Network Video PTZ Series

Preface

Thanks for your kind of using network products. This series of IP monitoring products are High-Speed Dome Camera and infrared dome camera, developed especially for monitoring network videos, which adopt the high-performance, single SOC chip to form a media processor integrating audio and video collection, compression, and transmission with standard H.264 and H.265 code algorithms ensuring a clearer and smoother video transmission. The embedded Web Server allows users to conveniently achieve real-time monitoring and remote control of the front-end cameras via IE browser.

Statement:

- This manual may have inaccuracies, inconsistencies in the operation and function of the product, or misprint.
- We will update the information of the manual based on the enhancement and changes of product functions, which will be shown in the latest version of this manual without further notice.
- Due to the constant adoption of new technologies, the parameters of products are subject to change without further notice.
- This manual provides reference and guidance for customs only, which doesn’t guarantee total consistency with the real subject. Please take the real object as the actual application.
- The parts, components, and accessories mentioned in the manual don’t represent the standard configuration of the equipment. Please refer to the packing list for a detailed configuration.
- All text, forms, and figure information in this manual are protected by relevant laws of the country. Please don’t take it for personal usage without permission.

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1 Precautions

The purpose of this Manual is to ensure that users can operate the products properly, thus avoiding danger or property damage. Please read this Manual carefully and keep it properly for future reference before using the products.

As shown below, the precautionary measures are divided into two parts: “Warning” and “Note”:

Warning: ignoring the warning may result in death or severe injury.

Attention: ignoring the precautions may result in injury or property damage.

	
Warning Alert users to prevent the potential danger of death or serious injury	Note Alert users to prevent the potential danger of injury or property damage



Warning:

1. Input voltage should meet both the SELV (Safety Extra Low Voltage)

2. Contact the distributor for abnormal operation. Do not disassemble or modify the devices in any way.

3. Moisture must be avoided for indoor devices in case of fire and electric shock.

4. Install the equipment on the ceiling to ensure that it can withstand at least 4 times the weight of the equipment.

5. Do not look directly at the concentrated laser beam.

6. The camera should be installed by professional personnel in a way complying with local laws and regulations.

7. The easy-to-use power failure protection device should be installed in building installation wiring.

8. Don’ t disassemble internal parts of the camera privately. No internal part can be privately repaired by the user. Repair work can only be performed by maintenance staff authorized by our company and we will not be responsible for any problem caused by unauthorized modification or maintenance of the product.



Note:

- 1. Please check whether the power supply is correct before the camera runs.
- 2. Please do not get the product to drop down to the ground or be strongly knocked.
- 3. Please don’ t directly touch the glass and spherical outer cover in front of the lens. To clean it, you may wipe the surface with a

microfiber cleaning cloth, such as a glasses cloth. Don’ t wipe it too hard or wipe with water.

- 4. Don’ t focus on strong light (such as light, sunlight, laser, etc.); otherwise, over-bright or light pulling phenomenon (not the fault of the camera) may occur and the service life of the image sensor may also be shortened.
- 5. Avoid putting it at places damp, dusty, extremely hot, extremely cold, or with strong electromagnetic radiation.
- 6. It is strongly recommended to transport the camera with the original package.
- 7. Long-term high-speed cruising of the camera may lead to ring sliding and aging of the synchronous belt, thus affecting the machine’ s service life.
- 8. Wipers will automatically enter the protection state to prevent equipment damage when it is at 0℃ or below.
- 9. Dong uses the wiper when it is not rainy. Otherwise, glass wearing or damage to the wiper may be caused.
- 10.The bending radius of optical fiber cable should not be less than 20mm.
- 11.The working bid documents of the laser are -10℃~ +40℃. Beyond this range, the laser will shut down automatically.
- 12.For details about functions of the camera, please refer to the Help

file at the right upper corner of the IE browser.

- 13.The analog video port is for rapid debugging and is not a formal video output port.
- The running speed of the dome camera will be adjusted automatically based on the external environment and a slight decrease in the ultra-low temperature (-under 20℃).
- 15. Please use the product under the requirement of the working environment.

	Infrared dome camera	High-speed dome camera	Super Starlight IR Laser AEW AI PTZ camera	Thermal&Optical Bi-spectrum AI PTZ Camera
Ambient temperature	-40℃ ~ +70℃	-40℃ ~ +70℃	-40℃ ~ + 70℃	-40℃ ~ + 70℃
Ambient humidity	<95%(no condensation)	<95%(no condensation)	<95%(no condensation)	<95%(no condensation)
Atmospheric pressure	86 ~ 106KPa	86 ~ 106KPa	86 ~ 106KPa	86 ~ 106KPa
Power supply	AC 24V/3.0A	AC 24V/2.0A	AC24V/8A	AC24V/8A

Attention: make sure that the outdoor installation of the dome camera meets the waterproof requirements

- 16. Illustration of dome camera installation environment

To get rid of the vapor in the high-speed dome camera cover affecting the video effect and the life of electrical parts, please assemble the ball cover under the condition of the ventilated and dry environment, and ensure that the screws of the dome camera are tightened.

2 Product Overview

This series of products include high-definition network high-speed dome camera (hereinafter referred to as high-speed dome camera) and high-definition infrared network high-speed dome camera (hereinafter referred to as infrared dome camera), hyper-star optical warning camera, and hyper-star thermal warning camera (hereinafter referred to as Thermal & Optical Bi-spectrum AI PTZ Camera), which are embedded digital monitoring product integrating traditional analog camera and network video server. They adopt an embedded Linux operation system and advanced hardware platform, with high dispatching efficiency, code solidified in Flash or embedded multimedia card (eMMC), small volume, Low power consumption, high stability, and reliability.

This series of dome cameras adopt the integrated design, synchronous belt drive, and precision stepping motor, which can run accurately and stably; different installation methods meet the needs of different occasions; with weather-wise outdoor design, double-layer shell structure, built-in fan, and intelligent start; various monitoring methods, such as scanning, cruising, pattern path, etc., are flexible to be selected; integrated preset function ensures more powerful performance.

Special attention: the product function description in this manual is based on the infrared full-function dome camera, and the support functions of different models of dome cameras are subject to their actual functions of them.

2.1 Function

2.1.1.1 Key functions

- Heartbeat: through the heartbeat mechanism, the management host can get the real-time operation status of the front-end network dome camera;
- PTZ control: the RS485 interface (full-function dome camera) can support PTZ control and multiple decoder protocols and dome camera protocols;
- Alarm: alarm input, alarm output, mobile detection alarm, video loss/blocking alarm, email alarm, alarm link output;
- intercom: two-way voice intercom, one-way voice acquisition/broadcast;
- User management: multi-user limits management modes. The administrator can create 4 sub-levels of users with each level of user's rights can be set and high system security;
- IE browser.
- SDK development package;

- Compression processing capacity;
- Support 25 frames per second (PAL system) / 30 frames per second (NTSC system)
- Support H.265 coding (full-function starlight dome camera), support changing not only code rate but also frame rate. When setting the video Fig. quality, it can also limit the video Fig. compression code stream;
- Support 5MP;1440P;3MP;1080P;960P;720P;4CIF（PAL：704×576，NTSC：704×480）; DCIF（PAL：528×384， NTSC：528×320）;2CIF（PAL：704×288， NTSC：704×240）; CIF（PAL：352×288, NTSC：352×240）;(the specific resolution supported refer to the actual dome camera display)
- Intelligent analysis and tracking(full function speed dome camera).

2.1.1.2 Remote access and transmission

- A 10m / 100M adaptive Ethernet port is provided as standard;
- Support TCP / IP, HTTP, DHCP, DNS, RTSP, PPPOE, and other protocols;
- Support ONVIF protocol, P2P ;
- Parameters, real-time video browsing, and viewing webcam status can be set through the application or IE browser. Alarm

link can be achieved through the network

- Remote management and maintenance can be achieved through remote network maintenance/upgrading.

3 Installation Instructions

3.1 Preparation for Installation

3.1.1 Basic requirements

Ensure that all electrical work must be conducted by the latest electrical regulations, fire regulations, and related regulations; check whether the packaging is damaged, equipment and accessories are complete, and determine whether the application places and installation methods of PTZ product meet the requirements; please contact the dealer if necessary, please use the product according to the requirements of the working environment.

3.1.2 Common installation tools:

Prepare the tools required according to the actual situations

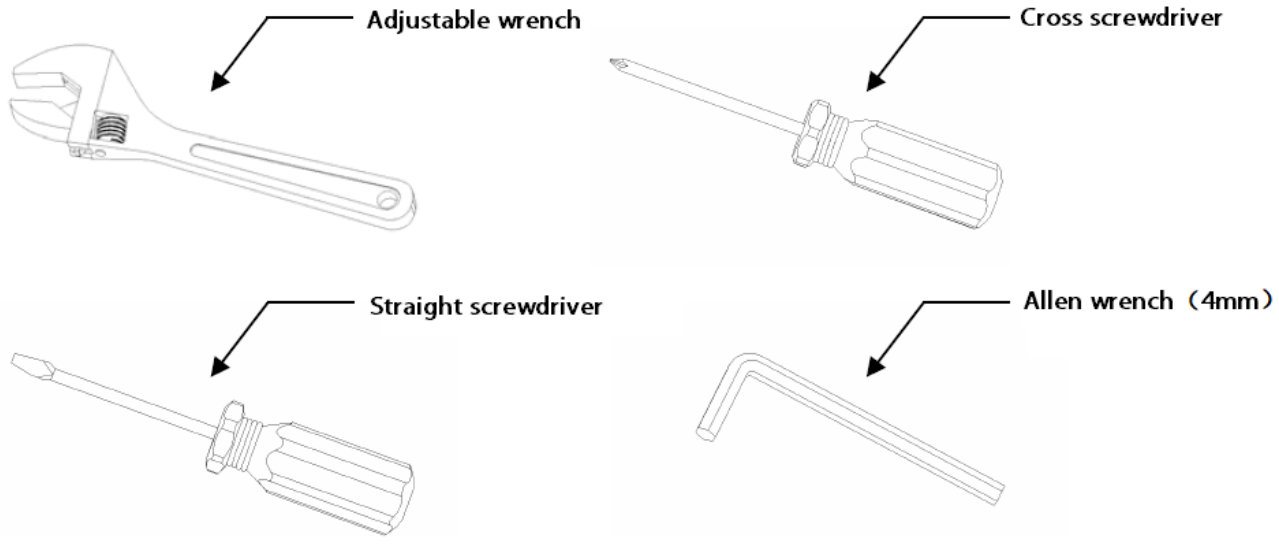


Fig.3.1 Common installation tools

3.1.3 Check the strength of the construction of installation space and installation site

Confirm that there is enough space at the installation site to accommodate the product and its mounting structural part. Confirm that the carrying capacity of the ceiling, wall, and bracket on which the PTZ is installed must be able to support the total weight of PTZ and its mounting structural part, with a 4 times safety factor.

Please keep all packaging materials of the network camera.

3.1.4 Please keep the original packaging materials of the network camera properly

After unpacking the network camera, please keep the original packaging materials of the network camera properly, pack the network camera product properly using the packaging materials of the network camera and return it to the supplier for handling in case of any problem.

Note: Non-original packaging materials may cause accidental damage during transportation.

3.2 Installation methods of dome cameras

This series of dome cameras support the following 4 methods of installation

1:Fig.of wall-mounted installation and dimensions

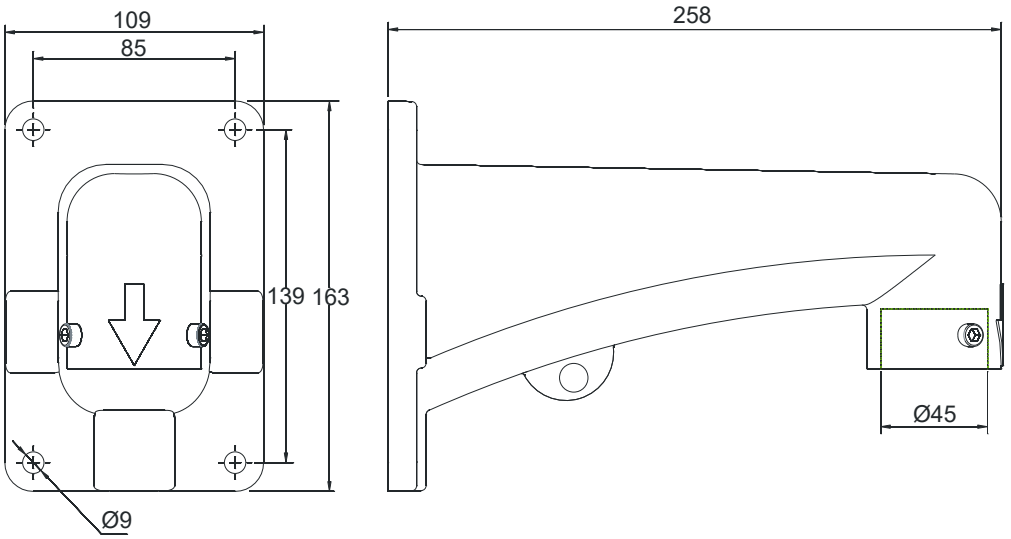


Fig.3.2.1 picture of dimensions of wall-mounted installation arm

2：Picture of ceiling-like installation and dimensions

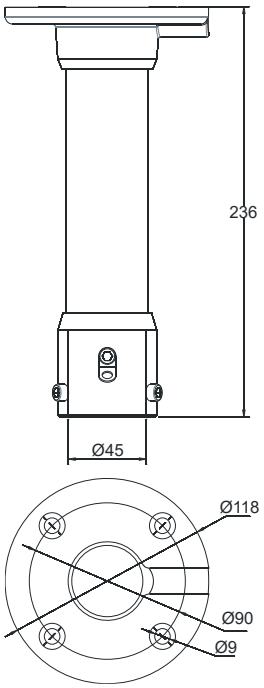


Fig.3.2.2 Picture of dimensions of ceiling installation arm

3：Picture of exterior wall angle installation and dimensions

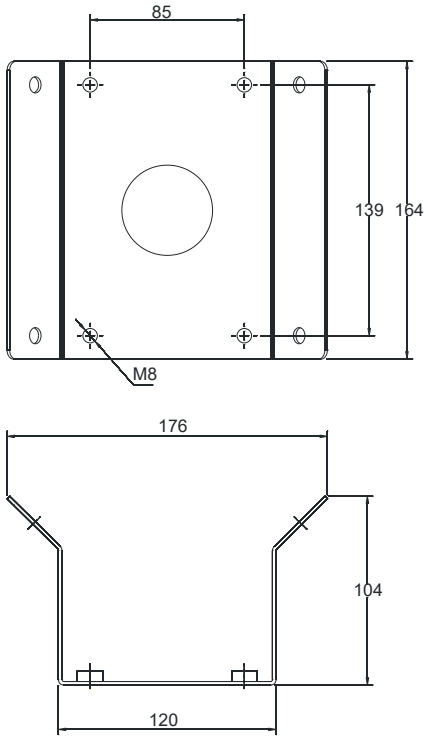


Fig.3.2.3 Picture of dimensions of external wall angle installation arm

4：Picture of column-like installation and dimensions

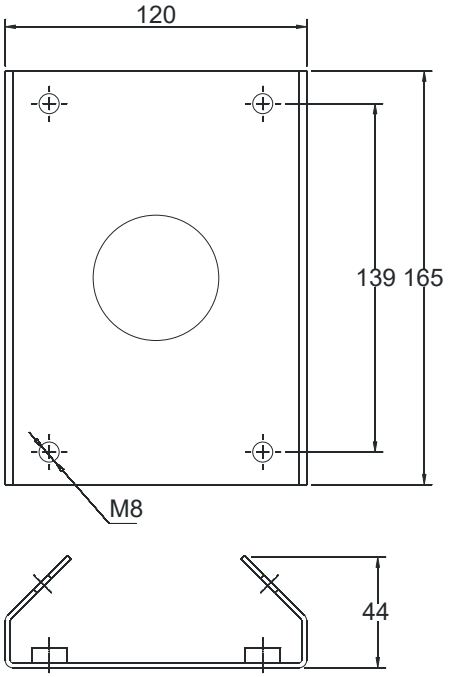


Fig.3.2.4 Picture of dimensions of column-like installation arm

3.3 Illustrations of dome camera and interface dimensions

This series of dome cameras adopt a split design with the joints of each part are mainly round. To facilitate the installation, the dimensions and specifications of this product have been listed, as shown in the figure below.

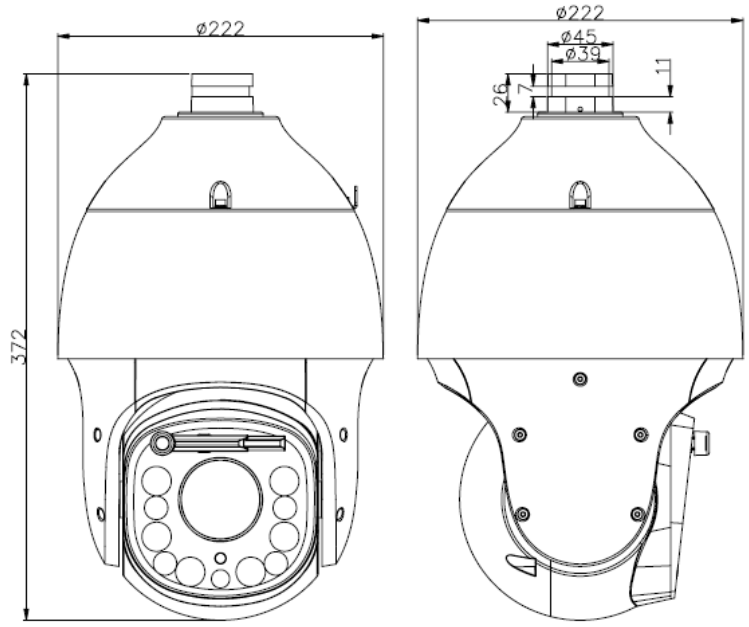
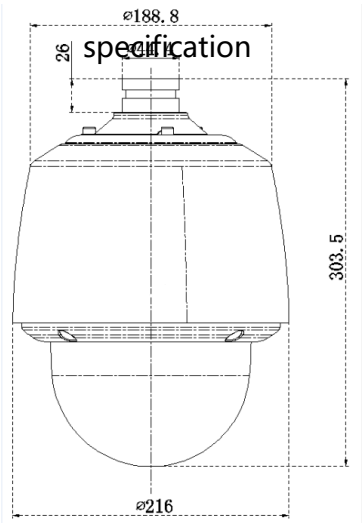


Fig.3.3.3 V3 HD infrared network high-speed dome camera dimensions



specification

Fig.3.3.2 High definition network high-speed dome camera dimensions specification

Users can choose the bracket sold by our company, or a customized bracket to install this product. The product interface dimensions are shown as follows:

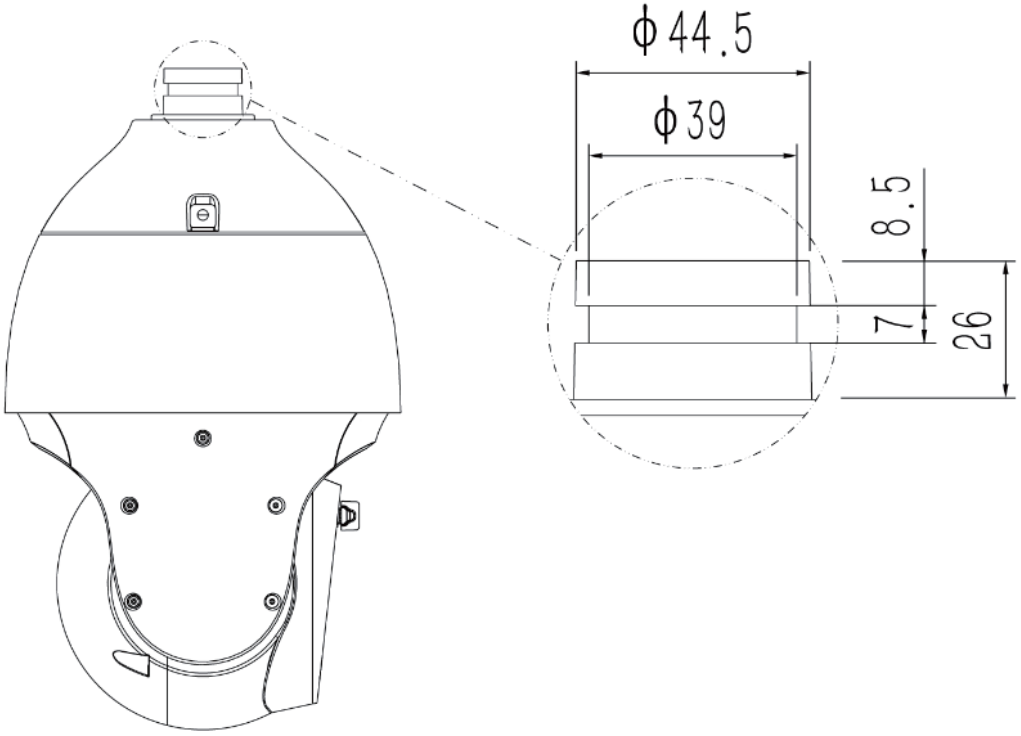
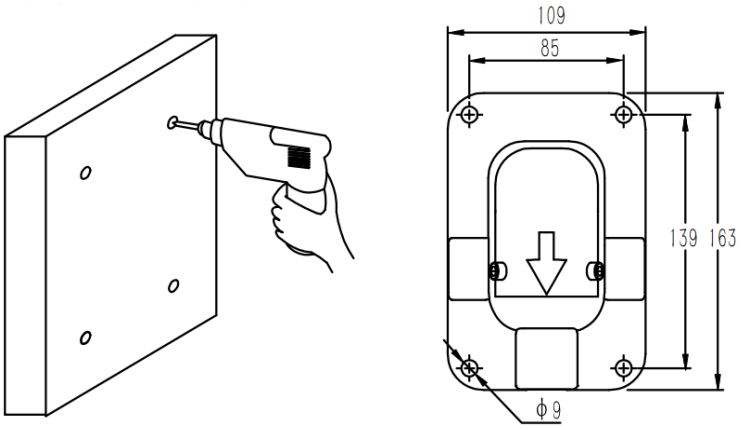


Fig.3.3.4 Picture of dome camera and interface dimensions

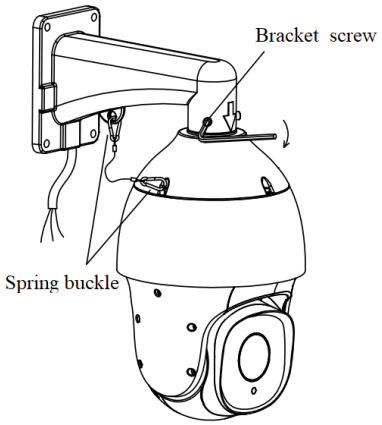
3.4 Installation steps (take wall-mounted installation as an example)

1、 Drill holes according to the dimensions of the bracket positioning

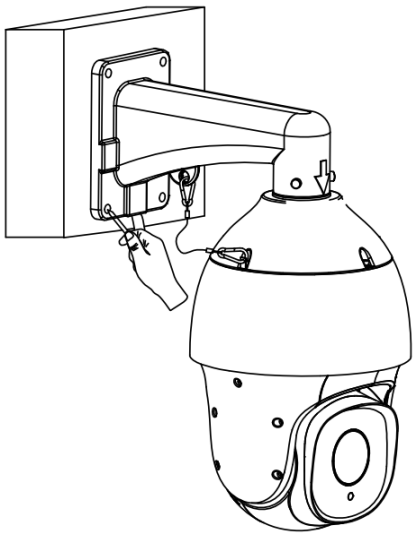
holes.



2、 Hook up the body of the dome camera, tighten the bracket screw, fix the dome camera and bracket, and lock the spring buckle.



3、 Fasten the support arm with the expansion screw to ensure it is stable and tight to finish the installation.



Notes: 1. The installation surface of the wall-mounted installation bracket must have the capacity to bear enough weight.

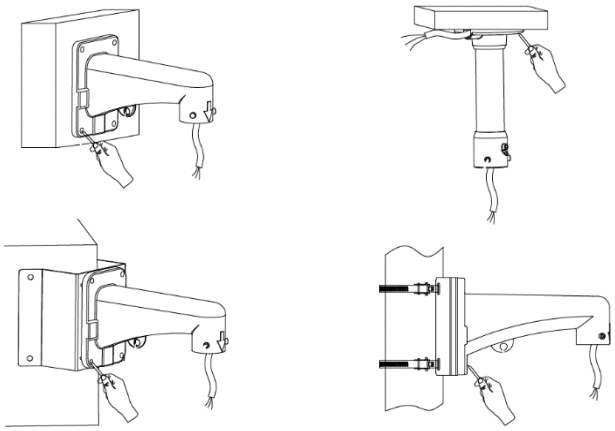
2. The outdoor installation shall be completely sealed and moisture-proof; the outgoing cable shall be laid close to the lower edge of the wall-mounted installation bracket to avoid rain entering the interior of the dome camera along the cable.

3.5 Installation procedure Thermal Bi-spectrum AI PTZ Camera (take the wall-mounted as an example only)

Attention: the installation height of the thermal Bi-spectrum AI PTZ camera is recommended to be above 8 meters, no less than 6 meters and there should be no reflective objects within a 1-meter radius of installation position.

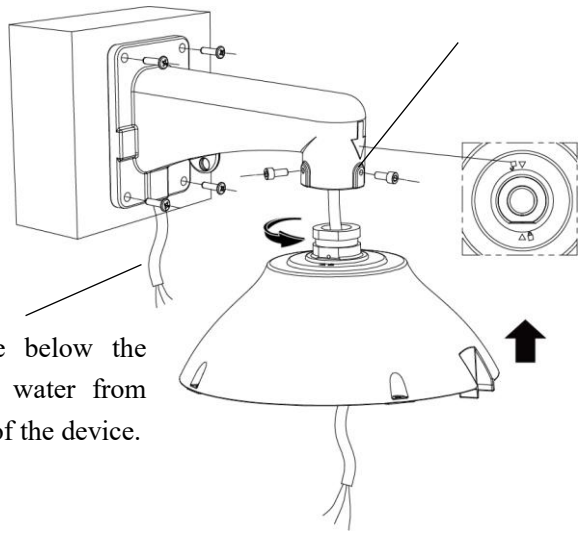
1. The punching should be by the size of the brackets location hole

(the same as the installation of the normal camera brackets). Fasten the bracket with an expansion screw after threading out of it. The pictures of four installation ways are as below:



The following installation steps take wall mounting bracket as an example, which is the same as the others:

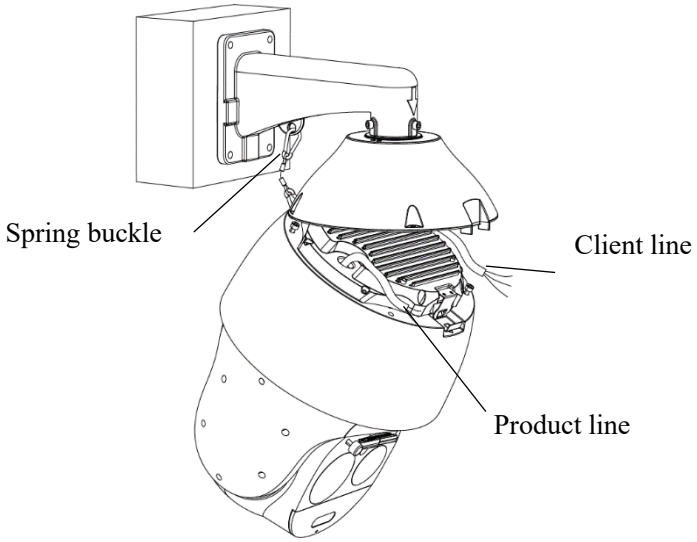
2. Thread through ball-head camera flange. The flange is then mounted upward in the bracket as illustrated and then rotated into the bracket by the arrow direction. The last step is locking support screws. As shown below:



Attention: The final direction of the hook shall be parallel to the wall

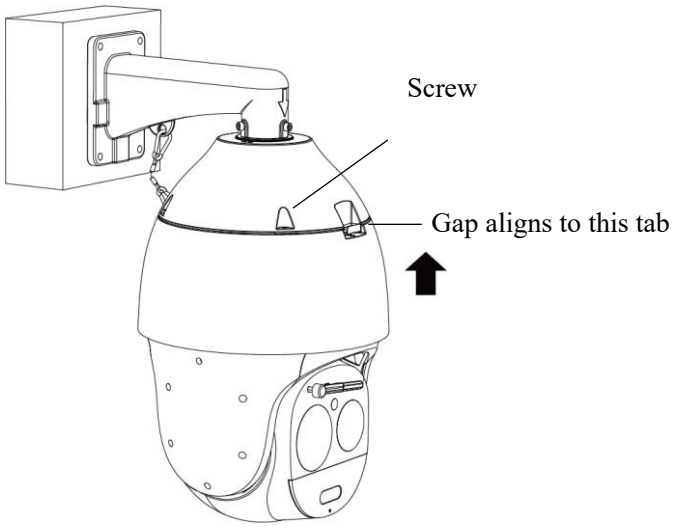
mounting bracket.

3. Tilting the ball-head camera then hang the hook, and hang the spring buckle, then connect the client line and the ball-head camera outgoing line by its line sign definition; there should be well insulation between different defined lines. As shown below:



Attention: Don’ t expose to water at the flange.

4. Lift the ball-head camera, align the gap to the locking plate, ply up to the flange and stick the lock plate, make sure 4 captive screws are fastened after locking. As shown below:



3.6 Illustration of external wiring

The dome camera adopts an 800mm lead wire to lead out all interfaces from the inside of itself, including power wire, control wire (network wire), audio input wire, audio output wire, analog video wire, alarm input wire, alarm output wire, and 485 communication wire. The connecting terminal and its color definition are shown in the figure below.

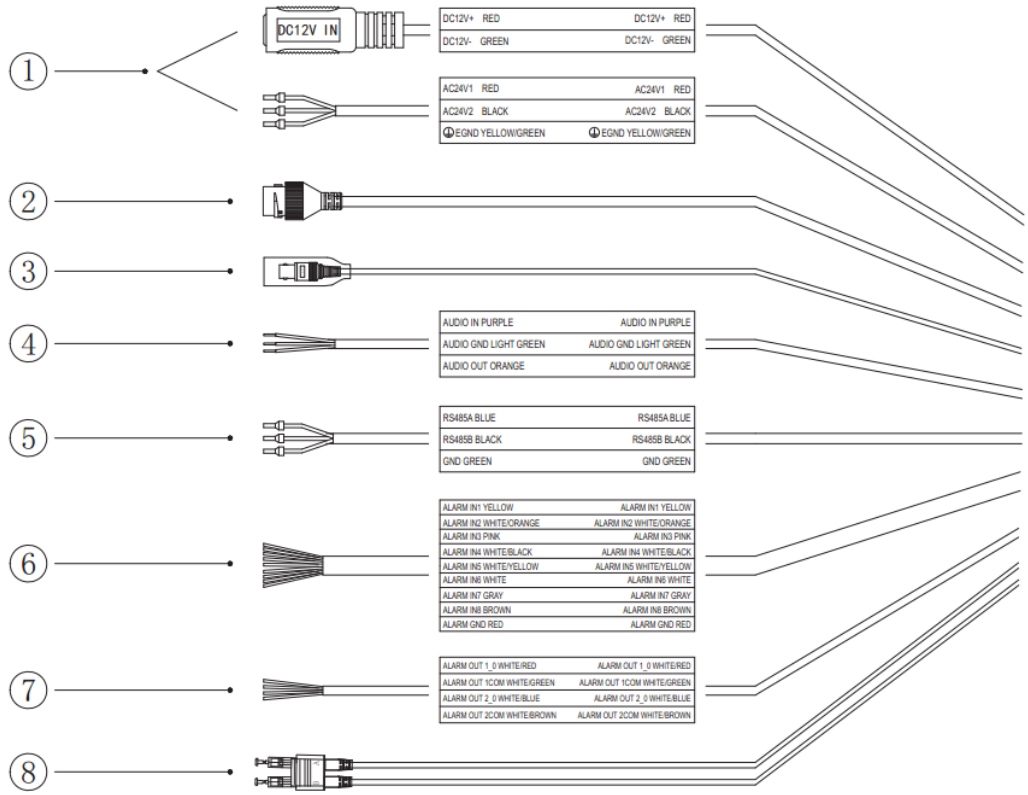


Fig.3.5.1 Lead wire of dome camera

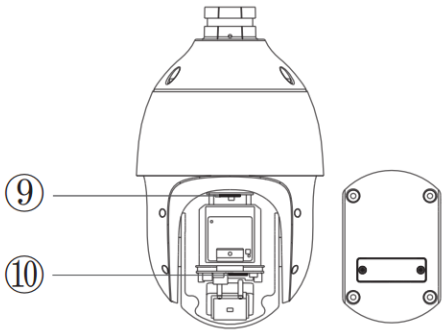


Fig.3.5.2 the description of SIM card and storage card interface

No.	Port	Description
①	Power Port	Connect AC24V or DC12V power supply based on line label or screen printing instructions. Lighting protection ground wire: connect to the ground to avoid the damage of the equipment by a lightning strike.
②	Network Port	The cable socket connects to the computer host or other network equipment.
		When connecting the network cable, it is recommended that the network cable should not be more than 100m long.
		POE power supply is supported by some models.
③	Analog video	Connect to the analog video monitor.
④	Audio port	Audio inlet connection microphone or other audio

		sources; audio outlet connection speaker.
⑤	RS485	The camera may be controlled by 485 ports on the keyboard or other devices.
⑥	Alarm input	Connect the sensor for the switch signal.
⑦	Alarm output	Connection alarm, output switch signal.
⑧	Optical fiber port	Only available for some models.
⑨	MICRO SIM card interface	Only available for some models.
⑩	Memory card interface	installation of memory card specifically used for video monitoring

Note: the specific specifications of lead lines of different dome camera models can be used according to the instructions and guides of labels on the wires.

4 Descriptions of functions

4.1 Basic function description

This section describes the main functions of the high speed and the infrared dome cameras and the general principles of their implementation, with no specific operation methods involved. The specific operation method of different system platforms varies. Generally, the operation manual of the system manufacturer shall prevail. In some cases, there will be some special requirements and operation methods. Please contact the dealer for necessary information.

- Automatic matching technology of PTZ / rotation rate

The dome camera can automatically adjust the horizontal and vertical rotation rate of the PTZ according to the multiple variations, which makes the manual operation easier.

- Set up and call preset position
- The preset function is that the dome camera can store the horizontal angle, tilt angle, camera lens focal length, and other position parameters of the PTZ in the current state into the memory. These parameters can be called quickly when necessary and the PTZ and camera can be adjusted to this position. The operator can easily and quickly set or call the preset position by controlling the keyboard or

equipment.

- Automatically scanning

The operator can set the left boundary positon and right boundary position in advance by controlling the keyboard or equipment conveniently and quickly to achieve the automatic reciprocating scanning of the camera between the left and right boundary at the set speed level. This dome camera can set 8 scanning paths.

- Automatically cruising

The dome camera can program some preset positions into the automatically cruising queue in required order through pre-programming. The operator can easily and quickly control the keyboard or equipment to allow the dome camera to automatically scan in the specified time interval according to the preset position sequence. Each cruise track can store 32 preset positons.

- Pattern path (pattern scanning)

The dome camera can record the running track for 180 seconds continuously. After the pattern path function is started, the dome camera can scan and monitor the recorded running track automatically.

- Watch position function

The dome camera can be set to automatically perform the set standby action after reaching the standby time: preset position, cruising,

scanning, pattern path. The standby time can be set.

- Self-recovery function after power off

The running state of the dome camera can be restored after the power is cut off and recovered to prevent the trouble of re-operating the dome camera caused by the unexpected power-off effectively.

5 System Requirement

It is recommended to run under the operating system environment of Win7 and above. To better operate and use the system, and fully reflect the performance and effects, please ensure that the following items are set or installed correctly after the system is successfully installed:

(1) The display resolution is set to 1920 × 1080 or higher, and the color is set to enhanced color (32-bit), please refer to the Windows help document or online help for how to set the resolution and color of the monitor.

(2) Make sure that the font required for this system-Song font is installed in the Windows operating system. If the interface of this system is displayed abnormally, the fonts required by this system may not be installed, or the required fonts have been damaged, and fonts need to be reinstalled.

6 Device Activation and Accessing

6.1 Instructions for embedded Webserver

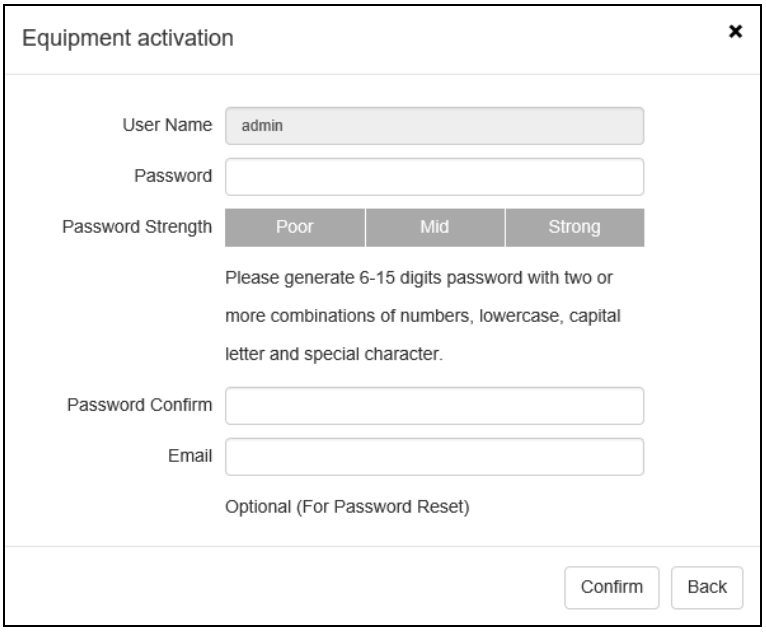
Please download controls before using this series of network video products for the first time.

Note: Use the IE browser of the Windows operating system, to ensure that the version is 8.0 or above. Except for Firefox and Google browsers, please do not use other third-party browsers and any IE browser shell programs such as Maxthon, Window of the World. We do not guarantee that you can log in normally with such software.

6.2 Login Device

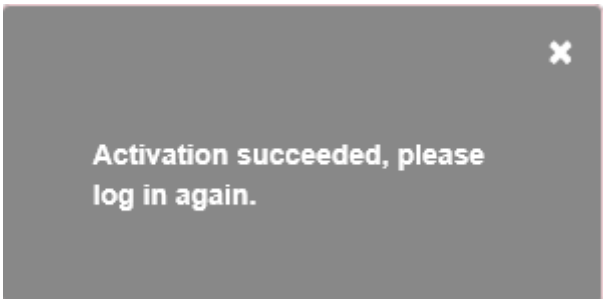
The default IP address of the device is **192.168.1.2**. Please set the IP address of the computer and the IP address of the device in the same network segment: for example, set the IP address of the computer to 192.168.1.3 to access the device through the IE browser. Open the IE browser, input the IP address of the network video device in the address bar, and click "go" to log in to the device. If it is the first time to use it, the following interface will appear.

6.2.1 Activate Device via Web Browser



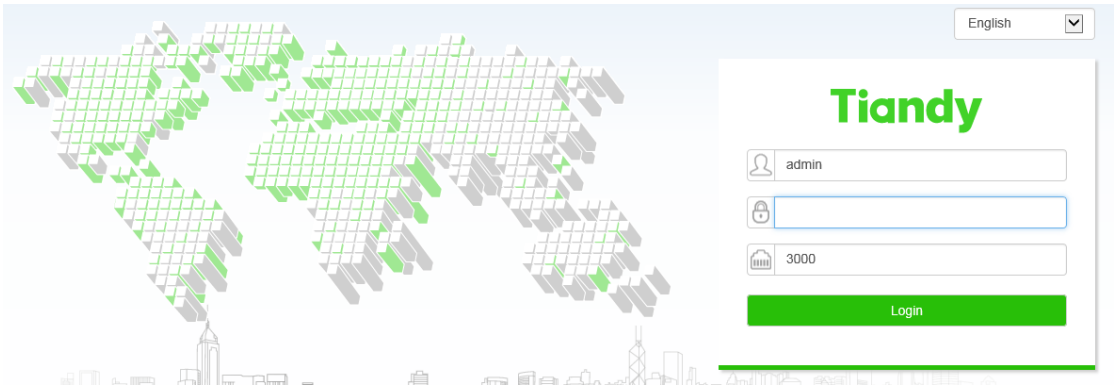
Device activation interface

Some devices need to be activated before the IE interface is to be used. Set the login password in the activating device window and click OK to enter the IE login interface.



Notice for activating device

6.2.2 IE login interface



IE login interface

Enter the correct user name and password in the login window, and click "Login" to enter the live view interface later.

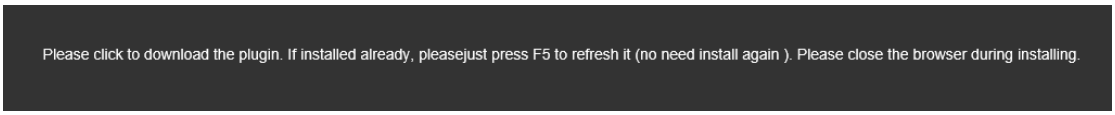
Description:

(1) If the equipment port number is modified, you need to enter the correct port number, and the default port number is 3000.

(2) If the device supports activation, the password is the one set at the time of activation.

(3) If the device does not support activation, the password is 1111.

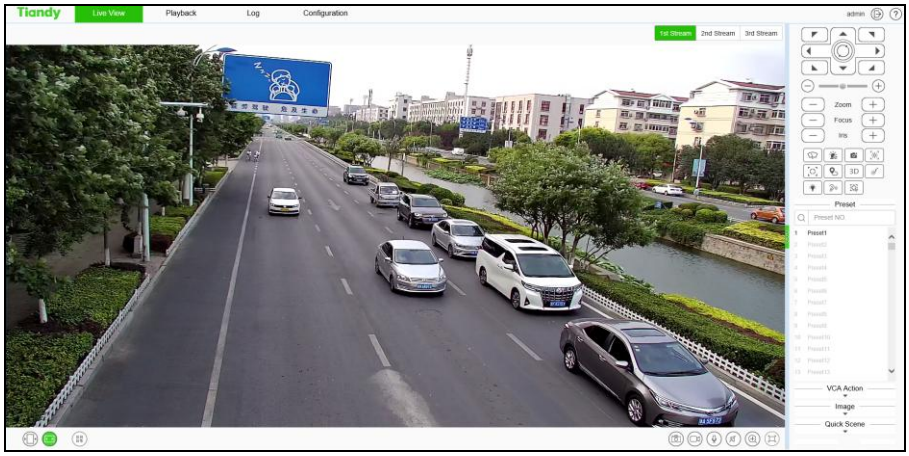
The video live view serial interface will prompt the link to download the video plug-in as shown in the following figure. Click the link to download and install the plug-in. The IE interface needs to be closed during installation.



Download the video plug-in

After the video plug-in is installed successfully, enter the device IP again and log in to the correct account password to enter the live view

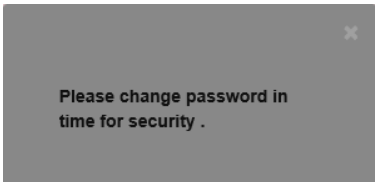
interface.



