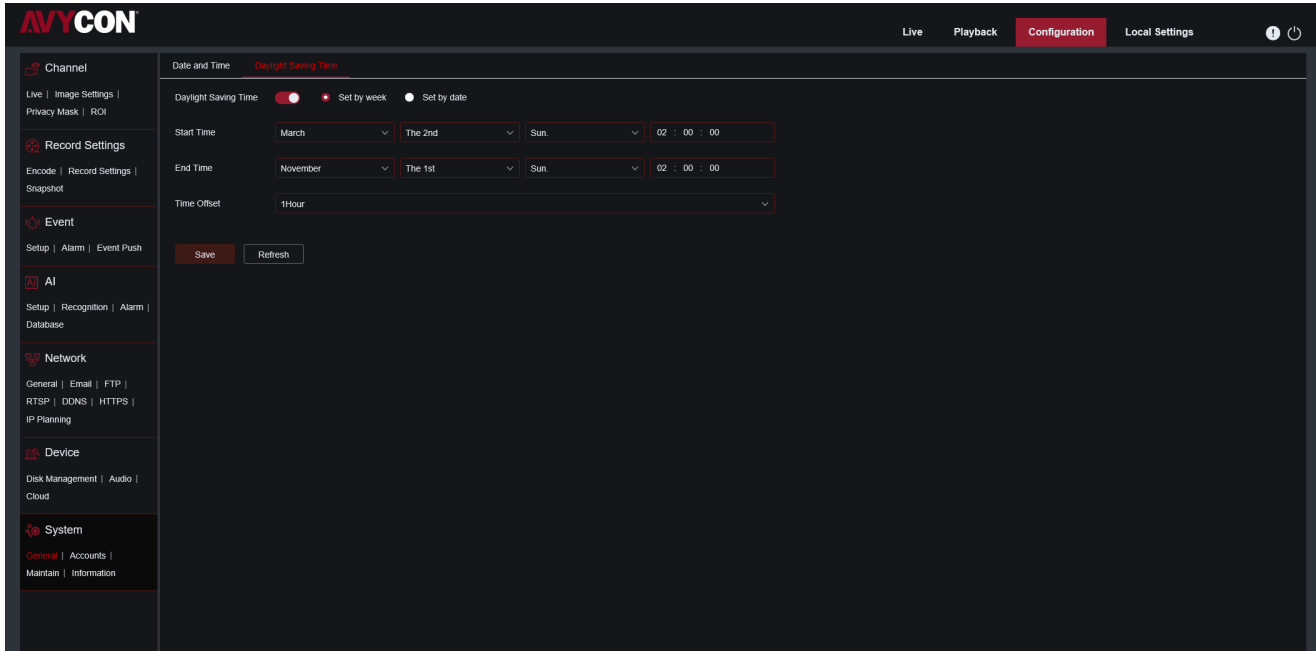
If NTP synchronization is selected, the time cannot be set manually at this time.

**Sever Address:** The automatic time calibration website can be chosen.



### 8.10.1.2 Daylight Saving Time (DST)

This function allows you to choose to increase DST in a specific time zone or region.



**Daylight Saving Time:** If your time zone uses DST, please enable this option.

**Set by week:** Select the month, specific week and time for DST to start and end. For example, at 2 AM on the first Sunday of a month.

**Set by date:** Select the start and end date and time of DST.

**Start Time / End Time:** Set the start time and end time of DST.

**Time Offset:** Select the time that DST increases in your time zone. This is the difference between Coordinated Universal Time (UTC) and local time.

