User Manual
PTZ Network Camera

O2P20X / O2P25X

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

Heavy stress, violent vibration or exposure to water is not allowed during transportation, storage, and installation.
This product should be installed in a cool, dry place away from direct sunlight and heat sources.
Do not install the product in extreme temperature conditions.
Do not expose the camera to electromagnetic radiation. Otherwise, it may result in CMOS sensor failure.
Do not block any ventilation openings.
Do not allow water and liquid intrusion into the camera.

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 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.

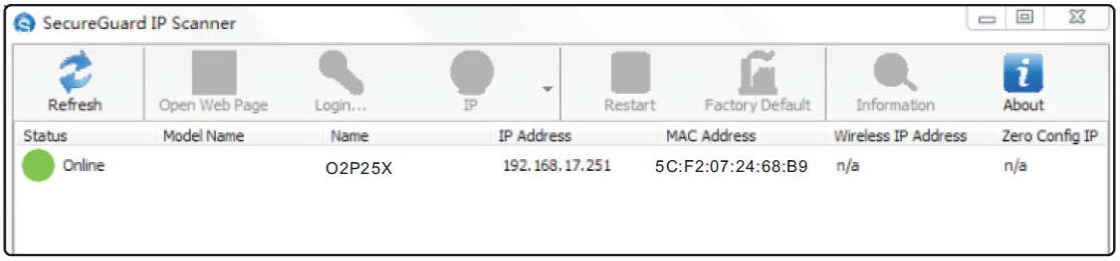
- Access through IP Scanner

Network connection:

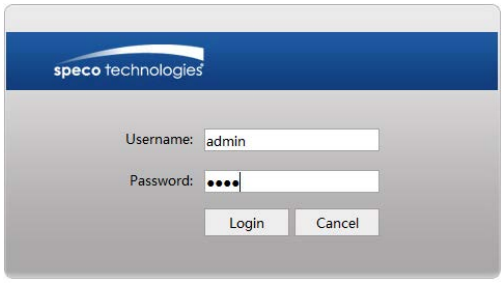


①Make sure the PC and IP-Cam are connected on the same local network. The camera is set to DHCP by default and will be assigned an IP address by the DHCP server. Make sure that the local network has a DHCP server. Routers typically have a DHCP server built in.

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.



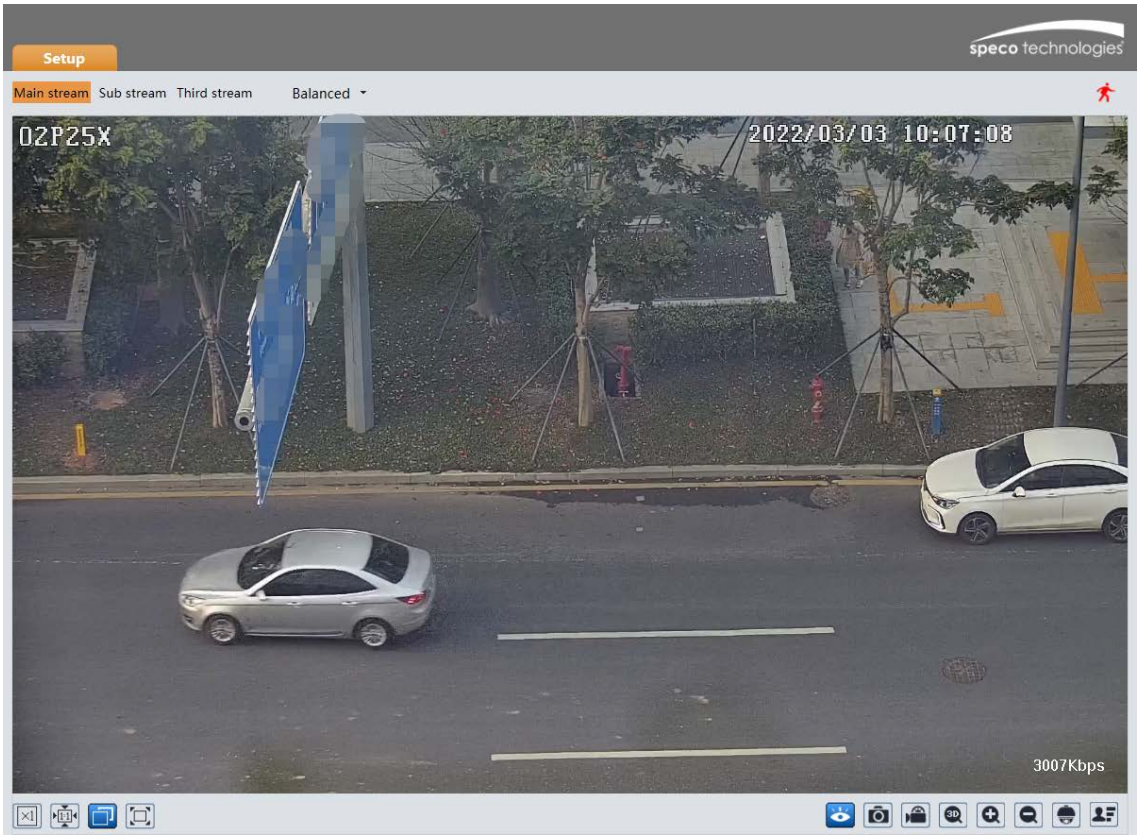
③ In the device list, the IP address, model number, and MAC address of each device will be listed. Select the applicable device and double click to open up the web viewer. You can also manually enter the IP address in the address bar of the web browser (Internet Explorer 8 and up).



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.

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

: 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.

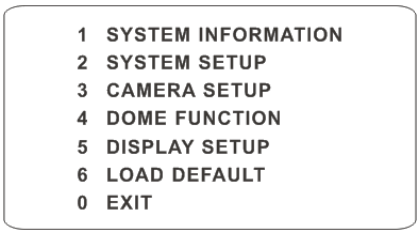
The camera can be installed in a compatible external PTZ enclosure through RS485. Click the PTZ icon to reveal the PTZ control panel.
The descriptions of the control panel are as follows:

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 PTZ Menu Setup

On the PTZ control panel of IE remote preview interface, call Preset 95 and click . This will take you to see the following main menu setup.



☞ The menu setup can be displayed when the resolution of the live is set to 1920×1080.

After you go to the main menu interface, you can select the menu by clicking the direction button ( ).

: To select menu by moving up and down.

: To return to the menu on the left.

: To confirm to enter sub-menu or to select the menu on the right.

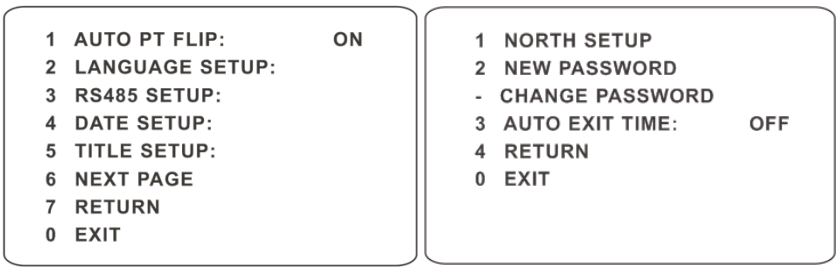
Note: Dash (-) before the menu means that the menu is not available. Different models may have different menus. The menus in this manual are for reference only.

4.1 System Information

Select System Setup by clicking or button and then click button to go to System Information menu.
You can view the software and firmware version, camera, system temperature, date, dome ID, dome protocol and baud rate here.

4.2 System Setup

Select System Setup by clicking or button and then click button to enter System Setup as shown below:



4.2.1 Auto PT Flip

Select Auto PT Flip and then click to set up the menu on the right; click or button to select On/Off. If “On” is selected, please click button to return to the menu on the left and click button to select Exit. (The ways to go to sub-menu, return or exit to the main menu in the following settings are similar to the above-mentioned steps. The following contents will not introduce it in details).

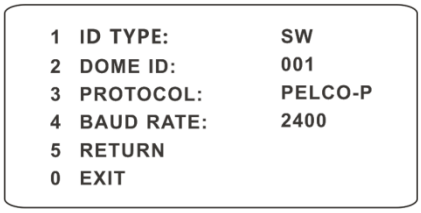
After you exit the main menu, press and hold button to let the speed dome move to the bottom. Then the dome will automatically flip.

4.2.2 Language Setup

English or Chinese menu can be selected.

4.2.3 RS485 Setup

This function is only available for some models.
Go to System Setup→RS485 Setup as below:



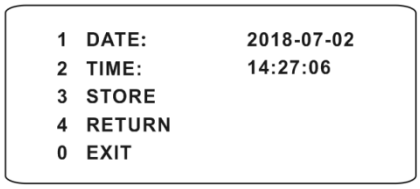
【Dome ID】: The available range is from 001 to 255.

【Protocol】: PELCO-D or PELCO-P is selectable.

【Baud Rate】: The baud rate is selectable from 1200 to 9600bps.

4.2.4 Date Setup

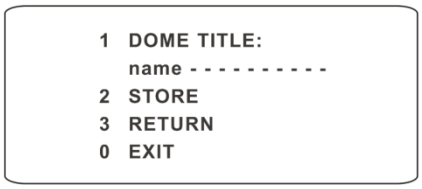
Go to System Setup→Date Setup menu as shown below:



① Set the date and time by clicking the direction button.
② Select STORE to save the setting.

4.2.5 Title Setup

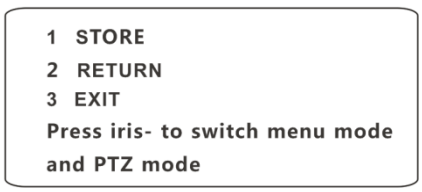
Go to System Setup→Title Setup as below:



Click direction buttons to set the title and then save the setting.

4.2.6 North Setup

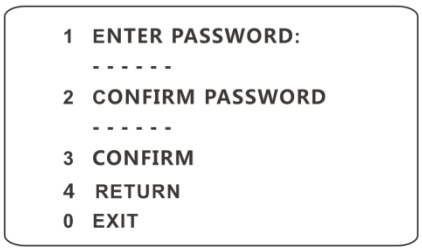
Go to System Setup→North Setup as below:



① Choose a location by clicking the direction button.
② Select STORE to save the setting.
③ 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 camera.
④ The vertical PTZ will treat its highest point as a reference (when the camera is parallel with the horizontal ground) to show the included angel between the camera and horizontal ground.

4.2.7 New Password and Change Password

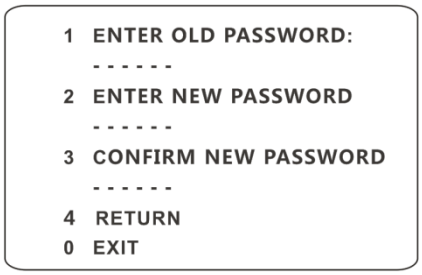
- **New Password**



Enter the password by clicking ▲ or ▼ button.

- Numbers from 0 to 9 are available. The password should be 6 characters.
- Empty password is invalid when you set the new password.
- Password needs to be entered when you log in next time.

- **Change Password**



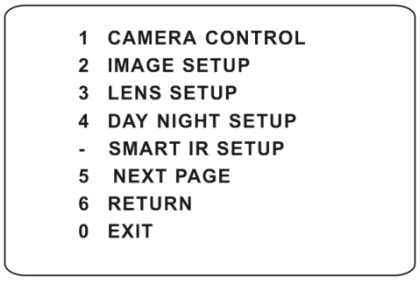
- Enter the current password and then enter the new password twice. (Please refer to "New Password" for details.)
- Entering empty new password means to delete the current password.

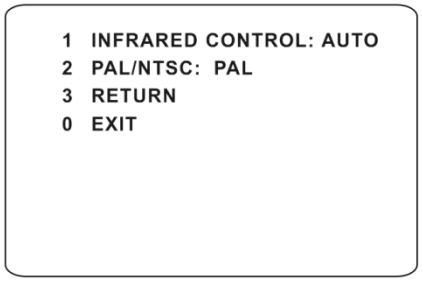
4.2.8 Auto Exit Time

Go to System Setup→Next Page→Auto Exit Time. You may set the time to exit the menu automatically as needed.

4.3 Camera Setup

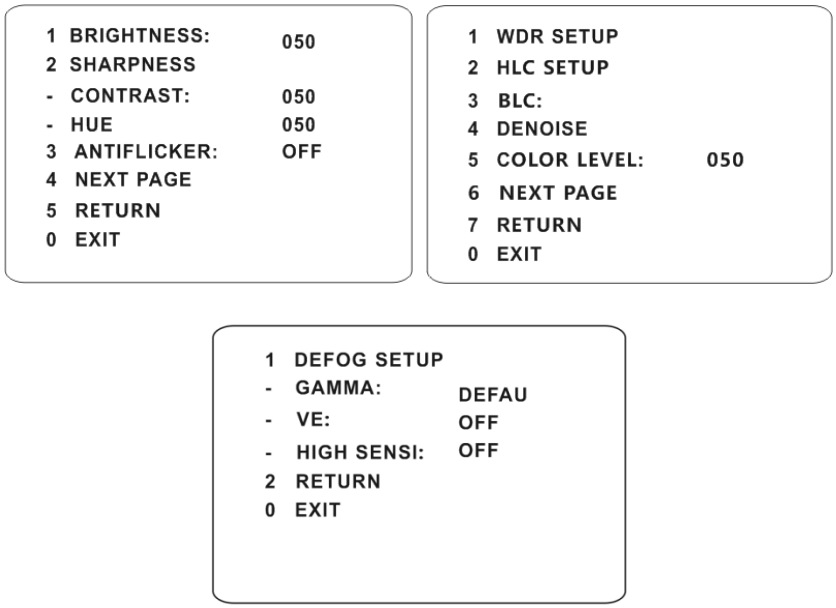
After you go to camera setup menu, you will see the following menu.





4.3.1 Camera Control

After you select Camera Control, you will see the following menu.



【Brightness】: Set the brightness level of the camera's image.

【Sharpness】: Set the resolution level of the image plane and the sharpness level of the image edge.

【Contrast】: Set the color difference between the brightest and darkest parts.

【Hue】: Set the total color degree of the image.

【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.

【**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.

【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.

【HLC Level】: Range from 00~20.

【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.

【Denoise】: Reduce the noise of the brightness and chroma of the image in low illumination condition.

【Color Level】: Adjust the saturation of the image.

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

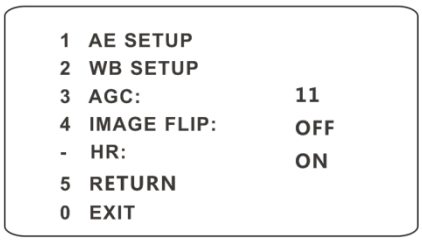
【Gamma】: Measurement of the contrast of an image.

【VE】: Visibility enhancement.

【High Sensitivity】: Set it as needed.

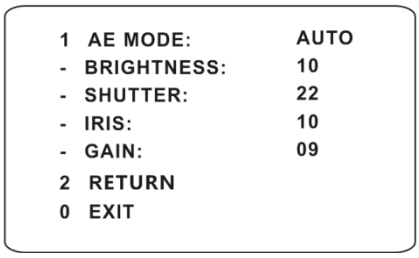
4.3.2 Image Setup

Select Image Setup to go to the following sub-menu.



- **AE Setup**

Go to AE Setup menu as shown below:



【AE MODE】: Auto, Bright, Shutter, IRIS and Manual are optional.

【Brightness】: Range from 0（darkest）~20（brightness）. It is available only when bright mode is selected.

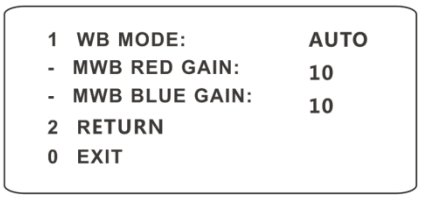
【Shutter】: The lower the value of camera shutter is, the brighter the image is. It is available only when the shutter or manual mode is selected.

【IRIS】: The higher the value of the camera IRIS is, the more the light gets. It is available only when the camera is IRIS or Manual mode.

【Gain】: When AE mode is set to Manual, GAIN value can be set up.

- **WB Setup**

Go to WB Setup menu as shown below:



【WB Mode】: White Balance Mode. There are two options you can choose, including auto and manual. You can select the mode according to different lighting condition.

【MWB Red Gain】: The operation is effective in manual mode.

【MWB Blue Gain】: The operation is effective in manual mode.

