User Manual
PTZ Network Camera

O4P4X2

Please read this instruction carefully before operating the unit and keep it for further reference

1. Electrical safety

All installation and operation here should conform to local electrical safety codes.
Use a certified/listed 12VDC power supply only.
Please note: Do not connect two power supplying sources to the device at the same time; it may result in device damage! The product must be grounded to reduce the risk of electric shock.
Improper handling and/or installation could run the risk of fire or electrical shock.

2. Environment

Do not expose the unit to heavy stress, violent vibration or long-term exposure to water and humidity during transportation, storage, and/or installation.
Do not install near sources of heat.
Only install the product in environments inside the specification operating temperature and humidity range.
Do not install the camera near power lines, radar equipment or other electromagnetic radiation.
Do not block any ventilation openings if any.
Use all the weatherproofing hardware requirement to minimize weather intrusion.

3. Operation and Daily Maintenance

Please shut down the device and then unplug the power cable before you begin any maintenance work.
Do not touch the CMOS sensor optic component. You can use a blower to clean the dust on the lens surface.
Always use the dry soft cloth to clean the device. If there is too much dust, use a cloth dampened with a small quantity of neutral detergent. Finally use the dry cloth to clean the device.
Please use a professional optical cleaning method to clean the enclosure. Improper enclosure cleaning (such as using cloth) may result in poor IR functionality and/or IR reflection.
The grounding holes of the product are recommended to be grounded to further enhance the reliability of the camera.
Dome cover is an optical device, please do not touch or wipe cover surface directly during installation and use, please refer to the following methods if dirt is found.
Stained with dirt:
Use oil-free soft brush or hair dryer to remove it gently.
Stained with grease or fingerprint.
Use oil-free cotton cloth or paper soaked with alcohol or detergent to wipe from the lens center outward. Change the cloth and wipe several times if it is not clean enough.

Warning

This camera should be installed by qualified personnel only.
All the examination and repair work should be done by qualified personnel.
Any unauthorized changes or modifications could void the warranty.

Statement

This guide is for reference only.
Product, manuals, and specifications may be modified without prior notice. Speco Technologies reserves the right to modify these without notice and without incurring any obligation.
Speco Technologies is not liable for any loss caused by improper operation.

Regulatory Information

FCC conditions:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

FCC compliance:

This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Note:

Before installation, check the package and make sure that all components are included.
Contact your rep or Speco customer service department immediately if something is broken or missing in the package.

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1 Introduction

Welcome

Thank you for purchasing this network camera!
Please read this manual carefully before operating the unit and retain it for further reference.
Should you require any technical assistance, please contact Speco Technologies Technical Support at 1-800-645-5516.

Main Features

- Built-in PoE (Power over Ethernet)
- IP66/IP67 rated for outdoor installations
- Remote viewing support via web browser, mobile APP, and CMS/VMS

Applications

2 Web Access and Login

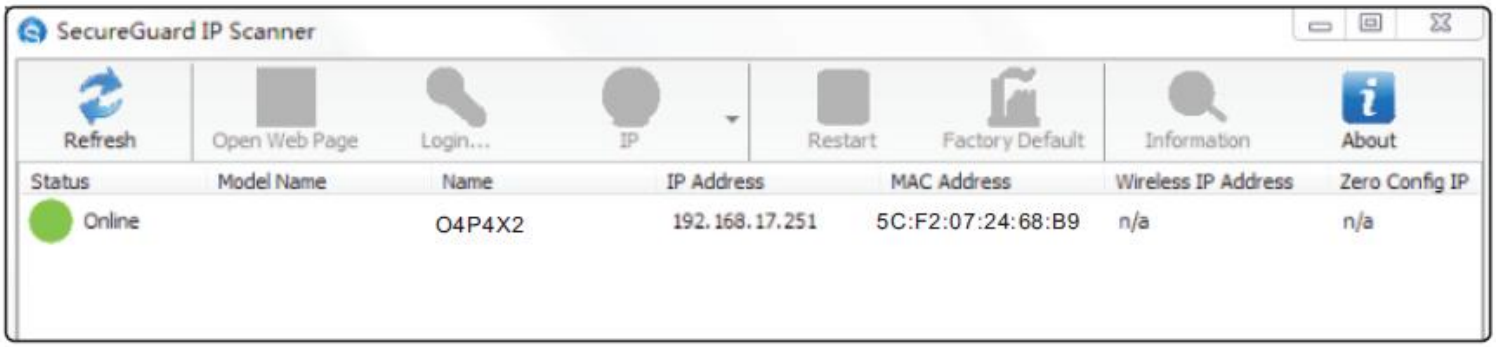
The IP camera settings can be accessed via a web browser (Internet Explorer 8 and up) through the LAN.

- Access through IP Scanner

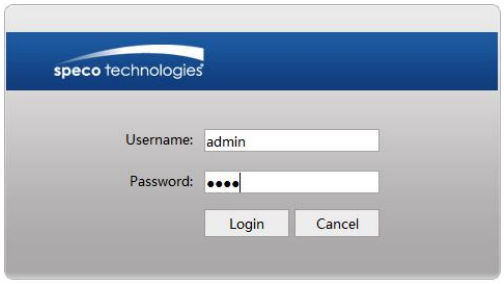
Network connection:

① Make sure the PC and IP-Cam are connected on the same local network. The camera is set to DHCP by default and will be assigned an IP address by the DHCP server. Make sure that the local network has a DHCP server. Routers typically have a DHCP server built in.

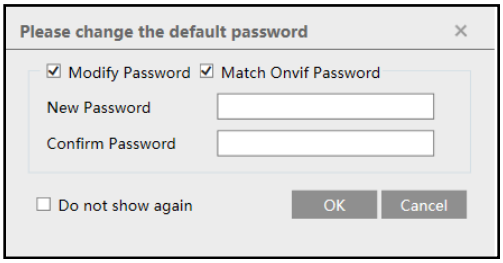
② Install IP Scanner from the CD and run it after installation. IP Scanner is the tool for discovering the IP cameras on the local network.



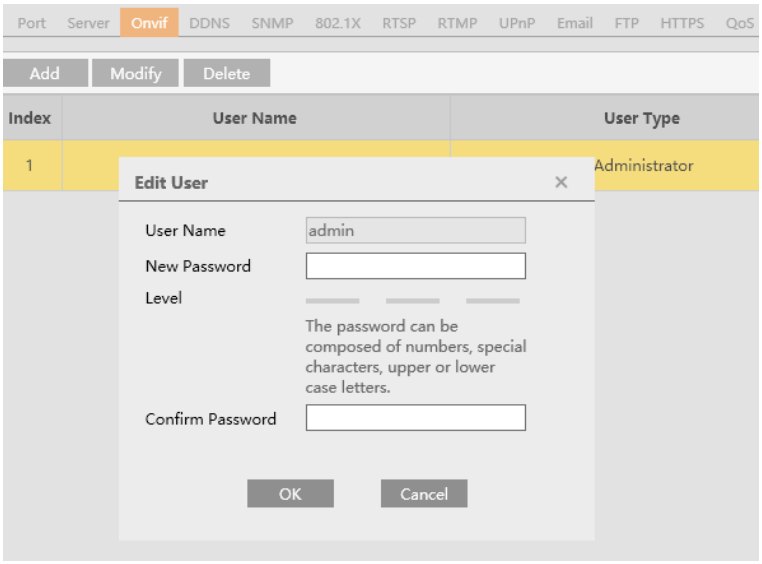
③ In the device list, the IP address, model number, and MAC address of each device will be listed. Select the applicable device and double click to open up the web viewer. You can also manually enter the IP address in the address bar of the web browser (Internet Explorer 8 and up).



The login interface is shown above. Default username is **admin** and password is**1234**. After logging in, follow directions to install applicable plug-ins for viewing video.

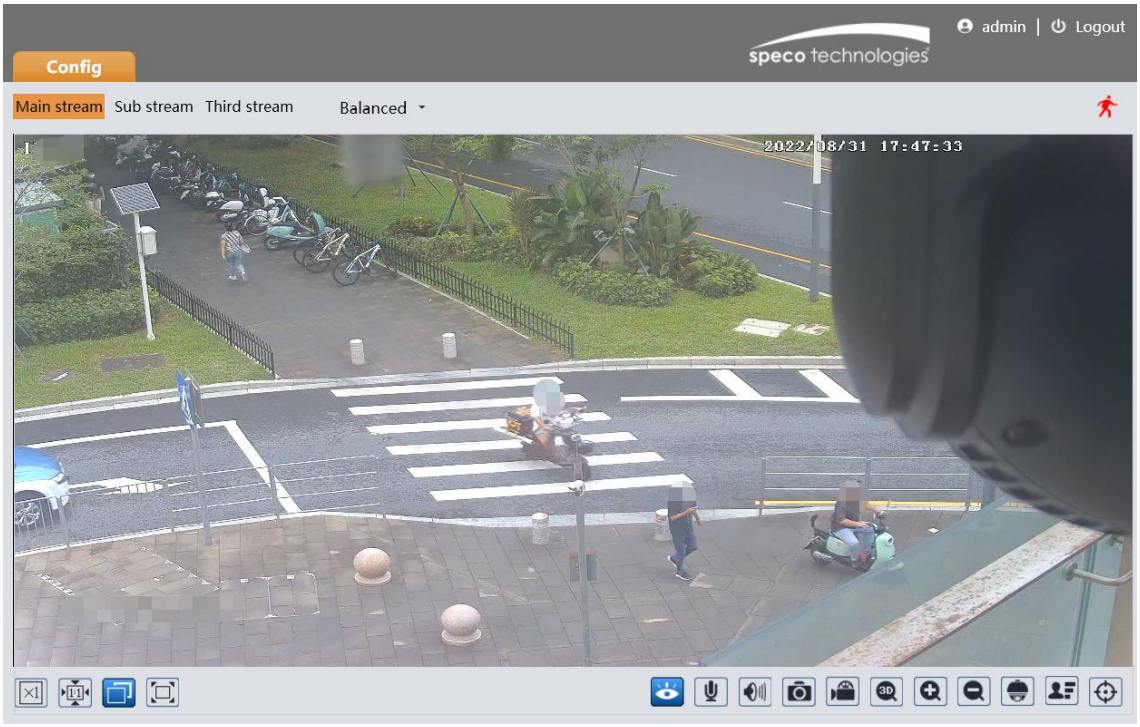


If this is the first time for you to log in, the password prompt may only change the admin password. To change ONVIF password, you either have to check the “Match Onvif Password” box (if available) or go to the the ONVIF section to change the password. (Config→Network→Ports/Connections→Onvif)



3 Live View

The window below will be shown after logging in.



The following table describes the icons on the live view interface.

Icon	Description	Icon	Description
	Original size		Rule information display
	Fit correct scale		Color abnormal indicator
	Auto (fill the window)		Abnormal clarity indicator
	Full screen		Scene change indicator
	Start/stop live view		Line crossing indicator
	Start/stop two-way audio		Sensor alarm indicator (only some models support)
	Enable/disable audio		Intrusion indicator
	Snapshot		Motion alarm indicator
	Start/stop local recording		Region entrance indicator
	Zoom in		Region exiting indicator
	Zoom out		Face detection indicator
	PTZ control		Target counting indicator
	Face Detection		SD card recording indicator

: Move the cursor to view the live image in all direction after you click this button. Additionally, hold and drag the left mouse button to zoom in the live image.

- All indicator icons above will flash in live view interface only when the corresponding events are enabled.
- In full screen mode, to exit, double click on the mouse or press the ESC key on the keyboard.

Click the PTZ icon to reveal the PTZ control panel.
The descriptions of the control panel are as follows:

Icon	Description	Icon	Description
	Move upper left direction		Move upper right direction
	Move up		Stop movement
	Move left		Move right
	Move lower left direction		Move lower right direction
	Move down		Speed adjustment
	Zoom out		Zoom in
	Focus -		Focus +
	Iris -		Iris +
	Auto scan		Wiper
	Light		Radom scan
	Group scan		Preset

Select preset and click to call the preset. Select and set the preset and then click to save the position of the preset. Select the set preset and click to delete it.

4 Camera Configuration

Press the “Setup” button to go to the configuration interface.
Note: Wherever applicable, click the “Save” button to save the settings.

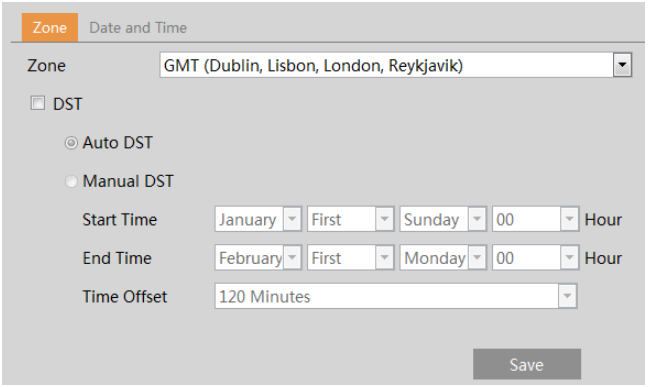
4.1 System Configuration

4.1.1 System Information

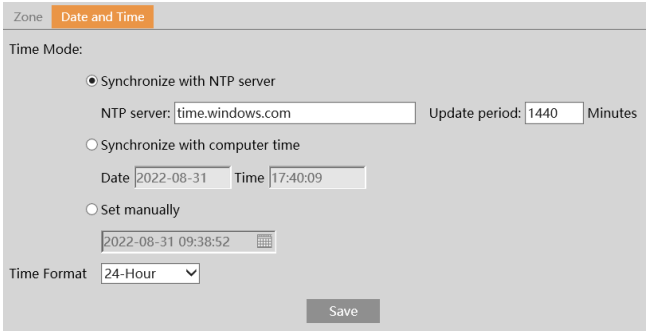
In the “System Information” interface, the system information of the device is listed.

4.1.2 Date and Time

To set the time and date, go to System→Date and Time. Please refer to the following interface.

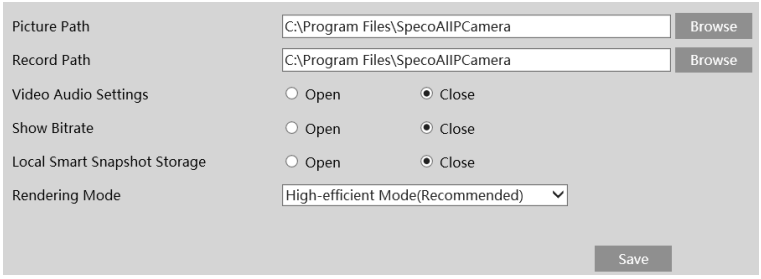


Select the applicable time zone and enable / disable DST as needed.
Click the “Date and Time” tab to set the time, date and time format.



4.1.3 Local Recording

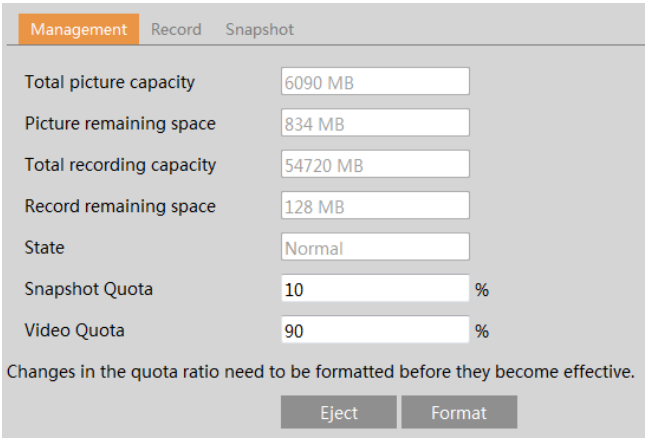
Go to System→Local Recording to set up the storage path of captured pictures and recorded videos on the local PC. There is also an option to enable or disable the bitrate display in the recorded files.



Additionally, the snapshots triggered by smart events (including face detection, line crossing detection and intrusion detection) can be selected to save to the local PC.
Rendering Mode: High-efficient mode, compatible mode or low-efficient mode can be optional.
If the performance of your computer is not compatible with the web client or your computer has no graphics card, low-efficient mode is suggested.

4.1.4 Storage

Go to System→Storage to go to the interface as shown below.

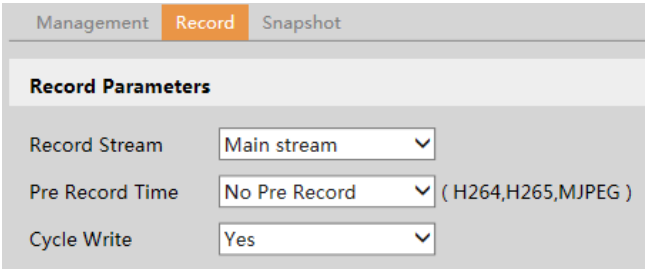


- **SD Card Management**

When the card is used for the first time, click the "Format" button to format the SD card. **All data on the card will be cleared by clicking this button.**
Click the "Eject" button to stop writing data to the SD card. Then the SD card can be ejected safely.
Snapshot Quota: Set the capacity proportion of captured pictures on the SD card.
Video Quota: Set the capacity proportion of record files on the SD card.

- **Schedule Recording Settings**

1. Go to Storage→Record to go to the interface as shown below.



2. Set record stream, pre-record time and cycle writing.

Pre Record Time: Set the time to record before the actual recording begins.

3. Set schedule recording. Check "Enable Schedule Record" and set the schedule.

Weekly schedule

Set the alarm time from Monday to Sunday for a single week. Each day is divided in one hour increments. Green means scheduled. Blank means unscheduled.

"Add": Add the schedule for a special day. Drag the mouse to set the time on the timeline.

"Erase": Delete the schedule. Drag the mouse to erase the time on the timeline.

Manual Input: Click it for a specific day to enter specific start and end times. This adds more granularities (minutes).

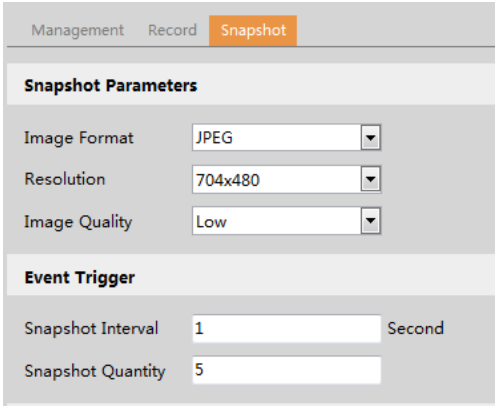
Day schedule

Set the alarm time for alarm a special day, such as a holiday.

Note: Holiday schedule takes priority over weekly schedule.

- **Snapshot Settings**

Go to System→Storage→Snapshot to go to the interface as shown below.



Set the format, resolution and quality of the image saved on the SD card and the snapshot interval and quantity and the timing snapshot here.

Snapshot Quantity: The number you set here is the maximum quantity of snapshots. The actual quantity of snapshots may be less than this number. Supposing the occurrence time of an alarm event is less than the time of capturing pictures, the actual quantity of snapshots is less than the set quantity of snapshots.

Timing Snapshot: Enable timing snapshot first and then set the snapshot interval and schedule. The setup steps of schedule are the

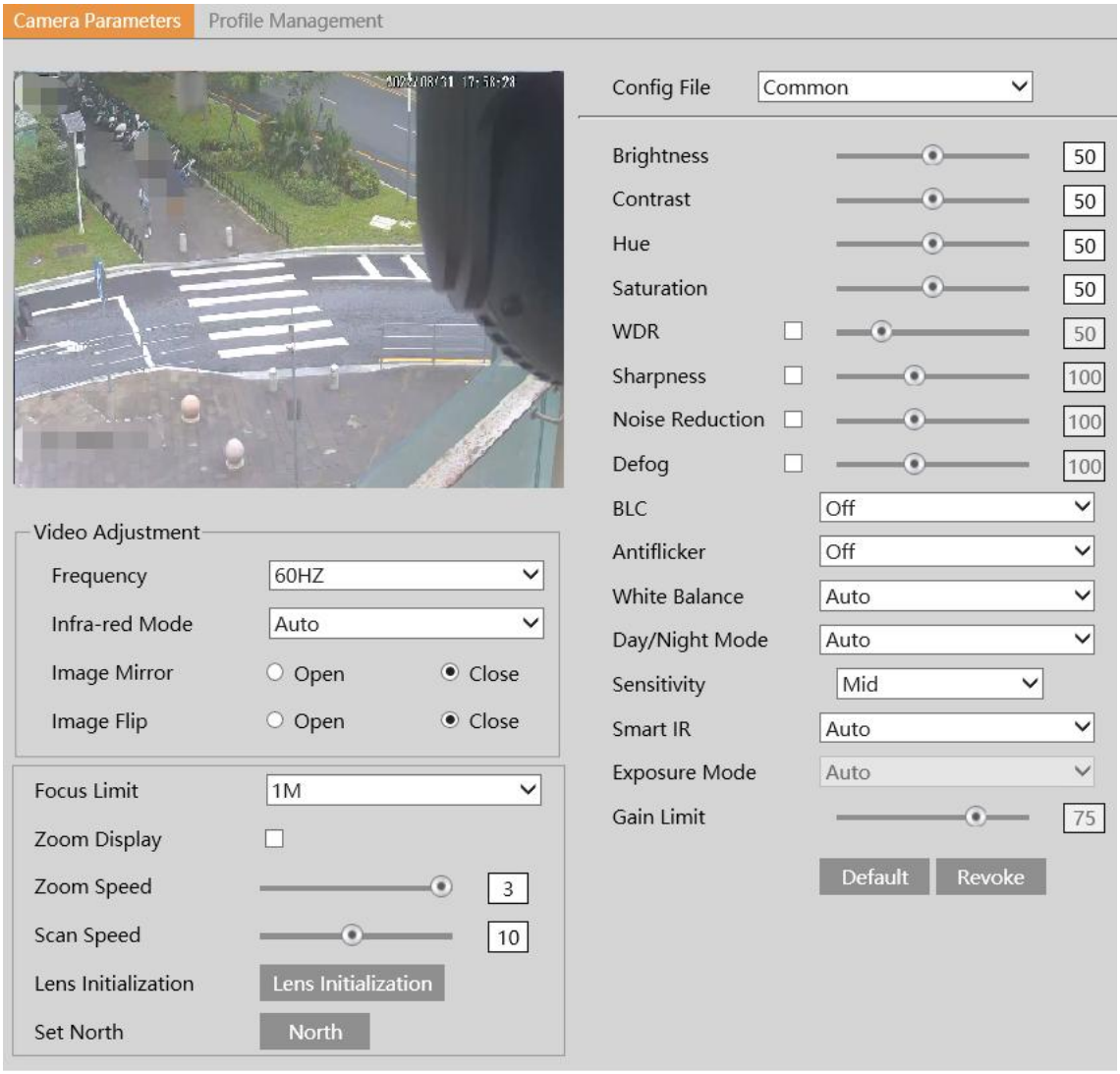
same as the schedule recording (See Schedule Recording).