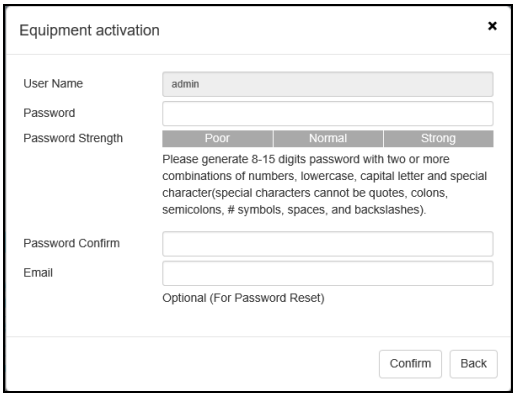
Live view interface of video

After logging in to the system, the prompt box of "change password" will appear in the lower right corner of the desktop. Please click the text in the box, link to the user management interface, select the user, and click "edit", as shown in the figure below.

Note: To ensure the security of your information, please be sure to change the initial password!



Change password prompt box (supported by some models)



Change the password

6.3 Live View

After successful login, the system will display the [Live View] interface by default. In other interfaces, users can return to the video live view interface by clicking the [Live View] button at the top of the interface.

This interface mainly controls the front-end equipment, such as the pan-tilt, lens, wiper, and so on.

6.3.1 The button of video live view interface

Icon	Description
1st Stream	Click "1st Stream"; the video window will display the primary code stream, and the primary code stream will be displayed by default.
2nd Stream	Click "2nd Stream"; the video window will display a secondary code stream after selection.

3rd Stream	Click "3rd Stream"; the video window will display the third code stream after selection. (supported by some models)
	1*1 split-screen (supported by some models)
	1*2 split-screen (supported by some models)
	2*2 split-screen (supported by some models)
	PIP (picture in picture) (supported by some models)
	Click "Fixed Ratio"; the video will be displayed at a fixed scale.
	Click "Fit Window"; the video will automatically adapt to the computer resolution display.
	QR code button. QR code will appear after clicking it. Users can scan the QR code according to the type of mobile phone and download the mobile client. A third QR code will appear after the equipment is connected to the public network, and you can add the equipment by scanning on the mobile client. (Supported by some models)
	Video connection or disconnection in the specified channel (supported by some models)
	Local manual snapshot control button, click enable to snapshot and save the live view picture locally, the storage path of the snapshot file can be modified by itself, the modification page: configuration system

	settings local settings live view snapshot save path.
	Local manual recording control button, click enable, start local recording after enabling, the storage path of recording file can be modified by itself, modification page: configuration - system settings - local settings - saving path of the recording file.
	Voice intercom switch. When enabled, it can transmit local audio to the front-end equipment through the network for output.
	With the audio live view volume adjustment button, the local output volume can be adjusted by adjusting the slider position.
	Electronic zoom button. After enabling this function, click the left mouse button to draw the area to be enlarged, and then you can zoom in and view the area. (Supported by some models)
	Displays the frame rate button. After clicking, the live view interface displays the frame rate information of the current video. Click again to cancel the display of frame rate information. (supported by some models)
	Full-screen button. Realize full-screen live view video, double click the left mouse button or press the [Esc] key of the keyboard to exit full screen live view video status
	The video is displayed in a 16:9 ratio.

4:3	The video is displayed in a 4:3 ratio.

Caution

(1) All icons are valid when pressed.

(2) When there is no video in the interface, the audio live view is invalid.

(3) Talk can only be conducted with one user at the same time, and it is recommended to turn off the intercom in time after completing the talk so that others can use it.

(4) Click  the arrow on the right side of the video window to display/hide the control interface.

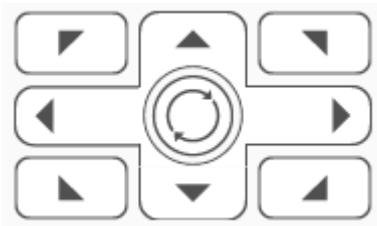
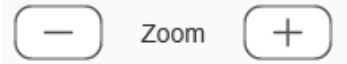
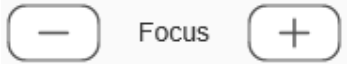
(5) Some models support "target information" to display the target and information identified by the intelligent algorithm. You can click "Zoom" / "target information" to switch the interface.

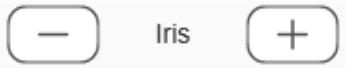
(6) Double-click the left mouse button in the live view window to display the full screen. The dome camera can be controlled by keyboard: W "↑", S "↓", A "←", D "→", I "zoom in", K "zoom-out", J "focus near", I "focus far".

6.3.2 PTZ control

The functions supported by different models are different, please refer to the actual interface.

Icon	Description

	8 direction keys, press the corresponding direction key to control the pan-tilt to rotate in the corresponding direction; the center button is the scan shortcut key, press center button can invoke scan 1.
	The slider can adjust the rotation speed of the device. The closer the "-" end is, the slower the speed is, and the closer the "+" end is, the faster the speed is.
	Zoom control button, press "-" control device to perform zoom operation, the field angle becomes larger and the scenery becomes smaller; press "+" control device to perform zoom operation, the field angle becomes smaller and the scenery becomes larger. (this button can also control the electric lens for zooming)
	Focus control button, press "-" control device to perform focusing near operation, the near scene is clear and far away fuzzy; press "+" control device to perform focusing far operation, the far scene is clear and near fuzzy. (this button can also control the

	electric lens to focus)
	Iris control button, press "-" control device to perform aperture reduction operation, and press "+" control device to perform iris increase operation. (supported by some models)
	The wiper control button supports the wiper device. Click the button and the wiper will operate. To prolong the service life of the wiper, the wiper is equipped with low-temperature protection measures, and the function of closing when the ambient temperature is lower than 0 ℃.
	Alarm removal button. An alarm can be removed after pressing the button. (Supported by some models)
	Flip: control the video image to flip 180 °.
	Snap button: press the button to turn on the front-end interception function.
	Front-end intercom button. Press the button to turn on the front-end intercom function.
	Area exposure button: when there’ s a large light

	difference of the monitoring scene, the area to be adjusted can be selected through the area exposure function to make moderate light of the key monitoring area.
	Area focus button: when there’ s a deep and large-scale scene area of the monitoring scene, you can select the part of the scene that needs to be focused clearly through the area focus function.
	Click the one-key watch button to automatically set the current scene to the watch preset (default preset 1), and turn on the watch function at the same time. If you want to stop the one-key watch function, please cancel the standby action in the dome camera setting-basic setting.
	3D positioning button, click the mouse to control, adjust the scene to be monitored to the video center. Specific operation as follows: 1、Click the left key on the required monitoring point in the monitoring video screen, and move the corresponding point to the video center;

	2、Press and hold the left key to the bottom right to pull down a rectangular area, then the center of the corresponding delimited area will be moved to the center of the video and zoomed in; 3、Press and hold the left key to the top left to pull out a rectangular area, then move the center of the corresponding delimited area to the center of the video and zoom out.
	Laser alarm button, click once enabling, after clicking, the laser is turned on, click again, the laser is turned off. The laser working temperature is -15 ℃ - 45 ℃, the longest-lasting time is 300 seconds, and it will be automatically turned off if it exceeds 300 seconds.
	Strong light warning button, click enable, the strong light will turn on after enabling, and then click again, the strong light will turn off. (supported by some models)
	Sound warning button. Click “Enable”, and play the alert tone after enabling. (Supported by some

	models)
	Manual tracking button, click once enabling, and then click the target manually to track the target.
	Alarm lamp warning button, click once enabling; after clicking, the lamp is turned on; clicking again, the lamp is turned off. (Supported by some models)
	Similar perspective button, click once enabling; after clicking, the visible light zooms a similar perspective as thermal imagery channel. (supported by thermal imagery model)

6.3.3 Preset

After logging in to the preset position number, you can select the operation of the preset position, including set-up, call and delete.



Preset interface

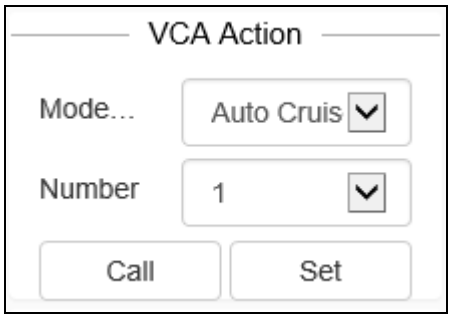
The function of the presetting bit is that the camera can store the location parameters of the PTZ under the current status such as the level angle, angle of inclination, and the lens focal length of the camera into the storage and the PTZ, as well as the camera, can be adjusted to this position through calling these parameters if necessary.

Click the button' ▾ ' to display the preset function setting interface.

The preset number can be filled in the blank and use the' 🔍 ' button to find the target preset number to config (' ⚙ ')or call(' ↪ '). Call functions are only available for existing presets.

6.3.4 VCA Action

Click the button▾Icon to display the operation interface of the intelligent action. The interface includes One-key watching, auto cruise, auto scan, pattern, and intelligent scene.



VCA Action

[Auto cruise]: Arrange some presets into the automatic cruise queue as per the requirements. Calling of this cruise can ensure the automatic

cycle call of the equipment as per the set preset order as well as the stipulated interval. Each cruise trajectory can store 32 preset points.

[Auto scan]: Ensure that through the set of the left and right limit well in advance, the camera can scan back and forth levelly and automatically with the set speed between the left and right limit.

[Pattern]: The dome camera can continuously record the moving trajectory for 600 seconds. After the function of the mode path is started, the dome camera can scan around and monitor as per the recorded moving trajectory automatically.

[Intelligent scene]: Through selecting the scene set in advance, the scene change can be realized and the function of intelligent analysis can be started quickly. If the user has set up an intelligent analysis cruise, then the cruise mode is enabled after 10 minutes.

6.3.5 Image

Click the button▼Icon display parameter adjustment interface, the interface can be adjusted by the following.

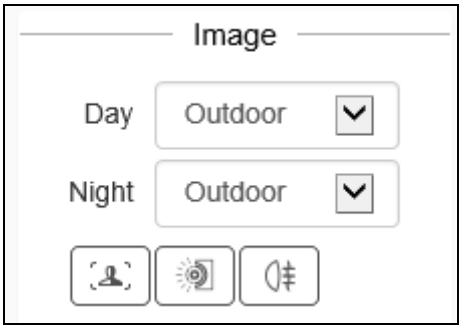
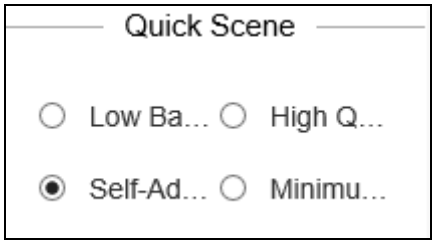


Image setting interface

Icon	Description
Day Outdoor	HD effect adjustment, adjust the daytime image effect. The effect is divided into Outdoor、Indoor、WDR、Motion、Bright、Colorful、customized. etc.
Night Outdoor	HD effect adjustment, adjust night image effect. The effect is divided into:: Outdoor、Indoor、WDR、Motion、Bright、Colorful、customized. etc.
	Defog function button. Click the button to turn on the defog function. (Some models support this function).
	Button for HLC function. Click the button to turn on HLC. (Some models support this function).
	Button for WDR function. Click the button to turn on the WDR function. (Some models support this function).

6.3.6 Quick Scene

Click the button ▾ to display the Scene application template interface. You can modify the parameter as follows:

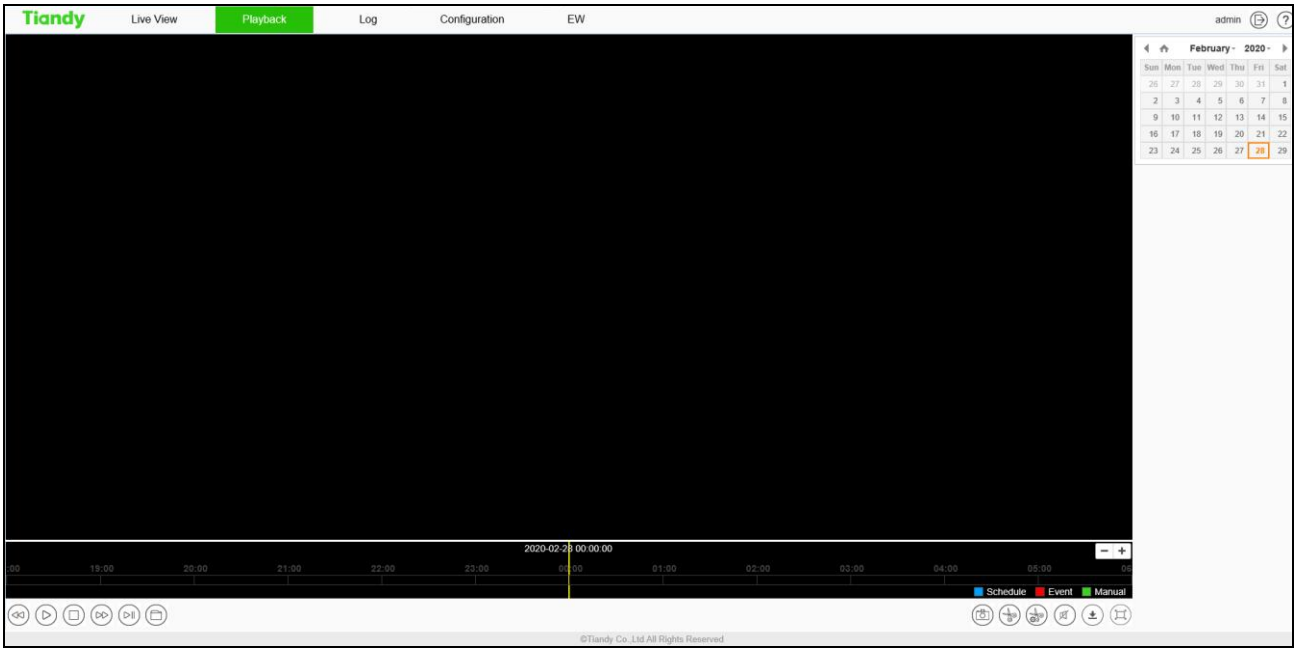


Quick Scene

Icon	Description
Low Ba... High Q...	According to the specific situation of the network environment, choose the appropriate live view mode from [Low Bandwidth] and [High Quality].
Self-Ad... Minimu...	According to the network environment of equipment transmission, two transmission modes can be selected, i.e., [adaptive] and [shortest delay]. In the case of limited network bandwidth, it is suggested to choose the adaptive mode to ensure a smooth image; in the application environment with high video quality requirements, it is suggested to choose the shortest delay transmission mode.
TCP UDP MUC	Protocol type: TCP, UDP, MUC, use the specified protocol to connect video. (supported by some models)

6.4 Playback

Click [playback] to enter the [playback] interface.



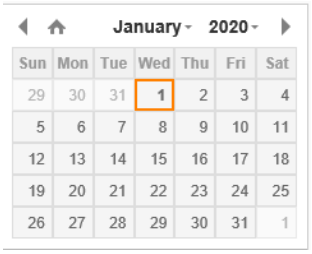
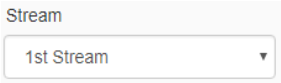
Playback setting interface

6.4.1 Refer to the front-end video file

In the playback interface, the user can view the video files of the specified date, and can also snapshot and clip the video. See the following table for basic operation:

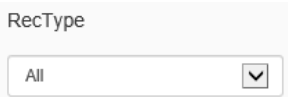
Icon	Description
	Slow forward button. The speed is 1/2 X, 1/4 X, 1/6 X, and 1/8 X.
	Play/pause button. Click to start/stop playing the video file. Double-speed playback will be canceled if necessary.
	"Stop Playing" button. You can stop playing the

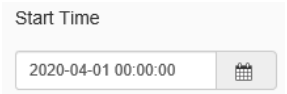
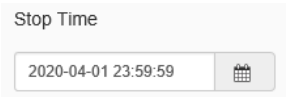
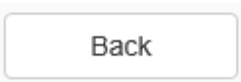
	current file by clicking it.
	Fast forward button. The speed is 2 X, 4 X, 6 X, and 8 X.
	The stepping button can playback the video in a single frame.
	Browse button, select the video file to play.
	Playback snapshot button, saved by default in C:\Users\john\NetVideoBrowser\CapturePics\。
	Playback clip button: Click to start the clip, and click again to finish the clip. The default saving location is C: \ Users \ John \ NETVIDEOBROWSER \ SNAPSHOTPICTURES \.
	Clip Management: you can view the type of video clip, video clip progress, current status, and other information.
	Volume adjustment button, the local output volume can be adjusted by adjusting the slider position.
	Download Management: query or download videos and pictures.
	Full-screen play button: in full-screen mode,

	double-click the mouse again at any position to exit from full-screen mode.
	Select a date in the calendar, double-click the date, and find the qualified file according to the query criteria.
	volume adjustment and mute
	Choose the type of stream

In the time axis mode, users can drag on the time axis to select and view the video files of the corresponding time. After selecting the time point, click the play button  to play. The time axis can be narrowed or enlarged by click .

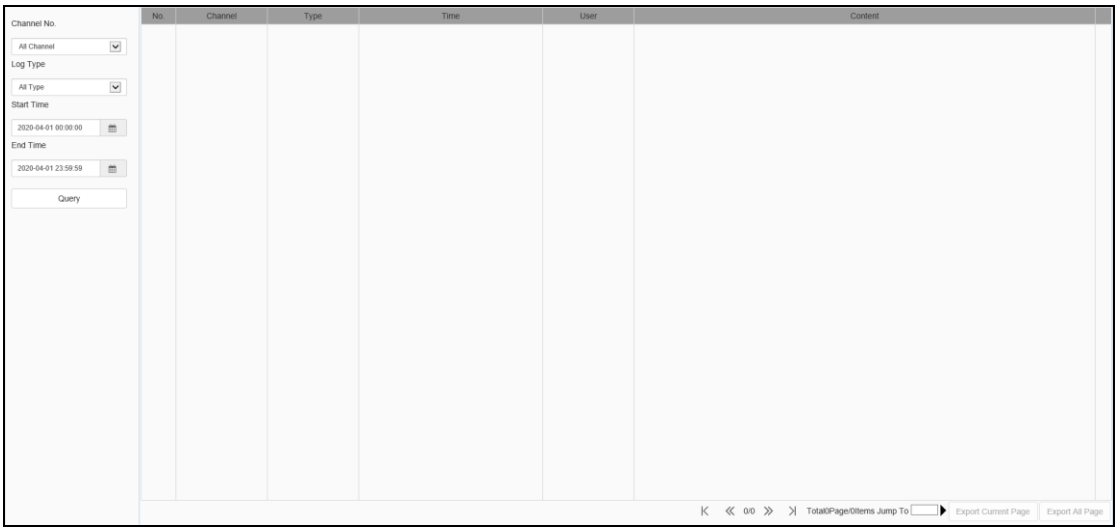
In file mode, users can operate according to file type, video recording type, and whether to query remotely. The specific functions of buttons in file mode are as follows:

Icon	Description
	Set the type of file to be queried, such as [Record], [Picture], etc.
	Select the type of video file to be queried. (Supported by some models)

	Select the start time of the video query
	Select the end of the recording query
	Start downloading selected video files
	Stop the selected video file from being downloaded.
	Return to the playback interface.
	Jump to the specified page.
	Query: Click to query the corresponding video information.
	Jump to the first page of query results.
	Go to the previous page of the current page.
	Go to the next page of the current page.
	Jump to the last page of query results.
	Lock: the file can be locked and unlocked. When the disk is full and files need to be deleted, the locked files will not be deleted.

6.5 Log

Click [Log] to enter the [Log] interface.



Log interface

Log interface operation instructions

(1) Select the channel number to query from the [Channel No.] drop-down list.

(2) Select the type of log you want to query from the [Log Type] drop-down list.

(3) Select the start date in the [Start Time] drop-down list, and enter the time in the edit box at the back.

(4) Select the end date in the [End Time] drop-down list, and enter the time in the edit box next to it.

(5) Click the [Query] button to query the logs within the specified time range.

(6) When there are many logs, you can use [First Page], [Pre Page], [Next Page], [Last Page] in the lower right corner to turn pages to view the logs, or enter the page number to view directly in [Jump

To] to jump to the specified page.

(7) Click [Export Current Page] to export the log of the current page to PC.

(8) Click [Export All Page] to export all the logs found to the PC.

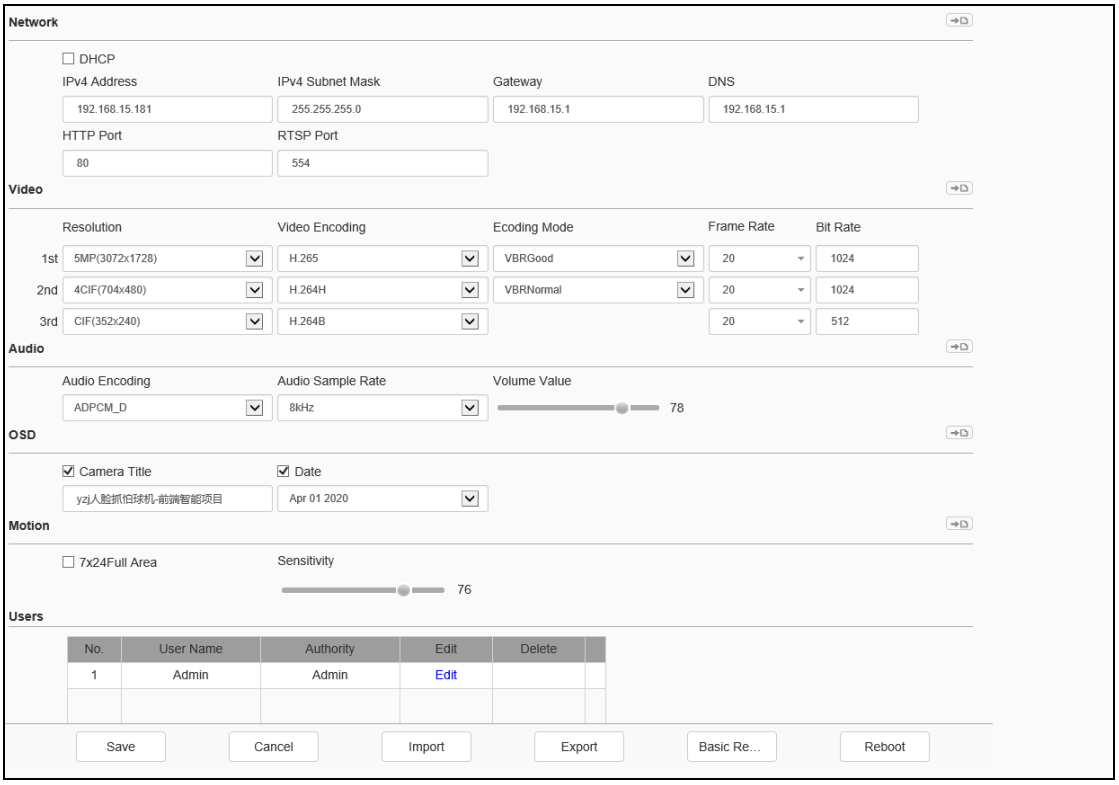
6.6 Configuration

After login,[Live View]will be displayed by default. Click [Configuration] in the menu bar at the top of the page to enter the parameter configuration page, where you can set common settings, audio and video parameters, network settings, intelligent analysis, storage settings, and system settings.

Note:

Because different models support different functions, the interfaces and menus may also be different, please refer to the actual interface

6.6.1 Basic Set



Basic Setting interface

Basic Set - > Network

[DHCP]: when checked, the DHCP server will automatically assign IP to the device.

[IPv4 Address]: set the IP address of the device.

[IPv4 Subnet Mask]: set the subnet mask of the device.

[Gateway]: set the gateway of the device.

[DNS]: set the DNS server address.

[HTTP Port]: enter [HTTP port number] in the input box on the page, restart the device, and then modify the HTTP port number.

[RTSP Port]: enter [RTSP port] in the input box on the page, restart the

device, and then modify the RTSP port number.

[More...]: Click  to jump to the network setting interface.

Basic Set - > Video

[Resolution]: Select the necessary resolution in the pull-down list of [Resolution] and the code stream will be switched to the designated resolution.

[Video Encoding]: Select appropriate video encoding mode in pull-down list, such as [H.264], [H.265], etc.

[Ecoding Mode]: It can be set as [Constant Bit Rate] or [Variable Bit Rate]. Under the mode of constant bit rate, the video data size fluctuation is small and the bandwidth is stable during network transmission. Under the mode of variable bit rate, the video data size changes with the video image complexity, and the bandwidth can be saved in a single scene.

Select the needed frame rate in the pull-down list; the stream will switch to the designated frame rate. (Frame rates supported by different N/P Mode and resolutions are slightly different, please refer to the actual product)

[Bit Rate]: Select the necessary resolution in the pull-down list of [Resolution] and the code stream will be switched to the designated [Bit Rate]. (Unit: kbps)

Notes: Select the necessary resolution in the pull-down list of [Resolution] and the code stream will be switched to the designated

resolution.

[More...]: Click  to jump to the network setting interface.

Basic Set - > Audio

[Audio Encoding] set the audio coding mode

[Audio Sample Rate] set the audio sampling rate

[Volume value]: Can adjust the output sound, the range is 100 ~ 0, The smaller the value of the device output audio signal amplitude is smaller; The greater the number of devices output audio signal amplitude is greater.

[More...]: Click  to quickly jump to audio settings

Basic Set - > OSD

[Channel Title] set the character overlay name of the channel. If it is checked, it means display; if it is not checked, it means to display

[Date]: Select the check box of [date and time] to overlap the date and time on the screen

Notes: If select the check box, the information will be overlapped on the screen.

[More...]: Click  to quickly jump to character overlay settings

Basic Set - > Motion

[Sensitivity]: Set the motion alarm sensitivity.

Notes: Set [7x24Full Area] to enable motion alarm.

[The more]: Jump to the mobile alarm interface.

Basic Set - >time setting

[Region]:The User can set the [Region] .

[Local Time]: Display the Local time.

[Set]: The User can Synchronize the system time of the device.

[NTP Server]: Setting the Server URL.

[Port]: Setting the Port Number.

[time interval]: the user can enter the interval time.

[Test]: Test and confirm the setting.

[more]: Jump to the time set interface.

Basic Set - > Users

[New]

To add a new user, you need to set the user name, password, and permission. The user name and password can only be entered in English letters and numbers. After the above three items are filled in, click the [Save] button.

Note: only users with administrator rights can add and modify users.

[Edit]

In the user list, click [Edit] to open the password modification prompt box, input the old password, new password and confirm the password,

and then click Modify.

[Remove]

In the user list, click [Remove] to open the prompt box and click OK

Basic Set - >Other buttons

Click the [Save] button to save and make it take effect.

Click [Cancel] to restore the last saved parameter.

[Import]/ [Export]: used for equipment maintenance, mainly divided into three categories:

(1) [Event Server] options include alarm period and linkage item setting information, excluding intelligent analysis.

(2) [Smart Analytics] options include settings related to intelligent analysis, including rules, periods, etc.

(3) [System Setting] options include all setting information except the above alarm and intelligent analysis, including character superposition, video recording strategy, network setting, and other information.

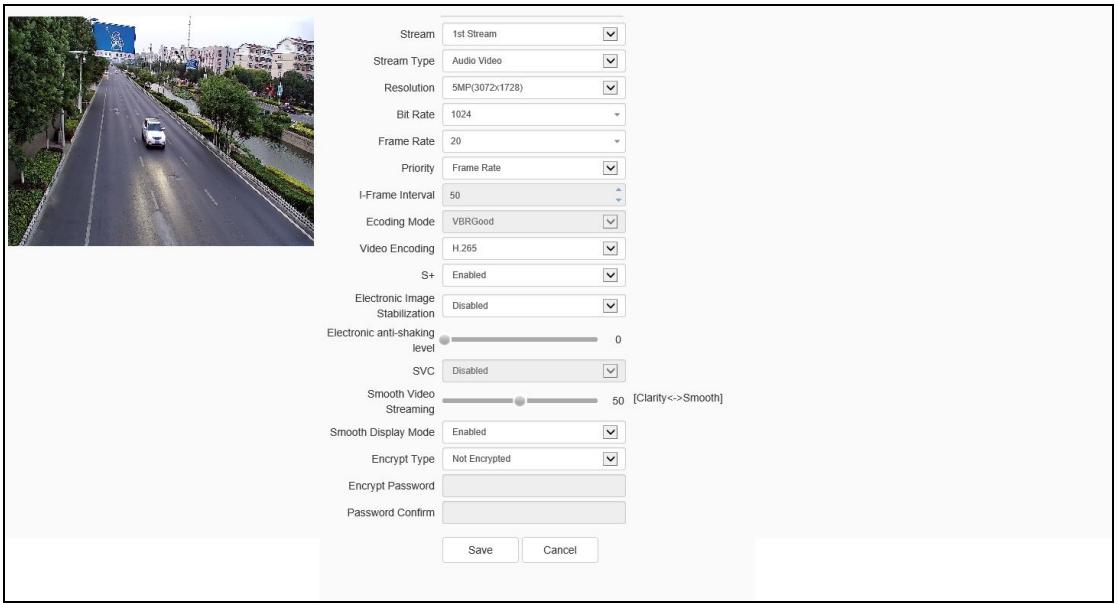
[Basic Reset]: restore the default parameters of the device. (key information such as IP address will not be recovered)

[Reboot]: restart the device.

6.7 Audio & Video Set

6.7.1 Stream

Stream- > Stream



Stream - Stream interface

Related parameters of video configuration are illustrated as follows:

Parameters	Description
Stream	The video-related parameters of the mainstream, the sub-stream, and the third stream can be modified. Select the corresponding code stream of the family and modify the parameters of the corresponding code stream
Stream Type	You can choose the video or audio & video.

Resolution	Set the resolution of the video. (Different models are compatible with different maximum resolutions).
Bit Rate	Set the bit rate of the video in KB / s. Code rate range: 32 ~ 16384kb / s. Tip: select the required resolution from the [resolution] drop-down list, and the code stream can be switched to the specified [code rate]. When [compression method] is [constant rate], the [code rate] represents the actual code rate of the code stream; when [compression method] is [variable rate], the [code rate] represents the maximum allowed code rate of the code stream. (Different models support different code rates, please refer to the actual interface)
Frame Rate	Sets the frame rate of the current video. In the [PAL] system, some models support 50 frames, and the maximum support is 25 frames when the wide dynamic mode is turned on. [NTSC] under the system, some models support 60 frames, and when the wide dynamic mode is turned on, the maximum support is 30 frames.
Priority	The video set to [frame rate first] is smoother and the video set to [quality first] is clearer.

I-Frame Interval	The number of frames between every two I frames can be set, and the range can be 10-100.
Encoding Mode	Set constant rate or variable rate compression. At the fixed bit rate, the amount of video data fluctuates little, and the bandwidth occupied by the network transmission is stable; at the variable bit rate, the amount of video data changes with the complexity of the video picture, and the bandwidth is saved when the scene is single. In the case of variable bit rate, there are several levels. If the better, the higher the average bitrate is.
Corridor Mode	The screen is rotated 90 degrees to adapt to the scene where the device is installed on the wall. It is off by default.
Video Encoding	Set how video is encoded. H. 265 encoding saves bandwidth, but some browsers or playback software do not support h.265.
S+	Switch S + on and off can be selected from the drop-down list. When S + is enabled, functions such as compression mode, video quality, I-frame frame rate, and the key area will not be available.
Electronic Image Stabilization	According to the actual situation, the user can select [On] or [Off] to optimize the picture quality and prevent shake.

	(Supported by some models)
SVC	When [SVC] is turned on, the P frame can be encoded as the non-reference frame, which can be used for frame extraction video recording and save storage space. The video file after frame extraction still supports normal decoding. When the [auto] mode is selected, the device will adapt to the current network environment and decide whether to send the frame to ensure that the image can be live viewed normally during live view. (supported by some models)
Smooth Video Streaming	The ratio of I frame and P frame can be set. The closer to smoothness, the better the smoothness of the dynamic scene, the closer to clarity, and the better the video clarity performance of a static scene.
Smooth Display Mode	Set whether to turn on unobstructed mode. (supported by some models)
Encrypt type	According to the situation, users can encrypt video data to improve the security of network transmission. [Encrypt type] select the required encryption algorithm (currently only AES algorithm is available), [Encrypt password] set the encryption password, and [password confirmation] input the encryption password again to ensure that the password entered twice is

	the same. Click [Save] to take effect.

After setting, click Save to take effect. Click [Reset] to restore the last saved parameter.

Stream - > ROI



Video parameters key area interface

After the front-end connection supports the key area setting, you can set the key area here. The image quality displayed in the focus area is higher.

(1) Click the "Start to Drawing" button to drag the video by holding down the left mouse button, and then you can set the key area. Several key areas can be set up. Click "Delete Area" to delete all the key areas that have been set.

(2) Click [Save] to save the corresponding parameter settings. Click

[Cancel]to restore the last saved parameter

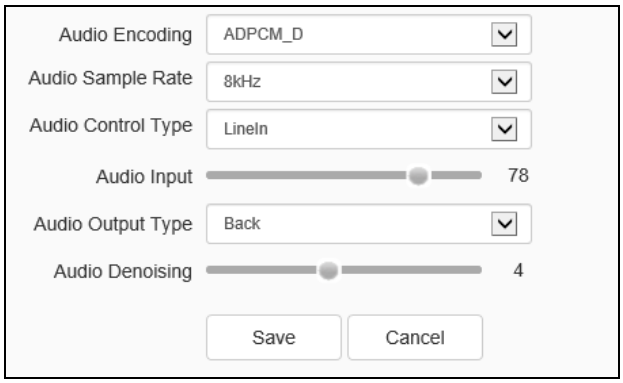
(3) [Stream]: Select stream which needs to be set in [Stream] pull-down list.

(4) [ROI Upgrade Level]: According to actual needs, set image quality of key region, such as [Best], [Better], [Good], [Normal] and [Poor], etc.

Select ROI Type- Status Tracking, at the same time select Initiation to track the dynamic status of key areas intelligently.

Note: After adjusting the resolution, video coding, and other options, you need to adjust the code rate, compression coding, and other parameters according to the actual image effect.

6.7.2 Audio



The interface of audio parameter setting

Can modify the audio coding mode, audio sampling rate, audio control types, volume values, audio noise levels, and other parameters.

Parameters	Description
Audio Encoding	Set the audio encoding mode of the bitstream.

Audio Sample Rate	Sets the audio sampling rate for the bitstream.
Audio Control Type	It supports two modes: Line-In and Mic-In. The control mode needs to be selected according to the output signal amplitude of the external audio equipment. When the external mic small signal (mv level signal) is connected, please select MIC-in; when the external equipment is the active audio equipment (V level signal), please select line-in mode. (supported by some models)
Volume value	The output sound size can be adjusted, and the adjustment range is 0-100. The smaller the value is, the smaller the output audio signal amplitude of the device is; the larger the value is, the larger the output audio signal amplitude of the device is.
Audio Denoising	The filter level of environmental noise can be set. The default level is 1. When the value is 0, turn off the audio noise reduction function. (supported by some models)
Audio Output Type	The audio output type includes a built-in speaker, external sound source, and off. When the built-in speaker is selected, the output volume can be adjusted. (supported by some models)
Echo Suppression	Turn on to improve the quality of the audio intercom. (supported by some models)

After setting, click Save to take effect. Click [Reset] to restore the last saved parameter.

Note:

(1) To modify the audio parameters, the intercom function needs to be turned off.

(2) Modify the audio coding mode and audio sampling rate parameters.

6.7.3 Image Setting

Image Setting->Image

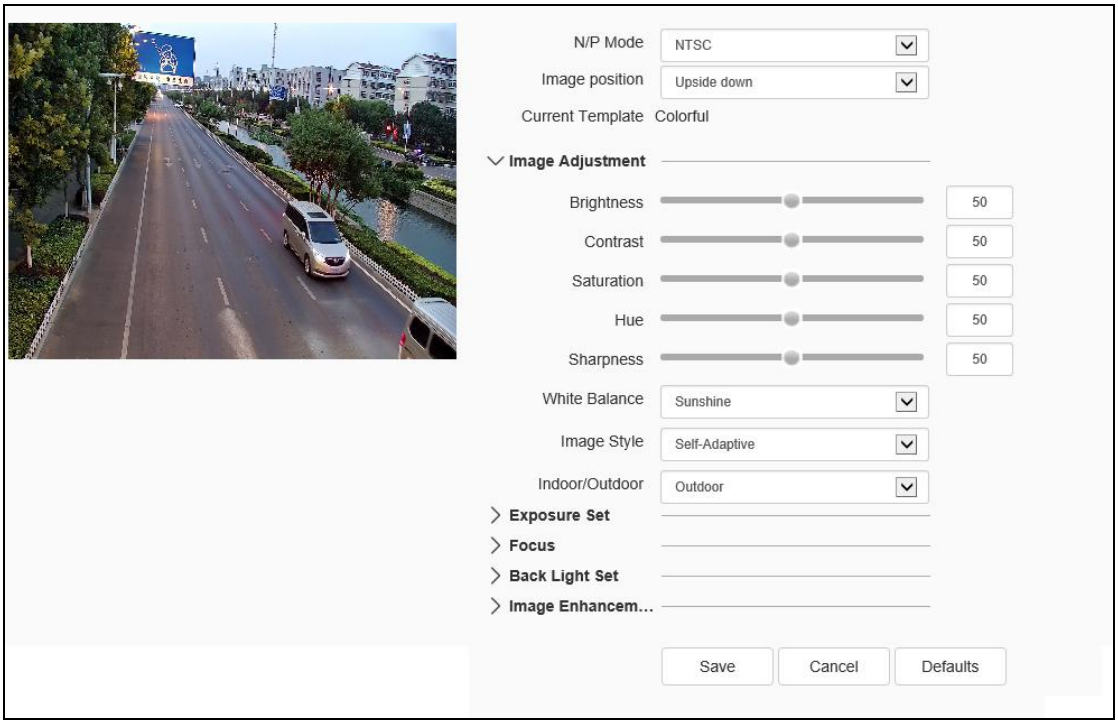


Image interface

Image - Template Selection

In[Current Template], select the template to modify the parameter. In [template name], you can define the template name.

Set image display effect in [[format]], PAL and NTSC can be chosen.

Select the method to display the image mirror in [[Image location]]. Four methods to display image position are supported: horizontal mirror, vertical mirror, inverted flip, normal, and so on.

Image -Image Adjustment

Click > next to [Image Adjustment] to expand the[Image Adjustment] interface. The user can set the brightness, contrast, saturation, hue, sharpness, white balance, image style, and indoor/ outdoor modes of the picture through the image adjustment menu.

Image –Exposure Set

Click the > button next to [Exposure Set] to expand the [Exposure Set] setting interface.

Parameters	Description
Shutter speed	You can set the maximum exposure time allowed to affect the brightness of the image. If the exposure time is too long, the moving image will be dragged, and if the exposure time is too short, the video picture will be

	darker.
Smart IR	It is mainly used for the infrared night vision model. When the overexposure scene appears in the picture, the camera will automatically reduce the brightness if this function is turned on to avoid unclear objects due to overexposure.
Max Gain Set	Adjusting the maximum gain value can compensate for the picture of brightness under low illumination. The larger the gain value is, the higher the brightness will be, but the greater the noise will be
Exposure Mode	There is automatic/manual / shutter priority/aperture priority. In "auto" mode, aperture, shutter, and gain are adjusted automatically; in "manual" mode, shutter, aperture and gain adjustment can be set manually; in "shutter priority" mode, shutter size is adjusted manually, and other parameters are adjusted automatically; in "aperture priority" mode, the aperture size is adjusted manually, and other parameters are adjusted automatically.
Brightness	Set up the desired Fig. Brightness value.
Auto Exposure Speed	Adjust the scroll bar to set up the exposure sensitivity.

	The larger the value is, the faster the exposure-response will be when the scene changes.

Image –Focus

Click the " > " button next to [Focus] to expand the [Focus] setting interface.

Parameters	Description
Focus mode	[Auto] / [Manual] / [Semi-auto] are optional. Under the [Auto] mode, focus automatically according to the monitoring scene. Under the [Manual] mode, focus clearly and manually by focusing on the live view interface. Under [Semi-auto] mode, one PTZ action triggers one focus, and there is no automatic focusing when the same scene image changes.
Min focus distance	The minimum focusing distance can be set, and it can be set as 6m for the outdoor large-scale scene and 1.5m for the indoor scene.

Image –Back Light Set

Click the " > " button next to [Backlight] to expand the [Backlight] setting interface.

Parameters	Description
HLC	It is mainly used in road monitoring scenes. It can suppress the glare such as car headlights after being turned on, thus reducing the effect of glare.
Super-Wide dynamic Grade	In the drop-down list, there are [off], [ultra-wide dynamic auto], [ultra-wide dynamic manual] and backlight compensation options. Select [ultra-wide dynamic auto] or [ultra-wide dynamic manual] to display the [ultra-wide dynamic] slider. Drag the slider to set the wide dynamic level that meets the requirements of the scene. The larger the value, the more obvious the effect. Select [backlight compensation] and check [set backlight compensation area] and click Save to set light compensation and improve the brightness in the setting area

Image - Image Enhancement

Click the > button next to [Image Enhancement] to expand the [Image Enhancement] setting interface.

Parameters	Description

Defog	Select [Enabled], [Disabled], and other options according to actual needs.
Digital Noise Reduction	In the drop-down list, you can select [close], [normal mode] and [expert mode]. Select [normal mode], display the [noise reduction level] slider, and drag the slider to set the noise reduction level. Select [expert mode], and the sliders of [airspace noise reduction level] and [time domain noise reduction level] will pop up respectively. Drag the two sliders to set [airspace noise reduction level] and [time domain noise reduction level] respectively.

Note:

After the HD parameters are set, click[Save] to save.

Click [Cancel] to restore the last saved parameter.

[Defaults]: the parameters of each template can be restored to the default settings.

Image settings - > Schedule



Schedule interface

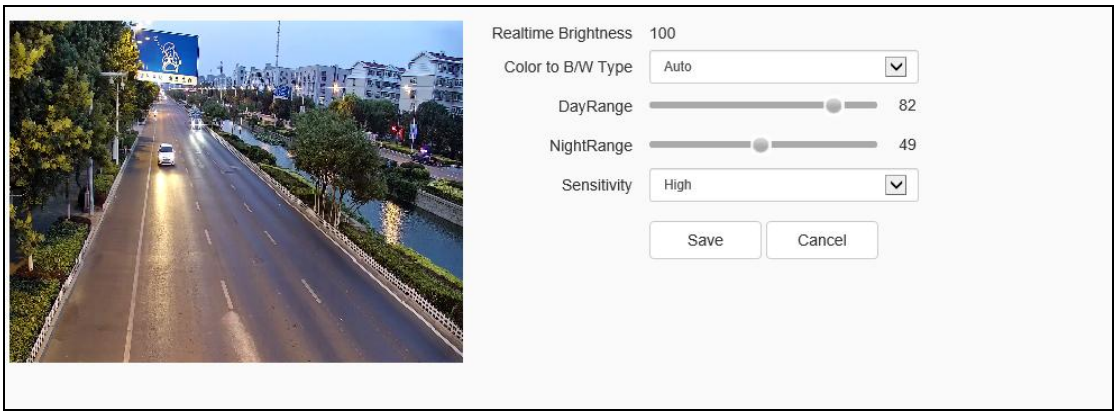
Users can use different templates for equipment at different periods using HD templates, to ensure that the effects of videos are the best in different periods.