- **AGC**

The larger the number is, the higher the brightness and the more the noises of the image are.

- **Image Flip**

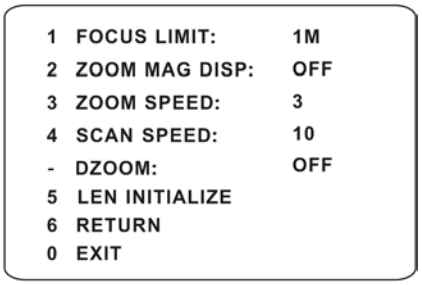
❖ MIRR: Turn over the image left or right.

❖ FLIP: Turn over the image up or down.

ROTA: Turn over the image up, down, left or right.

4.3.3 Lens Setup

Go to Camera Setup→Lens Setup menu as shown below:



- **Focus Limit**

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

- **Zoom MAG DISP**

If “ON” is selected, 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.

- **DZoom**

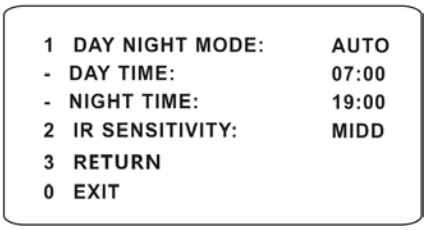
After enabling digital zoom mode, digital zoom will be increased on the basis of optical zoom.

- **Len Initialize**

After enabling “Len Initialize”, the camera lens will restore to the factory default settings.

4.3.4 Day & Night Setup

Day & Night Mode includes three modes: Auto, Night, Day and Time.



- ❖ Auto：Camera will automatically switch the mode between day and night as the ambient illumination.
- ❖ Night：The camera will be night mode at all time. You’d better use this mode at night.
- ❖ Day: The camera will be day mode at all time. You’d better use this mode in daytime.
- ❖ Time: Camera will regularly switch the mode between day and night according to the set day and night time. Day & Night Mode will be disabled if enabling this function.

- **IR Sensitivity**

Set the level of the IR sensitivity.

4.3.5 Infrared Control

Auto, ON or OFF is optional.

4.3.6 Video Format

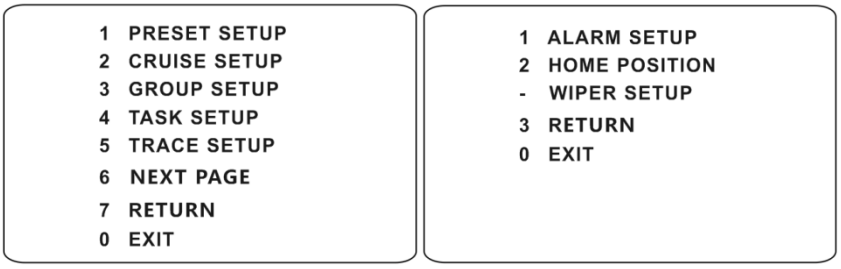
PAL or NTSC is optional.

4.3.7 Smart IR Setup

Smart IR Mode: “Auto”, “Manual” 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.

4.4 Dome Function

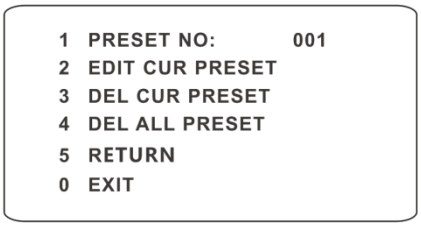
Go to Dome Function menu as shown below:



4.4.1 Preset Setup

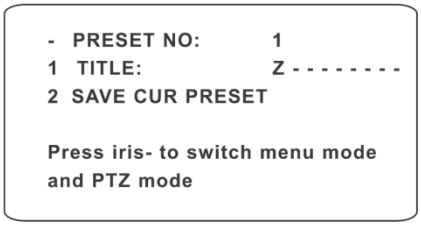
This function is used to memorize the specific position of pan, tilt, zoom and focus, giving much convenience for quick return to this position by calling preset.

① Selecting the preset setup menu brings the following menu.



② Select the preset number.

③ Go to Edit CUR Preset interface as below:



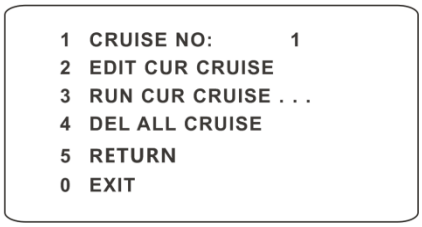
④ Press iris – to switch menu mode and PTZ mode. And then set the position of the preset by clicking the direction buttons.

⑤ Set the title by clicking ▲ or ▼ button.

Save the setting.

4.4.2 Cruise Setup

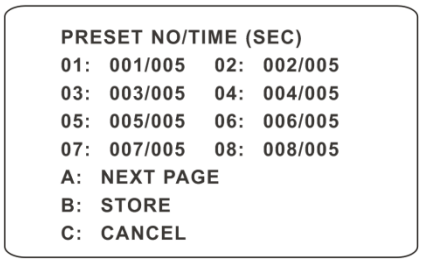
Go to Dome Function→Cruise Setup menu as below:



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.
Setting steps are as follows:

① Select the cruise number.

② Edit the current cruise. This camera supports 8 cruises and 16 presets for each cruise. Go to "Edit Cur Cruise" menu as shown below:



Set the preset and time. The preset ranges from 001 to 360 and the dwell time is from 05s to 240s.

③ Run the current cruise. The camera will automatically keep running according to the cruise you set until new command is received. The corresponding operating information will display on the screen when the camera is running.

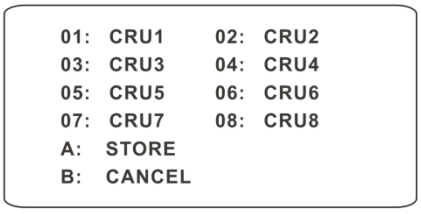
④ Select STORE to save the setting.

4.4.3 Group Setup

Go to Dome Function→Grouping Setup as below:



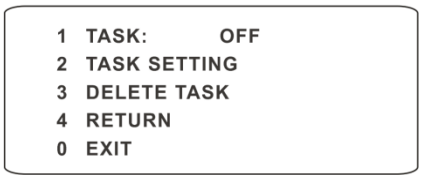
Go to "Edit Group" menu as shown below.



8 cruises can be set in a group. CRU 1 stands for Cruise 1, CRU 2 stands for Cruise 2 and so on. "Run Group" means to run the cruises in order.

4.4.4 Task Setup

Go to Dome Function→Task Setup menu as shown below:

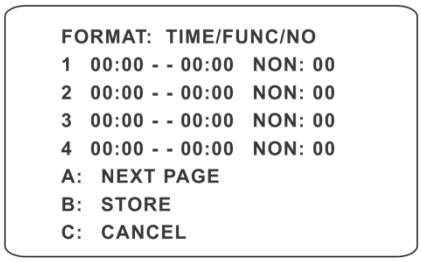


By dividing 24 hours into several periods and appointing different commands for each period, the camera system will automatically execute the commands according to the set time if there is no operation.

Setting Steps:

① Enable the task.

② Set the task.

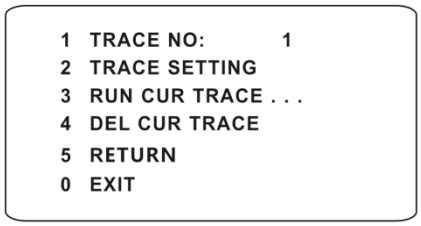


Time Format: Start Time – End Time. The tasks will be automatically executed in chronological order.
Task Type: RSC, ASC, PRE, CRU, TRA.

☞ **Note**: The home position function will be disabled if enabling task setting.

4.4.5 Trace Setup

Go to Dome Function→Trace Setup menu as shown below:



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

Setting Steps:

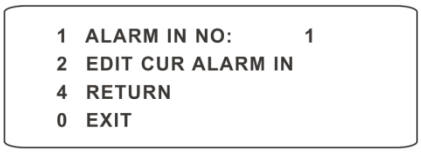
① Choose the trace number.

② Edit the trace. Enter the trace setting menu. Click “Iris –”to start recording trace. Control the dome movement by direction buttons and then save the setting. 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.

③ Select “RUN CUR TRACE…” to perform the command.

4.4.6 Alarm Setup

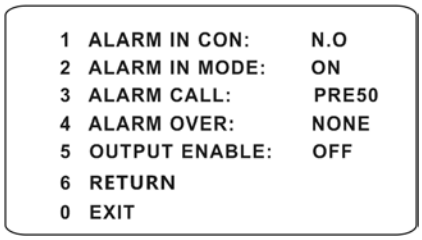
Go to Dome Function→Alarm Setup as shown below:



Setting Steps:

① Select Alarm In No.

② Go to “EDIT CUR ALARM IN” menu as shown below.



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

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

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

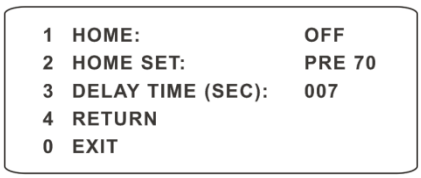
【ALARM OVER】:Call the preset/cruise/trace/scan you need. When the alarm trigger is over, the camera will automatically switch to this preset/cruise/trace/scan to monitor.

【OUTPUT ENABLE】: 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.

4.4.7 Home Position

Go to System Setup→Home Position menu as shown below:



The setting steps:

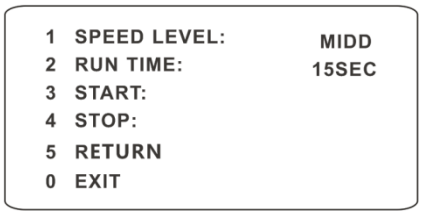
① Enable the home position function and select the preset which should be set in advance.

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

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

4.4.8 Wiper Setup

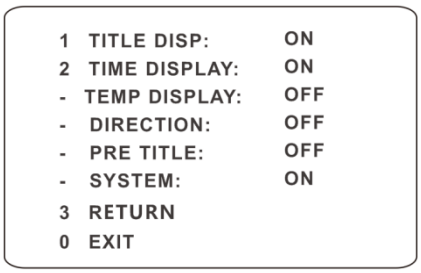
Some models may not support this function. Go to Main Menu→Wiper Setup as shown below.



① Set the speed level and run time.
② Call “START” to enable wiper function.

4.5 Display Setup

You can enable title display and time display as needed.



4.6 Load Default

There are three menus, including master reset, master clear and system reboot.

【Master Reset】: Restore the camera state and active menu to the factory default settings but do not clear those parameters such as preset, cruise.

【Master Clear】：Restore the camera to the factory default settings.

【System Reboot】：Reboot the camera.

5 Camera Configuration

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

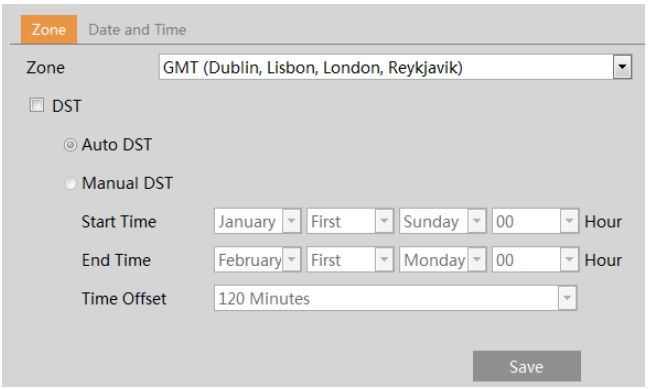
5.1 System Configuration

5.1.1 System Information

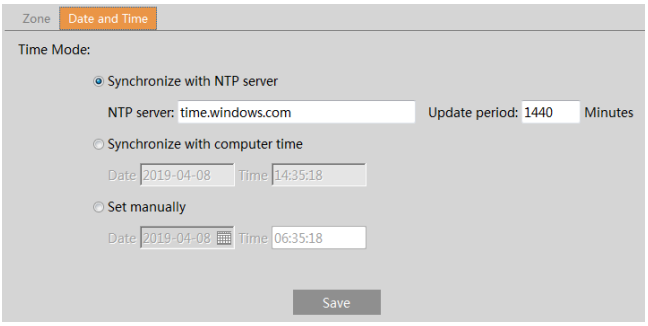
In the “System Information” interface, the system information of the device is listed.

5.1.2 Date and Time

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

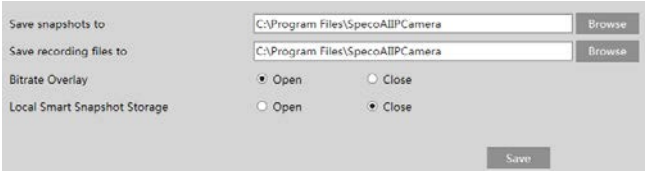


Select the applicable time zone and enable / disable DST as needed.
Click the “Date and Time” tab to set the time and date.



5.1.3 Local Recording

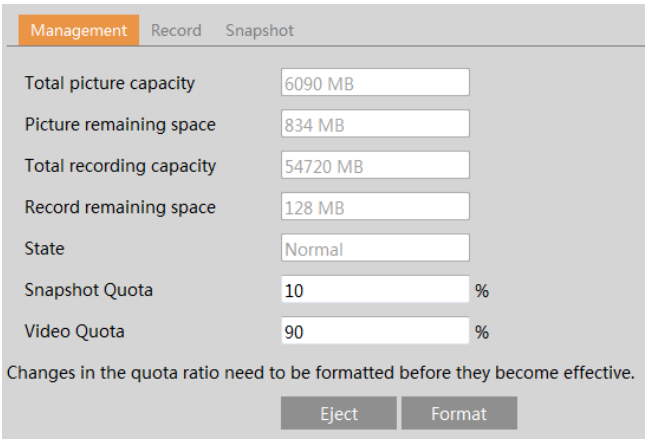
Go to System→Local Recording to set up the storage path of captured pictures and recorded videos on the local PC. There is also an option to enable or disable the bitrate display in the recorded files.



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.

5.1.4 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.**

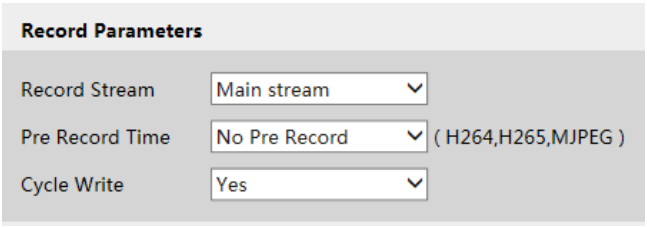
Click the "Eject" button to stop writing data to the SD card. Then the SD card can be ejected safely.

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**

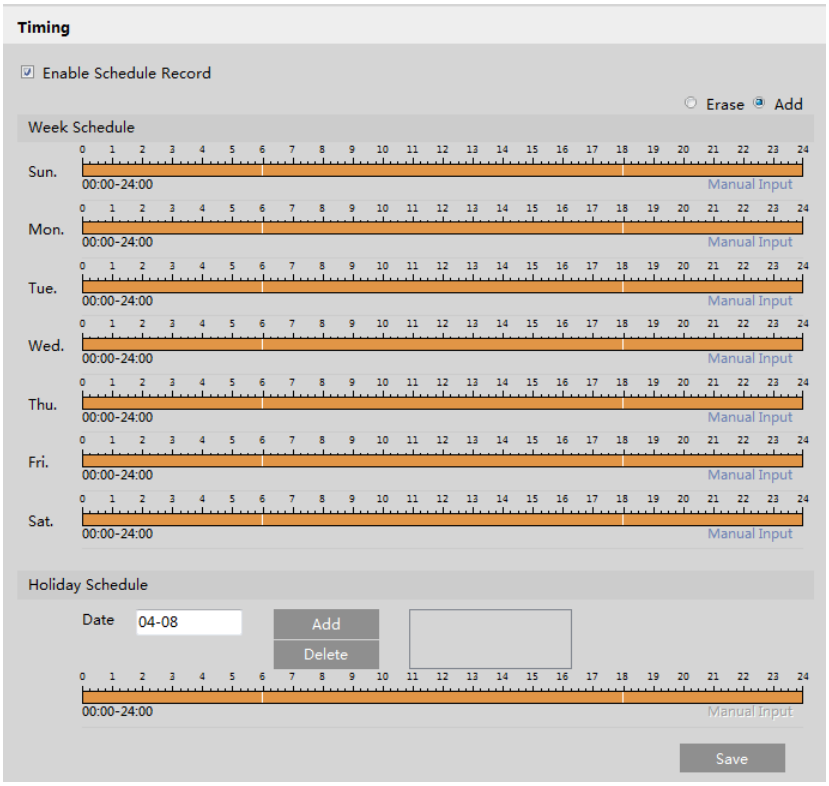
1. Go to Storage→Record to go to the interface as shown below.



