

# Network Camera

Full HD Network Camera

**NT2100PT-IR-Z25W**

**NT2100PT-IR-Z32W**

**NT4100PT-IR-Z25W**

**NT4100PT-IR-Z37W**

## **User Manual**

(EN REV 1.1)

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## About This Manual

- ▶ This manual is provided for user reference only, without legal restraint.
- ▶ This manual is available for many models. Some functions introduced in the manual may be not available for some models. Please take the real models as the standard.
- ▶ This content of this manual is subject to change without prior notice, and the updates will be added into the new version of this manual.
- ▶ This manual may contain several technically incorrect places or printing errors, please feel free to let us know. We will readily improve or update the procedures described in the manual.

## **Notes on Safety**

- Make sure that the power supply voltage is correct before using the camera.
- Do not store or install the device in extremely hot or cold temperatures, as well as dusty or damp locations, and do not expose it to high electromagnetic radiation.
- Only use components and parts recommended by manufacturer.
- Do not drop the camera or subject it to physical shock.
- To prevent heat accumulation, do not block air circulation around the camera.
- Laser beams may damage image sensors. The surface of image sensors should not be exposed to where a laser beam equipment is used.
- Use a blower to remove dust from the lens cover.
- Use a soft, dry cloth to clean the surface of the camera. Stubborn stains can be removed using a soft cloth dampened with a small quantity of detergent solution, then wipe dry.
- Do not use volatile solvents such as alcohol, benzene or thinners as they may damage the surface finishes.
- Save the package to ensure availability of shipping containers for future transportation.

## **Disclaimer**

- With regard to the product with internet access, the use of product shall be wholly at your own risks. Our company shall be irresponsible for abnormal operation, privacy leakage or other damages resulting from cyber attack, hacker attack, virus inspection, or other internet security risks; however, Our company will provide timely technical support if necessary.
- Surveillance laws vary from country to country. Check all laws in your local region before using this product for surveillance purposes. We shall not take the responsibility for any consequences resulting from illegal operations.

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## Chapter 1 Introduction

This series of PTZ cameras is used for video capturing. The digital flip technology makes omnidirectional and non-blind-spot monitoring into reality. This series adopts state of the art video processing chips, integrated with the most advanced technologies (like video encoding and decoding technology) to make the image transmission more stable and smooth. Moreover, the built-in WEB server of this series improves the performance of the traditional surveillance system so that users can be easy to operate and monitor.

This series of products can be widely used in banks, telecommunication systems, electricity power departments, law systems, factories, storehouses, uptowns, etc. In addition, it is also an ideal choice for surveillance sites with middle or high risks.

- HD network video output
- H.264/H.265 image compression format
- TCP/IP, DHCP, DDNS, NTP, RTSP, SMTP, FTP, PPPoE
- SD card local storage, network remote storage
- Web GUI menu
- Support selected area magnification and PTZ function
- Provide standard SDK, easy to integrate with other digital system
- IP66/IP67 ingress protection, TVS4~8KV lightning protection, surge protection (depending on models)
- Intelligent Analytics: Line Crossing (human/vehicle classification), region intrusion/entrance/exiting (human/vehicle classification), Target Counting, face detection, auto-tracking, etc. (For all these smart functions, depending on models)

## Chapter 2 Network Connection

You may connect IP-CAM via LAN or WAN. Here only take IE browser for example. The details are as follows:

### 2.1 LAN

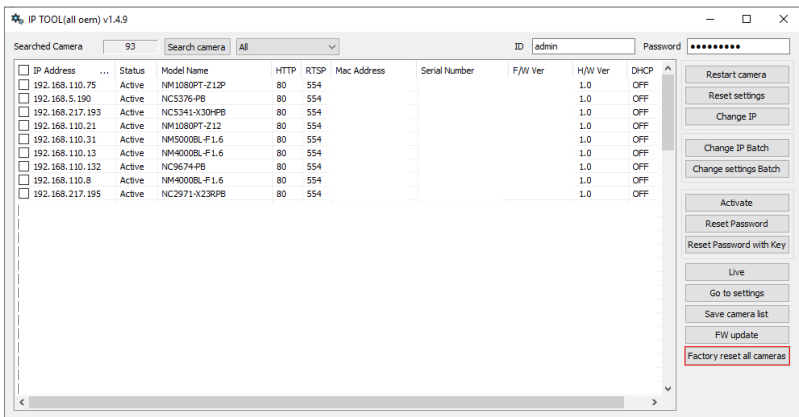
In LAN, there are two ways to access IP- CAM: 1. access through IP-Tool; 2. direct access through IE browser.

#### 2.1.1 Access through IP-Tool

Network connection:



- ① Make sure the PC and IP-Cam are connected to the LAN and the IP-Tool is installed in the PC from the CD.
- ② Double click the IP-Tool icon on the desktop to run this software as shown below:



- ③ Modify the IP address. The default IP address of this camera is 192.168.0.2. Click “Change IP” button. Pop-up window comes to change IP address. Type IP address, gateway, netmask, and DNS. Changed settings are applied by clicking “OK”.
- Modify the IP address and gateway of the camera and make sure its network address is in the same local network segment as the computer’s. Please modify the IP address of your device according to the practical situation.



Change IP

DHCP  Enable  Disable

IP Address 192 . 168 . 110 . 8

Gateway 192 . 168 . 110 . 1

Netmask 255 . 255 . 254 . 0

DNS1 164 . 124 . 101 . 2

DNS2 0 . 0 . 0 . 0

Change Port

Port 80

OK Cancel

For example, the IP address of your computer is 192.168.1.4. So the IP address of the camera shall be changed to 192.168.1.X.



The default password of the administrator is “*12345*”.

④ Double click the IP address and then the system will pop up the IE browser to connect IP-CAM. Follow the directions to download and install the applicable plug-in. After that, go to the login interface as shown below.

Name: admin

Password: ●●●●●

Stream Type: 1920x1080 25fps

Language: English

Remember me

Login

Enter the username and password to log in.

The default username is “*admin*”; the default password is “*12345*”.

Please change the default password

Modify Password

New Password

Confirm Password

Do not show again

OK Cancel

The system will prompt the above-mentioned textbox to ask you to change the default password. It is strongly recommended to change the default password for account security. If “Do not show again” is checked, the textbox will not appear next time.

## 2.1.2 Directly Access through IE

The default network settings are as shown below:

IP address: **192.168.0.2**

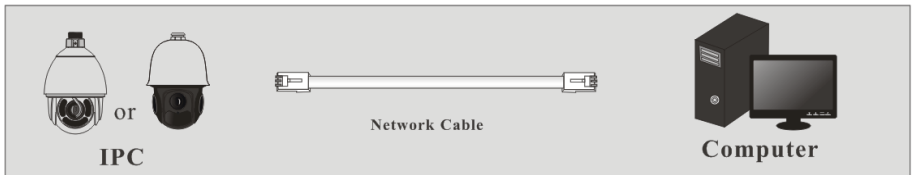
Subnet Mask: **255.255.255.0**

Gateway: **192.168.0.1**

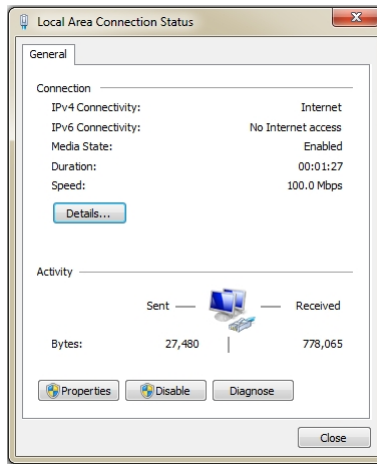
HTTP: **80**

Data port: **9008**

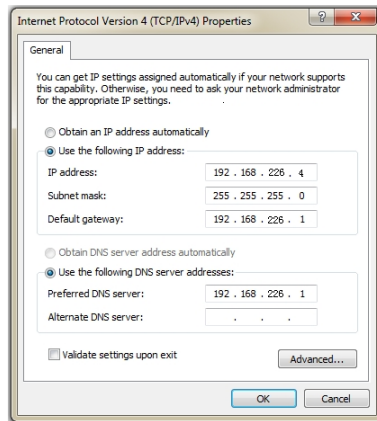
You may use the above default settings when you log in the camera for the first time. You may directly connect the camera to the computer through network cable.



① Set the IP address of the PC and make sure the network segment should be as the same as the default settings of the IP camera. Open the network and share center. Click “Local Area Connection” to pop up the following window.



Select “Properties” and then select internet protocol according to the actual situation (for example: IPv4). Next, click “Properties” to set the network of the PC.

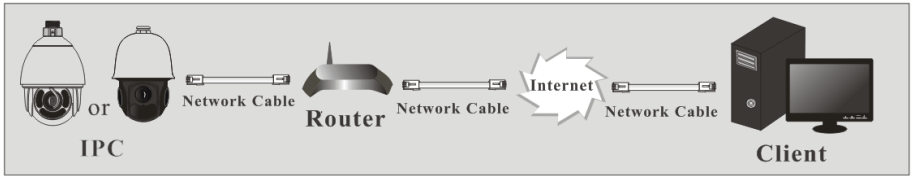


- ② Open the IE browser and enter the default address of IP-CAM and confirm.
- ③ Follow directions to download and install the plugin.
- ④ Enter the default username and password and then enter to view.

## 2.2 WAN

- Access through the router or virtual server

# Chapter 2 Network Connection



① Make sure the camera is well connected via LAN and then log in the camera via LAN and go to Config→Network →Port menu to set the port number.