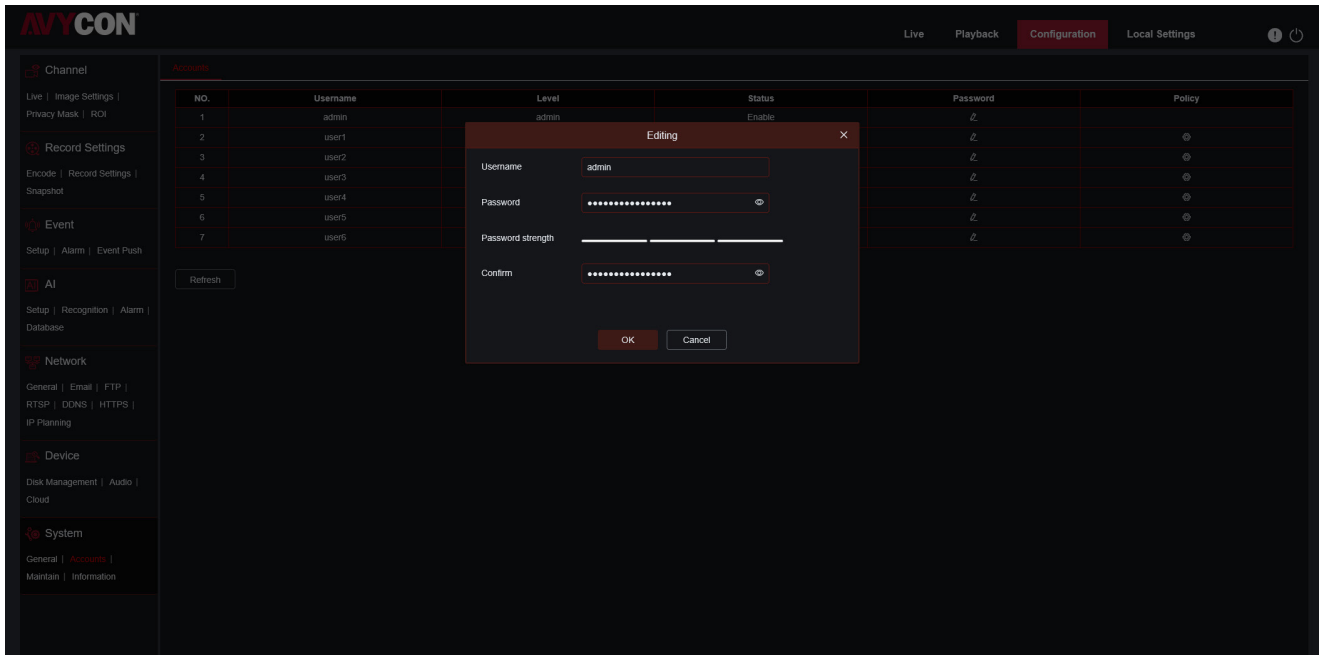
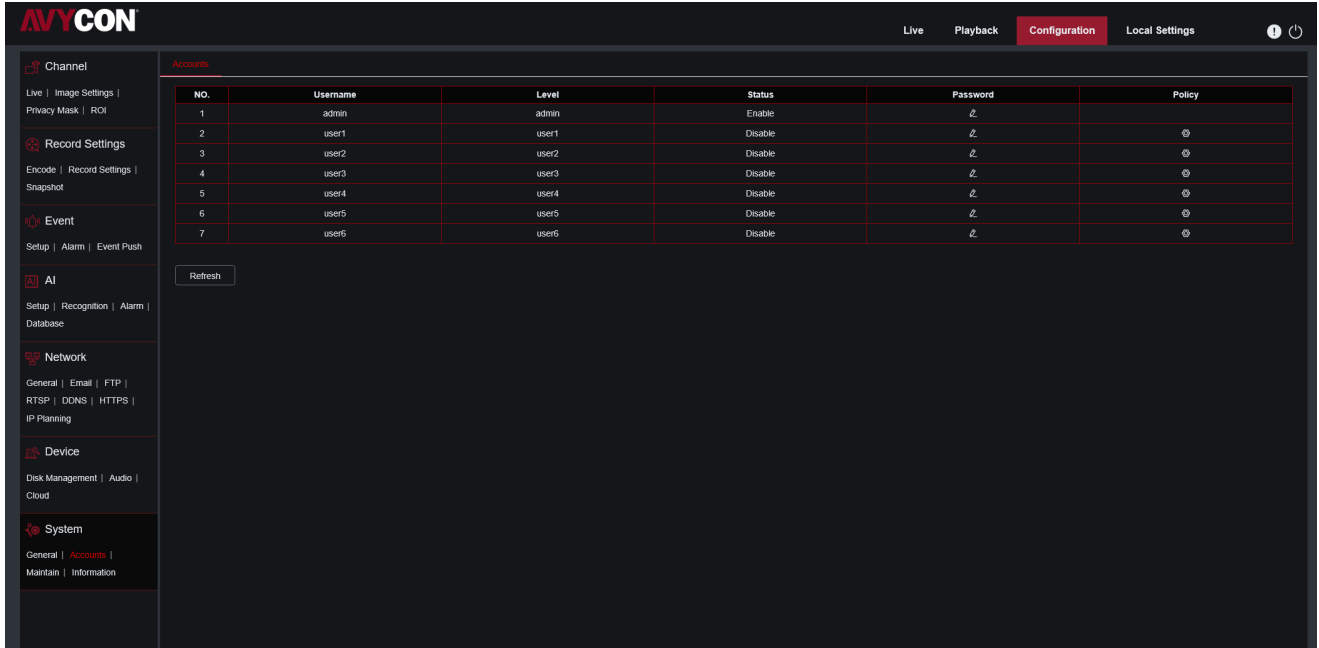
### 8.10.2 Multi-user management

This menu allows you to configure user name, password and user permissions.