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.

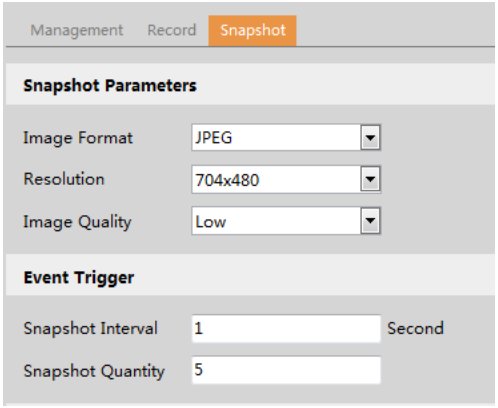


Weekly schedule
Set the alarm time from Monday to Sunday for a single week. Each day is divided in one hour increments. Green means scheduled. Blank means unscheduled.
"Add": Add the schedule for a special day. Drag the mouse to set the time on the timeline.
"Erase": Delete the schedule. Drag the mouse 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

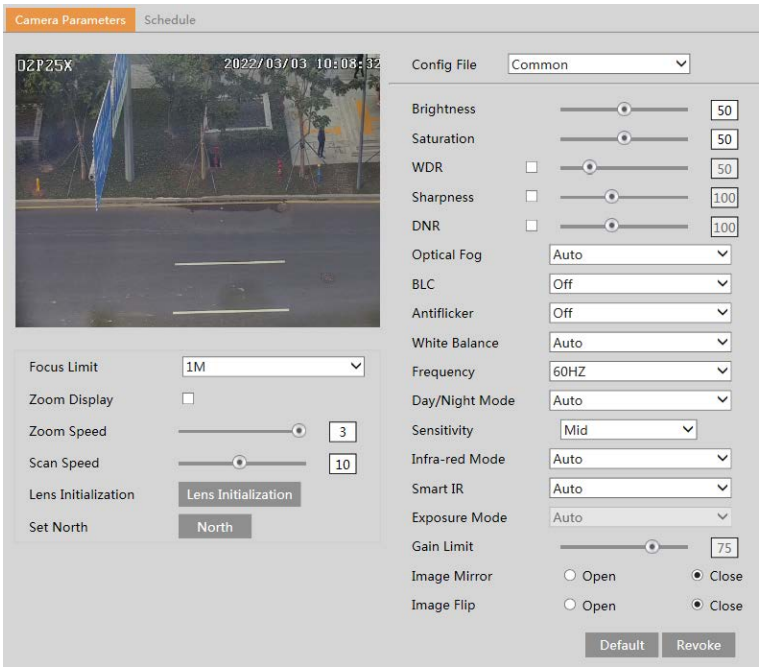
snapshots is less than the set quantity of snapshots.
Timing Snapshot: Enable timing snapshot first and then set the snapshot interval and schedule. The setup steps of schedule are the same as the schedule recording (See Schedule Recording).

5.2 Video Configuration

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

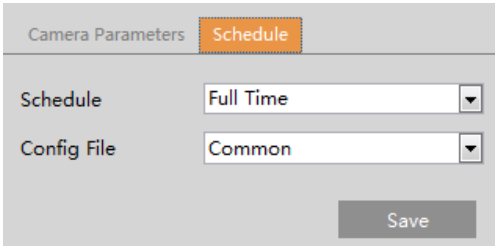
5.2.1 Image Configuration

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.

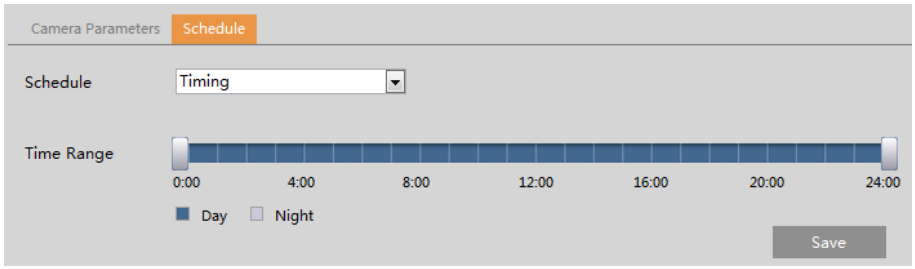


Please set the above parameters as needed (See Chapter 4.3 for more detail).

Schedule Settings of Image Parameters:
Click the “Schedule” tab as shown below.



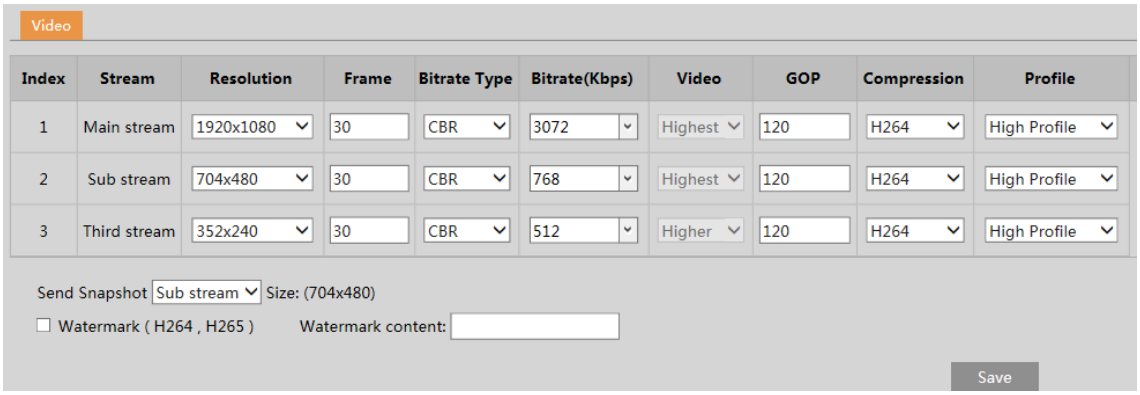
Set full time schedule for common, day or night mode and specified time schedule for day and night. Choose “Timing” in the drop-down box of schedule as shown below.



Drag " " icons to set the time of day and night. Blue means day time 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.

5.2.2 Video / Audio Configuration

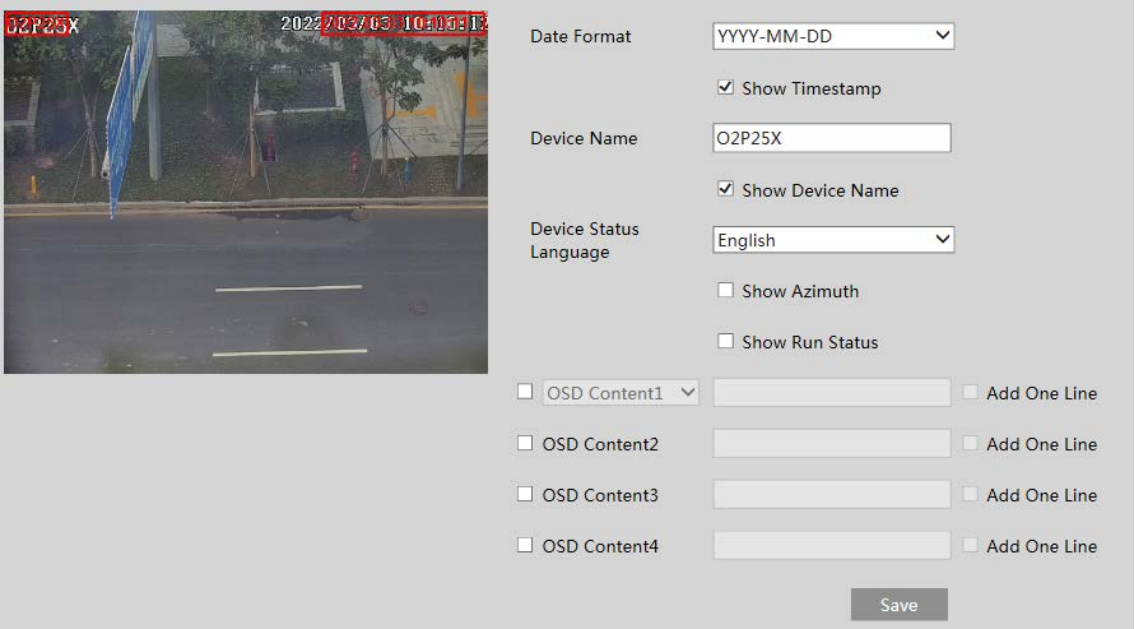
Go to Image→Video / Audio Setup interface as shown below. In this interface, set the resolution, frame rate, bitrate type, video quality and so on subject to the actual network condition.



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.

5.2.3 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.

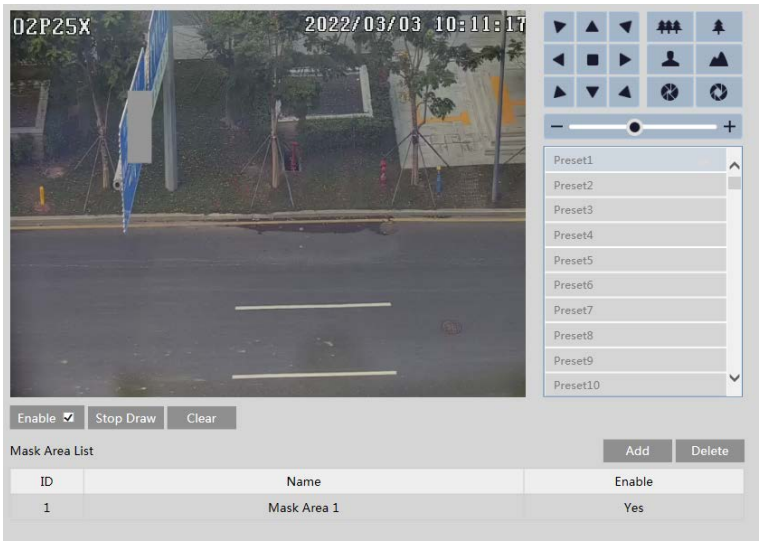
Show Run Status: Show the PTZ control status on the live view interface. For example, if the preset 2 is called, “PRE:002” will be shown on the live view interface.

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.

5.2.4 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.

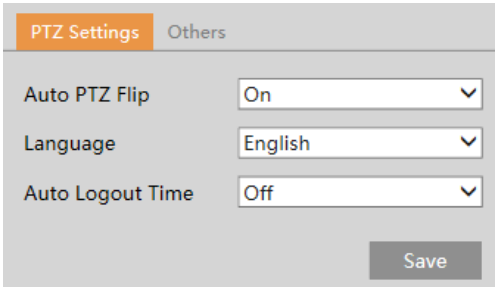
2. Click direction buttons to change the area you want to mask.
3. Click “Draw Area” and then drag the mouse to draw the video mask area.
4. Click “Add” to add the mask area.
5. Return to the live to verify that the area have been drawn as shown as blocked out in the image.

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.

5.3 PTZ Configuration

5.3.1 PTZ and Password Setting

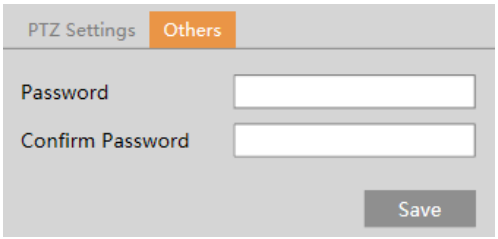
Go to Config→PTZ→Setting. This will let you see the following submenu.



In this submenu, PTZ flip, PTZ flip, language, auto logout time can be set.

- Password Setting

If the password is set, you must enter the password every time you go to the menu of the PTZ by calling preset NO. 95. Go to Config→PTZ→Setting→Others. You can set the password of the PTZ menu.



5.3.2 Restore

It includes the function of reset and clear. Please refer to Chapter 4.6 for more details.

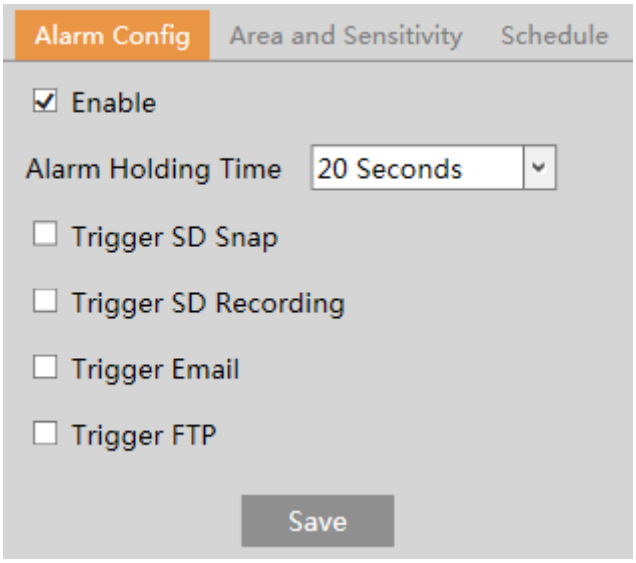
5.3.3 PTZ Function

PTZ function includes preset setup, cruise setup, group setup, trace setup, task setup, alarm setup, home position setup and wiper setup. Please refer to Chapter 4.4 Dome Function for more details.

5.4 Event Setup

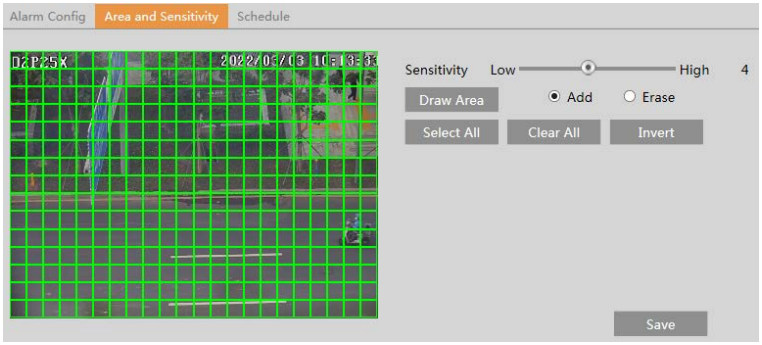
5.4.1 Motion Detection

Go to Event 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.
Trigger 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 chapter for more details.

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



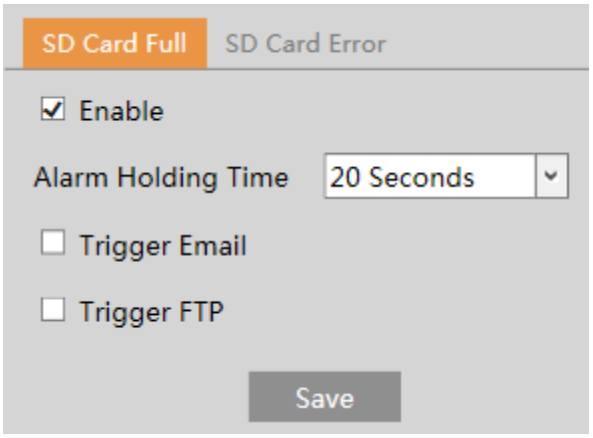
Move the “Sensitivity” scroll bar to set the sensitivity. Higher sensitivity value means that motion will be triggered more easily. Select “Add” and click “Draw”. Drag the mouse to draw the motion detection area; Select “Erase” and drag the mouse to clear motion detection area.
After that, click the “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).

5.4.2 Other Alarms

- **SD Card Full**

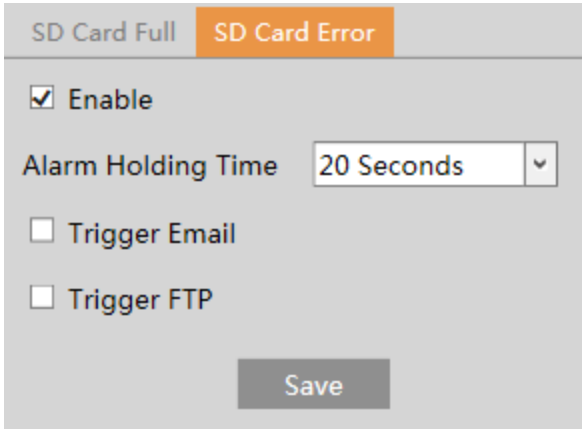
1. Go to Event Setup→Anomaly→SD Card Full.



