



**Harrier 23x Autofocus-Zoom  
IP 4K Camera  
(H.264/H.265)**

**AS-CAM-23IP4K-A**

**Technical  
Reference Manual**

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## Safety Instructions

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss.

- ◆ In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region.
- ◆ Make sure the power supply voltage is correct before using.
- ◆ Do not drop the block camera or subject it to physical shock, and do not expose it to high electromagnetism radiation. Avoid installation on vibrations surface or places subject to shock (ignorance can cause device damage).
- ◆ Do not touch sensor modules with fingers. If cleaning is necessary, use clean cloth with a bit of ethanol and wipe it gently. If the block camera will not be used for an extended period, replace the lens cap to protect the sensor from dirt.
- ◆ Do not aim the block camera at the sun or extra bright places. Blooming or smearing may occur otherwise (which is not a malfunction), and affect the endurance of sensor at the same time.
- ◆ The sensor may be burned out by a laser beam, so when any laser equipment is in using, make sure that the surface of sensor will not be exposed to the laser beam.
- ◆ Do not place the block camera in extremely hot, cold, dusty or damp locations, and do not expose it to high electromagnetic radiation.
- ◆ To avoid heat accumulation, good ventilation is required for operating environment.
- ◆ Keep the block camera away from liquid while in use.
- ◆ While in delivery, the block cameras shall be packed in its original packing, or packing of the same type.

## Maintenance

If the product does not work properly please contact Active Silicon.  
Never attempt to disassemble the block camera yourself as this will invalidate the warrantee.  
Active Silicon shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)



Feature	AS-CAM-23IP4K-A		
Optical	Sensor	1/1.8" Progressive CMOS (IMX334)	
	Focal Length	6.7~154.1mm, 23x optical	
	Aperture Range	F1.58~F3.95	
	Shutter	1/25~1/100000	
	FOV	59.6°~3.5° (Wide-Tele)	
	Min. Distance	10mm-1500mm (Wide-Tele)	
	AF Speed	5s (Optical, Wide-Tele)	
	D/N Shift	ICR, Auto, Color, White/Black	
	Scanning	Progressive Scanning	
Image	Resolution	Main Stream	PAL: (3840 x 2160, 1920 x 1080, 1280 x 720) 25fps NTSC: (3840 x 2160, 1920 x 1080, 1280 x 720) 30fps
		Sub Stream	PAL: (720 x 576, 352 x 288) 25fps NTSC: (720 x 480, 352 x 240) 30fps
			3rd Stream
		Illumination	0.002Lux @ (F1.5, AGC ON) color, 0.0002Lux @ (F1.5, AGC ON) B/W
	Video Output	Network Coding	
	Image Adjustment	Saturation, Brightness, Contrast, Sharpness, Hue Adjustment	
	Image Setting	Privacy Mask, Anti Flicker, Defog, Corridor Mode, Mirror, Rotate, BLC, HLC, Defect Point Compensation, Watch mode, Power off Memory, EIS, 3D Positioning	
	ROI	(Region of interest) 4 regions	
	Focus Mode	Auto/Manual/Semi Auto/One Time Focus (auto mode)	
	Exposure Mode	Auto/Manual/Shutter Priority/Low light Priority/High light Priority/Aperture Priority	
	Shutter Time	1/25~1/100000	
	White Balance	Auto 1/Auto 2/Indoor/Outdoor/Manual/Sodium Lamp/White Lamp/One time Tracking/Auto Tracking	
	WDR	(Wide Dynamic Range) Super WDR, Digital WDR, 0-100 digital adjustment	
	DNR	(Digital Noise Reduction) 2D/3D	
	Lens Initialization	Built-in shutter priority	
	Digital Zoom	16x	
	System Mode	PAL/NSTC	
Network	Storage	SD card 128G (class10)	
	Smart Function	Motion Detection, Tampering, Area Intrusion, Line Crossing, Off-line, IP conflict, HDD Full	
	Protocol	TCP/IP, HTTP, DHCP, DNS, DDNS, RTP, RTSP, PPPoE, SMTP, NTP, UPnP, SNMP, FTP, QoS	
	Compatibility	ONVIF, Active register	
	Audio Compression	G.711A, G.711U, G.726, AAC	
	Video Compression	H.265 / H.264	
	General	Heartbeat, Password Protection, Black/White list	



<b>Interface</b>	36-way FFC/FPC	RJ45 10M/100M LAN self-adaptive, 1ch
		Network light, 1ch
		RS485, 1ch
		RS232, 1ch
		Alarm in, 1ch
		Alarm out, 1ch
		Audio in, 1ch
		Audio out, 1ch
		Power
		SD card socket
		Reset
	Expansion	1x UART, 1x GPIO
<b>Other</b>	Working Temp.	-10°C~60°C
	Working Humidity	≤95% (non-condensing)
	Power	DC12V±10%
	Power Cons.	2.5W~4.5W
	Dimension	98.5 x 52 x 62 mm



## Connecting to the Camera

Download and install the [ONVIF Device Manager](https://sourceforge.net/projects/onvifdm/) from <https://sourceforge.net/projects/onvifdm/>. This program can be used to identify the IP address of the camera (e.g. 192.168.1.108).

Streaming video can be displayed in the ONVIF device manager or a media player that can display RTSP streams. E.g. GStreamer or VLC media player.

For VLC media player: Select the Media menu, select Open Network Stream.

In the Open Media dialog, enter `rtsp://192.168.1.108:554/type=0&id=1`. Click the Play button.

## Connectors

J2					
Pin No.	Name	Level	Pin No.	Name	Level
1	12V		21	GND	
2	12V		22	SD_EN	
3	12V		23	SD1_WP	
4	GND		24	SD1_CD	
5	GND		25	SD_CLK	
6	RESERVED		26	SD_CMD	
7	GND		27	SD_DATA3	
8	AUDIO_LINE_OUT		28	SD_DATA2	
9	GND		29	SD_DATA1	
10	AUDIO_LINE_IN		30	SD_DATA0	
11	NC		31	GND	
12	ETH_TX+		32	RS-485_B (-)	
13	ETH_TX-		33	RS_485_A (+)	
14	ETH_RX+		34	UART_TX	
15	ETH_RX-		35	UART_RX	
16	GND		36	RESET	
17	LINK_LED				
18	ACT_LED				
19	ALARM_OUT				
20	ALARM_IN				
Ref.	36-Way FFC 0.5mm pitch				

## Evaluation Board (issue 01) Connectors

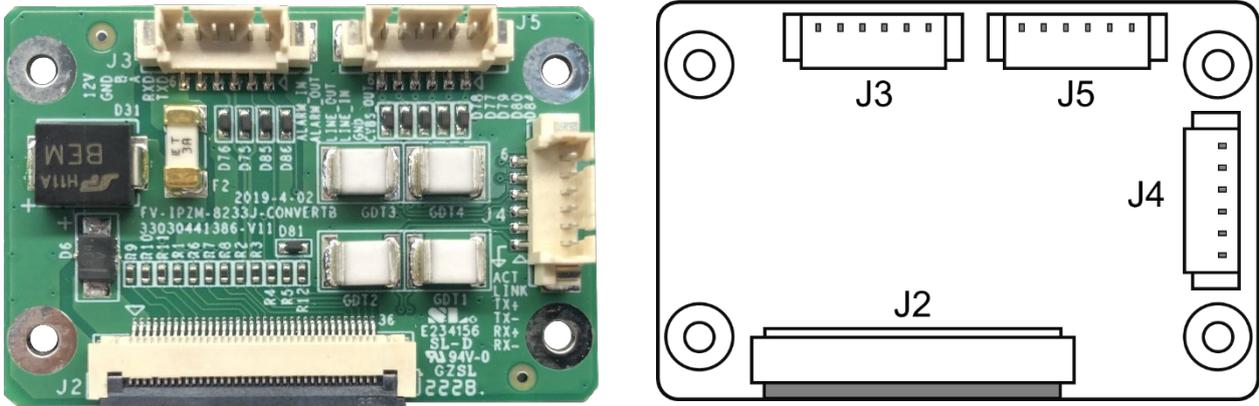


Figure 1. Harrier 23IP4K Camera Evaluation Board and Block Diagram

<b>J3 – Power and Serial</b>			
Pin No.	Name	Pin No.	Name
1	UART4_TXD	4	RS485_B
2	UART4_RXD	5	GND
3	RS485_A	6	VIN_12V

<b>J4 – Ethernet</b>			
Pin No.	Name	Pin No.	Name
1	ETH_RX-	4	ETH_TX+
2	ETH_RX+	5	LINK_LED
3	ETH_TX-	6	ACT_LED

<b>J5 – Alarm and Audio</b>			
Pin No.	Name	Pin No.	Name
1	RESERVED	4	AUDIO_LINE_OUT
2	GND	5	ALARM_OUT
3	AUDIO_LINE_IN	6	ALARM_IN

Please take care not to plug J3 into the wrong socket.