**The system supports the following user types:**

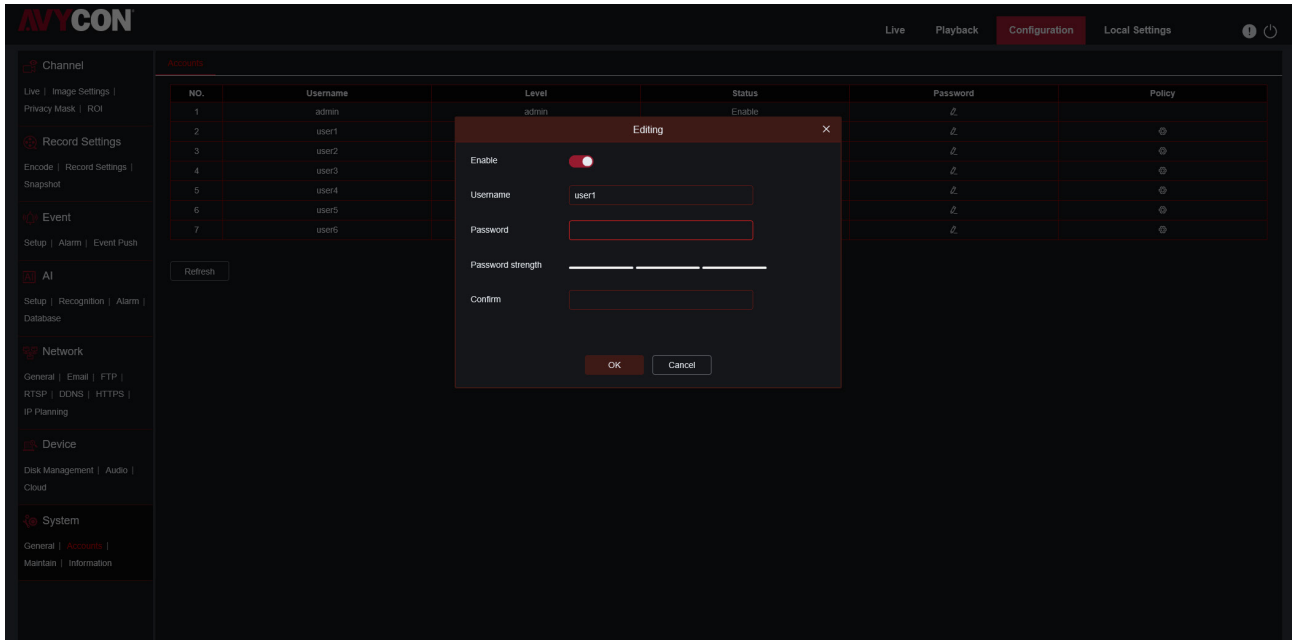
**ADMIN –System Administrator:** The administrator can fully configure the system, and can change the administrator password and user password, and enable/disable password protection.

**USER – Ordinary user:** The user only has access to preview, search, playback and other functions. You can set up multiple users with different system access permission.