4.2 Video Configuration

Video Configuration includes Image Settings, Video/Audio Setup, OSD, Privacy Mask and Region of Interest.

4.2.1 Image Configuration

In the Image Settings interface as shown below, various settings can be adjusted, such as brightness, contrast, hue and saturation and so on. The common mode and day and night mode can be set up separately. The image effect can be quickly viewed by switching the configuration file.



Brightness: Set the brightness level of the camera's image.
Contrast: Set the color difference between the brightest and darkest parts.
Hue: Set the total color degree of the image.
Saturation: Set the degree of color purity. The purer the color, the brighter the image is.
WDR: WDR can adjust the camera to provide a better image when there are both very bright and very dark areas simultaneously in the field of the view by lowering the brightness of the bright area and increasing the brightness of the dark area.
Recording will be stopped for a few seconds while the mode is changing from non-WDR to WDR mode.
Sharpness: Set the resolution level of the image plane and the sharpness level of the image edge.
Noise Reduction: Decrease the noise and make the image more thorough. Increasing the value will make the noise reduction effect better but it will reduce the image resolution.

Defog: Activating this function and setting an appropriate value as needed in foggy, dusty, smoggy, or rainy environment to get clear images.

Backlight Compensation (BLC):

- Off: disables the backlight compensation function. It is the default mode.
- HLC: lowers the brightness of the entire image by suppressing the brightness of the image's bright area and reducing the size of the halo area.
- BLC: If enabled, the auto exposure will activate according to the scene so that the object of the image in the darkest area will be seen clearly.

Antiflicker:

- Off: disables the anti-flicker function. This is used mostly in outdoor installations.
- 50Hz: reduces flicker in 50Hz lighting conditions.
- 60Hz: reduces flicker in 60Hz lighting conditions.

White Balance: Adjust the color temperature according to the environment automatically.

Day/Night Mode: Choose "Auto", "Day", "Night" or "Timing".

Smart IR: Choose "ON" or "OFF". This function can effectively avoid image overexposure so as to make the image more realistic. The higher the level is, the more overexposure compensation will be given.

Exposure Mode: Choose "Auto" or "Manual". If manual is chosen, the digital shutter speed can be adjusted.

Gain Limit: The higher the value is, the brighter the image is.

Frequency: 50Hz and 60Hz can be optional.

Infra-red Mode: Choose "Auto", "ON" or "OFF".

Image Mirror: Turn the current video image horizontally.

Image Flip: Turn the current video image vertically.

Focus Limit: Set the nearest distance of focus. Options: 1m, 1.5m, 2m, 3m, 5m and 10m.

Zoom Display: If enabled, you will see the zoom magnification in the live image.

Zoom Speed: Adjust zoom speed. The range is from 1 to 3. The larger the value is, the faster the zoom speed is.

Scan Speed: Adjust scan speed. The range is from 1 to 20.

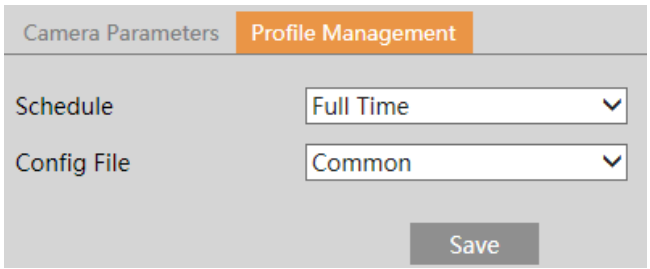
Lens Initialization: After enabling it, the camera lens will restore to the factory default settings.

Set North:

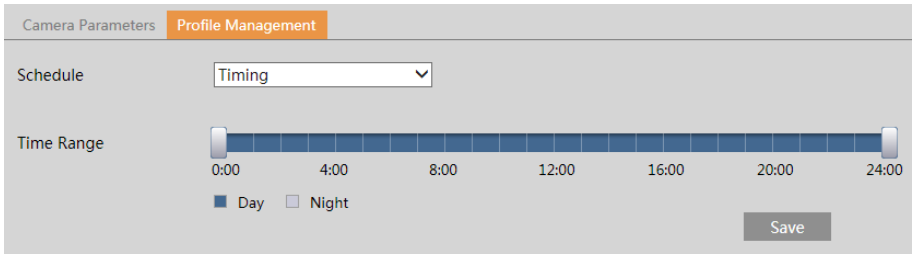
- Choose a location by clicking the direction button. Then click North to save the setting.
- The horizontal angle will treat the north position as a reference; otherwise it will treat the horizontal origin as a reference to display the clockwise rotation angle of the dome.
- The vertical PTZ will treat its highest point as a reference (when the camera is parallel with the horizontal ground) to show the included angle between the camera and horizontal ground.

Schedule Settings of Image Parameters:

Click the "Profile Management" tab as shown below.



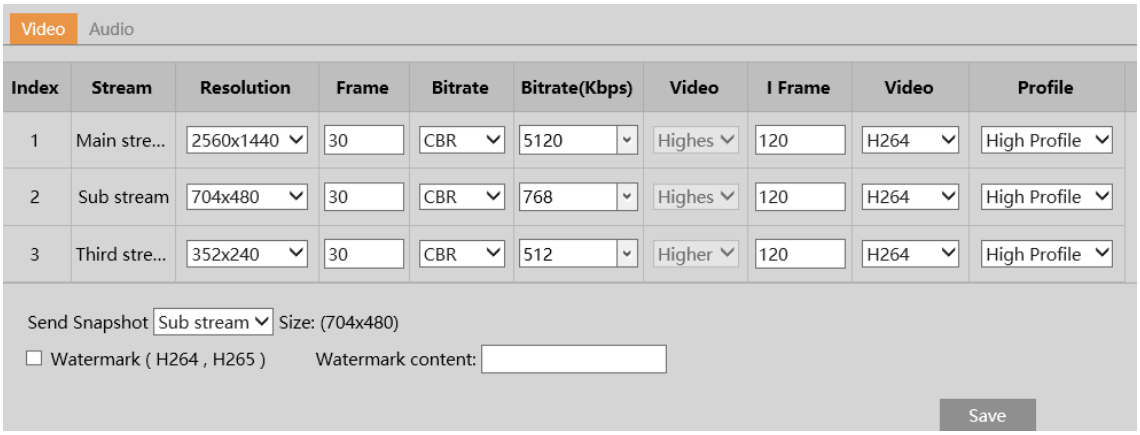
Set full time schedule for common, day or night mode and specified time schedule for day and night. Choose "Timing" in the drop-down box of schedule as shown below.



Drag "▮" icons to set the time of day and night. Blue means daytime and blank means night time. If the current mode of camera parameters is set to "Timing", the image configuration mode will automatically switch between day and night according to the schedule.

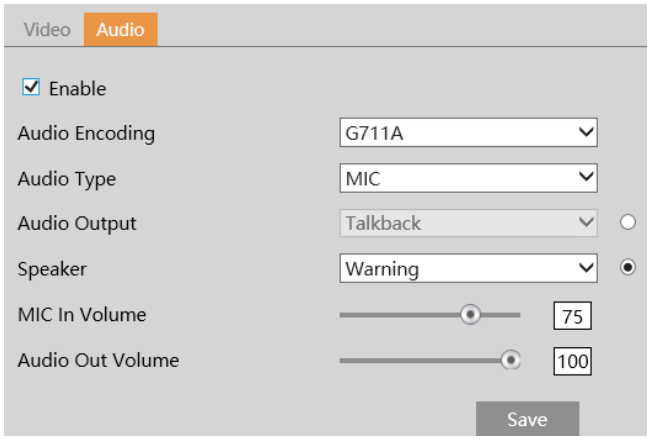
4.2.2 Video / Audio Configuration

Go to Image→Video / Audio interface as shown below. In this interface, set the resolution, frame rate, bitrate type, video quality and so on subject to the actual network condition.



Three video streams can be adjustable.
Resolution: The size of image.
Frame rate: The higher the frame rate, the video is smoother.
Bitrate type: CBR and VBR are optional. Bitrate is related to image quality. CBR means that no matter how much change is seen in the video scene, the compression bitrate will be kept constant. VBR means that the compression bitrate will be adjusted according to scene changes. For example, for scenes that do not have much movement, the bitrate will be kept at a lower value. This can help optimize the network bandwidth usage.
Bitrate: it can be adjusted when the mode is set to CBR. The higher the bitrate, the better the image quality will be.
Video Quality: It can be adjusted when the mode is set to VBR. The higher the image quality, the more bitrate will be required.
I Frame interval: It determines how many frames are allowed between a "group of pictures". When a new scene begins in a video, until that scene ends, the entire group of frames (or pictures) can be considered as a group of pictures. If there is not much movement in the scene, setting the value higher than the frame rate is fine, potentially resulting in less bandwidth usage. However, if the value is set too high, and there is a high frequency of movement in the video, there is a risk of frame skipping.
Video Compression: MJPEG, H264 or H265can be optional. If H.265 is chosen, make sure the client system is able to decode H.265. Compared to H.264, H.265 reduces the transmission bitrate under the same resolution, frame rate and image quality.
Profile: For H.264. Baseline, main and high profiles are selectable.
Send Snapshot: Set the snapshot stream.
Video encode slice split: If this function is enabled, smooth image can be gotten even though using the low-performance PC.
Watermark: When playing back the local recorded video in the search interface, the watermark can be displayed. To enable it, check the watermark box and enter the watermark text.

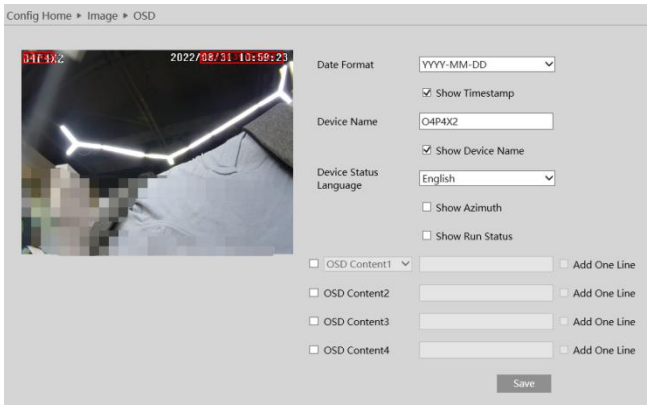
Click the "Audio" tab to go to the interface as shown below.



Audio Encoding: G711A and G711U are selectable.
Audio Type: LIN or MIC can be optional.
Audio Output: Talkback, warning or auto can be optional. If "Talkback" is selected, the audio output will be used to output sound for two-way talk. If "Warning" is selected, the audio output will be used to output the pre-defined audio alarm. If "Auto" is selected, the system will output sound for two-way talk or warning voice as needed. But when it is warning and two-way audio is being enabled simultaneously, two-way audio will be output first.
Speaker: Talkback, warning or auto can be optional. If "Talkback" is selected, the built-in speaker will be used to output sound for two-way talk. If "Warning" is selected, the built-in speaker will be used to output the pre-defined audio alarm. If "Auto" is selected, the system will output sound for two-way talk or warning voice as needed. But when it is warning and two-way audio is being enabled simultaneously, two-way audio will be output first.
LIN IN/MIC IN Volume: LIN IN Volume can be set here. If MIC is selected, MIC IN volume can be set.
Audio Out Volume: Set the volume of audio out device.

4.2.3 OSD Configuration

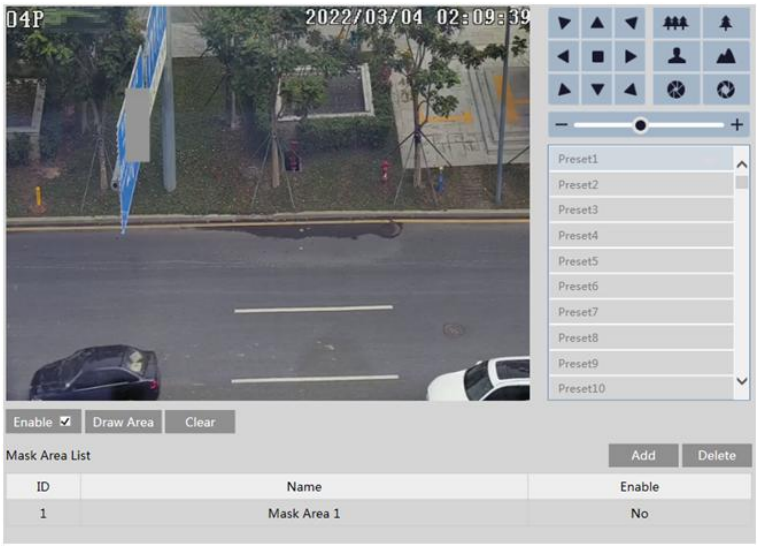
Go to Video→OSD interface as shown below.



Set time stamp, device name, OSD content and picture overlap here. After enabling the corresponding display and entering the content, drag them to change their position. Then click the "Save" button to save the settings.
Show Azimuth: Show the PTZ moving direction on the live view interface.
Show Run Status: Show the PTZ control status on the live view interface. For example, if the preset 2 is called, "PRE:002" will be shown on the live view interface.
Picture Overlap Settings:
Check "OSD Content1", choose "Picture Overlay" and click "Browse" to select the overlap picture. Then click "Upload" to upload the overlap picture. The pixel of the image shall not exceed 200*200, or it cannot be uploaded.

4.2.4 Video Mask

Go to Image→Privacy Mask interface as shown below. A maximum of 4 zones can be set up.



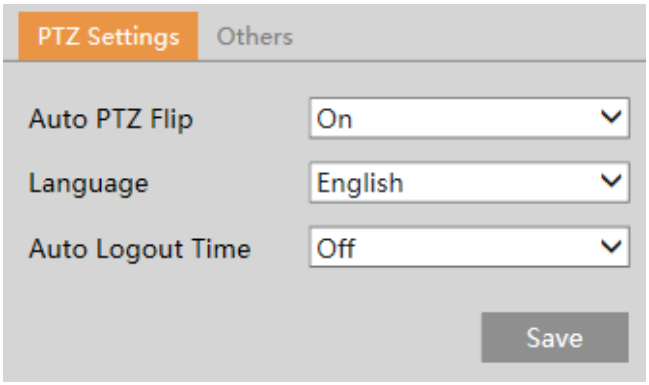
To set up video mask:
1. Enable video mask.
2. Click direction buttons to change the area you want to mask.
3. Click “Draw Area” and then drag the mouse to draw the video mask area.
4. Click “Add” to add the mask area.
5. Return to the live to verify that the area have been drawn as shown as blocked out in the image.

To clear the video mask:
Select the mask area in the mask area list and then click the “Delete” button to delete the current video mask area.

4.3 PTZ Configuration

4.3.1 PTZ and Password Setting

Go to Config→PTZ→Setting. This will let you see the following submenu.



In this submenu, PTZ flip, PTZ flip, language, auto logout time can be set.
If your model supports RS485 interface, you may configure the communication setting for keyboard control.

4.3.2 Restore

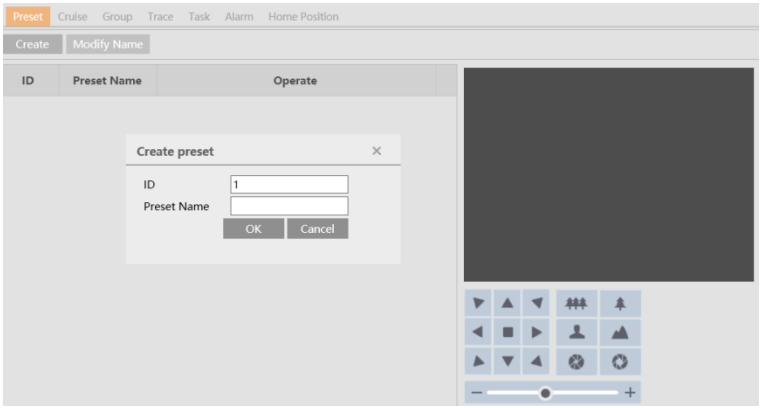
It includes the function of reset and clear.
Reset: Restore the camera state and active menu to the factory default settings but do not clear those parameters such as preset, cruise.
Clear: Restore the camera to the factory default settings.

4.3.3 PTZ Function

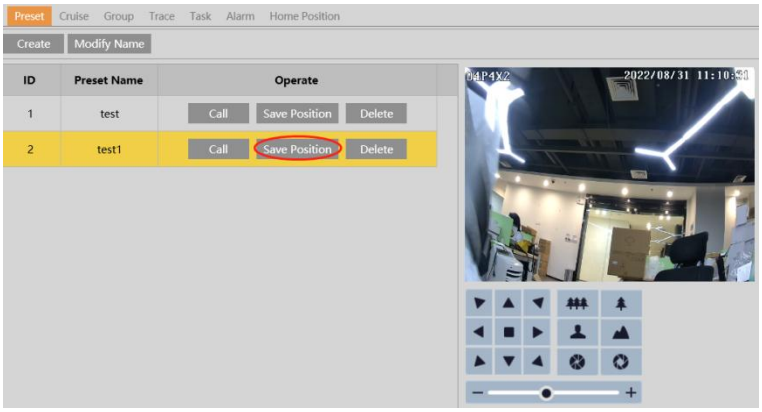
PTZ function includes preset setup, cruise setup, group setup, trace setup, task setup, alarm setup, home position setup and wiper setup.

- Preset Setup

This function is used to memorize the specific position of pan, tilt, zoom and focus, giving much convenience for quick return to this position by calling preset.

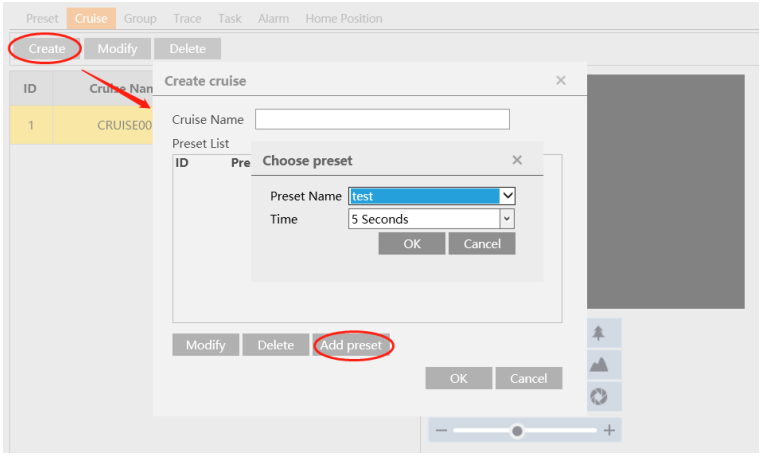


① Click “Create” to pop up a preset creation box.
② Enter the ID and preset name as needed. Then click “OK”.
③ Set the position of the preset by clicking the direction buttons. Then click “Save Position”. After that, click “Call” to call the preset.

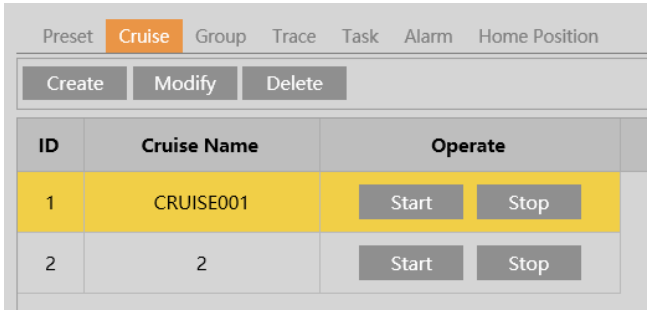


- Cruise Setup

In this interface, by programming presets in cruise list in advance, the system will keep calling those presets at the set time in sequence when executing cruise command so that non-stop monitoring between multiple important positions can be achieved.