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 chapter for details.

- **SD Card Error**

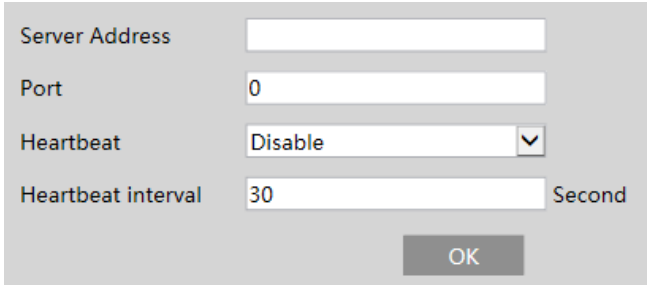
When there are some errors in writing SD card, the corresponding alarms will be triggered.
1. Go to Event Setup→Anomaly→SD Card Error as shown below.



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 detectionchapter for details.

5.4.3 Alarm Server

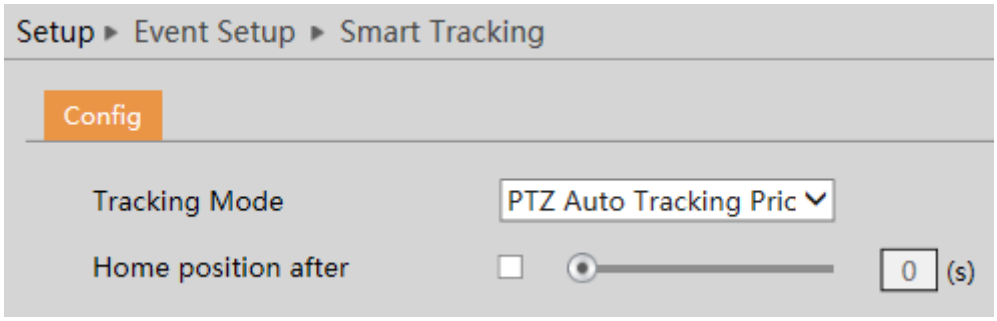
Go to Alarm→Alarm Server interface as shown below.
Set the server address, port, heartbeat and heartbeat interval. When an alarm occurs, the camera will transfer the alarm event to the alarm server. If an alarm server is not needed, there is no need to configure this section.



5.4.4 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.

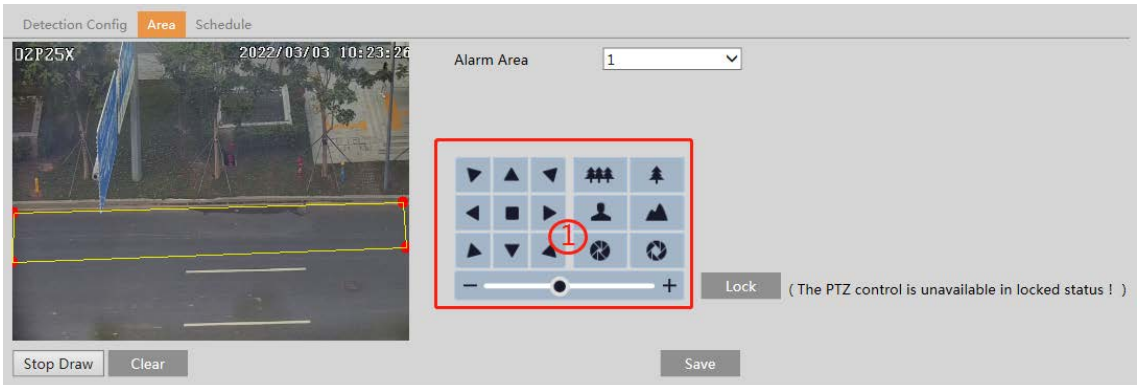
Manual PTZ Control Priority: if this mode is selected, in smart tracking mode, you can control PTZ by clicking the buttons on the PTZ control panel in the live view interface and then the camera will immediately stop the tracking action. After you finish controlling PTZ for 5 seconds, the PTZ camera 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:

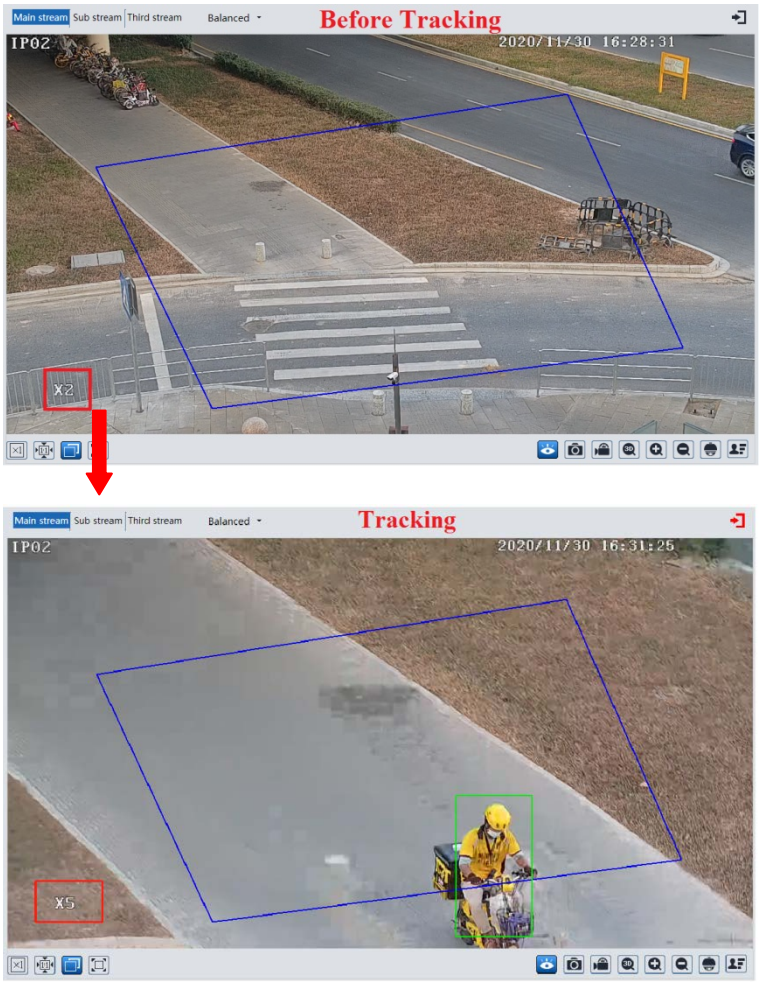
1. Click Config→Alarm→Smart Tracking to go to the smart tracking interface. Select the tracking mode and set the “home position after.. .” as needed.
2. Click Config→Event. Select the event as needed. For example intrusion, enable the intrusion detection, select detection target and then check “Trigger 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.



5.5 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.

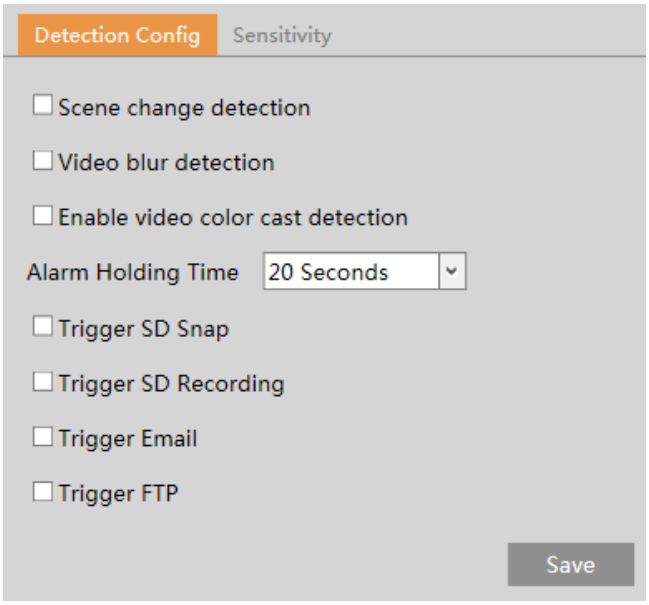
For more accuracy, here are some recommendations for installation.

- 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.

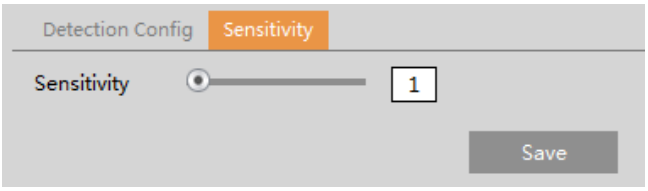
5.5.1 Abnormality

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 chapter 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.

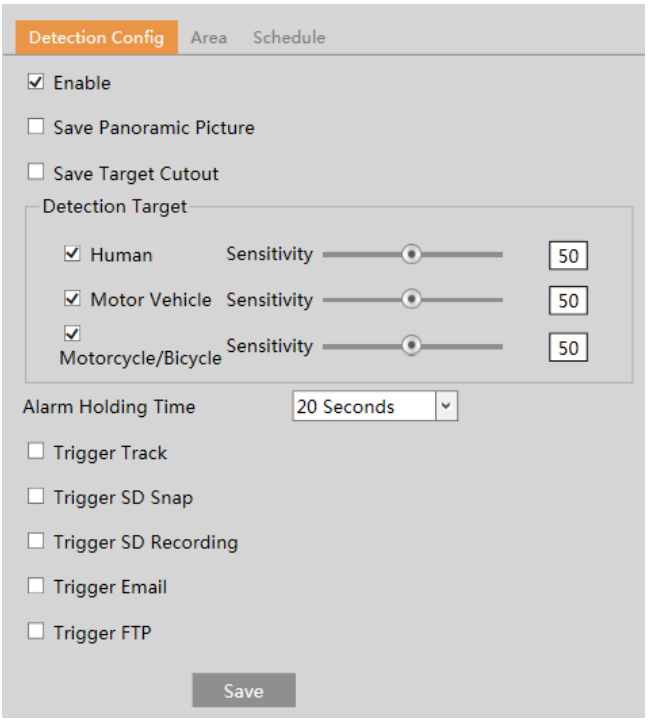


Drag the slider to set the sensitivity value or directly enter the sensitivity value in the textbox. Click "Save" button to save the settings.
The sensitivity value of Scene Change Detection: The higher the value is, the more sensitive the system responds to the amplitude of the scene change.
The sensitivity 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.

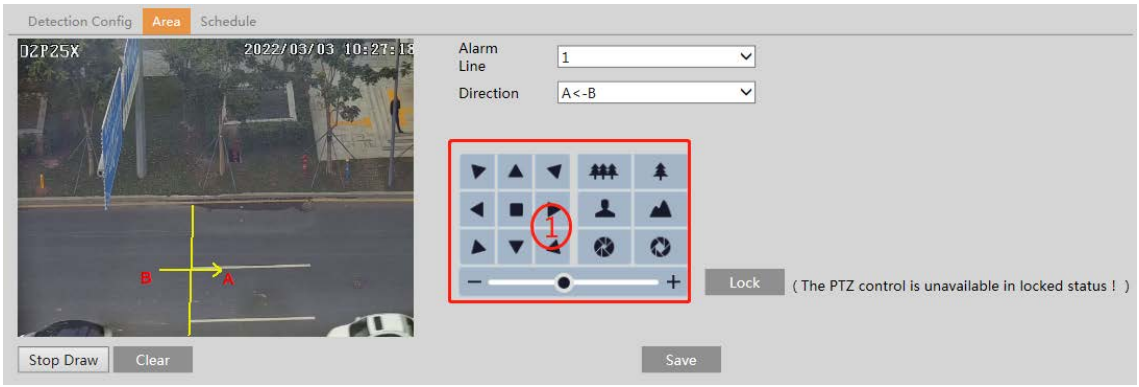
※The requirements of camera and surrounding area
1. Auto-focusing function should not been enabled for exception detection.
2. Try not to enable exception detection when light changes greatly in the scene.

5.5.2 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: 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: 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.
Motorcycle/Bicycle: 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 motion detection. Please refer to motion detection chapter 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.



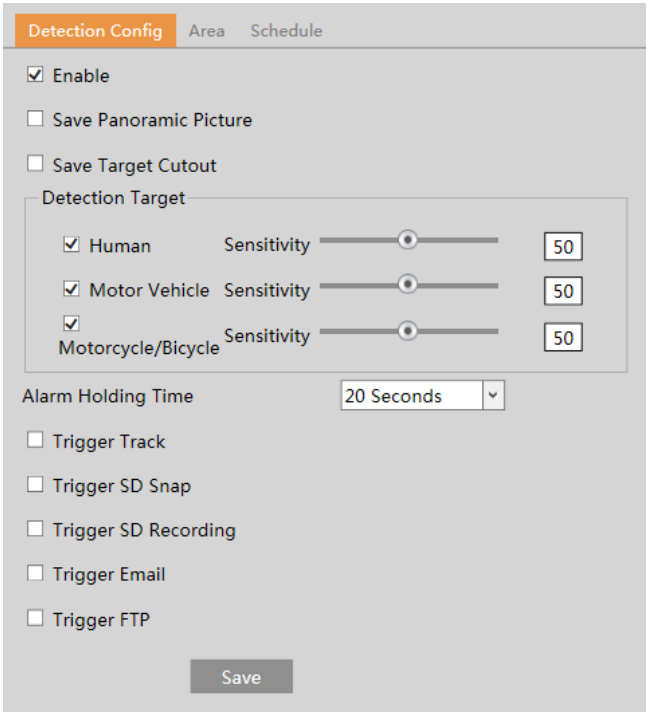
Set the alarm line number and direction. Up to 4 lines can be added. Multiple lines cannot be added simultaneously.
Direction： A<->B, A->B and A<-B optional. This indicates the direction of the intruder who crosses over the alarm line that would trigger the alarm.
A<->B: The alarm will be triggered when 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.

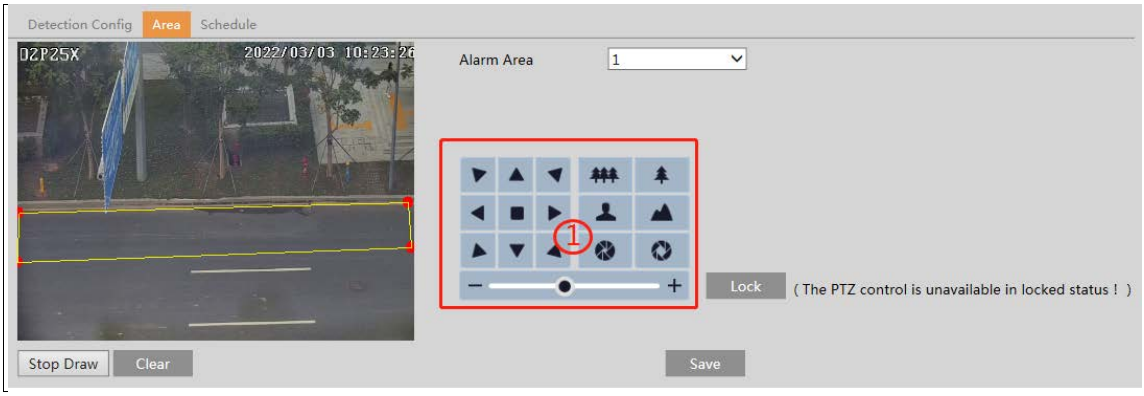
5.5.3 Intrusion

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.

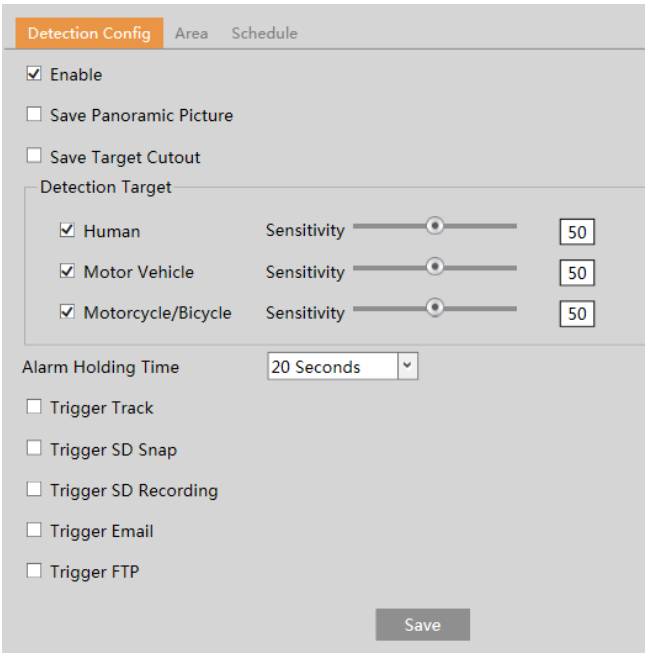


Set the alarm area number on the right side. Up to 4 alarm areas can be added.
Set the detection area by clicking the buttons of area ① and then click “Lock” to lock the area.
Note: The PTZ will not be controlled if you click “Lock” here. Click “Unlock” and then click the buttons of area ① to move the 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.