[Day]: Set the HD template during the day.

[Night]: Set the HD template at night.

Click the [Save] button to save and make it take effect.

Image settings - > Day/Night



Day/Night setting interface

Parameters	Description

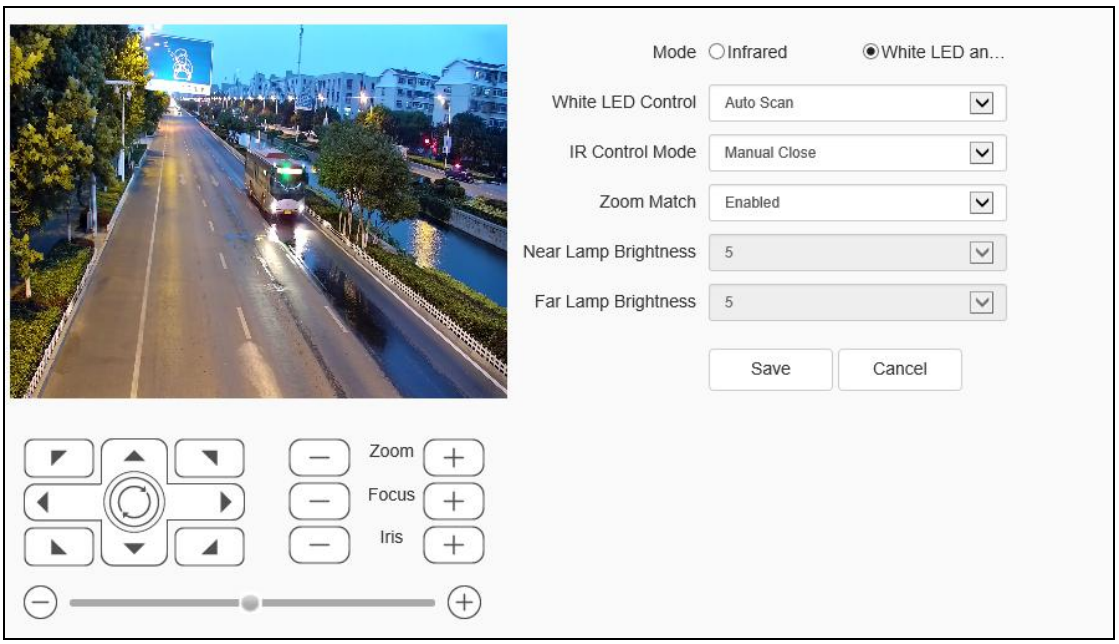
Color to B/W Type	It can be set as night, daytime, timing, and auto. Under the auto mode, the day-night image will be switched automatically.
[Auto(inside)]	In internal synchronization mode, the equipment will detect the brightness of video frames automatically. When the brightness of video is higher than that of daylight, the black and white video will be colorized; when the brightness of video is lower than that of night, the colorized video will change to be black and white. The [real-time brightness] in the upper position of the page is the current brightness detected.
[Black and white]	Video of the equipment is in the mode of black and white all the time.
[Colorized]	Video of the equipment is in colorized mode all the time.
[External synchronization]	A photoreceptor is used to detect the brightness of the external environment. When external brightness is higher than that of daylight, the black and white video will be colorized; when external brightness of video is lower than that of night, the colorized video will change to be black and white.

[Timing]	In timing mode, users can specify the time of dawn and dusk. Note: turn off an infrared lamp for dawn and turn on the infrared lamp for dusk.
[Self-adaption]	The equipment switches mode of "black and white" and "colorized" automatically according to the scenario.
[Sensitivity]	Sensitivity can be chosen by switching the drop-down box.
[Brightness in daytime]	The brightness threshold of change from "black and white" to "colorized": if it is higher than the value, the equipment will change from "black and white" to "colorized".
[Brightness at night]	The brightness threshold of change from "colorized" to "black and white": if it is lower than the value, the equipment will change from "colorized" to "black and white".
[Delay of change from "black and white" to "colorized" (second)]	The delay of change from "black and white" to "colorized" when reaching the brightness in the daytime.

[Delay of change from "colorized" to "black and white" (second)]	The delay of change from "colorized" to "black and white" when reaching the brightness at night.
[Infrared lamp control]	Set the start of the infrared lamp. Automatic control and manual control are supported. When choosing manual control, the brightness of the near-infrared lamp, far infrared lamp, and middle infrared lamp can be adjusted.
[Brightness of infrared lamp]	Slide the sliding block to set the brightness of the infrared lamp (maximum value 100)
[White-light lamp control]	Set the start of the white-light lamp. Automatic control and manual control are supported. When choosing automatic control, the brightness of the near white-light lamp and the middle white-light lamp can be adjusted
[Brightness of white-light lamp]	Slide the sliding block to set the brightness of the white-light lamp (maximum value 100)
[fixed point infrared lamp brightness]	When zoom matching is turned off, set the lamp brightness, level 0 ~ 10, and the brightness increases step by step.

[moving point infrared lamp brightness]	when the zoom matching is turned off, set the lamp brightness, level 0 ~ 10, and the brightness increases step by step.

Image settings - >Fill Light Set



Fill Light Set Interface

For the [Mode], Select [Infrared] and [White LED and Infrared control] mode according to the actual demand;

Parameters	Description
White LED Control Mode	The white-light sources control mode includes automatic, manual starting, automatic closing, and timing.

IR Control Mode	The infrared lamp control mode includes automatic, manual starting, and automatic closing.
Zoom Match	When selecting the [ON] mode, the brightness and power of the infrared lamp are matched with the camera irradiation distance, and the infrared lamp can realize optimal control and automatically adjust the infrared lamp bank power under different variable magnification figures. When selecting the [OFF] mode, the infrared lamp start depends on the brightness of each lamp bank set by the user, but cannot adapt to the shot variable magnification. Customers are recommended to select the variable magnification matching start function.
Near Lamp Brightness	When closing the variable magnification matching, set the low beam brightness, with the level of 0-10, and the brightness should be increased gradually.
Far Lamp Brightness	When closing the variable magnification matching, set the high beam brightness, with the level of 0-10, and the brightness should be increased gradually.

[Save]: Click [Save] to save the current setting.

[Cancel]: Click [Cancel]to restore the last saved parameters.

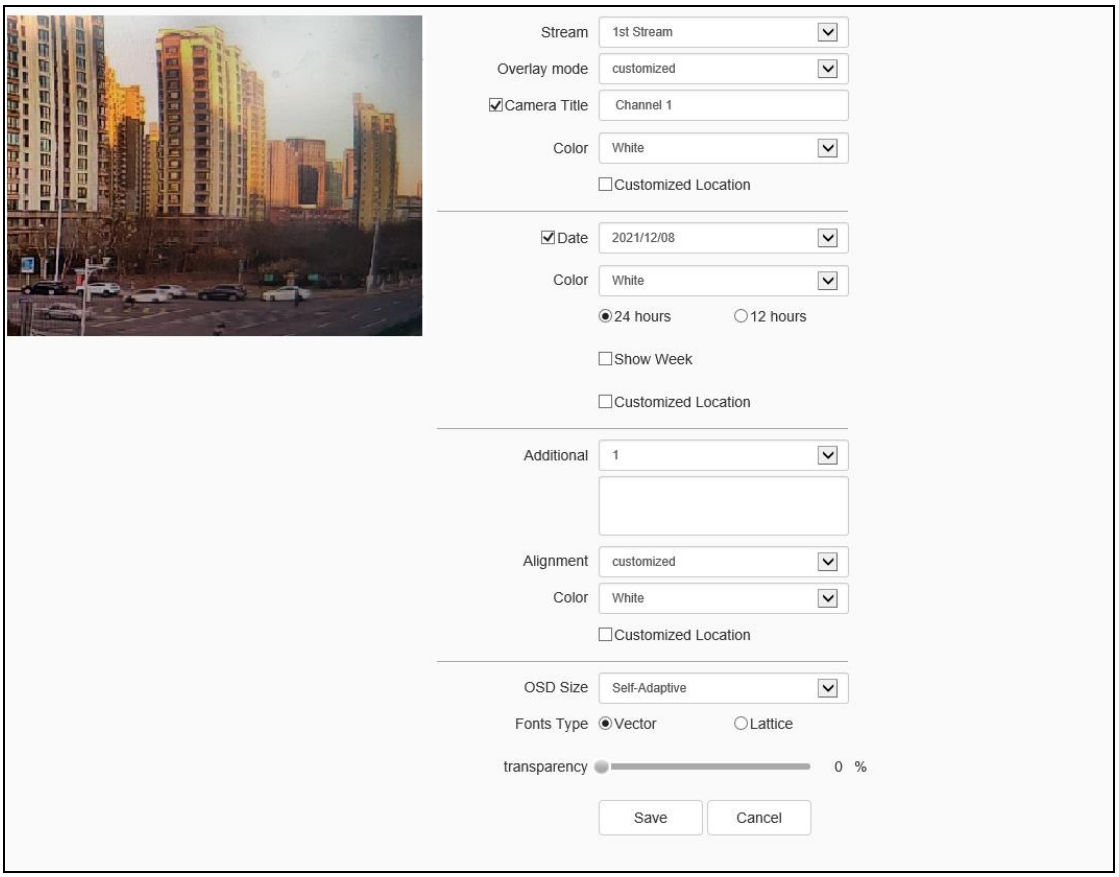
Note:

（1）the light distance for the white light lamp is 30 meters, when the variable magnification is over 30 meters, turning on the white light lamp manually to fill light is not recommended.

（2）For the model of the white light lamp, indoor and outdoor monitoring, if the near scene (2 to 3 meters) has a large reflective object environment, it is recommended turn off the white light lamp to avoid the repeated turn on/off of the light supplement lamp caused by the strong light reflection that will affect the image effect.

6.7.4 OSD

OSD->OSD



OSD Interface

[Stream]: select the code stream to stack character information.

[Channel Title]

(1) Select the [Channel Title]] check box to overlay the channel name on the screen.

(2) Enter a name in the input box on the right to set the channel name.

(3) From the [Color] drop-down list, select the color you like for the superimposed content.

(4) If you need to change the position of the superimposed character, select the [user defined position] check box, and click on the small screen with the mouse to specify a new position for the superimposed character.

[Date]

(1) Select the [Date] check box to overlay the date and time on the picture.

(2) Select your preferred date format from the drop-down list on the right.

(3) If you need to include the week in the displayed time and date, select the[Show Week] check box.

(4) As required, the time can be displayed in 24-hour or 12-hour mode. Select the corresponding option from the 2 buttons below.

(5) From the [Color] drop-down list, select the color you like for the superimposed content.

(6) If you need to change the position of the superimposed character, select the [user defined position] check box, and click on the small screen with the mouse to specify a new position for the superimposed character.

[Additional]

(1) [Additional] at present, there are 5 areas for stacking.

(2) Input the text content to be superimposed from the input box below, including Chinese characters, English, and common punctuation marks. You can stack multiple lines of content in one area as needed. Some models support peripheral mode. Click [insert] to add peripheral information.

(3) From the [color] drop-down list, select the color you like for the superimposed content.

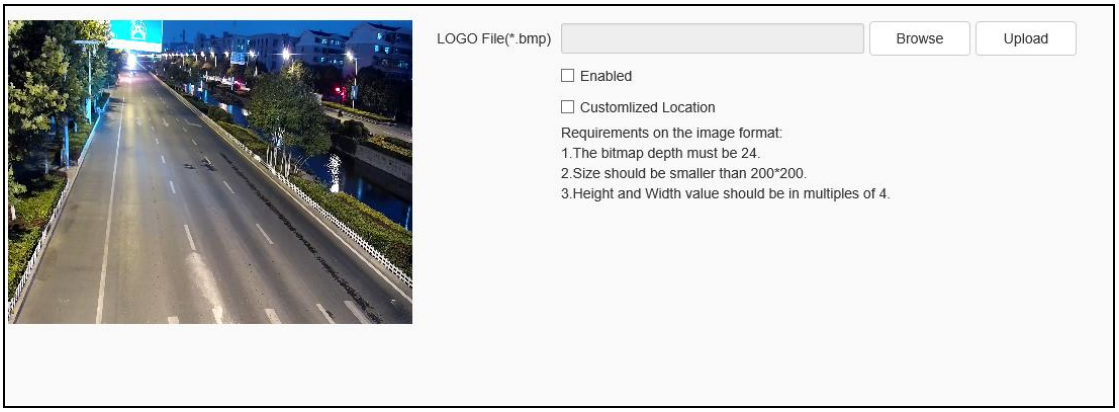
(4) Select the [user defined location] check box and click on the small screen with the mouse to specify a new location for the superimposed characters.

[OSD Size]

You can specify the size of the superimposed characters, select the preferred character size (unit: pixel) in the [OSD Size] drop-down list, or select [Self-Adaptive] to let the system automatically adjust the character size.

After all the above parameters are set, click [Save]to save and take effect; click [Cancel]to restore the last saved parameters.

OSD->LOGO



OSD-LOGO setting interface

(1) Enter the path of the image file in the [LOGO File] input box, or click

the [Browse] button to find the image file in the pop-up window.

(2) After clicking the [Upload] button, the picture will be uploaded to the equipment, and the equipment will restart automatically after uploading the picture.

(3) After the equipment is restarted, select the [Enable] check box to overlay the LOGO picture on the video. If the [Enable] check box is canceled, the LOGO will not be displayed.

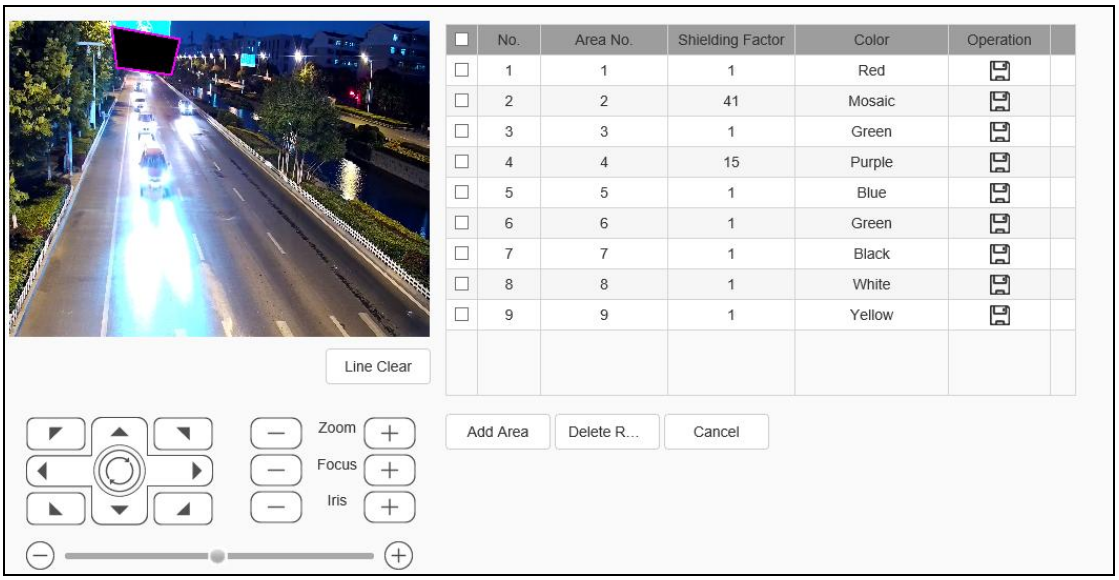
(4) With [Enable]selected, select the [Customized Location]check box and click on the video screen with the mouse to specify a new display location for the LOGO.

Note:

(1) The LOGO picture must be a bitmap file in BMP format. The bitmap depth is 24, the size is smaller than 200 * 200 pixels, and the height and width are divisible by 4. Please use a picture that meets the requirements.

(2) Overlapped LOGO will automatically remove its black and white background.

OSD- > Privacy Mask



Privacy Mask setting interface

According to the user's needs, the Shelter area can be set up on the picture according to the user's demand to protect key information from being seen. 24 shelter areas can be set up at most for each piece of equipment.

(1) Draw up the area to be sheltered in the small live view window.

(2) Click [Add area] button.

(3) Shielding magnification: Set up the magnification value, only when the variable magnification value is greater than the shielding magnification, the private shelter area will display, or it will not display.

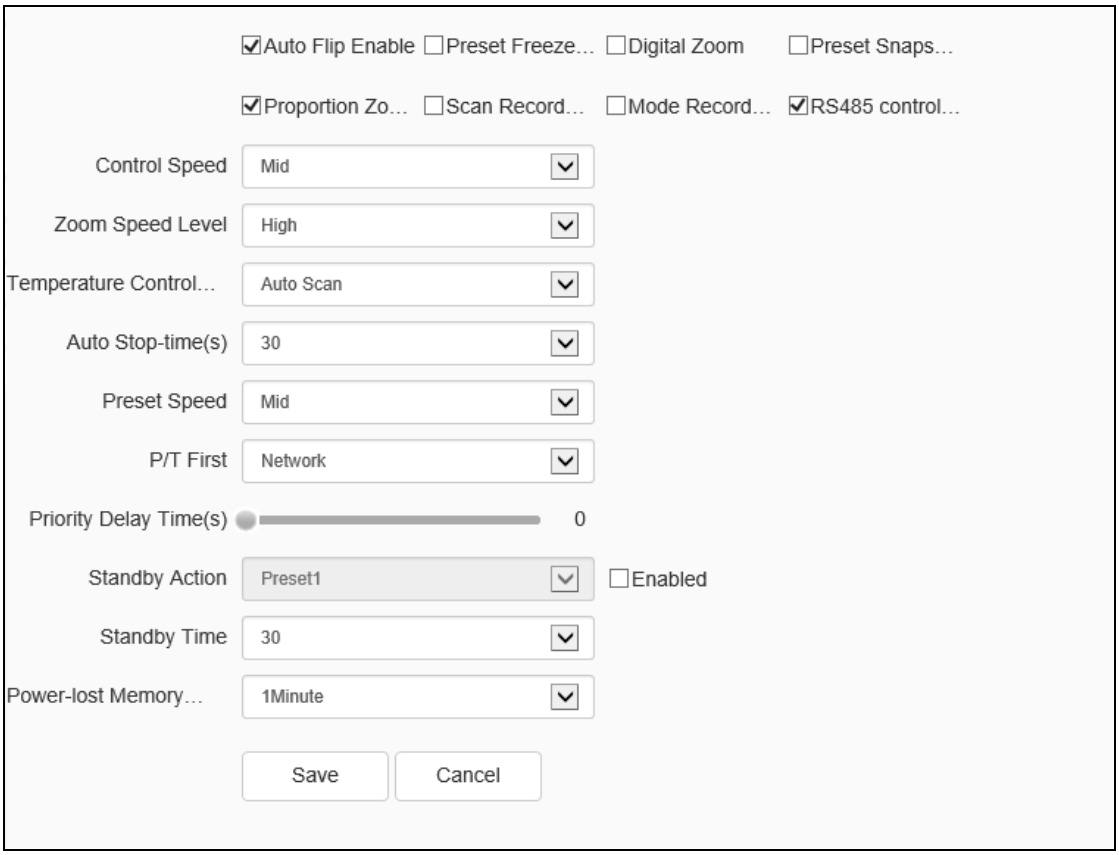
(4) If the user wants to delete the shelter area, click the square frame before the serial number to select the corresponding shelter area, then click the [Delete area] button to delete the area.

6.8 Dome Set

The specific parameters displayed depend on the specific model of the dome camera. Please refer to the actual manual.

6.8.1 Basic Set

Basic Set ->Basic Information



Basic Information

[Auto Flip Enable]: When the perpendicularity of the dome camera is 90°, the dome camera will rotate horizontally by 180° if moving along the original direction continuously.

[Preset Freeze Enable]: During the calling of the preset, the image will stop at the preset all the time without showing the image during the calling and will come back when reaching the calling preset.

[Enable Digitial Zoom]: After starting, when the optics variable magnification reaches the maximum, continue to click the variable magnification to start digital variable magnification.

[Enable Preset Snapshot]: After starting, it will capture pictures during the calling preset and save them in the front-end storage medium.

[Enable Proportion Zooming]: It will adjust the operating speed automatically with the variable magnification figure after starting; if not, all zooming speed is the same, so it is better to start.

[Enable Scan Record]: After starting, it will record during scanning, and the video files will be stored in the front-end storage medium.

[Enable Mode Record]: After starting, it will record during the mode path, and the video files will be stored in the front-end storage medium.

[Control Speed]: The control speed level includes high, medium, and low levels, and the maximum speed of the PTZ can be changed by modifying this item.

[Zoom Speed Level]: The variable magnification speed level includes high, medium, and low levels, and the variable magnification speed can be changed by modifying this item.

[Temperature control mode]: [Auto], [Close] and [FOG] are optional.

[Auto stop time (s)]: The auto stop time refers to that the dome camera will stop the PTZ from working if it fails to receive the stop code for a long time, and it can be 5s, 15s, 30s, and 60s.

[Preset speed]: The preset speed level includes high, medium, and low levels, and the preset speed can be changed by modifying this item.

[P/T First]: There are two options including network and RS485. Select the PTZ priority control mode according to specific needs.

[Priority Delay Time (s)]: Delay time between two control modes. For example, The setting time is the 30s; when selecting the network for the PTZ priority mode, RS485 cannot control the dome camera within 30s after the network control.

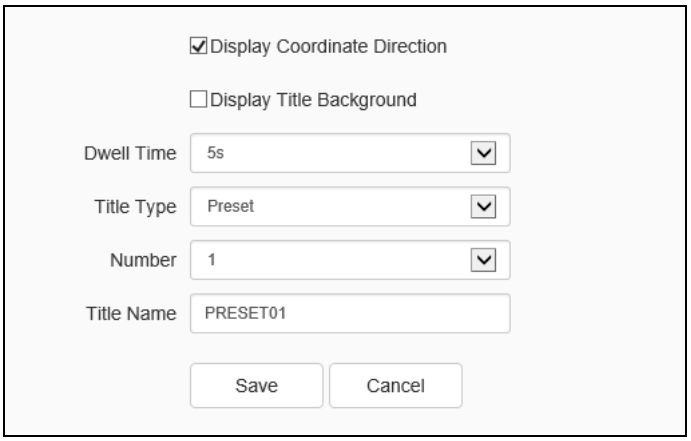
[Standby Action]: Select the [Enable] option button behind the standby action to set the standby action. The standby action includes four options such as preset 1, scanning 1, cruise 1, and mode path 1. Click the save button to save the setting after modifying the standby action.

[Standby time (s)]: Select the [Start] option button behind the standby action to set the standby time. The standby time includes 30, 60, 300, 600, and 1800. Click the save button to save the setting after modifying the standby action.

[Power-lost memory mode]: Save the PTZ position time automatically. After power on again, the dome camera will return to the PTZ position saved last time.

[RS485 control gimbal]: Enable the camera and 5880 / 5820 network keyboard to control the operation of the dome camera through the RS485 control line.

Basic Set ->Title



Title setting interface

[Display Coordinate Direction]: When checking the options button [Show coordinate direction], the dome camera coordinate will be shown after operation; when canceling the checking, the coordinate direction will not be shown.

[Display Title Background]: When checking [Show title background], the action title should have a background color during the operation of the dome camera; when canceling the checking, the action title should not have a background color.

[Dwell Time]: Set the title standing time (such as close, continue, 2s, 5s, and 10s).

[Title No.]: Select the title number, wherein the preset number range

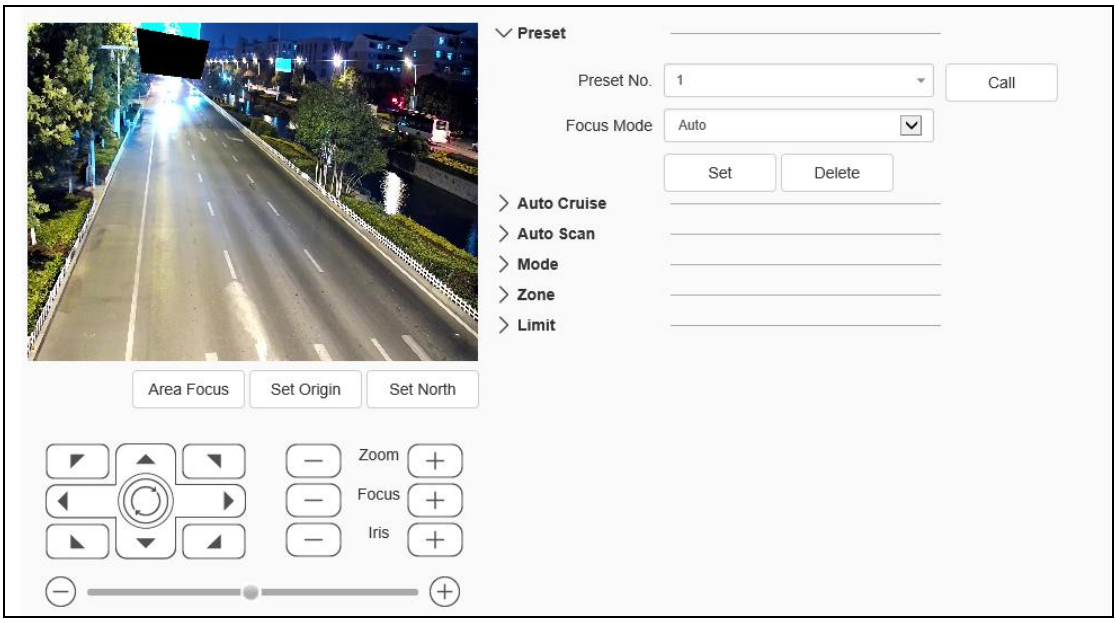
1-32, the scanning number range 1-8, the cruise number range 1-16, the mode path number range 1-8, and the regional instruction number range 1-8.

[Title Type]: Preset, Auto Scan, Auto cruise, Mode and Zone are optional.

[Title Name]: Set the title name.

6.8.2 Motion Set

Motion Set->Motion Set



Motion Set Interface

[Area Focus]: The user can operate the dome camera by clicking Area Focus to select an area to focus on when the desired position is reached.

[Set Origin]: The user can operate the dome camera, click [Set Origin] after reaching an expected position and select an orientation zero.

[Set North]: The user can operate the dome camera, click [Set North]

after reaching an expected position, and select a heading to the north.

Motion Set - Preset set

[Preset No.]: The dome camera can support 500 preset totally, wherein the non-special preset includes 1-64 and 100-500, and the user can set these presets.

[Focus Mode]: The focusing mode of the preset can be automatic and fixed.

[Set]: The user can operate the dome camera and click [Set] to store it at the current position when reaching an expected position.

[Delete]: Click [Delete] to delete the preset of the corresponding number.

[Call]: Click [Call] to call the preset of the corresponding number.

Motion Set - Auto cruise set

[Cruise No.]: The dome camera can support 16 automatic cruise numbers (1-16).

[Cruise list]: Show the preset supported by the automatic cruise number.

[Preset]: Select 1-64 and 100-255 preset, click the [Add] button, and add the corresponding preset to the cruise list.

[Dwell time (s)]: The standing time of the corresponding preset can be set as 1-60.

[Add]: Click [Add] to add the corresponding preset to the cruise list of the

current automatic cruise number.

[Delete]: Click [Delete] to delete the corresponding preset to the cruise list of the current automatic cruise number.

[Call]: Click [Call] to operate automatic cruise of corresponding automatic cruise number.

Motion Set - Auto scan set

[Scan No.]: The dome camera can support 8 automatic scannings (1-8).

[Scan type]: The scanning type includes Pan Scan, Auto Scan, Frame Scan, Random Scan, Tilt Scan, Full Scan, and Spiral Scan.

[Scan speed]: Change the speed of Pan Scan, Auto Scan, Tilt Scan, Full Scan, and Spiral Scan by changing the scanning speed.

[Border 1]: The user can operate the dome camera and click [Border 1] to store the current position as the scanning route left boundary after reaching the expected position.

[Border 2]: The user can operate the dome camera and click [Border 2] to store the current position as the scanning route right boundary after reaching the expected position.

[Call]: Click [Call] to scan the corresponding automatic scanning number.

Motion Set - Mode path setting

[Mode No.]: The dome camera can support 8 mode paths (1-8).

[Used(%)]: Show the percentage stored and used when recording the mode path.

[Left Time(s)]: Show the rest time when recording the mode path (the dome camera can support 600s record at most).

[Record]: Click [Record] to record the mode path, then the user can operate the dome camera, and the dome camera can record the user's operation.

[Delete]: Click [Delete] to delete the mode path of the corresponding mode route number.

[Call]: Click [Call] to operate the mode path of the corresponding mode route number.

Motion Set - Zone set

[Zone No.]: The dome camera can support 8 regional instructions (1-8).

[Left Border]: The user can operate the dome camera and click [Left Border] to store the current position as the regional instruction left boundary after reaching the expected position.

[Right Border]: The user can operate the dome camera and click [Right Border] to store the current position as the regional instruction right boundary after reaching the expected position.

[Delete]: Click [Delete] to delete the regional instruction of corresponding regional instruction numbers.

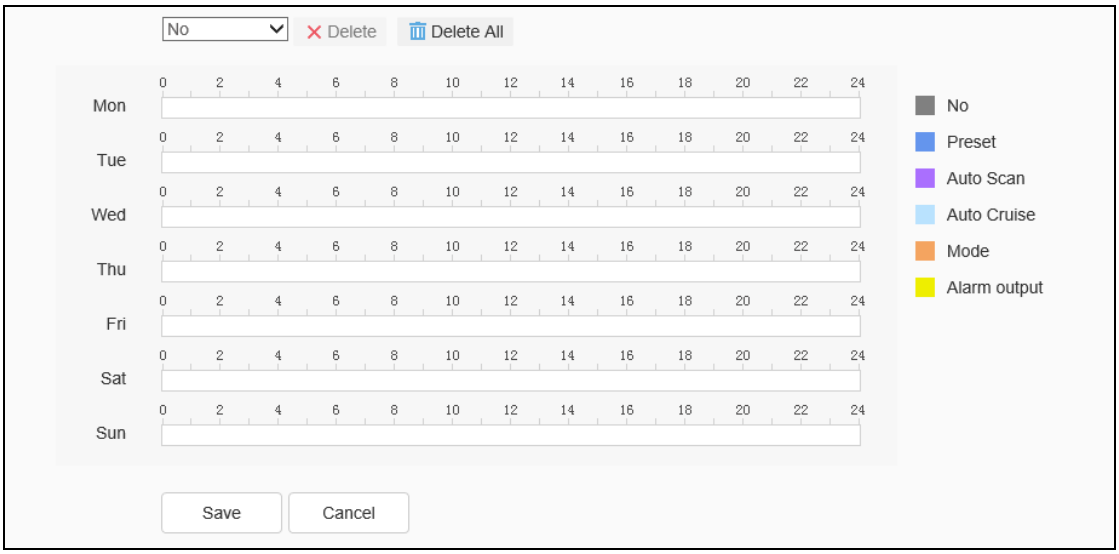
Motion Set - Limit set

[Enable Limit]: After checking, the movement area of the dome camera will be controlled in the limit area.

[Set]: Clicking the set button, the left live view window will show the prompt information: Set the upper/lower/left/right limit according to the prompt information; if you want to set horizontal limit rather than vertical limit, set the upper and lower limits at the same position.

[Delete]: Delete the set limit.

Motion Set->Motion Schedule



Motion Schedule Interface

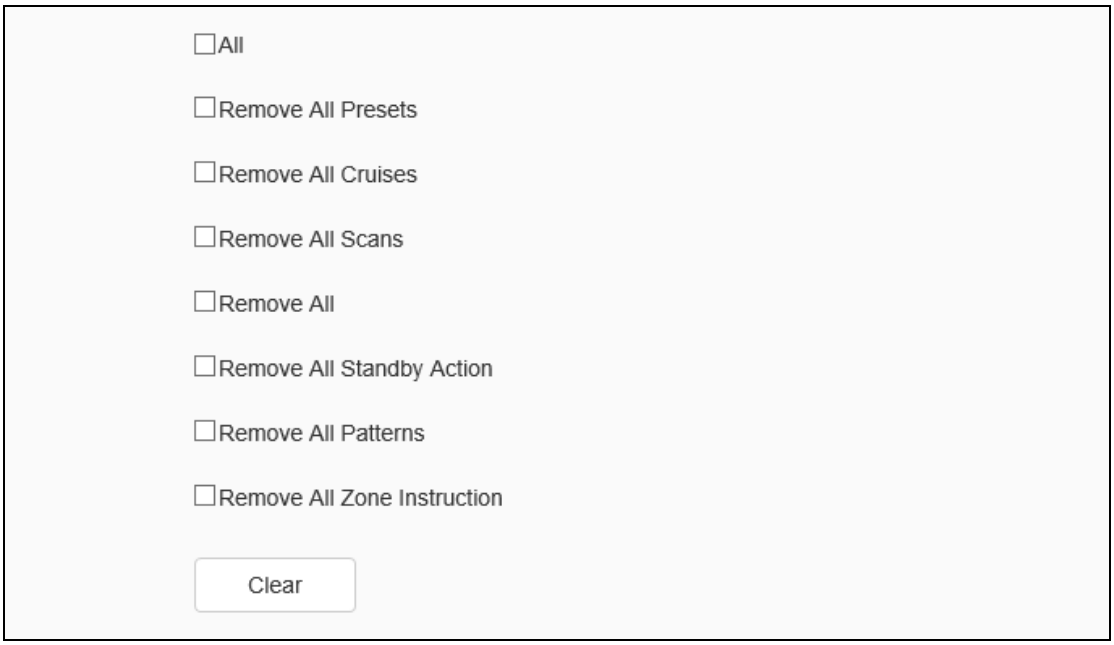
Refer to complete the presetting functions in the period specified by the user. These functions include preset, auto scan, auto cruise, mode path, and alarm output.

Left click on time template.

Click the [Save] button to save the effect.

Click the [Cancel] button to restore the last saved parameter.

6.8.3 Remove Config



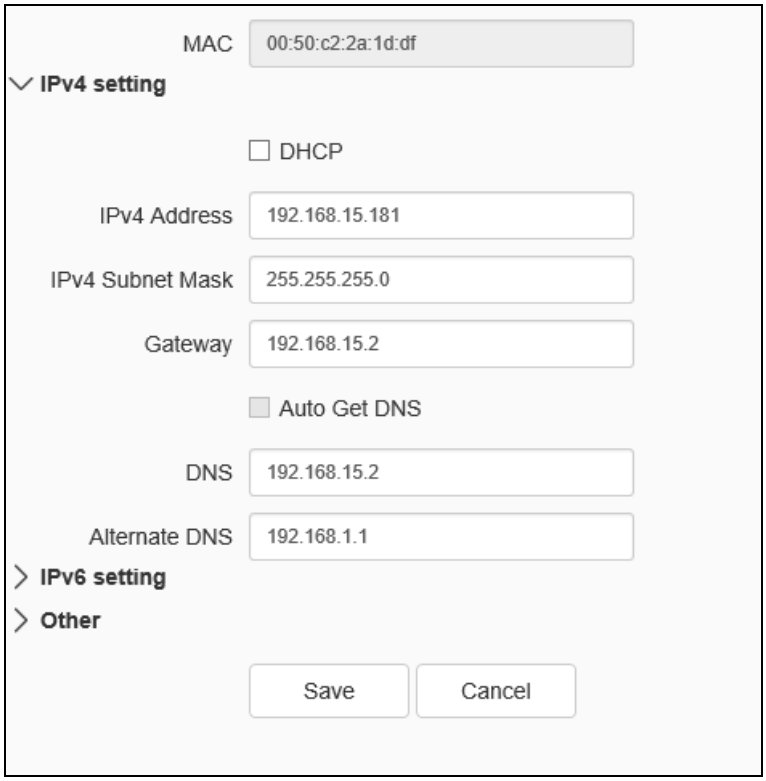
Remove setting config

In the configuration clear interface, including select all, clear all preset, all cruise route, all scanning, all location limitation settings, standby operations, all mode path, all regional instructions, select the items to be cleared, click the clear button to clear the corresponding PTZ configuration.

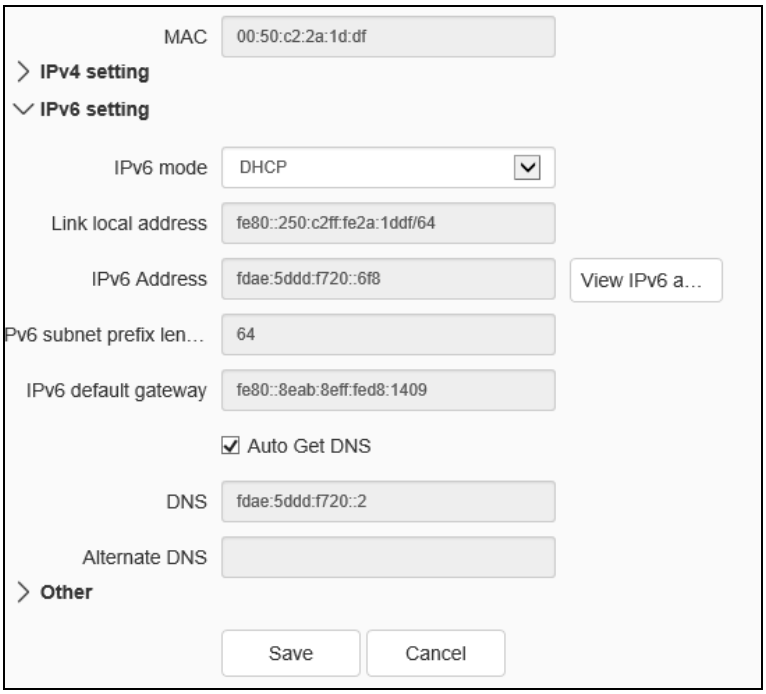
6.9 NetWork

6.9.1 Basic Set

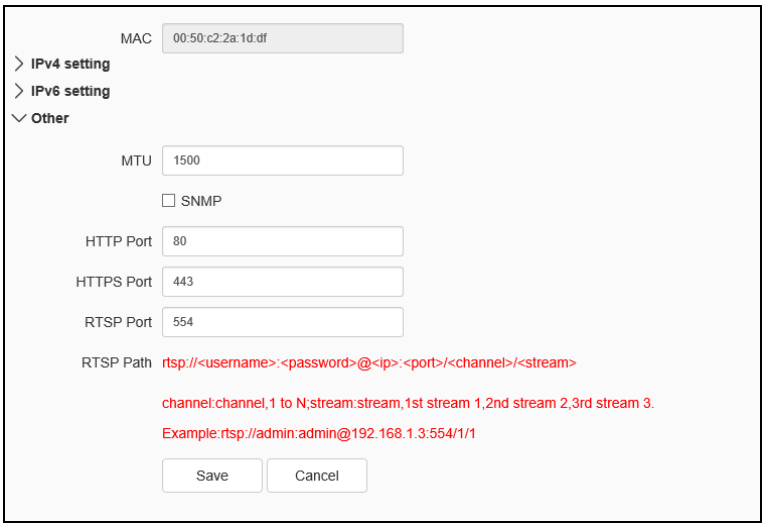
Basic Set->TCP/IP



IPv4 setting interface



IPv6 setting interface



Other setting interfaces

[DHCP]: set whether the DHCP server automatically assigns IP to the device.

[IPv4 Address]: set the IP address, subnet mask, and gateway of the device.

[IPv6 Address]: this device supports IPv6.The user can select IPv6 mode as router announcement / DHCP / Manual mode in the IPv6 setting. If manual mode is selected, the correct IPv6 address and IPv6 subnet prefix length (value range is 3-127) need to be entered.

[DNS]: set the DNS server address.

[MAC]: displays the physical address of the device.

[MTU]: set the size of MTU, ranging from 500 to 1500, and the default is 1500. After setting, click Save to save the setting, and it will take effect after restarting the equipment.

[HTTP Port]: enter [HTTP port number] in the input box on the page, restart the device, and then modify the HTTP port number.

[RTSP Port]: enter [RTSP port number] in the input box on the page, restart the device, and then modify the RTSP port number.

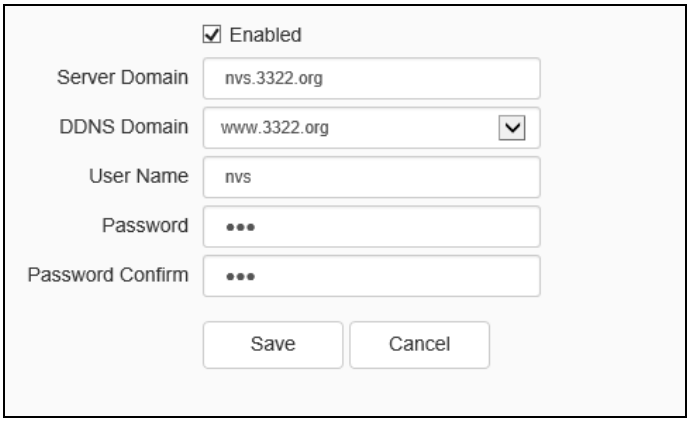
[HTTPS Port]: enter [HTTPS port number] in the input box on the page, restart the device, and then modify the HTTPS port number.

[RTSP Path]: refer to the example path in the interface. Check to enable intranet search to enable this function.

[Save]: save the current settings.

[Cancel]: restores the last saved parameter.

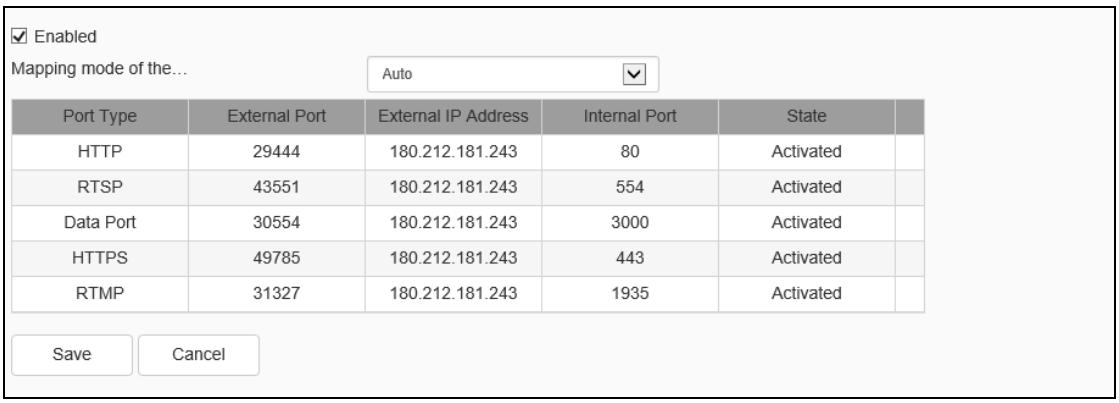
Basic Set - > DDNS



DDNS setting interface

After checking [Enabled] DDNS, select the [server address] to be set, modify equipment [Server Domain], set [DDNS Domain], [User Name], [Password]and[Password Confirm], and then click [Save] to set DDNS network server information. Click [Cancel] to restore the last saved parameter.