HTTP Port	<input type="text" value="80"/>
HTTPS Port	<input type="text" value="443"/>
Data Port	<input type="text" value="9008"/>
RTSP Port	<input type="text" value="554"/>

② Go to Config →Network → TCP/IPv4 menu to modify the IP address.

<b>IPv4</b>	IPv6	PPPoE Config	IP Change Notification Config
<input type="radio"/> Obtain an IP address automatically			
<input checked="" type="radio"/> Use the following IP address			
IP Address	<input type="text" value="192.168.226.201"/>	<input type="button" value="Test"/>	
Subnet Mask	<input type="text" value="255.255.255.0"/>		
Gateway	<input type="text" value="192.168.226.1"/>		
Preferred DNS Server	<input type="text" value="210.21.196.6"/>		
Alternate DNS Server	<input type="text" value="8.8.8.8"/>		

③ Go to the router’s management interface through IE browser to forward the IP address and port of the camera in the “Virtual Server”.

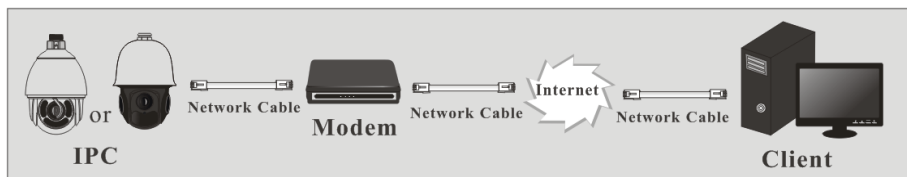
Port Range					
Application	Start	End	Protocol	IP Address	Enable
1	9007	to 9008	Both	192.168.1.201	<input checked="" type="checkbox"/>
2	80	to 81	Both	192.168.1.201	<input checked="" type="checkbox"/>
3	10000	to 10001	Both	192.168.1.166	<input type="checkbox"/>
4	21000	to 21001	Both	192.168.1.166	<input type="checkbox"/>

**Router Setup**

- ④ Open the IE browser and enter its WAN IP and http port to access.

## ➤ Access through PPPoE dial-up

Network connection



You may access the camera through PPPoE auto dial-up. The setting steps are as follow:

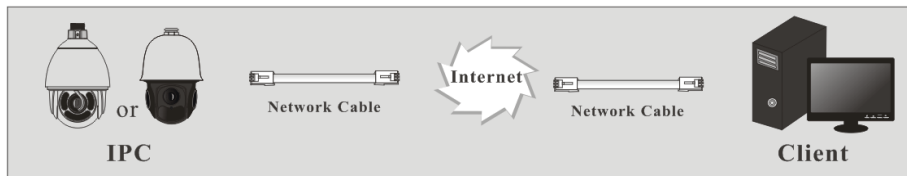
- ① Go to Config→Network →Port menu to set the port number.
- ② Go to Config→Network →TCP/IPv4 menu. Check “PPPoE Config” and then enter the user name and password which you can get from your internet service provider.

IP Config	<b>PPPoE Config</b>	IP change notification Config
<input type="checkbox"/> Enable		
User Name	<input type="text"/>	
Password	<input type="text"/>	

- ③ Go to Config →Network →DDNS menu. Before you configure the DDNS, please apply for a domain name first. Please refer to 5.6.4 DDNS Configuration for detail information.
- ④ Open the IE browser and enter the domain name and http port to access.

## Access through static IP

Network connection

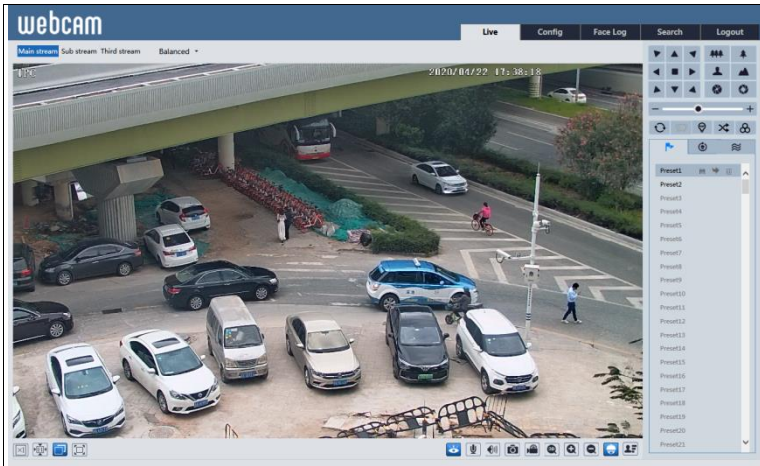


The setting steps are as follow:

- ① Go to Config→Network →Port menu to set the port number.
- ② Go to Config →Network →TCP/IPv4 menu to set the IP address. Check “Use the following IP address” and then enter the static IP address and other parameters.
- ③ Open the IE browser and enter its WAN IP and http port to access.

## Chapter 3 Live View

After you log in, you will see the following window.



The descriptions of the icon on the remote preview interface are as follows:

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.

- Those smart alarm indicators will flash only when the camera supports those functions and the corresponding events are enabled.
- In full screen mode, double click on the mouse to exit or press the ESC key on the keyboard.




Click to show PTZ control panel. In remote preview interface, you can view the image from every direction by controlling PTZ 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 upper left direction		Speed adjustment
	Zoom out		Zoom in
	Focus -		Focus +
	Iris -		Iris +
	Auto scan		Wiper (only some models support)
	Light		Radom scan
	Group scan		Preset
	Cruise		Track



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. Select cruise and click to start cruise.


## Chapter 4 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.

- 1 SYSTEM INFORMATION
- 2 SYSTEM SETUP
- 3 CAMERA SETUP
- 4 DOME FUNCTION
- 5 DISPLAY SETUP
- 6 LOAD DEFAULT
- 0 EXIT

 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 as shown below:

- SOFTWARE: 5.0.1.0
- FIRMWARE: V4.5.15
- CAMERA: xxxx
- DATE: 2020-04-22
- TEMP: 35°C
- 1 RETURN
- 0 EXIT

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:

```
1 AUTO PT FLIP:      ON
2 LANGUAGE SETUP:
3 RS485 SETUP:
4 DATE SETUP:
5 TITLE SETUP:
6 NEXT PAGE
7 RETURN
0 EXIT
```

```
1 NORTH SETUP
2 NEW PASSWORD
- CHANGE PASSWORD
3 AUTO EXIT TIME:   OFF
4 RETURN
0 EXIT
```

### 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:

```
1 ID TYPE:          SW
2 DOME ID:          001
3 PROTOCOL:         PELCO-P
4 BAUD RATE:        2400
5 RETURN
0 EXIT
```

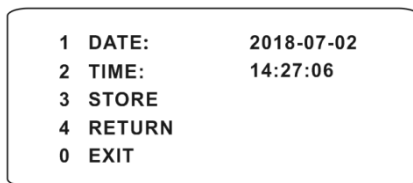
**[Dome ID]** : The available range is from 001 to 255.

**[Protocol]** : PELCO-D or PELCO-P is selectable.

**[Baud Rate]** : The baud rate is selectable from 1200 to 9600bps.

## 4.2.4 Date Setup

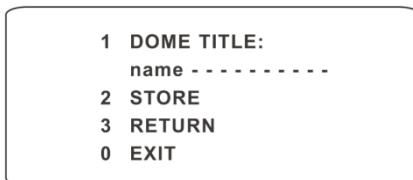
Go to System Setup→Date Setup menu as shown below:



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

## 4.2.5 Title Setup

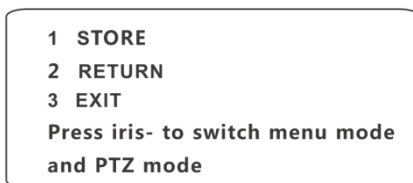
Go to System Setup→Title Setup as below:



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



1 ENTER PASSWORD:  
-----

2 CONFIRM PASSWORD  
-----

3 CONFIRM

4 RETURN

0 EXIT

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

1 ENTER OLD PASSWORD:  
-----

2 ENTER NEW PASSWORD  
-----

3 CONFIRM NEW PASSWORD  
-----

4 RETURN

0 EXIT

- 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.

1 CAMERA CONTROL  
2 IMAGE SETUP  
3 LENS SETUP  
4 DAY NIGHT SETUP  
- SMART IR SETUP  
5 NEXT PAGE  
6 RETURN  
0 EXIT

1 INFRARED CONTROL: AUTO  
2 PAL/NTSC: PAL  
3 RETURN  
0 EXIT

## 4.3.1 Camera Control

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

1 BRIGHTNESS: 050  
2 SHARPNESS  
- CONTRAST: 050  
- HUE 050  
3 ANTIFLICKER: OFF  
4 NEXT PAGE  
5 RETURN  
0 EXIT

1 WDR SETUP  
2 HLC SETUP  
3 BLC:  
4 DENOISE  
5 COLOR LEVEL: 050  
6 NEXT PAGE  
7 RETURN  
0 EXIT

1 DEFOG SETUP  
- GAMMA: DEFAU  
- VE: OFF  
- HIGH SENSI: OFF  
2 RETURN  
0 EXIT

【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.