## Evaluation Board (issue 02) Connectors

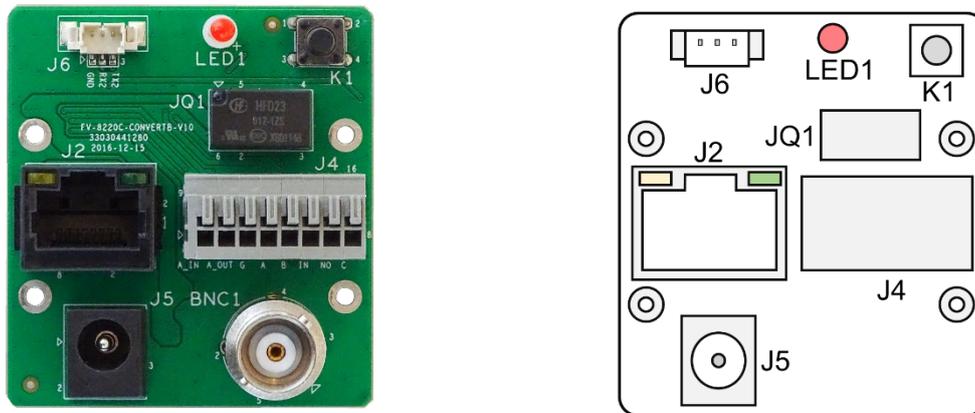


Figure 2. Harrier 23x/52x IP Camera Evaluation Board and Block Diagram

<b>J2 – Ethernet</b>			
Pin No.	Name	Pin No.	Name
1	TX+	5	NC
2	TX -	6	RX -
3	RX+	7	NC
4	NC	8	NC

<b>J4 – I/O Block</b>			
Pin No.	Name	Pin No.	Name
1	Line In	9	Line In
2	Line Out	10	Line Out
3	GND	11	GND
4	RS-485-A	12	RS-485-A
5	RS-485-B	13	RS-485-B
6	Alarm In 1	14	Alarm In 1
7	Alarm Out NO	15	Alarm Out NO
8	Alarm Out NC	16	Alarm Out COM

<b>J6 – UART</b>	
Pin No.	Name
1	GND
2	UART2_RXD
3	UART2_TXD

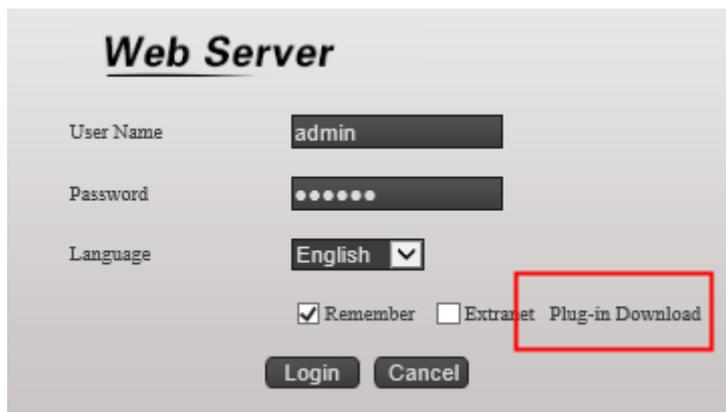


## Accessing the Camera Web Pages

Steps:

1. Power on the camera, and connect the camera to the network.
2. Open the web browser.
3. In the address field, input the IP address of the network camera, e.g., 192.168.1.108 and press the Enter key to enter the login interface.
4. The default IP address of the camera is 192.168.1.108.
5. Select English as the interface language on the bottom-right of login interface
6. Create a password and input the password in the password field, and confirm the password.
7. The admin user should configure the device accounts and user/operator permissions properly. Delete the unnecessary accounts and user/operator permissions.
8. Install the plug-in before viewing the live video and operating the camera. Follow the installation prompts to install the plug-in.

**Caution** Please follow the installation prompts to install the plug-in.



**Caution** You may have to close the web browser to install the plug-in. Reopen the web browser and log in again after installing the plug-in.

Default user name: admin

Default password: password123 or 123456



**Web Server**

User Name: admin

Password: [masked]

Language: English

Remember  Extranet Plug-in Download

Login Cancel

### Changing the Password

For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product. Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user

**Password modification**

Currently the initial password, it is recommended to change its password!

New Password: [input]

Confirm password: [input]

\*8-16 letter and number

OK Cancel

Login Cancel

来自网页的消息

Success!

确定

OK Cancel



## Basic Web Page Operation

In this and the following chapters, operation of the block camera by the web browser will be described as an example.



Figure 3. Camera Web server Live Page

**Live View Parameters:**

LOGO	Description
	Login
	PTZ Control
	Image Setting
	Alarm Info
	Latency
	Regional Zoom
	Quick PTZ
	Zone Focus
	Main Stream Live View
	Second Stream Live View
	Third Stream Live View
	1:1 Display
	Local Record
	Local Snapshot
	IPC Snapshot
	Audio Detect
	Intercom
	Stop Live View
	Full Screen

## PTZ Control Panel

PTZ Control: Panning, tilting, focusing and zooming actions of the network. The lighter, wiper, one-touch focus and lens initialization control.

Preset/patrol/pattern: Set and call the preset/patrol/pattern for the camera

PTZ Control Panel



Figure 4. PTZ control panel

: Start/stop digital zoom.

: Focus near/far

: Iris Close/Open

Step: Control by Clicking on +/- (Adjust speed of pan/tilt movements)

Setting a Preset: In the PTZ control panel, Input a preset number from 1-255, Click to add a Preset, then click to call the PTZ to the Preset, Delete the Preset by clicking on .

PTZ menu : Patrol/Line Scan/Pattern/Preset/Auto Pan/Aux

In the PTZ control panel, input a defined preset/pattern.

“Open”“Close” : Turn ON/OFF function.

1) PTZ Setting

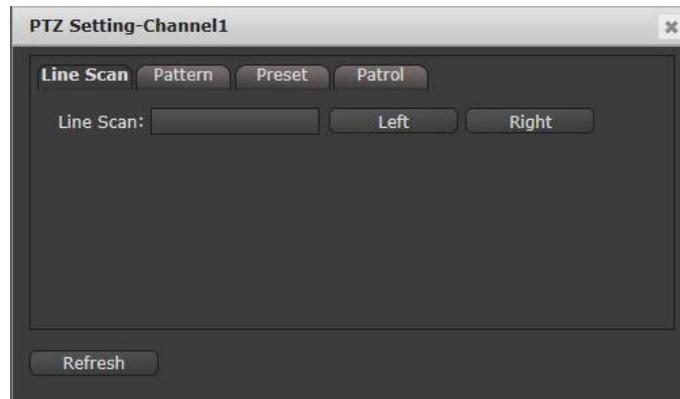


Figure 5. PTZ Setting Menu

2) Line Scan

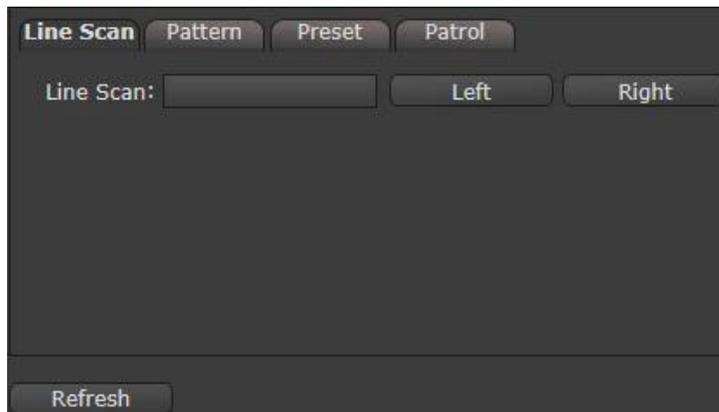


Figure 6. Line Scan. Setting the Left and Right boundary

3) Pattern

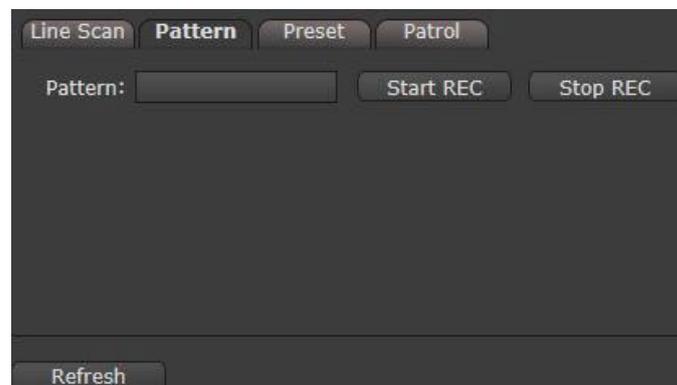


Figure 7. Pattern



#### 4) Preset

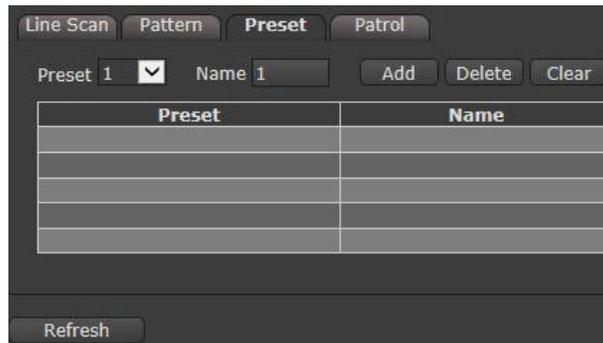


Figure 8. Preset: You can configure up to 255 presets

#### 5) Patrol

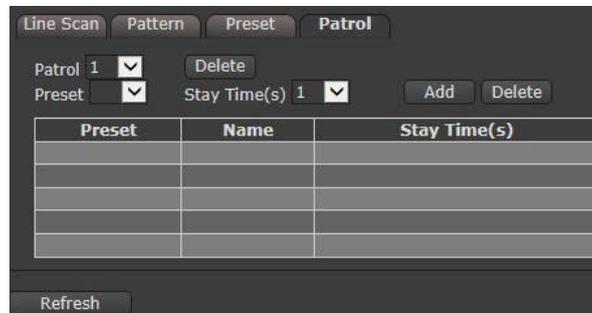


Figure 9. Patrol

### OSD Setting

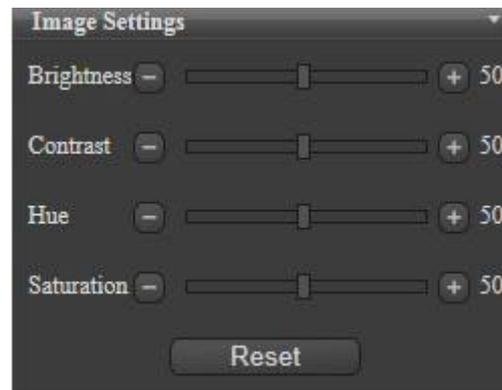


Figure 10. Image Setting

### Alarm Info



Figure 11. Alarm Info



# Playback

Purpose:

This section explains how to view the video files stored in the network disks or memory cards.