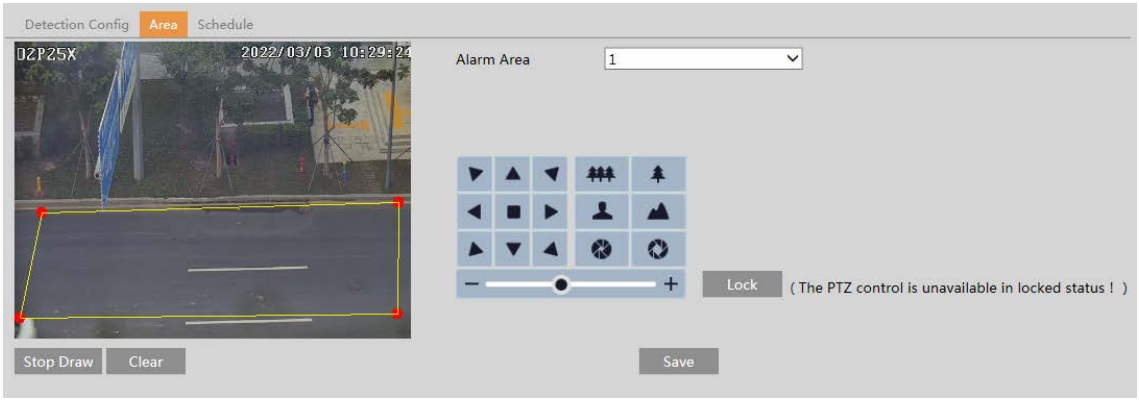
5.5.4 Region Entrance

Region Entrance: Alarms will be triggered if the target enters the pre-defined areas.
Go to Config→ Analytics →Region Entrance interface as shown below.



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.

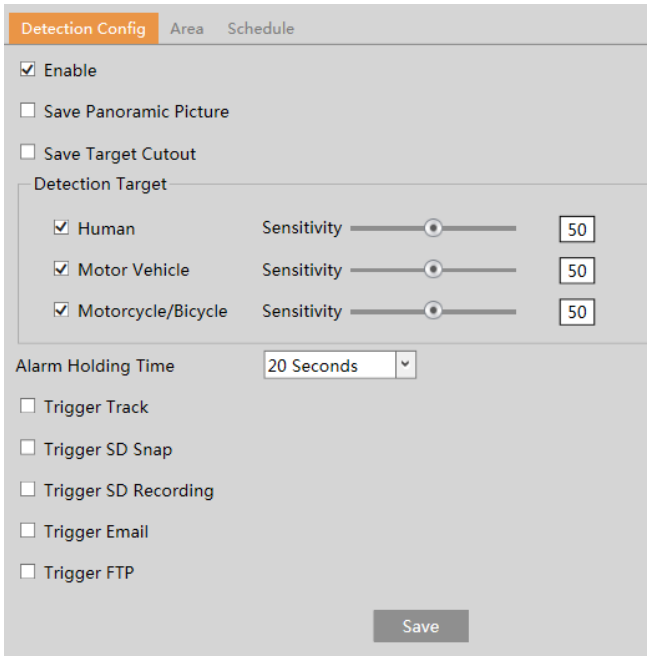
2. Set the area of region entrance detection. The area setup steps are the same as intrusion detection. Please refer to the area configuration of intrusion detection for details.



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).

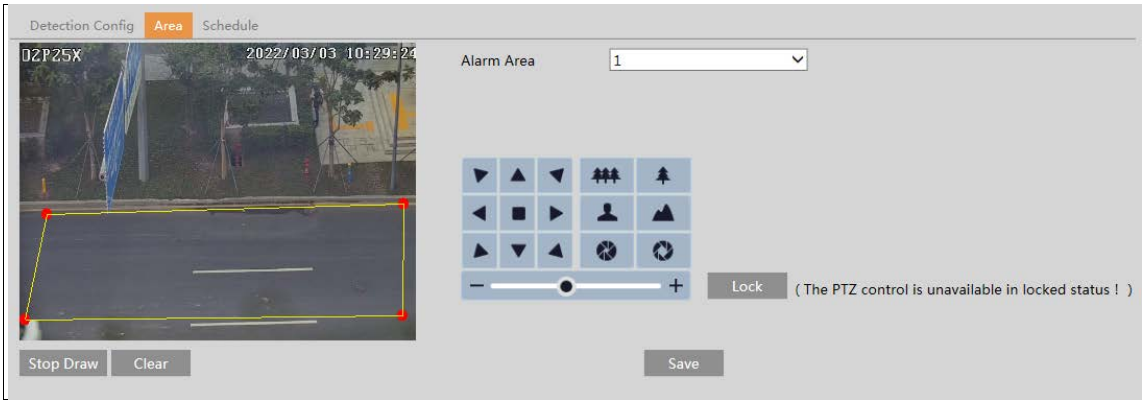
5.5.5 Region Exiting

Region Exiting: Alarms will be triggered if the target exits from the pre-defined areas.
Go to Config→ Analytics →Region Exiting interface as shown below.



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.

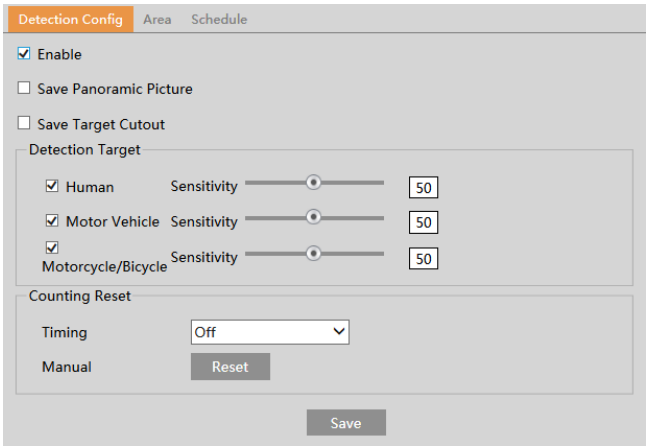


3. Set the schedule of the region exiting detection. The setup steps of the schedule are the same as schedule recording setup (See Schedule Recording).

5.5.6 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.

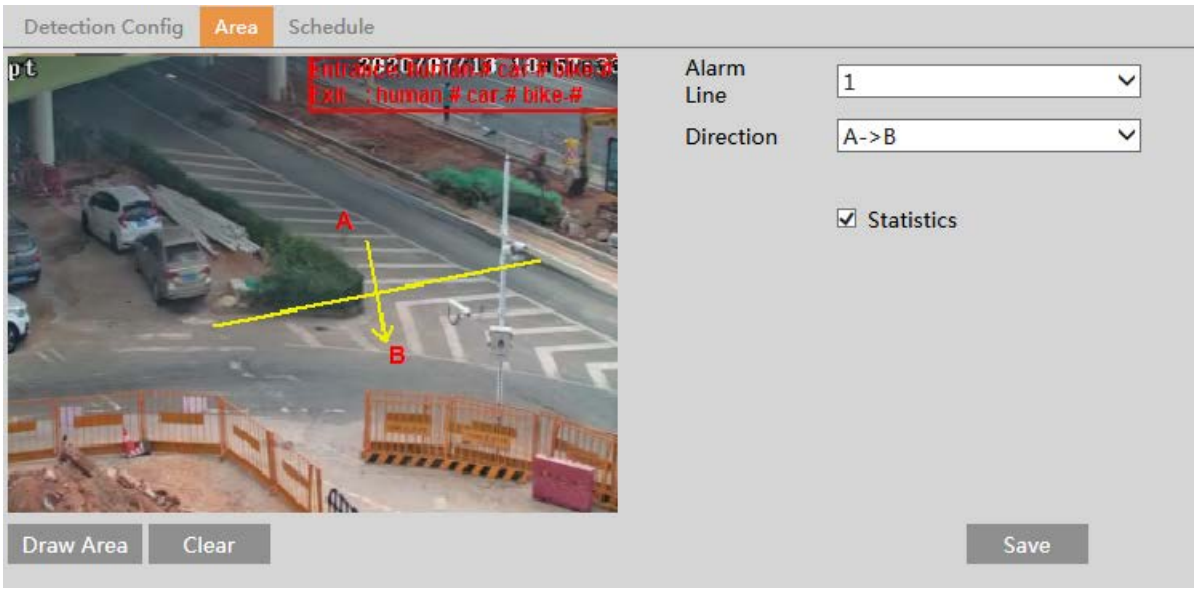


2. Enable target counting and select the snapshot type and the detection target.

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 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.

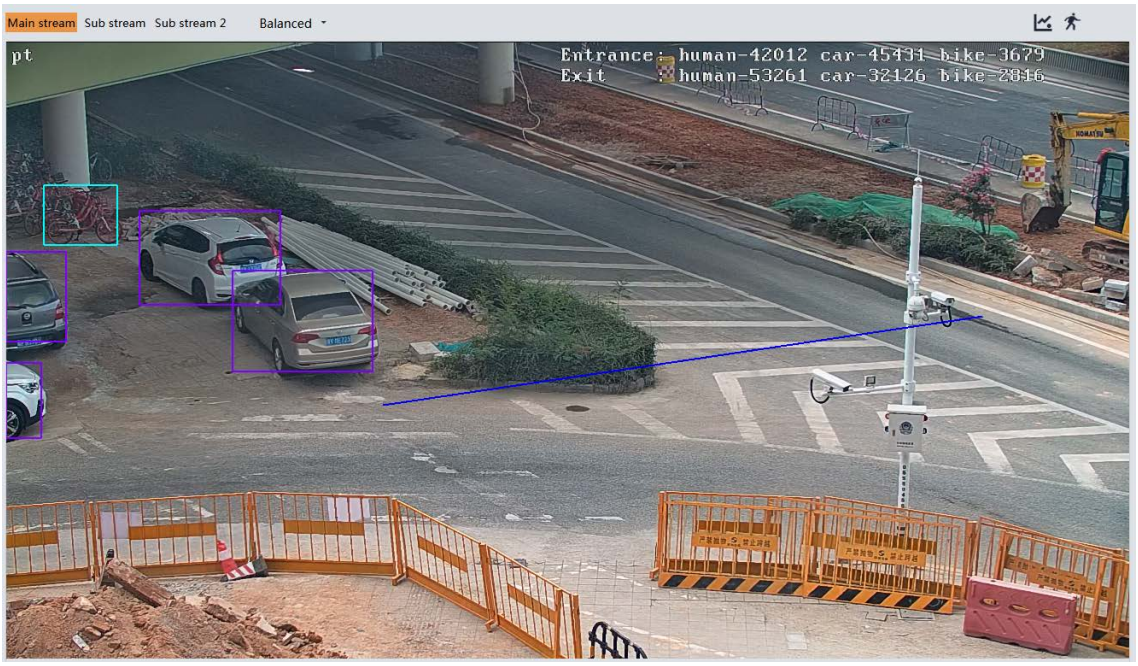
Click the “Draw Area” button and then drag the mouse to draw a line in the image. Click the “Stop Draw” button to stop drawing. Click the “Clear” button to delete the lines.

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.

Check “Statistics” and then move the red box to change the position of the statistical information displayed on the screen. Click the “Save” button to save the settings.

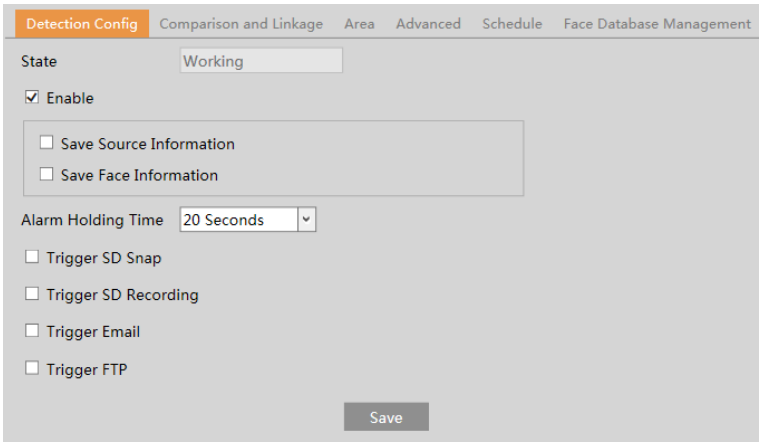
4. Set the schedule of the target counting. The setup steps of the schedule are the same as schedule recording setup (SeeSchedule Recording).

5. View the statistical information in the live view interface.



5.5.7 Face Comparison

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



2. Enable the face detection function.

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

Save Face Information: 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.

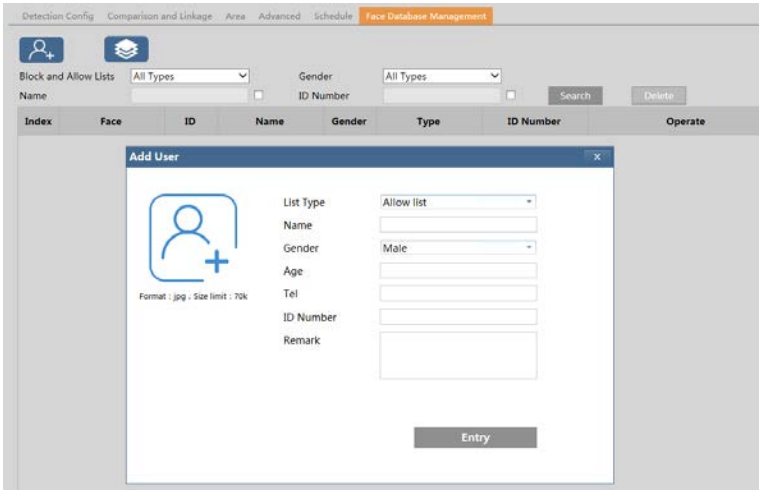
Set alarm holding time and alarm trigger options. The alarm trigger setup steps are the same as motion detection setup. Please refer to motion detection chapter for details.

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.

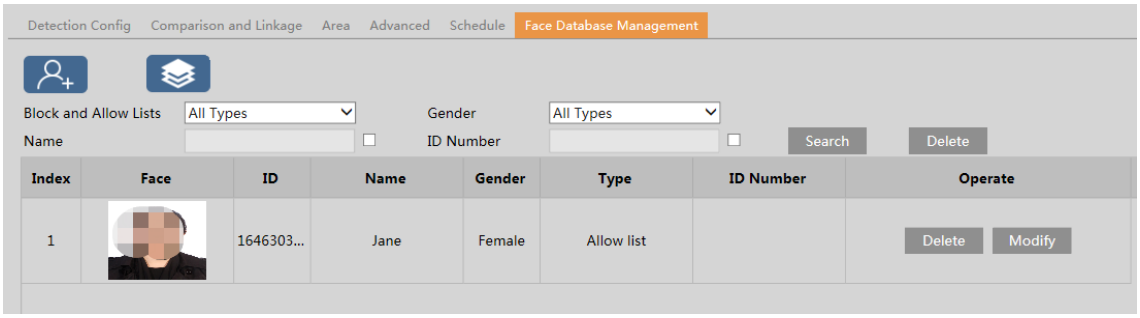
③ Adding multiple face pictures at a time

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

④ Add face pictures by using face album management tool

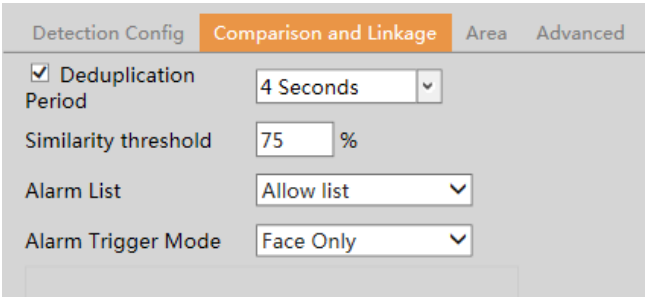
⑤ Add the captured picture in the live mode (See ***Add captured face pictures to the face database***).

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.