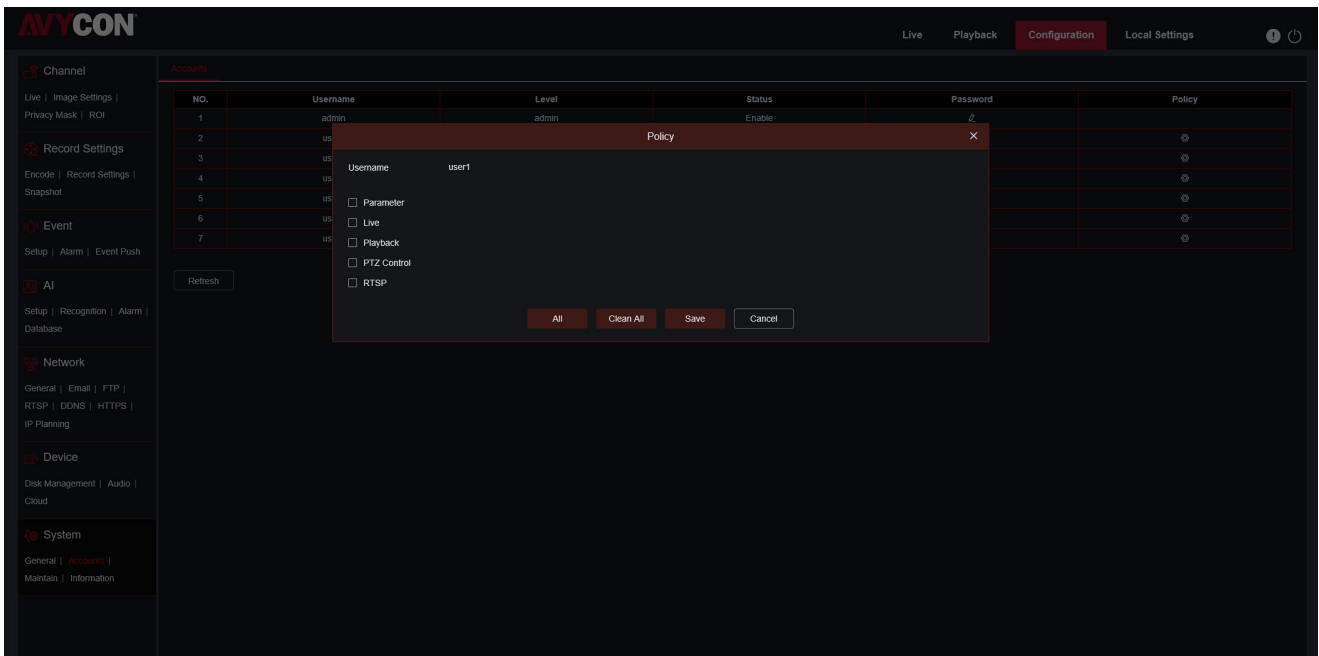


To change the administrator's or user's password, click the "Editing" icon. The password must be at least 8 characters and must be composed of numbers, letters and symbols. Enter the new password again to confirm. Save the new password, the system will ask you to enter the old password for authentication.





1. Select one of the disabled users and click "Editing" icon.
2. Check "Enable" to enable the user.
3. Click "UserName" to edit user name.
4. Click the area next to Password to enter the required password.
5. Click the area next to Confirm to re-enter the password.
6. Click Save. You need to enter the administrator password for authentication.



Set the user's permission and check the box corresponding to the function. Click All to select all boxes. Click Clear to clear all boxes.

### 8.10.3 System Maintenance

In this menu, you will be able to search and view system logs, restore factory settings, upgrade the system, export and import system parameters, and configure system's automatic reboot.

#### 8.10.3.1 Log Management

The system log shows important system events such as motion alarms and system warnings. You can easily import the system log backup file to the computer within a set period of time

No.	Time	Log Content	Log Info
1	02/10/2023 13:00:35	Motion Start	Is there a video: has record
2	02/10/2023 12:59:53	Motion End	Is there a video: has record
3	02/10/2023 12:59:48	Multi-User	Operation result: The operation was successful User Name: admin IP: 192.168.1.105
4	02/10/2023 12:59:40	Motion Start	Is there a video: has record
5	02/10/2023 12:53:36	Motion End	Is there a video: has record
6	02/10/2023 12:53:25	Motion Start	Is there a video: has record
7	02/10/2023 12:53:11	Motion End	Is there a video: has record
8	02/10/2023 12:52:44	Motion Start	Is there a video: has record
9	02/10/2023 12:51:34	Motion End	Is there a video: has record
10	02/10/2023 12:51:21	Motion Start	Is there a video: has record

#### Log search and backup:

1. Click the area next to Start Time and select the start date and time from the on-screen calendar
2. Click the area next to End Time and select the end date and time from the on-screen calendar.
3. Select the event type you want to search from the drop-down list next to Log Type, or select All to view the entire system logs for the selected time period. Optional types are:

**System log, configuration log, alarm log, account log, recording log, storage log, and network log.**

4. Select the type of event to search from the drop-down list next to MinorType (if ALL is selected for Log Type, there will be no such menu), or select All to view the entire system logs for the selected time period. The optional types are:

- **System:** System settings, reboot, automatic reboot, upgrade, time setting and NTP time adjustment.
- **Configuration:** IPC preview control, privacy zone setting, recording mode setting, recording plan setting, main stream setting, network setting, sub-stream setting, mail setting, color setting, motion detection setting, hard disk setting, multi-user setting, NTP settings, image control, mobile stream settings, RTSP settings, IP filter settings, factory reset, audio settings, video occlusion alarm settings, export settings and import settings.
- **Alarm:** Motion detection start, motion detection end, IO alarm start, IO alarm end, PID start, PID end, LCD start, LCD end, SOD start, SOD end, PD&VD start, PD&VD end , FD start, FD end, CC start, CC end, CD start, CD end, QD start, QD end, sound alarm start and sound alarm end.
- **Account:** Login, logout and switch users.
- **Recording:** Search, playback and backup.
- **Storage:** Format hard disk, hard disk is full, and hard disk error.
- **Network:** Offline, online, network error and network mode change.