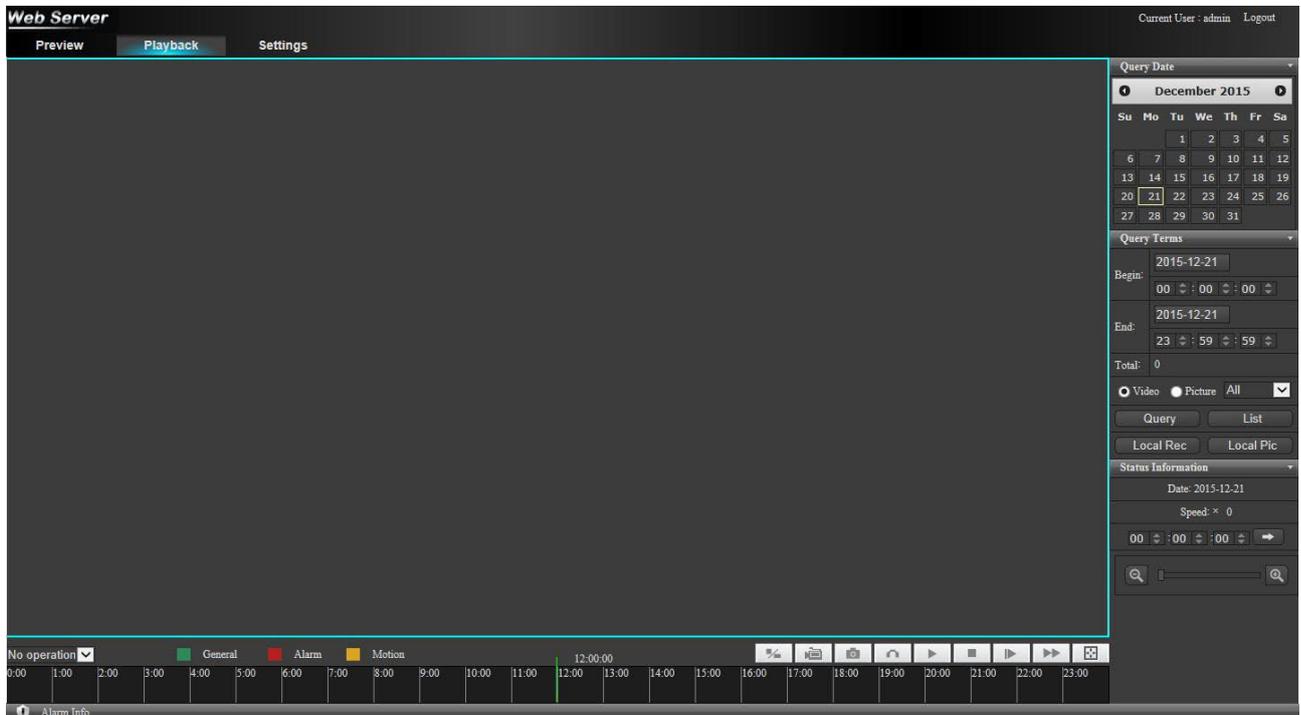


Figure 12. Playback

Description of the buttons:

Logo	Description
	The window size is 1:1
	Local Recording
	Local Snapshot
	IPC Snapshot
	Audio Recording
	Play
	Speed Down
	Speed Up
	Full Screen



Drag the progress bar with the mouse to locate the exact playback point.

The different colors of the video on the progress bar stand for the different video types

### Search by Date



Figure 13. Query Date

### Search Video

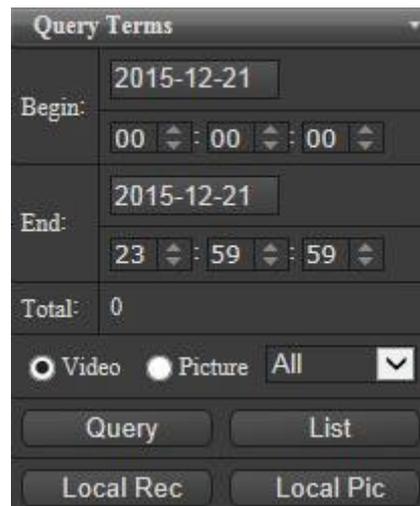


Figure 14. Query Terms

Choose the file paths locally for downloaded playback video files and pictures in Local Configuration interface.

### Recording Status

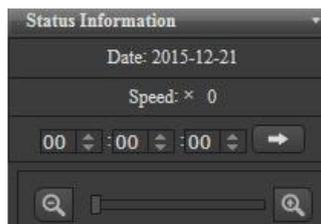


Figure 15. Status Information

Input the time and click to locate the playback point in the Set playback time field. You can also click to zoom out/in the progress bar.



## Camera Settings

Click Settings to enter the Configuration Interface



Figure 16. Settings tab

The configuration interface functions are as follows:

### System Information



Figure 17. System information



1 “Version information”

Serial Number	60947071738
MAC	ce:30:ba:82:fa:0e
Alarm In	1
Alarm Out	1
Cvbs Out	1
Audio In	1
Audio Out	1
Product Type	IP2M-9220C-L
Firmware Version	2.19.5.0.R21451.inner1.
Hardware Version	1.1
Web Version	2.0
Plug-in Version	1.0.74.0
Building Time	2019-08-24 10:01:08
State	Activated

Figure 18. Version information

View the device's "serial number, MAC, product type, software version, hardware version, WEB version, control version, compilation date, activation status" and other information.

2 “Operation and maintenance information”:

CPU Utilization	23
Memory Utilization	77
<input type="button" value="Refresh"/>	

Figure 19. Version information

View CPU utilization and memory utilization.



3 “Hard disk information” :

Disk No.	Physical No.	Disk Group	State	Attribute	Free	Total

Refresh

Figure 20. Hard disk information

View "hard disk serial number", "physical serial number", "disk group", "hard disk status", "properties", "residual capacity", "total capacity", and refresh status information.

### System Setup



Figure 21. System setup

### General setting







"Channel": Select the appropriate channel for configuration.

"Coding mode": Select H265, H264 and MJPEG according to requirements. (The main stream is H265 and H264 only)

"Coding Level": Set up High Profile, Main Profile and Baseline Profile according to requirements.

"Encoding Enables": Video default check, according to the needs of audio enable check.

"Resolution": Choose according to demand. The main stream can choose "2592\*1520 (unsupported), 2304\*1296 (unsupported), 1920\*1080" and "1280\*720"; the auxiliary stream can choose "720\*576" and "352\*288"; the third stream can choose "720\*576" and "352\*288".

"Frame Rate": Set PAL (1-25 FPS) and NTSC (1-30 FPS) according to requirements.

"Bit Rate Value": Set according to requirements (with 10 fixed values and custom settings).

"Bit Rate control": Settings according to requirements (with limited and variable bit stream settings).

"I Frame Interval": Set up according to requirement (1-100).

"Bit Rate Smoothing": Settings (0-100) according to requirements (if there is breathing effect in the image).

"Input volume": Adjust audio input sound (0-100) according to demand.

"Output volume": adjust the audio output sound (0-100) according to the demand.

"H264+/H265+" : Widening the I frame interval and increasing the virtual I frame to ensure the smoothness of the picture in the same bit rate.

"SVC": SVC configuration can choose "1", "2" and "4" times; Scalable Video Coding (adaptive video coding or scalable video coding) intelligent adjustment mode for increasing frame hopping logic. (Not supported)

"Save": After setting up, click Save, it will pop up and save successfully.

Refresh: Click to refresh the display.

### Audio setting



Figure 24. Audio settings

"Coding mode": Set the audio coding mode, choose "G711A", "AAC", "G711U", "G726"

"Sampling Rate": Sampling Rate of Audio (each encoding mode corresponds to a sampling rate).

"Sampling depth": The sampling depth of audio (each coding mode corresponds to a sampling depth).

## Image setting

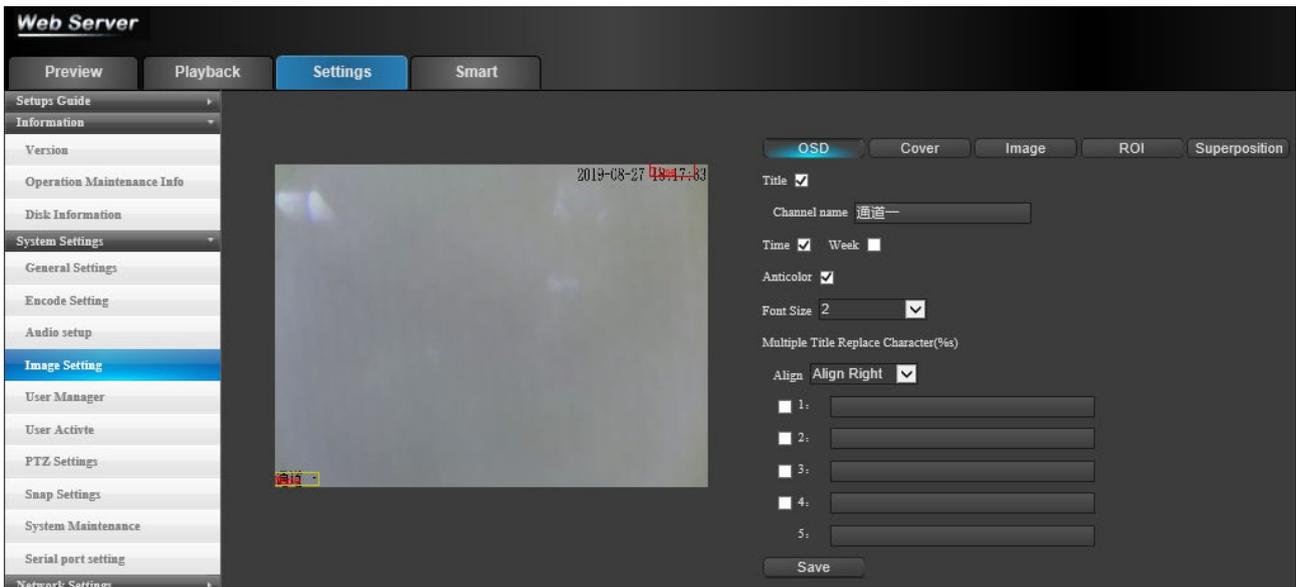


Figure 25. Image setting

### 1 OSD setting

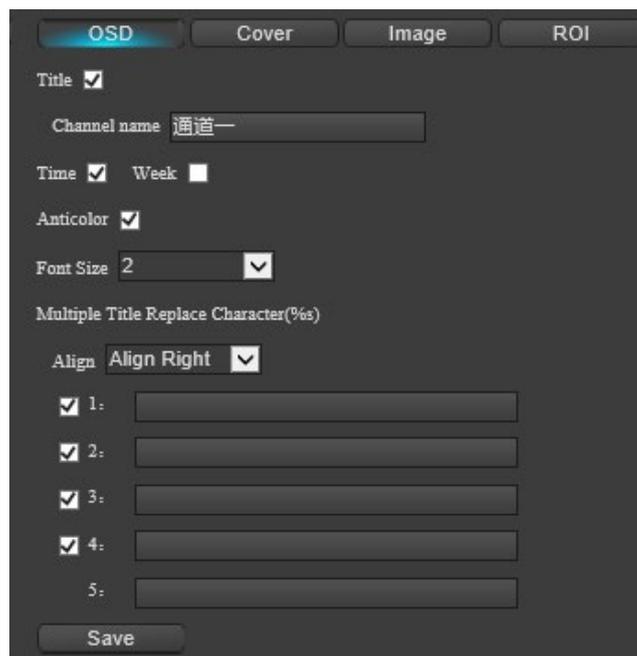


Figure 26. OSD setting

“Preview Interface”: After saving the parameter settings, you can see the effect.