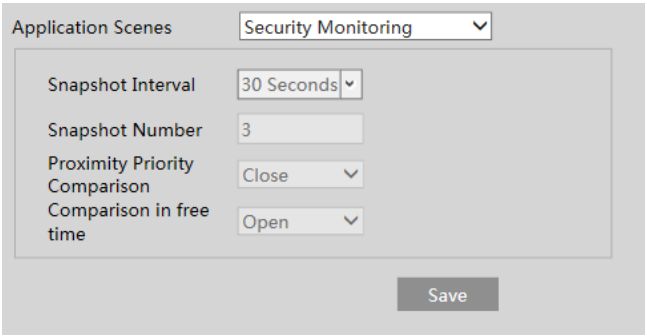
5. Set face comparison trigger options. Click “Comparison and Linkage” to go to the following interface.



Deduplication Period: In the set period, delete the repeated comparison results.
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.
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: if enabled, this will trigger alarm output when the captured face is matched successfully.

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).

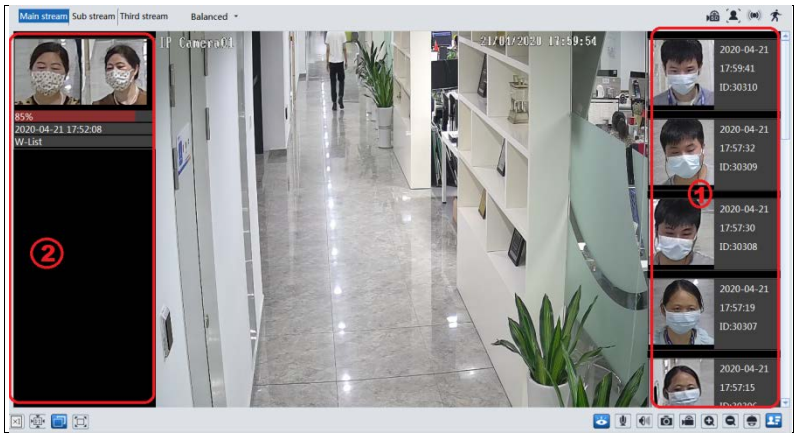
7. Advanced configuration.



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.

- **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

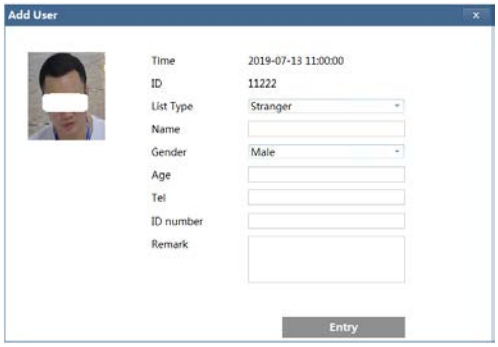
- **View the comparison details**

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.

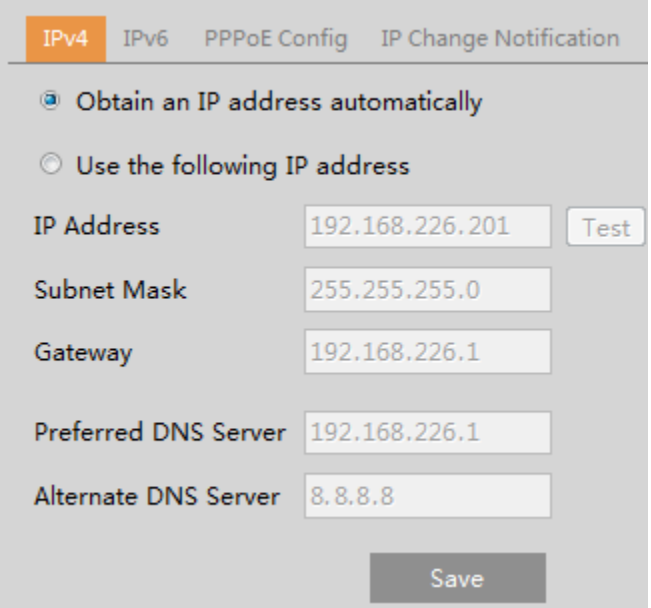


Fill out the relevant information and click “Entry” to add this face picture.

5.6 Network Configuration

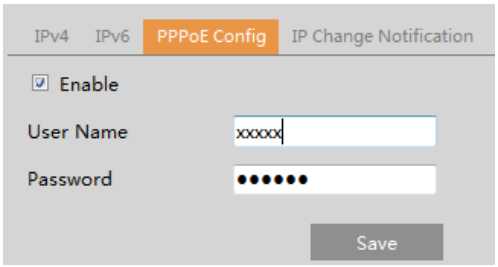
5.6.1 TCP/IP

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

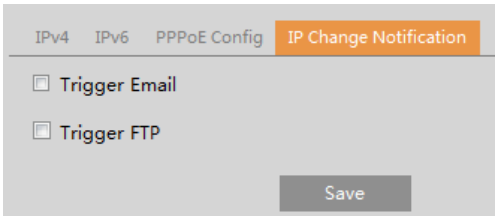


Use IP address (take IPv4 for example)-obtain a local IP address automatically through DHCP. A typical router has a DHCP server built in, and therefore is able to assign an IP address to the camera.

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.



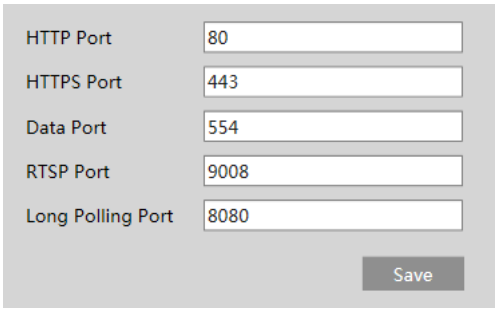
Either method of network connection can be used. If PPPoE is used to connect internet, the camera will get a dynamic WAN IP address. This IP address will change frequently. To be notified, the IP change notification function can be used.
Click "IP Change Notification Config" to go to the interface as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

5.6.2 Port

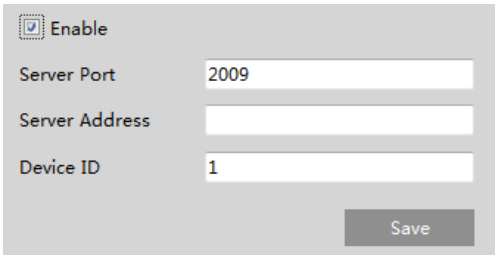
Go to Network Setup→Port/Connections interface as shown below. HTTP port, Data port and RTSP port can be set.



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.
Long Polling Port: The port is used for a persistent connection of the third-party platform to push smart data, like face pictures.

5.6.3 Server Configuration

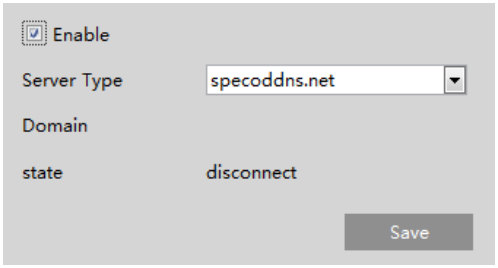
This function is mainly used for connecting network video management system.



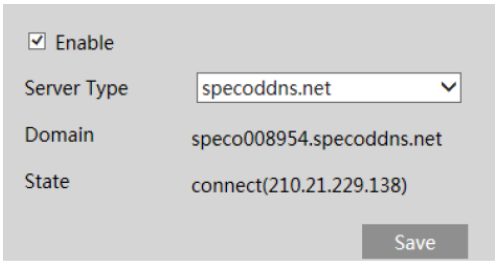
1. Check “Enable”.
2. Check the IP address and port of the transfer media server in the VMS. Then enable the auto report in the VMS when adding a new device. Next, enter the remaining information of the device in the VMS. After that, the system will automatically allot a device ID. Please check it in 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.

5.6.4 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.



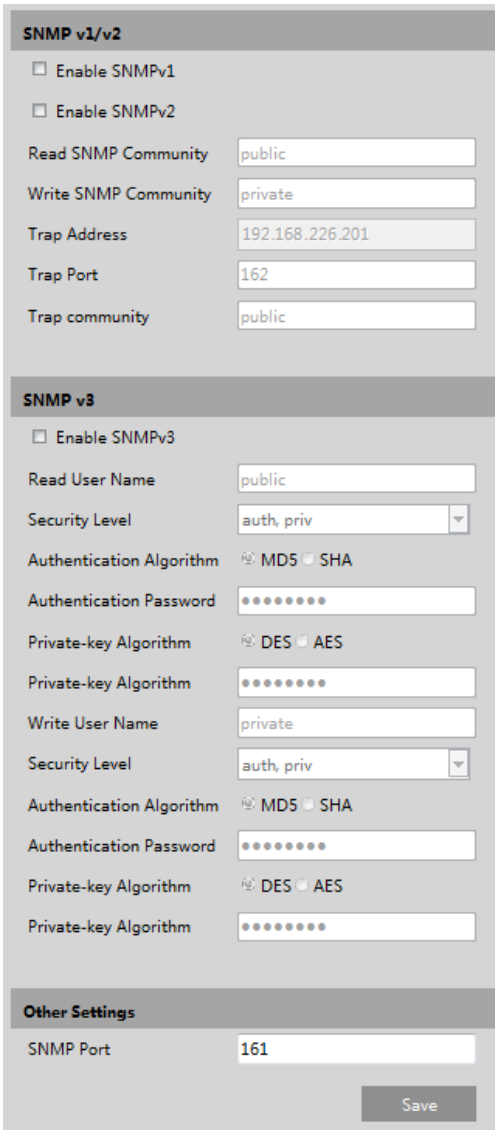
2. Enable, save and use DDNS to log in.



5.6.5 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.

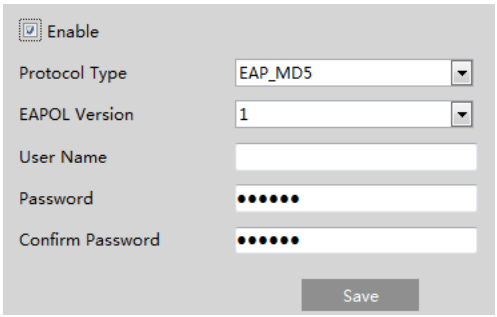


2. Check the corresponding version checkbox (Enable SNMPv1, Enable SNMPv2, Enable SNMPv3) according to the version of the SNMP software that will be used.

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.

5.6.6 802.1x

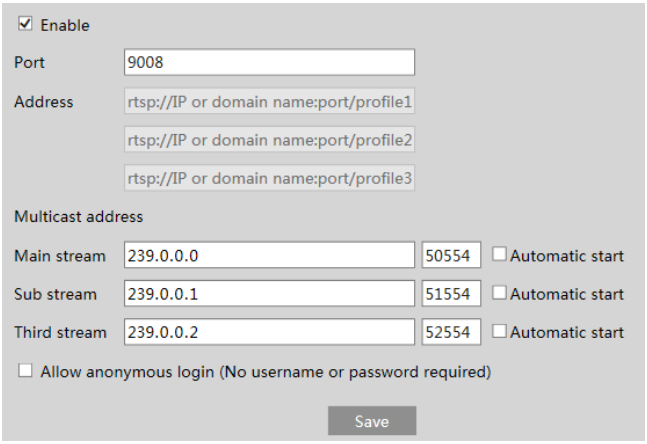
If it is enabled, the camera's data can be protected. When the camera is connected to the network protected by the IEE802.1x, user authentication is needed.



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.

5.6.7 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.

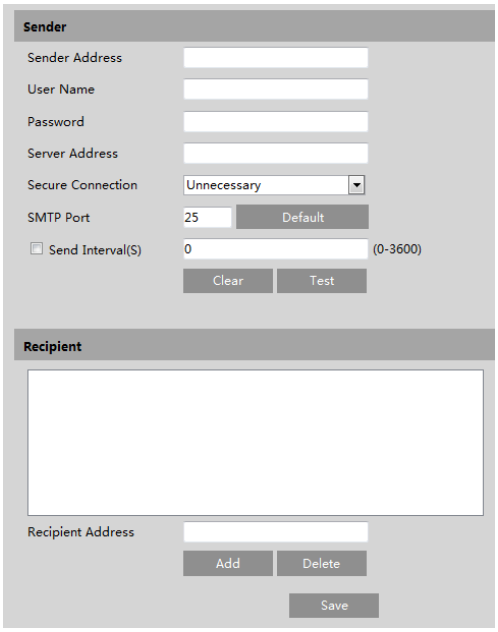
5.6.8 UPNP

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.



5.6.9 Email

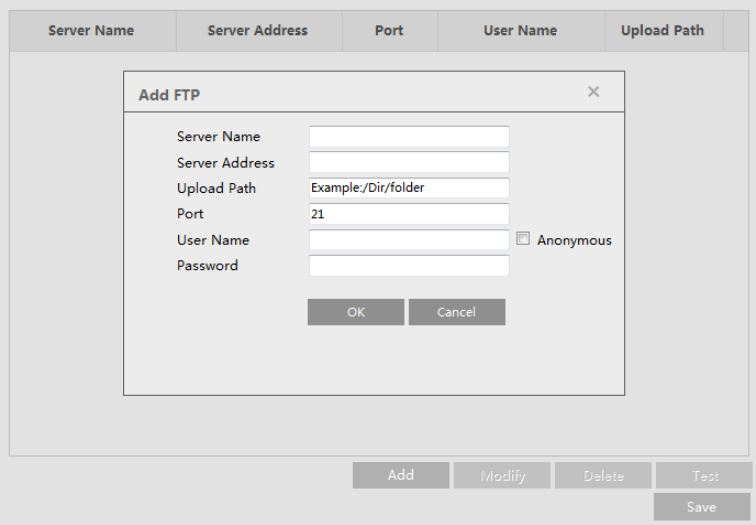
If you need to trigger Email when an alarm happens or IP address is changed, please set the Email here first.
Go to Network Setup→ Prots/Connections→Email.



Sender Address: sender's e-mail address.
User name and password: sender's user name and password.
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.

5.6.10 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.



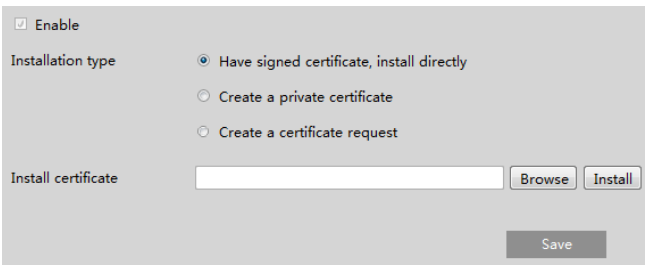
Server Name: The name of the FTP server.
Server Address: The IP address or domain name of the FTP.
Upload Path: The directory where files will be uploaded to.
Port: The port of the FTP server.
Use Name and Password: The username and password that are used to login to the FTP server.

5.6.11 HTTPS

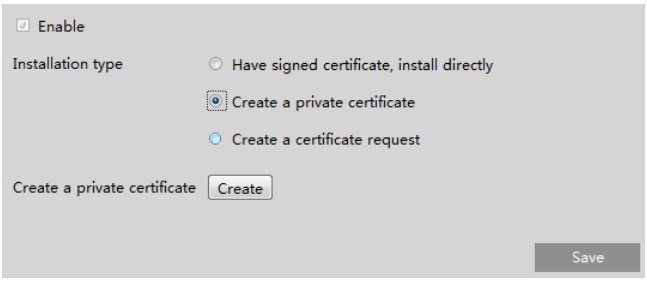
HTTPs provides authentication of the web site and protects user privacy.
Go to Network Setup→ Prots/Connections→HTTPS as shown below.



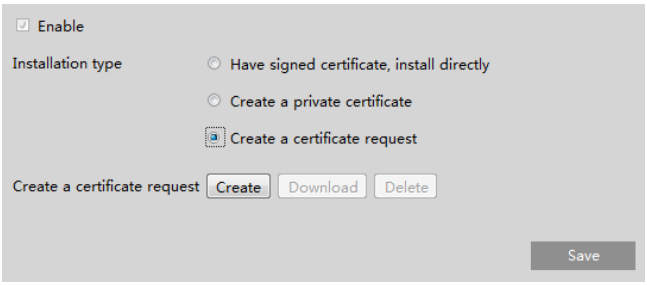
There is a certificate installed by default as shown above. Enable this function and save it. Then the camera can be accessed by entering https://IP: https port via the web browser (eg. https://192.168.226.201:443).
A private certificate can be created if users don't want to use the default one. Click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



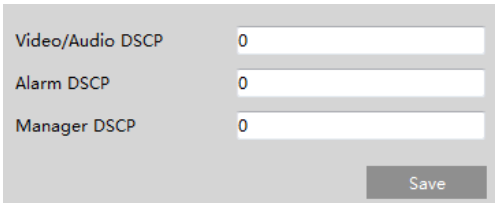
Click the “Create” button to create a private certificate. Enter the country (only two letters available), domain (camera’s IP address/domain), validity date, password, province/state, region and so on. Then click “OK” to save the settings.
* Click “Create a certificate request” to enter the following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

5.6.12 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.