Basic Set- > UPnP



UPnP interface

Only when port mapping is enabled, can the ports of network devices be opened normally. Port mapping methods include automatic and manual.

(1) When "Auto" mode is selected and UPnP is enabled, users do not need to do port mapping on the router, only need to turn on the UPnP function on the router.

(2) Select "Manual", the user needs to manually map the port on the router. In manual mode, the user can specify the external port to be mapped under the public IP. The user does not need to modify the port of the network device itself. If the router or gateway does not support the UPnP function, the user can fill in the current mapped external port status here.

(3) After the port mapping, the status column will show whether it is effective. At the same time, the external port under the currently mapped public IP will be displayed in the external port. If users need

to access network devices through the public network, they need to use the currently mapped external port to access.

[Save]: save the current settings.

[Cancel]: restores the last saved parameter.

6.9.2 Advanced Set

Advanced Set - >IP Filter



IP Filter setting interface

IP firewall, also known as a black-and-white list, is provided for users to manage access rights more flexibly.

[No Limit]: select the[No Limit] button to remove the restriction of the black and white list. All IP addresses can be accessed, not only the IP

addresses in the list.

[Whitelist]: if you want to allow only a few trusted IPS to access the device, you can select the [Whitelist] button, enter the trusted IP addresses one by one, click [Add] to add to the list, and then click [Save] to make the whitelist effective. At this time, only several IPS specified in the list can successfully log in to the device, and login requests from other IPS will be rejected, regardless of whether their user name and password are correct or not. Users can specify up to 16 trusted IP addresses in the white list.

Note: when adding the white list, please confirm whether to add the IP address of the current user.

[Blacklist]: if you want to block some IP addresses and prohibit them from accessing the equipment, you can select the button of[blacklist], input the IP addresses you want to block one by one, click [Add]to add them to the list, and then click [Save] to make the blacklist effective. At this time, the login request from any IP in the list will be rejected, regardless of whether its user name and password are correct or not.

Note: when adding the blacklist, please confirm whether the IP address of the current user is added.

[Delete]: if you need to delete some IPS from the list, just select the check box on the left of these IPS and click [delete]. Note that all IPS cannot be deleted when deleting the white list, otherwise the device will not be

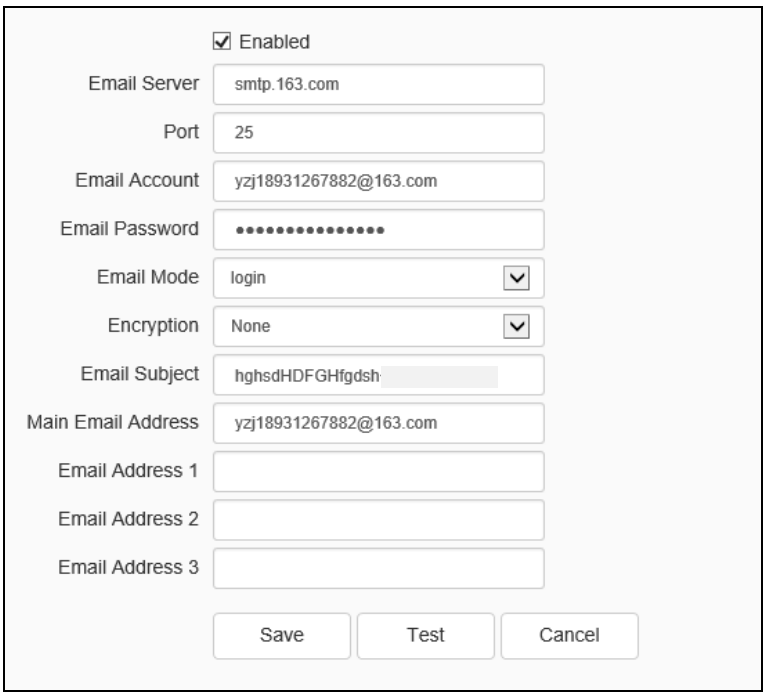
able to log in successfully.

Note: IP filtering can only be judged when a user is newly logged in, and cannot filter the logged-in IP. It is strongly recommended to restart the device in time after each blacklist configuration to shield the illegal IP address.

[Save]: save the current settings.

[Cancel]: restores the last saved parameter.

Advanced Set - > Email (Supported by some model)



Mail setting interface

After the user enables mail, the alarm server will automatically send alarm mail to the mailbox address set by the user when an alarm occurs.

(1) The email server address input format is smtp.xx.com, where XX

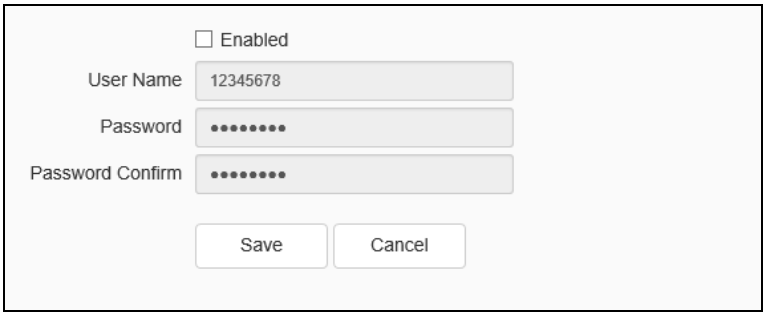
represents the email server and is the login email of the account, for example, smtp.163.com.

(2) The account and password are the user name and password of the login SMTP server mailbox.

(3) The encryption mode can be none, SSL or TLS.

After setting the subject and CC email address, click[test]to test whether the mail server function is normal. Click [Save] to save the current settings. Click [Reset] to restore the last saved parameter.

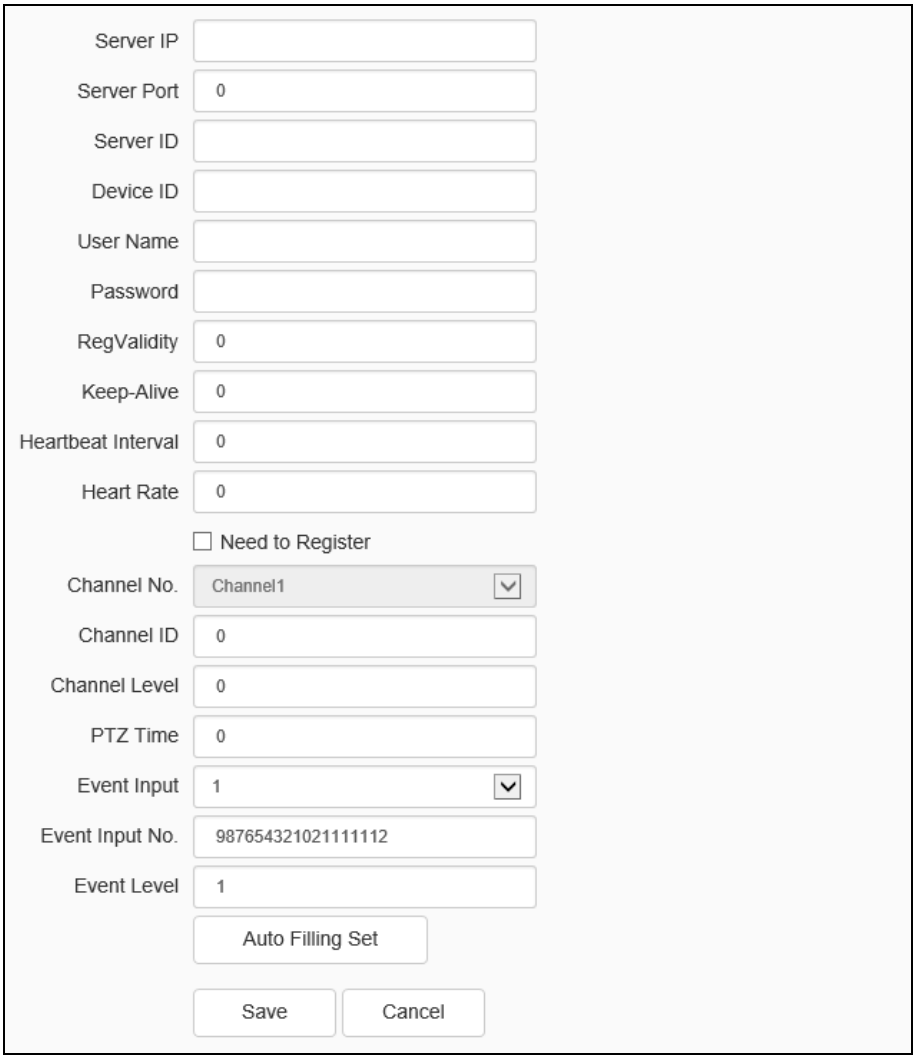
Advanced Set - > PPPoE



PPPoE setting interface

After enabling the [PPPoE] function, change the [User Name],[Password]and [Password Confirm], and [Save] to set the PPPoE network server information, which will take effect after the restart;[Cancel]to restore the last saved parameters. (supported by some models)

Advanced Set - > SIP



SIP setting interface

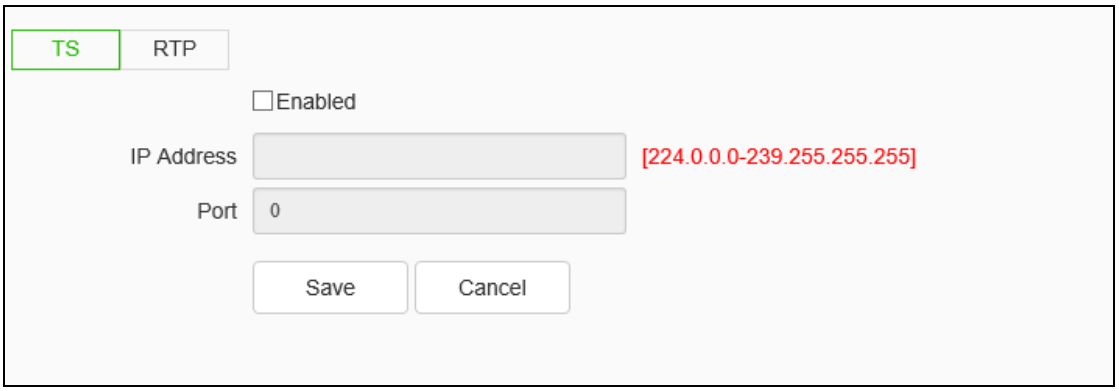
The SIP protocol can be accessed to other platforms by setting corresponding parameters.

[Auto Filling Set]: click this button, the channel number and alarm input number will be increased and set from the current channel number.

[Save]: save the current settings.

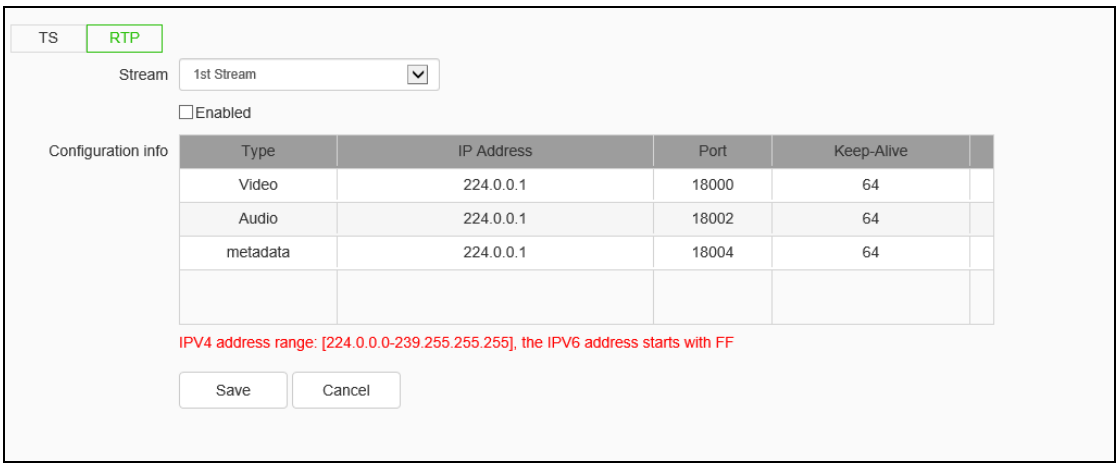
[Cancel]: restores the last saved parameter.

Advanced Set - > Multicast



Multicast(TS) setting interface

Input the multicast [IP Address] (range: 224.0.0.0-239.255.255.255), input the port number (range: 1-65535), and click Save to restart the device. (supported by some models)



Multicast(RTP) setting interface

RTP means Real-time Transport Protocol that supplies real-time transport service for data.

[Channel Number]: Device channel number.

[Stream]: You can modify the relevant parameters of the mainstream,

sub-stream, and third stream.

[IP address] Multicast IP address, support IPV4, and IPV6.

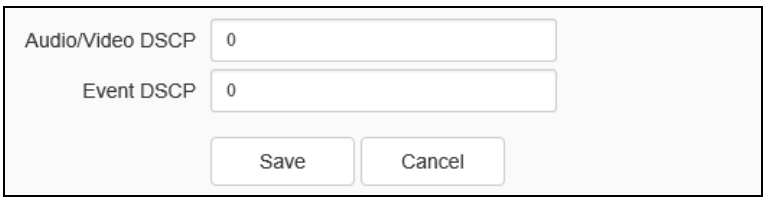
[Port] Multicast port.

[Keep Alive Time] The TTL value of the socket, which specifies the maximum number of network segments allowed to pass through before the IP packet is discarded by the router, in the range 0-255.

Check the [Enable] checkbox to turn on the current channel and send audio, video, and metadata data under the stream type.

Click the [Save] button to save the current parameter settings.

Advanced Set - > QoS settings



QoS setting interface

[Audio/Video DSCP] input the DSCP parameters in the input box, disconnect and reconnect the video stream parameters to take effect, and [Event DSCP] input the DSCP parameters in the input box, and click [Save] to save the parameters. (supported by some models)

Advanced Set - > Access Platform



Platform access setting interface

[Platform Enabled]

Support the enabling and shutting down of ONVIF, RTSP, P2P, and CGI. After setting, some devices will restart automatically and take effect.

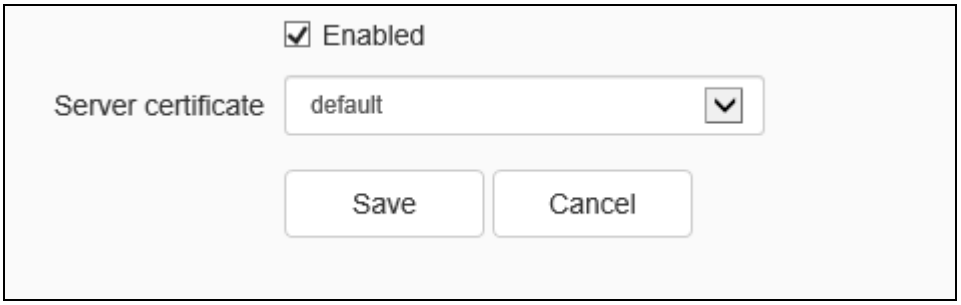
Note: To replace the access platform, you need to first disable the enabled platform, and then select a new platform and enable it.

[Auto Filling Set]: click this button, the channel number and alarm input number will be increased and set from the current channel number.

[Save]: save the current settings.

[Cancel]: restores the last saved parameter.

Advanced Set - >HTTPS



HTTPS Interface

Import and install HTTPS certificates as needed.

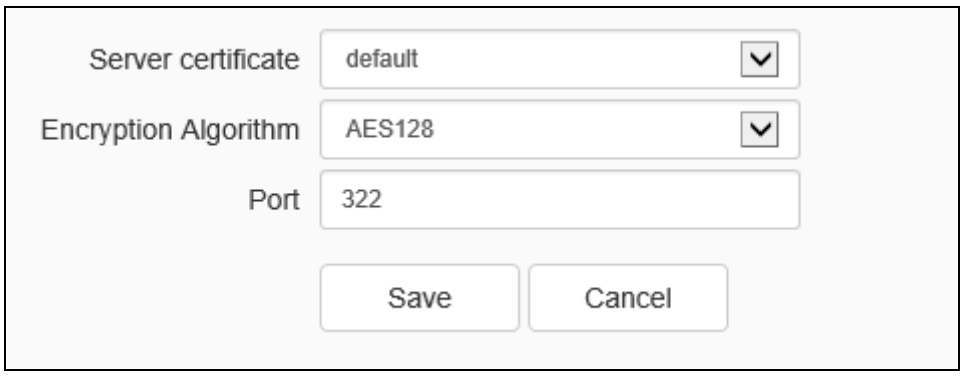
[Browse]: Browse the file directory and import the HTTPS certificate.

[Installation] Install the HTTPS certificate.

[Save]: save the current settings.

[Cancel]: restores the last saved parameter.

Advanced Set - >SRTP



SRTP Interface

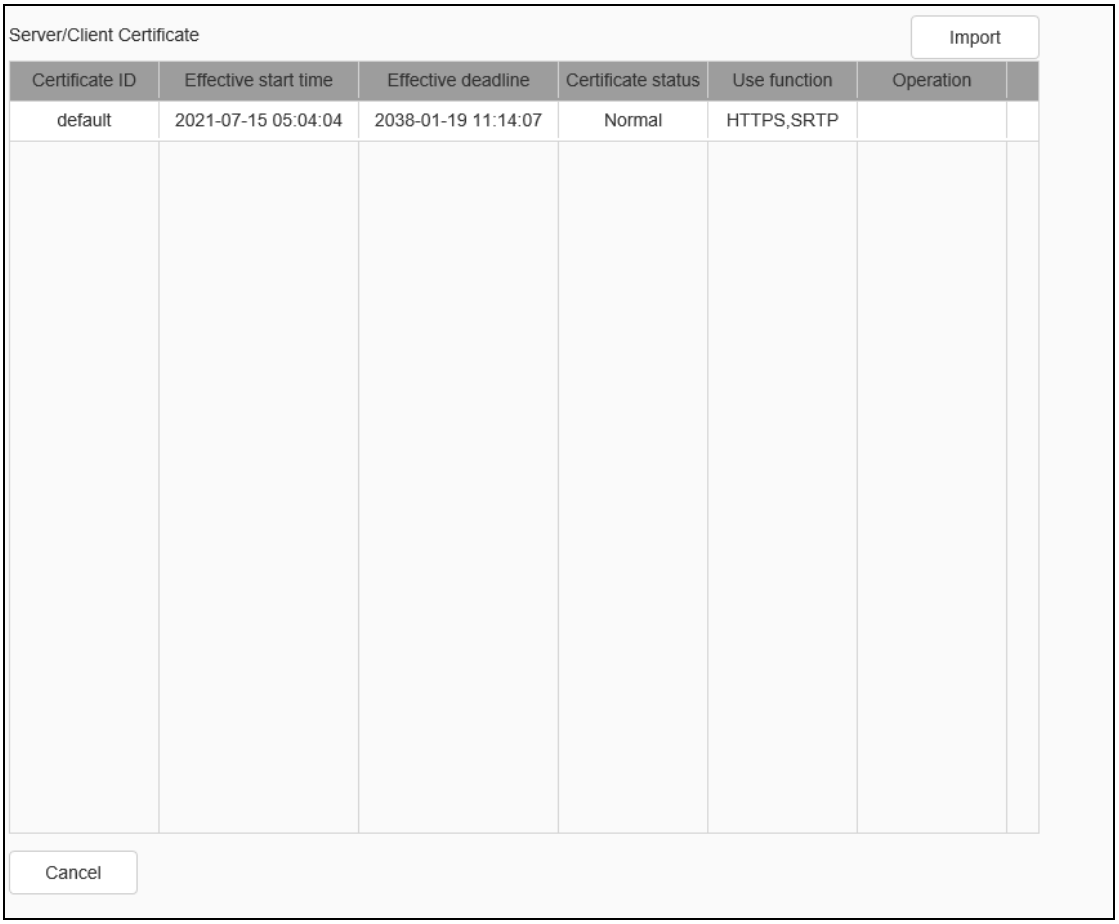
[Server certificate]: configure SRTP server certificate.

[Encryption algorithm]: configure SRTP encryption algorithm

[Port]: configure SRTP service port.

6.9.3 Safety management

Safety management - > certificate management



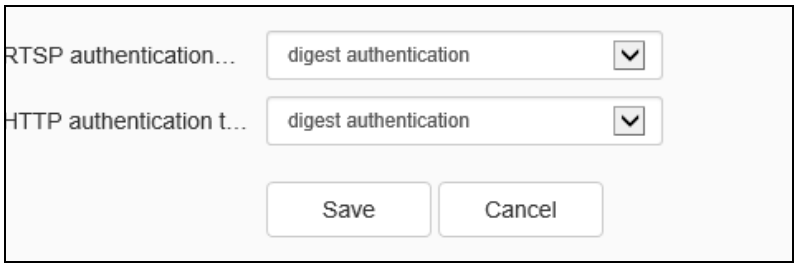
certificate management setting interface

[import]: Click to open the "certificate import" dialog box. You can select the certificate file to import, and then click Import to complete the certificate import.

[server/client certificate]: this table contains the current certificate ID, valid start time, valid end time, certificate status, use function, and operation.

Notes: the above functional models are supported, please refer to the actual equipment.

Safety management - > authentication type



Authentication type interface

Set authentication type on RTSP and HTTP as needed.

[RTSP authentication type]: Digest and digest&basic authentication types are supported.

[HTTP authentication type]: Digest and digest&basic authentication types are supported.

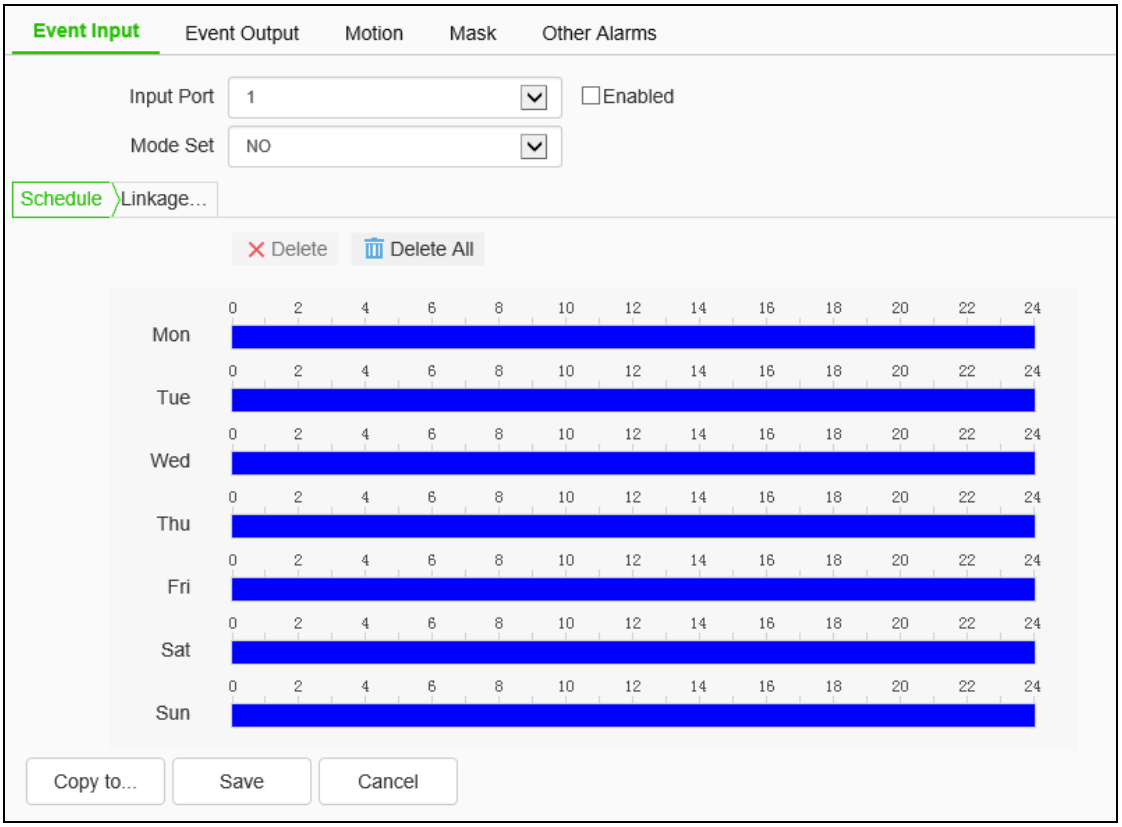
[Save]: save the current settings.

[Cancel]: restores the last saved parameter.

6.10 Event Schedule

6.10.1 Event Management

Event management - > Event Input



Event input setting interface

Set port event detection-related parameters.

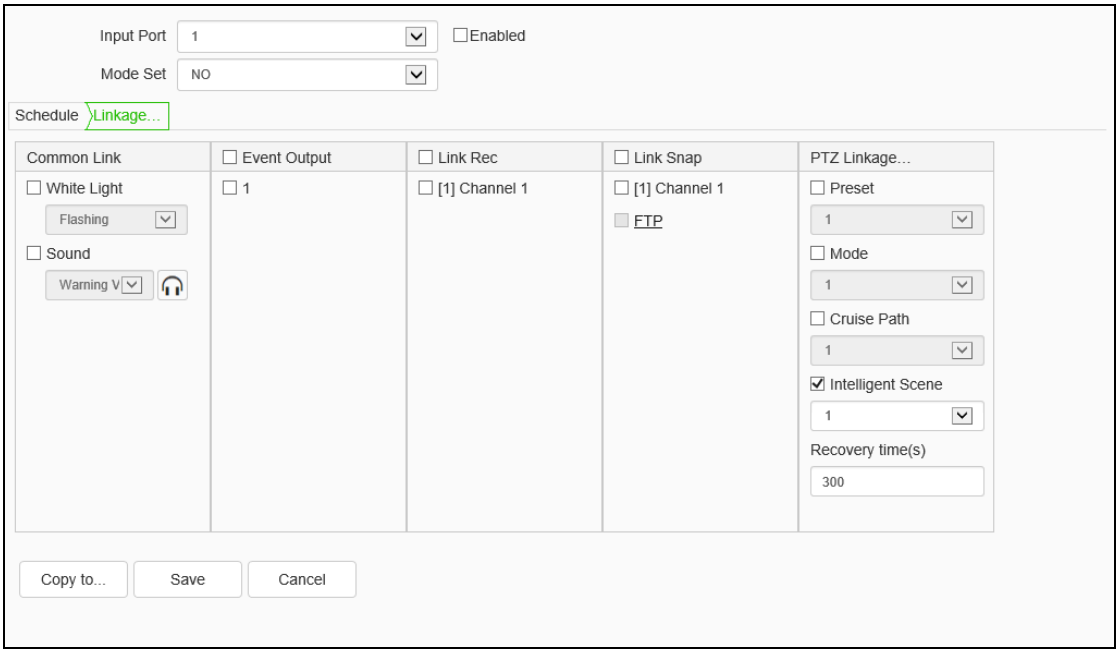
(1) Select the input port, check the [Enable] check box to enable the port alarm detection function, and uncheck to turn off the port alarm detection function.

(2) [Mode Set] set normally open and normally closed, where [NO] refers to the alarm when the disconnected line is short-circuited, and [NC] refers to the alarm when the connected line is disconnected.

(3) The user can set the [Schedule] as required, and only detect the alarm within the set date and period.

(4) Set [Linkage Mode]to realize the alarm linkage after triggering the alarm, such as[Common link], [Alarm Output], [Link Snap],[PTZ

linkage channel], etc.As shown in the figure below



Linkage Mode Setting Interface

(5) Click [Save] to save the corresponding parameter settings, and click [Copy to...] copy the parameters of the current port number to other port numbers. Click [Cancel]o restore the last saved parameter.

Note:

1. Alarm input and alarm linkage output are limited to products that support alarm input and alarm output functions.

2. Port alarm: This alarm is linked to the intelligent scene function. When an alarm occurs, it can immediately switch to the preset intelligent scene. It supports linkage intelligent scene recovery time of 10 ~ 3600s. (Supported by some models)

Event Management - > Event Output



Event output setting interface

The user can select two modes to set:[NO] and[NC]. Select the output port, set the port alias, select the mode setting, and select the alarm elimination mode. You can set the delay time of the alarm state through [Delay Time(s)].

Click [Save] to save the corresponding parameter settings, and click [Copy To...] copy the parameters of the current port number to other port numbers. Click [Cancel] to restore the last saved parameter.

Event Management - > Motion



Motion setting interface

The user sets the mobile alarm area. When there is an object moving in the setting area, the video lives view interface will prompt the video mobile alarm, and the corresponding alarm linkage will be carried out according to the setting.

(1) The mobile alarm detection function is enabled by default. Drag the left mouse button in the video screen to draw the area to detect the mobile alarm. Click [Delete Region] to delete the mobile alarm detection area.

(2) Set the mobile alarm sensitivity, the higher the value, the more sensitive the mobile alarm detection.

(3) The user can set the [Schedule] as required, and only detect the alarm within the set date and period.

(4) Set [Linkage Mode] to realize the alarm linkage after triggering the alarm, such as [Alarm Output], [Linkage Snap], etc.

(5) Click [Save] to save the corresponding parameter settings, and click [Copy To...] copy the parameters of the current port number to other port numbers. Click [Cancel] to restore the last saved parameter.

Event Management - > Mask



Mask setting interface

After the occlusion alarm is turned on, when the image in the video screen is blocked, the alarm situation will be detected according to the sensitivity.

(1) Check the [Enable] check box to turn on the video blocking alarm detection function, and uncheck to turn off the video blocking alarm detection function.

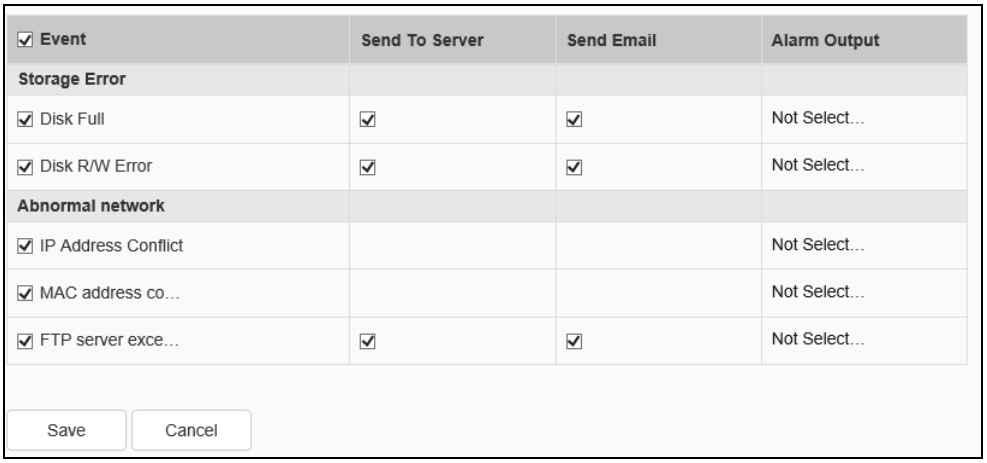
(2) Set the video occlusion alarm sensitivity, the higher the value, the more sensitive the video occlusion alarm detection.

(3) The user can set the [Schedule] as required, and only detect the alarm within the set date and period.

(4) Set the [Linkage Mode] to realize the alarm linkage after triggering the alarm, such as [Alarm Output], [Link Snapshot], etc.

(5) Click [Save] to save the corresponding parameter settings, and click [Copy To...] copy the parameters of the current port number to other port numbers. Click [Cancel] to restore the last saved parameter.

Event Management - > Other Alarms



Other alarms setting interface

Some models support abnormal alarm. For exception types, you can select [Disk Full], [Disk R/W Error], [IP Address Conflict], [MAC Address Conflict], and set [Common Link] and [Alarm output].

In [Common Link], you can set [Send To Server]and [Send Email]. ([IP Address Conflict] and [MAC Address Conflict] cannot be set.)

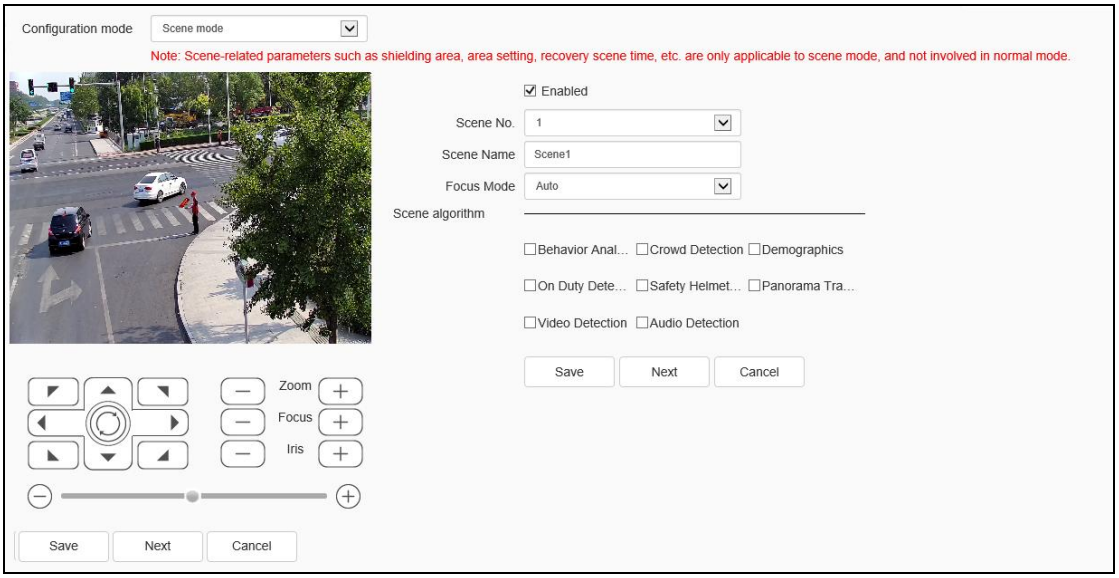
[Alarm Output] the alarm output port number can be selected.

Event Management - >Temperature and humidity alarm. (Some models support this function).

When user select [Temperature and humidity alarm] in [Peripheral type], this interface can be set. (User can set peripherals in [Configuration] - [System] - [Serial Port] - [Serial Port Set] - [Work Mode], choose [peripherals], and select [Temperature and humidity alarm] in [peripheral type]). User needs to check [enable] to open [Temperature and humidity alarm] function, and then, setting interval, temperature threshold, humidity threshold, schedule, link type, etc.

6.11 Smart surveillance（VCA)

6.11.1 Algorithm Configuration

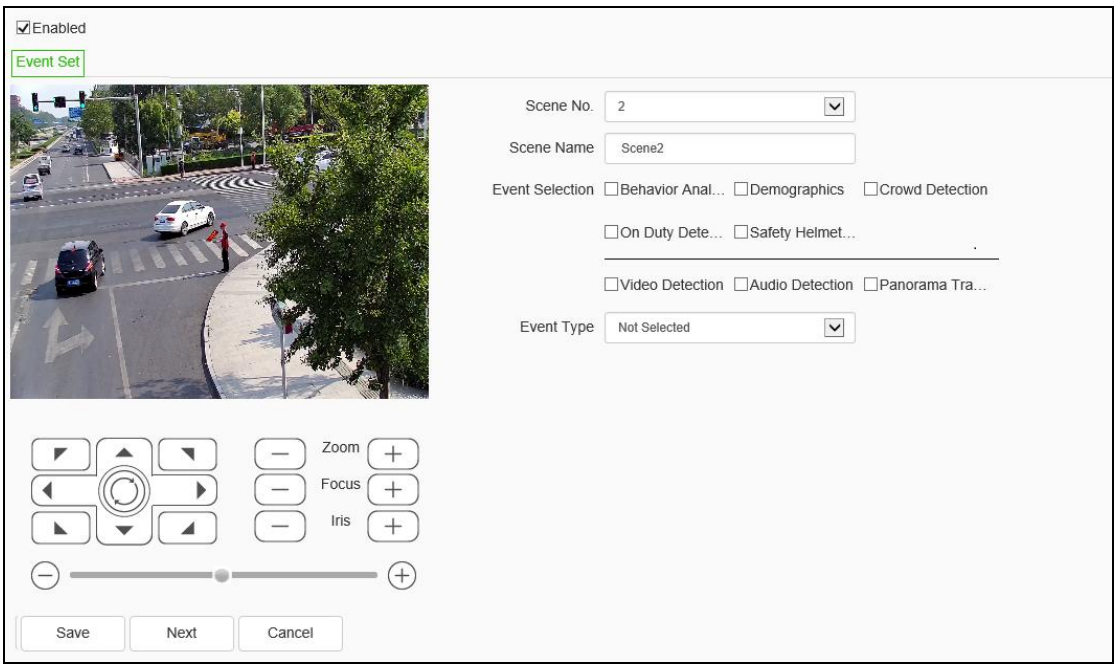


[Configuration Mode]: Divided into normal mode and scene mode. The default is scene mode. Among them, in the normal mode, there is no need to configure the scene and cruise, and it can be used after the algorithm is enabled. (Supported by some models)

Note: In the intelligent monitoring resource mode, the normal mode only supports perimeter and tripline algorithms.

6.11.2 Create Rule

Create Rule ->Event Set



Event Setting interface

[Enable]: enables or disables the intelligent analysis function of the current channel.

Description: When the AEW speed dome starts the intelligent analysis, the speed dome will scan the surroundings to revise the orientation automatically to promote tracking accuracy.

[Scene number]: The scene number stands for a different scene, can set a total of 16 scenes, the number range is from 1 to 16. Different scenes can be set through the dome camera control menu at the left bottom.

[Scene Name]: The name of the scene can be defined by users themselves.

[Event set]: the device supports a variety of algorithms, such as behavior

analysis, crowd aggregation, face detection, number of people statistics, and on-duty detection, which are mutually exclusive. Only one of them can be enabled. Some devices support face detection, population statistics, on-duty detection algorithm, video diagnosis, audio anomaly detection, etc.

Notes:

(1)Interfaces and menus of the different models may be different due to the different functions they support, please refer to actual interfaces.

(2)Some algorithms are mutually exclusive with other algorithms, and the other algorithms can be enabled at the same time.

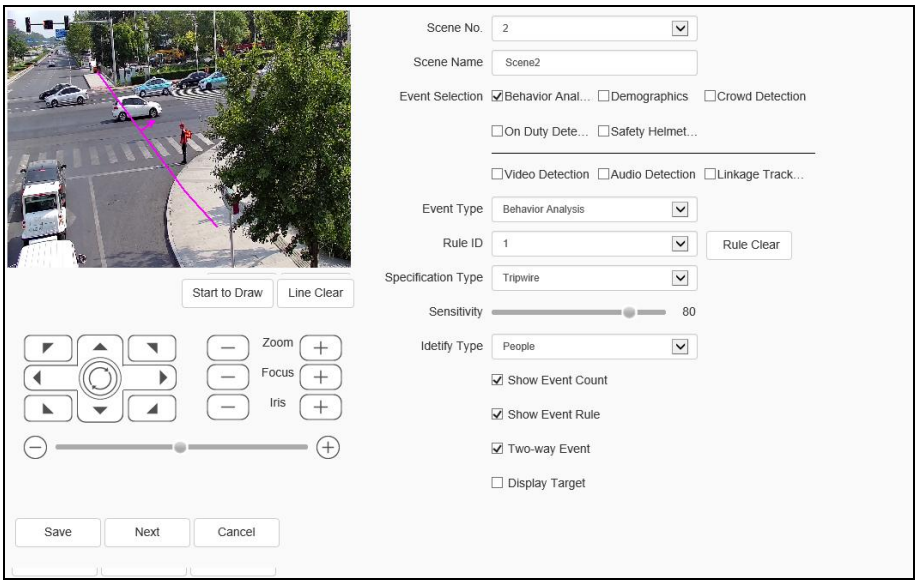
(3)Select the corresponding algorithm in [Event Type] and set the parameters of the algorithm.

(4) In the intelligent monitoring resource mode, the normal mode only supports perimeter and tripline algorithms.

Arithmetic - Behavior Analysis

[Behavior Analysis]: The algorithm includes tripwires, double tripwires, perimeter, items left over, items lost, wandering, running, heat map. [Save]: save all the settings.[Next] go into [Alarm Setup].

Arithmetic - Behavior Analysis - Tripwire



Tripwire setting interface

(1)Select rule number, [Event Set] tripwire, and check [Valid].

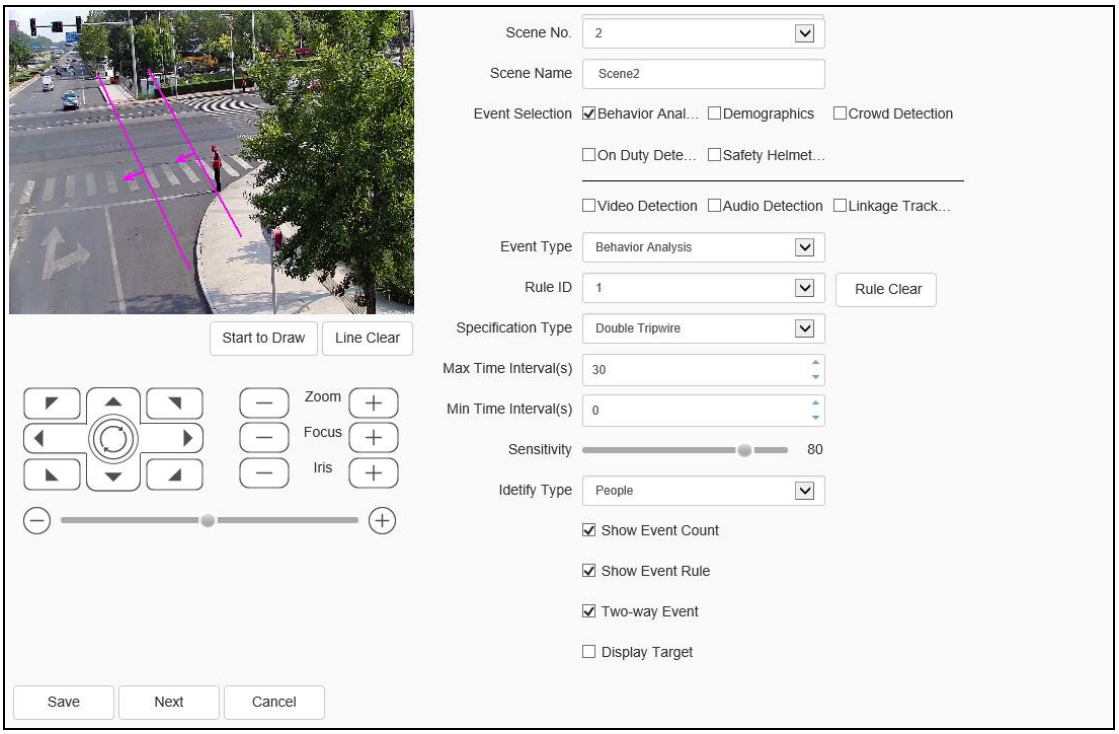
(2)Draw the rule line, the arrow of line means the direction of prohibiting crossing.

(3)Set whether the alarm statistics are displayed, display the alarm rules, whether two-way alarm, and display the target.

(4)Save all the settings.

Note: When the alarm target track crosses the tripwire, it will alarm.

Arithmetic - Behavior Analysis - Double Tripwire



Double tripwire setting interface

(1)Select rule number, [Event Set] intrusion detection, and check [Valid].