“Display Name”: Enabling Check of Display Name.

“Channel Name”: Set up according to requirements.

“Display Date”: Enabling Check of Display Date.

“Show Week”: Enabling Check of Show Date.

“OSD Anti-color”: Turn on and off OSD Anti-color function.

“Font Size”: Set fonts 1, 2 and 3 as required.



"Text Edge Description": Open Red Edge Description for Web Preview Text

Channel name CAM 1 (not supported)

"Display multiple lines": Enable selected and sets 1-5 lines separately according to requirements.

Alignment: alignment of multiple lines according to requirements.

"Save": After setting up, click Save, it will pop up and save successfully.

### 2) Area Mask

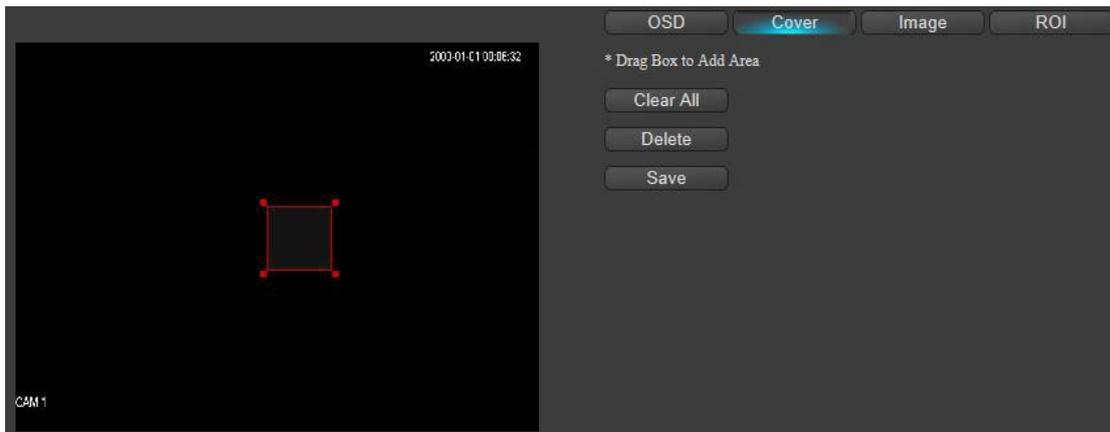


Figure 27. Privacy Mask

"Preview Interface": After saving the parameter settings, you can see the effect.

"Drag box selection to add area" : Select the area in the preview interface, and corresponding and black will appear.

Clear All: All settings are cleared.

"Delete the selected area": Delete the selected area pertinently.

"Save": After setting up, click Save, it will pop up and save successfully.

### 3 ) Image parameter

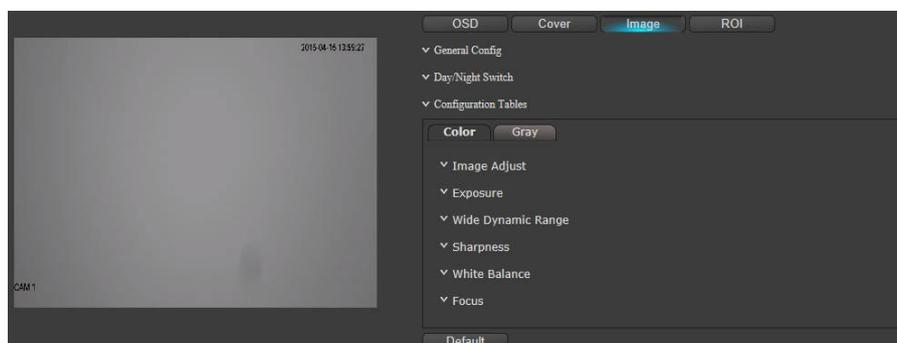


Figure 28. Image setting

"Preview Interface": After setting parameters, you can see the effect.

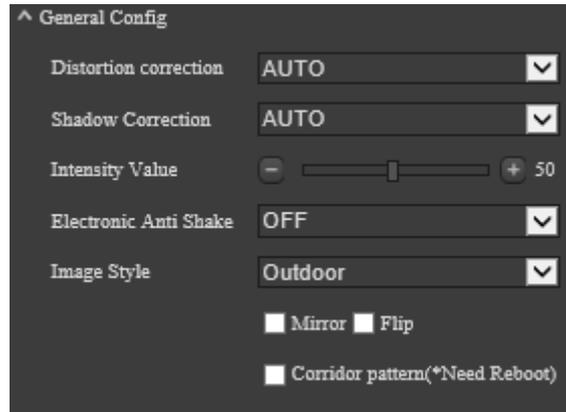
**【General Configuration】:**

Figure 29. General configuration

"Distortion Correction": Closing, Manual Options. "Strength Value": Use with manual option of distortion correction (0-100)

"Electronic Anti Shake, ": Closing and Automation Options, "Strength Value": Use with Electronic Anti-shake Automation Options (0-100).

"Image Style": Standard outdoor choice.

"Mirror": Settings can be checked to switch the symmetrical display direction of the video screen.

"Flip" : " Check the settings. Video coding will rotate 90 degrees counterclockwise.。

"Corridor mode": Check the settings to switch the display proportion of the video, such as the 16:9 corridor mode after switching to 9:16.

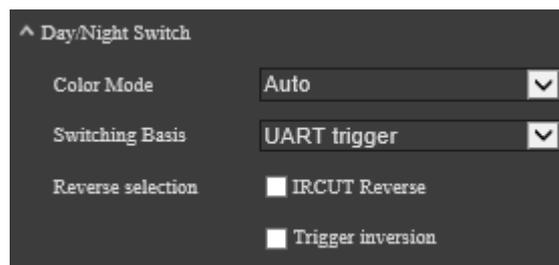
**【Day/Night Shift】:**

Figure 30. Day/Night Shift

"Color mode": automatic, daytime, night etc.

"Switching Basis": Photoresistor (not supported), image algorithm, time period selection, external trigger, alarm input trigger, serial trigger.

"Switching threshold": daytime switching threshold, high numerical setting, the camera needs a higher brightness to switch from night mode to daytime mode, low numerical setting, the camera only needs a slightly lower brightness to switch from night mode to daytime mode; night switching threshold, the same reason as daytime switching threshold.

"Time Delay": Waiting time delayed response after day and night switching, can be set according to demand.

"Inversion Selection": IRCUT Inversion: Forced switching of filters, triggering inversion: Reversion of the current state, you can check settings according to needs.

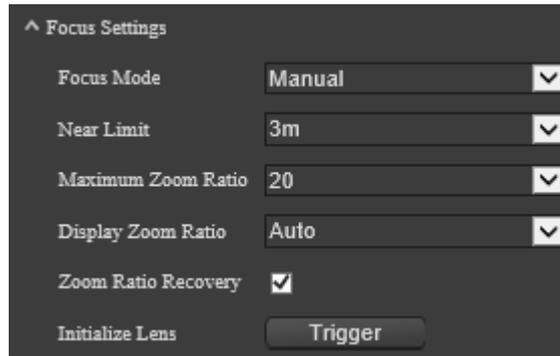
**【Focus Settings】:**

Figure 31. Focus Settings

Focus Mode: Manual, automatic and semi-automatic mode optional.

"Near limit" can be selected according to the actual application environment, and "3", "6", "12", "24", "36" and "48" can be selected.

"Maximum Zoom Ratio: You can choose the maximum zoom ratio according to your needs, and display the odds in the preview screen after opening.

"Initialize Lens": Click the trigger button to focus once under the default parameters.

"Shot Initialization": Click on trigger and the device performs a shot initialization operation.

**【Configuration selection】:**

The configuration of image selection can be automatic, daytime and night.

**【Image adjustment】:**

Figure 32. Image adjustment

"Image adjustment": brightness, contrast, saturation, sharpness and Hue (0-100) can be adjusted according to demand.

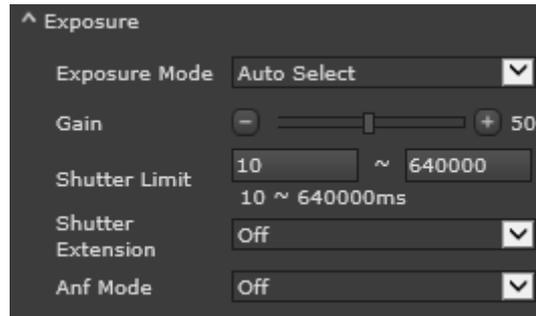
**【Exposure】:**

Figure 33. Exposure adjustment

"Exposure mode": automatic, anti-drag, manual, shutter priority, low light priority, high light priority and other options.

"Gain": Can be adjusted according to demand (0-100).

"Shutter Limit": Can be adjusted according to demand (10-640000 microseconds).

"Shutter Extension": Shutdown, automatic, weak, medium and strong.

"Anti-flicker Anf Mode": There are many choices, such as 50HZ automatic, 60HZ automatic, 50HZ compulsory, 60HZ compulsory and so on.

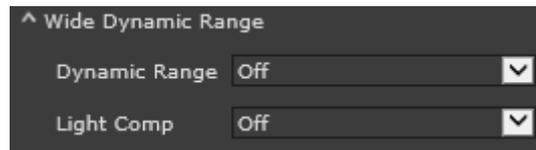
**【WDR】:**

Figure 34. WDR

"Dynamic Range" : Close or WDR.

"Light Comp": BLC, HLC, etc.

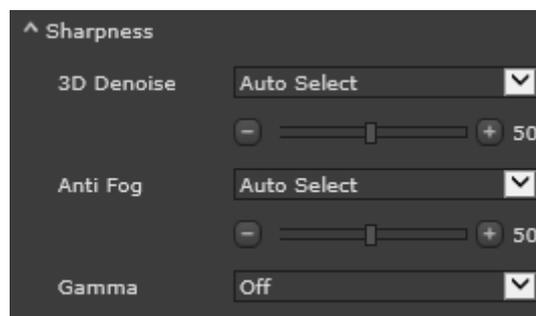
**【Sharpness】:**

Figure 35. Definition

"3D DNR" : Close, Automatic, Manual are options..