1	AE SETUP	
2	WB SETUP	
3	AGC:	11
4	IMAGE FLIP:	OFF
-	HR:	ON
5	RETURN	
0	EXIT	

### ● AE Setup

Go to AE Setup menu as shown below:

1	AE MODE:	AUTO
-	BRIGHTNESS:	10
-	SHUTTER:	22
-	IRIS:	10
-	GAIN:	09
2	RETURN	
0	EXIT	

【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:

1	WB MODE:	AUTO
-	MWB RED GAIN:	10
-	MWB BLUE GAIN:	10
2	RETURN	
0	EXIT	

【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:

1	FOCUS LIMIT:	1M
2	ZOOM MAG DISP:	OFF
3	ZOOM SPEED:	3
4	SCAN SPEED:	10
-	DZOOM:	OFF
5	LEN INITIALIZE	
6	RETURN	
0	EXIT	

- **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.

- **D Zoom**

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.

1	DAY NIGHT MODE:	AUTO
-	DAY TIME:	07:00
-	NIGHT TIME:	19:00
2	IR SENSITIVITY:	MIDD
3	RETURN	
0	EXIT	

❖ 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 and underexposure by controlling the brightness of the IR lights according to the actual conditions to make the image more realistic. Please enable and set it as needed.

## 4.4 Dome Function

Go to Dome Function menu as shown below:

1	PRESET SETUP
2	CRUISE SETUP
3	GROUP SETUP
4	TASK SETUP
5	TRACE SETUP
6	NEXT PAGE
7	RETURN
0	EXIT

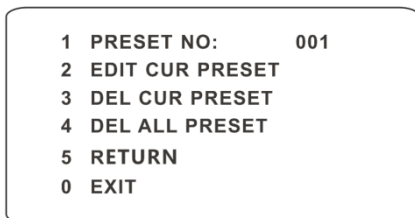
1	ALARM SETUP
2	HOME POSITION
-	WIPER SETUP
3	RETURN
0	EXIT



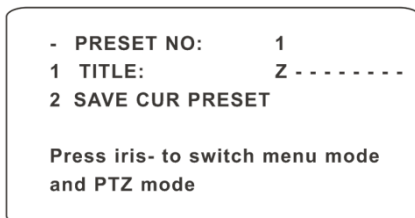
## 4.4.1 Preset Setup



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.



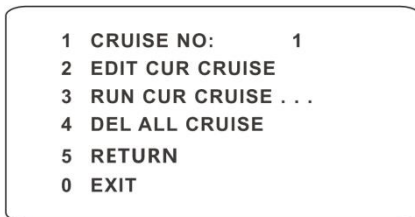
- ② Select the preset number.  
③ Go to Edit CUR Preset interface as below:



- 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.  
⑥ 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:

```
PRESET NO/TIME (SEC)
01: 001/005  02: 002/005
03: 003/005  04: 004/005
05: 005/005  06: 006/005
07: 007/005  08: 008/005
A: NEXT PAGE
B: STORE
C: CANCEL
```

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:

```
1 EDIT GROUP
2 RUN GROUP . . .
3 DEL GROUP
4 RETURN
0 EXIT
```

Go to “Edit Group” menu as shown below.

```
01: CRU1  02: CRU2
03: CRU3  04: CRU4
05: CRU5  06: CRU6
07: CRU7  08: CRU8
A: STORE
B: CANCEL
```

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:

```
1 TASK:      OFF
2 TASK SETTING
3 DELETE TASK
4 RETURN
0 EXIT
```

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.

```
FORMAT: TIME/FUNC/NO
1 00:00 - - 00:00 NON: 00
2 00:00 - - 00:00 NON: 00
3 00:00 - - 00:00 NON: 00
4 00:00 - - 00:00 NON: 00
A: NEXT PAGE
B: STORE
C: CANCEL
```

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 Track Setup

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

```
1 TRACK NO:      1
2 TRACK SETTING
3 RUN CUR TRACK . . .
4 DEL CUR TRACK
5 RETURN
0 EXIT
```

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

Setting Steps:

- ① Choose the track number.
- ② Edit the track. Enter the track setting menu. Click “Iris –”to start recording track. Control the dome movement by direction buttons and then save the setting. Each track 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 track 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 TRACK...” to perform the command.

## 4.4.6 Alarm Setup

Go to Dome Function→Alarm Setup as shown below:

```
1 ALARM IN NO:      1
2 EDIT CUR ALARM IN
4 RETURN
0 EXIT
```

Setting Steps:

- ① Select Alarm In No.
- ② Go to “EDIT CUR ALARM IN” menu as shown below.

```
1 ALARM IN CON:     N.O
2 ALARM IN MODE:    ON
3 ALARM CALL:       PRE50
4 ALARM OVER:       NONE
5 OUTPUT ENABLE:    OFF
6 RETURN
0 EXIT
```

【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/track/scan you need. When the first alarm input happens, the camera will automatically switch to this preset/cruise/track/scan to monitor.

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

1 HOME:	OFF
2 HOME SET:	PRE 70
3 DELAY TIME (SEC):	007
4 RETURN	
0 EXIT	

### 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 SPEED LEVEL:	MIDD
2 RUN TIME:	15SEC
3 START:	
4 STOP:	
5 RETURN	
0 EXIT	

- 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.

1	TITLE DISP:	ON
2	TIME DISPLAY:	ON
-	TEMP DISPLAY:	OFF
-	DIRECTION:	OFF
-	PRE TITLE:	OFF
-	SYSTEM:	ON
3	RETURN	
0	EXIT	

## 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.

## Chapter 5 Remote Configuration

In the Webcam client, choose “Config” to go to the configuration interface.

**Note:** Wherever applicable, click “Save” to save the settings.

### 5.1 System Configuration

The “System configuration” includes four sub-menus: Basic Information, Date and Time, Local Config and SD Card.

#### 5.1.1 Basic Information

In the Basic Information interface, you can check the relative information of the device.

ex).

Device Name	IPC
Product Model	IPC
Brand	Customer
Software Version	5.0.1.0(6891)
Software Build Date	2020-04-15
Kernel Version	20200110
Hardware Version	1.0-1612300
Onvif Version	19.06
Video Structured Version	1.1.8 (1.0.2)
Face Detection Version	1.1.25
Face Match Version	1.0.3
OCX Version	2.0.9.8
MAC	00:18:ae:00:84:e9
PTZ Version	V4.5.15
Camera Type	M430IE

Some versions may support device ID and QR code. Having been enabled P2P (see Network Configuration-P2P), the network camera can be quickly added to mobile surveillance client, by scanning the QR code or entering device ID.

#### 5.1.2 Date and Time Configuration

Go to Config→System→Date and Time. Please refer to the following interface.

Zone: Date and Time

Time Zone: GMT+08 (Beijing, Hong Kong, Shanghai, Taipei)

DST

Auto DST

Manual DST

Start Time: May, First, Tuesday, 15, Hour

End Time: August, First, Tuesday, 15, Hour

Time Offset: 30 Minutes

Select the time zone and DST as required.  
Click the “Date and Time” tab to set the time mode.

Zone: Date and Time

Time Mode:

Synchronize with NTP server

NTP server: time.windows.com Update period: 1440 Minutes

Synchronize with computer time

Date: 2018-01-08 Time: 14:58:21

Set manually

Date: 2018-01-09 Time: 15:03:28

## 5.1.3 Local Config

Go to Config→System→Local Config 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.

Save snapshots to: C:\Program Files\NetIPCamera Browse

Save recording files to: C:\Program Files\NetIPCamera Browse

Audio Recording:  Open  Close

Bitrate Overlay:  Open  Close

Local Smart Snapshot Storage:  Open  Close

Save

Additionally, “Local smart snapshot storage” can be enabled or disabled here. If enabled, the captured pictures triggered by smart events (like line crossing detection, region intrusion, etc.) will be saved to the local PC.

## 5.1.4 Storage

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



The screenshot shows a web interface with three tabs: Management, Record, and Snapshot. The Record tab is active. It displays the following settings:

Total picture capacity	14829 MB
Picture remaining space	5068 MB
Total recording capacity	14784 MB
Record remaining space	0 MB
State	Normal
Snapshot Quota	50 %
Video Quota	50 %

Changes in the quota ratio need to be formatted before they become effective.

Buttons: Eject, Format

## ● SD Card Management

Click “Format” to format the SD card. All data will be cleared by clicking this button. Click “Eject” to stop writing data to 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 Config→System→Storage→Record to go to the interface as shown below.

The screenshot shows a web interface with three tabs: Management, Record, and Snapshot. The Record tab is active. It displays the following settings:

<b>Record Parameters</b>	
Record Stream	Main stream
Pre Record Time	No Pre Record ( H264,H265,MJPEG )
Cycle Write	Yes
<b>Timing</b>	
<input checked="" type="checkbox"/> Enable Schedule Record	

2. Set record stream, pre-record time, 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.

The screenshot displays a configuration interface for alarm schedules. At the top right, there are two radio buttons: 'Erase' (unselected) and 'Add' (selected). Below this is a 'Week Schedule' section with a header bar. Underneath, there are seven rows, one for each day of the week (Sun. through Sat.). Each row contains a horizontal timeline from 0 to 24, representing hours. A green bar is present in each row, indicating a scheduled period from 00:00 to 24:00. To the right of each timeline is a 'Manual Input' field. Below the weekly schedule is a 'Holiday Schedule' section. It features a 'Date' input field containing '07-12', an 'Add' button, a 'Delete' button, and an empty input field. At the bottom, there is another horizontal timeline from 0 to 24 with a green bar and a 'Manual Input' field.