(2)Draw the detection area.

(3)Select detection mode,[in] it will trigger the alarm when the object goes in detection area; [out] it will trigger the alarm when the object goes out of detection area; [Intrusion] it will trigger the alarm when object stay in detection area until reach [Invasion Time].

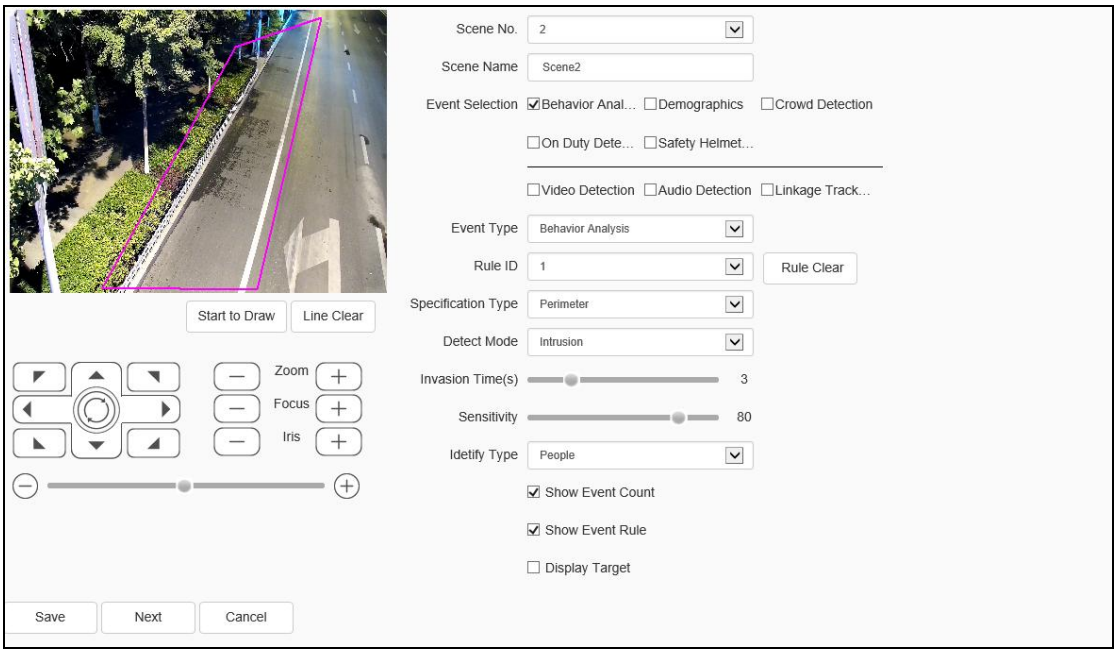
(4)Set up the type of alarm recognition. It is recommended to be human by default.

(5)Set whether the alarm statistics are displayed, display the alarm rules, whether two-way alarm, and display the target.

(6)Save all the settings.

Note: the alarm will occur when tripwire 1 and tripwire 2 are triggered continuously within the minimum and maximum time interval of line crossing.

Arithmetic - Behavior Analysis - Perimeter



Perimeter setting interface

(1)Select rule number, [Event Set] intrusion detection, and check [Valid].

(2)Draw the detection area.

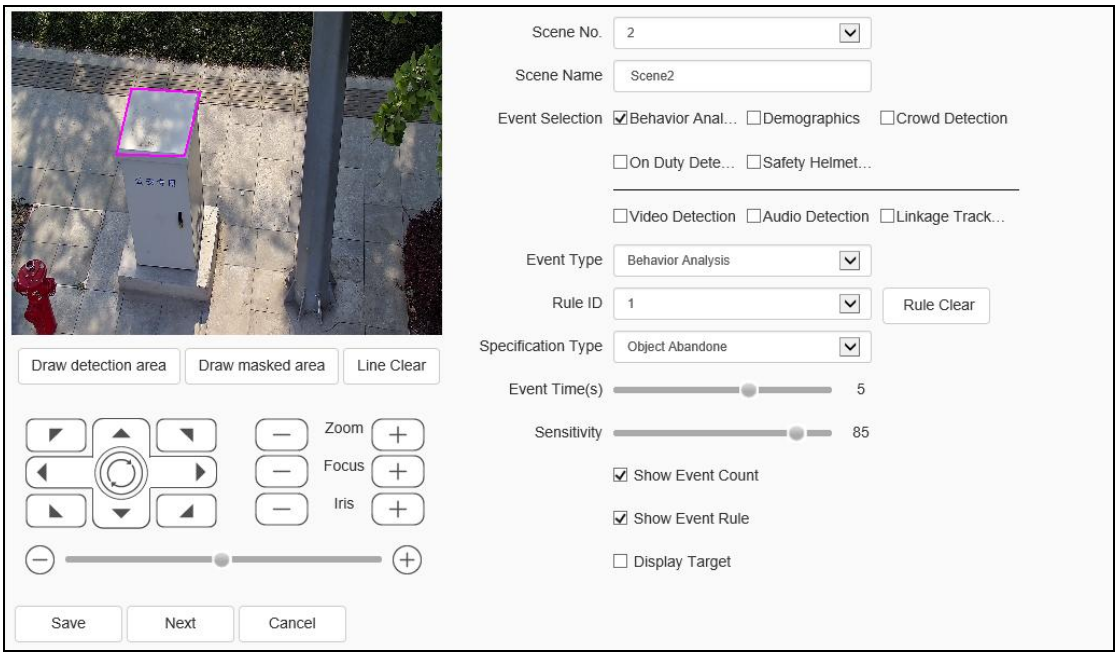
(3)Select detection mode,[in] it will trigger the alarm when the object goes in detection area; [out] it will trigger the alarm when the object goes out of detection area; [Intrusion] it will trigger the alarm when object stay in detection area until reach [Invasion Time].

(4)[Invasion Time] setup invasion time of object stay in the detection area, it will trigger the alarm when over the time.

(5)Set up the type of alarm recognition. It is recommended to be human by default.

(6)Save all the settings.

Arithmetic - Behavior Analysis - Object Abandone]



Object abandoned setting interface

(1)Select rule number, [Event Set] items abandon, and check [Valid].

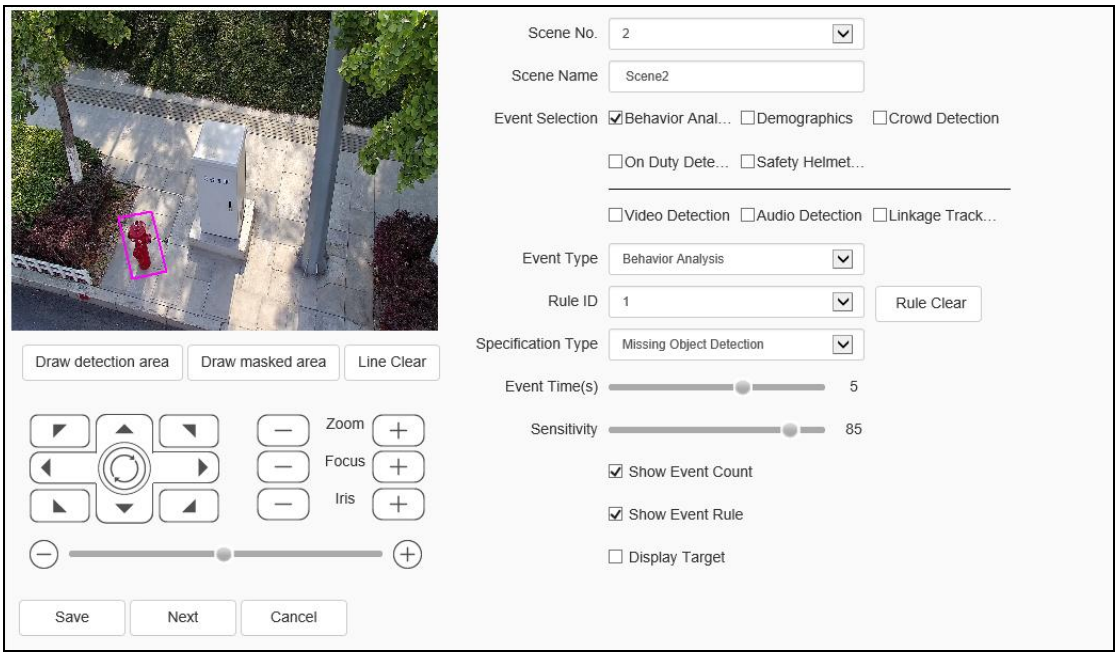
(2)Draw detection area, please notice the detection area shouldn’ t overlap when [Items Abandon] and [Missing Object Detection] are enabled at the same time.

(3)[Alarm Time] set up alarm time of object stay in the detection area, it will trigger the alarm when over the time.

(4)Save all the settings.

Note: The alarm will occur after the still target appears in the area and reaches the set alarm time.

Arithmetic - Behavior Analysis - Missing Object Detection



Missing Object Detection setting interface

(1)Select rule number, [Event Set] missing object detection, and check [Valid].

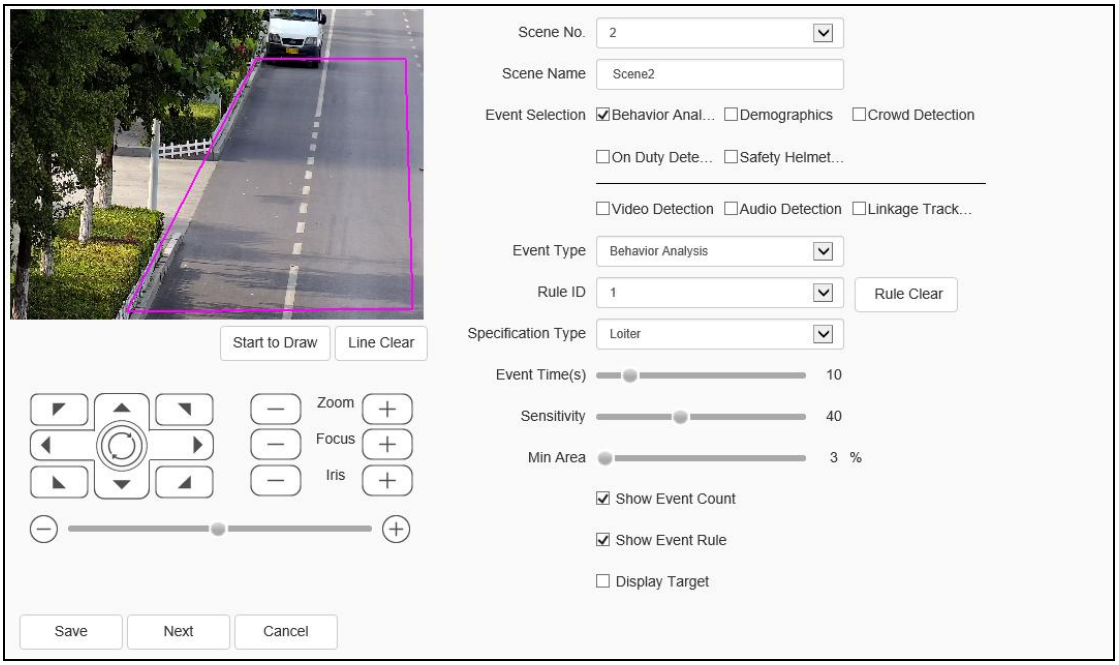
(2)Draw detection area, please notice the detection area shouldn’ t overlap when [Items Abandon] and [Missing Object Detection] are enabled at the same time.

(3)[Alarm time] set up alarm time of object lost in the detection area, it will trigger the alarm when over the time.

(4) save all the settings.

Note: The alarm will occur when the target disappearing time in the area reaches the set alarm time.

Arithmetic - Behavior Analysis - Loiter



Loiter setting interface

(1)Choose [Rule ID] => [Loiter] => [Valid]

(2)Draw detection area on the image.

(3)Setup alarm time, alarm when the object keeps loitering to this alarming time.

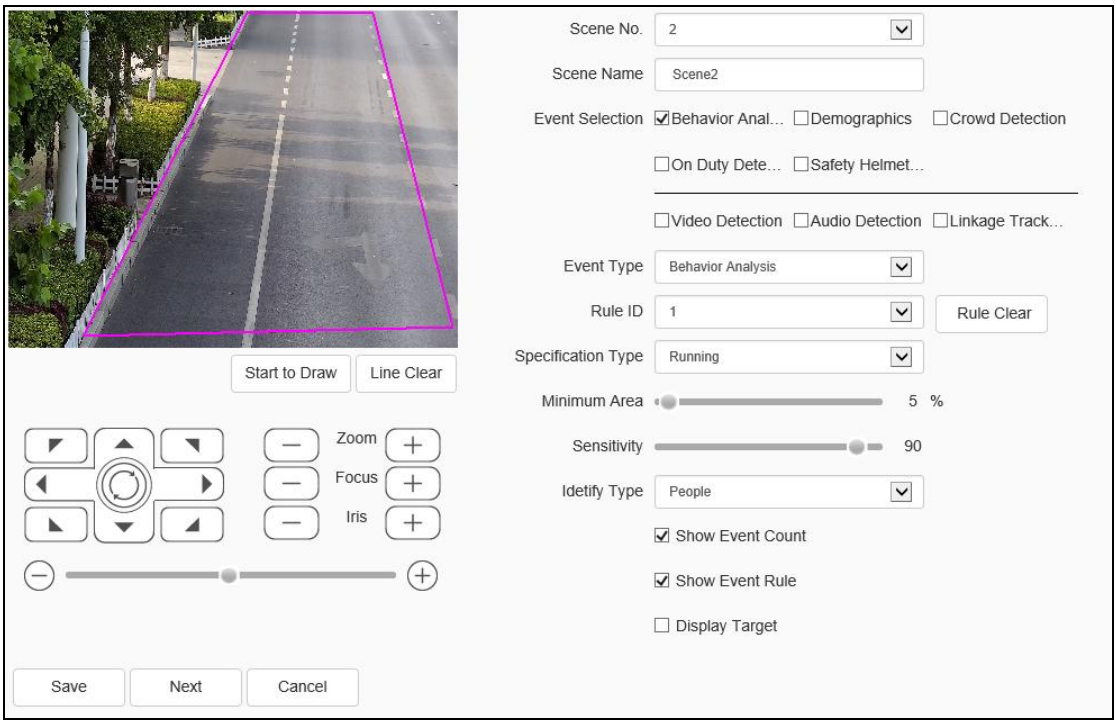
(4)Setup min area, alarm when the object’ s motion area is equal to or greater than this min area.

(5)Setup sensitivity, greateràmore sensitive.

(6)Save all the settings

Note: The alarm will occur when the moving target continuously reaches the set alarm time in the area or the moving range reaches the set minimum area.

Arithmetic - Behavior Analysis - Running



Running setting interface

(1)Choose [Rule ID] => [Running] => [Vaild].

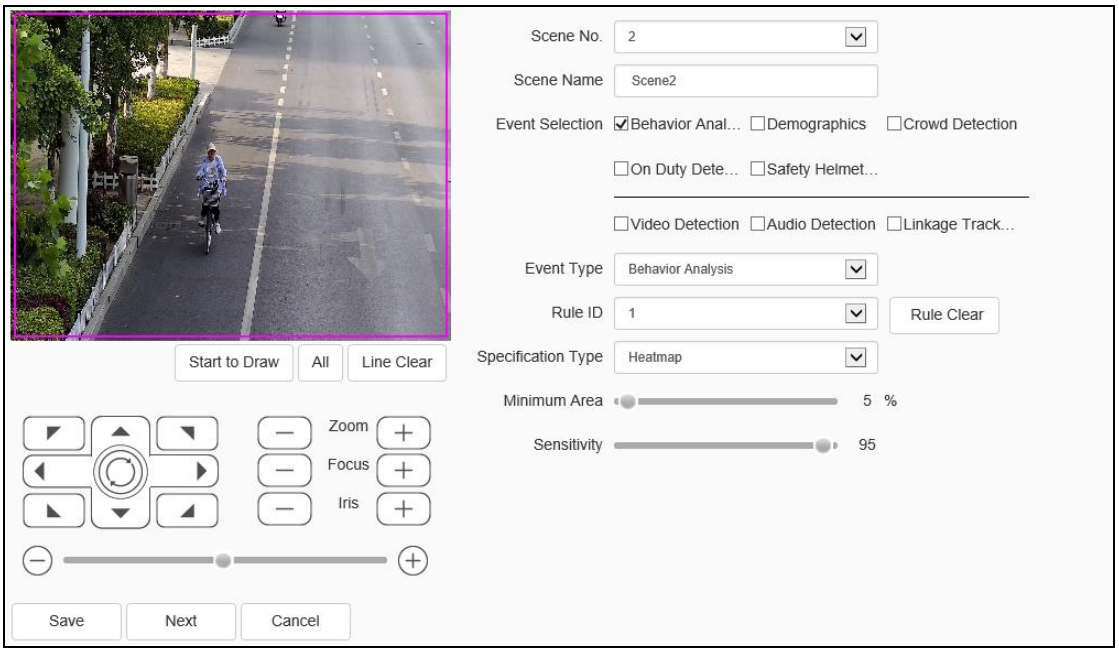
(2)Draw detection area on the image.

(3)Setup min area, alarm when the object’ s running area is equal to or greater than this min area.

(4)Save all the settings.

Note: The alarm will occur when the speed of the moving target in the area is greater than the set moving distance per second

Event Type - Behavior Analysis - heat map



Heat map setting interface

((1) select the rule number, the event is set to heat map, select the effective enable the rule.

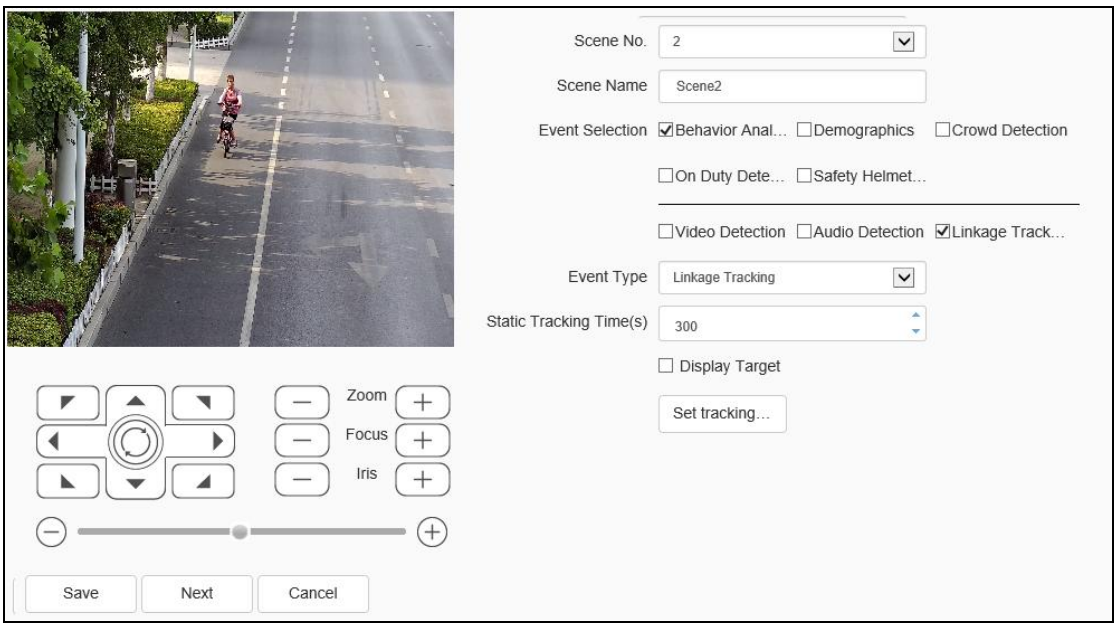
(2) Draw the heat map detection area.

(3)Setup min area, alarm when the object’ s running area is equal to or greater than this min area.

(4)set whether the alarm statistics are displayed, display the alarm rules, whether two-way alarm, and display the target.

(5)save all the settings.

Behavior analysis - Linkage tracking



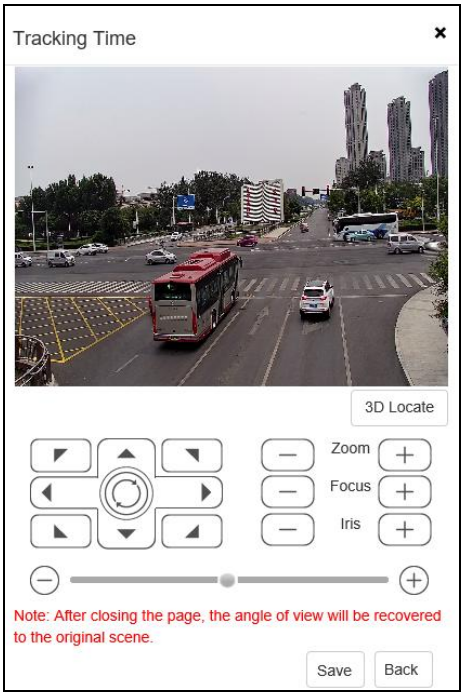
Linkage tracking setting interface

(1) Check the behavior analysis and linkage tracking simultaneously and when the target triggers the behavior analysis alarm, it will follow the tracking action. Select the behavior analysis and intelligent tracking in the algorithm configuration and then set the corresponding settings; the behavior analysis setting is the same as above and the intelligent tracking setting is as follows.

(2) Set the longest tracking time (second): it indicates the duration of the dome camera for tracking the target and the default longest time is 300 seconds. When set to 0s, the dome camera keeps tracking until the target disappears.

(3) Set the needed tracking rate manually and confirm a suitable rate of the target on the screen by adjusting the rate. When tracking, it will track

the target as per this magnification; click the tracking rate-setting button to save the setting.

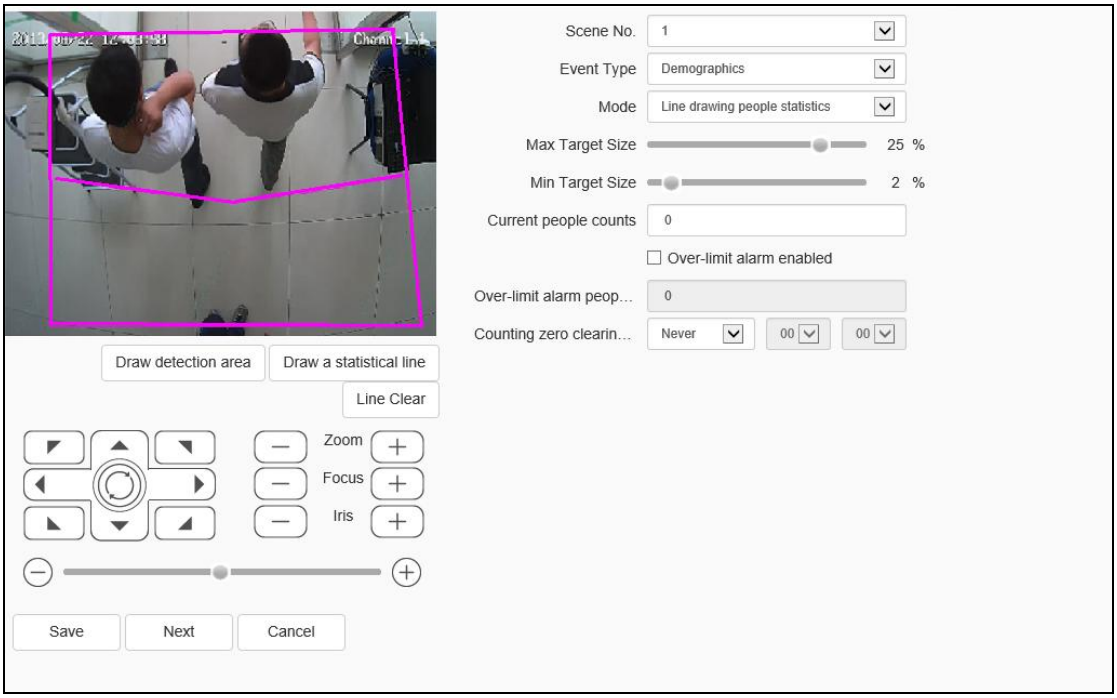


Tracking time setting interface

(4) Set whether to display the target or not.

(5) After clicking the save button, click the next step, and it will link to the alarm setting interface.

Arithmetic - Demographics



Demographics setting interface

(1) Draw the number detection area, click the "start drawing" button, draw the area, and double-click to make the boundary automatically connect the head and tail.

(2) Draw a statistical area and detection area, which indicates the decision line for the target to enter and leave the area When the people in the detection area pass the statistical line, they will be counted.

(3) Set statistical pattern: vertical people counting, zonal people counting, queue people counting and line people counting.

(4) Set the maximum and minimum target size, which indicates the percentage of the target width in the picture.

(5) Set the current number of people, fixed number of people named. (only for vertical people counting and line people counting)

(6) Enable alarm for exceeded limit, set the upper limit for alarm. If the number of people is larger than the upper limit, an alarm will be given.

(7) Set zero clearing time: zero clearing can be set or not. (only for vertical people counting and line people counting)

(8) Set the sensitivity. The larger the value is, the more sensitive it is. The detection rate will improve, and the false detection will increase.

(9) Click save after setting.

Note:

1. When using vertical people counting, equipment shall be installed vertically. When using other patterns, normal monitoring visual angle can be chosen.

2. Queue people counting is set for queuing scene. It is suggested to use it in the scene.

Enable Arithmetic - Crowd Detection

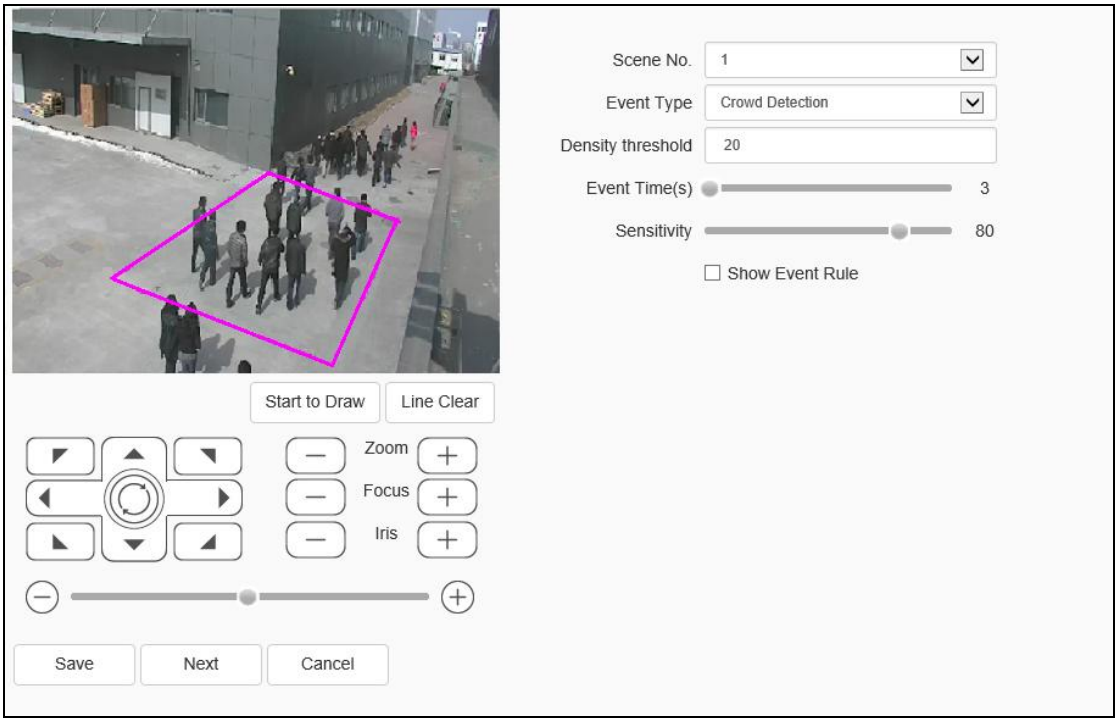


Fig.5.12.1.13 Crowd Detection Setting Interface

(1) Draw the crowd gathering detection area.

(2) Set density threshold. After the number of people in the zone is larger than that, an alarm will be given.

(3) Set the alarm time, which indicates that the alarm will be triggered after the alarm status continues to reach this time specified.

(4) Set sensitivity. The larger the value is, the more sensitive it will be, and the higher the detection rate will be; the false detection will increase.

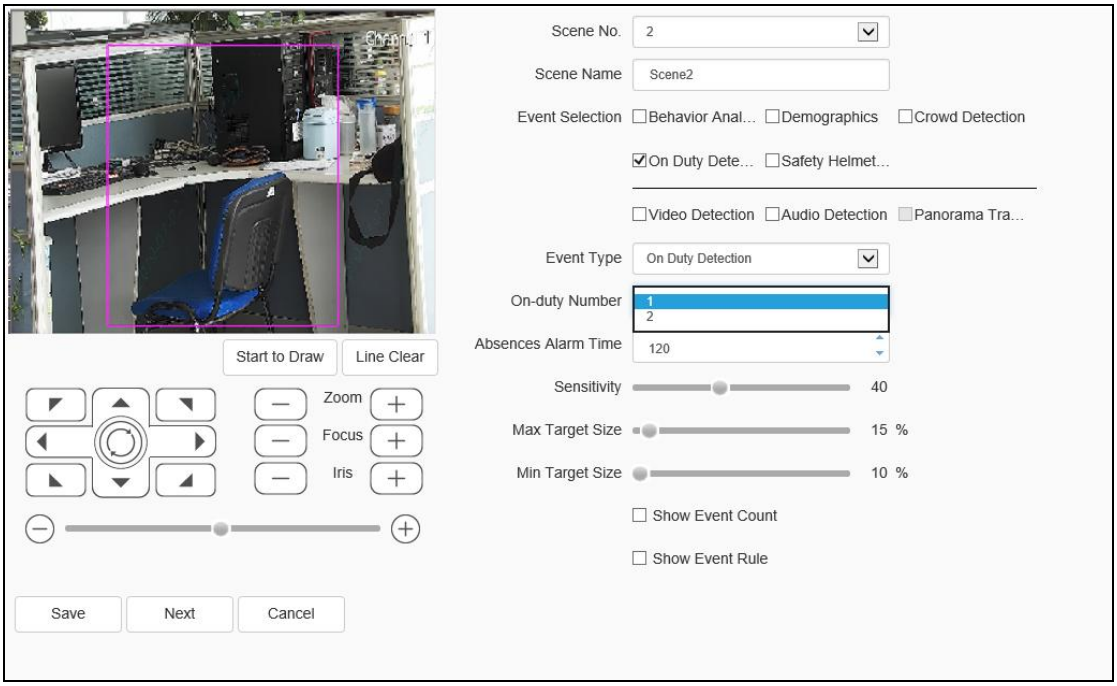
(5) Enable alarm rules for actual need. After enabling the rules, they can be found on the live view interface.

(6) Click save after setting.

Note: the alarm will occur when the intensity of moving targets in the detection area exceeds the set value

Sensitivity represents the proportion of moving targets in the area of detection area.

Event Type - On Duty Detection



On Duty Detection Setting Interface

(1)Draw duty detection area.

(2)Setup the number of duties.

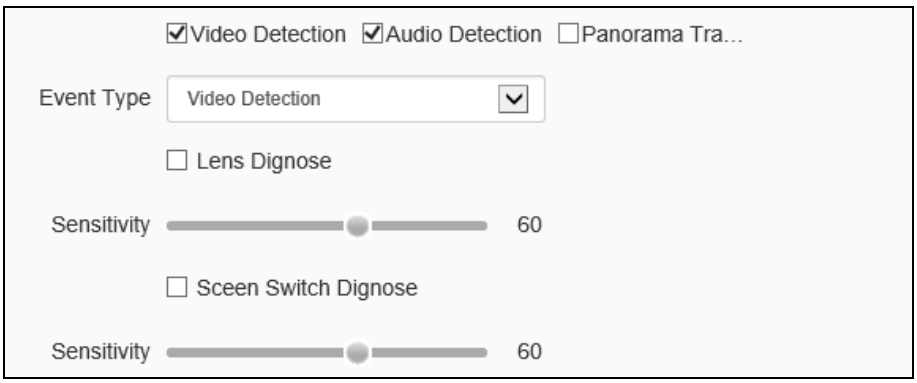
(3)Setup alarm time, alarm when the portion keeps leaving to this alarming time.

(4)Setup sensitivity, the bigger value relates to higher sensitivity.

(5)Setup Max and Min target size, the size means target width compare

to screen width.

Event Type - Video Detection



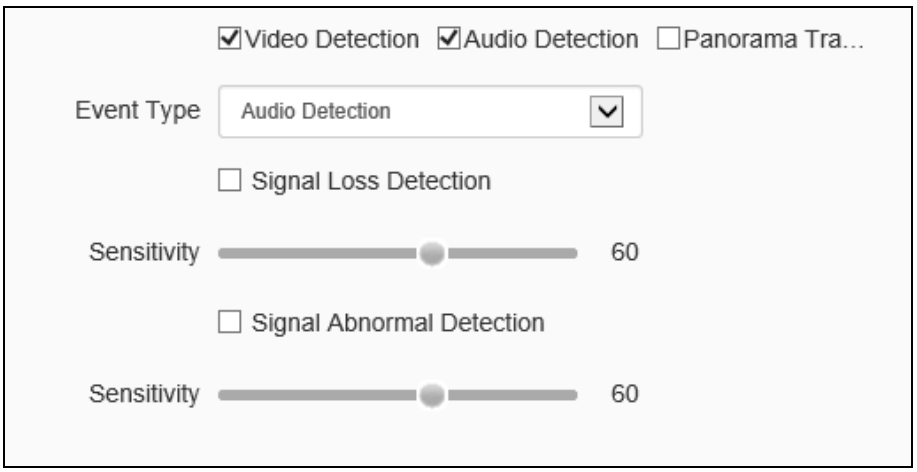
Video Detection Setting Interface

(1) Set whether to enable virtual focus diagnosis and scene transformation diagnosis.

(2) Set the sensitivity. The larger the value is, the more sensitive it is.

(3) Click save after setting.

Event Type - Audio Detection



Audio Detection Setting Interface

(1)Set whether to start the signal lost detection and signal abnormity detection.

(2)Set the sensitivity: the higher the value, the higher the sensitivity and the false detection will also increase.

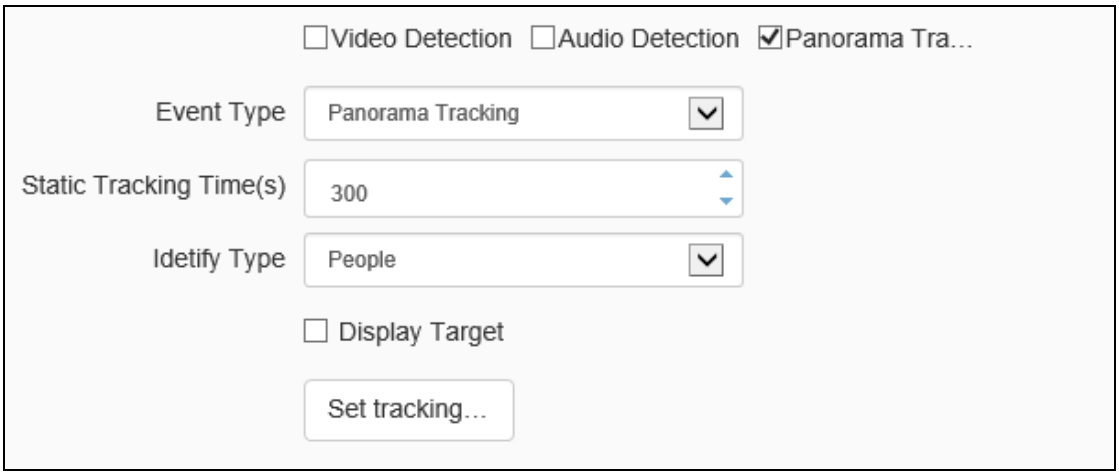
(3)Set the sound intensity threshold: it means when the sound exceeds the set threshold, it is determined as the audio abnormity.

(4) The real-time sound volume can display the set sound intensity threshold; when there's an audio signal, it also can display the audio amplitude.

(5) After clicking the save button, click the next step, and it will link to the alarm setting interface.

Notes: After setting details, set [Schedule] and [Linkage Mode] to intelligent analysis and alarm linkage. Click [Next] to enter the [Schedule] setting.

Event Type - Panorama Tracking



Panorama Tracking setting interface

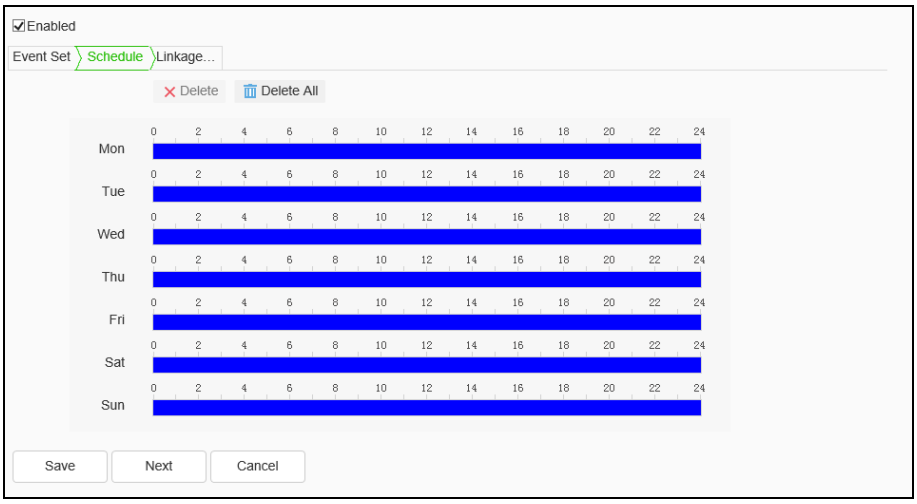
(1) Set the longest tracking time (second): it indicates the duration of the dome camera for tracking the target and the default is 300 seconds. When set to 0s, the dome camera keeps tracking until the target disappears.

(2) Set the needed tracking rate manually and confirm a suitable rate of the target on the screen by adjusting the rate. When tracking, it will track the target as per this magnification; click the tracking rate-setting button to save the setting.

(3) Set whether to display the target or not.

(4) After clicking to save, then click the next step to enter the cruise mode settings.

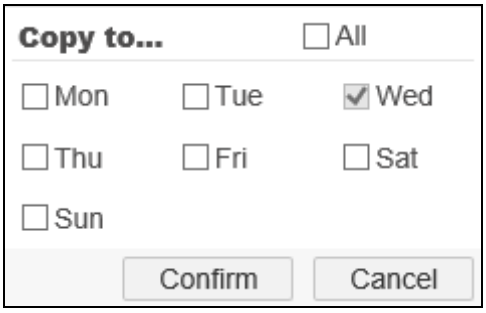
Create Rule->**[Schedule]**



Schedule setting interface

Set the effective time of the rule. By default, it is 24 hours a day. Click the blue bar to modify the deployment time,

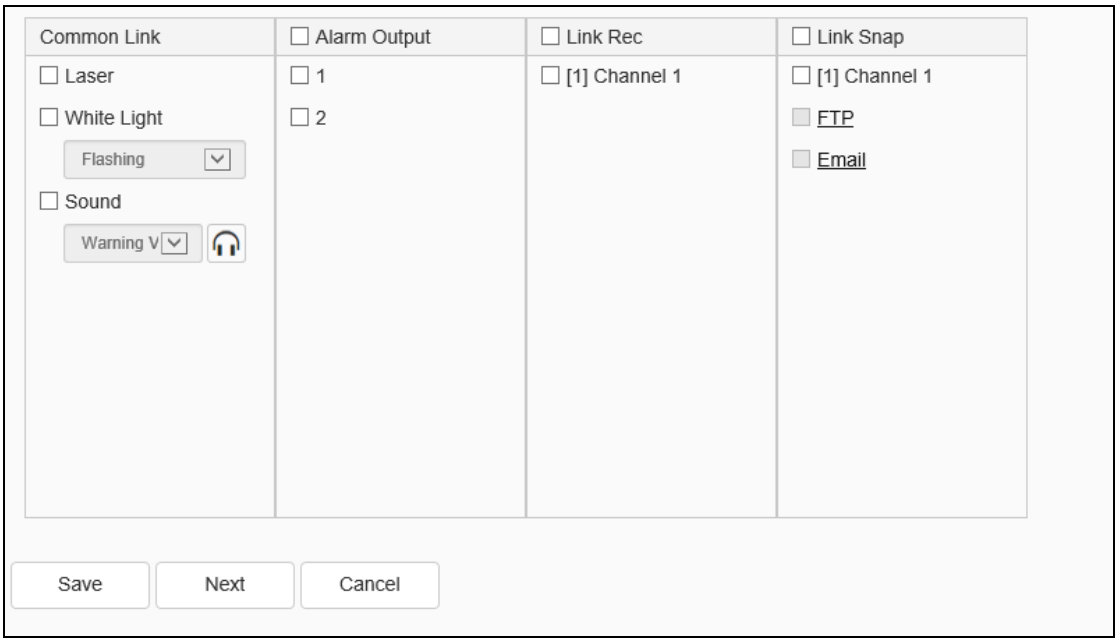
Click the green “copy to “button on the right to select the day of the week and then click Save.



Copy to interface

Click [Next] to enter [Linkage Mode] setting.

Create Rule->[Linkage Mode]

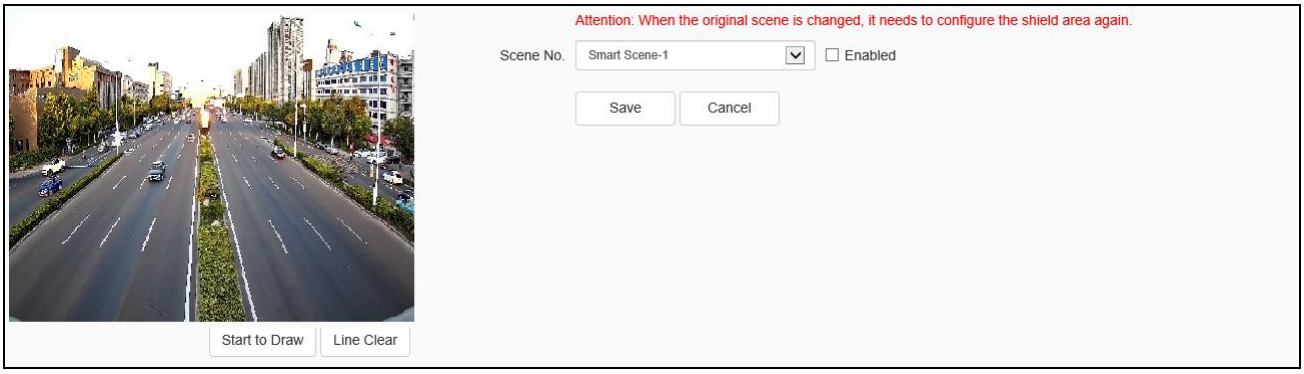


Linkage Mode setting interface

Set the alarm linkage function when the alarm occurs. For example: [Alarm Output], [Link Rec], [Linkage Snap], and etc.

Click [Save] to save the parameter settings. Click [Cancel] to restore the last saved parameter.

6.11.3 Shield Area



Shield Area setting interface

Shield Area refers to reducing the false alarm rate by drawing the area in the scene and not using the target in the drawn area as the warning target. For example lights, branches and so on.