5. Click Search to search.

6. Browse the system log from the selected time interval:

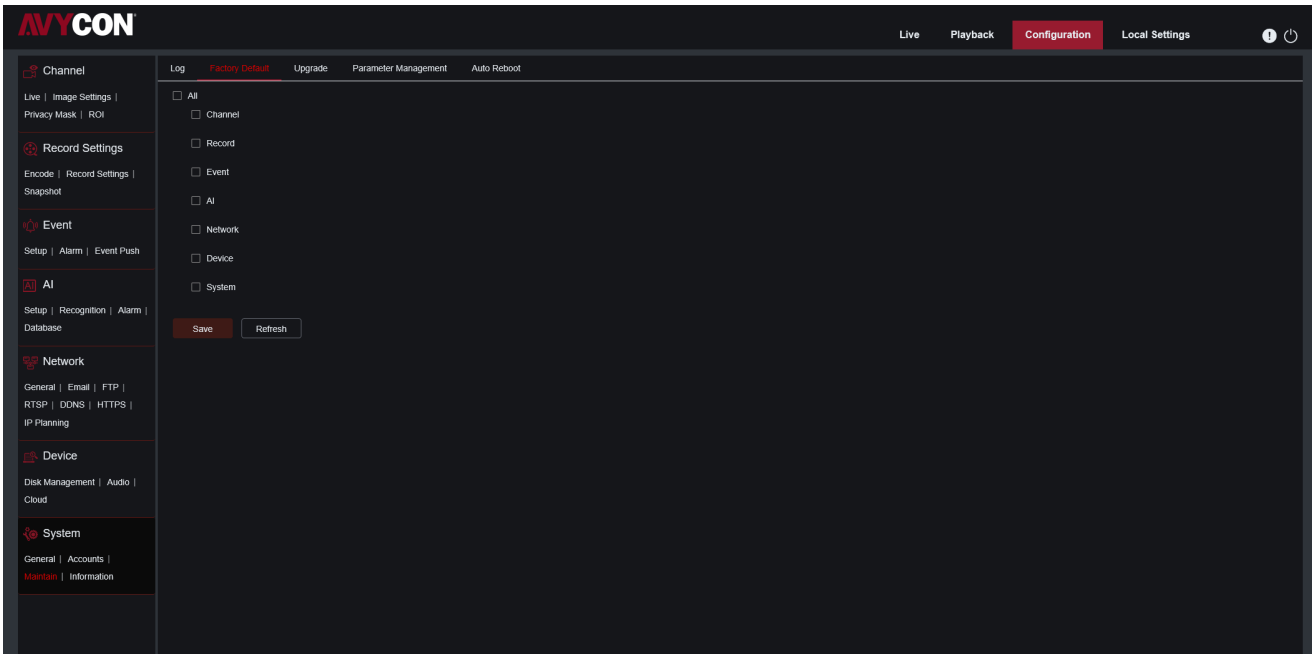
7. Switch the pages of system log events by such buttons like

Enter the export file name in the field next to Name. Click Export to create a backup of system logs.

**8.10.3.2 Restore factory settings**

Reset camera to factory settings. You can choose to reset all settings at once or reset the specific settings only.

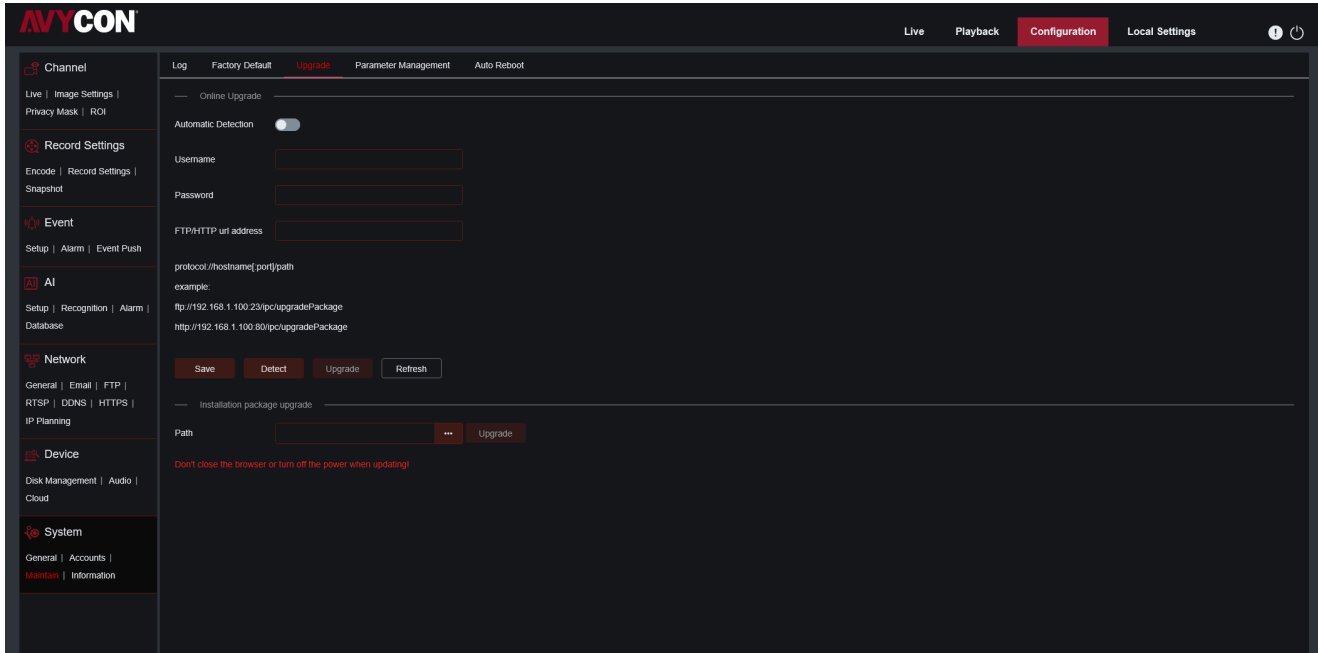
**Note:**  
*Restoring the default settings will not delete the videos and snapshots saved in the SD card.*