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

Management	Record	<b>Snapshot</b>
<b>Snapshot Parameters</b>		
Image Format	JPEG	▼
Resolution	704x480	▼
Image Quality	Low	▼
<b>Event Trigger</b>		
Snapshot Interval	1	Second
Snapshot Quantity	5	
<b>Timing</b>		
<input checked="" type="checkbox"/> Enable Timing Snapshot		
Snapshot Interval	5	Second

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 Image Configuration

### 5.2.1 Display Settings

Go to Image→Display interface as shown below. The image's brightness, contrast, hue and saturation and so on for common, day and night mode can be set up separately. The image effect can be quickly seen by switching the configuration file.

The screenshot displays the 'Camera Parameters' configuration window. On the left, there is a live video feed showing a street scene with cars and a timestamp '2020/04/22 18:00:10'. Below the feed are controls for 'Focus Limit' (set to 1M), 'Zoom Display' (unchecked), 'Zoom Speed' (slider at 3), 'Scan Speed' (slider at 10), 'Lens Initialization' (button), and 'Set North' (button). The main configuration area on the right includes a 'Config File' dropdown set to 'Common'. Parameters include: Brightness (slider at 50), Saturation (slider at 50), WDR (checkbox), Sharpness (checkbox), Noise Reduction (checkbox), Defog (checkbox), BLC (dropdown set to Off), Level (dropdown set to Mid), White Balance (dropdown set to Auto), Frequency (dropdown set to 60HZ), Day/Night Mode (dropdown set to Auto), Sensitivity (dropdown set to Mid), Infra-red Mode (dropdown set to Auto), Smart IR (dropdown set to Auto), Exposure Mode (dropdown set to Auto), Gain Limit (slider at 75), Image Mirror (radio buttons for Open and Close, with Close selected), and Image Flip (radio buttons for Open and Close, with Close selected). At the bottom right are 'Default' and 'Revoke' buttons.

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

Schedule Settings of Image Parameters:

Click the “Schedule” tab as shown below.

The screenshot shows the 'Schedule' tab selected. It contains two dropdown menus: 'Schedule' set to 'Full Time' and 'Config File' set to 'Common'.

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

The screenshot shows the 'Timing' schedule configuration. The 'Schedule' dropdown is set to 'Timing'. Below it is a 'Time Range' slider from 0:00 to 24:00. The slider is divided into 'Day' (blue) and 'Night' (blank) segments. A 'Save' button is located at the bottom right.

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 schedule, 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 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.

Index	Stream	Resolution	Frame	Bitrate Type	Bitrate(Kbps)	Video	I Frame	Video	Profile
1	Main stream	1920x1080	25	CBR	3072	Highest	100	H264	High Profile
2	Sub stream	704x576	25	CBR	768	Highest	100	H264	High Profile
3	Third stream	352x288	25	CBR	512	Higher	100	H264	High Profile

Send Snapshot: 2 | Size: (704x576)

Video encode slice split

Watermark ( H264 , H265 ) | Watermark content: \_\_\_\_\_

Click the “Audio” tab to go to the interface as shown below.

Video **Audio**

Enable

Audio Encoding: G711A

Audio Type: MIC

Save

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:** H264 and H265 are optional. If H.265 is chosen, make sure the client system is able to decode H.265.

**Profile:** For H.264. Baseline, main and high profiles are selectable.

**Send Snapshot:** How many snapshots to generate for an event.

**Video encode slice split:** If this function is enabled, smooth image can be gotten even though using the low-performance PC.

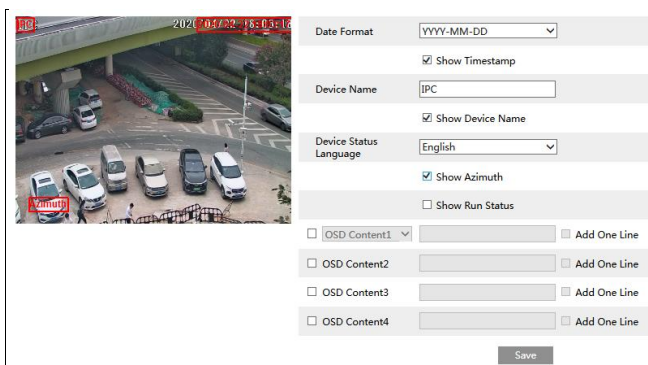
**Watermark:** When playing back the local recorded video in the search interface, the watermark can be displayed. To enable it, check the watermark box and enter the watermark text.

**Audio Encoding:** G711A and G711U are selectable.

**Audio Type:** LIN or MIC is optional.

## 5.2.3 OSD Configuration

Go to Image→OSD interface as shown below.



Set time stamp, device name, device status language, OSD content and picture overlap here. After enabling the corresponding display and entering the content, drag them to change their position. Then click “Save” 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

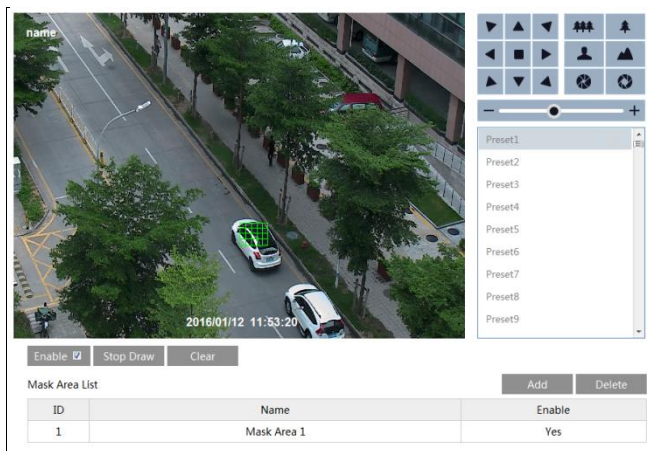
Go to Image→Video Mask interface as shown below. A maximum of 4 zones can be set up.

Only some models support this function. If your PTZ camera doesn't support it, please skip the following instructions.

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.



To delete mask area:

1. Select the mask area in the mask area list.
2. Click “Delete” to delete this mask area.

## 5.3 PTZ Configuration

### 5.3.1 PTZ and Password Setting

#### ● PTZ Setting

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

PTZ Settings	RS485	Others
Auto PTZ Flip	On	
Language	English	
Auto Logout Time	Off	
<b>Save</b>		

PTZ Settings	RS485	Others
PTZ ID	1	
Protocol	PELCO	
Baud-Rate	2400	
<b>Save</b>		

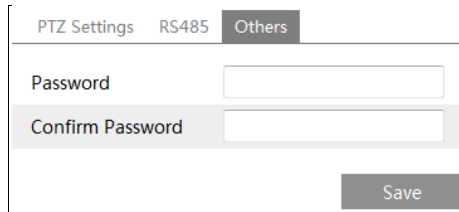
In this submenu, PTZ flip, PTZ flip, language, auto logout time can be set.

If your model support RS485 interface, you may configure the communication setting for keyboard control.

#### ● 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.



The screenshot shows a web interface for PTZ Settings. At the top, there are three tabs: "PTZ Settings", "RS485", and "Others", with "Others" being the active tab. Below the tabs, there are two input fields: "Password" and "Confirm Password". A "Save" button is located at the bottom right of the form.

## 5.3.2 Restore

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

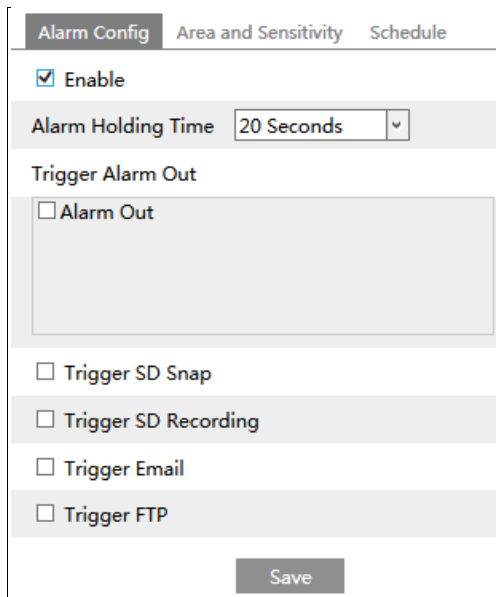
## 5.3.3 PTZ Function

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

## 5.4 Alarm Configuration

### 5.4.1 Motion Detection

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



The screenshot shows a web interface for Alarm Configuration. At the top, there are three tabs: "Alarm Config", "Area and Sensitivity", and "Schedule", with "Alarm Config" being the active tab. Below the tabs, there is a "Enable" checkbox which is checked. Below that, there is an "Alarm Holding Time" field set to "20 Seconds". Under the heading "Trigger Alarm Out", there are five checkboxes: "Alarm Out", "Trigger SD Snap", "Trigger SD Recording", "Trigger Email", and "Trigger FTP". A "Save" button is located at the bottom center of the form.



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

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

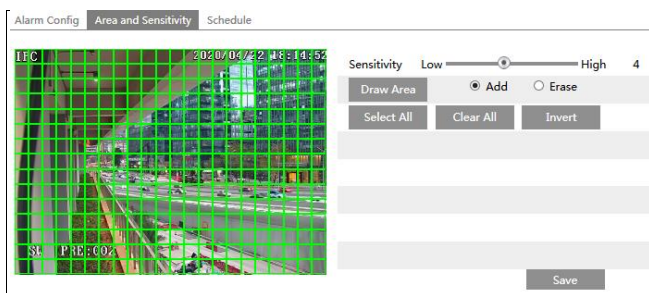
**Trigger SD Snap:** If selected, the system will capture images on motion detection and save the images on an SD card.