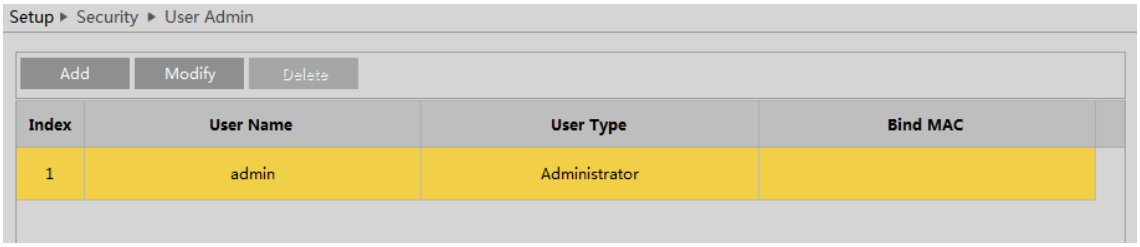


Video/Audio DSCP: The range is from 0 to 63.
Alarm DSCP: The range is from 0 to 63.
Manager DSCP: The range is from 0 to 63.
Generally speaking, the larger the number is, the higher the priority is.

5.7 Security Configuration

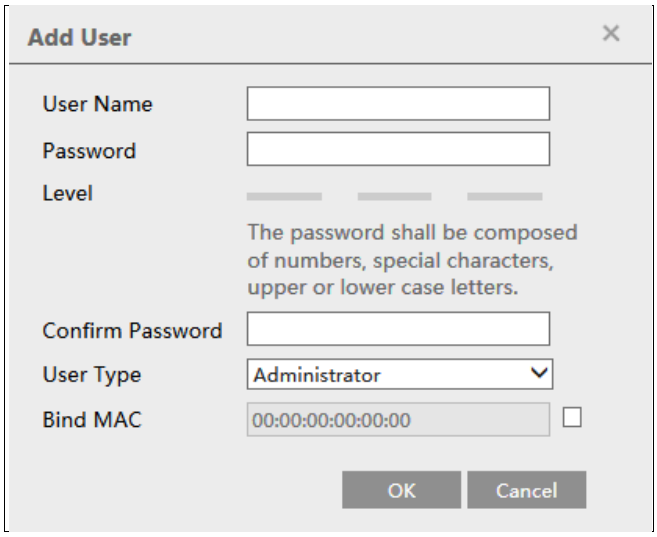
5.7.1 User Admin

Go to Security→User Admin interface as shown below.



Add user:

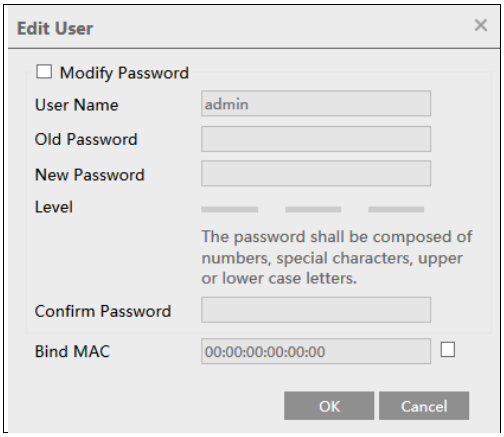
1. Click “Add” to pop up the following textbox.



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. Administrator has all permissions. Normal user can only view the live video. Advanced user has the same permissions as an Administrator except for; user, backup settings, factory reset, and upgrading the firmware.
5. Enter the MAC address of the PC in “Bind MAC” textbox.
If this option is enabled, only the PC with the specified MAC address can access the camera for that user.
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.

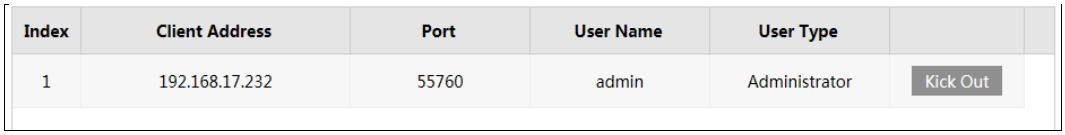


3. Enter the old password of the user in the “Old Password” text box.
4. Enter the new password in the “New password” and “Confirm Password” text box.
5. Enter computer’s MAC address as necessary.
6. Click the “OK” button to save the settings.
Note: To change the access level of a user, the user must 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.

5.7.2 Online User

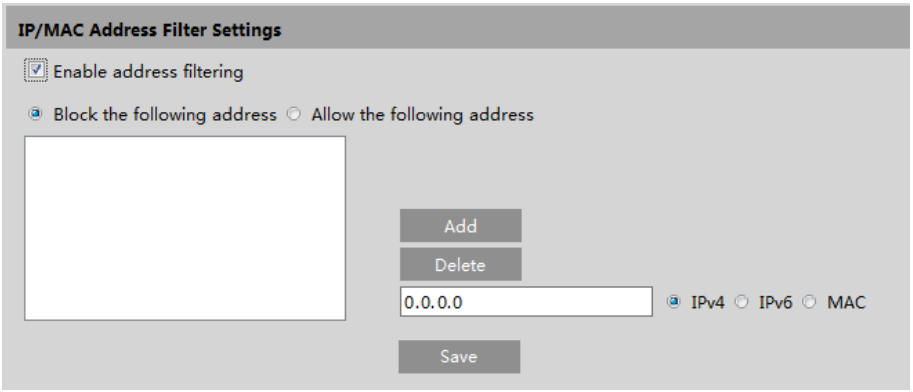
Go to Security→Online User to view the user who is viewing the live video.



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

5.7.3 Block and Allow Lists

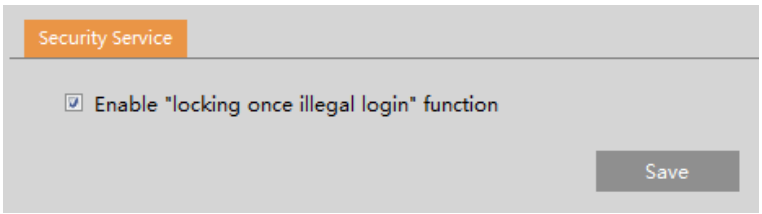
Go to Security→Block and Allow Lists as shown below.



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

5.7.4 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 six times will make the login interface locked. The camera can be logged in again after a half hour or after the camera reboots.

- **Password Security**

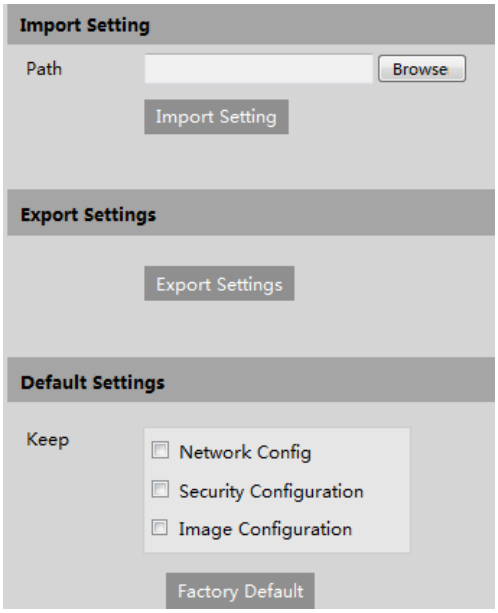


Please set the password level and expiration time as needed.
Password Level: Weak, Medium or Strong.
Weak level: Numbers, special characters, upper or lower case letters can be used. You can choose one of them or any combination of them when setting the password.
Medium Level: 9~15 characters, including at least two of the following categories: numbers, special characters, upper case letters, lower case letters.
Strong Level: 9~15 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.

5.8 Maintenance Configuration

5.8.1 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.

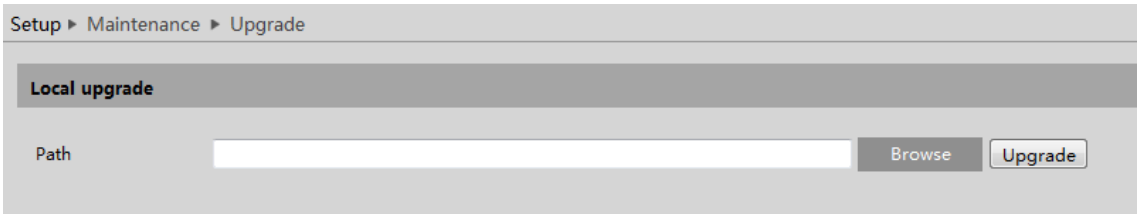
5.8.2 Reboot

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.

5.8.3 Upgrade

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

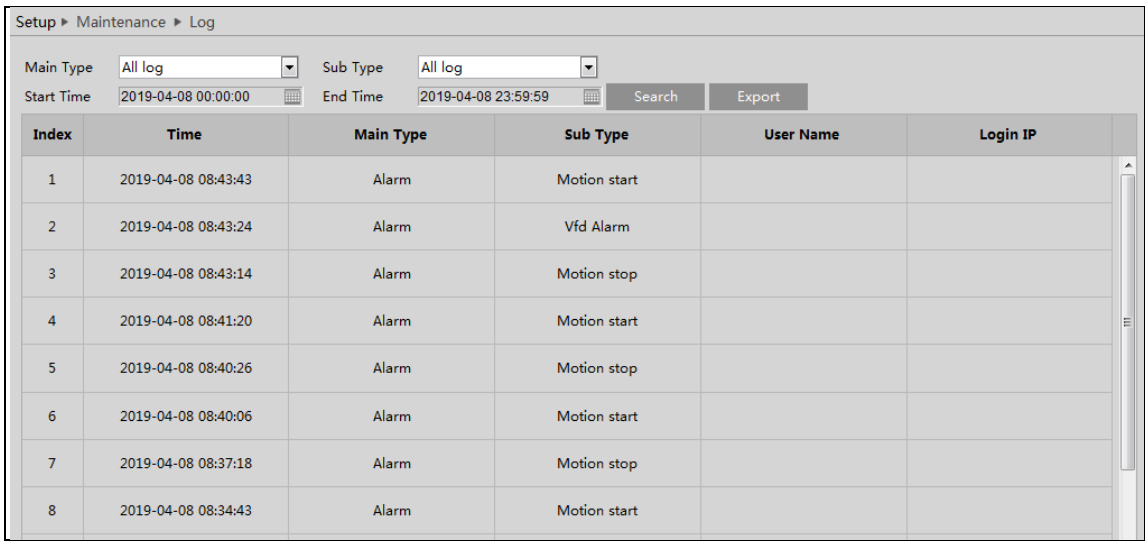


1. Click the “Browse” button to select the save path of the upgrade file
2. Click the “Upgrade” button to start upgrading the firmware.
3. The device will restart automatically

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

5.8.4 Operation Log

To query and export log:
1. Go to Maintenance→Operation Log.



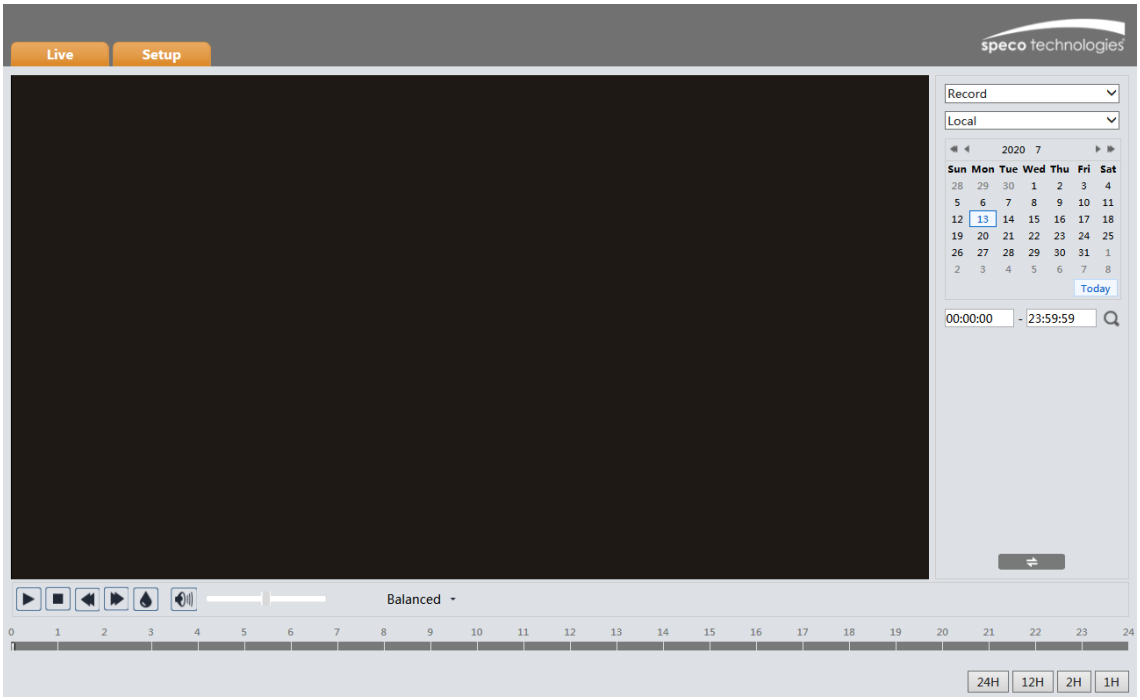
Index	Time	Main Type	Sub Type	User Name	Login IP
1	2019-04-08 08:43:43	Alarm	Motion start		
2	2019-04-08 08:43:24	Alarm	Vfd Alarm		
3	2019-04-08 08:43:14	Alarm	Motion stop		
4	2019-04-08 08:41:20	Alarm	Motion start		
5	2019-04-08 08:40:26	Alarm	Motion stop		
6	2019-04-08 08:40:06	Alarm	Motion start		
7	2019-04-08 08:37:18	Alarm	Motion stop		
8	2019-04-08 08:34:43	Alarm	Motion start		

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.