"Anti-Fog" : Close and Manual are options.

"Gamma" : Close and region selection are options



**【W/B】:**

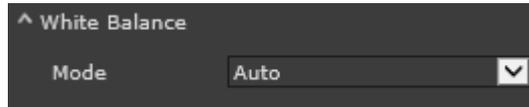


Figure 36. W/B

Select "automatic", "manual", "sunny", "cloudy", "dusk", "incandescent lamp", "sodium lamp", "fluorescent lamp", "once tracking", "automatic tracking", "special light source", "lock selection".

**【Restore default】:**

Click "Default Recovery" to restore default values for all image parameters.

### ROI Setting



Figure 37. ROI Setting

Preview Interface: After saving the parameter settings, you can see the effect.

"Drag the box to select the add area": The mouse clicks on the preview interface, and the corresponding box appears.

Clear All: All boxes set are cleared.

"Delete the selected area": Delete the selected area pertinently.

"Qp value": can be adjusted according to demand (0-100).

"Save": After setting up, click Save, it will pop up and save successfully.

## Image superimposition

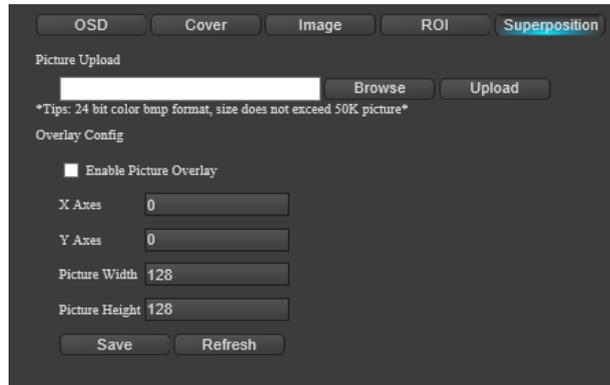


Figure 38. Image superimposition

Select the picture that meets the requirement, click upload, turn on the enabler, save it and upload it successfully, and you can see the overlapped picture.

## User management

Number	User Name	User Group	Note
1	admin	admin	admin's account
2	guest	user	guest's account

Add Delete Modify Modify Pwd

Figure 39. User management

### User management displays a list of existing users.

"Add" can set user name, password, comment, validation password, user group (admin, user optional) and functional permissions.

Delete: Delete the created user.

"Modify": User names, user groups and permissions can be modified for the created users.

"Modify password": Enter the original password, the new password and the verification password, and click Confirm to complete the modification.

## User Information

User Information				
NO.	User Name	Type	IP	Login Time
1	admin	web2.0	172.16.15.75	2019-8-27 18:8:33

Refresh

Figure 40. User online

You can view the IP of the login device, user name, login time.



### PTZ Setting

Channel	1	▼
Protocol	PELCOD	▼
Address	1	0~255
Baudrate	9600	▼
Data Bits	8	▼
Stop Bits	1	▼
Parity	None	▼

Figure 41. PTZ setting

"Protocol": Click on the drop-down menu to pop up a variety of protocols to choose according to needs, and will continue to update.

"Address": Set as needed (0-255).

"Baud Rate": Click on the drop-down menu to pop up a variety of parameters to choose according to needs, baud rate "2400" - "115200" multiple options.

"Data bits": Click on the drop-down menu to pop up a variety of parameters to choose according to needs, and choose "5", "6", "7", "8".

"Stop Bit": Click on the drop-down menu "1" and "2" to choose.

"Parity": Click on the drop-down menu "None", "Odd Check" and "Even Check" to select according to needs.

"Save": After setting up, click Save, it will pop up and save successfully.

Refresh: Click to refresh the display.

### Image capture setting

Channel	1	▼
	<input type="checkbox"/> Enable	
Schedule	Set	
Resolution	1920*1080	▼
Image Quality	General	▼
Interval(s)	2	
	Save	Refresh

Figure 42. Image capture setting

Channel Enables: Enables are selected and set according to requirements.

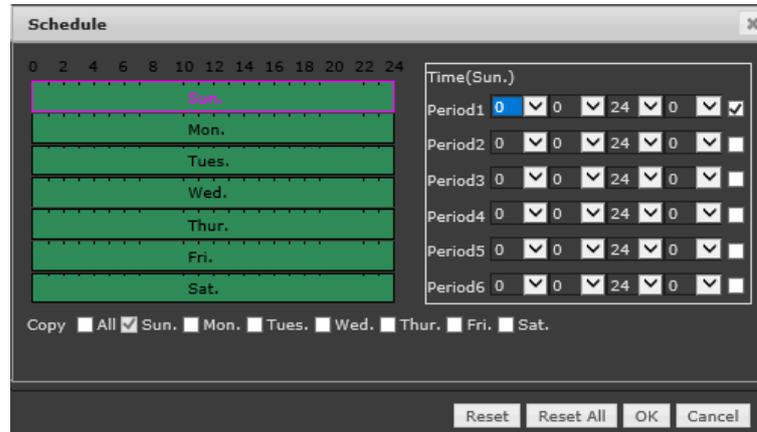
**“Time period”:**

Figure 43. Time period

Click the Settings button to pop up the Time Period Settings menu. Time settings can be set for 6 time periods per day, synchronization settings can be targeted selection or can be selected for a whole week. Settings need to be saved after completion. In addition, there are single reset, all reset, confirm, cancel and other functions buttons, which can be operated according to needs.

"Resolution": The resolution of captured images can be set according to the requirements. There are options: "1920\*1080" and "1080\*720".

"Image quality": According to the requirements, the image quality of the snapshot can be set, and "poor", "ordinary", "good", "good" and "best" can be selected.

"Interval (s)" : The time interval of capturing can be set according to the requirement (1-120s).



## System maintenance

Figure 44. System maintenance

"Auto Reboot ": You can click the drop-down selection (never/day/week) and time point settings to complete the save.

"Reboot": Click , pop up menu, click confirm device to restart.

"Default": Click on the drop-down menu to choose simple recovery and full recovery according to needs. After simple recovery, network settings and user management will not be restored (no restart); all restore factory settings (prompt restart).

"Export": Click, pop-up menu to select storage path and input file name, and then click Save. Successful export will be prompted by text and progress bar.

"Configuration Import": Click Browse the pop-up menu, then select the configuration file that needs to be imported and click Open. After confirming the file is correct, click Configuration Import pop-up menu and click OK. Successful import will be prompted by text and progress bar.

"Upgrade": Click to browse the pop-up menu, then select the software that needs to be upgraded, Click to open, confirm that the software is correct, and then click the upgrade pop-up menu. Click OK, there will be text and progress bar prompts for successful upgrade, and the device will automatically restart.

**Note: Power failure will cause equipment damage during upgrading. Please do not cut off power. Please wait patiently for longer upgrade time.**



## Network Settings



Figure 45. Network setting



Figure 46. Network setting options



### Network Type

"DHCP": DHCP can be checked according to the need, and the device can automatically obtain the network address and related network parameters.

"NIC Type": Network Card Type can be set, default self-adaptive, optional 10M half-duplex, 10M full-duplex, 100M half-duplex, 100M full-duplex, 1000M full-duplex.

"MAC Address": Displays the MAC address of the camera. This address cannot be set or changed.

"IP Version": IPV4 and IPV6 can be selected.

"IP ": Effective IP address settings can be made for devices as required.

"Mask" can set up subnet mask effectively for equipment according to need.

"Gateway": Effective gateway settings can be made for devices as needed.

"DNS": DNS servers need to configure available server addresses, and need domain name access to function properly.

"Device Name": Device name can be set according to need.

"HTTP Port": The default port is 80, which can be set to the device according to the needs of network access.

"HTTPS Port": By default 8443, you can set the appropriate port for the device according to the needs of network access.

"TCP Port": The default port is 9000, which can be set to the device according to the needs of network access.

"Max connection": default 128 routes, according to the needs of network access devices can be set accordingly.

"MTU Set" is self-adaptive by default and can be set 576-1500 manually.

"Save": After setting up, click Save, it will pop up and save successfully.

"Refresh": Click to refresh the display.

### RTSP

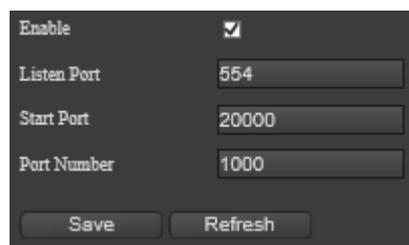


Figure 47. RTSP

Enables: Enables are selected and set according to requirements.

"Listening Port": The default port is 554, which can be set according to the needs of network settings.

"Start Port": The default port is 20000, which can be set according to the needs of network settings.

"Port Number" defaults to 1000 routes, which can be set according to the needs of network settings.

"Save": After setting up, click Save, it will pop up and save successfully.

"Refresh": Click to refresh the display.



### NTP

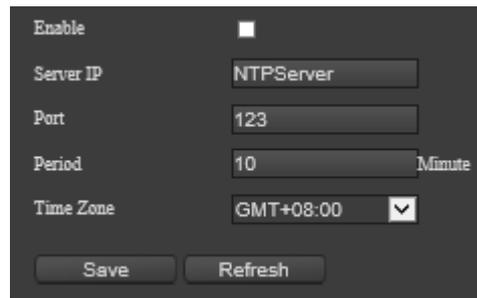


Figure 48. NTP

Enables: Enables are selected and set according to requirements.

"Server IP": Set NTP server address, according to the need for appropriate settings.

"Port": The default port 123 can be set according to the needs of network settings.

"Renewal Period": Setting the time interval according to the requirements, the equipment can be set every time interval.

"Time zone": According to the time zone where the equipment is located, it can be set up according to the actual situation.

"Save": After setting up, click Save, it will pop up and save successfully

Refresh: Click to refresh the display.