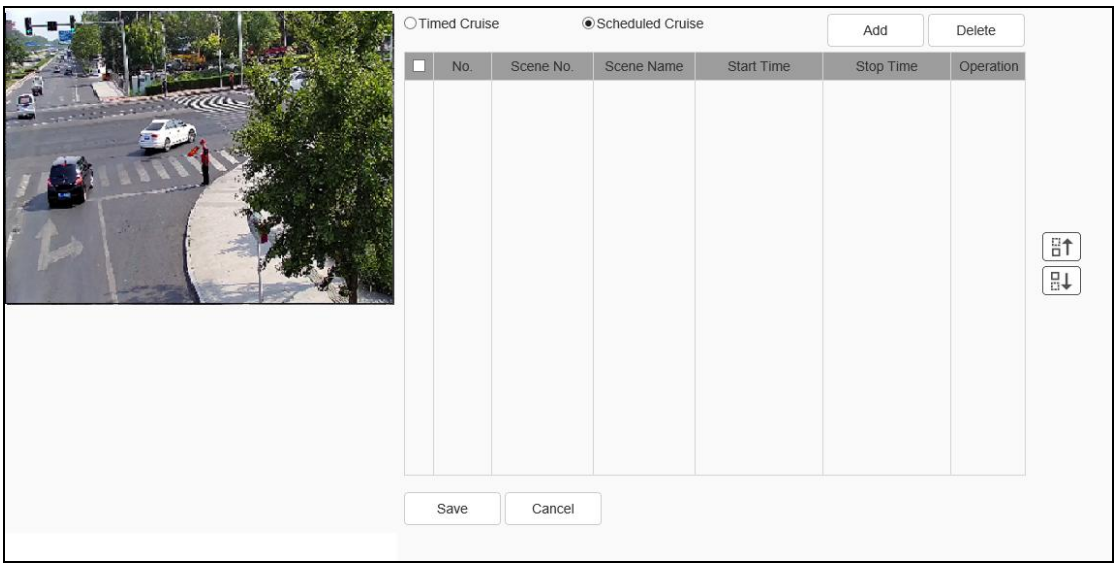
Support the blocking area settings of intelligent analysis scene and alert scene, select the corresponding scene, tick Enable, draw the area in the screen and click Save to take effect.

This function can only be set in intelligent monitoring mode.

6.11.4 Cruise Set



Timed Cruise setting interface



Scheduled Cruise setting interface

The cruise mode is used to set the scene cruise of different intelligent analyses and can be set to be timed cruise and cruise by period. The cruise can be adjusted in order through the up and down button on the interface.

[Add]: It is used to add the cruise scene.

[Delete]: After checking the appropriate scene, delete the selected cruise scene.

[Save]: Save the set cruise parameter.

Timed cruise

[Standing time (s)]: Set the standing time of the cruise scene.

Scheduled Cruise

[Start time]: Set the cruise start time of the scene.

[End time]: Set the cruise end time of the scene.

6.11.5 Advance Params



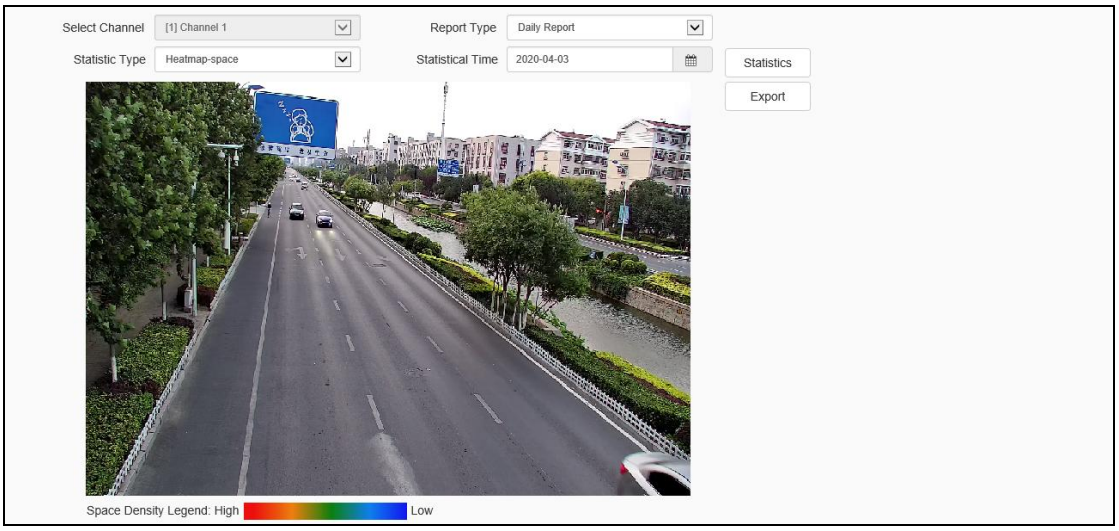
Advance params setting interface

Notes: [Advance]: is only available for company engineers to set up.

Upon the completion of the setting of the above parameters, click [Save] to save and enable; Click [Reset] to restore parameters saved last time.

6.11.6 Statistical report

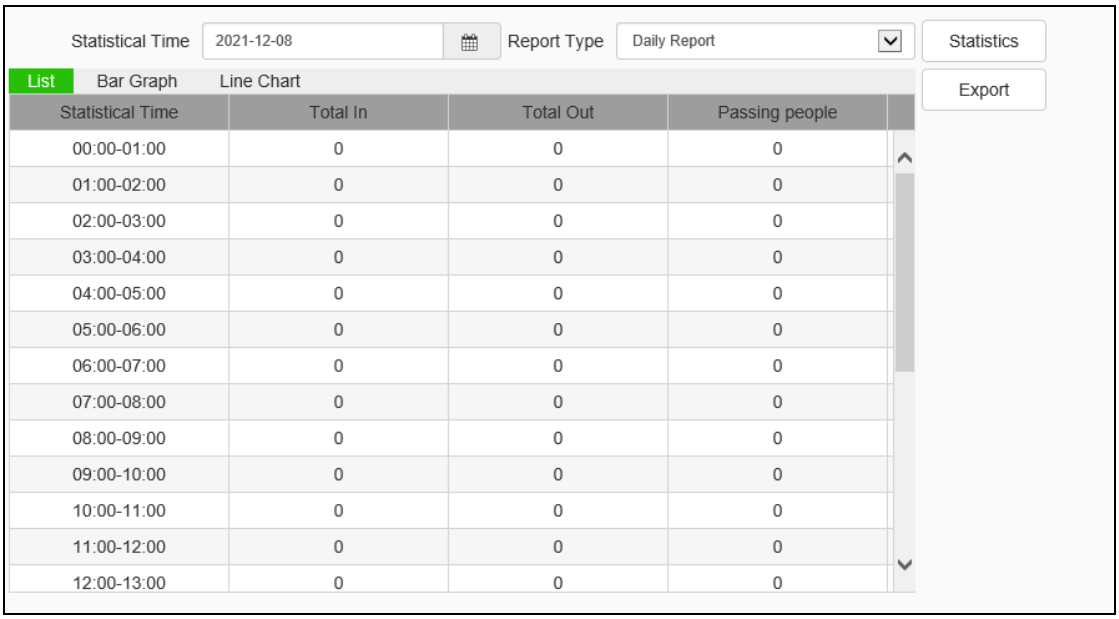
Statistical report->Heatmap



Heatmap setting interface

By setting the [Condition], click [Statistics] to display the statistics result in the column [Result]. Click [Export] to save the statistical data in the local. (Some models support this function).

Statistical report-> Demographics



Statistical Time	Total In	Total Out	Passing people
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	0	0	0
07:00-08:00	0	0	0
08:00-09:00	0	0	0
09:00-10:00	0	0	0
10:00-11:00	0	0	0
11:00-12:00	0	0	0
12:00-13:00	0	0	0

Demographics setting interface

Intelligent search You can choose the starting time of the statistical time, the type of report, the statistics of the number of people entering, the number of people leaving, the number of people passing by and the time information are summarized in a list, bar chart, line chart format, and click Export to export the data in Excel.

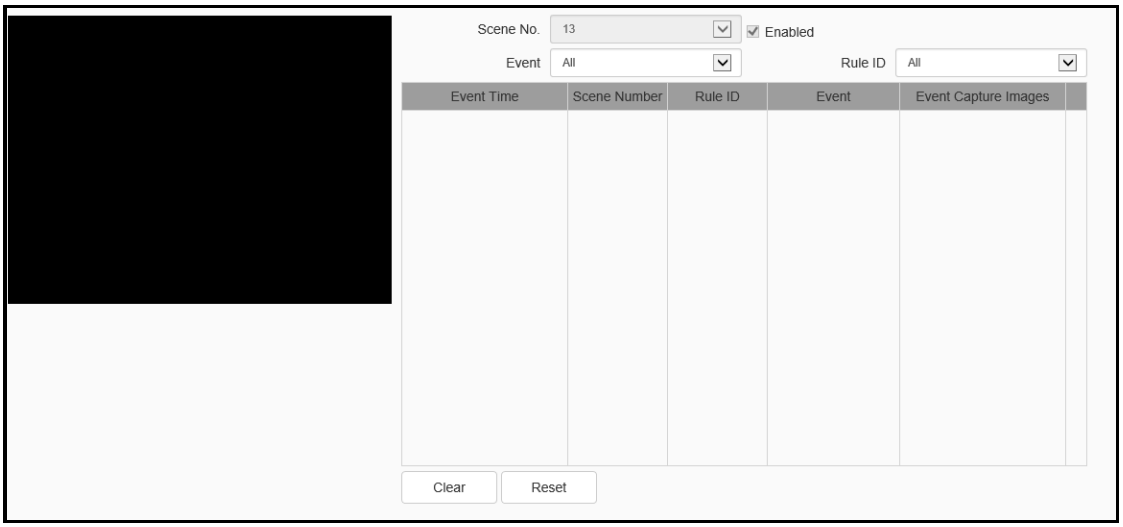
Statistical report->Face Statistics

This interface is used for statistics and exporting face images. (If using the statistical function, the camera should install a micro SD card.)

After setting up statistic parameters, click the [Statistics] button to start statistics. Point [list] and [pie chart] switch the statistics result. Point to the [Export] button to export the statistics from the camera.

By setting the [Condition], click [Statistics] to display the statistics result in the column [Result]. Click [Export] to save the statistical data (.xls) in the local. (Some models support this function).

6.11.7 Online VCA Log



Online VCA Log setting interface

[Scene NO.]: check alarm information about the related scene.

[Event]: check certain or all VCA events alarm information.

[Rule ID]: check certain or all rules' alarm information.

[Reset]: Reset the alarm times of the event, it will restart from 1 when the alarm occurs.

[Clear]: clear all alarm information from the current list.

Note: Click the path of the alarm snapshot image to live to view the local image. This is a real-time function. After switching the interface, the information will be cleared and recorded again. This interface only

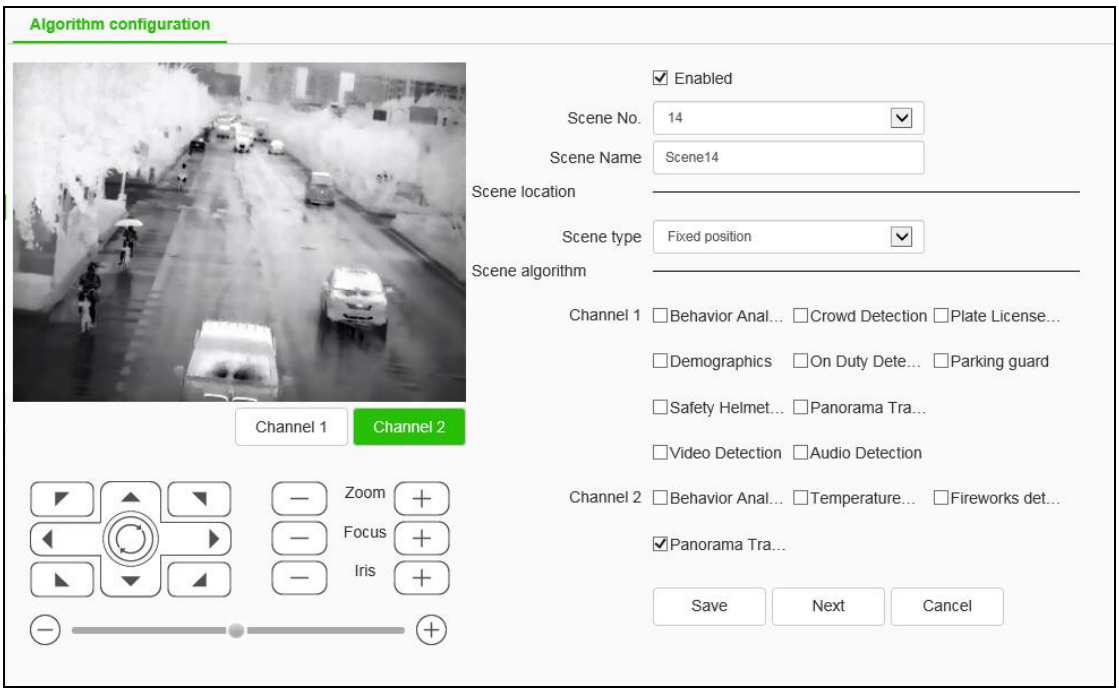
displays the latest alarm information. If you want to view more pictures, you need to view them in the path of a smart analysis snapshot.

6.12 Smart surveillance (Thermal Bi-spectrum AI PTZ camera part)

Thermal Bi-spectrum AI PTZ camera support temperature and smoke detection, which is often used in forest fire prevention and temperature anomaly alarm.

6.12.1 Algorithm configuration

There are two channels in thermal Bi-spectrum AI PTZ camera, channel 1 algorithm see section 5.12 intelligent monitoring (VCA), which supports behavioral analysis, gathering, vehicle license plate recognition, people counting, duty detection, carport guard, helmet detection, linkage tracking, video diagnosing and audio abnormal detection. Channel 2 is a thermal imagery channel, which supports behavioral analysis, temperature detection, pyrotechnic detection, panoramic tracking, and linkage tracking. While pyrotechnic detection is chosen, it is recommended that visible light should be zoomed to the recommended perspective, as shown below:



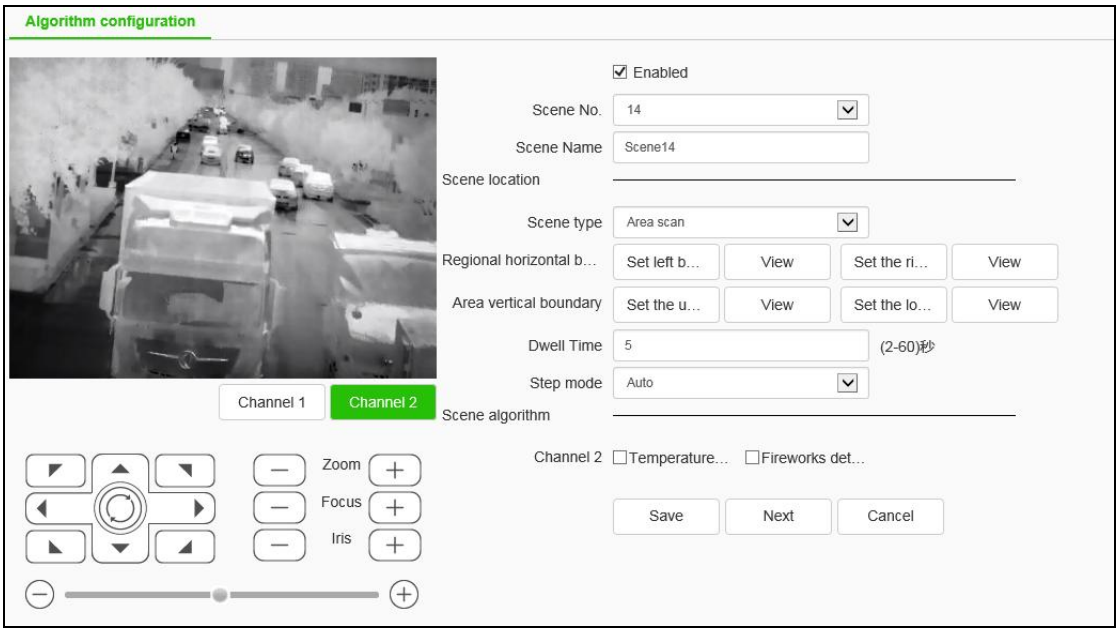
Thermal equipment algorithm configuration page

Algorithm configuration->scene position->permanent position

Permanent position: aim to the condition of Intelligent Analysis Algorithm for Static Scene. Support the algorithm of behavioral analysis, pyrotechnic detection, panoramic tracking.

Algorithm configuration->scene position->area scanning

Area scanning: scanning based on the set horizontal and vertical scanning boundary, retention time, and step mode. Support the algorithm of temperature and pyrotechnic detection, as shown below:



Algorithm configuration - the scene of area scanning

6.12.2 Create Rule

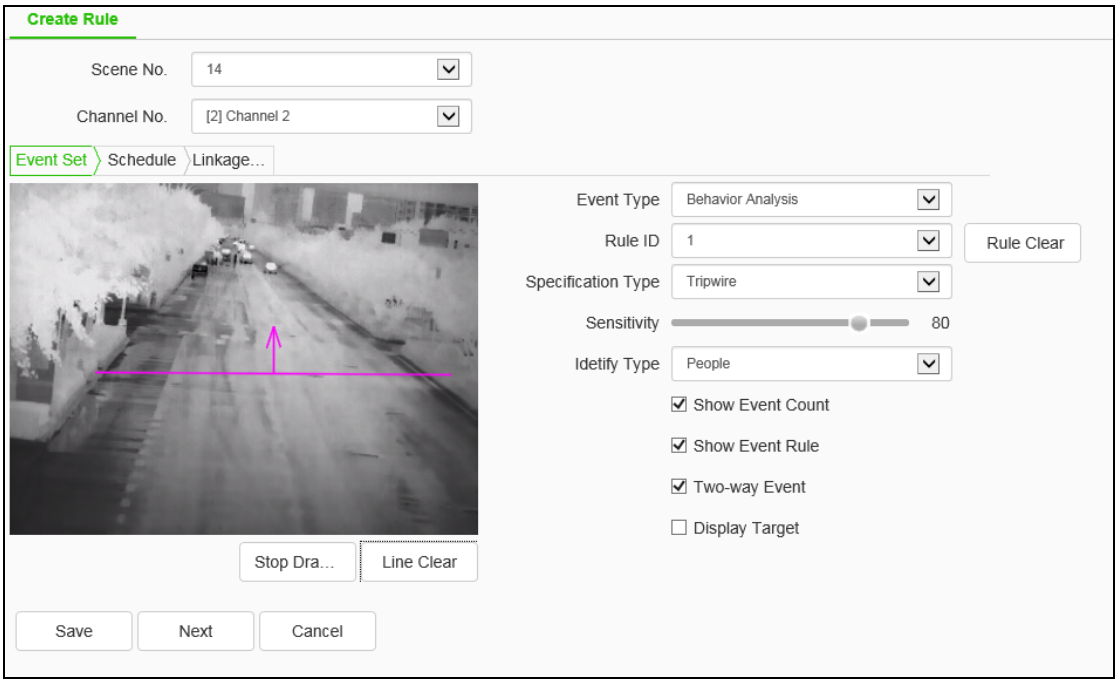
The event argument configuration of channel 1 sees section 5.12 intelligent monitoring (VCA).

The event argument configuration of channel 2 is as follow:

Event Setting->Behavioral Analysis

The thermal imagery channel supports the algorithm of tripwire, double tripwire, perimeter, and so on. Concrete operations are as follow:

Event Setting-> Behavioral Analysis ->Tripwire



Tripwire Setting

(1) Select the scene number and channel number, set the specification type to a tripwire.

(2) Click the "Start Draw" button to draw the tripwire rule line, on which the arrow indicates the direction of the forbidden crossing, click the "Stop Draw" button to cease, click the "Line Clear" to clear the rule line.

(3) Set default recommended identification type to people.

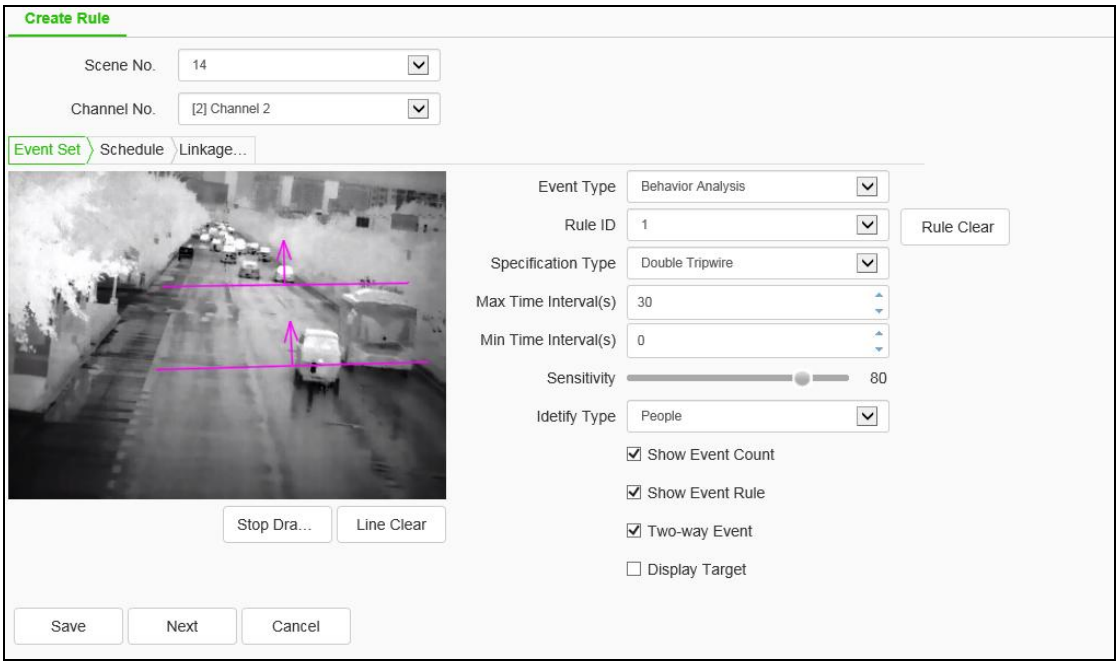
(4) Set the detection sensitivity, the greater the number, the more sensitive the device is.

(5) Set "Show Even Count", "Show Event Rule", "Two-Way Event" and "Display Target".

(6) Click Save when settings are complete.

Note: Alarm when target trajectories cross with the tripwire.

Event Setting->Behavioral Analysis->Double Tripwire



Double Tripwire Setting

(1) Select scene number and channel number, and set the specification type to double tripwire.

(2) Draw 2 rule lines, on which the arrow indicates the direction of the forbidden crossing, the direction of the two lines should be the same, alarm when passing two lines continuously within a specified time.

(3) Set maximum and minimum time interval(s), which represents the time range for the continuous crossing of two rule lines.

(4) Set the detection sensitivity, the greater the number, the more sensitive the device is.

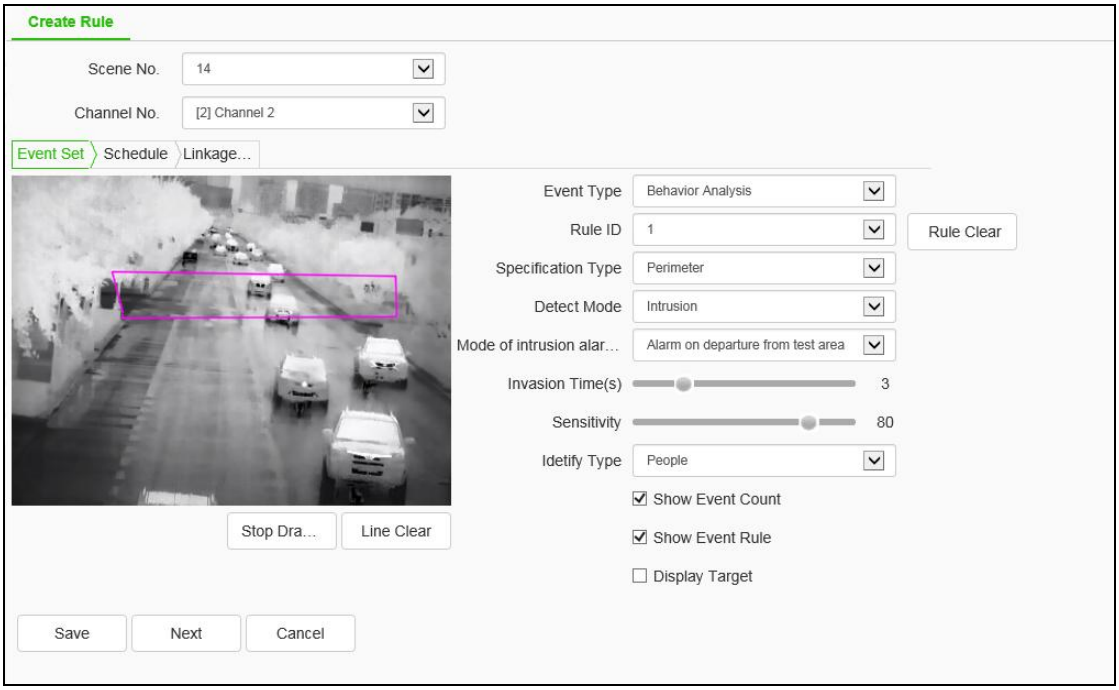
(5) Set default recommended identification type to people.

(6) Set "Show Even Count", "Show Event Rule", "Two-Way Event" and "Display Target".

(7) Click Save when settings are complete.

Note alarm when triggering tripwire 1 and tripwire 2 continuously at the minimum and maximum time intervals.

Event Setting->Behavioral Analysis->Perimeter



Perimeter setting interface

(1) Select scene number and channel number, and set the specification type to the perimeter.

(2) Click the "Start Draw" button to draw the perimeter detection area, click the "Stop Draw" button to cease, and click the "Line

Clear" to clear the detection area.

(3) Select detect mode; the entry mode indicates that the target will trigger the alarm when comes into the area, the departure mode indicates that the target will trigger the alarm when leaves the area, and the intrusion mode indicates that the target will trigger the alarm when stays in the detection area for a fixed time.

(4) Set the mode of intrusion alarm; alarm on departure from test area indicates that alarm will remove after the target leave the test area in (2), and alarm on departure from video area indicates that alarm will remove after the target leaves the video area.

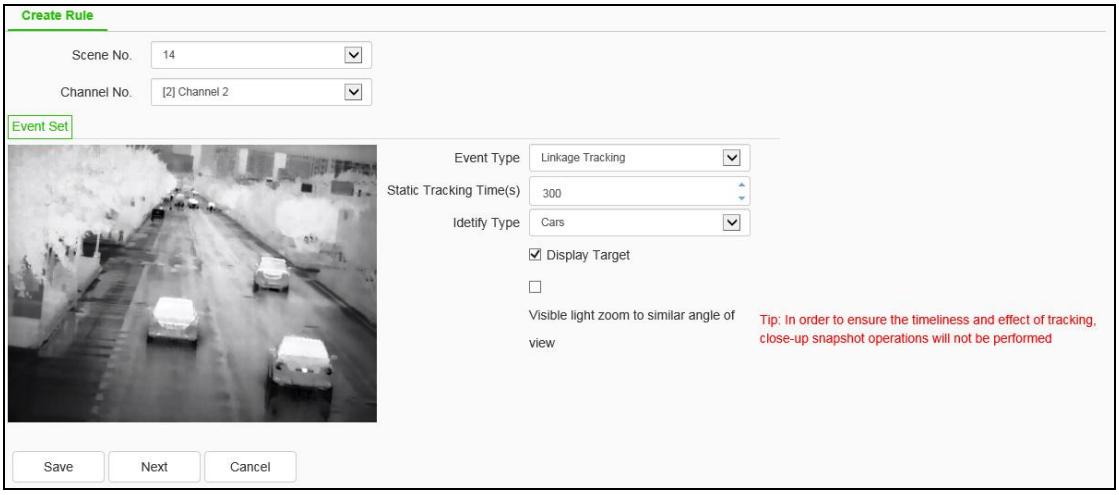
(5) Set invasion time, which indicates that the alarm will be triggered when the target comes into the test area for that duration.

(6) Set the detection sensitivity; the greater the number, the more sensitive the device is.

(7) Set default recommended identification type to people.

(8) Click Save when settings are complete.

Event Setting->Behavioral Analysis->Linkage Tracking



Linkage Tracking Setting

(1) Select scene number and channel number.

(2) Check behavioral analysis and linkage tracking; when there is a target trigger behavior analysis alarm, the linkage tracking actions. Select behavioral analysis and linkage tracking in algorithm configuration, then set up accordingly, behavioral analysis settings as above; linkage tracking settings are as follows.

(3) Set static tracking time (s), which represents the ball-head camera' s tracking duration towards the target, defaults to 300 seconds. When set to 0 seconds, the camera will track until the target disappears.

(4) Set default recommended identification type to people.

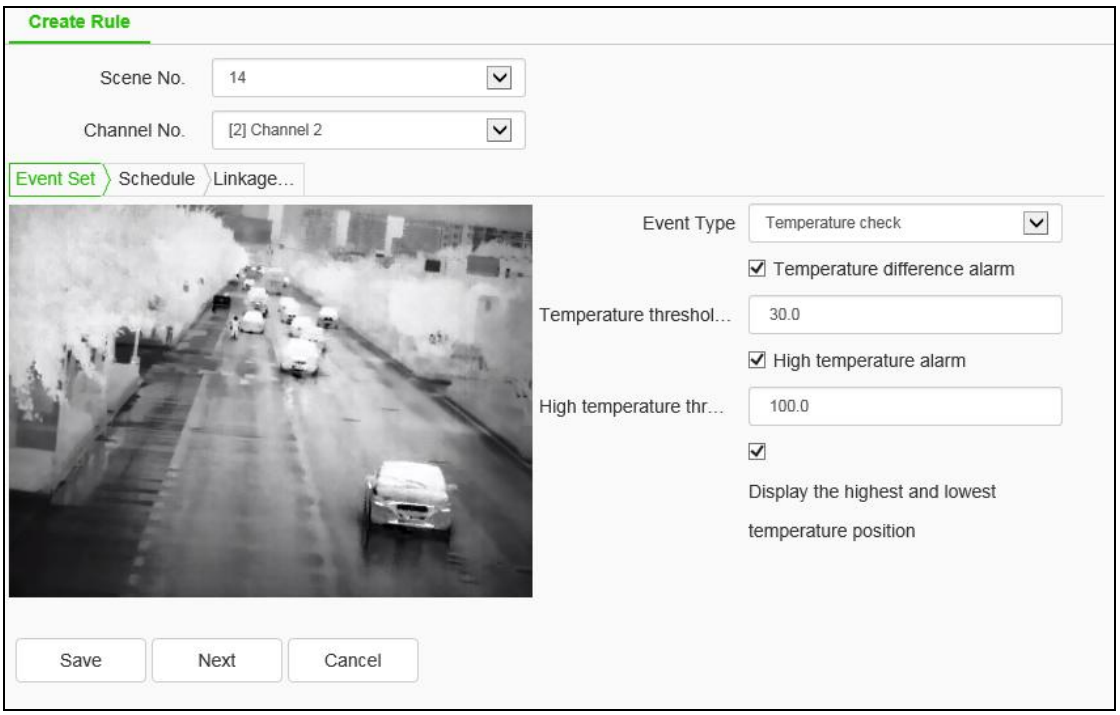
(5) Set "Display Target".

(6) Set "Visible light zoom to the similar angle of view".

(7) Click Save when settings are complete.

Event Setting->Temperature Detection

Temperature detection supports temperature difference alarm, high-temperature alarm, as follows:



Temperature detection setting interface

(1) The test area is the full screen;

(2) Temperature difference alarm: if the highest, and lowest temperature in the screen exceeds the set temperature difference threshold, it will be alarmed and uploaded.

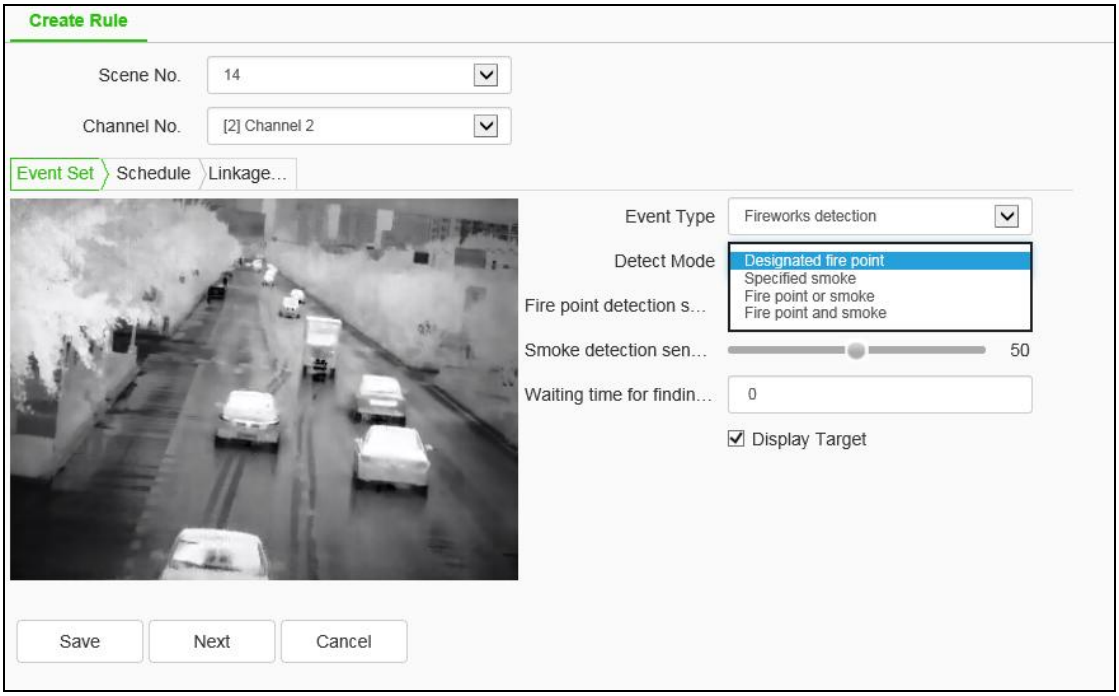
(3) High-temperature alarm: if the highest temperature in the screen exceeds the set high-temperature threshold, it will be alarmed and uploaded.

(4) Waiting time for finding alert (s): the time duration of waiting when an alert occurs and stops scanning. Exceeding the waiting time, the tripod head will continue to scan the area.

(5) Display the highest and lowest temperature position: Mark the highest and lowest temperature position on the screen.

Event setting->fireworks detection

In the fireworks detection algorithm, it is suggested to zoom in the visible light to the recommended angle of view.



Fireworks Detection Setting

(1) The test area is full screen.

(2) Set detect mode, which includes "Fire point or smoke", "Fire

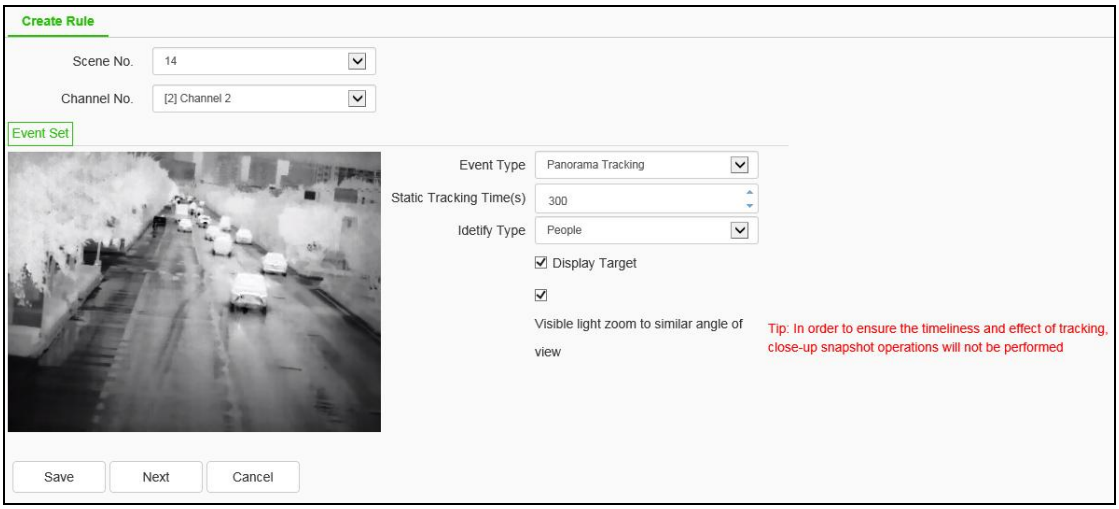
point and smoke", "Designated fire point", and "specified smoke". "Fire point or smoke" means when judged as fire point or smoke will alarm and upload alert; "fire point and smoke" means when fire and smoke are detected at the same time, it will alarm and upload alert; "designated fire point" means only detect the fire point, alarm and upload the alert when the fire point is found, and "specified smoke" means only detect smoke, alarm and upload alert when smoke is detected.

(3) Fire point detection sensitivity; the higher the sensitivity, the higher the detection rate, and the higher the false alarm rate; the lower the sensitivity, the lower the detection rate, and the lower the false alarm rate.

(4) Smoke detection sensitivity, the higher the sensitivity, the higher the detection rate, the higher the false alarm rate; the lower the sensitivity, the lower the detection rate, and the lower the false alarm rate.

(5) Waiting time for finding alert (s): the time duration of waiting when an alert occurs and stops scanning. Exceeding the waiting time, the tripod head will continue to scan the area.

Event Setting->Panoramic Tracking



Panoramic Tracking Setting

(1) Select scene number and channel number.

(2) Set static tracking time (s), which represents the ball-head camera’ s tracking duration towards the target, defaults to 300 seconds. When set to 0 seconds, the camera will track until the target disappears.

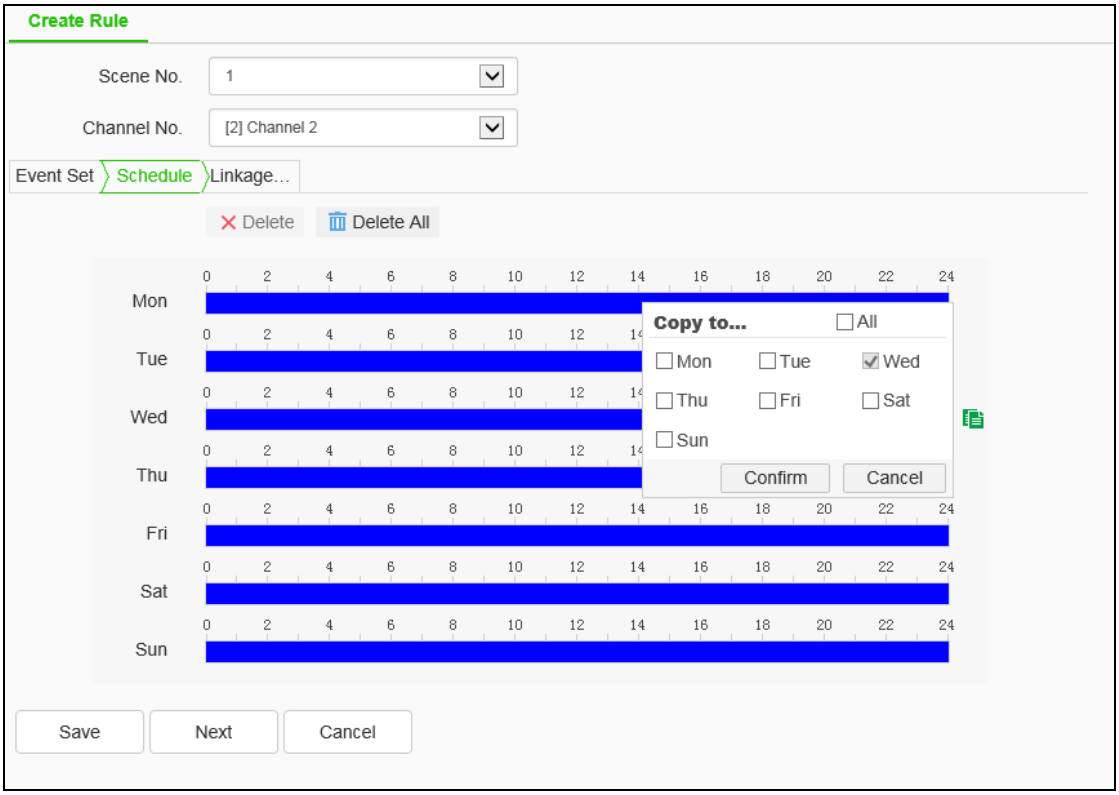
(3) Set default recommended identification type to people.

(4) Set “display target”.

(5) Set “visible light zoom to the similar angle of view”.

(6) Click Save when settings are complete.

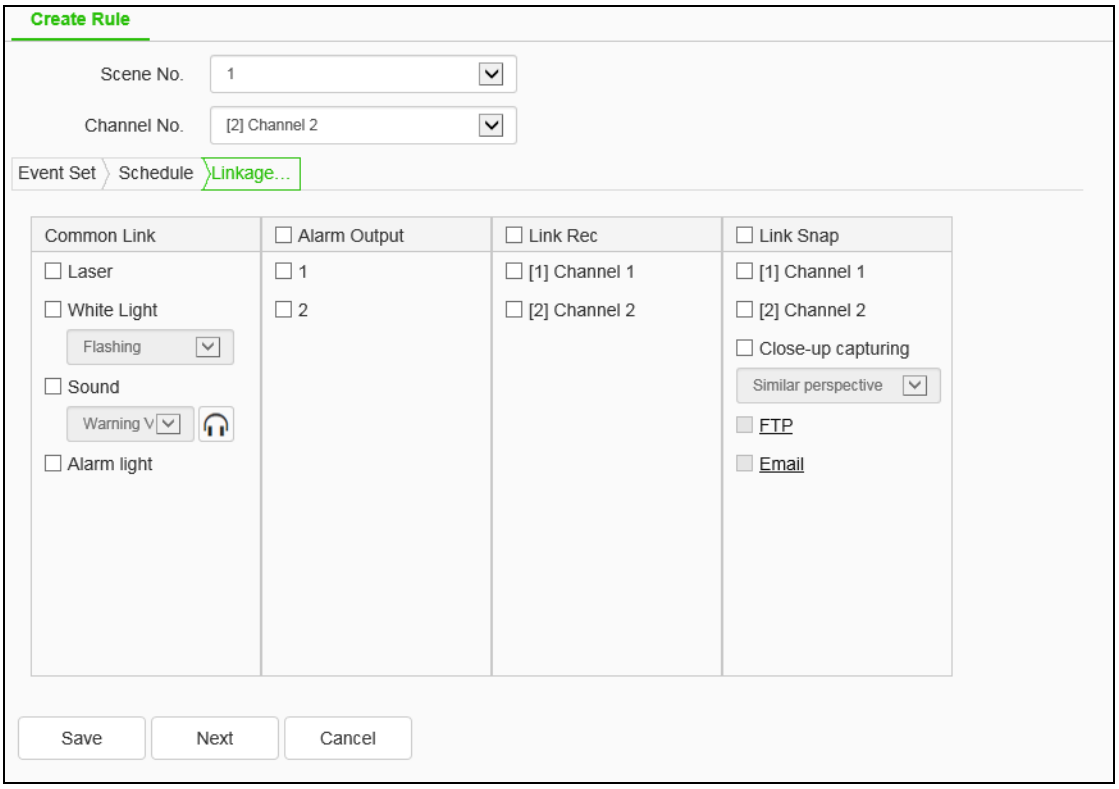
Event Setting->Defense-Placing Time



Defense-Placing Time Setting

Set the rule valid time, default the defense-placing time to 24 hours a day. Click the blue bar to modify the time, click the "Copy to" button on the right to choose the date. Click Save when settings are complete.