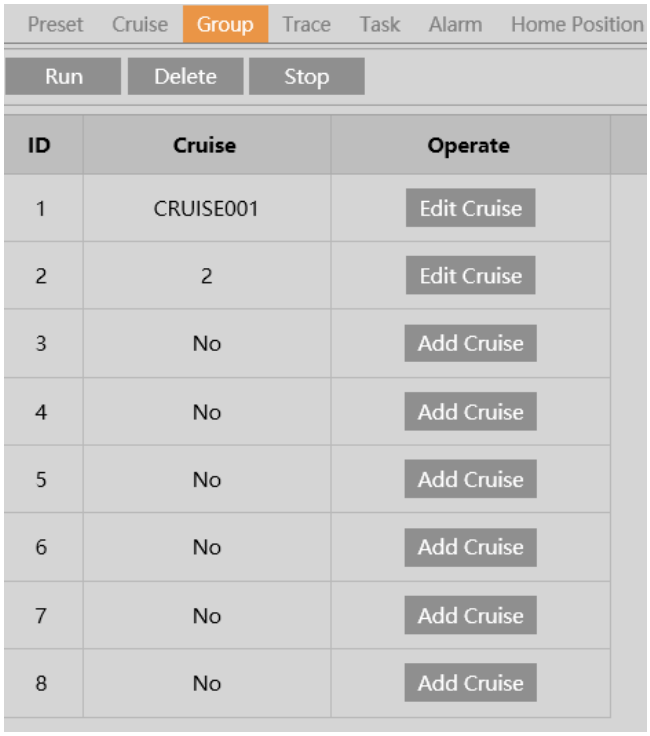
① Click “Create” to pop up a cruise creation box.
② Enter Cruise name and then click “Add preset” to add the preset in sequence. This camera supports 8 cruises and 16 presets for each cruise. Set the preset and time.
③ Click “OK” to save the settings.



④ Click “Start” to run the cruise. The camera will automatically keep running according to the cruise you set until new command is received.
⑤ Click “Stop” to stop running the cruise.

- Group Setup

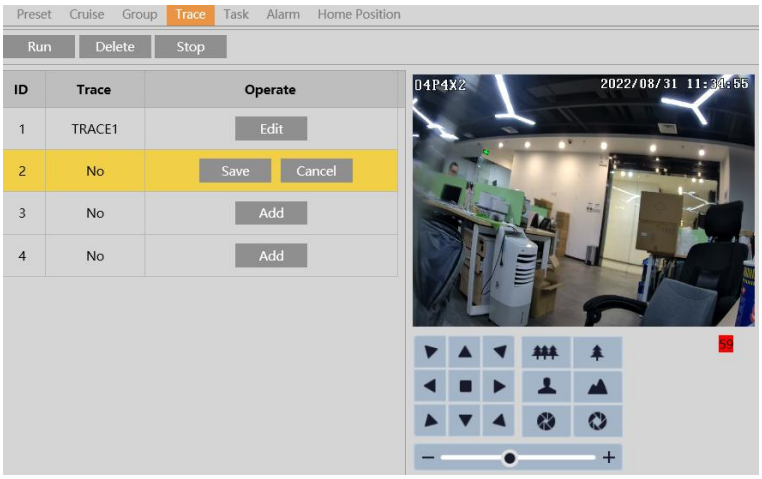
8 cruises can be set in a group.



Click “Add Cruise” to add a cruise. Click “Edit Cruise” to change a cruise. After these cruises are added, click “Run” to run the cruises in order. Click “Stop” to stop running.

- Trace Setup

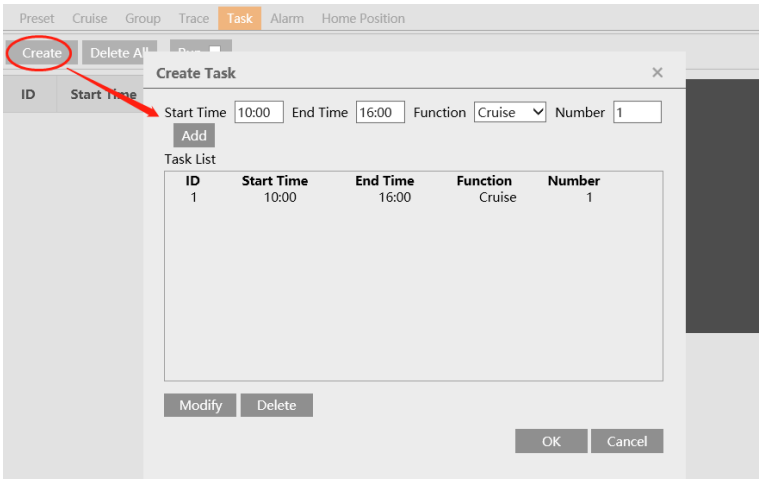
This function is used to memorize the operation to PTZ, zoom and focus so that repeating operation progress can be realized by running trace.



Click “Add” and then set the trace by clicking the direction/zoom/focus buttons. Each trace can record up to 180s. If the time exceeds 180s, the system will automatically save the operation data and return to the previous menu. In addition, 360 commands can be recorded for each trace at most. If exceeding 360 commands, the system will automatically save the first 360 commands and then exit the current menu. The recording time is related to the operating frequency. The more frequent the operation is, the shorter the memory time is.
Click “Save” to save the settings. After that, select the trace and click “Run” to play the trace.

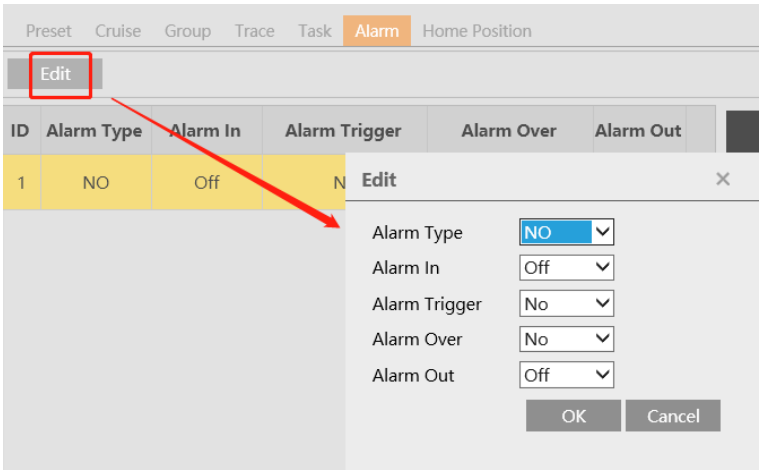
- Task Setup

By dividing 24 hours into several periods and appointing different commands for each period, the camera system will automatically execute the commands according to the set time if there is no operation.



⑥ Click “Create” and then set the start time and the end time.
⑦ Select the function and number. Then click “Add”.
⑧ After all tasks are added, click “OK” to save the settings.
⑨ The tasks will be automatically executed in chronological order by enabling “Run”.

- Alarm Setup



【ALARM Type】:Set the alarm enter type to be Normally Opened (N.O.) or Normally Closed (N.C.) according to the sensor type.

【ALARM In】:ON, OFF and TIME are optional.

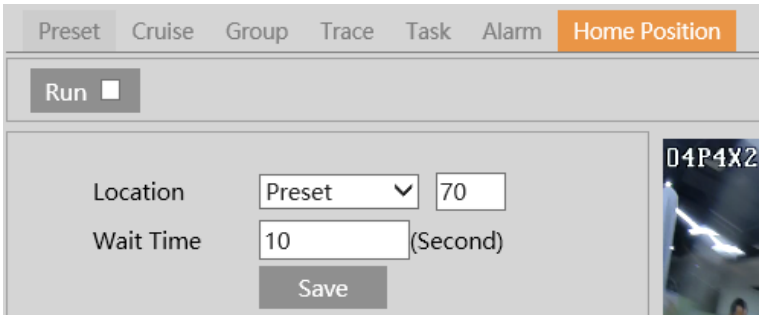
【ALARM Trigger】: Call the preset/cruise/trace/random scanning/boundary scanning you need. When the first alarm input happens, the camera will automatically switch to this preset/cruise/trace/ random scanning/boundary scanning to monitor.

【ALARM Over】:Call the preset/cruise/trace/random scanning/boundary scanning you need. When the alarm trigger is over, the camera will automatically switch to this preset/cruise/trace/random scanning/boundary scanning to monitor.

【Alarm Out】: Select it ON. When alarm input occurs, the camera will output alarm information.

☞ **Note**: If the dome is on the menu state on an alarm, any command is negative.

- Home Position



The setting steps:

① Enable the home position function and select the preset which should be set in advance.

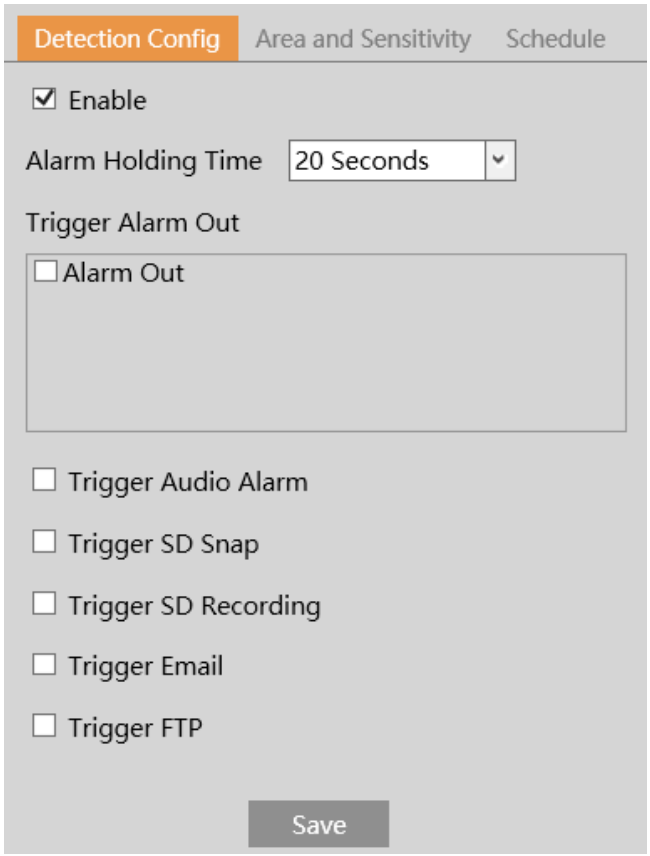
② Then select the wait time (range from 007s to 180s) and exit the menu.

When the stand-by time of the dome camera exceeds the wait time, the camera will automatically execute the command to monitor the selected preset.

4.4 Alarm Setup

4.4.1 Motion Detection

Go to Alarm Setup→Motion Detection to set motion detection alarm.



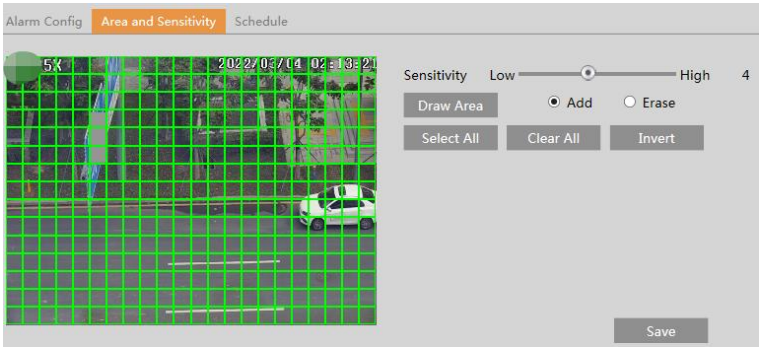
1. Check “Enable” check box to activate motion based alarms. If unchecked, the camera will not send out any signals to trigger motion-based recording to the NVR or CMS, even if there is motion in the video.

Alarm Out: If selected, this would trigger an external relay output that is connected to the camera on detecting a motion based alarm.

Trigger Audio: If selected, the warning voice will be uttered on detecting a motion based alarm. (Please set the warning voice first. See Audio Alarm for details).

Trigger SD Snap: If selected, the system will capture images on motion detection and save the images on an SD card.
Trigger SD Recording: If selected, video will be recorded on an SD card on motion detection.
Trigger Email: If "Trigger Email" and "Attach Picture" are checked (email address must be set first in the Email configuration interface), the captured pictures and triggered event will be sent into those addresses.
Trigger FTP: If "Trigger FTP" and "Attach Picture" are checked, the captured pictures will be sent into FTP server address. Please refer to FTP configuration section for more details.

2. Set motion detection area and sensitivity. Click the "Area and Sensitivity" tab to go to the interface as shown below.



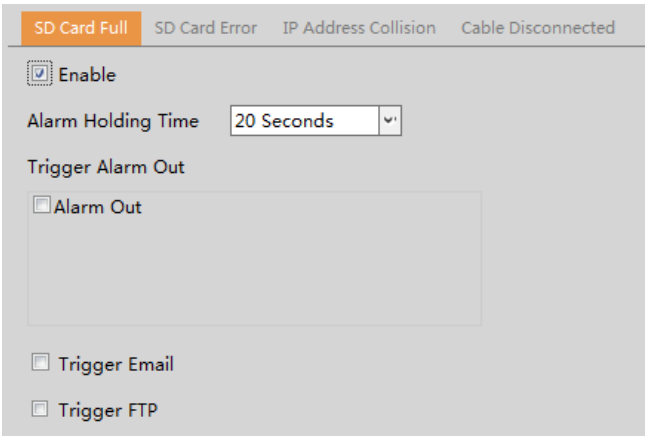
Move the "Sensitivity" scroll bar to set the sensitivity. Higher sensitivity value means that motion will be triggered more easily. Select "Add" and click "Draw". Drag the mouse to draw the motion detection area; Select "Erase" and drag the mouse to clear motion detection area.
After that, click the "Save" to save the settings. "Clear All" can be used to clear out the entire motion zone.

3. Set the schedule for motion detection. The schedule setup steps of the motion detection are the same as the schedule recording setup (See Schedule Recording).

4.4.2 Other Alarms

- **SD Card Full**

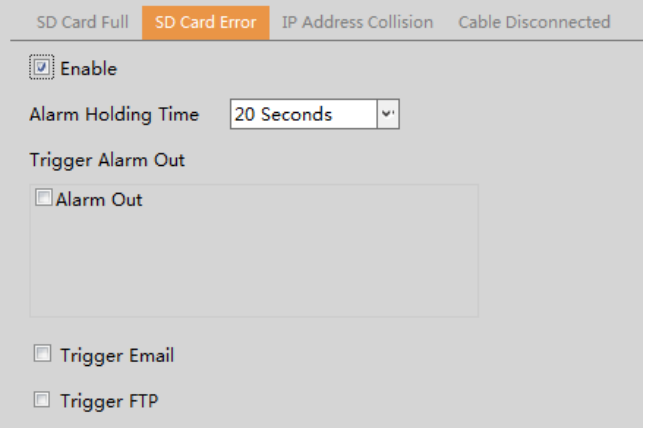
1. Go to Event Setup→Anomaly→SD Card Full.



2. Click "Enable" and set the alarm holding time.
3. Set alarm trigger options. The setup steps are the same as motion detection. Please refer to motion detection section for details.

- **SD Card Error**

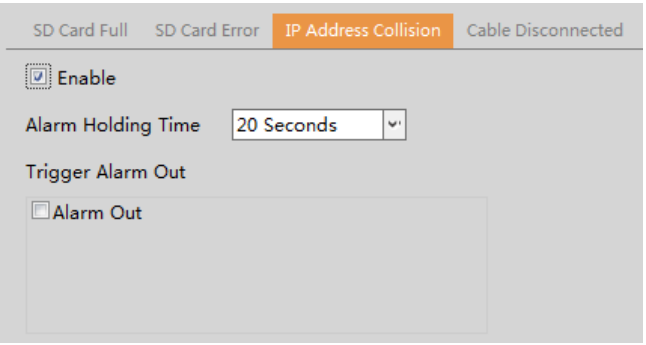
When there are some errors in writing SD card, the corresponding alarms will be triggered.
1. Go to Event Setup→Anomaly→SD Card Error as shown below.



2. Click “Enable” and set the alarm holding time.
3. Set alarm trigger options. Trigger alarm out, Email and FTP. The setup steps are the same as motion detection. Please refer to motion detection section for details.

- **IP Address Conflict**

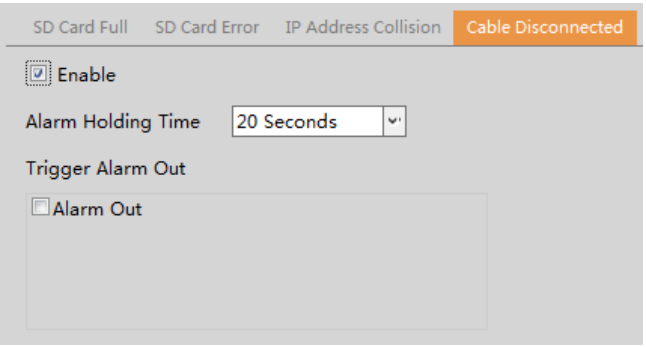
1. Go to Event Setup→Anomaly→IP Address Collision as shown below.



2. Click “Enable alarm” and set the alarm holding time.
3. Trigger alarm out. When the IP address of the camera is in conflict with the IP address of other devices, the system will trigger the alarm out.

- **Cable Disconnection**

1. Go to Event Setup→Anomaly→Cable Disconnected as shown below.

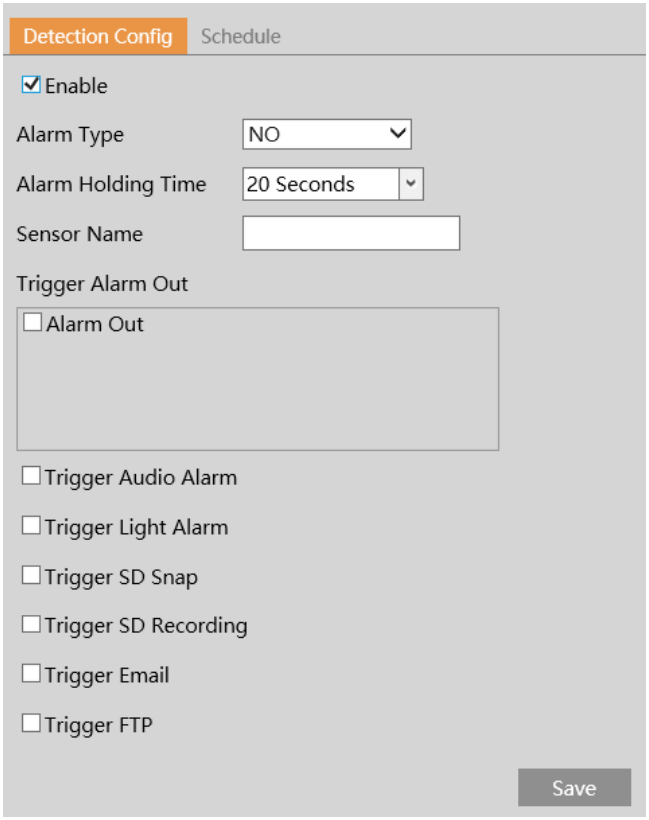


2. Click “Enable” and set the alarm holding time.
3. Trigger alarm out. When the camera is disconnected, the system will trigger the alarm out.

4.4.3 Alarm In (Sensor Input)

This function is only available for some models. To set sensor alarm (alarm in):

Go to Event Setup→Alarm In interface as shown below.



1. Click “Enable” and set the alarm type, alarm holding time and sensor name.
2. Set alarm trigger options.

Alarm Out: If selected, this would trigger an external relay output that is connected to the camera when the sensor alarm is triggered (This function is only available for the models with the alarm output interface).

Trigger Audio Alarm: If selected, the warning voice will be uttered when the sensor alarm is triggered. (Please set the warning voice first. See Audio Alarm for details).

Trigger Light Alarm: If selected, the light of the camera will flash when the sensor alarm is triggered. (Please set the light flashing time and frequency first. See Light Alarm for details).

Trigger SD Card Snapshot: If selected, the system will capture images when the sensor alarm is triggered and save the images on an SD card.

Trigger SD Card Recording: If selected, video will be recorded on an SD card when the sensor alarm is triggered.

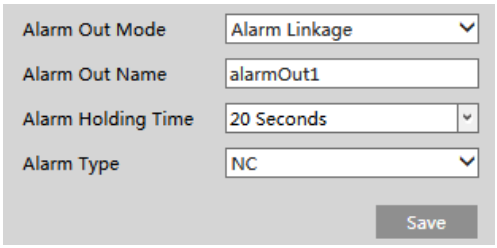
Trigger Email: If “Trigger Email” and “Attach Picture” are checked (email address must be set first in the Email configuration interface), the captured pictures and triggered event will be sent into those addresses.

Trigger FTP: If “Trigger FTP” and “Attach Picture” are checked, the captured pictures will be sent into FTP server address. Please refer to FTP configuration section for more details.

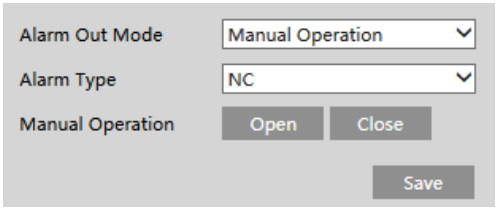
3. Click “Save” button to save the settings.
4. Set the schedule of the sensor alarm. The setup steps of the schedule are the same as the schedule recording setup. (See Schedule Recording).