### DDNS

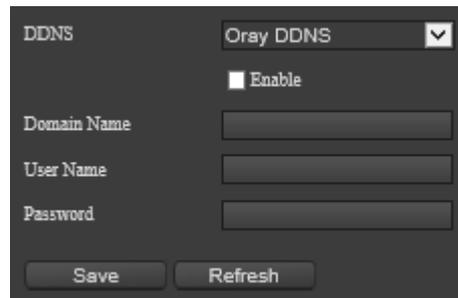
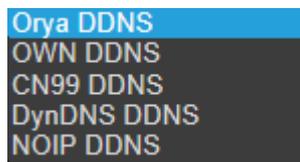


Figure 49. DDNS



"DDNS Type" can be selected as ( ) according to need.

Enables: Enables are selected and set according to requirements.

"Domain Name": The device domain name is the domain name that the user applies for on the website of the software operator.

User Name: User Name applied for on the website of the software operator.

"Password": The password that the user applies for on the website of the software operator.

"Save": After setting up, click Save, it will pop up and save successfully.

Refresh: Click to refresh the display.

## IP Authorization

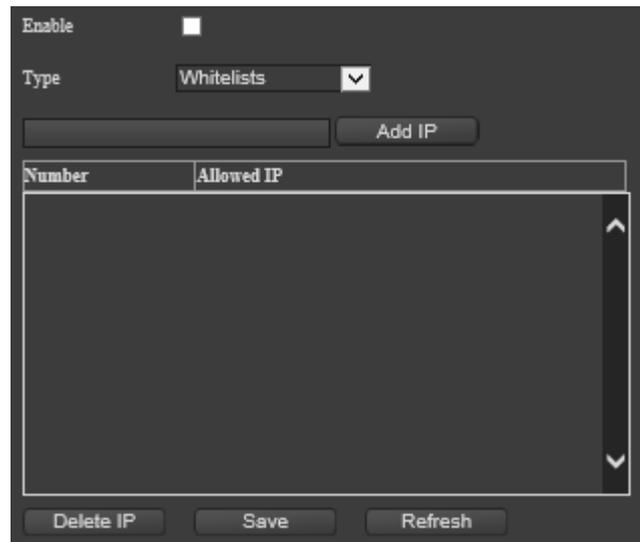


Figure 50. IP right

Enables: Enables are selected and set according to requirements.

"Restriction Type" can be selected as (  ) according to the need.

Add IP": Enter the IP you need to add in the left input box first, and click Add IP successfully and it will be displayed in the list below.

"Allowed IP List": If white list is selected in the above (restricted type), then all IP added after that will be in this list.

"Prohibited IP List": If the blacklist is selected in the above (restricted type), then all the IP added after that will be in this list.

Delete IP: Find the IP mouse in the list that needs to be deleted, click Select, and then click Delete IP.

"Save": After setting up, click Save, it will pop up and save successfully.

Refresh: Click to refresh the display.



### Email

Figure 51. Email

Enable: click Enable and set according to requirement

SMTP Server: Set the address of SMTP Server and make the setting according to requirement

Port: The default port is 25, which can be set according to requirement of network settings

User Name: input the sender's mailbox username

Password: input the sender's mailbox password

Sender: input the sender's mailbox address

"Mail Title": input the subject of email

"Receiving Address": input the recipient's mailbox address (up to 5)

"Save": click Save after setting, it will pop up and save successfully

Refresh: Click to refresh the display

### FTP

Figure 52. FTP

"File type": this can be selected (  ) according to requirement  
Enable: click Enable and set according to requirement  
"Anonymity": when the anonymity Enabled, the camera can access to the FTP server anonymously, and sets it up according to requirement  
"Server": Set FTP server address according to requirement  
Port: The default port 1024, and it can be set according to requirement of network settings  
"User Name": Enter the user name with FTP upload authority  
Password: Enter the password with FTP upload authority  
"Remote directory": Set up the path to save the uploaded files, which can be set accordingly according to requirement  
"File Length": Limit the file size to be uploaded, and it can be set accordingly  
"Save": click Save after setting, it will pop up and save successfully  
Refresh: Click to refresh the display  
"Channel": Select what requirement to be uploaded, and make the settings accordingly  
"Weekly". Equipment can be selected weekly according to requirement  
"Time period" this can be selected from a variety of choices according to requirement of the equipment (there are two time periods can be set, time can be set for different hours, images can be chosen from Ordinary/Detection/Alarm)

## UPNP

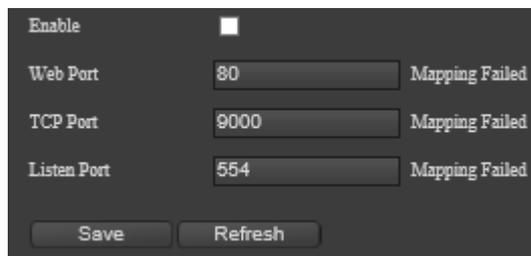


Figure 53. UPNP

Enable: click Enable and set according to requirement  
"Web Port": The default port is 80, which can be set according to requirement of network settings  
"TCP Port": The default port is 34567, which can be set according to requirement of network settings  
"RTSP intercept port": Make port settings according to requirement of network settings  
"Save": click Save after setting, it will pop up and save successfully  
Refresh: Click to refresh the display



### PPPOE

Figure 54. PPPOE

Enable: click Enable and set according to requirement

User Name: input the username of PPPOE

Password: input the password of PPPOE

"IP": After saving, the camera will get a public IP address

"Save": click Save after setting, it will pop up and save successfully

Refresh: Click to refresh the display

### Active registration

Figure 55. Active registration

Enable: click Enable and set according to requirement

"Server IP" set the IP address of the platform server, which can be set according to requirement

Server Port: It can be set according to requirement of network settings

"P2P Enable": click Enable and set according to requirement

User Name: input the user name of the device

Password: input the password for device

"Unified Equipment Identification": It should be calculated on the platform software and then fill in

"Online status": Display active registration status

"Save": click Save after setting, it will pop up and save successfully

Refresh: Click to refresh the display



### Syslog

Enable

Server IP

Port

Equipment identification

Save Refresh

Figure 56. syslog

### ONVIF

Enable

Port

Version

Discovery Mode  ▼

Vendor Name

Authentication Enable

ODT Test

Save Refresh

Figure 57.ONVIF

Enable: click Enable and set according to requirement

Port: The default port is 80, which can be set according to requirement

Version Information: Display onvif version

"discovery mode" select the equipment ( Invisible) according to requirement

"Authentication Enable": click Enable and set up according to requirement

"ODT Testing": click Enable and set according to requirement

"Save": click Save after setting, it will pop up and save successfully

Refresh: Click to refresh the display



### RTMP

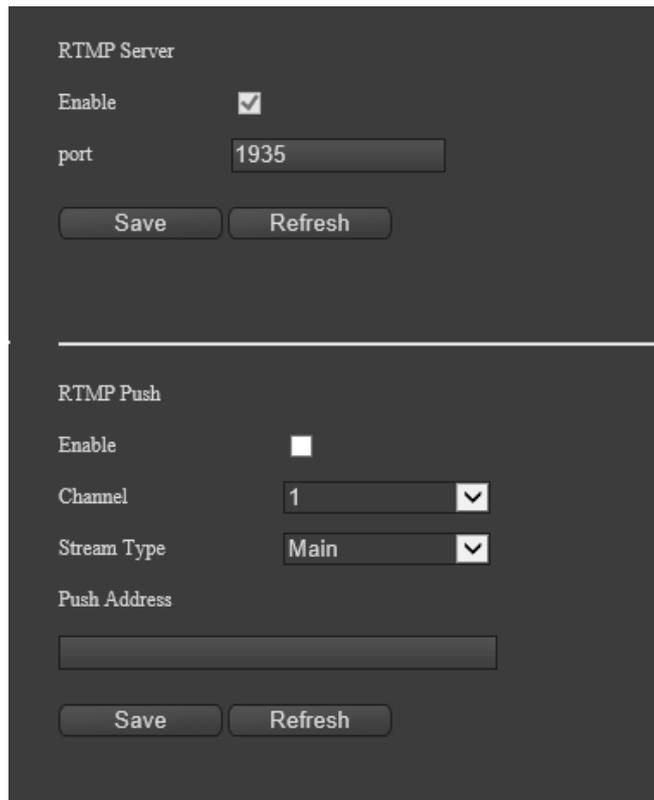


Figure 58. RTMP

Enabling: click by default and set it according to requirement

"Port" setting port, default 1935, and it can be set accordingly according to requirement

"RTMP Push Enable": click to open RTMP Push function

"Stream Type": The default main stream can be selected according to requirement

Push Address is set according to requirement

"Save": click Save after setting, it will pop up and save successfully

Refresh: Click to refresh the display

### RTMP PUSH

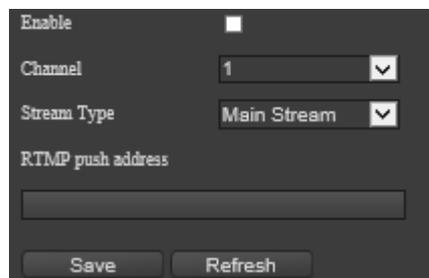


Figure 59. RTMP Push

## Alarm Center

Alarm Center Address:

Alarm Center Port:

Device ID:

Save Refresh

Figure 60. Alarm Center

Enable: click Enable and set according to requirement

"Server IP" sets the server IP address, which can be set according to requirement

"Port" defaults to 9033 port, which can be set according to requirement of network settings

"Save": click Save after setting, it will pop up and save successfully

Refresh: Click to refresh the display

## Storage Settings

Storage Settings

- Record Settings
- Record Control
- Disk Manager

Figure 61. Storage settings

## Recording setting

0 2 4 6 8 10 12 14 16 18 20 22 24

Sun. Mon. Tues. Wed. Thur. Fri. Sat.

Setting(Sun)Period

Period	Start	End	General	Motion	Alarm
Period1	0	~ 24	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Period2	0	~ 24	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period3	0	~ 24	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period4	0	~ 24	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period5	0	~ 24	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period6	0	~ 24	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Copy to  All  Sun.  Mon.  Tues.  Wed.  Thur.  Fri.  Sat.