**Trigger SD Recording:** If selected, video will be recorded on an SD card on motion detection.

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

**Trigger FTP:** If “Trigger FTP” is 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.

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 Config→Alarm→Anomaly→SD Card Full.

The screenshot shows the configuration interface for the 'SD Card Full' alarm. At the top, there are four tabs: 'SD Card Full', 'SD Card Error', 'IP Address Collision', and 'Cable Disconnected'. The 'SD Card Full' tab is selected. Below the tabs, there is a section for 'Enable' with a checked checkbox. Underneath, there is a field for 'Alarm Holding Time' set to '20 Seconds'. A section titled 'Trigger Alarm Out' contains a large text area with a checkbox for 'Alarm Out'. At the bottom, there are two more checkboxes: 'Trigger Email' and 'Trigger FTP', both of which are unchecked.

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 Config→Alarm→Anomaly→SD Card Error as shown below.

The screenshot shows the configuration interface for the 'SD Card Error' alarm. At the top, there are four tabs: 'SD Card Full', 'SD Card Error', 'IP Address Collision', and 'Cable Disconnected'. The 'SD Card Error' tab is selected. Below the tabs, there is a section for 'Enable' with a checked checkbox. Underneath, there is a field for 'Alarm Holding Time' set to '20 Seconds'. A section titled 'Trigger Alarm Out' contains a large text area with a checkbox for 'Alarm Out'. At the bottom, there are two more checkboxes: 'Trigger Email' and 'Trigger FTP', both of which are unchecked.

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

## ● IP Address Conflict

1. Go to Config→Alarm→Anomaly→IP Address Collision as shown below.

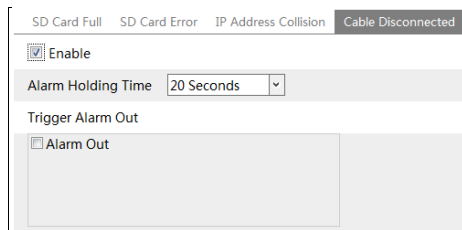
The screenshot shows the configuration interface for the 'IP Address Collision' alarm. At the top, there are four tabs: 'SD Card Full', 'SD Card Error', 'IP Address Collision', and 'Cable Disconnected'. The 'IP Address Collision' tab is selected. Below the tabs, there is a section for 'Enable' with a checked checkbox. Underneath, there is a field for 'Alarm Holding Time' set to '20 Seconds'. A section titled 'Trigger Alarm Out' contains a large text area with a checkbox for 'Alarm Out'. At the bottom, there are two more checkboxes: 'Trigger Email' and 'Trigger FTP', both of which are unchecked.

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

**Note:** This function is only available for some models.

## ● Cable Disconnection

1. Go to Config→Alarm→Anomaly→Cable Disconnected as shown below.



The screenshot shows the configuration page for 'Cable Disconnected'. At the top, there are tabs for 'SD Card Full', 'SD Card Error', 'IP Address Collision', and 'Cable Disconnected'. The 'Cable Disconnected' tab is active. Below the tabs, there is a section with a checked 'Enable' checkbox. Underneath, the 'Alarm Holding Time' is set to '20 Seconds' in a dropdown menu. A 'Trigger Alarm Out' section contains a checked 'Alarm Out' checkbox.

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

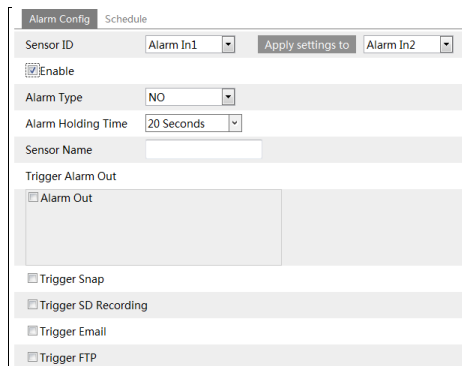
**Note:** This function is only available for some models.

## 5.4.3 Alarm Input

Only some models support this function. If your device doesn't support it, please skip the following instructions.

To set sensor alarm (alarm in):

Go to Config→Alarm→Alarm In interface as shown below.



The screenshot shows the 'Alarm Config' interface for 'Alarm In'. At the top, there are tabs for 'Alarm Config' and 'Schedule'. The 'Alarm Config' tab is active. Below the tabs, there is a 'Sensor ID' dropdown menu set to 'Alarm In1' and an 'Apply settings to' dropdown menu set to 'Alarm In2'. The 'Enable' checkbox is checked. The 'Alarm Type' is set to 'NO' in a dropdown menu. The 'Alarm Holding Time' is set to '20 Seconds' in a dropdown menu. There is a 'Sensor Name' text input field. A 'Trigger Alarm Out' section contains a checked 'Alarm Out' checkbox. Below this, there are several unchecked checkboxes: 'Trigger Snap', 'Trigger SD Recording', 'Trigger Email', and 'Trigger FTP'.

1. Set Sensor ID (available for the models with two or more alarm input interfaces).
2. Click “Enable” and set the alarm type, alarm holding time and sensor name.
3. Set alarm trigger options. The setup steps are the same as motion detection. Please refer to [motion detection](#) chapter for details.
4. Apply settings to other sensors (if applicable).

5. Click “Save” to save the settings.
6. Set the schedule of the sensor alarm. The setup steps of the schedule are the same as the schedule recording setup. (See [Schedule Recording](#)).

## 5.4.4 Alarm Out

Only some models support this function. If your device doesn't support it, please skip the following instructions.

Go to Config→Alarm→Alarm Out.

Alarm Out Mode	Alarm Linkage	▼
Alarm Out Name	alarmOut1	
Alarm Holding Time	20 Seconds	▼
Alarm Type	NC	
<input type="button" value="Save"/>		

**Alarm Out Mode:** Alarm linkage, manual operation, day/night switch linkage and timing are optional.

**Alarm Linkage:** Having selected this mode, select alarm out name, alarm holding time at the “Alarm Holding Time” pull down list box and alarm type.

**Manual Operation:** Having selected this mode, select the alarm type and click “Open” to trigger the alarm out immediately; click “Close” to stop alarm.

Alarm Out Mode	Manual Operation	▼
Alarm Type	NC	
Manual Operation	<input type="button" value="Open"/>	<input type="button" value="Close"/>
<input type="button" value="Save"/>		

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

Alarm Out Mode	Day/night switch linkage	▼
Alarm Type	NC	
Day	Close	
Night	Close	
<input type="button" value="Save"/>		

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

Alarm Out Mode: Timing  
Alarm Type: NC  
Time Range: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
Erase Add  
Manual Input  
Save

## 5.4.5 Alarm Server

Go to Alarm→Alarm Server interface as shown below.

Set the server address, port, heartbeat and heartbeat interval. When an alarm occurs, the camera will transfer the alarm event to the alarm server. If an alarm server is not needed, there is no need to configure this section.

Server Address: [ ]  
Port: 0  
Heartbeat: Disable  
Heartbeat interval: 30 Second

## 5.4.6 Smart Tracking

(Only some models support this function)

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.

Config  
Tracking Mode: PTZ Auto Tracking Priority  
Manual PTZ Control Priority  
Still time: [ ] [ 0 (s)

**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.

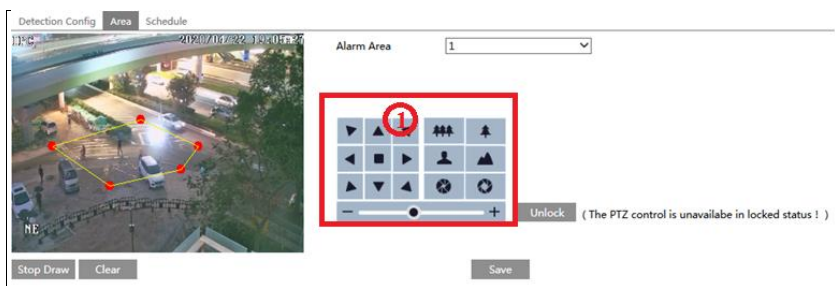
**Manual PTZ Control Priority:** if this mode is selected, in smart tracking mode, you can

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.

**Still time:** 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.

### 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 still time 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.

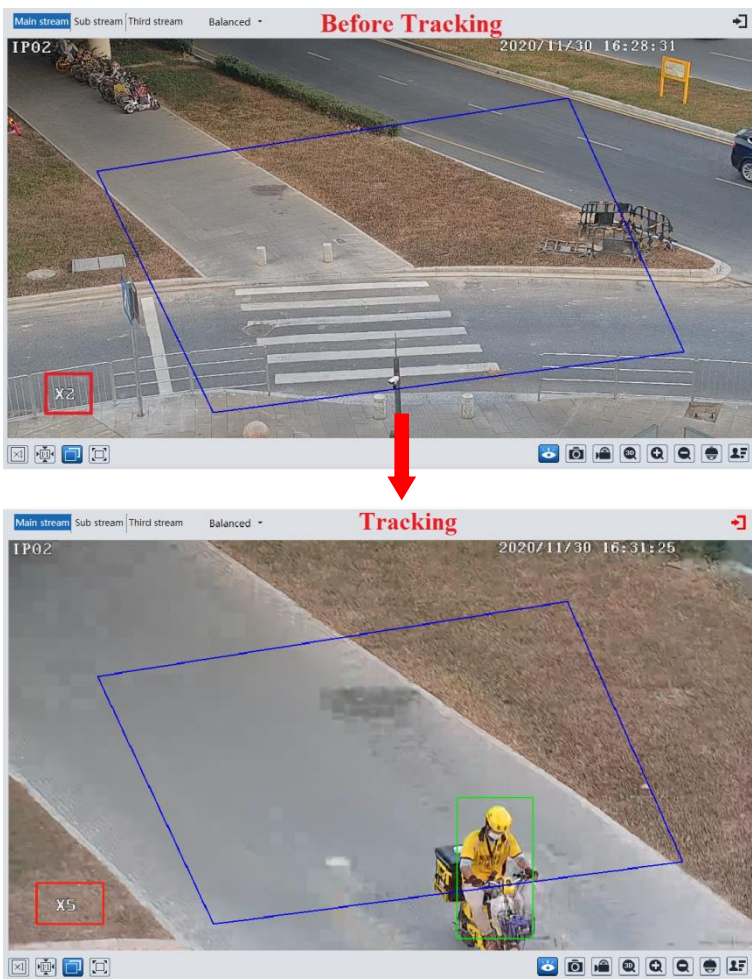


Using the PTZ control buttons (area①) sets appropriate field of view and then draw the detection area and save the setting.