Event Setting->Linkage Mode



Linkage mode-setting interface

Set alarm linkage function when an alert occurs, like "Common Link", "Alarm Output", "Link Rec", "Link Snap", etc. Click the audition button right side the warning sound, you can listen.

Description:

Linkage Mode->Close-Up Capturing

(1) This function means that when the visible light channel is captured, it can be pushed to a certain rate to snap.

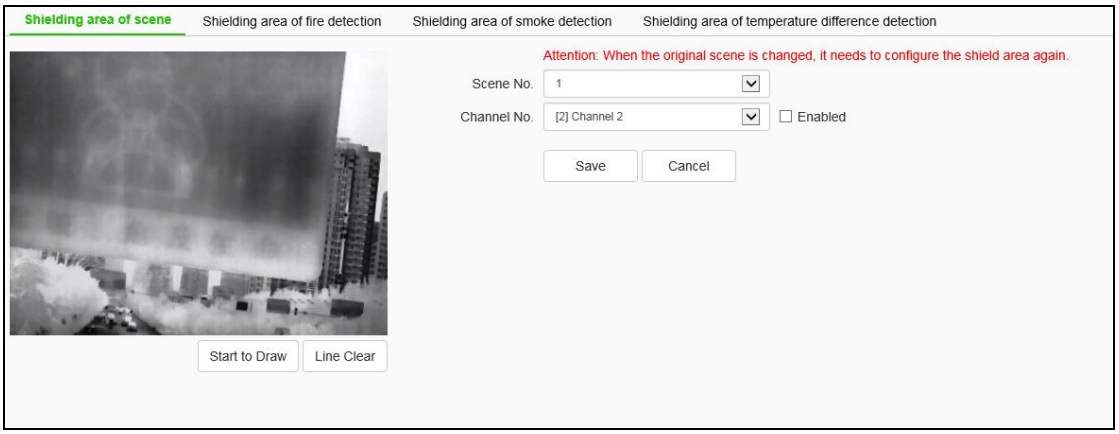
(2) It can be divided into 2 modes, similar perspective, and self-adaption. Different algorithm types, support different patterns, please refer to the actual.

(3) Similar perspective refers to capturing by zooming in the visible light channel to the similar perspective of the thermal image channel. Self-adaption means to calculate the appropriate variable value by the target size, and zoom in the visible light to the appropriate position. When the user chooses the behavioral analysis linkage tracking, the close-up capture operation will not be performed to ensure the timeliness and effect of the tracking.

6.12.3 Shield Area

The thermal camera supports four shield area settings including scene, fire point detection, smoke detection, temperature detection. Descriptions are as follow:

Shield Area->Shielding Area of Scene



Shielding area of the scene-setting interface

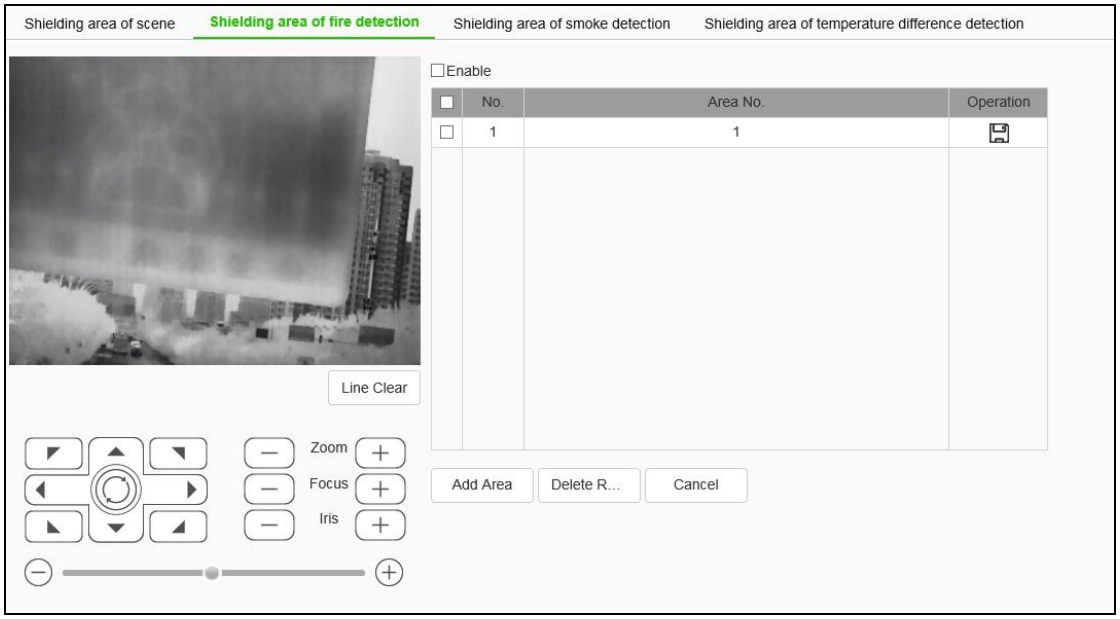
The shielding area of the scene is to reduce the false alarm rate by

drawing the area in the scene which will not be taken as the alarm target, such as lamplight and trees, etc.

Each scene supports up to 8 shield areas, select the corresponding channel and channel number, check enabled, detect in the screen area, click Save to take effect.

Attention: If the original monitoring scene changes, the shield area automatically fails and needs to be reconfigured. This function only supports settings in smart monitoring mode.

Shield Area->Shielding Area of Fire Detection



Shielding area of fire detection setting interface

The shielding area of fire detection is to reduce the false alarm rate by drawing the area in the scene which will not be taken as the alarm target. Operating instructions are as follow:

(1) Enable checkbox, and enable shielding area of fire detection.

(2) Adjust the position of the drawing area by the directional key and draw the shielding area.

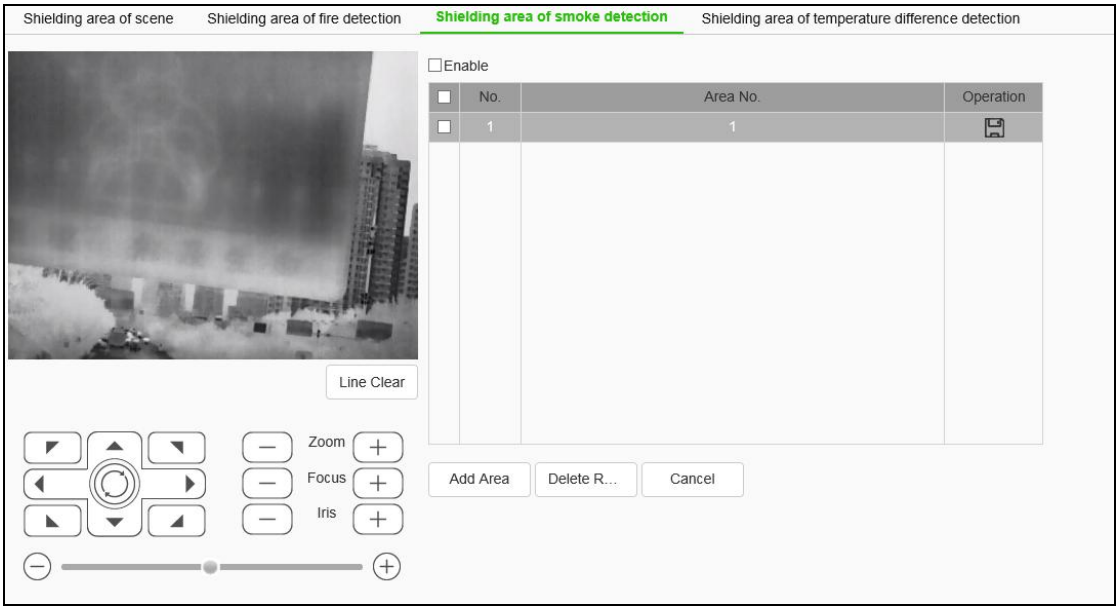
(3) After drawing, click the "add area" button to complete the addition. To redraw, click the "line clear" button.

(4) Click the "delete region" button to delete the shield area.

(5) Each scene supports up to 48 shield areas.

(6) Click the "reset" button to restore the last operation.

Shield Area->Shielding Area of Smoke Detection



Shielding area of smoke detection setting interface

The shielding area of smoke detection is to reduce the false alarm rate by drawing the area in the scene which will not be taken as the alarm target. Operation is the same as shielding area of fire detection.

Shield Area->Shielding Area of Temperature Difference Detection



Shielding area of temperature difference detection setting interface

The shielding area of temperature difference detection is to reduce the false alarm rate by drawing the area in the scene which will not be taken as the alarm target.

6.12.4 Cruise Set

See 5.12.4 Cruise Set.

6.12.5 Advance Params

See 5.12.5 Advance Params

6.12.6 Statistical Report

See 5.12.6 Statistical Report.

6.12.7 Online VCA log

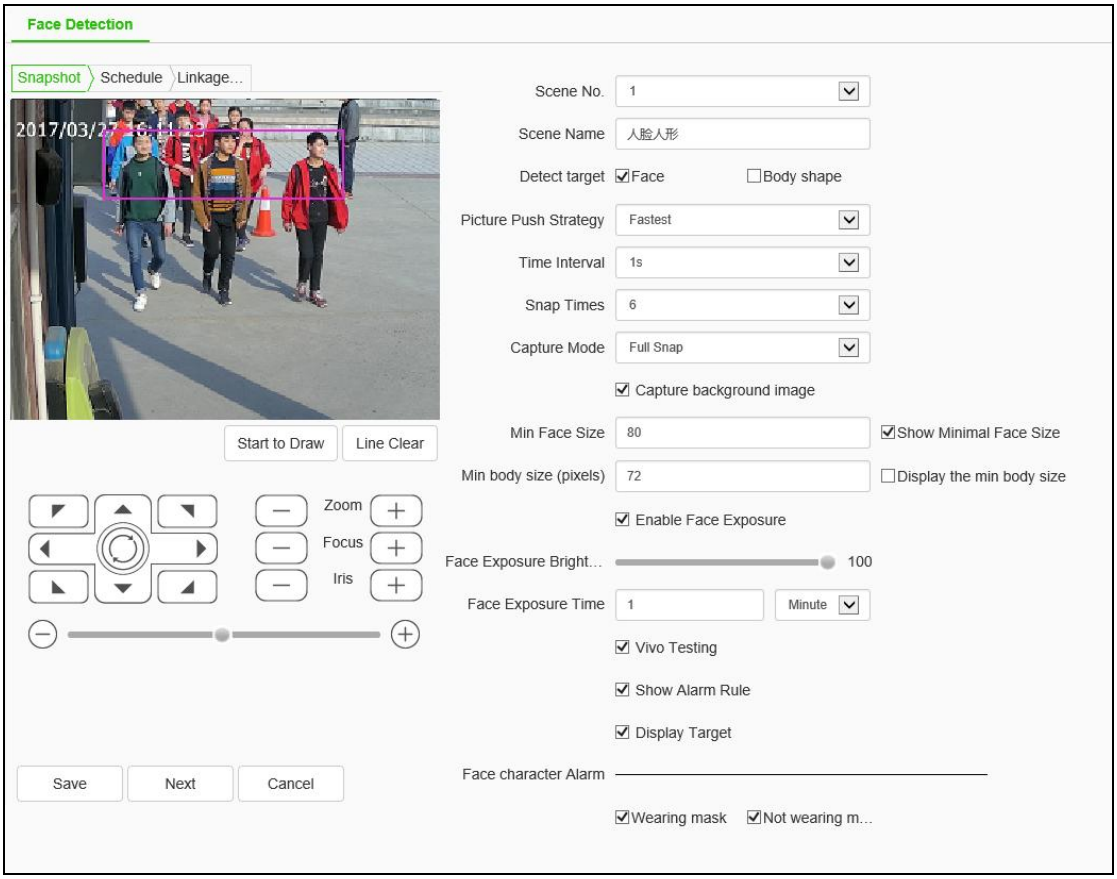
See 5.12.7 Online VCA log.

6.13 Capture facial images

When the resource allocation is Face Snapshot, this menu will be displayed. In the menu, there are submenus of Snapshot Setting, Deployment Time, and link mode.

6.13.1 Face Configuration

Face Configuration->Face Detection



Face Detection interface

Face Detection - > Snapshot

Users set relevant parameters for snapping settings as needed, such as [Detection Target], [push Strategy], [Snapshot Mode], and so on.

(1) Check the [Detection Target] box. The device supports face and humanoid capture mode.

(2) Set [Detect target][Picture Push Strategy][Snap Times][Min body size (pixels)] and Setup minimal face size.(Different models may be different due to different arithmetic they support, please refer to actual interfaces)

(3) Checked[Capture background image] , When capturing a face/humanoid image, the background image can be captured at the

same time.

(4) If Check[Enable Face Exposure], the device supports face exposure, and parameter information such as [face exposure brightness] and [face exposure time] need to be set.

(5) AS needed See Check [Vivo Testing]、[Show Alarm Rule]、[Display Target].

(6) Some devices support the mask algorithm and check the face attribute alarm as [Wearing mask/ Not wearing mask] so that the detection mode of the mask algorithm can be set.

(7) Click save after setting.

Description:

(1) [Picture Push Strategy] = >[Best]: it is necessary to screen out a small face map with the highest comprehensive quality score in this trajectory.

(2) [Picture Push Strategy] = > [Fastest]: it is necessary to select a small face map that meets the comprehensive quality threshold in a short time to push.

(3) [Capture Mode] = > [Full Snap]: it means not controlled by the security boundary and not filtered by the security boundary threshold. All pictures are sent to the push module by default.

(4) [Capture Mode] = >[High Quality]: it refers to filtering according to the default security boundary threshold value of the system, and sending

the filtered results to the push graph module.

(5) [Capture Mode]= > [User Defined]: filter according to the security boundary value set by user-defined, and send the filtered result to the push graph module.

(6) [Face Exposure Brightness] refers to the reference brightness of the face exposure. when the face is identified in the live view screen, the device automatically adjusts the face brightness according to the reference brightness value. the larger the face brightness value is, the brighter the whole live view screen is. The parameter should not be set too low or too high.

Face Detection - > Schedule

The user can set the [deployment time] as required, and only detect the alarm within the set date and period.

Click [Save] to save the corresponding parameter settings.

Click [Cancel] to restore the last saved parameter.

Click【】to copy the time set in the current time slot to other time slots.

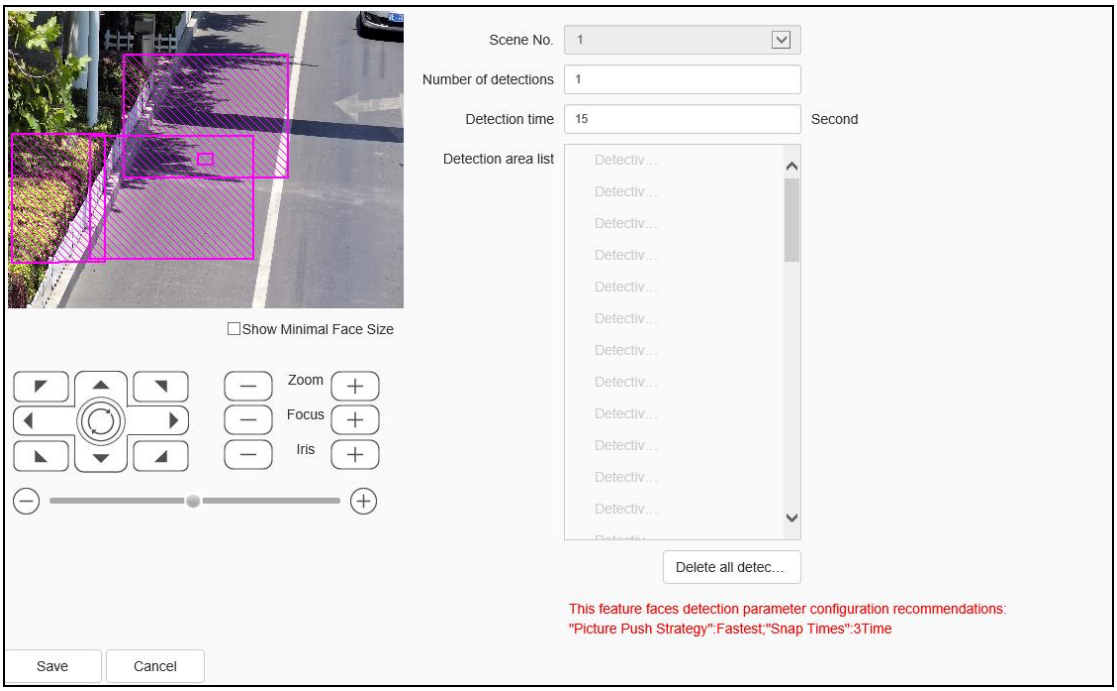
Face Detection - >Linkage Mode

Set the alarm link functions when a warning condition occurs, such as [Alarm Output], [Record], [Snapshot], etc. (Link type supported by different models is slightly different, please refer to the actual product)

Click the [Save] button to save the corresponding parameter settings.

Click [reset] will cause the parameters to be restored.

Face Configuration-> Area Set



Area setting interface

This menu is suitable for scenarios where the scene is fixed and the person moves a small range of applications, such as classrooms. You

need to pin a large scene, then push it up to the appropriate size to the detection area, and so on, until you overwrite all the areas you want to snap (the detected area that has been set up will be displayed on the video). After adding cruising, the ball opportunity to set up the detection area, in turn, cruise snap.

(1) Adjust the scene to be caught on the face

(2) "Number of detections" indicates the number of times a loop is required to detect all areas

(3) "Detection Time" indicates the residence time of each detection area

(4) The detection area list can be set up to 48 zones.

(5) The function face detection parameter configuration recommendation: The push chart strategy is the fastest, the number of snaps is 3 times

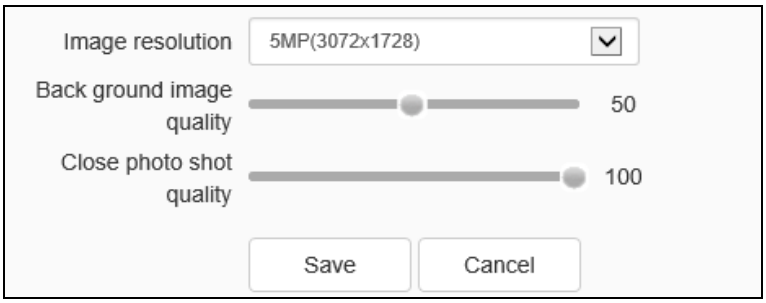
Note: To achieve the best detection effect, please install the camera and refer to the following conditions.

(1) Please ensure the scene light is sufficient.

(2) Face capture distance of 10 m if only the device's white light is used at night.

6.13.2 Snapshot parameters

Snapshot parameters -> Snapshot parameters



Snapshot parameters setting interface

Users set [Image Resolution], [JPEG quality] and [Image size limit (KB)] as needed.

[image resolution]: sets the image resolution, which supports 1440p, 1080p, 960p and other resolutions.

[JPEG quality]: set the quality of snapshots and support the quality of 0,100.

[image size limit (KB)]: set the size of snapped images. The maximum supported is 8192KB.

Click [Save] to save the corresponding parameter settings.

Click [Cancel] to restore the last saved parameter.

Snapshot parameters->Image superposition

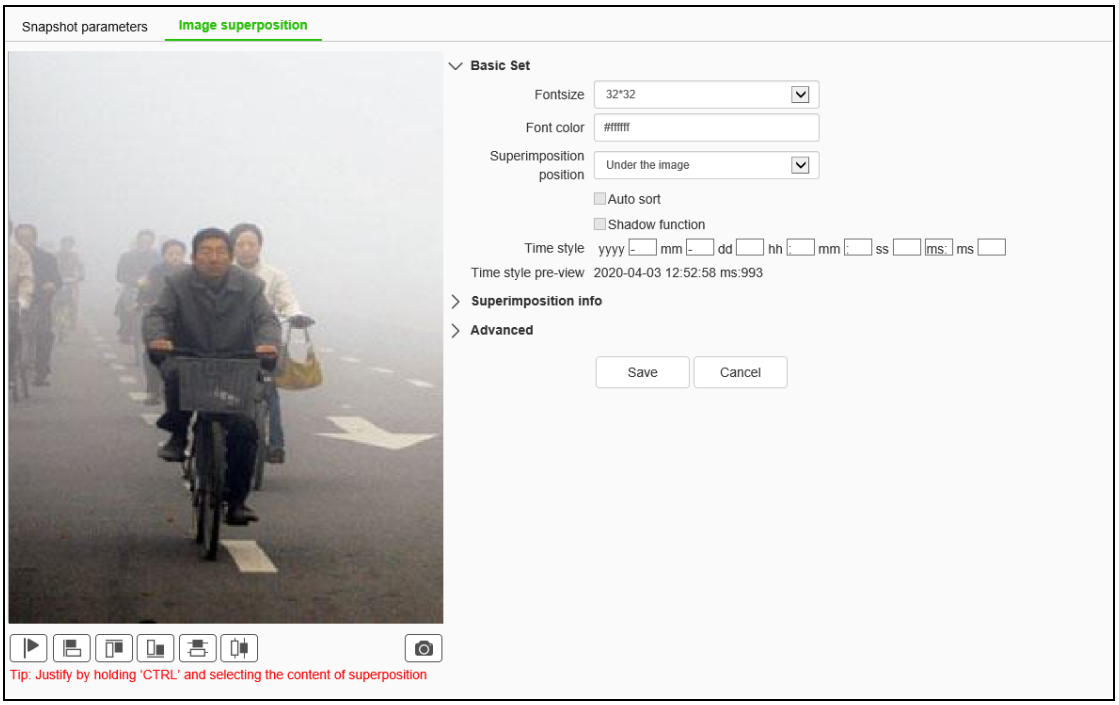


Image superposition setting interface

The user can set up Image Style as required. The equipment supports single image and composite image two styles. Under the camera synthesis style, you can enable/disable (keep the original style for a single image).

The function description of the interface icon button is as follows:

Icon	Description
	Snapped Photo： Check the overlay effect for a trial
	Default positions： Sets the storage location of snapshots for trial

	Left justified: Justify by holding 'CTRL' and selecting the content of the superposition
	Top: Justify by holding 'CTRL' and selecting the content of the superposition
	Bottom: Justify by holding 'CTRL' and selecting the content of the superposition
	Horizontal Equidistance: Justify by holding 'CTRL' and selecting the content of the superposition
	Vertical Equidistance: Justify by holding 'CTRL' and selecting the content of the superposition

[Image superposition]=>[Basic Set]

Users set parameter information such as [Fontsize], [Font color], [Superimposition position], [Time style] as needed.

[Fontsize]: 16*16、24*24、36*36、48*48 and 64*64 are supported.

[Font color]: After clicking the text box, the color setting interface appears, select the appropriate color, click the circle button in the lower right corner to confirm, and close the color setting interface.

[Superimposition position]: Support the mode off in the picture, above the picture under the picture.

[Auto sort]: Turns on / off the automatic sorting function, which is valid when the overlay position is "in the picture".

[Shadow function]: Sets the shadow effect, which is effective when the overlay position is "in the picture".

[Time style]: Set the time model. View the effect in the time style Live view below.

The function description of the interface icon button is as follows:

Icon	Description
	Shift up: Select the overlay information and click this button to move the overlay information up one bit.
	Shift down: Select the overlay information and click this button to move the overlay information down one bit.

Click [Save] to save the corresponding parameter settings.

Click [Cancel] to restore the last saved parameter.

[Image superposition]=>[Superimposition info]

The overlay information is set by the user as needed. Multiple

selections are supported for overlay information. Select [All] to select all overlay information.

[Comment]: Modify according to the needs of users.

[Number of feed line characters]: Sets the maximum number of words per line.

[Number of starting spaces after line feed] Sets the position where the overlay content begins after the text wraps.

Click [Save] to save the corresponding parameter settings.

Click [Cancel] to restore the last saved parameter.

[Image superposition]=>[Advanced]

[Background image shows the position of target thumbnail]: Choose whether to overlay the background image in the picture to display the location of the target screenshot (shown when the face is captured).

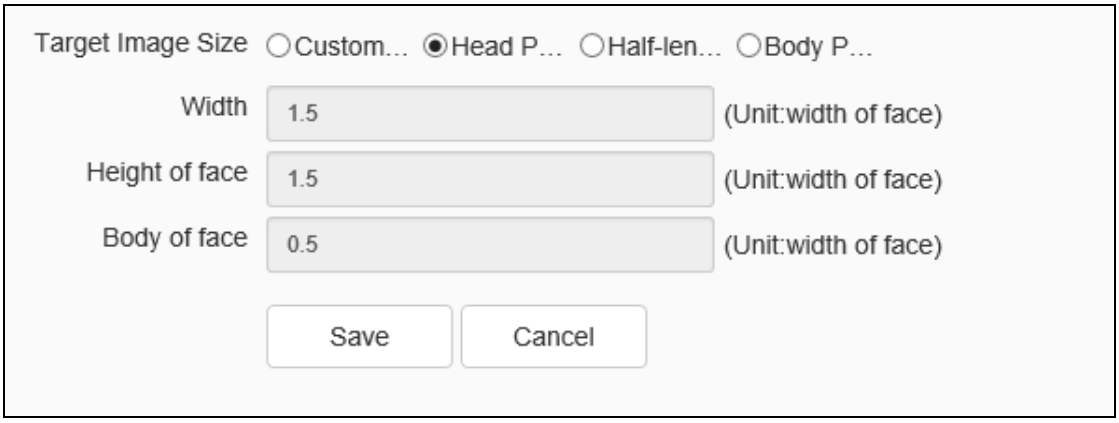
Click [Save] to save the corresponding parameter settings.

Click [Cancel] to restore the last saved parameter.

6.13.3 Cruise Set

See 5.12.4 Cruise Set

6.13.4 Advance Params



Advance params setting interface

Users can set the size of the target picture according to their needs, which can be divided into big head photos, bust photos, full-length photos, and custom photos. When users choose to customize the size of the target picture, they can set the width of the picture, the height of the face part, and the height of the body part.

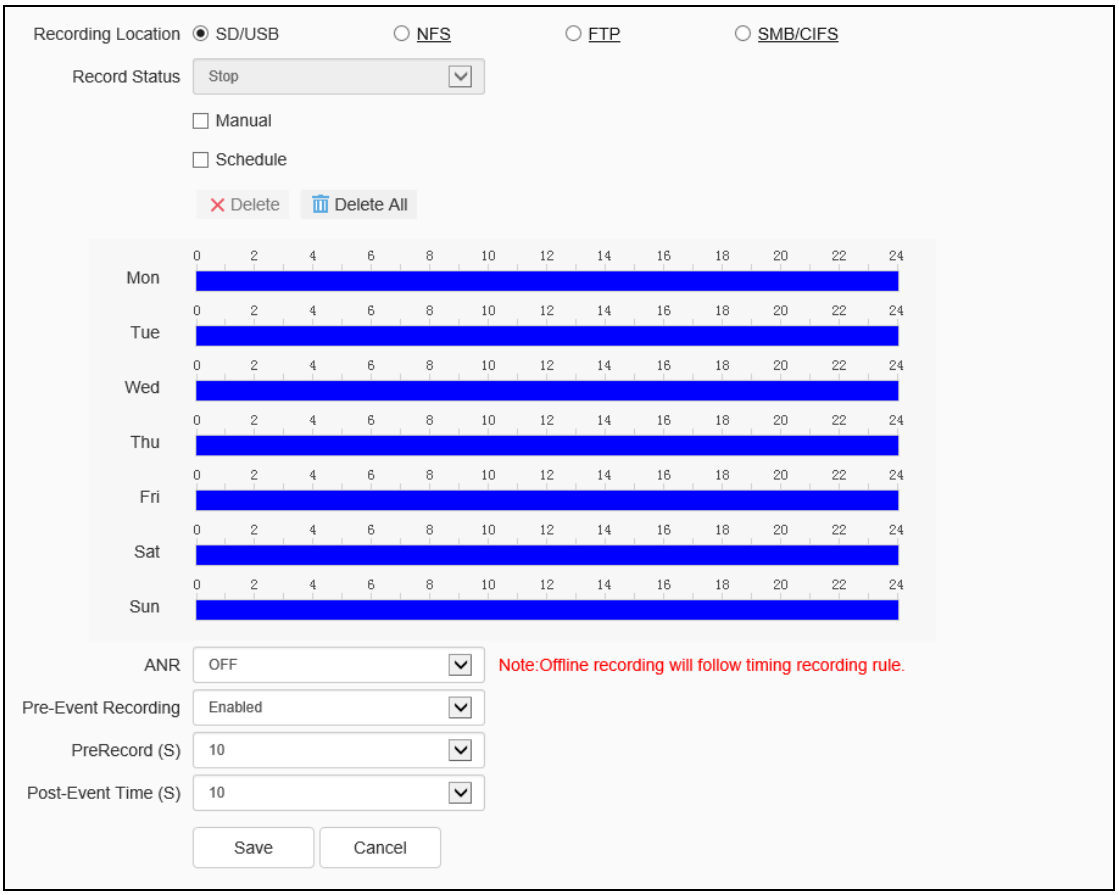
Click [Save] to save the corresponding parameter settings.

Click [Cancel] to restore the last saved parameter.

6.14 Storage

6.14.1 Schedule Recording

Schedule Recording -> Schedule Recording



Schedule Recording setting interface

Switch the drop-down box to select the target video type, set the arming time, retention time (days), select the pre-recorded time, postpone the time.

[Record Status]: Show the device recording status.

[Record Beings]: Click to test beings switch to start recording and stop recording.

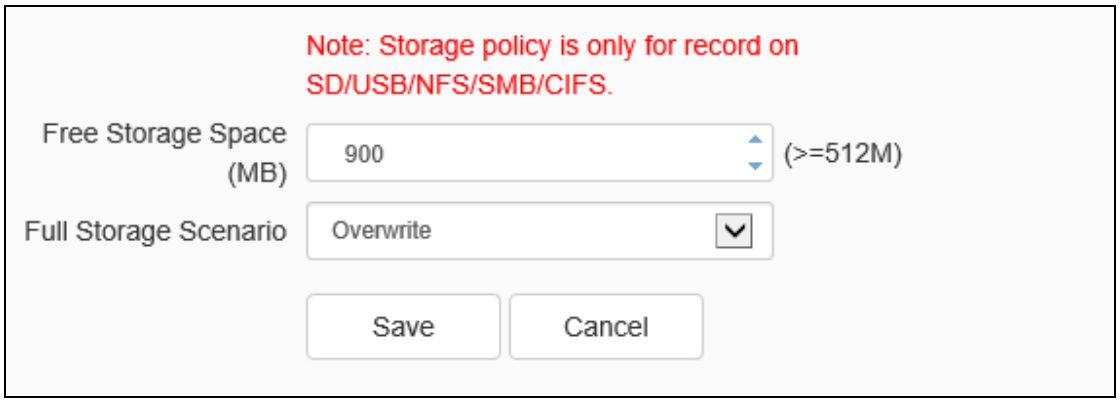
[Timed video recording]: It can set four time periods to perform timing video recording. Set the parameter of the conventional recording period to the selected week.

[Offline Video Recording]: when the internet is disconnected, it will start timing recording into the camera SD card.

Click the [Save] button to save the settings. Click the [Copy to...] button to copy the setting to other ports. Click [reset] will cause the parameters to be restored.

Notes: Offline Video Recording is only available on cameras with SD cards, when turning on this function, schedule recording will be stopped.

Schedule Recording->Packaging Mode



Packaging mode-setting interface

The [Free Disk Space] can set the trigger conditions for storage in the edit box.

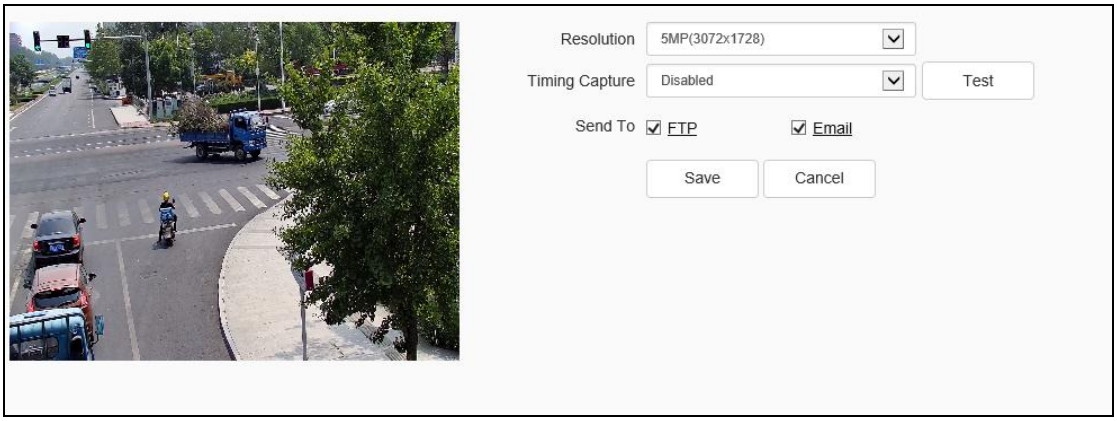
(1)Stop recording: stop the recording and packaging operation.

(2)Overwrite: Delete the earliest video files to create space for the latest recording.

(3)Overwrite: Delete the earliest video files (except for Alarm Rec) to create space for the newest recording. (The log file will not be deleted)

(4)Click the [Save] button to save the corresponding parameter settings. Click [reset] will cause the parameters to be restored.

6.14.2 Picture setting



Picture setting interface

(1)Set the interval time.

(2) [interval]: Enter the time interval in the input box, switch the drop-down box to select the interval unit.

(3)Chose [Linked FTP], capture the photos then upload them to FTP.

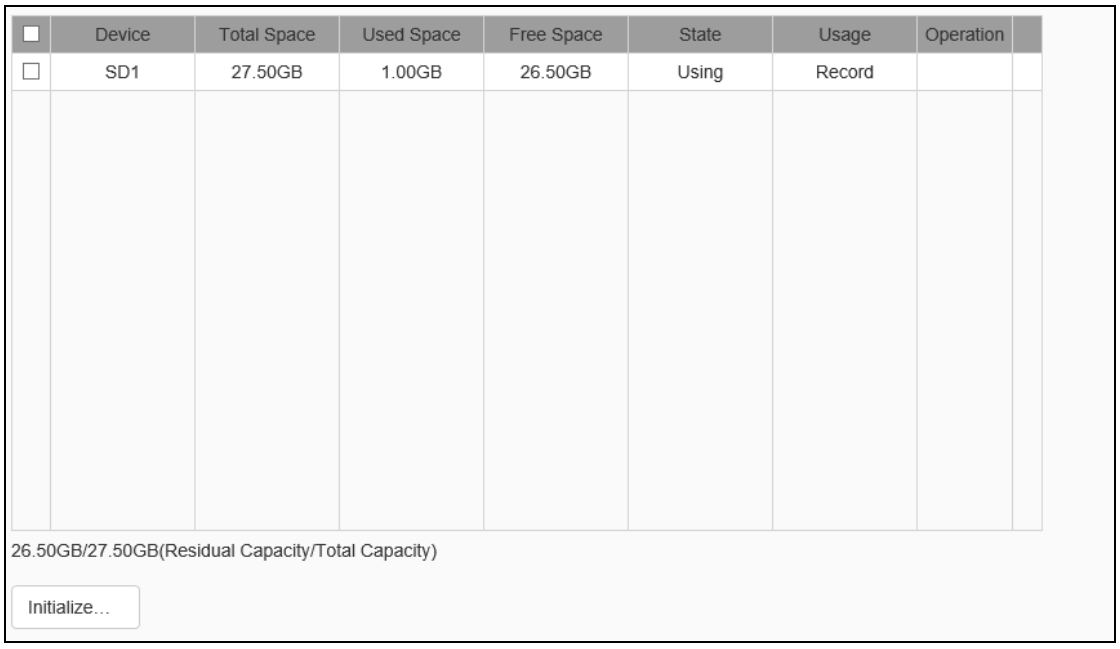
(4)Chose [Linked Email], sent it to designated email after capturing the photos.

[Test]: Test and snapshot a picture.

Click[Save]to keep a record.

Click [Cancel]to recover data of last time.

6.14.3 Disk Management



Disk management setting interface

The interface can show the remaining capacity, the total capacity of

the current hard disk and virtual disk, as well as the disk use, with video, backup, redundancy, and read-only four options

[Initialize disk]: the list to select a particular piece of disk and then click the "initialize disk" button, the system pop-up whether initializes the disk, click the "ok" after the initialization of the disk for operation.

6.14.4 NFS

NFS->NFS



NFS setting interface

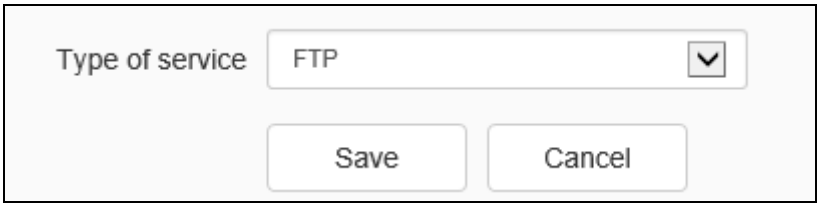
[IP Address]: set NFS server IP address.

[Mapping Path]: set the disk mapping path.

[Save]: Click the [Save] button to save the settings.

[Test]: test whether the current configuration can be used normally.

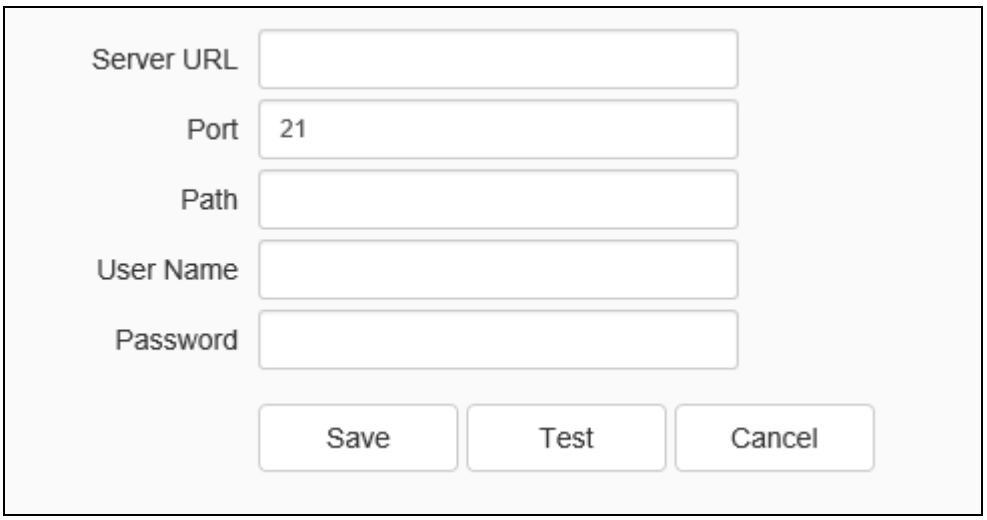
NFS - > FTP Basic Setting



FTP basic setting interface

Change 【Service Type】 Choose FTP protocol type as FTP or SFTP.

NFS - > FTP Network Storage

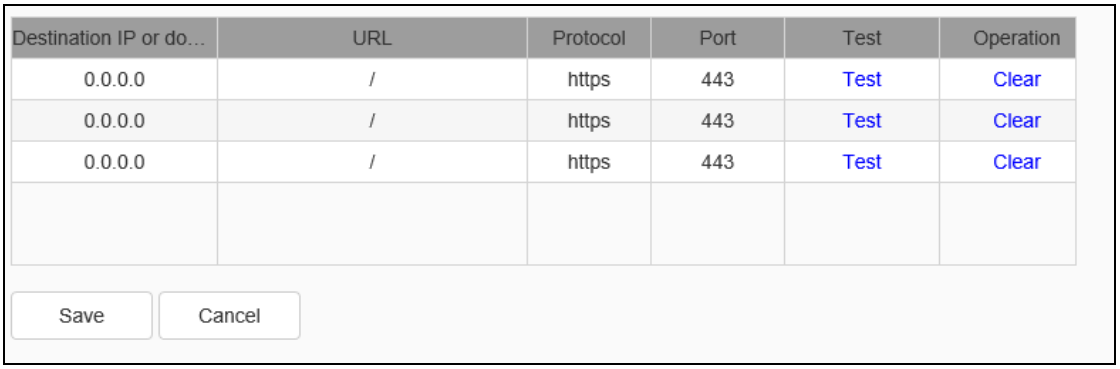


FTP setting interface

After changing [Server URL], [Port], [Path], [User Name] And [Password], [Save] can set the FTP server information. [Cancel] restore thes last saved parameter.

[Test]: test whether the settings are correct and effective.

NFS - > HTTP/HTTPS Push Configuration



HTTP/HTTPS push configuration setting interface

[Destination IP or domain name]: server IP or domain name.

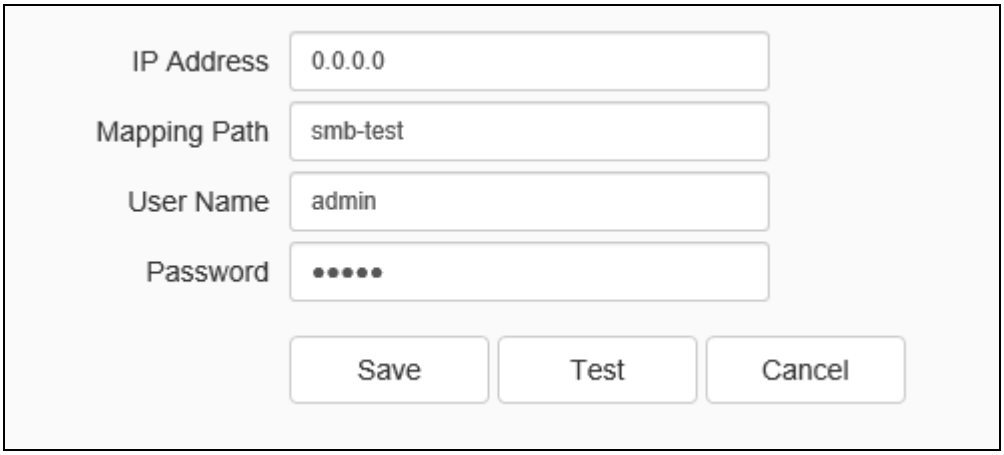
[Url]: you can fill in the URL address.

[Port]: the port number of the target server.

[Test]: test button, used to test whether the link is connected.

[Operation]: used to clear the setting content.

NFS - > SMB/CIFS



SMB/CIFS setting interface

[IP address]: set the IP address of the server where the shared folder is located.