Reset

Figure 62. Recording setting

"Channel Number": Choose the channel to be recorded, and set it accordingly according to requirement

"Video streaming": Choose the streams to be recorded, and set according to requirement  
Choose "mainstream" or "second stream"

"Length": refers to the length of each video file, which can be set according to requirement (1-120 minutes)

"Preview time": refers to time in advance of each video file (several seconds), can be set according to requirement (1-5 seconds)

"Time Settings": Time settings can be set for six periods per day. Video recording can be selected as Normal, Detection and Alarm. Synchronization settings can be selected for a whole week. Settings should to be saved after completion. In addition, there are individual resets, which can be operated according to requirement

"Save": click Save after setting, it will pop up and save successfully



Refresh: Click to refresh the display  
All Resets: All settings are restored to default

### Video Control

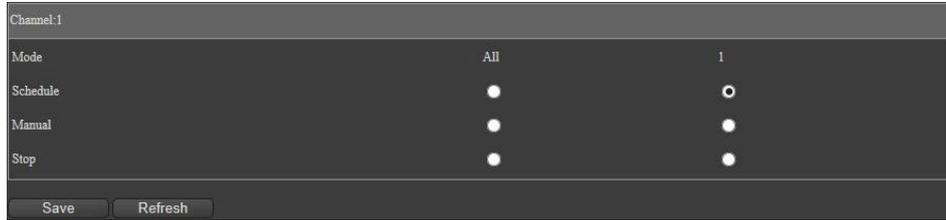


Figure 63. Video control

"Video Control": there are Configuration, Always, Close Control options, and these can be set up according to requirement

"Save": click Save after setting, it will pop up and save successfully

Refresh: Click to refresh the display

### Hard Disk Management



Figure 64. Hard Disk Management

"Hard Disk Management": It can display the hard disk information, such as hard disk serial number, physical serial number, disk group, hard disk status, attributes, surplus capacity, and total capacity, etc.

Refresh: Refresh display

"Hard Disk Settings" select the serial number of the hard disk first according to requirement, and then select "Set Read-Write", "Set Read-Only", "Set Redundancy", "Clear Data", "Recovery Error", "Repartition", "Format". Click Confirm on the pop-up menu, and set up according to requirement.

## Alarm Setting



Figure 65. Alarm Setting

## Video Mask

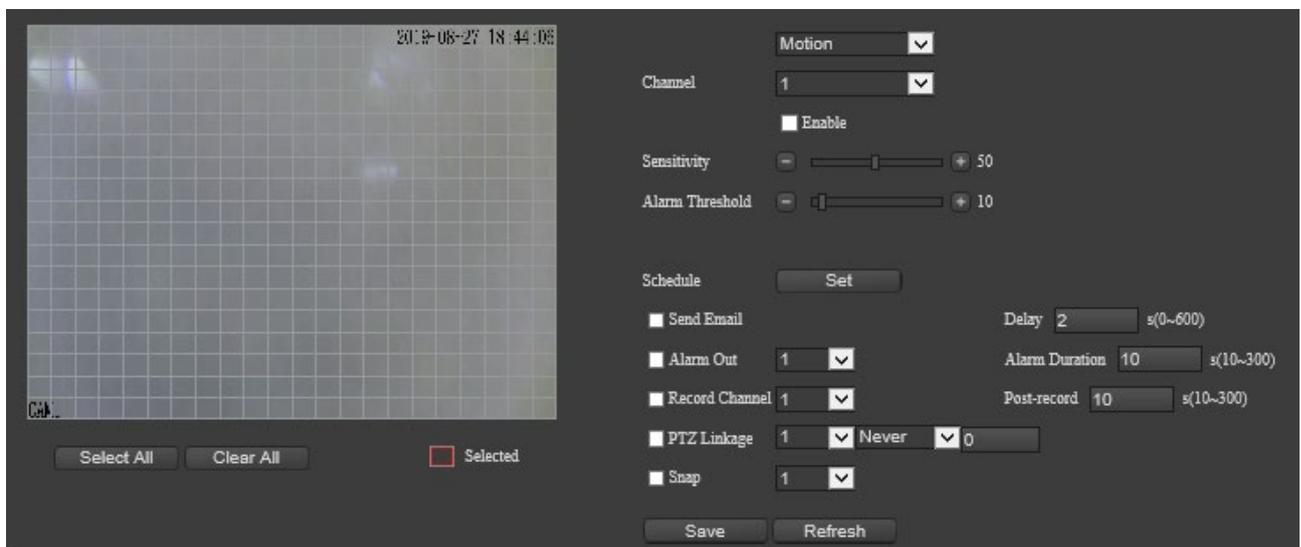


Figure 66. Video Mask

"Detection type": The equipment can be selected () according to requirement.

Channel: Set up according to requirement.

Enable: click Enable and set according to requirement.

"Sensitivity": The equipment can be set up (0-100) as required.

"Alarm threshold": the equipment can be set up (0-100) according to requirement.

Area: Use the mouse to click and drag settings. The red areas are the monitoring area, and the grey areas are the non-monitoring area.

"Select all areas": to Select all areas as the monitoring area.

"Clean up all areas": Clean all the monitoring areas.

"Time Period": Click the Settings button to pop up the Time Period Settings menu. Time settings can be set for 6 periods per day. Synchronization settings can be selected by target and for a whole week. Settings should to be saved after completion. In addition, there is individual reset, all reset, confirm, cancel and other functions buttons, which can be operated according to requirement.

"Send mail": click Enable according to requirement of settings. This requires the support of network mail function settings

"Dejitter": this can be set (0-600 seconds) according to requirement of settings.

"Alarm Output": click Enable according to requirement of the settings.

"Output Delay": this can be set (10-300 seconds) according to requirement of settings.

"Video Channel": click Enable according to requirement of the settings.

"Video Delay": this can be set (10-300 seconds) according to requirement of settings.



"PTZ Linkage" click Enable to select (Never). To input preset point in Digital input box according to requirement of setting.

"Capture": click Enable according to requirement of the settings.

"Save": Click Save after setting, it will pop up and save successfully.

Refresh: Click to refresh the display.

## External Alarm

Figure 67. External Alarm

"Detection type": The equipment can be selected according to requirement.

"Channel": According to requirement, set 1 as alarm input #1, set 2 as alarm input #2

Enable: click Enable and set according to requirement.

"Trigger type" this can be selected (Normal Open) according to requirement.

"Time Period": Click the Settings button to pop up the Time Period Settings menu. Time settings can be set for 6 periods per day. Synchronization settings can be selected by target and for a whole week. Settings should to be saved after completion. In addition, there is individual reset, all reset, confirm, cancel and other functions buttons, which can be operated according to requirement.

"Dejitter": this can be set (0-600 seconds) according to requirement of settings.

"Video Delay": this can be set (10-300 seconds) according to requirement of settings.

"Send mail": click Enable according to requirement of settings. This requires the support of network mail function settings



"Alarm Output": click Enable according to requirement of the settings. Set 1 as alarm input #1, set 2 as alarm input #2

"Output Delay": this can be set (10-300 seconds) according to requirement of settings.

"Video Channel": click Enable according to requirement of the settings.



"PTZ Linkage" click Enable to select (Preset). To input preset point in Digital input box according to requirement of setting.

"Capture": click Enable according to requirement of the settings.

"Save": Click Save after setting, it will pop up and save successfully.

Refresh: Click to refresh the display.

### Alarm Output



Figure 68. Alarm Output

"Alarm mode": there are Configuration, Always, Close Control options, and can be set according to requirement.

"Status": Alarm status prompts when the alarm output turns red.

"Save": Click save after setting, and it will pop up to save successfully.

Refresh: Click to refresh the display.

### Abnormality Handling

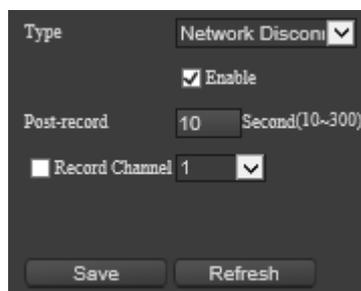
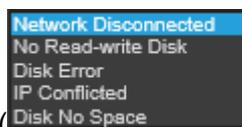


Figure 69. Abnormal Alarm



"Abnormal Type": Equipment can be selected (Network Disconnected) according to requirement.

Enable: click Enable and set according to requirement.

"Video Delay": this can be set (10-300 seconds) according to requirement of settings.

"Video Channel": click Enabled and make setting according to requirement

"Save": click Save after setting, it will pop up and save successfully.

Refresh: Click to refresh the display.

## Equipment Log

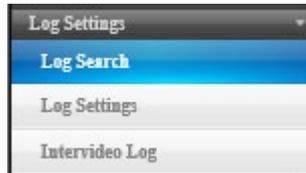


Figure 70. Equipment Log

### 2.4.6.1. Log Search

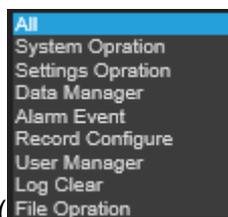
No.	Time	Event	Channel	Content
1	2019-08-27 18:18:39	Save configuration!		
2	2019-08-27 18:18:39	Save configuration!		
3	2019-08-27 18:18:39	Save configuration!		
4	2019-08-27 18:18:39	Save configuration!		Image Setting
5	2019-08-27 18:18:39	Save configuration!		Channel name
6	2019-08-27 18:08:33	User login!		admin
7	2019-08-27 18:08:28	User Logout!		admin
8	2019-08-27 18:08:10	User login!		admin
9	2019-08-27 18:08:03	User Logout!		admin
10	2019-08-27 18:04:10	User Logout!		admin
11	2019-08-27 18:03:28	User login!		admin
12	2019-08-27 18:02:59	Modify user password		
13	2019-08-27 18:02:37	User login!		admin
14	2019-08-27 18:01:29	User Logout!		admin
15	2019-08-27 18:00:41	Save configuration!		
16	2019-08-27 17:59:58	User login!		admin
17	2019-08-27 17:59:53	User Logout!		admin
18	2019-08-27 17:52:01	User Logout!		admin
19	2019-08-27 17:52:01	Save configuration!		Encode Settings

Type:

Begin: 2019-08-27

End: 2019-08-27

Figure 71. Log Search



"Type" This can be selected (  ) according to requirement of the device

"Start time": You can make separate setting on "year", "month", "day", "time", "minute" and "second".

"End time" You can make separate setting on "year", "month", "day", "time", "minute" and "second".

Search: After select the type, start and end times, click Search to display log information during that period.

Clear: Click Clear pop-up menu to select OK, and clear all log information.

"Information Display Box": the log information will be displayed after search, and you can



view the serial number, log time, events, channels, extended content and other information.