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 Event Configuration

(Only some models support the following functions).

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.

Note: The following functions are only available when the PTZ camera stops moving.

## 5.5.1 Exception

This function can detect changes in the surveillance environment affected by the external factors.

To set exception detection:

Go to Config→Event→Exception interface as shown below.

The screenshot shows a web-based configuration interface for an exception detection feature. It is divided into two tabs: "Detection Config" and "Sensitivity". The "Detection Config" tab is active and contains the following settings:

- Scene change detection
- Video blur detection
- Enable video color cast detection
- Alarm Holding Time: 20 Seconds (with a dropdown arrow)
- Trigger Alarm Out:
- Trigger SD Snap
- Trigger SD Recording
- Trigger Email
- Trigger FTP

A "Save" button is located at the bottom right of the configuration area.

1. Enable the applicable detection that's desired.

**Scene Change Detection:** Alarms will be triggered if the scene of the monitor video has changed.

**Video Blur Detection:** Alarms will be triggered if the video becomes blurry.

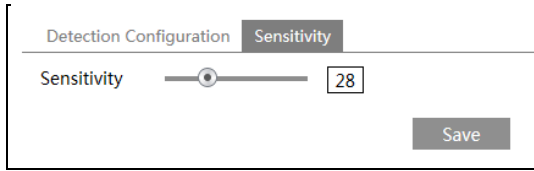
**Enable Video Color Cast Detection:** Alarms will be triggered if the video becomes obscured.

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" 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” to save the settings.

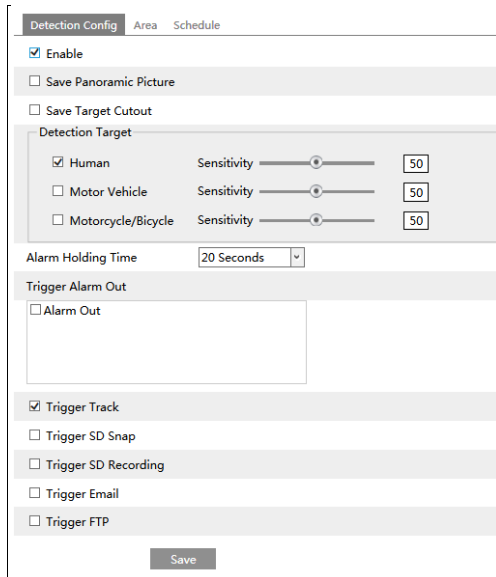
**The sensitivity value of Scene Change Detection:** The higher the value is, the more sensitive the system responds to the amplitude of the scene change.

**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.

## 5.5.2 Line Crossing Detection

**Line Crossing:** Alarms will be triggered if the target crosses the pre-defined alarm lines. Go to Config→Event→Line Crossing interface as shown below.



### ● Detection Configuration:

1. Enable line crossing detection 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 the targets cross the alarm line.

**Save Target Cutout:** If it is enabled, the detected target cutout pictures will be captured and

saved to the SD card when the targets cross the alarm line.

**Note:** To save snapshots to the local PC, please enable “Local Smart Snapshot Storage” in the local config interface first. To save snapshots to the 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 lines.

**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 lines.

**Motorcycle/Bicycle:** Select it and then alarms will be triggered if a non-motor vehicle (eg. a motorcycle or bicycle) crosses the pre-defined alarm lines.

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.

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

**Trigger Track:** if enabled, the PTZ camera will automatically track the target that crosses the alarm line and the target’s 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 pre-defined detection area.

**Trigger SD Snap:** If selected, the system will capture images when a target crosses the alarm line and save the images on an SD card.

**Trigger SD Recording:** If selected, video will be recorded on an SD card when a target crosses the alarm line

**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” is checked, the captured pictures will be sent into FTP server address. Please refer to FTP configuration chapter for more details.

4. Click “Save” button to save the settings.

## ● Area Configuration

1. Click the “Area and Sensitivity” tab to go to the interface as shown below.



2. 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 someone or a vehicle crossing over the alarm line.

**A<->B:** Alarms will be triggered when someone or a vehicle crosses over the alarm line from B to A or from A to B.

**A->B:** Alarms will be triggered when someone or a vehicle crosses over the alarm line from A to B.

**A<-B:** Alarms will be triggered when someone or a vehicle crosses over the alarm line from B to A.

3. 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.

4. 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.

### ● Schedule Configuration

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](#)).

### 5.5.3 Intrusion

**Intrusion:** Alarms will be triggered if the target intrudes into the pre-defined areas.

Go to Config→Event→Intrusion interface as shown below.

Detection Config Area Schedule

Enable

Save Panoramic Picture

Save Target Cutout

Detection Target

Human Sensitivity

Motor Vehicle Sensitivity

Motorcycle/Bicycle Sensitivity

Alarm Holding Time

Trigger Alarm Out

Alarm Out

Trigger Track

Trigger SD Snap

Trigger SD Recording

Trigger Email

Trigger FTP

Save

## ● Detection Configuration

Enable intrusion 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.

## ● Area Configuration

1. Click the “Area” tab to go to the interface as shown below.

Detection Config Area Schedule

Alarm Area

Stop Draw Clear

Save

Unlock (The PTZ control is unavailable in locked status !)

2. Set the alarm area number on the right side. Up to 4 alarm areas can be added.
3. 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.

4. 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.

After that, the camera will automatically return to this detection area after auto human /vehicle tracking.

## ● Schedule Configuration

Set the schedule of the intrusion detection. The setup steps of the schedule are the same as schedule recording setup (See [Schedule Recording](#)).

## 5.5.4 Region Entrance

**Region Entrance:** Alarms will be triggered if the target enters the pre-defined areas.

Go to Config→Event→Region Entrance interface as shown below.

Detection Config Area Schedule

Enable

Save Panoramic Picture

Save Target Cutout

Detection Target

Human Sensitivity

Motor Vehicle Sensitivity

Motorcycle/Bicycle Sensitivity

Alarm Holding Time

Trigger Alarm Out

Alarm Out

Trigger Track

Trigger SD Snap

Trigger SD Recording

Trigger Email

Trigger FTP

Save

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.

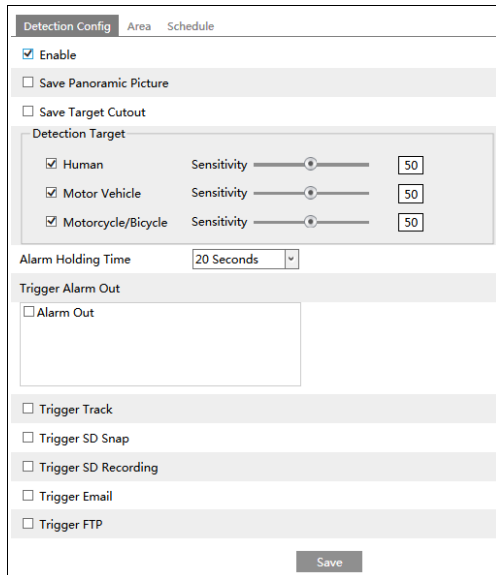
2. Set the area of region entrance detection. The area setup steps are the same as intrusion detection. Please refer to the area configuration of intrusion detection for details.



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→Event→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.

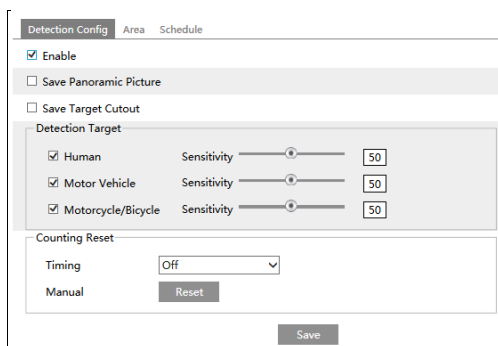


3. Set the schedule of the region exiting detection. The setup steps of the schedule are the same as schedule recording setup (See [Schedule Recording](#)).

## 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→Event→Target Counting as shown below.



2. Enable target counting 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 the targets cross the pre-defined alarm line.

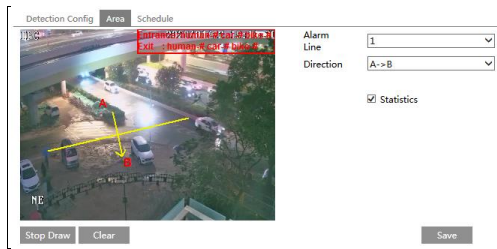
**Save Target Cutout:** If it is enabled, the detected target cutout pictures will be captured and saved to the SD card when the targets cross the pre-defined alarm line.