4.4.4 Alarm Out

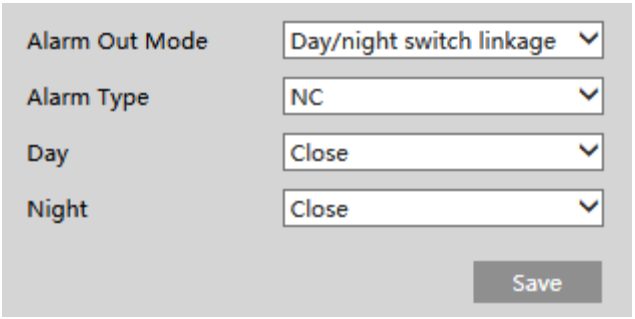
This function is only available for some models. Go to Alarm→Alarm Out.



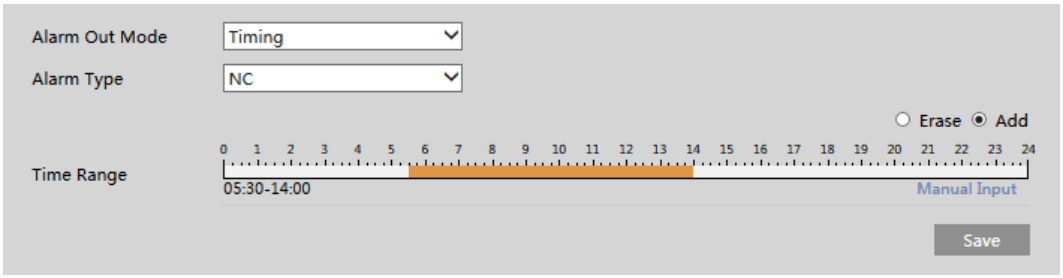
Alarm Out Mode: Alarm linkage, manual operation, day/night switch linkage and schedule are optional.
Alarm Linkage: Having selected this mode, select alarm out name, alarm holding time at the "Alarm Holding Time" pull down list box and alarm type.
Manual Operation: Having selected this mode, select alarm type and click "Open" to trigger the alarm out immediately; click "Close" to stop alarm.



Day/Night Switch Linkage: Having selected this mode, select the alarm type and choose to open or close alarm out when the camera switches to day mode or night mode.

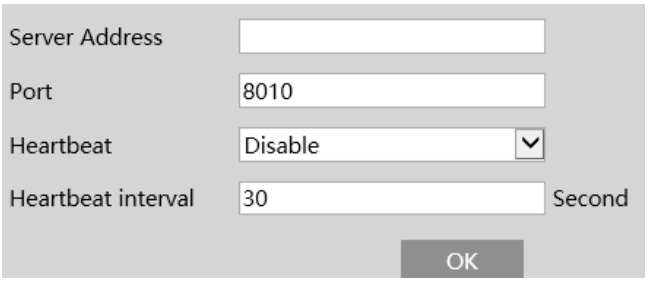


Timing: Select the alarm type. Then click "Add" and drag the mouse on the timeline to set the schedule of alarm out; click "Erase" and drag the mouse on the timeline to erase the set time schedule. After this schedule is saved, the alarm out will be triggered in the specified time.



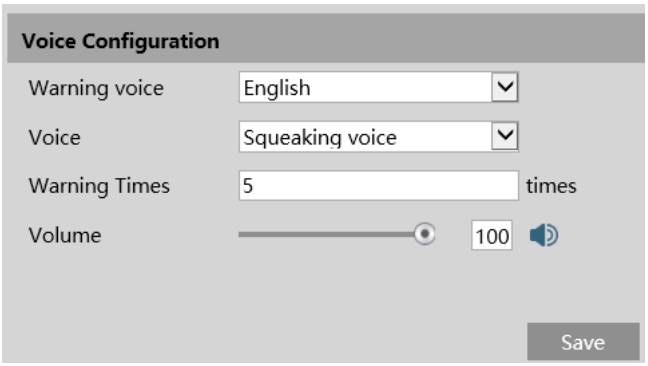
4.4.5 Alarm Server

Go to Alarm→Alarm Server interface as shown below.
Set the server address, port, heartbeat and heartbeat interval. When an alarm occurs, the camera will transfer the alarm event to the alarm server. If an alarm server is not needed, there is no need to configure this section.

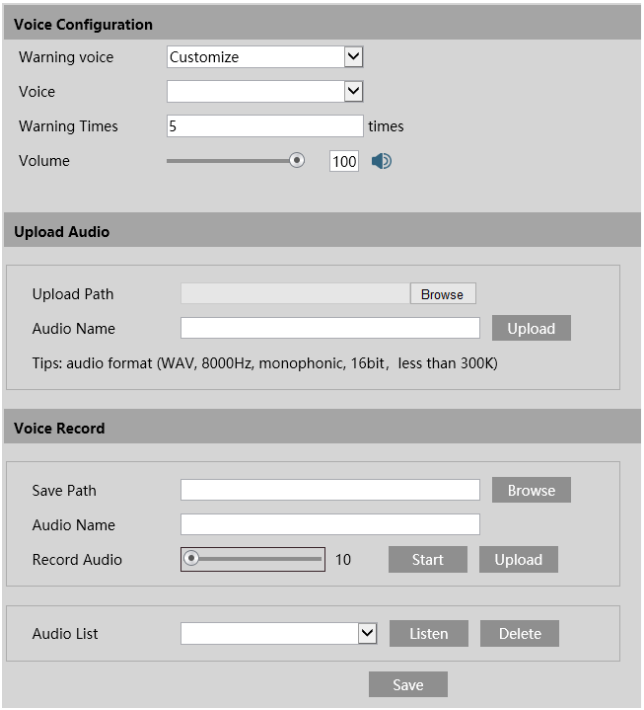


4.4.6 Audio Alarm

Go to Alarm→Audio Alarm interface as shown below.



① Select the warning voice. If you want to customize the voice, you can choose “Customize”. Click “Browse” to choose the audio file you want to upload and then enter the audio name. Finally, click “Upload” to upload the audio file. Note that the format of the audio file must meet the requirement (see Tips), or it will not be uploaded. After you upload the audio file, you can select the audio name from the audio list and click “Listen” to listen to it. Click “Delete” to delete the audio.



You can also record your own voice in the above interface and then upload.

- Insert the microphone into your PC.
- Click “Browse” to choose the save path of the audio you want to record.
- Set the record audio volume and then click “Start” to start recording your voice.

- Click “Upload” to upload your customized voice.

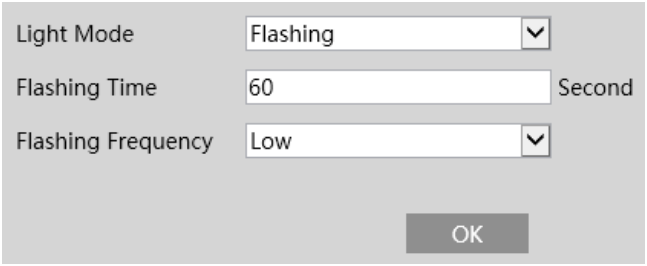
② Select the voice and then set the warning times and volume as needed.
Warning times: it ranges from 1 to 50.

③ Set the schedule of audio alarm. The setup steps of the schedule are the same as the schedule recording setup. (See Schedule Recording).

④ Click “OK” to save the settings.

4.4.7 Light Alarm

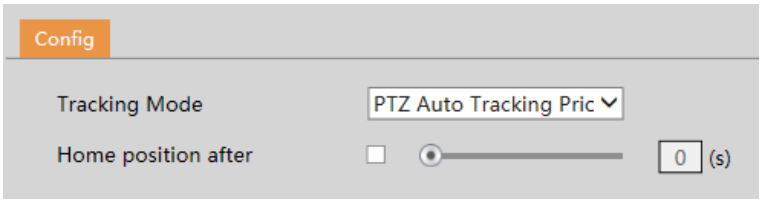
Go to Alarm→Light Alarm interface as shown below.



Light Mode: Choose “Flashing” or “Always On” as needed.
Flashing time: the flashing time ranges from 1 second to 60 seconds.
Flashing Frequency: three options- low, middle and high

4.4.8 Smart Tracking

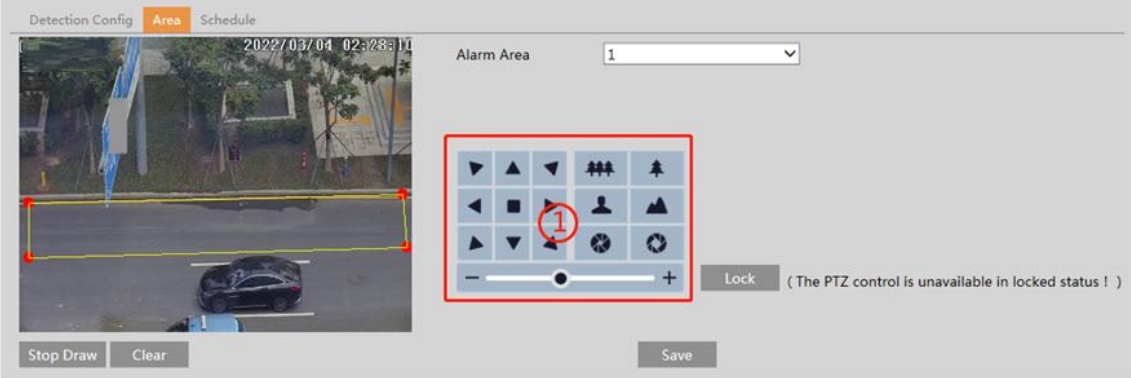
The tracking option is available for line crossing detection, region entrance and exiting and intrusion detection.
Smart Tracking: When people or vehicle cross the alarm line or intrude or exit the predefined area, the PTZ camera will automatically track them and the target image will be automatically zoomed in and centered on the screen until the target disappears on the screen. After that, the PTZ camera will return to the tracking start position.



Tracking Mode: PTZ Auto Tracking Priority or Manual PTZ Control Priority can be optional.
PTZ Tracking Priority: if this mode is selected, in smart tracking mode, you cannot control PTZ by clicking the buttons on the PTZ control panel in the live view interface.
Manual PTZ Control Priority: if this mode is selected, in smart tracking mode, you can control PTZ by clicking the buttons on the PTZ control panel in the live view interface and then the camera will immediately stop the tracking action. After you finish controlling PTZ for 5 seconds, the PTZ camera will return to the start tracking position and wait for the object to appear.
Home Position after…: If it is enabled and the time is set, when the target stops or hides behind an obstacle, or the target tracking is complete and there is no target appearing in the detection area during the set time, the PTZ camera will return to the tracking start position. Of course, during this time, if there are targets moving, the PTZ will continue tracking. If it is not enabled, when the target stops or there is no target appearing in the detection area for 5 seconds, the PTZ camera will return to the start tracking position.
For example: in the crossroad, if a car is waiting for the red light for 30 seconds, and the time is set as 20 seconds, then the tracking will stop following; but if the time is set as 40 seconds, after the red light start to change into green light, then the car re-start to move, and the PTZ will keep on tracking this car.

How to set smart tracking:
1. Click Config→Alarm→Smart Tracking to go to the smart tracking interface. Select the tracking mode and set the “home position after.. .” as needed.

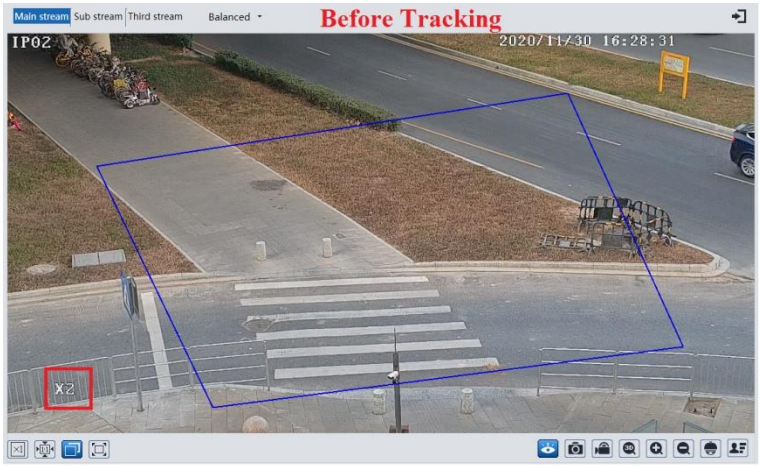
2. Click Config→Event. Select the event as needed. For example intrusion, enable the intrusion detection, select detection target and then check “Trigger Track”. After that click “Save” to save the settings.
3. Set the alarm area and lock the PTZ.

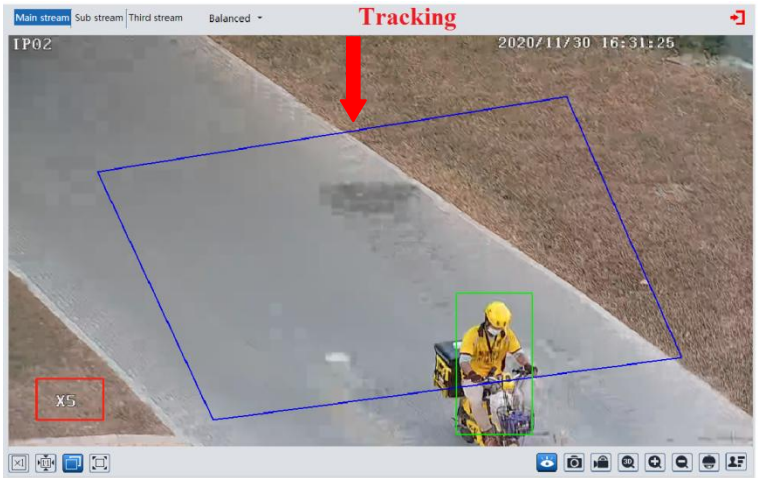


Using the PTZ control buttons (area①) sets appropriate field of view and then draw the detection area and save the setting. After that, click the “Lock” button to save the current PTZ position as the start tracking position). Now, the “Lock” button changes its function to “Unlock”.

Note: Clicking the “Unlock” button suspends object tracking until you click the “Lock” button. If you want to change the start tracking position, you can click “Unlock” button to enable PTZ control. After that, please remember to lock the PTZ, or object tracking will not take effect.

4. Go back to the live view interface to view smart tracking.





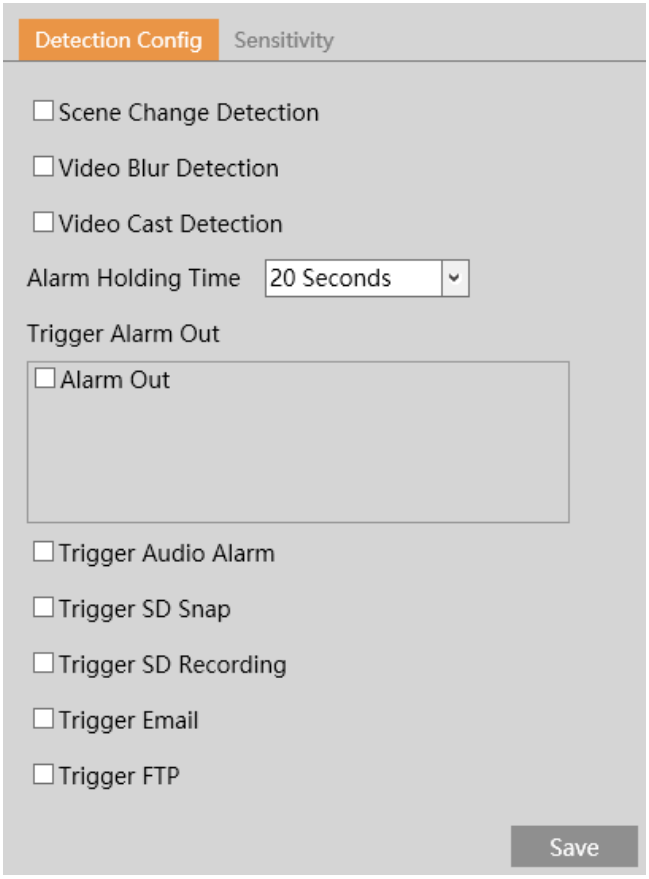
4.5 Analytics Configuration

This series of IP cameras supports certain smart functions, such as line crossing detection, region intrusion detection, etc. These events can be triggered as alarm events.
For more accuracy, here are some recommendations for installation.

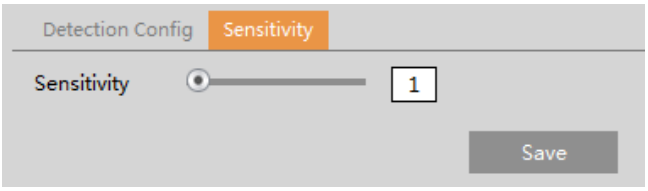
- Cameras should be installed on stable surfaces, as vibrations can affect the accuracy of detection.
- Avoid pointing the camera at the reflective surfaces (like shiny floors, mirrors, glass, lake surfaces and so on).
- Avoid places that are narrow or have too much shadowing.
- Avoid scenario where the object's color is similar to the background color.
- At any time of day or night, please make sure the image of the camera is clear and with adequate and even light, avoiding overexposure or too much darkness on both sides.

4.5.1 Abnormality

This function can detect changes in the surveillance environment affected by the external factors.
Go to Analytics→Abnormality interface as shown below.



1. Enable the applicable detection that's desired.
Scene Change Detection: Alarms will be triggered if the scene of the video has changed.
Video Blur Detection: Alarms will be triggered if the video becomes blurry.
Enable Video Color Cast Detection: Alarms will be triggered if the video becomes obscured.
2. Set the alarm holding time and alarm trigger options. The setup steps are the same as motion detection. Please refer to motion detection section for details.
3. Click "Save" button to save the settings.
4. Set the sensitivity of the exception detection. Click "Sensitivity" tab to go to the interface as shown below.



Drag the slider to set the sensitivity value or directly enter the sensitivity value in the textbox. Click “Save” button to save the settings.

The sensitivity value of Scene Change Detection: The higher the value is, the more sensitive the system responds to the amplitude of the scene change.

The sensitivity value of Video Blur Detection: The higher the value is, the more sensitive the system responds to the blurriness of the image.

The sensitivity value of Video Color Cast Detection: The higher the value is, the more sensitive the system responds to the obscuring of the image.

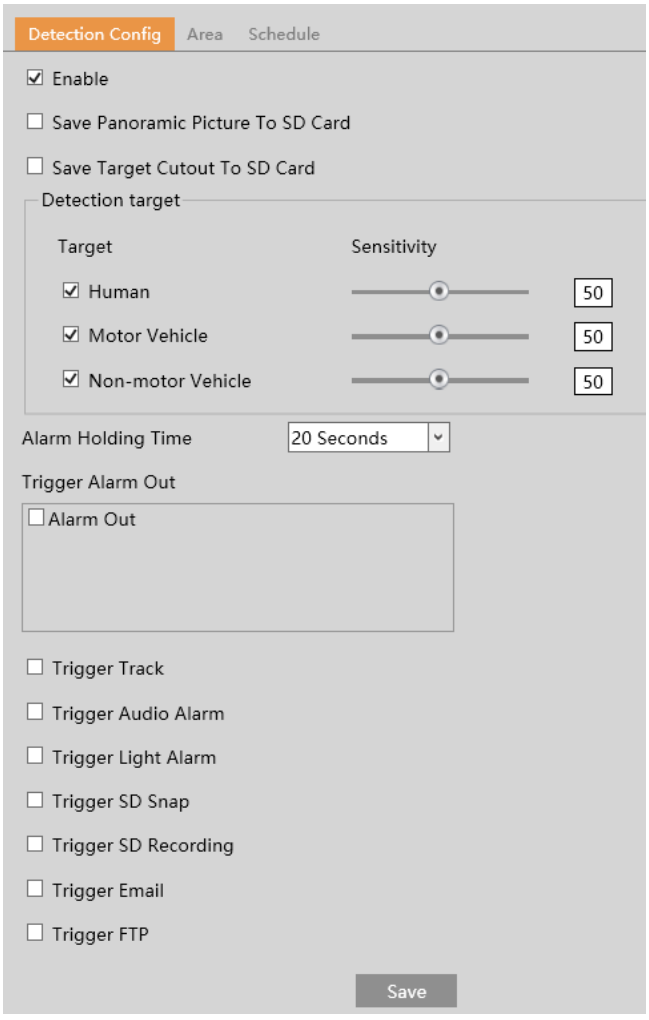
※**The requirements of camera and surrounding area**

1. Auto-focusing function should not been enabled for exception detection.
2. Try not to enable exception detection when light changes greatly in the scene.