### Log Configuration

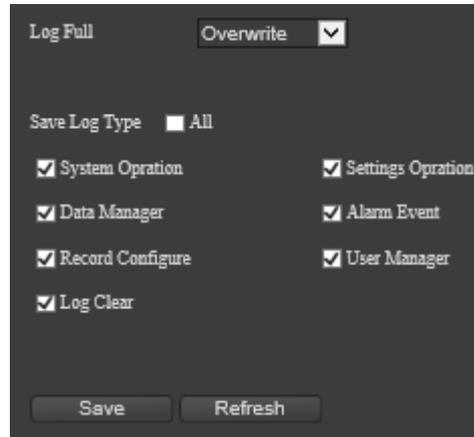


Figure 72. Log Configuration

"Log Full": Stop/overwrite options can be selected according to requirement when the log is full

"Save Log Type": Make Single Select or All Select to all the system information you requirement to save.

"Save": click Save after setting, it will pop up and save successfully.

Refresh: Click to refresh the display.

### Access to Log



Figure 73. Access to Log

"Search": Click Search to access to log information.

"Clear": Click on the Clear pop-up menu to select Confirm, and clear the log information.

"Information Display Box": the log information will be displayed here.

#### 2.4.7 Local Setting



Save Type: .jpg  
record\_type: .mp4  
Pack Length: 5 Minute  
File Path: C:\Users\黄海乐\Desktop  
Save Refresh

Figure 74. Local Setting

"Capture Type": Local capture format can be set according to requirement, and ".jpg" or ".bmp" can be selected according to requirement.

"Video Type": local video format can be set according to requirement, and ".dav" or ".mp4" can be selected according to requirement.

"Decoding Type": Optional: "Adaptive", "Hard Decode", "Soft Decode". This is aiming at optimizing Preview stumble problem

"Video File Packing Time": Packing time can be set (1-60 minutes) as requirement.

"Video and capturing Path": Storage Path can be set as requirement (default d:path\_media).

"Save": click Save after setting, it will pop up and save successfully.

Refresh: Click to refresh the display.



## Smart Features

Click on the Smart tab to enter the intelligent functions page

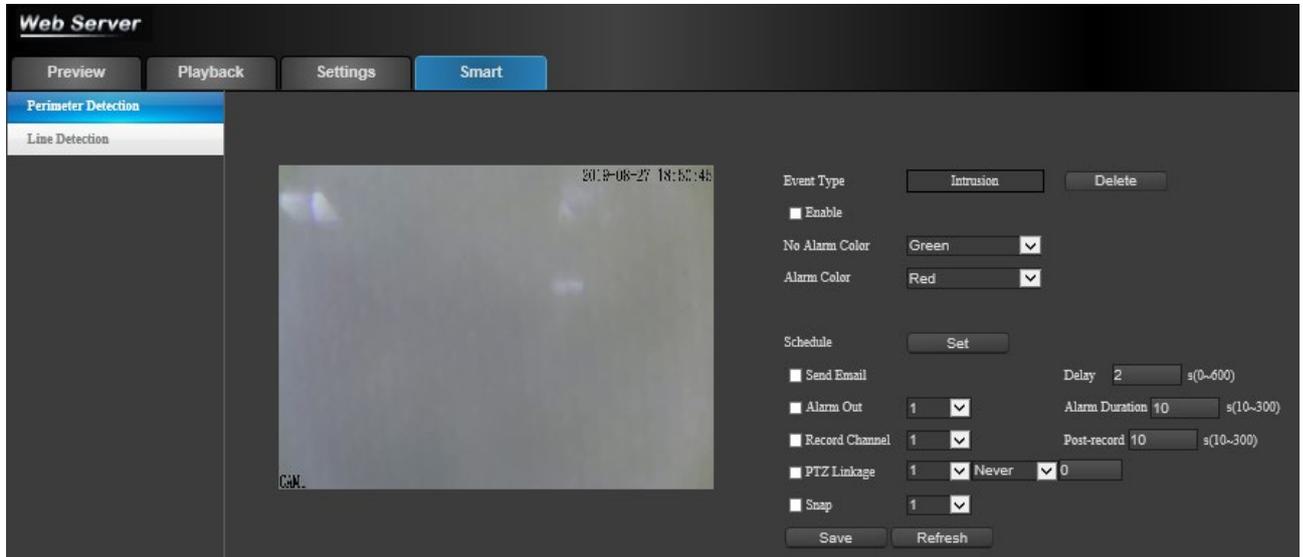


Figure 75. Intelligent Functions

## Perimeter

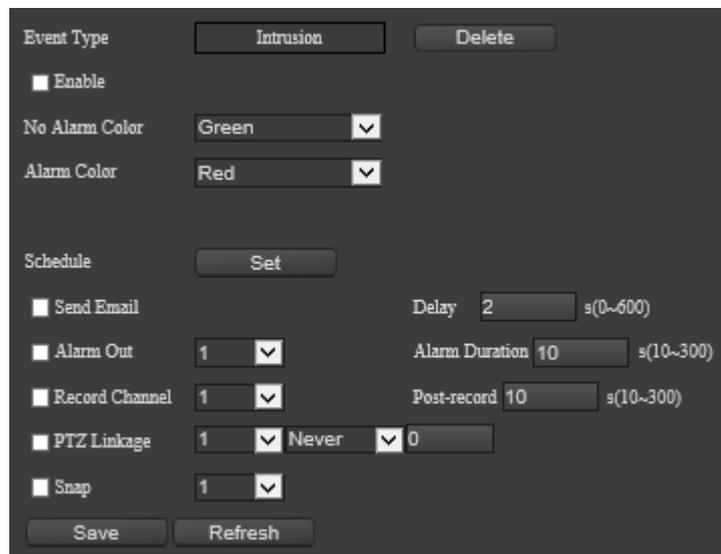


Figure 76. Perimeter Detection

"Preview Interface": By default, there is an identification box, which can be dragged by the mouse to zoom in and out (4 areas can be set). After saving the parameters, you can see the effect.

Event Type: Default type is Perimeter.

Enable: click Enable and set according to requirement.

"Eliminate Shadows": turn on in special environments like in shadow and reflection

"Display Rule Line": click Enable and setting according to requirement.



"Max./Min. Object Alarm Height": After the max. click measurement, select the maximum range of the left-click drop-down box in the small window, and the same operation can set to the min. click.

"Alarm type": make settings according to requirement. There are two options: touch line alarm/cross line alarm.

"Time Period": Click the Settings button to pop up the Time Period Settings menu. Time settings can be set for 6 periods per day. Synchronization settings can be selected by target and for a whole week. Settings should to be saved after completion. In addition, there is single reset, all reset, confirm, cancel and other functions buttons, which can be operated according to requirement.

"Send mail": click Enable according to requirement of settings. This requires the support of network mail function settings

"Log": click Enable according to requirement of settings.

"Dejitter": this can be set (0-600 seconds) according to requirement of settings.

"Alarm Output": click Enable according to requirement of the settings.

"Output Delay": this can be set (10-300 seconds) according to requirement of settings.

"Video Channel": click Enable according to requirement of the settings.

"Video Delay": this can be set (10-300 seconds), according to requirement of settings.

"PTZ Linkage" click "PTZ Linkage" to enable the selection. Alarm linkages can be selected (never/preset point/cruise group/patrol). To input preset point in Digital input box according to requirement of setting.

"Capture": click Enable according to requirement of the settings.

"Save": Click Save after setting, it will pop up and save successfully.

Refresh: Click to refresh the display.

### Line-crossing Detection

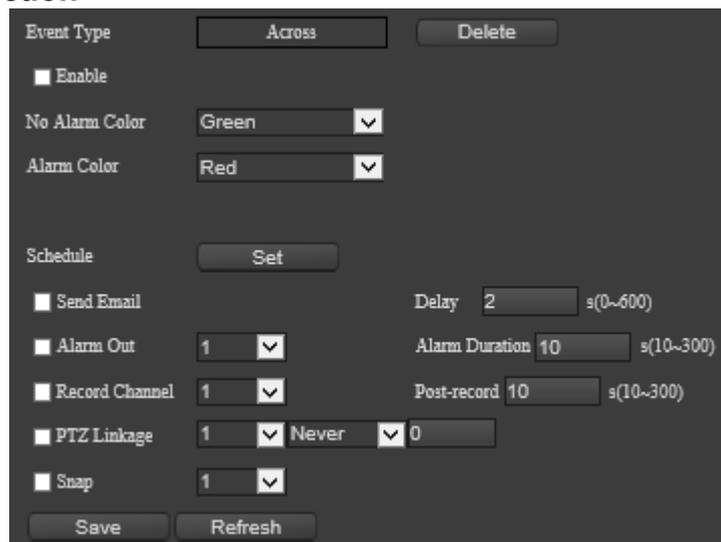


Figure 77. Line-crossing Detection

"Preview Interface": By default, there is an identification box, which can be dragged and scribed by mouse (8 trigger lines can be set). After parameter setting saved, the effect can be seen.



Event Type: Default type is Line-crossing.

Enable: click Enable and set according to requirement.

"Clear the line": Set up the preview interface according to requirement

"Clear Shadows": turn on in special environments like in shadow and reflection

"Display Rule Line": click Enable and setting according to requirement.

"Max./Min. Object Alarm Height": After the max. click measurement, select the maximum range of the left-click drop-down box in the small window, and the same operation can set to the min. click.

"Alarm type": make settings according to requirement. There are two options: touch line alarm/cross line alarm.

"Time Period": Click the Settings button to pop up the Time Period Settings menu. Time settings can be set for 6 periods per day. Synchronization settings can be selected by target or can for a whole week. Settings should to be saved after completion. In addition, there is single reset, all reset, confirm, cancel and other functions buttons, which can be operated according to requirement.

"Send mail": click Enable according to requirement of settings. This requirement the support of network mail function settings

"Log": click Enable according to requirement of settings.

"Dejitter": this can be set (0-600 seconds) according to requirement of settings.

"Alarm Output": click Enable according to requirement of the settings.

"Output Delay": this can be set (10-300 seconds) according to requirement of settings.

"Video Channel": click Enable according to requirement of the settings.

"Video Delay": this can be set (10-300 seconds), according to requirement of settings.

"PTZ Linkage" click "PTZ Linkage" to enable the selection. Alarm linkages can be selected (never/preset point/cruise group/patrol). To input preset point in Digital input box according to requirement of setting.

"Capture": click Enable according to requirement of the settings.

"Save": Click Save after setting, it will pop up and save successfully.

Refresh: Click to refresh the display.



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