**Note:** To save snapshots to the local PC, please enable “Local Smart Snapshot Storage” in the local config interface first. To save snapshots to the SD card, please install an SD card first.

**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.

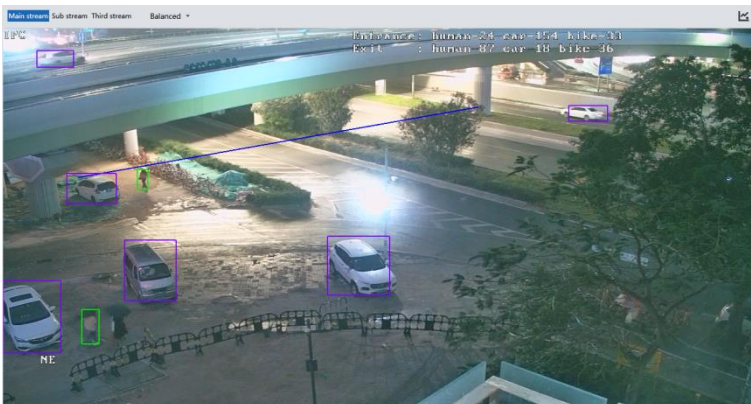
Statistics: If enabled, you can see the statistical information in the live view interface. If disabled, the statistical information will not be displayed in the live view interface.

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.

**Note:** If the OSD content4 is enabled, it will be disabled after you enable “Statistics”.

4. Set the schedule of the target counting. The setup steps of the schedule are the same as schedule recording setup (See [Schedule Recording](#)).

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

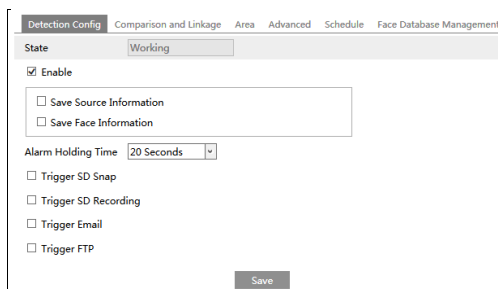


## 5.5.7 Face Comparison

The setting steps are as follows.

1. Go to Config→Event→Face Comparison interface.





2. Enable the face detection function.

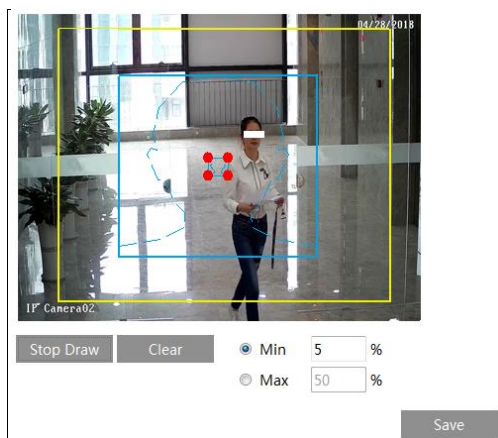
Save Source Information: if checked, the whole picture will be saved to the SD card when detecting a face.

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

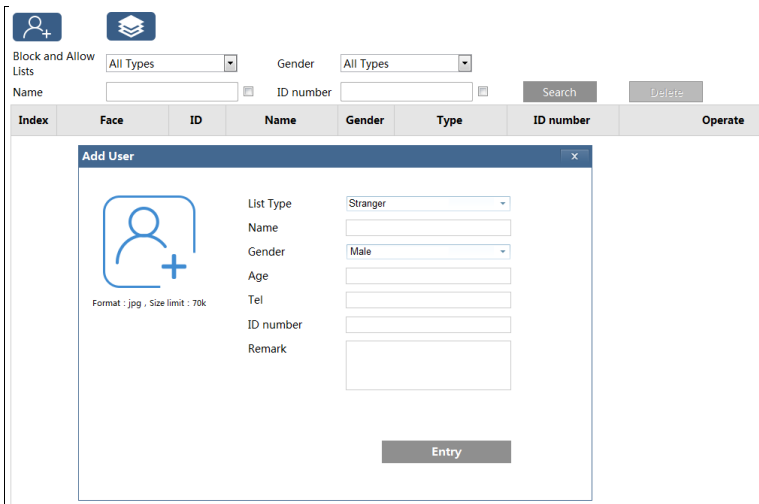
**Note:** To save images to the local PC, please enable the local smart snapshot storage first (Config→System→Local Config). To save images to the SD card, please install an SD card and enable “Trigger Snap” first.

3. Set alarm holding time and alarm trigger options.

4. Set alarm detection area. 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).





5. 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.

③ Add face pictures by using face album management tool

④ 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.

Index	Face	ID	Name	Gender	Type	ID number	Operate
1		1546395331	#T1#50#A23#	Female			Delete Modify
2		1546395330	#T0#50#A20#	Female			Delete Modify
3		1546395329	#T2#50#A21#	Female			Delete Modify
4		1546395328	T0#S1#A55#	Female			Delete Modify
5		1546395327	T2#S1#A31#	Male			Delete Modify

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

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

Detection Config Comparison and Linkage Area Advanced Schedule Face Database Management

Deduplication Period 4 Seconds

Similarity threshold 75 %

Alarm List Allow list

Alarm Trigger Mode Face Only

Alarm Out

Save

**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.

7. 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](#)).

8. Advanced configuration.

Detection Config Comparison and Linkage Area Advanced Schedule Face Database Management

Application Scenes Security Monitoring

Snapshot Interval 30 Seconds

Snapshot Number 3

Proximity Priority Comparison Close

Comparison in free time Open


Save

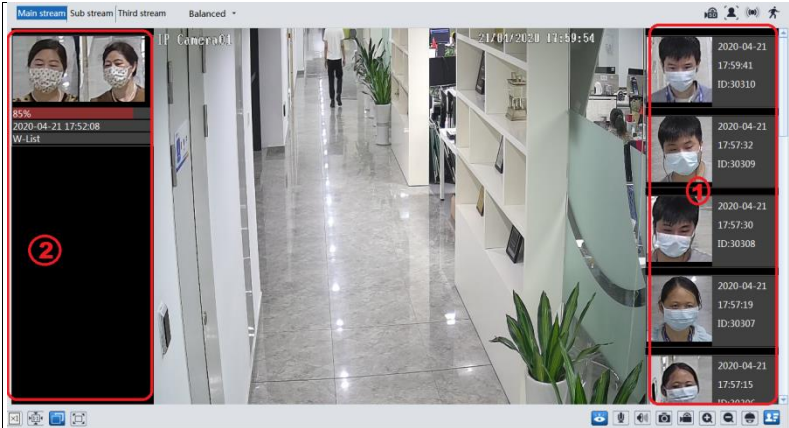
**Application Scenes:** “Access control”, “security monitoring” or “customize” can be selected.

**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

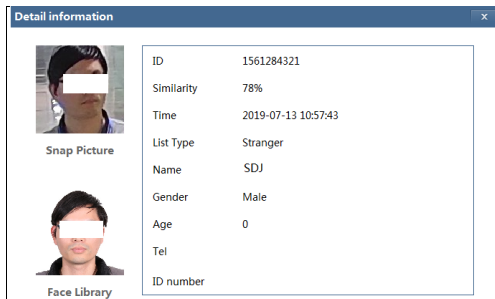
After all face comparison settings are set successfully, enter the live view interface. Click  to view the captured face pictures and face comparison information.



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.

The 'Add User' window contains the following fields:

Time	2019-07-13 11:00:00
ID	11222
List Type	Stranger
Name	
Gender	Male
Age	
Tel	
ID number	
Remark	

Entry

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

## 5.6 Network Configuration

### 5.6.1 TCP/IPv4

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

The IPv4 configuration interface includes the following settings:

Obtain an IP address automatically	<input type="radio"/>	
Use the following IP address	<input checked="" type="radio"/>	
IP Address	192.168.226.201	Test
Subnet Mask	255.255.255.0	
Gateway	192.168.226.1	
Preferred DNS Server	210.21.196.6	
Alternate DNS Server	8.8.8.8	

**Use IP address (take IPv4 for example)**-There are two options for IP setup: obtain an IP address automatically by DHCP and use the following IP address. Please choose one of the options as needed.

**Test:** Test the effectiveness of the IP address by clicking this button.

**Use PPPoE**-Click the “PPPoE Config” tab to go to the interface as shown below. Enable PPPoE and then enter the user name and password from your ISP.

IPv4	IPv6	PPPoE Config	IP Change Notification Config
<input checked="" type="checkbox"/> Enable			
User Name	<input type="text" value="xxxxxxx"/>		
Password	<input type="password" value="•••••"/>		
<input type="button" value="Save"/>			

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.

IPv4	IPv6	PPPoE Config	IP Change Notification Config
<input type="checkbox"/> Trigger Email			
<input type="checkbox"/> Trigger FTP			
<input type="button" value="Save"/>			

**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 Config→Network→Port interface as shown below. HTTP port, Data port and RTSP port can be set.

HTTP Port	<input type="text" value="80"/>
HTTPS Port	<input type="text" value="443"/>
Data Port	<input type="text" value="9008"/>
RTSP Port	<input type="text" value="554"/>

**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.

## 5.6.3 Central Server

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

<input type="checkbox"/> Enable	
Server Port	<input type="text" value="0"/>
Server Address	<input type="text"/>
Device ID	<input type="text" value="1"/>

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

## 5.6.4 DDNS Configuration

If the camera is set up with a DHCP connection, DDNS should be set for the internet.