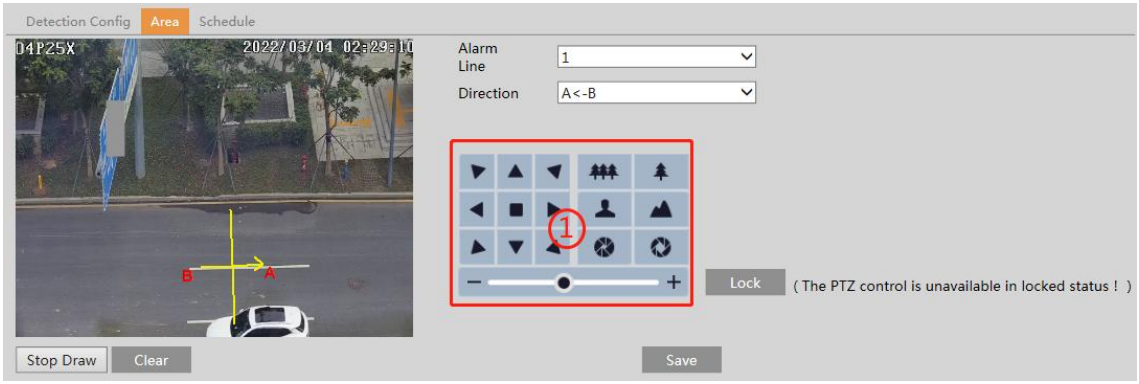
4.5.2 Line Crossing

Line Crossing: Alarms will be triggered if the target crosses the defined alarm lines.

Go to Analytics→Line Crossing interface as shown below.



1. Enable line crossing alarm and select the snapshot type and the detection target.
Save Panoramic Picture to SD Card: If it is enabled, the detected panoramic pictures will be captured and saved to the SD card when there are targets detected.
Save Target Cutout to SD Card: If it is enabled, the detected target cutout pictures will be captured and saved to the SD card when there are targets detected.
Note: To save images to a local PC, please enable the local smart snapshot storage first (System→Local Recording). To save images to an SD card, please install an SD card first.
Detection Target:
Human: Select it and then alarms will be triggered if someone crosses the pre-defined alarm line.
Motor Vehicle: Select it and then alarms will be triggered if a vehicle with four or more wheels (eg. a car, bus or truck) crosses the pre-defined alarm line.
Non-motor Vehicle: Select it and then alarms will be triggered if a vehicle with two wheels (eg. a motorcycle or bicycle) crosses the pre-defined alarm line.
All of the three types of objects can be selected simultaneously. Please select the detection objects as needed. If no object/target is selected, alarms will not be triggered even if line crossing detection is enabled.
2. Set the alarm holding time.
3. Set alarm trigger options. The setup steps are the same as Alarm In. Please refer to Alarm In section for details.
4. Click "Save" button to save the settings.
5. Set area and sensitivity of the line crossing alarm. Click the "Area and Sensitivity" tab to go to the interface as shown below.



Set the alarm line number and direction. Up to 4 lines can be added. Multiple lines cannot be added simultaneously.
Direction： A<->B, A->B and A<-B optional. This indicates the direction of the intruder who crosses over the alarm line that would trigger the alarm.
A<->B: The alarm will be triggered when the intruder crosses over the alarm line from B to A or from A to B.
A->B: The alarm will be triggered when the intruder crosses over the alarm line from A to B.
A<-B: The alarm will be triggered when the intruder crosses over the alarm line from B to A.
Set the detection area by clicking the buttons of area ① and then click "Lock" to lock the area.
Note: The PTZ will not be controlled if you click "Lock" here. Click "Unlock" and then click the buttons of area ① to move the PTZ camera. Clicking the "Unlock" button suspends object tracking until you click the "Lock" button.

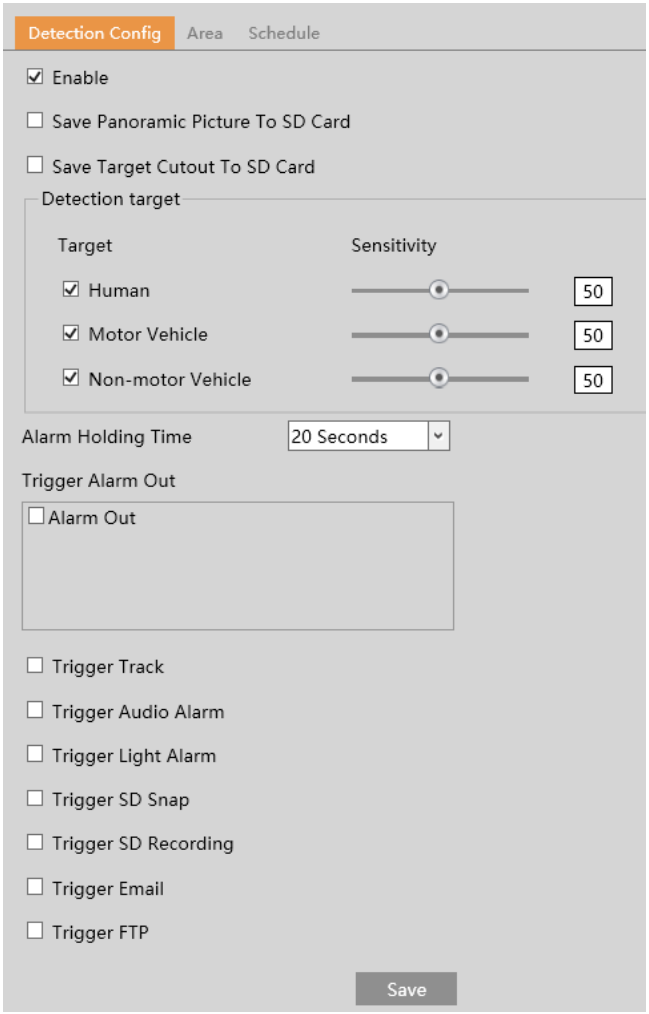
Click the "Draw Area" button and then drag the mouse to draw a line in the image. Click the "Stop Draw" button to stop drawing. Click the "Clear" button to delete the lines. Click the "Save" button to save the settings.
6. Set the schedule of the line crossing alarm. The setup steps of the schedule are the same as the schedule recording setup (See Schedule Recording).

※**Configuration of camera and surrounding area**
1. Auto-focusing function should not be enabled for line crossing detection.
2. Avoid the scenes with many trees or the scenes with various light changes (like many flashing headlights). The ambient brightness of the scenes shouldn't be too low.
3. Cameras should be mounted at a height of 10ft or above.
4. Keep the mounting angle of the camera at about 45°.
5. The detected objects should not be less than 1% of the entire image and the largest sizes of the detected objects should not be

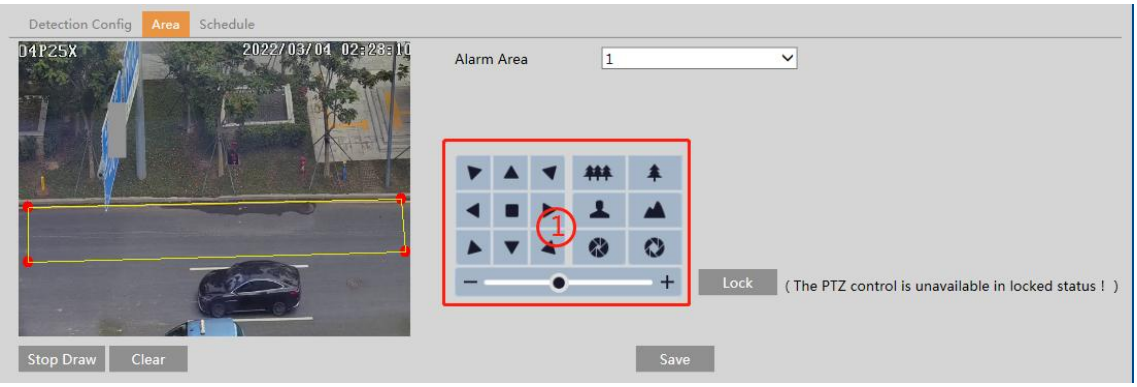
more than 1/8 of the entire image.
6. Make sure cameras can view objects for at least 2 seconds in the detected area for accurate detection.
7. Adequate light and clear scenery are crucial for line crossing detection.

4.5.3 Intrusion

Intrusion: Alarms will be triggered if the target intrudes into the defined areas.
Go to Analytics→Intrusion interface as shown below.



1. Enable intrusion alarm and select the snapshot type and the detection target.
2. Set the alarm holding time.
3. Click the “Save” button to save the settings.
4. Set the alarm area of the intrusion detection. Click the “Area” tab to go to the interface as shown below.



Set the alarm area number on the right side. Up to 4 alarm areas can be added.
Set the detection area by clicking the buttons of area ① and then click "Lock" to lock the area.
Note: The PTZ will not be controlled if you click "Lock" here. Click "Unlock" and then click the buttons of area ① to move the PTZ camera. Clicking the "Unlock" button suspends object tracking until you click the "Lock" button.
Click the "Draw Area" button and then click around the area where you want to set as the alarm area in the image on the left side (the alarm area should be a closed area). Click the "Stop Draw" button to stop drawing. Click the "Clear" button to delete the alarm area. Click the "Save" button to save the settings.
5. Set the schedule of the intrusion detection. The setup steps of the schedule are the same as schedule recording setup (See Schedule Recording).
※**Configuration requirements of camera and surrounding area**
1. Auto-focusing function should not be enabled for intrusion detection.
2. Avoid the scenes with many trees or the scenes with various light changes (like many flashing headlights). The ambient brightness of the scenes shouldn't be too low.
3. Cameras should be mounted at a height of 10ft or above.
4. Keep the mounting angle of the camera at about 45°.
5. The detected objects should not be less than 1% of the entire image and the largest sizes of the detected objects should not be more than 1/8 of the entire image.
6. Make sure cameras can view objects for at least 2 seconds in the detected area for accurate detection.
7. Adequate light and clear scenery are crucial to intrusion detection.

4.5.4 Region Entrance

Region Entrance: Alarms will be triggered if the target enters the pre-defined areas.
Go to Config→Analytics→Region Entrance interface.
1. Enable region entrance detection, select the snapshot type and the detection target and set the alarm holding time and alarm trigger options. The detection setup steps are the same as line crossing detection. Please refer to the detection configuration of line crossing detection for details.
2. Set the area of region entrance detection. The area setup steps are the same as intrusion detection. Please refer to the area configuration of intrusion detection for details.
3. Set the schedule of the region entrance detection. The setup steps of the schedule are the same as schedule recording setup (See Schedule Recording).

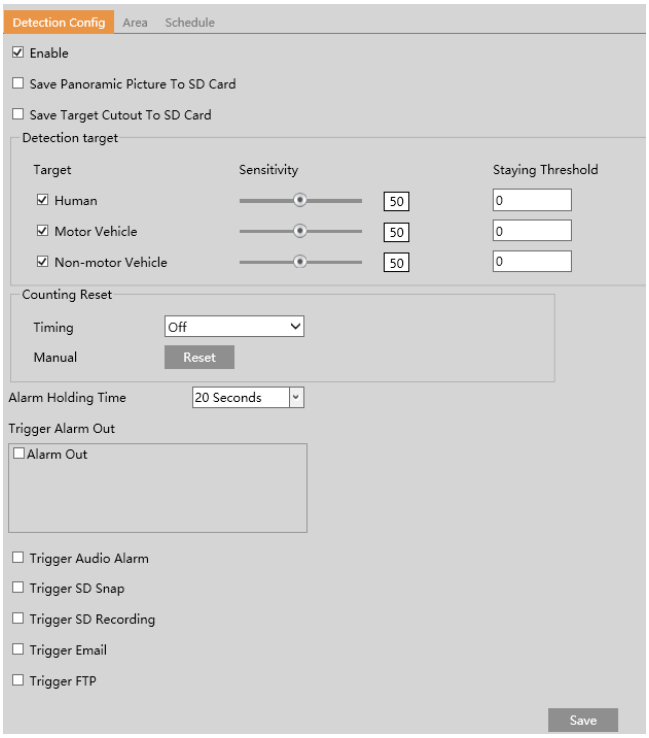
4.5.5 Region Exiting

Region Exiting: Alarms will be triggered if the target exits from the pre-defined areas.
Go to Config→Analytics→Region Exiting interface.
1. Enable region exiting detection, select the snapshot type and the detection target and set the alarm holding time and alarm trigger options. The detection setup steps are the same as line crossing detection. Please refer to the detection configuration of line crossing detection for details.
2. Set the area of region entrance detection. The area setup steps are the same as intrusion detection. Please refer to the area configuration of intrusion detection for details.
3. Set the schedule of the region exiting detection. The setup steps of the schedule are the same as schedule recording setup (See Schedule Recording).

4.5.6 Target Counting

This function is to calculate the number of the people or vehicles crossing the alarm line through detecting, tracking and counting the shapes of the people or vehicles.

1. Go to Config→Analytics→Target Counting as shown below.



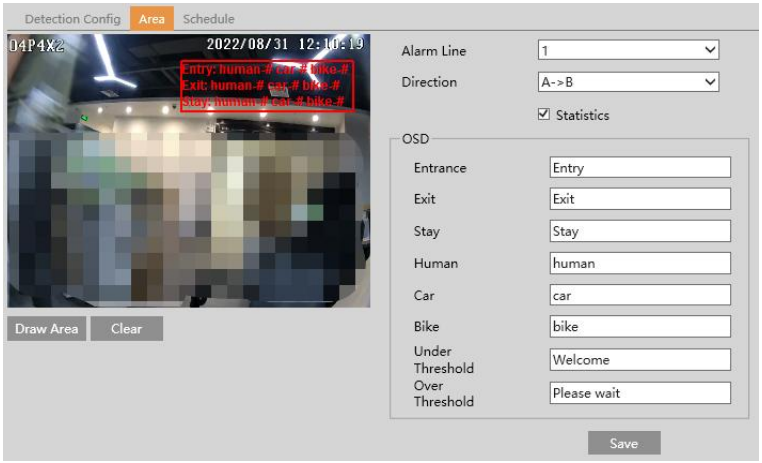
2. Enable target counting and select the snapshot type and the detection target.

Detection Target: Select the target to calculate. Human, motor vehicle and motorcycle/bicycle can be selected.

Counting Reset: The current number of the target counting can be reset. You can choose to reset the counting daily, weekly or monthly. Click "Reset" to manually reset the current number of crossing line people/car/bike counting.

3. Set alarm trigger options. The setup steps are the same as motion detection setup. Please refer to motion detection section for details.

3. Set the area of the target counting. Click the "Area" tab to go to the interface as shown below.

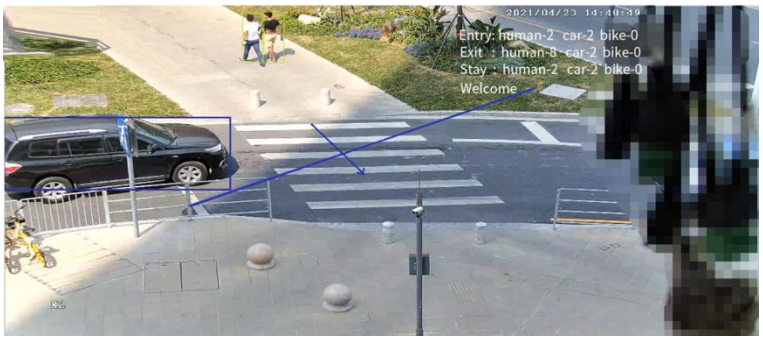


Set the alarm line number and direction. Only one alarm line can be added.

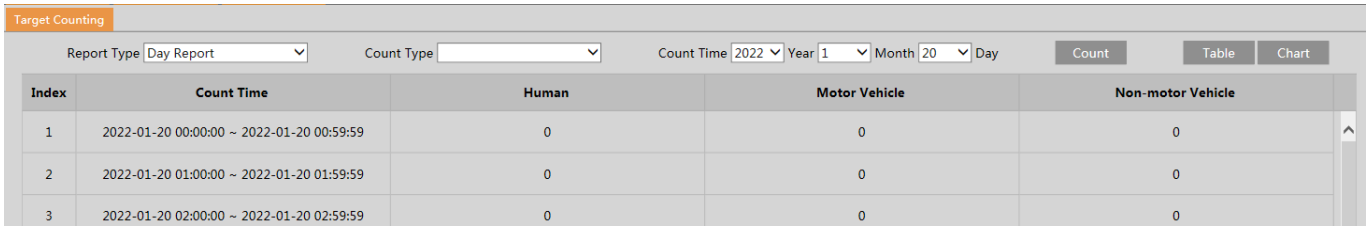
Direction： A->B and A<-B can be optional. The direction of the arrow is entrance.

Statistics: If enabled, you can see the statistical information in the live view interface. If disabled, the statistical information will not

be displayed in the live view interface.
The statistical OSD information can be customized as needed.
Click the “Draw Area” button and then drag the mouse to draw a line in the image. Check “Statistics” and then move the red box to change the position of the statistical information displayed on the screen. Click the “Stop Draw” button to stop drawing. Click the “Clear” button to delete the lines.
Click the “Save” button to save the settings.
4. Set the schedule of the target counting. The setup steps of the schedule are the same as schedule recording setup (See Schedule Recording).
5. Go back to the live interface to view the statistical information.



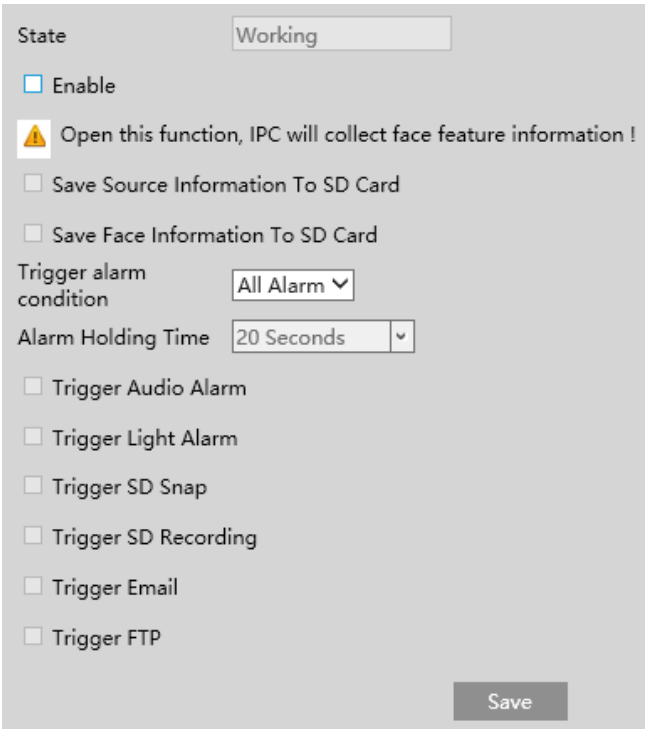
6. View the statistical information of target counting. Click “Chart” to enter the following interface.



Select the report type. Daily report, weekly report, monthly report and annual report are selectable.
Select the count type. Enter or leave can be optional.
Select the start time and then click “Count”. Then the counting result will display in the statistic result area. Click Table or Chart to display the result in different way.

4.5.7 Face Comparison

1. Go to Analytics →Face Detection as shown below.



2. Enable the face detection function.

Save Source Information to SD Card: if checked, the whole picture will be saved to an SD card when detecting a face.

Save Face Information to SD Card: if checked, the captured face picture will be saved to an SD card when detecting a face.

Note: To save images to a local PC, please enable the local smart snapshot storage first (System→Local Recording). To save images to an SD card, please install an SD card first.

Trigger alarm condition: all or mask off can be selectable.

All: Alarms will be triggered when the camera detects a face (with/without a mask).

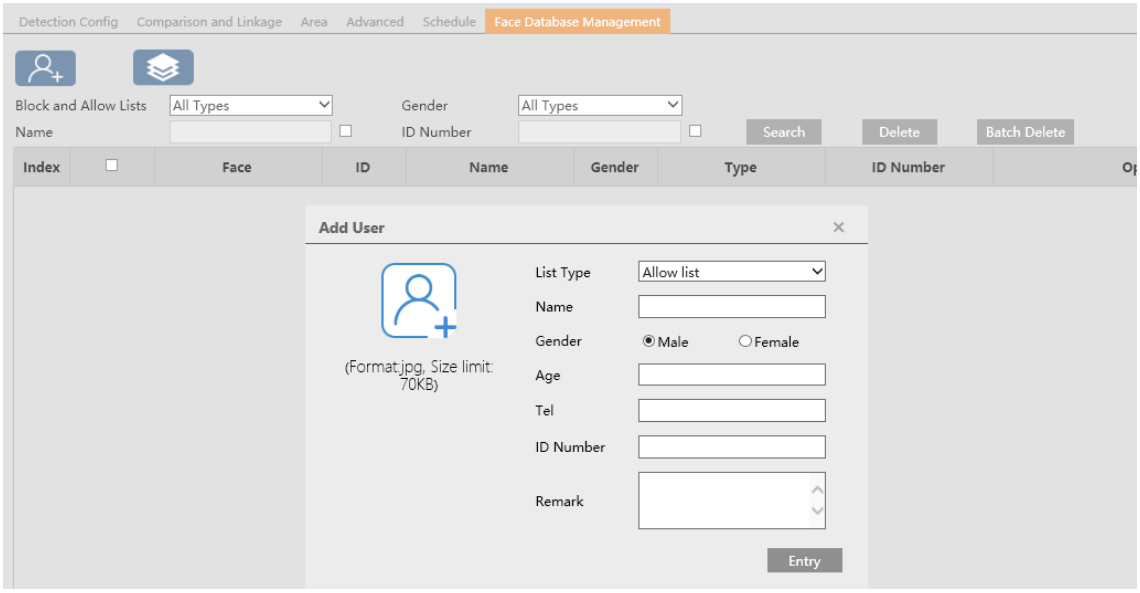
Mask off: Alarms will be triggered when the detected person is not wearing a mask on the face.