Select items to be restored, or click All to select all items. Click "Save" to load the default settings.

### 8.10.3.3 System Upgrade

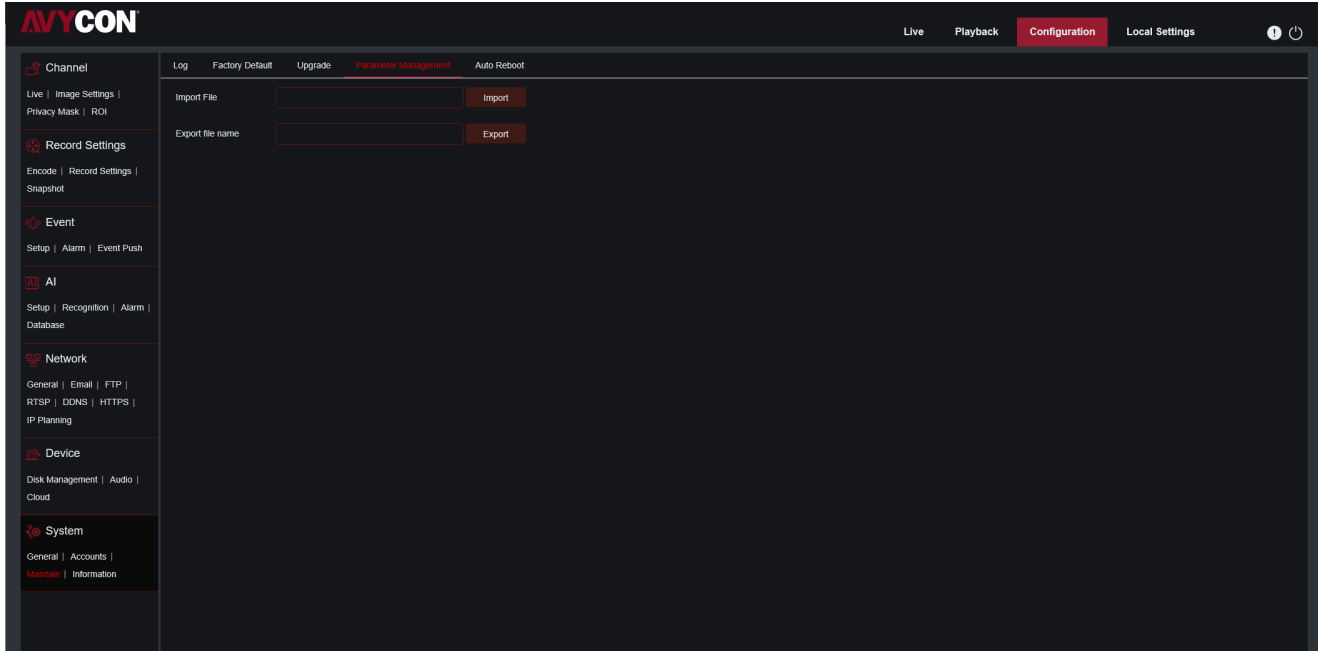
This menu allows to upgrade camera's firmware.



1. Put the firmware file (.sw file) on the computer hard disk.
  2. Click "..." beside "Path" and select the firmware file in the computer.
- Click Upgrade button to start. The upgrade will last about 5-10 minutes, please do not turn off the power of the camera or close IE during this period.

### 8.10.3.4 Parameter management

You can export the configured main menu parameters to the computer, or import the exported settings file from the computer to the camera.