6 Search

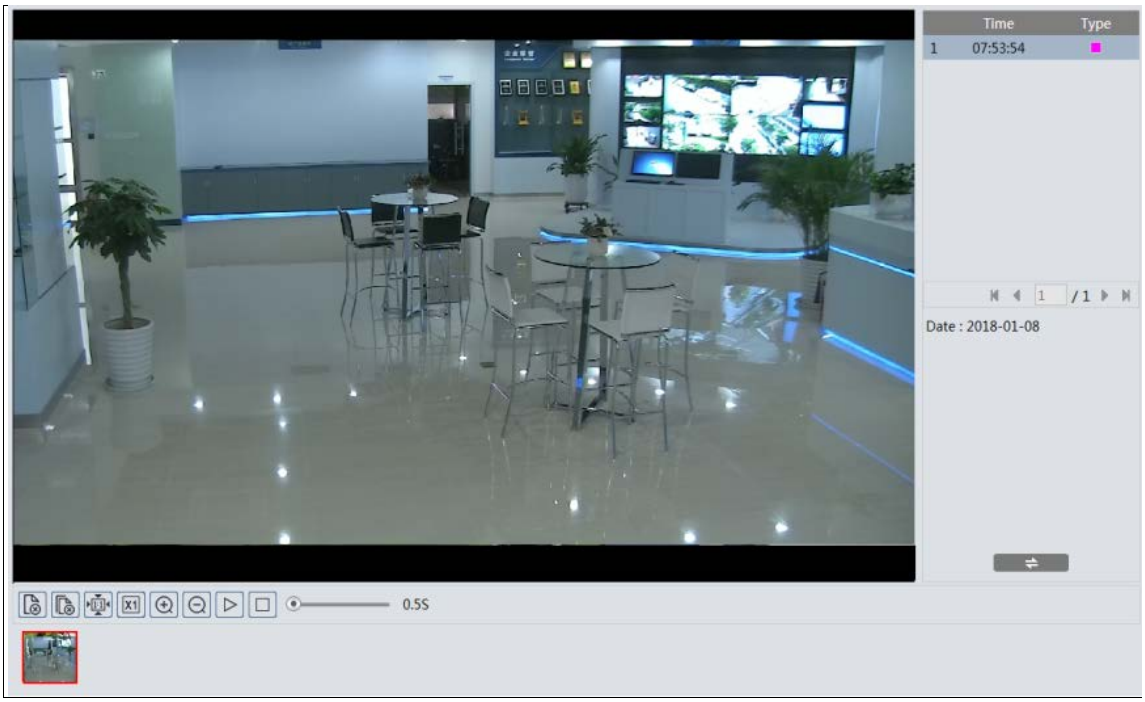
6.1 Image Search

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**

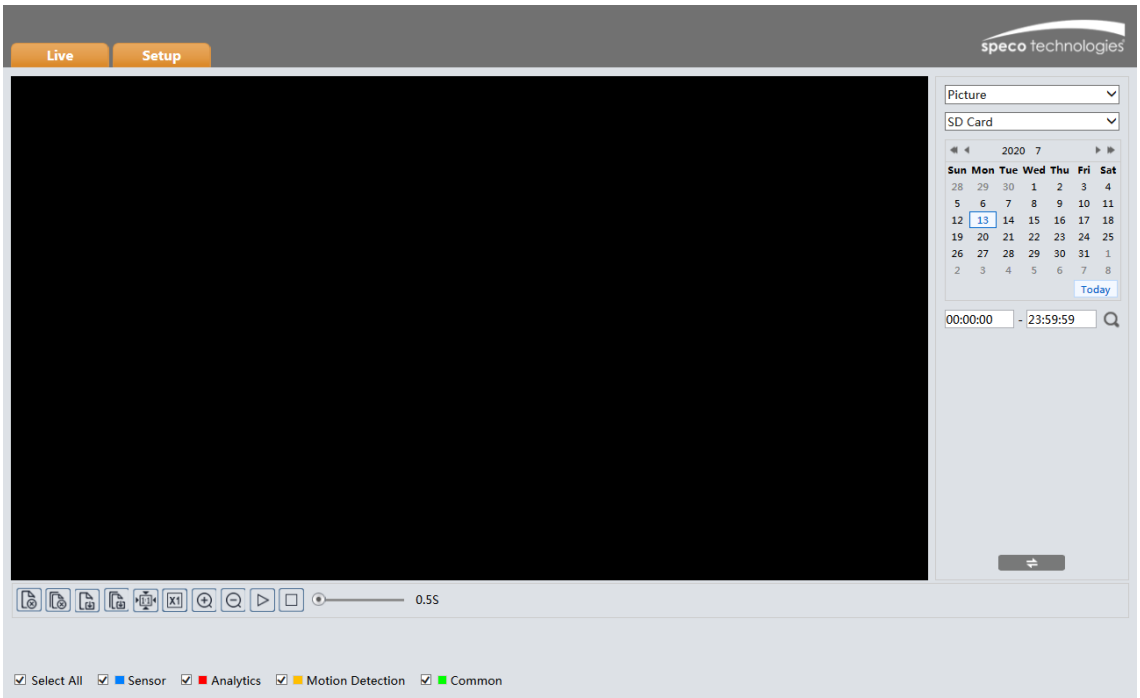
1. Choose “Picture”—“Local”.
2. Set time: Select date and choose the start and end time.
3. Click to search the images.
4. Double click a filename in the list to view the captured photos as shown above.



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.

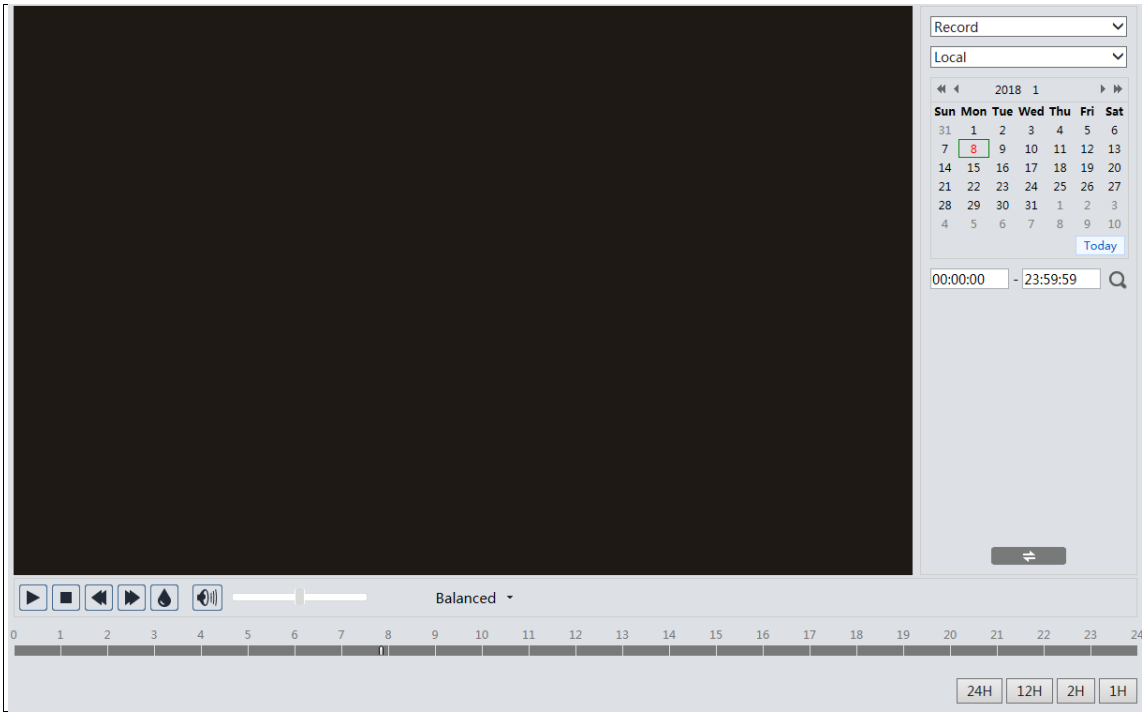
The descriptions of the buttons are shown as follows.

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.		

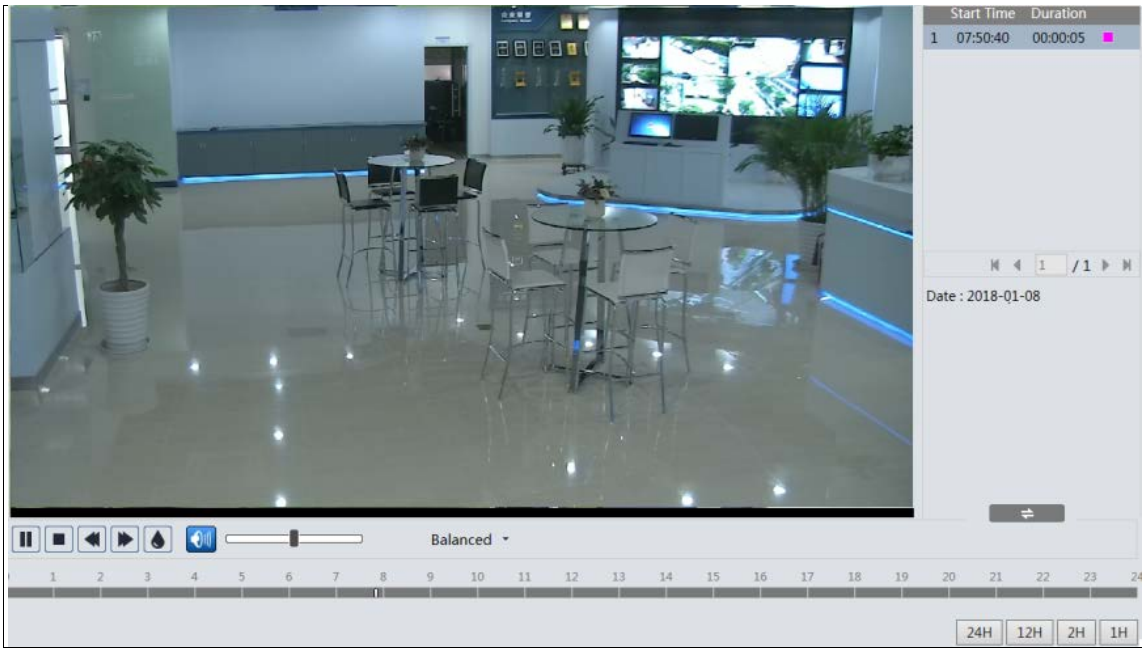
6.2 Video Search

6.2.1 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.

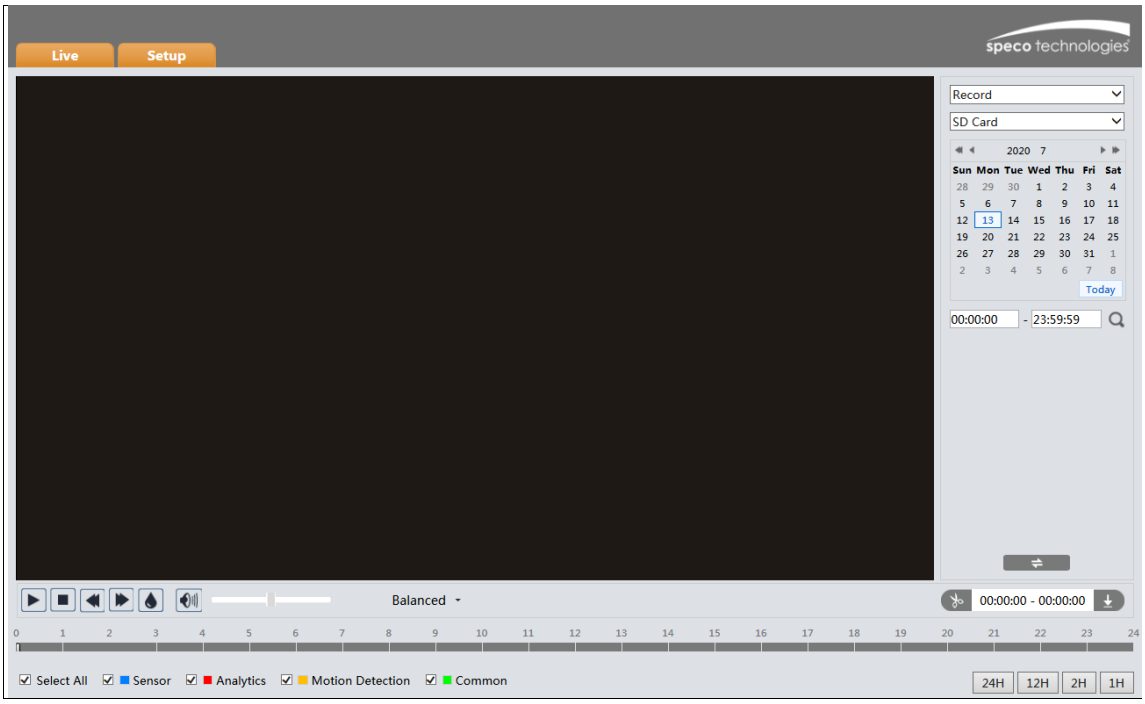


Icon	Description	Icon	Description
	Play button. After pausing the video, click this button to continue playing.		Pause button
	Stop button		Speed down
	Speed up		Watermark display
	Enable / disable audio; drag the slider to adjust the volume after enabling audio.		

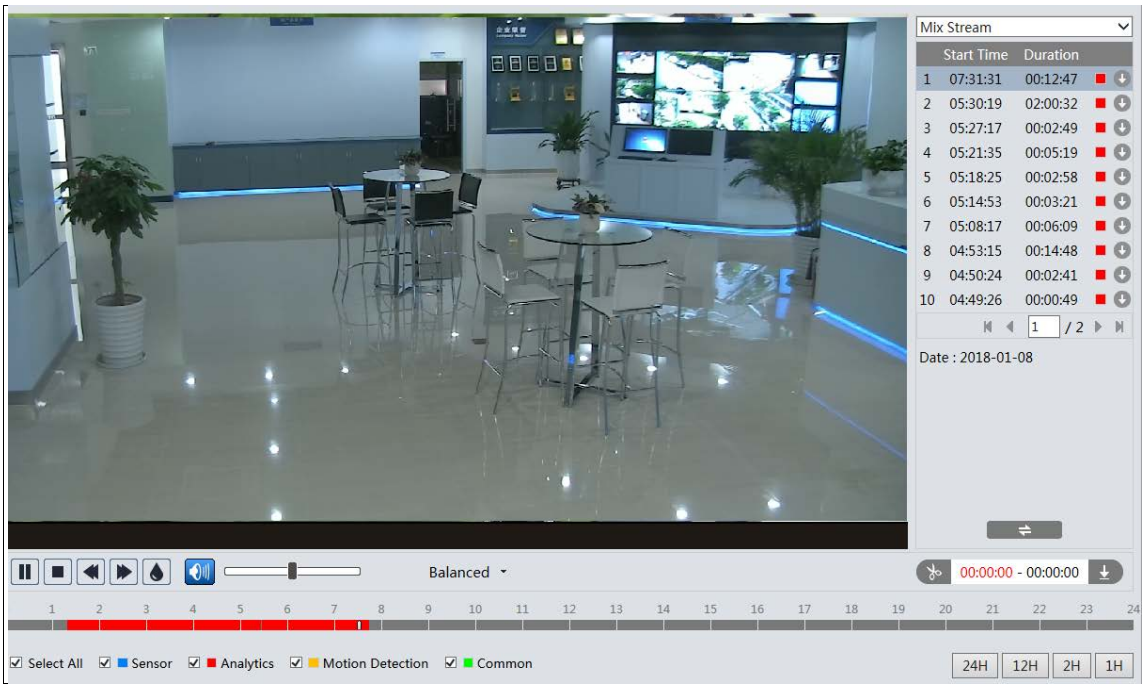
6.2.2 SD Card Video Search

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.



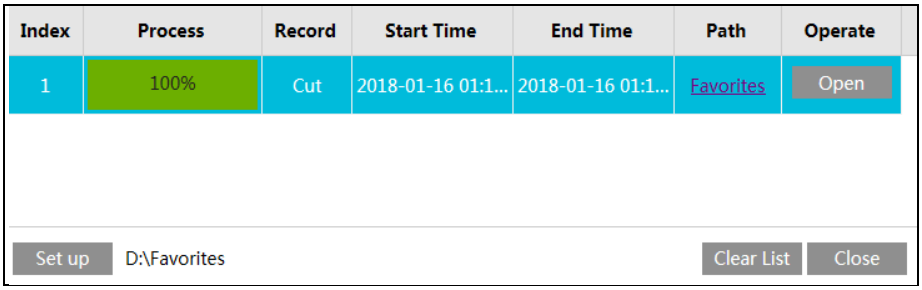
4. Select the alarm events at the bottom of the interface.
5. Select mix stream (video and audio stream) or video stream as needed.
6. Double click on a file name in the list to start playback.



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.



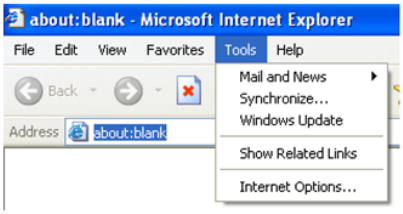
Click “Set up” to set the storage directory of the video files.
Click “Open” to play the video.
Click “Clear List” to clear the downloading list.
Click “Close” to close the downloading window.

Appendix

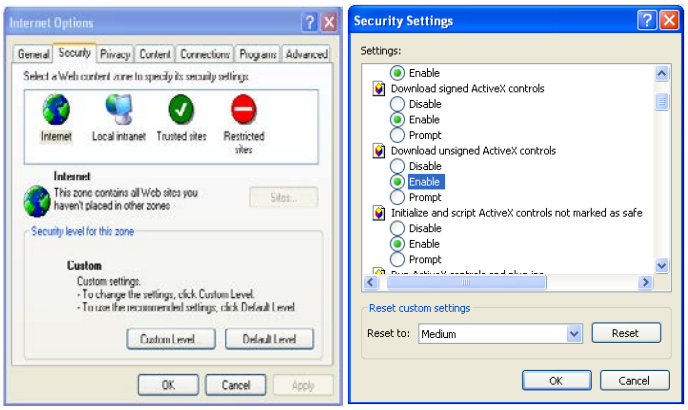
Appendix 1 Troubleshooting

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: O2P25X/O2P20X

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
200 New Highway
Amityville, NY11701
www.specotech.com