Set alarm holding time and alarm trigger options. The alarm trigger setup steps are the same as alarm in setup. Please refer to Alarm In section for details.

3. Set alarm detection area.

Use this to draw the approximate size of the face that you want the camera to capture. This is useful when there are multiple faces in the background or foreground that are not needed to be captured. To enable, Click “Draw Area” and drag the border lines of the rectangle to modify its size. Move the rectangle to change its position. Click “Stop Draw” to stop drawing the area. Click “Clear” to clear the area. Then set the detectable face size by defining the maximum value and the minimum value (The default size range of a single face image occupies from 3% to 50% of the entire image).

4. Face database management: click “Face Database Management” tab. This will enter the following interface.



There are four ways to add face pictures.

① Adding face pictures one by one

Click to pop up an adding user box. Then click to select a face picture saved on the local PC. Please select the picture according to the specified format and size limit. After that, fill out the relevant information of the face picture and click "Entry" to add.

① Adding multiple face pictures at a time

Click and then add multiple face pictures once according to the prompted rules.

② Add face pictures by using face album management tool

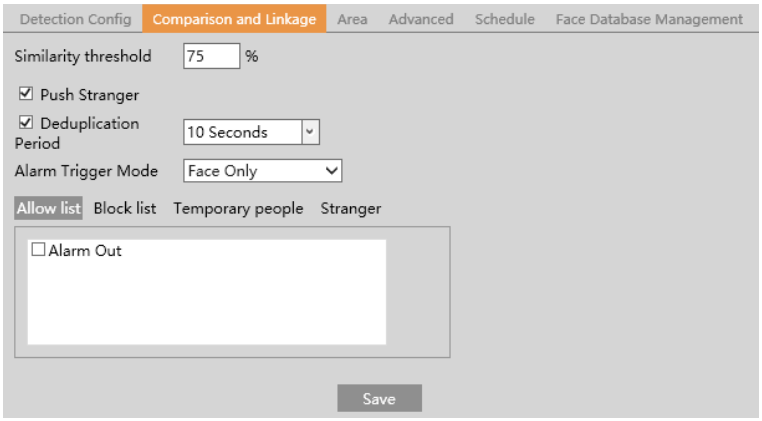
③ Add the captured picture in the live mode (See ***Add captured face pictures to the face database***).

After adding face pictures, you can search them by name, gender, ID number and so on.

Click "Modify" to change people information and click "Delete" to delete this face picture.

Select the face pictures and click "Batch Delete" to delete these face pictures at a time.

5. Set face comparison trigger options. Click "Comparison and Linkage" to go to the following interface.



Similarity threshold: When the similarity of the captured face picture and the face picture added into the face database exceeds the similarity threshold, alarms will be triggered.

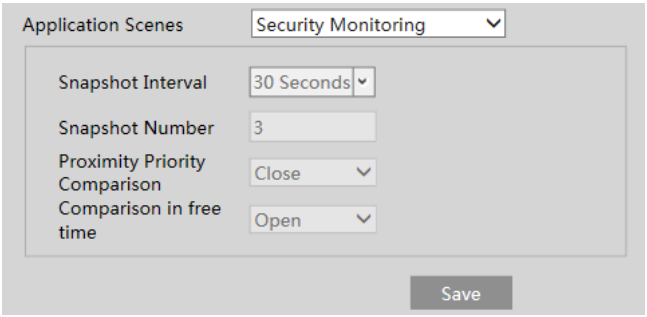
Push Stranger: Push the comparison alarm information of the stranger. After it is enabled, the comparison information of the stranger will be shown on the left comparison area of the live interface.

Deduplication Period: In the set period, delete the repeated comparison results.

Alarm List: Select an alarm list. For example, if "Stranger" is selected, the system will automatically search the matched face picture from "Stranger" list/group when detecting a face and both face pictures will appear on the left in the face comparison interface.

Alarm Trigger Mode: Face only mode. When the captured face picture is matched successfully, alarms will be triggered.
Alarm Output: Select the list type and then checkmark alarm out. Then alarm output will be triggered when the captured face is matched successfully with the face image of the selected

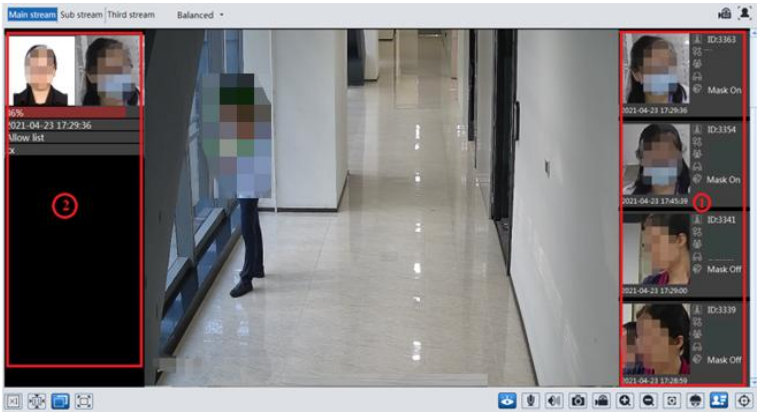
6. Set the schedule of the face detection and comparison. The setup steps of the schedule are the same as schedule recording setup (See Schedule Recording).
7. Advanced configuration.



Application Scenes: "Access control", "security monitoring" or "customize" can be selected.
Snapshot Interval: If 5 seconds is selected, the camera will capture the same target once every 5 seconds during its continuous tracking period.
Snapshot Number: If the snapshot number is enabled and set (eg. 3), the camera will capture the same target once every 5 seconds and it will capture this target 3 times at most during its continuous tracking period. If the snapshot number is disabled, the camera will capture the same target once every 5 seconds until the target disappears in the detected area.
Proximity Priority Comparison: When several persons are in the recognition area at the same time, the person closer to the camera is recognized first.
Comparison in free time: When the processor is busy, the comparison of the current detected person will not be performed immediately (for example, there is not enough time for the processor to perform all comparisons, because so many people are detected at the same time). It will continue after the processor load is reduced.

- **Face Match View**

After all face comparison settings are set successfully, enter the live view interface. Click to view the captured face pictures and face comparison information.



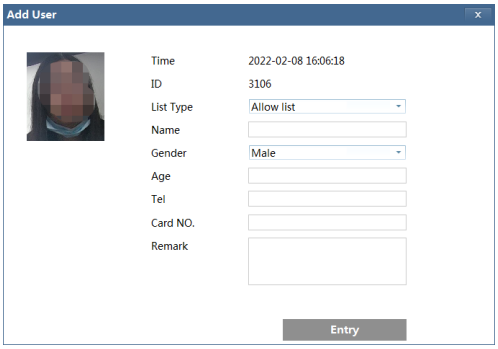
Area ①: captured face pictures; area ②: face comparison area

- **View the comparison details**

In area ②, click the compared face picture to bring up the following window. In this interface, you can view the detailed comparison information.

- **Add captured face pictures to the face database**

Click a captured picture in area ①. This will bring a face picture adding box.

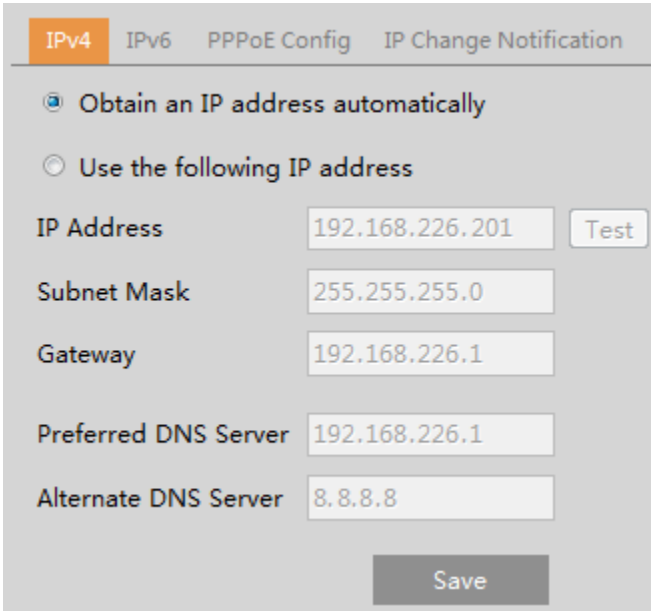


Fill out the relevant information and click “Entry” to add this face picture.

4.6 Network Configuration

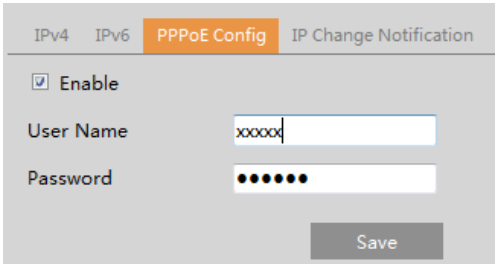
4.6.1 TCP/IP

Go to Network Setup→TCP/IP interface as shown below. There are two ways for network connection.

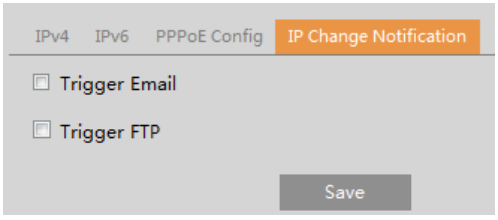


Use IP address (take IPv4 for example)-obtain a local IP address automatically through DHCP. A typical router has a DHCP server built in, and therefore is able to assign an IP address to the camera.

Use PPPoE-Click the "PPPoEConfig" tab to go to the interface as shown below. Enable PPPoE and then enter the user name and password from your ISP.



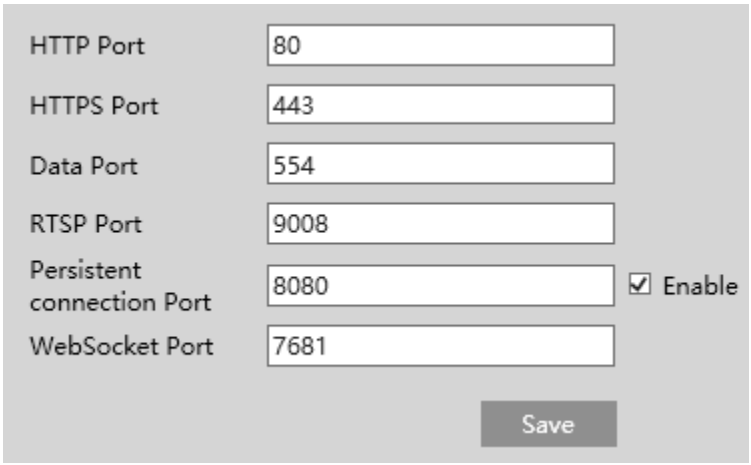
Either method of network connection can be used. If PPPoE is used to connect internet, the camera will get a dynamic WAN IP address. This IP address will change frequently. To be notified, the IP change notification function can be used.
Click "IP Change Notification Config" to go to the interface as shown below.



Trigger Email: when the IP address of the device is changed, the new IP address will be sent to the email address that has been set up.
Trigger FTP: when the IP address of the device is changed, the new IP address will be sent to FTP server that has been set up.

4.6.2 Port

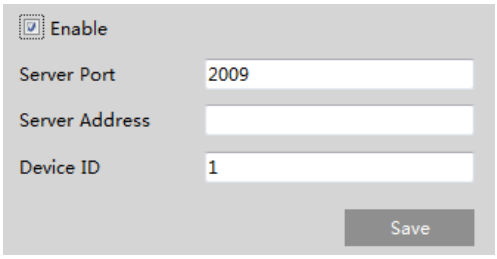
Go to Network Setup→Port/Connections interface as shown below. HTTP port, Data port and RTSP port can be set.



HTTP Port: The default HTTP port is 80. It can be changed to any port which is not occupied.
HTTPS Port: The default HTTPs port is 443. It can be changed to any port which is not occupied.
Data Port: The default data port is 9008. Please change it as necessary.
RTSP Port: The default port is 554. Please change it as necessary.
Persistent Connection Port: The port is used for a persistent connection of the third-party platform to push smart data, like face pictures.
WebSocket Port: Communication protocol port for plug-in free preview.

4.6.3 Server Configuration

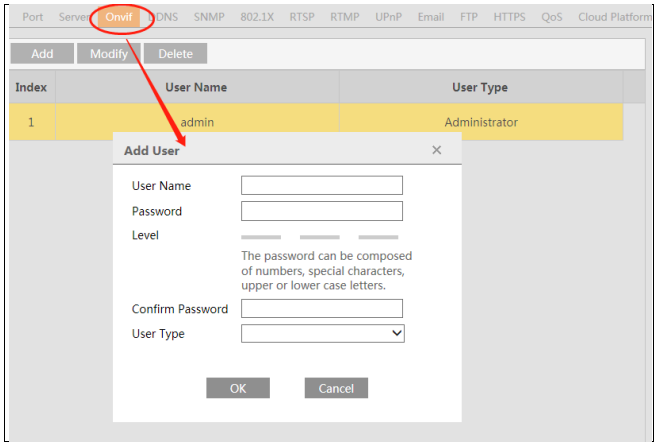
This function is mainly used for connecting network video management system.



1. Check “Enable”.
2. Check the IP address and port of the transfer media server in the VMS. Then enable the auto report in the VMS when adding a new device. Next, enter the remaining information of the device in the VMS. After that, the system will automatically allot a device ID. Please check it in the VMS.
3. Enter the above-mentioned server address, server port and device ID in the corresponding boxes. Click the “Save” button to save the settings.

4.6.4 Onvif

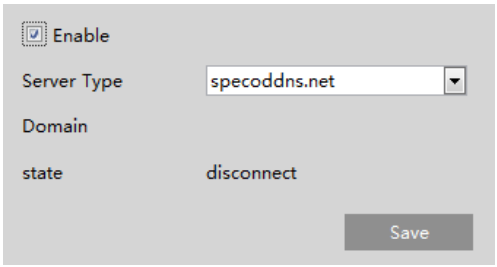
The camera can be searched and connected to the third-party platform via ONVIF/RTSP protocol.



Note: when adding the device to the third-party platform with ONVIF/RTSP protocol, please enter the username and password created in the above interface.

4.6.5 DDNS

If the camera is set up with a DHCP connection, DDNS should be set for accessing the camera from the internet.
1. Go to Network Setup→ Prots/Connections→ DDNS.

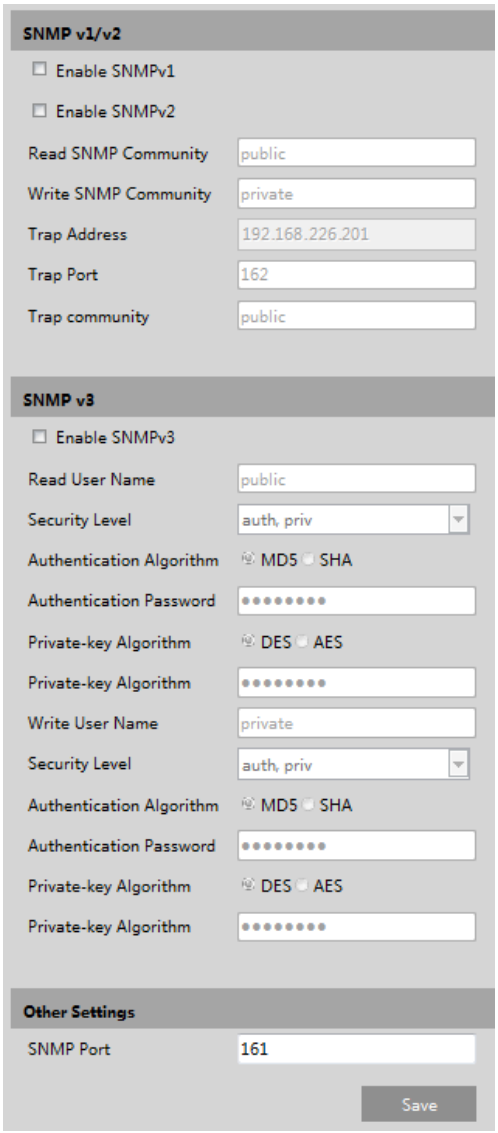


2. Enable, save and use DDNS to log in.

4.6.6 SNMP

To get camera status, parameters and alarm information and remotely manage the camera, the SNMP function can be used. Before using SNMP, please install an SNMP management tool and set the parameters of the SNMP, such as SNMP port, trap address.

1. Go to Network Setup→ Prots/Connections→SNMP.

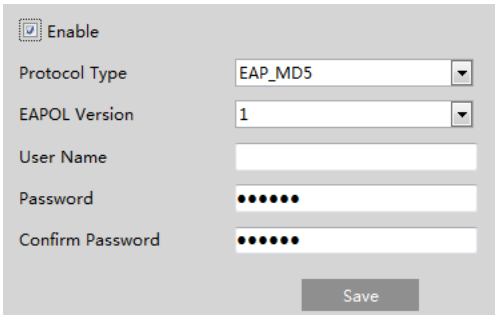


2. Check the corresponding version checkbox (Enable SNMPv1, Enable SNMPv2, Enable SNMPv3) according to the version of the SNMP software that will be used.

3. Set the values for “Read SNMP Community”, “Write SNMP Community”, “Trap Address”, “Trap Port” and so on. Please make sure the settings are the same as that of the SNMP software.

4.6.7 802.1x

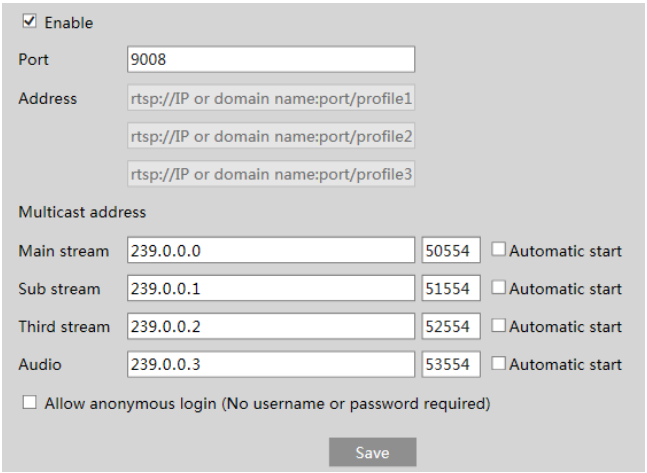
If it is enabled, the camera's data can be protected. When the camera is connected to the network protected by the IEE802.1x, user authentication is needed.



To use this function, the camera shall be connected to a switch supporting 802.1x protocol. The switch can be reckoned as an authentication system to identify the device in a local network. If the camera connected to the network interface of the switch has passed the authentication of the switch, it can be accessed via the local network.
Protocol type and EAPOL version: Please use the default settings.
User name and password: The user name and password must be the same with the user name and password applied for and registered in the authentication server.

4.6.8 RTSP

Go to Network Setup→ Prots/Connections→RTSP.

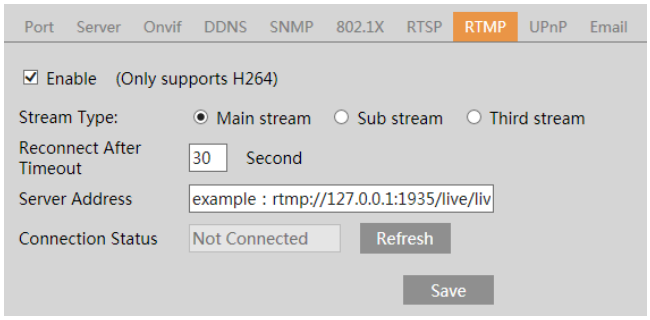


Select "Enable" to enable the RTSP function.
Port: Access port of the streaming media. The default number is 554.
RTSP Address: The RTSP address (unicast) format that can be used to play the stream in a media player.

Multicast Address
Main stream: The address format is
"rtsp://IP address: rtsp port/profile1?transportmode=mcast".
Sub stream: The address format is
"rtsp://IP address: rtsp port/profile2?transportmode=mcast".
Third stream: The address format is
"rtsp://IP address: rtsp port/profile3?transportmode=mcast".
Audio: Having entered the main/sub stream in a media player (like VLC), the video and audio will play automatically.
If "Allow anonymous login…" is checked, there is no need to enter the username and password to view the video.
If "auto start" is enabled, the multicast received data should be added into a VLC player to play the video.

4.6.9 RTMP

You can access the third-party (like YouTube) to realize video live view through RTMP protocol.
Go to Config→Network→RTMP.



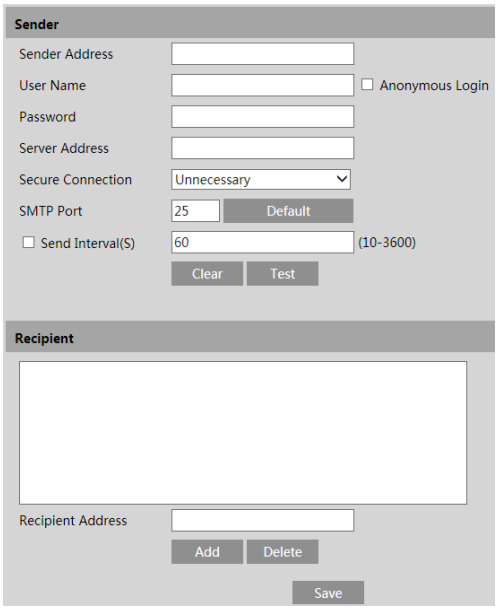
Check “Enable”, select stream type, set the reconnection time after timeout and server address as needed.
Server address: Enter the server address allocated by the third party server.
After that, click “Save” to save the settings. Then click “Refresh” to view the connection status.