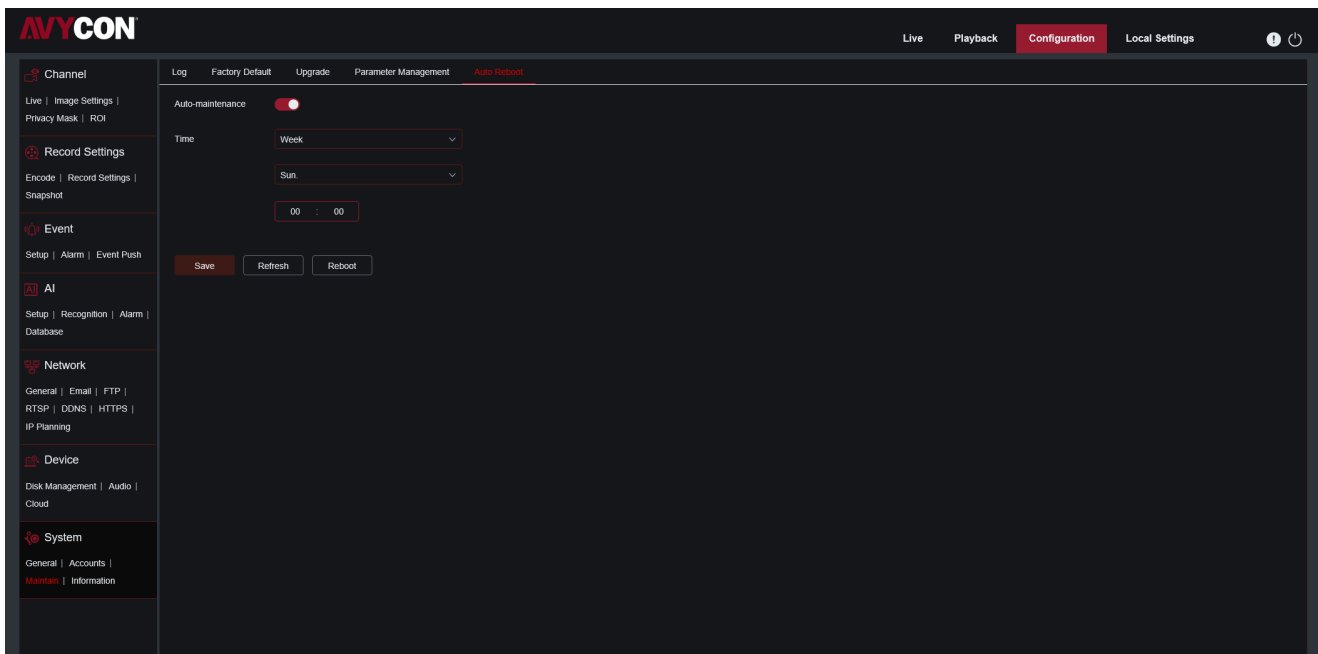


**Import File:** Click the box, and the path window will pop up. After selecting the parameter file, click Import to start importing the parameters.

**Export File Name:** Click the box to enter the file name of the exported parameters. Click Export to export parameters

### 8.10.3.5 Automatic Maintenance

This menu allows the system to automatically reboot periodically. It is recommended to keep this function enabled, because it can maintain the operational stability of the camera.