[Map path]: sets the shared folder path.

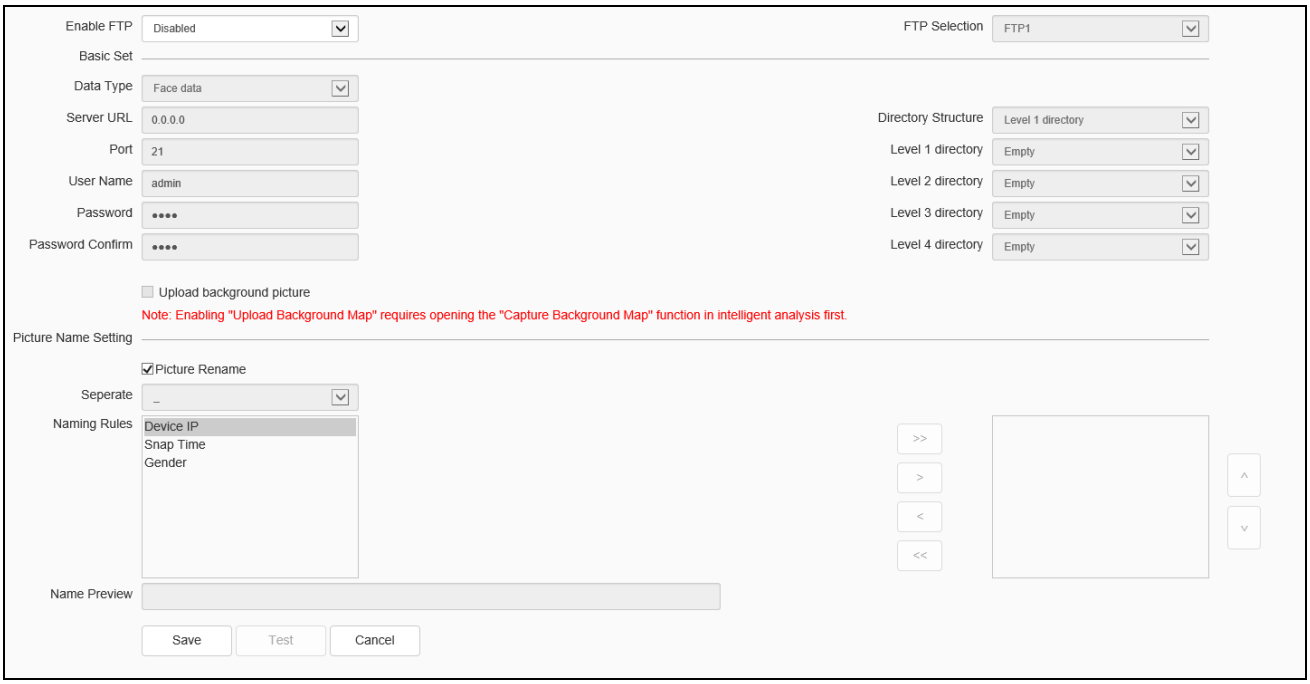
[User name]: set the login IP of the server.

[Password]: set the login password of the server.

[Save]: saves the current configuration.

[Test]: test whether the current configuration can be used normally.

NFS - >Face FTP



Face FTP setting interface

Users set face-specific FTP according to their needs, such as [Data Type]、[Server URL]、[Directory Structure, and so on.

[Enable FTP]： Three enable states are supported: do not enable, enable 1 FTP, and enable 2 FTP. When not enabled, the custom upload image name can be selected, and other interface contents are grayed out and cannot be modified; when 1 FTP is selected, the interface content

becomes light, FTP selection is grayed out, and FTP1 is selected; when 2 FTP is enabled, all the interface content becomes light and the interface content can be modified.

[FTP Selection]: FTP1 and FTP2 are supported.

[Data Type]: Two data types of bayonet data and illegal data is supported.

[Server URL]: You need to enter an address in the form of IP.

[Port]: The port number is a numeric value between 1-65535.

[User Name]: 15 characters are accepted.

[Password]: Enter up to 15 characters.

[Password Confirm]: Enter the same content as the password, and when the input is different from the password, a check prompt box will pop up.

[Directory Structure]: Five directory structures are supported: root directory, first-level directory, second-level directory, third-level directory, and fourth-level directory.

[Level 1 directory]: Toggle the drop-down box to select the directory option, which is the same as the contents of other directories.

[Picture Rename]: If Check it, the settings of the picture will display. if not, the content of it will be hidden.

[Seperate]: There is a default delimiter and manual modification is not supported.

[Naming Rules]: You can modify it manually to set a new naming rule.

[Name Live view]: Displays the content to the right of the naming.

Icon	Description
>>	Right shift all
>	Right shift
<	Left shift
<<	All left shift
^	Shift up
v	Shift down

[Save]: save the current settings.

[Test] Test whether the settings are correct and effective.

[Cancel]: restores the last saved parameter.

6.15 System

6.15.1 System

System - >Allocation of resources



Allocation of resources interface

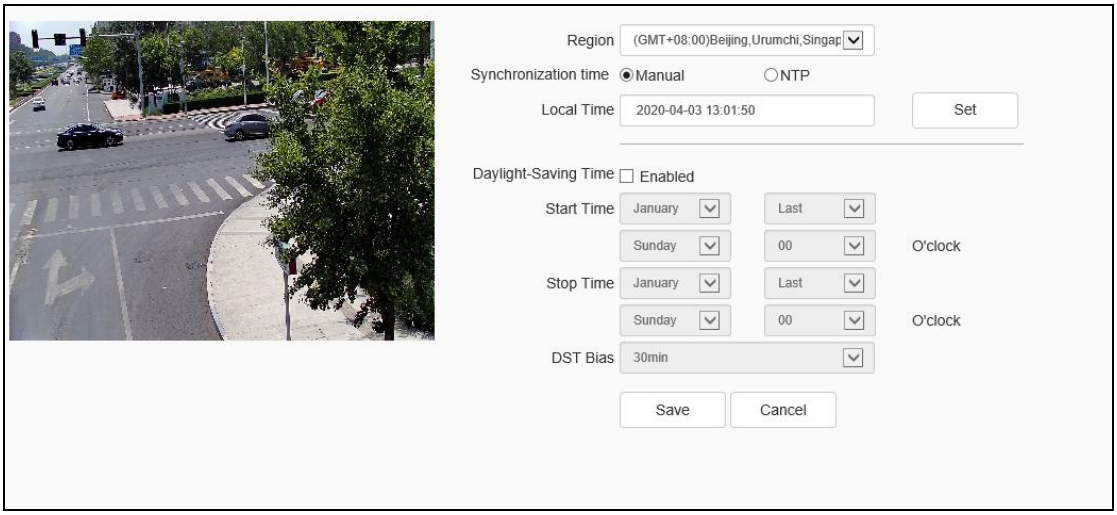
The user can modify the method of allocating resources, if the device supports Capturing facial images, Face recognition, Smart surveillance.

[Capture facial images]: When the algorithm finds a person's face in the video, it captures the image and saves it to the present location.

[Face Recognition]: When the camera finds a person's face in the video, it automatically queries and compares them from the face database.

[Smart surveillance]: Common monitoring mode includes intelligent algorithms such as behavior analysis, crowd gathering, video diagnosis, audio anomaly detection, etc.

System - > Time



Time setting interface

Time zone: set the time zone information.

[Local Time]: the real-time display of local time.

[Synchronization Time]: the synchronization equipment time is the same as the local time.

[Daylight-Saving Time]: set whether daylight saving time is enabled. Set the time range and offset time for daylight saving time.

[NTP server]: enter the legal IP address of the server.

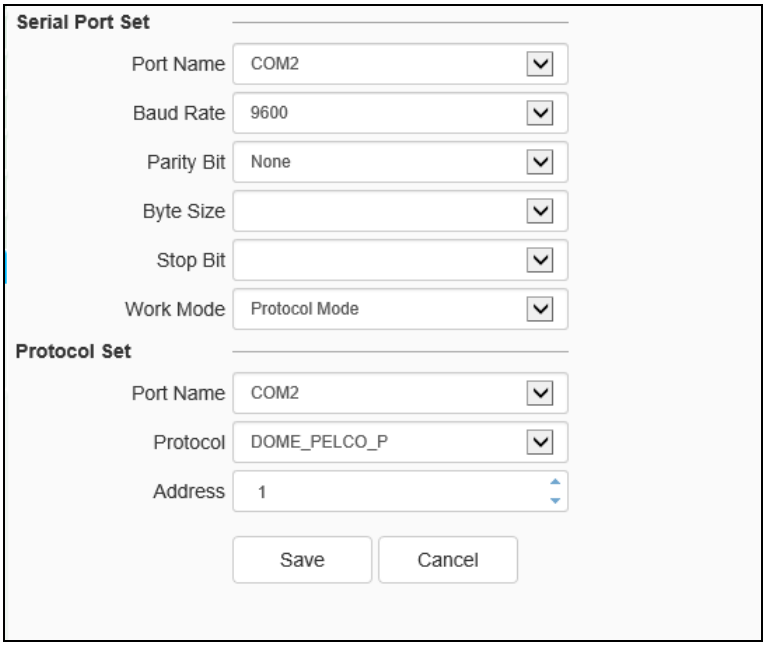
[Port]: enter the corresponding port number.

[Time Interval]: enter the interval of automatic time calibration.

[Test]: Test NTP automatic timing.

Click [Save] to save the currently set parameters. Click[Cancel] to restore the last saved parameter.

System - > Serial Port



Serial port setting interface

Some models support serial port settings. It is divided into [serial port setting] and [protocol setting].

[Serial Port Set] requires the user to select [serial port number], [baud rate], [check bit], [data bit], [stop bit] and [working mode].

For [Protocol Set], you need to select [channel number], [serial port number], [protocol] and [address].

Note:

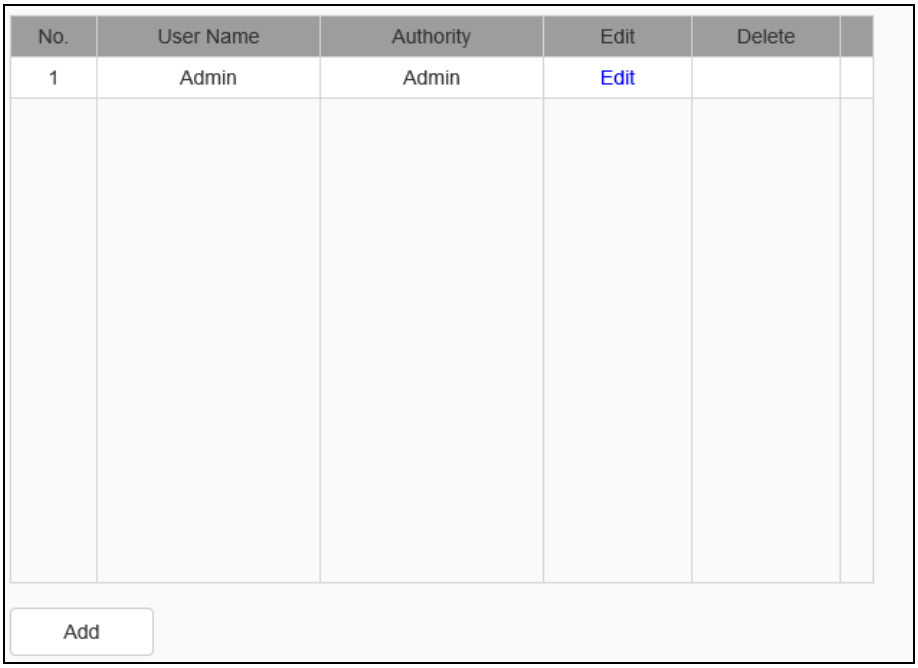
(1) Different models support different functions, please refer to the actual product.

(2) When the user sets the peripherals, and [Save] all the settings, the user can set [Temperature and humidity alarm] in [Event Management].

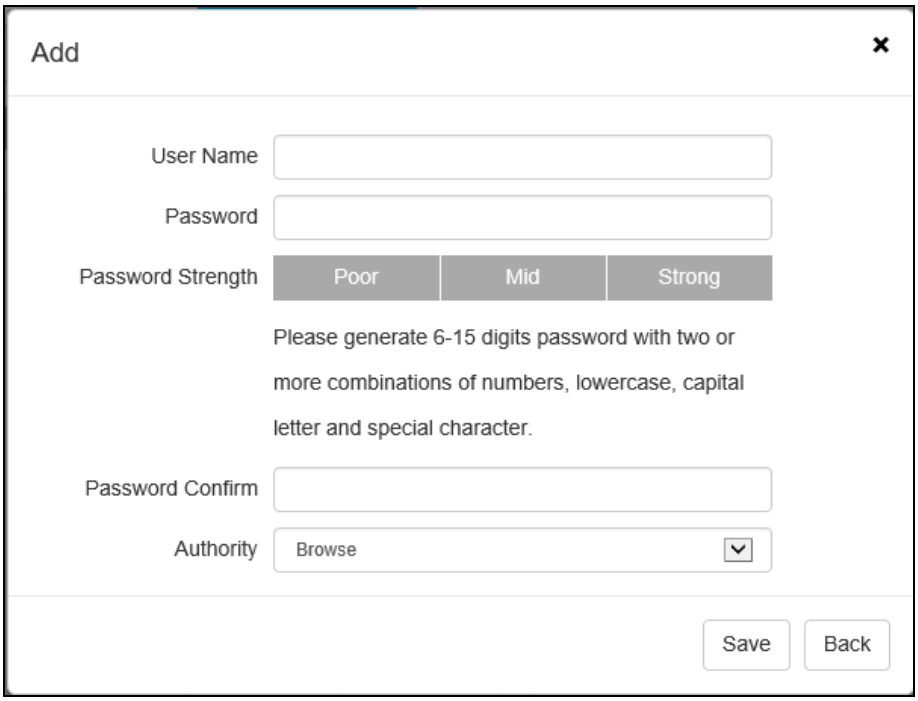
(3)Some models support setting baud rate.

6.15.2 Users

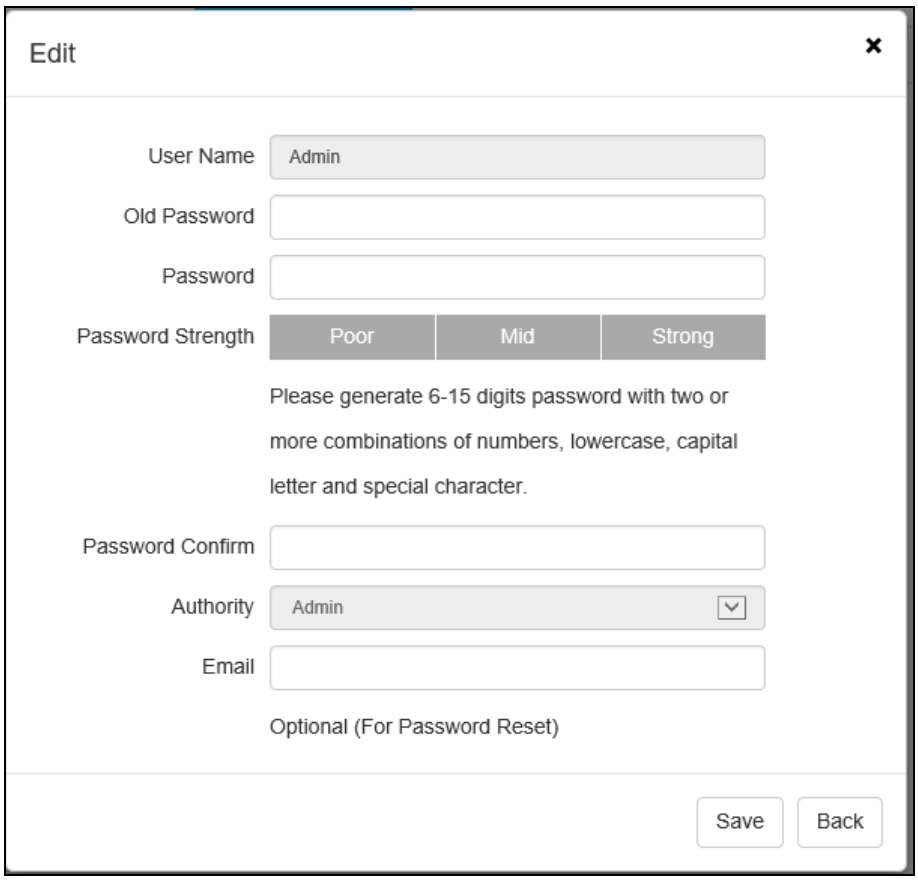
Users->users



Users setting interface



Add user setting interface



Modify password setting interface

[Add User]

The new user adds the user name, password, and permissions, where the user name and password can only be entered in English letters and Numbers. Click the "save" button after the above three items are filled in.

Notes: Only the administrator can add and modify users.

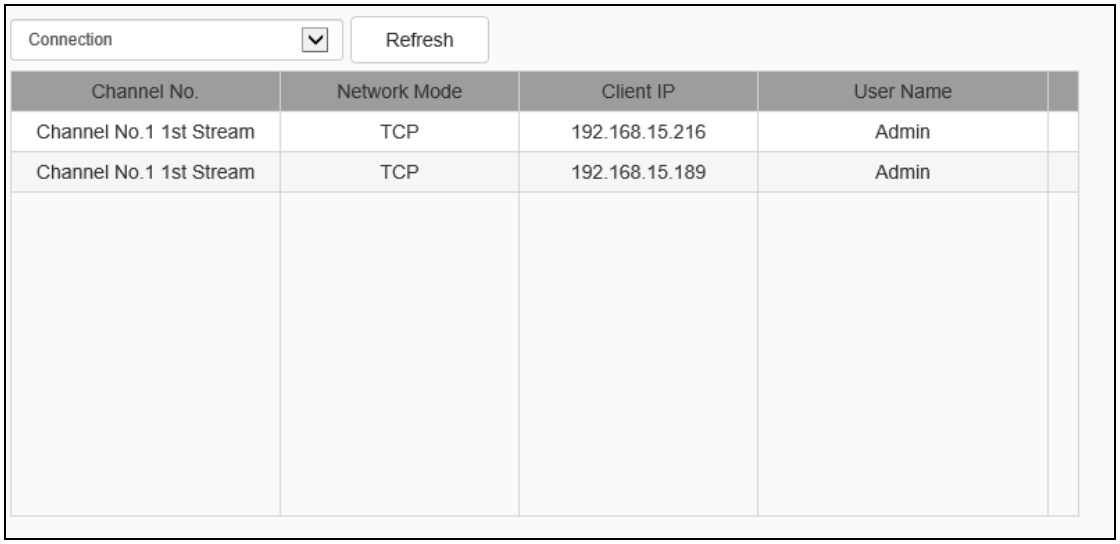
[Modify password]

In the user list, click [edit] and then pop up the prompt box to change the password. Enter the old password, the new password, and the password confirm and click the [modify] button.

[Deleted User]

In the user list, click the [delete] button to pop up the prompt box to click ok.

Users->Connection

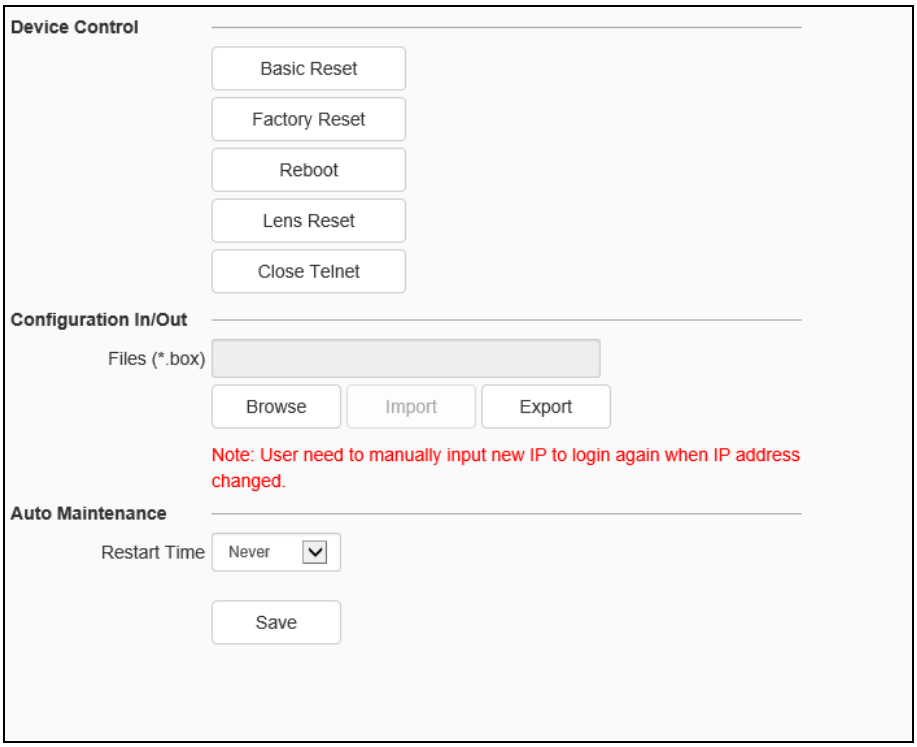


Connection interface setting interface

Displays a detailed list of connections/logins to the device, including channel type, network mode, client IP, and user name. Click [Refresh] to update the list.

6.15.3 Maintenance

Maintenance->Maintenance



Maintenance interface

[Device Control]: allows customers to perform [restore default], [simple restore], [restore factory], [restart equipment], [aperture correction], [lens reset], [disable / enable ABF], [Open Telnet] and other operations. Because the functions of different models are different, please refer to

the actual interface.

[Import]/ [Export]: used for equipment maintenance, mainly divided into three categories:

(1) [Event Server] options include alarm period and linkage item setting information, excluding intelligent analysis.

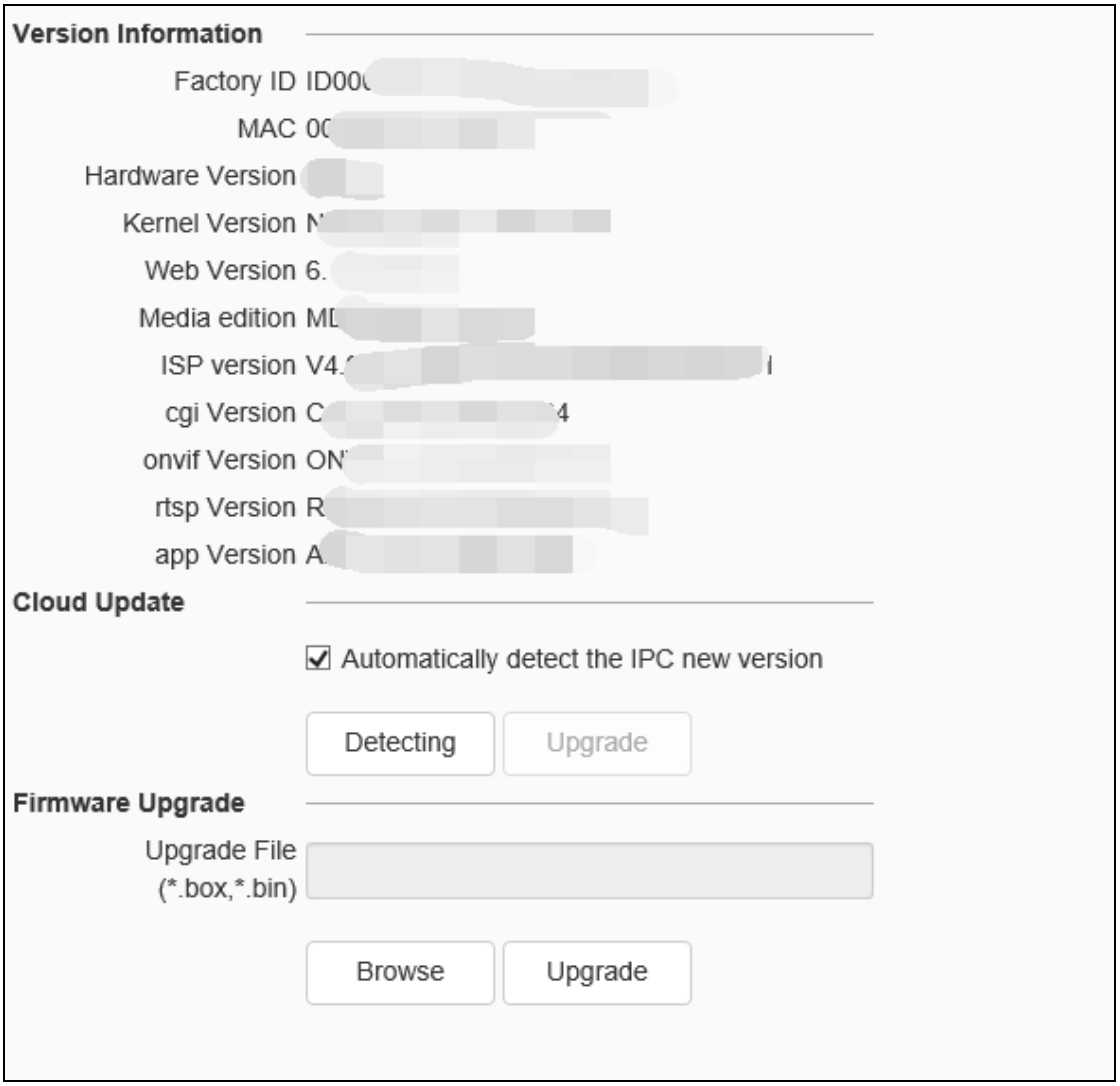
(2) [Smart Analytics]options include settings related to intelligent analysis, including rules, periods, etc.

(3) [System Setting] options include all setting information except the above alarm, intelligent analysis, logo, storage strategy, and local setting, including video parameters, HD parameters, character superposition, video recording strategy, network setting, and other information.

[Auto maintenance]: Set the automatic reboot time of the dome camera to conduct automatic maintenance.

[Channel expansion]: Change the number of channels supported by the device by changing the Number of Ways. (some equipment support)

Maintenance - > Upgrade



Upgrade interface

Upgrade - Version Information

[Version Information]: it includes equipment information such as [factory ID], [MAC], [Hardware Version],[Kernel Version] and [Web Version].

System upgrade - Cloud upgrade

The version of equipment can be detected by itself automatically. This operation shall be completed under the guidance of a technician of the company.

Click “Detect” to detect whether the current version is the latest.

Click “upgrade” to upgrade the program on the cloud platform.

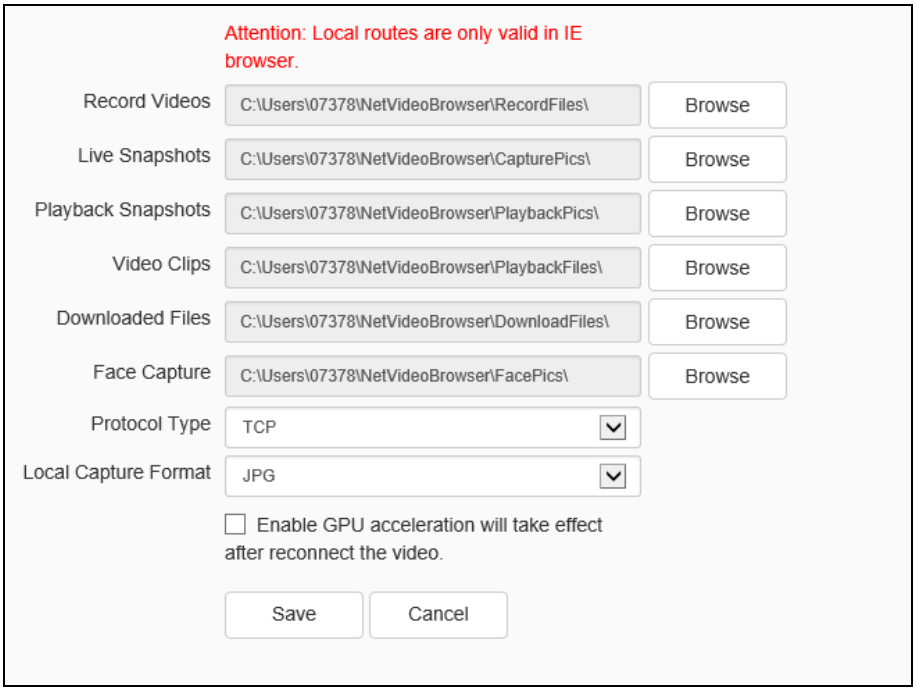
Upgrade - Firmware Upgrade

[Firmware Upgrade]: the user can select a local legal. Box or. Bin file to upgrade the device remotely. The upgrade operation of the kernel program shall be conducted under the guidance of the company's technical personnel.

[Browse]: find the upgrade file in the pop-up window.

[Upgrade]: upgrade to the latest version through the network.

6.15.4 Local PC Settings



Local PC Settings

[Video File / Live view Capture / Playback Capture / Playback Clip / Playback Download / Smart Analysis Path / Face Capture / Traffic Capture]: You can set the storage path.(Please refer to the actual interface display)

[Protocol Type]: The user can choose the network connection protocol for the camera. (When [Protocol Type] is [UDP], only one connection is supported.)

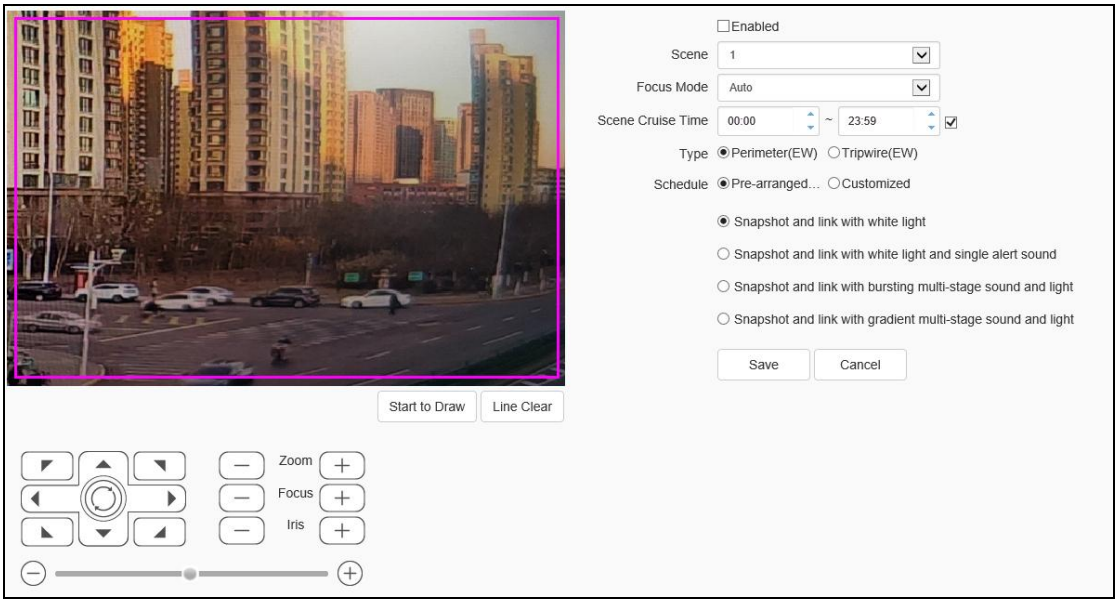
In the pull-down list of [Local Capture Format], select the picture format of the local snapshot. Such as [JPG], [BMP], etc. send a pic to FTP or Email, please select JPG.

[Enable GPU Acceleration]: After users select, the camera enables GPU acceleration.

Notes:

If the video live view is bad or the system crashes, you need to disable the GPU acceleration, because the PC hardware driver doesn’ t match.

6.16 EW



Alert setting interface

In the alert setting interface, the user can set alert parameters according to the actual situation or preference of the site.

Plan setting:

Step 1 check to enable an effective alert algorithm.

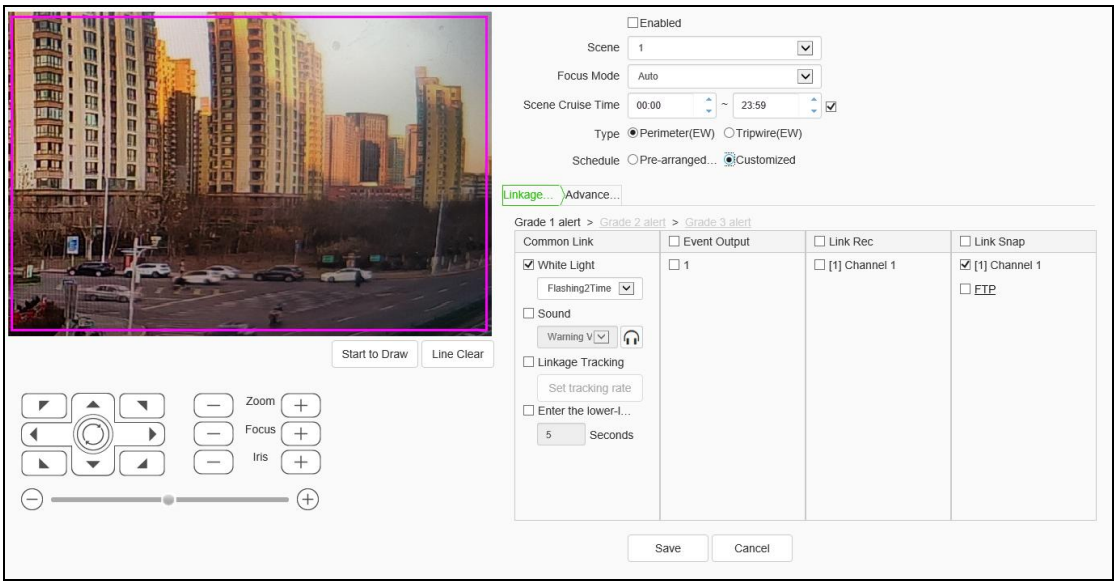
Step 2 select [Type], set perimeter alert or tripwire alert, and set the effective time of the alert scene.

Step 3 adjust the scene and draw a warning area or warning line. Perimeter alert default full screen is alert area. If you need to adjust, you need to clear the line and draw again.

Step 4 select a preset alert plan.

Step 5 click the "save" button to complete the algorithm setting and exit the alert setting interface to take effect.

Customized settings:



Customized setting interface

Step 1 check to enable an effective alert algorithm.

Step 2 select alert type: perimeter alert or trip line alert, and set the effective time of the alert scene.

Step 3 adjust the scene and draw a warning area or warning line.

Step 4 select a custom alert template.

Step 5 set linkage item or advanced parameter. Among them, linkage items can be set with three levels of warning at most, and each level of warning effect can be set separately.

Step 6 click the "save" button to complete the algorithm setting and exit the alert setting interface to take effect.

Description:

Note: Focus mode, including autofocus and fixed focus, autofocus by default. When set to fixed focus mode, you need to manually adjust the

focus value. (Supported by some models).

(1) The device supports setting up multiple scenes. You can set up different scenes through the above steps.

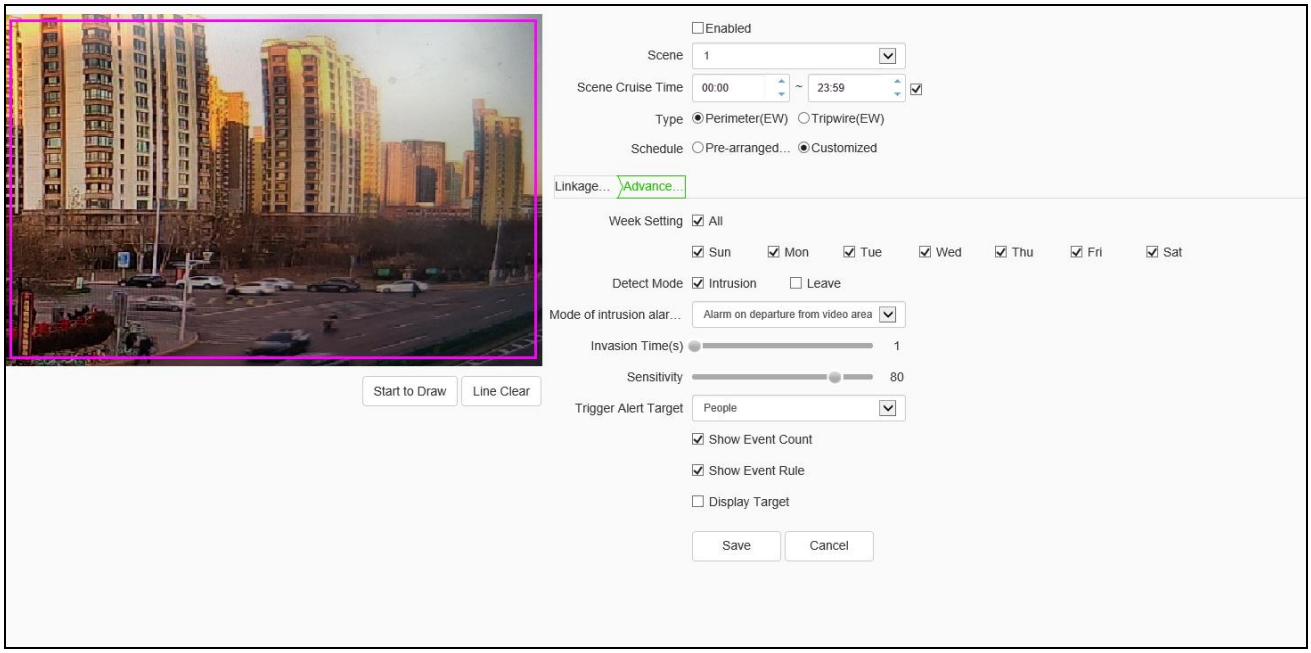
(2) In the perimeter alert, the plan of "explosive multi-level sound and light alert" is: after the target intrudes into the alert area, the white light flashes strongly and the voice calls.

(3) "Progressive multi-level sound and light alert" plan is: it is divided into three levels by default, and the warning effect is enhanced step by step. When the retention time in the upper level is greater than the set value, it will enter the next level.

(4) The linkage settings in the user-defined template can be set up to three levels of linkage, and the linkage items can be set separately in each level of settings.

(5) In linkage setting, the constant light option of linkage white light indicates that the white light will be turned on in case of alarm, and will be turned off automatically after the alarm is canceled.

(6) Advanced parameters in the user-defined template include Defense week, detection mode, trigger alarm target, trigger sensitivity, maximum tracking time, display rule and target box sets, etc.



(7) The alert types are divided into perimeter alert and trip line alert, aiming at the intrusion area, departure area, and cross-border behavior. The perimeter alert is the intrusion zone alert by default. Users can modify the detection mode in the advanced settings of the user-defined template.

(8) The warning detection target defaults to person and vehicle. Users can user-defined advanced settings according to specific needs.

(9) The longest tracking time takes effect when the linkage tracking, which means that when the time is reached, the tracking action will stop and return to the alert monitoring scene.

(10) The user-defined alert tone can be set in the following two ways: 1. Download audiomaker.exe software, record the warning tone according to the help document of the software, make an upgrade package, and then download it to the camera through the camera's web page upgrade

mode. 2. Download the mobile client through the QR code button in the live view interface, and record and upload the warning tone for the devices connected to the Internet that support custom warning tone.

7 Simple Troubleshooting

Fault Description	Possible reason	Troubleshooting method
No action, image, or self-checking when powered on	The power supply is damaged or insufficient	Change the power supply
	Wrong power-line connection	Amend, pay attention to the positive and negative side of DC power supply
	Wiring problem	troubleshoot the circuit and measure the terminal voltage of the dome camera
self-checking normal	Wiring problem, damaged network cable or switch	PC connects to the dome camera directly to determine the problem segment
	The equipment is not in the same network segment as the PC	Troubleshoot the line, modify the IP address to ensure that the IP does not conflict with each other
cannot log in	User name or password error	check the current login user name and password of the dome camera
	Port number error	Check the port number of the

		current dome camera
	Set up blacklist and whitelist	Hard reset
	Login account exceeds the limit	Disconnect other users
Normal login, unable to connect video	User-end connection exceeds equipment limit	excessive proxy of front-end video
	Camera abnormal	Check the daily record of the equipment
	Parameter configuration error	Dome camera restores default parameters
Fig. patchy	IP conflict, MAC conflict, broadcast storm	Troubleshoot circuit and network settings, capture packet, troubleshoot with direct connection
	circuit problem, network line virtual connection	troubleshoot circuit
Video break, jam, or delay	PC insuficient performance	Check CPU usage rate, reduce bitstream and resolution
	Low frame rate setting, video breaking	Adjust the frame rate to more than 20 frames
	Lack of bandwidth	Substitute for Gigabit switch
	Insufficient performance of back-end decoding equipment	Substitute for high-performance NVR, decoder, and other decoding

		equipment.
cannot control the dome camera	Serial port setting error	The Front-end dome camera serial port shall be COM2
	Baud rate, protocol, or address error	Adjust control parameters of control end
Automatic restart of the dome camera repeatedly	Insufficient power supply and unstable voltage	Measure the voltage of the dome camera terminal to ensure the power supply voltage stable
	PPPOE dialing failed	Dial parameters are set correctly, modify parameters
	The camera has no Fig. The dome camera is restarted	Camera damaged, replace the camera
	Parameter setting abnormal	Restore default parameters
cannot recognize TF card	Plug and unplug the TF card under power lost condition	Reinsert after power lost
	There is a problem with the partition information of the disk, which makes the device unrecognized and needs to be reformatted.	Reformat
	Card loosening	Reseat the TF card
Audio fault	Confirm that the driver and wiring of the	Install audio driver

	corresponding sound card of the host are correct, and play music to test	
	Make sure that "audio and video streaming" is selected, not "video streaming"	Set as "audio and video" in audio and video parameters
	wiring is correct	Re-wiring
	Adjust the audio input volume through IE, maybe it is too low	Re-set the volume

8 After-sales Services

For the high-definition network series camera produced in our company, we promise a one-year warranty. During the product warranty period, the company provides free maintenance services, but in case of the following circumstances, the material cost and labor cost shall be charged as appropriate:

(3) The camera is damaged due to the operation not being by the user manual;

(4) Lightning, fire, and irresistible natural disasters;

(5) Damage caused by matching problems due to poor product design of other manufacturers;

(6) Due to our continuous adoption of new technology, product parameters are subject to change without notice.

9 Appendix I Lightning Protection and Surge Protection

Lightning and surge protection shall be considered for outdoor cameras. On the premise of ensuring electrical safety, the following lightning protection measures can be taken:

(1) The signal transmission line must be kept at least 50 meters away from the high-voltage equipment or high-voltage cable;

(2) Outdoor wiring shall be routed under the eaves as much as possible;

(3) For the open area, the sealed steel pipe must be buried for wiring, and the steel pipe shall be grounded at one point, and the overhead wiring is prohibited;

(4) In strong thunderstorm areas or high induced voltage areas (such as high-voltage substation), additional high-power lightning protection equipment and the lightning rod must be installed;

(5) The lightning protection and grounding design of outdoor devices and lines must be considered in combination with the lightning protection requirements of buildings, and meet the requirements of relevant national standards and industry standards;

(6) The system must be equipotential grounded. The grounding device must meet the double requirements of system

anti-interference and electrical safety, and shall not be short-circuited or mixed connected with the zero line of the strong current network. When the system is grounded separately, the grounding impedance shall not be greater than 4 Ω, and the cross-sectional area of the grounding conductor shall not be less than 25mm².