4.6.10 UPNP

If this function is enabled, the camera can be quickly accessed through the LAN.
Go to Network Setup→UPnP. Enable UPNP and then enter UPnP name.

4.6.11 Email

If you need to trigger Email when an alarm happens or IP address is changed, please set the Email here first.
Go to Network Setup→ Prots/Connections→Email.

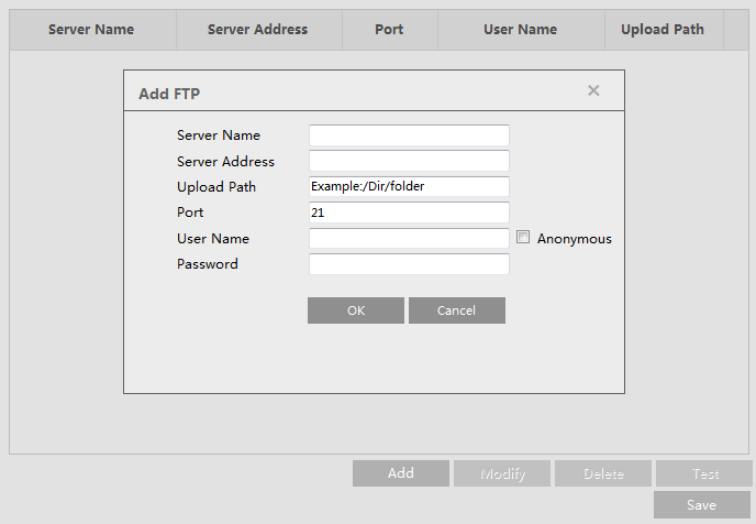


Sender Address: sender’s e-mail address.
User name and password: sender’s user name and password (you don’t have to enter the username and password if “Anonymous

Login" is enabled).
Server Address: The SMTP IP address or host name.
Select the secure connection type at the "Secure Connection" pull-down list according to what's required.
SMTP Port: The SMTP port.
Send Interval(S): The time interval of sending email. For example, if it is set to 60 seconds and multiple motion detection alarms are triggered within 60 seconds, they will be considered as only one alarm event and only one email will be sent. If one motion alarm event is triggered and then another motion detection alarm event is triggered after 60 seconds, two emails will be sent. When different alarms are triggered at the same time, multiple emails will be sent separately.
Click the "Test" button to test the connection of the account.
Recipient Address: receiver's e-mail address.

4.6.12 FTP

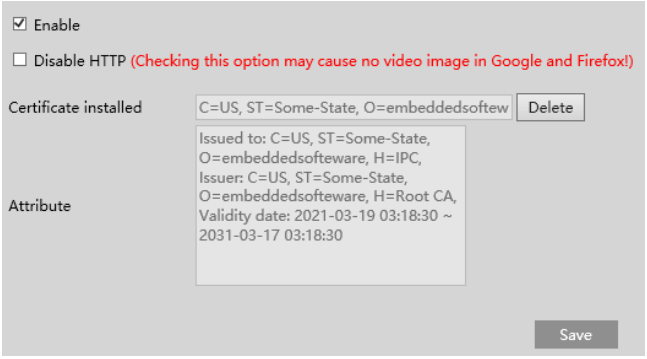
After an FTP server is set up, captured pictures from events will be uploaded to the FTP server.
Go to Network Setup→ Prots/Connections→FTP.



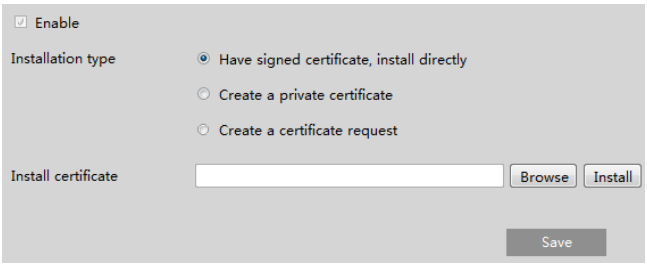
Server Name: The name of the FTP server.
Server Address: The IP address or domain name of the FTP.
Upload Path: The directory where files will be uploaded to.
Port: The port of the FTP server.
Use Name and Password: The username and password that are used to login to the FTP server.

4.6.13 HTTPS

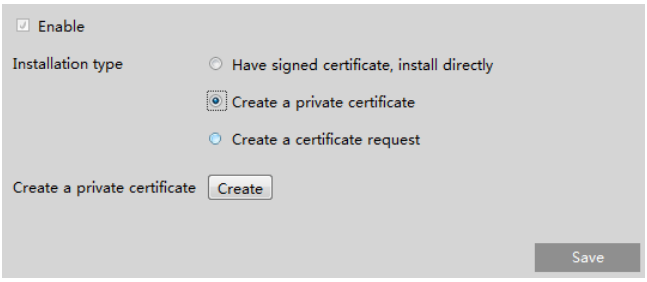
HTTPs provides authentication of the web site and protects user privacy.
Go to Network Setup→ Prots/Connections→HTTPS as shown below.



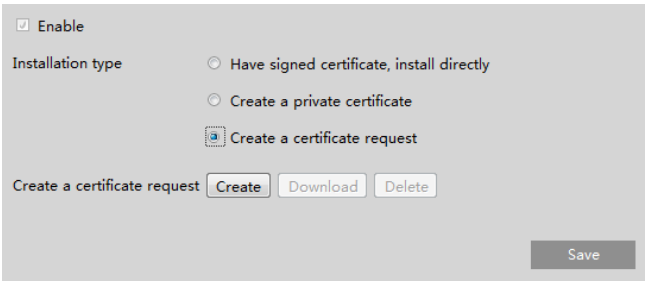
There is a certificate installed by default as shown above. Enable this function and save it. Then the camera can be accessed by entering https://IP: https port via the web browser (eg. https://192.168.226.201:443).
A private certificate can be created if users don't want to use the default one. Click "Delete" to cancel the default certificate. Then the following interface will be displayed.



* If there is a signed certificate, click "Browse" to select it and then click "Install" to install it.
* Click "Create a private certificate" to enter the following creation interface.



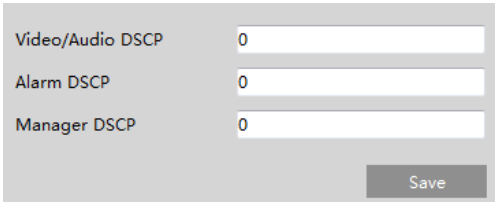
Click the "Create" button to create a private certificate. Enter the country (only two letters available), domain (camera's IP address/domain), validity date, password, province/state, region and so on. Then click "OK" to save the settings.
* Click "Create a certificate request" to enter the following interface.



Click "Create" to create the certificate request. Then download the certificate request and submit it to the trusted certificate authority for signature. After receiving the signed certificate, import the certificate to the device.

4.6.14 QoS

QoS (Quality of Service) function is used to provide different quality of services for different network applications. With the deficient bandwidth, the router or switch will sort the data streams and transfer them according to their priority to solve the network delay and network congestion by using this function.
Go to Network Setup→Prots/Connections→QoS.

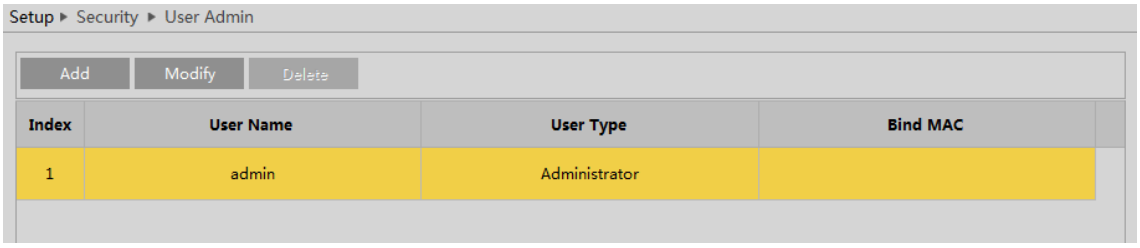


Video/Audio DSCP: The range is from 0 to 63.
Alarm DSCP: The range is from 0 to 63.
Manager DSCP: The range is from 0 to 63.
Generally speaking, the larger the number is, the higher the priority is.

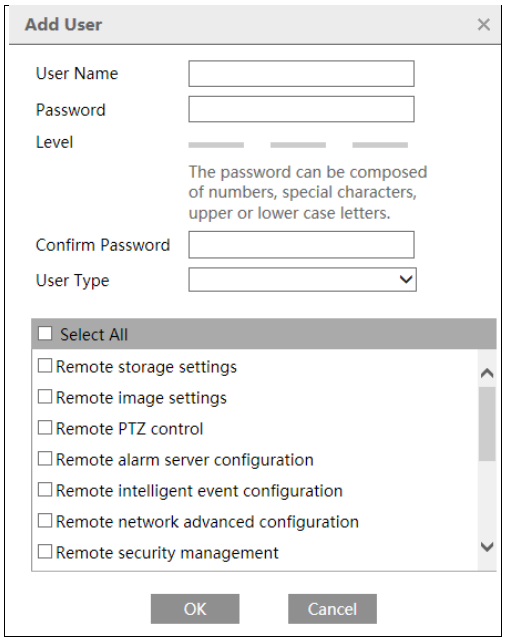
4.7 Security Configuration

4.7.1 User Admin

Go to Security→User Admin interface as shown below.

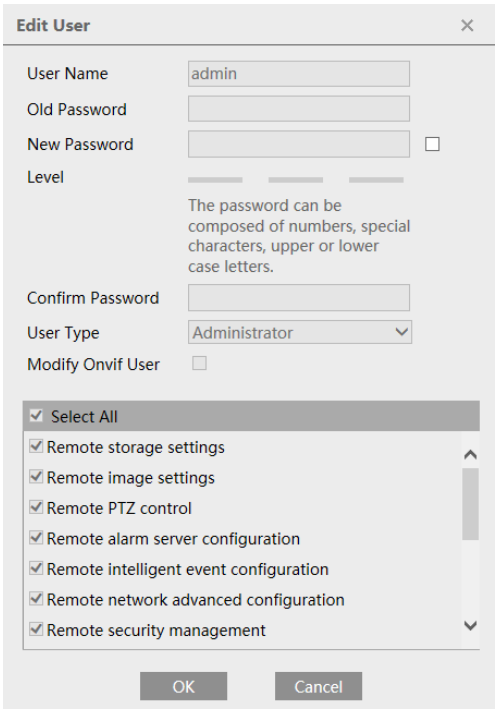


Add user:
1. Click “Add” to pop up the following textbox.



2. Enter user name in “User Name” textbox.
3. Enter letters or numbers in “Password” and “Confirm Password” textbox. Please set the password according to the requirement of the password security level (Go to Setup→Security→Security Management→Password Security interface to set the security level).
4. Choose the user type and select the permission.
6. Click the “OK” button and then the newly added user will be displayed in the user list.

Modify user:
1. Select a user to modify password and MAC address if necessary in the user configuration list box.
2. The “Edit user” dialog box pops up by clicking the “Modify” button.



3. Enter the old password of the user in the “Old Password” text box.
4. Enter the new password in the “New password” and “Confirm Password” text box.
5. Modify the permission as necessary.
6. Click the “OK” button to save the settings.

Note: To change the access level of a user, the user must be deleted and added again with the new access level.

Delete user:

1. Select the user to be deleted in the user configuration list box.
2. Click the “Delete” button to delete the user.

Note: The default administrator account cannot be deleted.

4.7.2 Online User

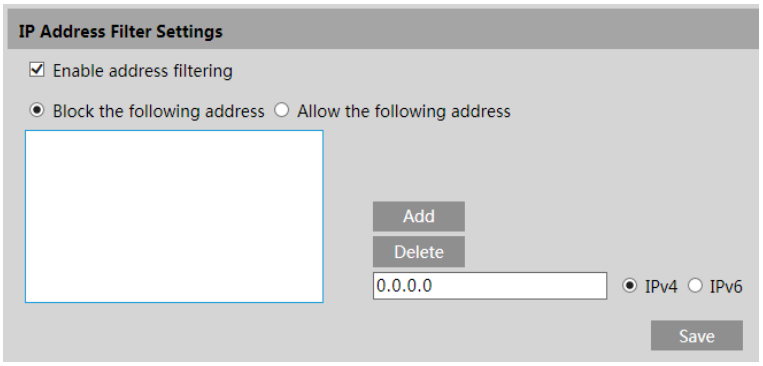
Go to Security→Online User to view the user who is viewing the live video.

Index	Client Address	Port	User Name	User Type	
1	192.168.17.232	55760	admin	Administrator	Kick Out

An administrator user can kick out all the other users (including other administrators).

4.7.3 Block and Allow Lists

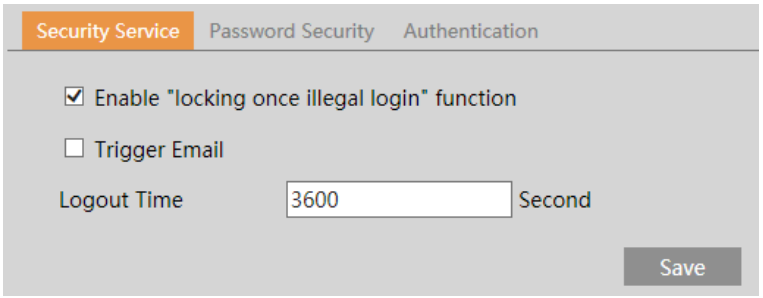
Go to Security→Block and Allow Lists as shown below.



The setup steps are as follows:
Check the “Enable address filtering” check box.
Select “Block/Allow the following address”, IPv4/IPv6 and then enter IP address in the address box and click the “Add” button.

4.7.4 Security Management

Go to Security→Security Management as shown below.



In order to prevent against malicious password unlocking, “locking once illegal login” function can be enabled here. If this function is enabled, login failure after trying five times will make the login interface locked. The camera can be logged in again after a half hour or after the camera reboots.
Trigger Email: if enabled, e-mail will be sent when logging in/out or illegal login lock occurs.
Logout time: Set the logout time as needed. For example: 3600s, you will be automatically logged out after 3600s and then you need to enter the username and password again to log in.

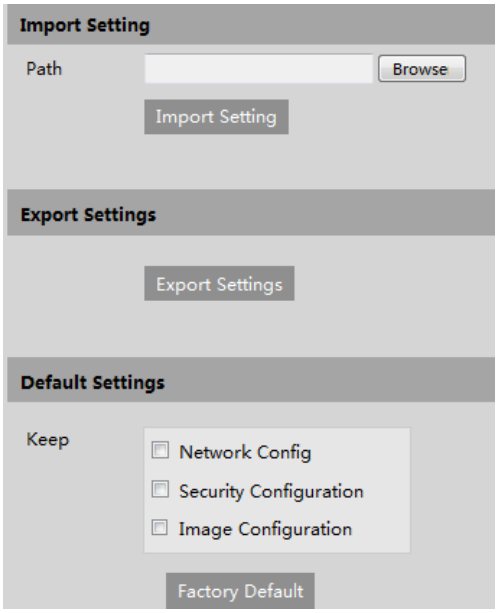
- **Password Security**

Please set the password level and expiration time as needed.
Password Level: Weak, Medium or Strong.
Weak level: Numbers, special characters, upper or lower case letters can be used. You can choose one of them or any combination of them when setting the password.
Medium Level: 8~16 characters, including at least two of the following categories: numbers, special characters, upper case letters, lower case letters.
Strong Level: 8~16 characters. Numbers, special characters, upper case letters and lower case letters must be included.
For your account security, it is recommended to set a strong password and change your password regularly.
HTTP Authentication: Basic or Token is selectable.

4.8 Maintenance Configuration

4.8.1 Backup and Restore

Go to Maintenance→Backup & Restore.



- **Import & Export Settings**

Configuration settings of the camera can be exported form a camera into another camera.
1. Click “Browse” to select the save path for import or export information on the PC.
2. Click the “Import Setting” or “Export Setting” button.

- **Default Settings**

Click the “Load Default” button to restore all system settings to the default factory settings except those you want to keep.

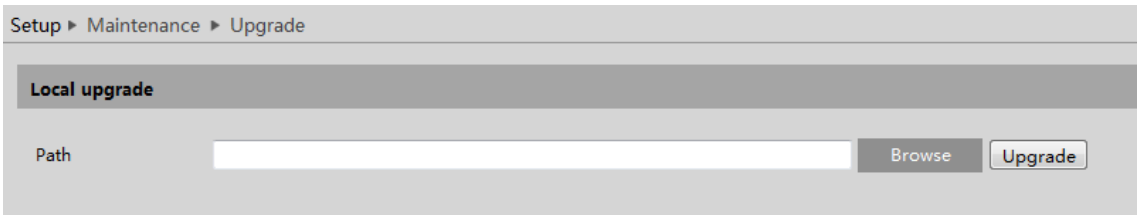
4.8.2 Reboot

Go to Maintenance→Reboot.
Click the “Reboot” button to reboot the device.

Timed Reboot Setting:
If necessary, the camera can be set up to reboot on a time interval. Enable “Time Settings”, set the date and time and then click the “Save” button to save the settings.

4.8.3 Upgrade

Go to Maintenance→Upgrade. In this interface, the camera firmware can be updated.



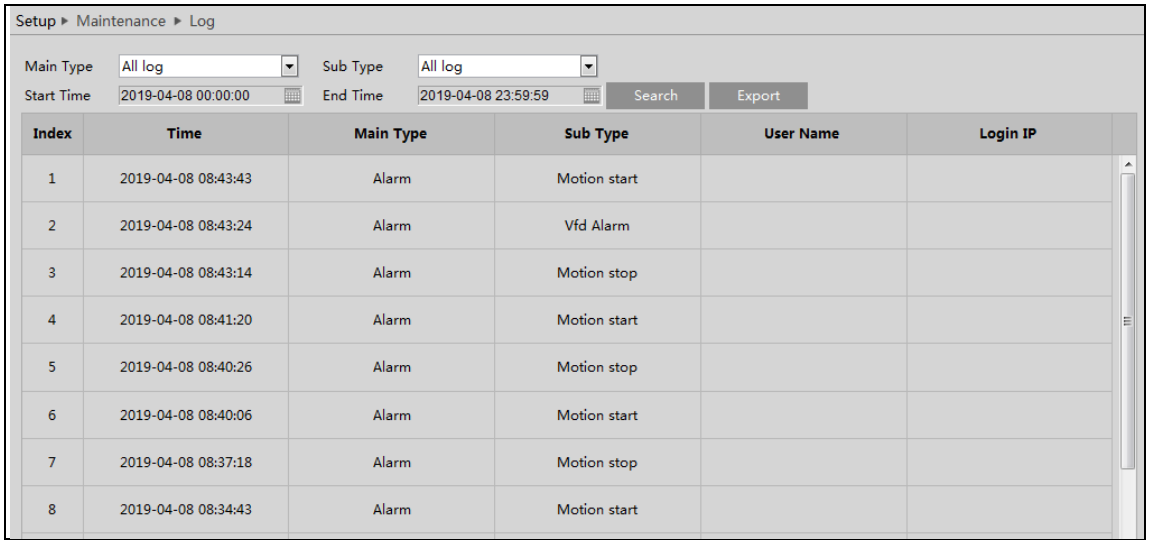
1. Click the “Browse” button to select the save path of the upgrade file
2. Click the “Upgrade” button to start upgrading the firmware.
3. The device will restart automatically

Caution! Do not close the browser or disconnect the camera from the network during the upgrade.

4.8.4 Operation Log

To query and export log:

1. Go to Maintenance→Operation Log.

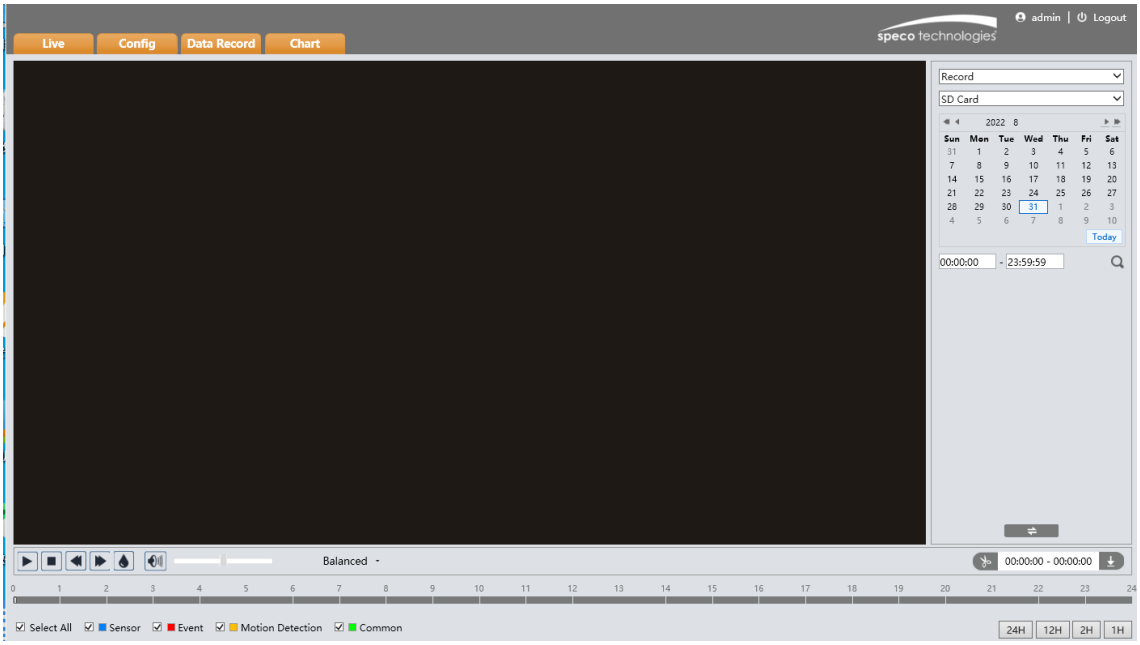


2. Select the main type, sub type, start and end time.
3. Click “Search” to view the operation log.
4. Click “Export” to export the operation log.