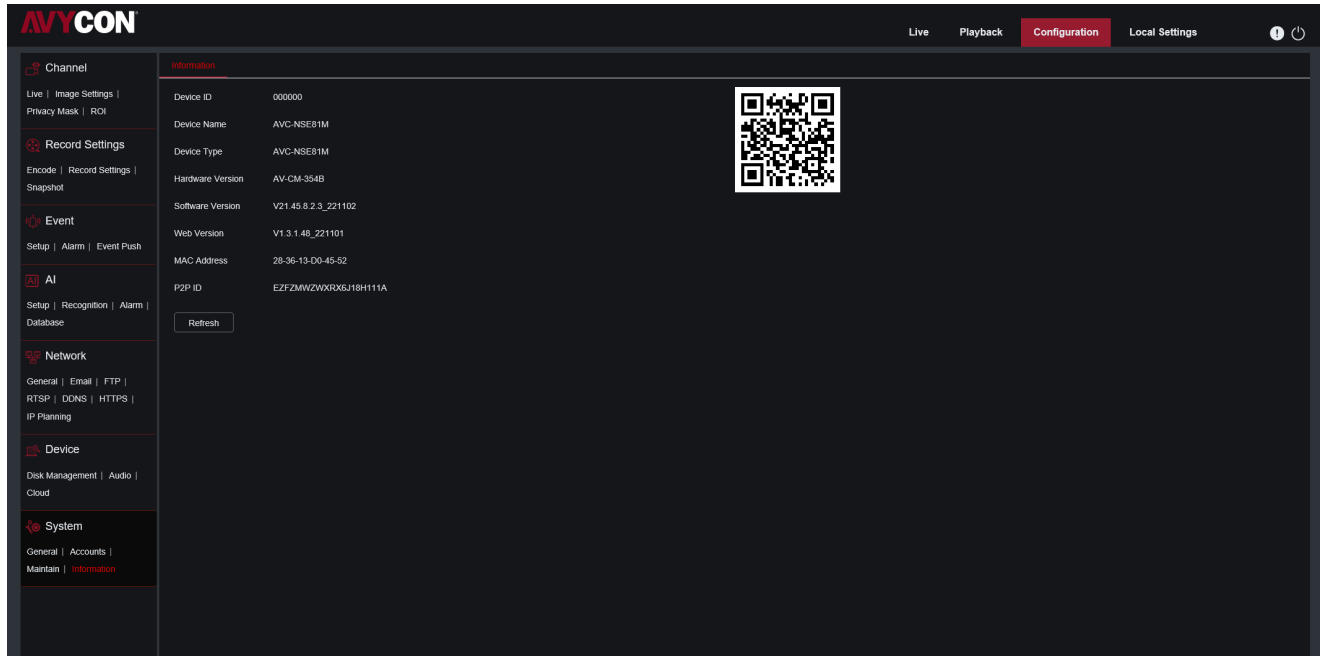


**Auto Reboot:** Click to enable

**Time:** The IPC can be set to reboot by day, week or month.

### 8.10.4 System Information

This menu allows you to view system information, such as camera ID, model name, MAC address, firmware version, etc.

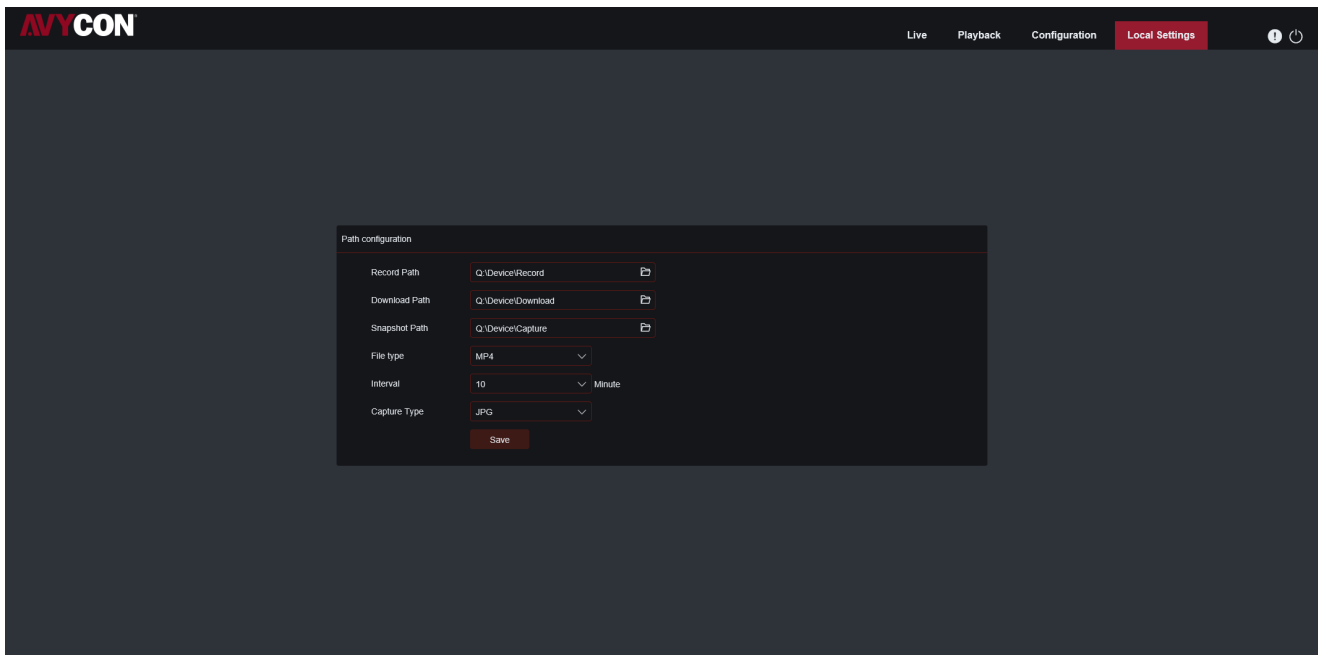


## Chapter 9 Local Setting

This menu allows you to set the save path of recording, downloading and snapshot files, as well as the format of recording and snapshot.

**Note:**

*Programs without plug-ins are supported. If you use Safari 12 and above, Chrome 57 and above, Firefox 52 and above, Edge 41 and other browsers for web access, this menu can be ignored.*



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