5 Search

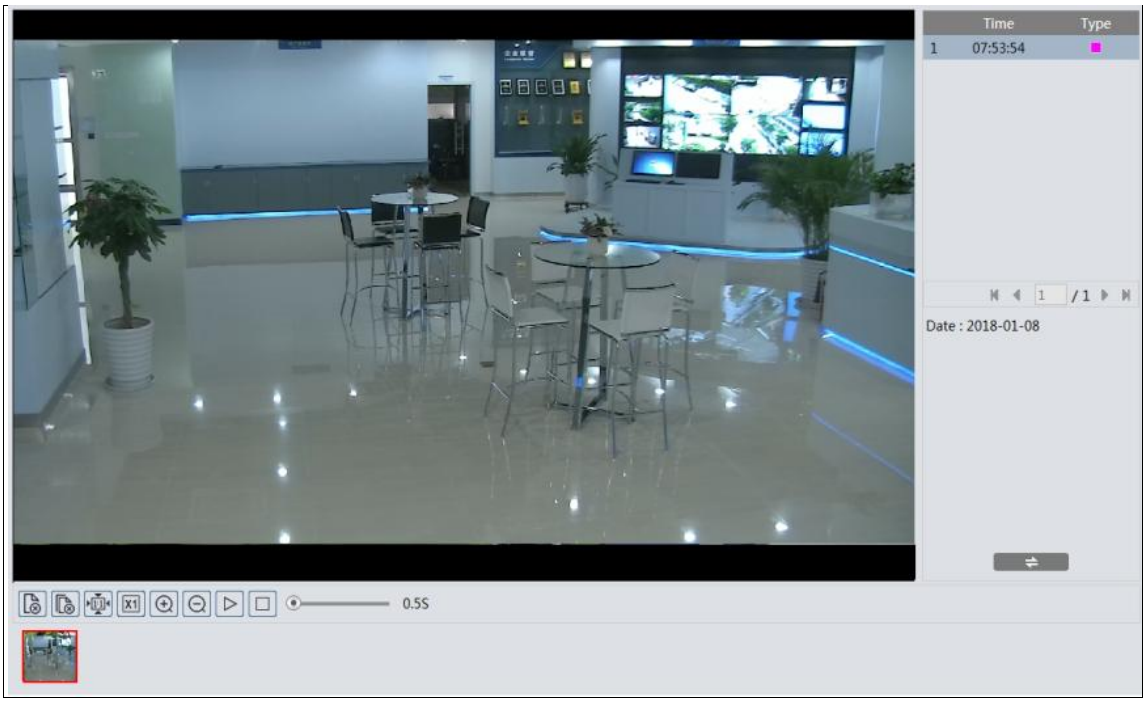
5.1 Image Search

In the Setup interface, click Search to go to the interface as shown below. Images that are saved on the PC or SD card can be found here.



- **Local Image Search**

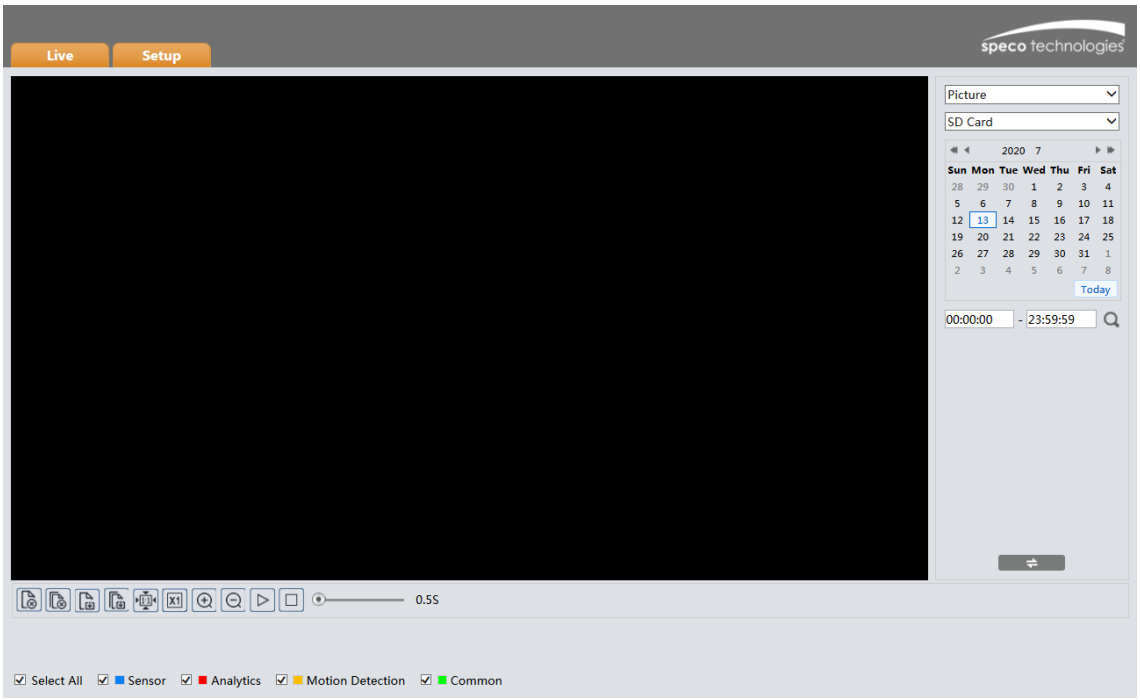
1. Choose “Picture”—“Local”.
2. Set time: Select date and choose the start and end time.
3. Click to search the images.
4. Double click a filename in the list to view the captured photos as shown above.



Click ⇌ to return to the previous interface.

- **SD Card Image Search**

1. Choose “Picture”—“SD Card”.



2. Set time: Select date and choose the start and end time.
3. Choose the alarm events at the bottom of the interface.
4. Click 🔍 to search the images.
5. Double click a file name in the list to view the captured photos.

Click ⇌ to return to the previous interface.

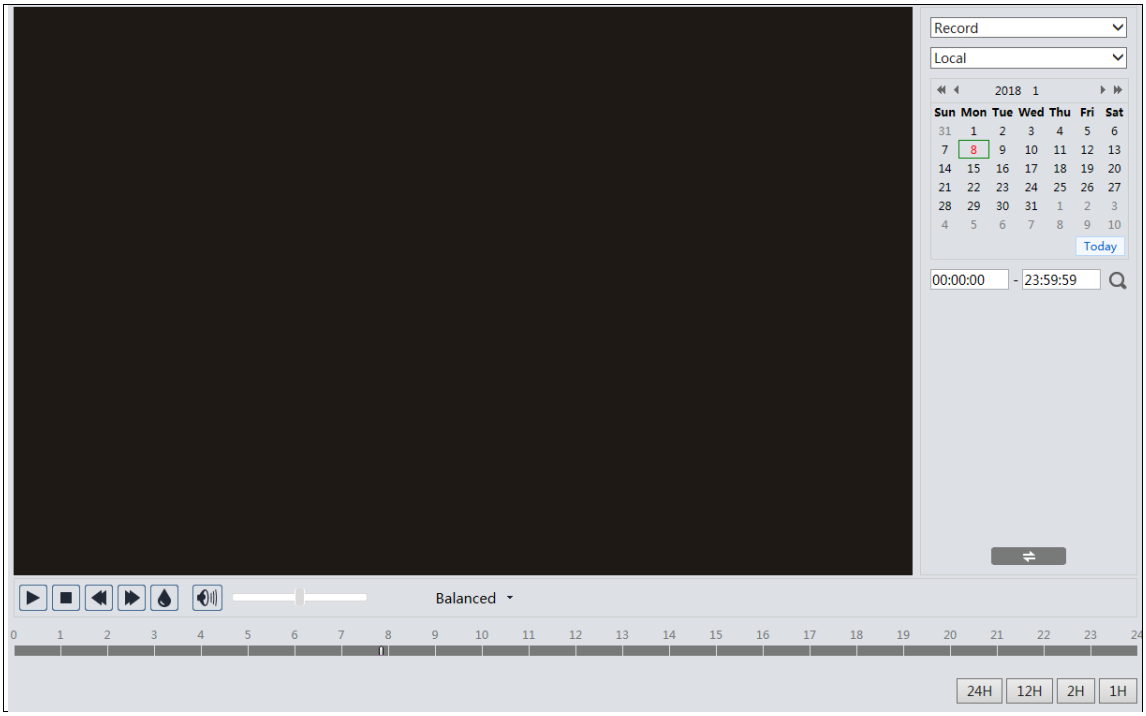
The descriptions of the buttons are shown as follows.

Icon	Description	Icon	Description
	Close: Select an image and click this button to close the image.		Close all: Click this button to close all images.
	Save: Click this button to select the path for saving the image on the PC.		Save all: Click this button to select the path for saving all pictures on the PC.
	Fit size: Click to fit the image on the screen.		Actual size: Click this button to display the actual size of the image.
	Zoom in: Click this button to digitally zoom in.		Zoom out: Click this button to digitally zoom out.
	Slide show play: Click this button to start the slide show mode.		Stop: Click this button to stop the slide show.
5.5S	Play speed: Play speed of the slide show.		

5.2 Video Search

5.2.1 Local Video Search

Click Search to go to the interface as shown below. Videos were recorded locally to the PC can be played in this interface.



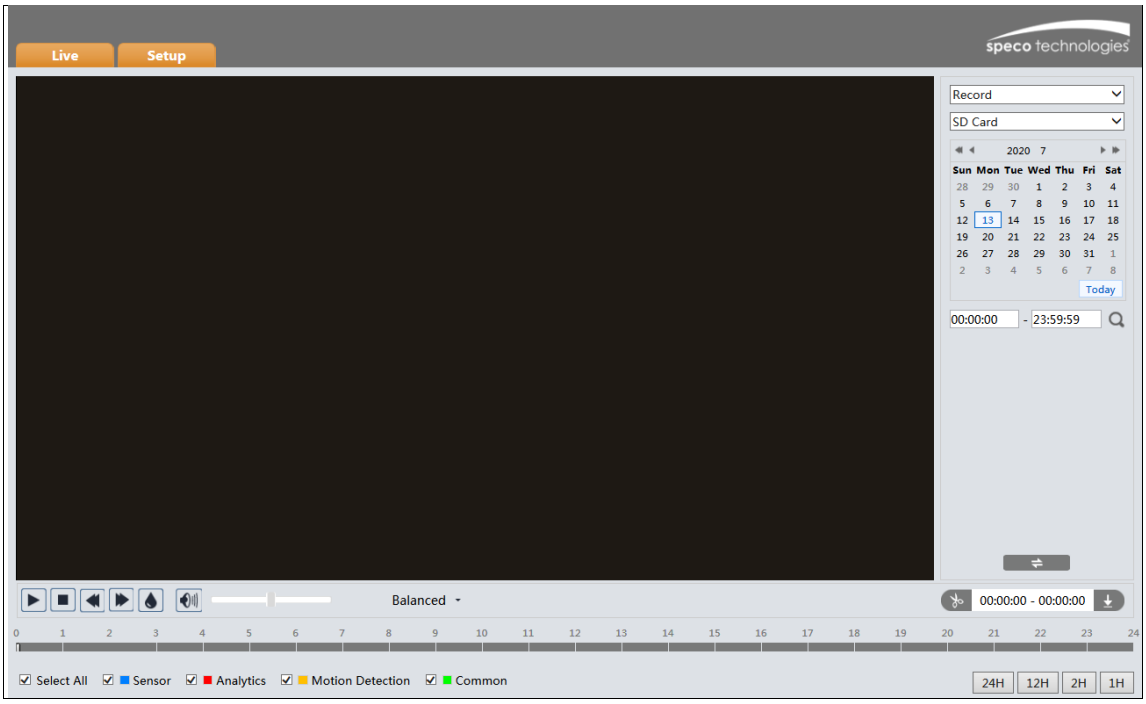
1. Choose “Record”—“Local”.
2. Set search time: Select the date and choose the start and end time.
3. Click to search the images.
4. Double click on a file name in the list to start playback.

Icon	Description	Icon	Description
	Play button. After pausing the video, click this button to continue playing.		Pause button
	Stop button		Speed down
	Speed up		Watermark display
	Enable / disable audio; drag the slider to adjust the volume after enabling audio.		

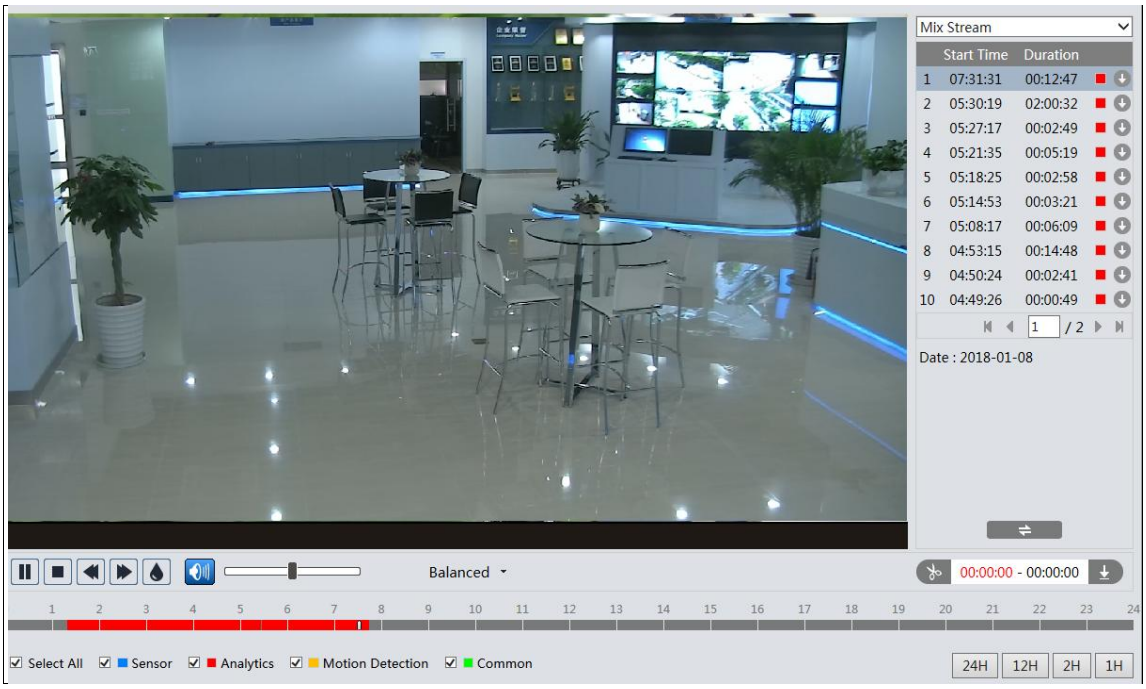
5.2.2 SD Card Video Search

Click Search to go to the interface as shown below. Videos that were recorded on the SD card can be played in this interface.

1. Choose “Record”—“SD Card”.
2. Set search time: Select the date and choose the start and end time.
3. Click to search the images.



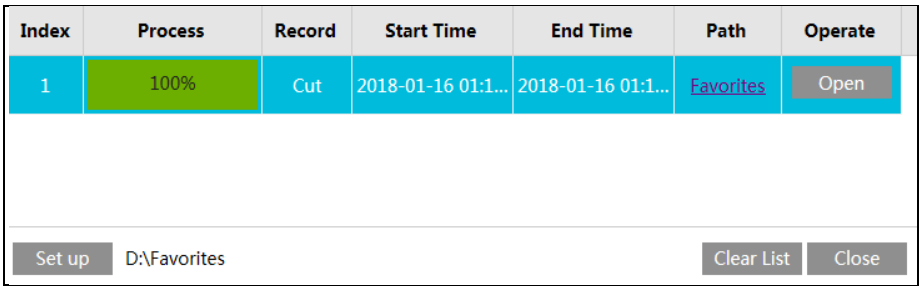
4. Select the alarm events at the bottom of the interface.
5. Select mix stream (video and audio stream) or video stream as needed.
6. Double click on a file name in the list to start playback.



The time table can be shown in 24H/12H/2H/1H format by clicking the corresponding buttons.

Video clip and downloading

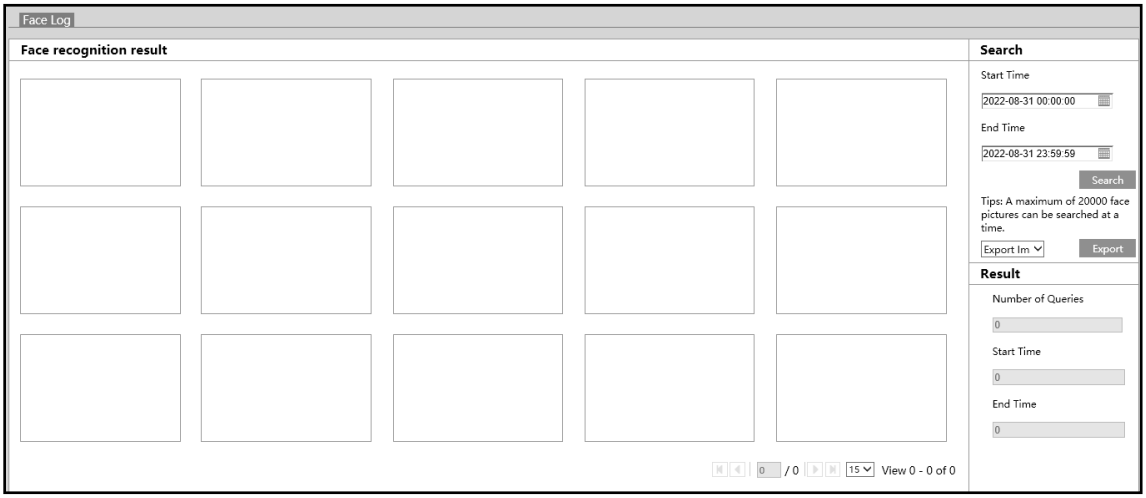
1. Search the video files according to the above mentioned steps.
2. Select the start time by clicking on the time table.
3. Click to set the start time and then this button turns blue ( ).
4. Select the end time by clicking on the time table. Then click to set the end time.
5. Click to download the video file in the PC.



Click “Set up” to set the storage directory of the video files.
Click “Open” to play the video.
Click “Clear List” to clear the downloading list.
Click “Close” to close the downloading window.

6 Face Recognition Result Search

Click “Face Log” tab to go to the face recognition result search interface.
Set the start time and end time and click “Search” to view the face recognition result.



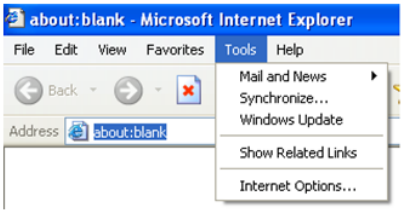
Red time tag means no comparison result. Green time tag means there is a comparison result. Click the picture with green time tag and then the face comparison information can be viewed as shown below.

Appendix

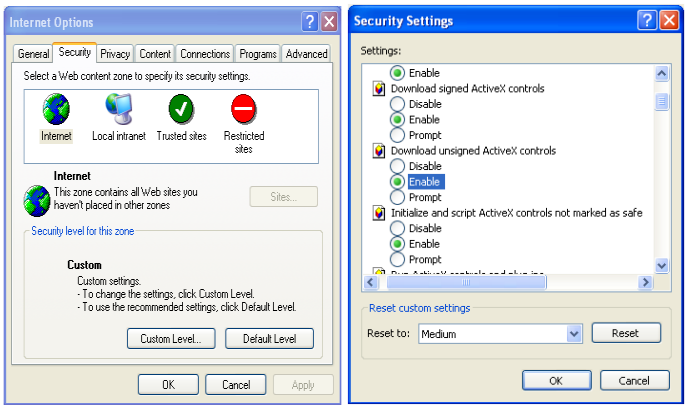
Appendix 1 Troubleshooting

IP Scanner does not show any device.
Make sure that the PC that's running IP Scanner is on the same local network as the devices.

Internet Explorer cannot download ActiveX control.
IE browser may be set up to block ActiveX. Follow the steps below.
1. Open IE browser and then click Tools→Internet Options.



2. Select Security→Custom Level.
3. Enable all the options under "ActiveX controls and plug-ins".
4. Click OK to finish setup.



No sound can be heard.
1. Audio input device is not connected. Please connect and try again.
2. Audio function is not enabled at the corresponding channel. Please enable this function.

Models: O4P4X2

Federal Communications Commission (FCC) Statements

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC Responsible Party:

Speco Technologies
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Amityville, NY11701
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