1. Go to Config→Network→ DDNS.

Port	Server	<b>DDNS</b>	SNMP	802.1X	RTSP	UPnP	Email	FTP	HTTPS	QoS
<input type="checkbox"/> Enable										
Server Type	<input type="text" value="www.dyndns.com"/>									
User Name	<input type="text"/>									
Password	<input type="text"/>									
Domain	<input type="text"/>									
<input type="button" value="Save"/>										

2. Apply for a domain name. Take www.dvrddns.com for example. Enter www.dvrddns.com in the IE address bar to visit its website. Then click “Registration”.

NEW USER REGISTRATION

USER NAME	<input type="text" value="XXXX"/>
PASSWORD	<input type="password" value="•••••"/>
PASSWORD CONFIRM	<input type="password" value="•••••"/>
FIRST NAME	<input type="text" value="xxx"/>
LAST NAME	<input type="text" value="xxx"/>
SECURITY QUESTION.	<input type="text" value="My first phone number."/> ▼
ANSWER	<input type="text" value="xxxxxxx"/>
CONFIRM YOU'RE HUMAN	 New Captcha <input type="text"/> Enter the text you see above

Create domain name.

*You must create a domain name to continue.*

Domain name must start with (a-z, 0-9). Cannot end or start, but may contain a hyphen and is not case-sensitive.

After the domain name is successfully applied for, the domain name will be listed as below.

Search by Domain:

*Click a name to edit your domain settings.*

NAME	STATUS	DOMAIN
654321ABC	✓	654321abc.dvrddns.com

Last Update: *Not yet updated* IP Address: 210.21.229.130

[Create additional domain names](#)

3. Enter the username, password, domain you apply for in the DDNS configuration interface.
4. Click “Save” to save the settings.

## 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 Config→Network→SNMP.



SNMP v1/v2	
<input type="checkbox"/> Enable SNMPv1	
<input type="checkbox"/> Enable SNMPv2	
Read SNMP Community	<input type="text"/>
Write SNMP Community	<input type="text"/>
Trap Address	<input type="text"/>
Trap Port	<input type="text" value="0"/>
Trap community	<input type="text"/>
SNMP v3	
<input type="checkbox"/> Enable SNMPv3	
Read User Name	<input type="text"/>
Security Level	<input type="text" value="auth, priv"/>
Authentication Algorithm	<input checked="" type="radio"/> MD5 <input type="radio"/> SHA
Authentication Password	<input type="text"/>
Private-key Algorithm	<input checked="" type="radio"/> DES <input type="radio"/> AES
Private-key Algorithm	<input type="text"/>
Write User Name	<input type="text"/>
Security Level	<input type="text" value="auth, priv"/>
Authentication Algorithm	<input checked="" type="radio"/> MD5 <input type="radio"/> SHA
Authentication Password	<input type="text"/>
Private-key Algorithm	<input checked="" type="radio"/> DES <input type="radio"/> AES
Private-key Algorithm	<input type="text"/>
Other Settings	
SNMP Port	<input type="text" value="0"/>

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 as the same as the settings of the SNMP software.

**Note:** Please use the different version in accordance with the security level you required. The higher the version is, the higher the level of the security is.

## 5.6.6 802.1X

IEEE802.X which is an access control protocol manages the device in connection with the local network by authentication. The setup steps are as follows:

<input checked="" type="checkbox"/> Enable	
Protocol Type	EAP_MD5
EAPOL Version	1
User Name	test
Password	•••••
Confirm Password	•••••

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 Config→Network→RTSP.

<input checked="" type="checkbox"/> Enable	
Port	554
Address	rtsp://IP or domain name:port/profile1
	rtsp://IP or domain name:port/profile2
	rtsp://IP or domain name:port/profile3
Multicast address	
Main stream	239.0.0.0 50554 <input type="checkbox"/> Automatic start
Sub stream	239.0.0.1 51554 <input type="checkbox"/> Automatic start
Third stream	239.0.0.2 52554 <input type="checkbox"/> Automatic start
Audio	239.0.0.3 53554 <input type="checkbox"/> Automatic start
<input type="checkbox"/> Allow anonymous login (No username or password required)	
Save	

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 VLC player, 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.

**Note:** 1. This camera support local play through a VLC player. Enter the RTSP address (unicast or multicast, eg. rtsp://192.168.0.2:554/profile1?transportmode=mcast) in a VLC player to realize the simultaneous play with the web client.

2. The IP address mentioned above cannot be the address of IPv6.

3. Avoid the use of the same multicast address in the same local network.

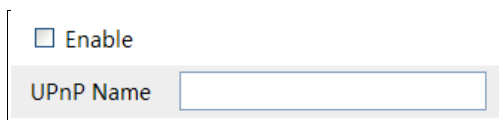
4. When playing the video through the multicast streams in a VLC player, please pay attention to the mode of the VLC player. If it is set to TCP mode, the video cannot be played.

5. If the coding format of the video of the main stream is MJPEG, the video may be disordered at some resolutions.

## 5.6.8 UPnP

If this function is enabled, the camera can be quickly accessed through the LAN.

Go to Config→Network→UPnP. Enable UPnP and then enter UPnP name.



The image shows a configuration window for UPnP. It contains a checkbox labeled "Enable" which is currently unchecked. Below the checkbox is a text input field labeled "UPnP Name" which is empty.

## 5.6.9 E-mail

If you need to trigger Email when an alarm happens or IP address is changed, please set the Email here first.

Go to Config→Network →Email.

The screenshot displays a configuration window for SMTP settings, divided into two main sections: "Sender" and "Recipient".

**Sender Section:**

- Sender Address:** A text input field containing "XXX@126.com".
- User Name:** A text input field containing "XXX@126.com".
- Password:** A text input field with masked characters (dots).
- Server Address:** A text input field containing "smtp.126.com".
- Secure Connection:** A pull-down menu currently set to "Unnecessary".
- SMTP Port:** A text input field containing "25", with a "Default" button next to it.
- Send Interval(S):** A checkbox is unchecked, followed by a text input field containing "0" and a range indicator "(0-3600)". Below this are "Clear" and "Test" buttons.

**Recipient Section:**

- A list box containing one entry: "XXX@126.com".
- Recipient Address:** A text input field is empty.
- Below the input field are "Add" and "Delete" buttons.
- A "Save" button is located at the bottom right of the Recipient section.

**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 "Test" 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 Config→Network →FTP.

Port Server DDNS SNMP 802.1X RTSP UPnP Email **FTP** HTTPS QoS

Server Name	Server Address	Port	User Name	Upload Path
<b>Add FTP</b> [X]				
Server Name	<input type="text"/>			
Server Address	<input type="text"/>			
Upload Path	<input type="text" value="Example/Dir/folder"/>			
Port	<input type="text" value="21"/>			
User Name	<input type="text"/>		<input type="checkbox"/> Anonymous	
Password	<input type="password"/>			
[OK] [Cancel]				

[Add] [Modify] [Delete] [Test] [Save]

**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 Config → Network → HTTPS as shown below.

Enable

Certificate installed	C=CN, ST=GD, L=SZ, O=embeddedsoftware, OU=IPC, H=localhost, E=com.cn	[Delete]
-----------------------	--	----------

Attribute: Issued to: C=CN, ST=GD, L=SZ, O=embeddedsoftware, OU=IPC, H=localhost, E=com.cn, Issuer: C=CN, ST=GD, L=SZ, O=embeddedsoftware, OU=IPC, H=localhost, E=com.cn, Validity date: 2017-07-26 01:02:07 ~ 2022-07-26 01:02:07

[Save]

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://192.168.0.2:443`).

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.

The screenshot shows a configuration window with an 'Enable' checkbox at the top. Below it, the 'Installation type' section has three radio button options: 'Have signed certificate, install directly' (which is selected), 'Create a private certificate', and 'Create a certificate request'. At the bottom, there is an 'Install certificate' label followed by a text input field, a 'Browse' button, and an 'Install' button. A 'Save' button is located at the bottom right of the window.

- \* 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.

This screenshot shows the same configuration window, but now 'Create a private certificate' is selected under 'Installation type'. Below this section, there is a 'Create a private certificate' label followed by a blue 'Create' button. The 'Save' button remains at the bottom right.

Click “Create” 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.

This screenshot shows the configuration window with 'Create a certificate request' selected under 'Installation type'. Below this section, there is a 'Create a certificate request' label followed by three buttons: 'Create', 'Download', and 'Delete'. The 'Save' button is at the bottom right.

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 P2P (Optional)

If this function is enabled, the network camera can be quickly accessed by adding the device ID in mobile surveillance client or CMS/NVMS client via WAN. Enable this function by going to Config→Network→P2P interface.

**Note:** This function is only available for some specified models.

## 5.6.13 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 Config→Network→QoS.

Video/Audio DSCP	<input type="text" value="13"/>
Alarm DSCP	<input type="text" value="35"/>
Manager DSCP	<input type="text" value="53"/>

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 Configuration

Go to Config→Security.

Add    Modify    Delete			
Index	User Name	User Type	Binding MAC
1	admin	Administrator	

#### Add user:

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

**Add User** ×

User Name

Password

Level

9~15 characters, including at least two of the following categories: numbers, special characters, upper case letters, lower case letters.

Confirm Password

User Type

Bind MAC

2. Enter user name in “User Name” textbox.

3. Enter the password in the “Password” and “Confirm Password” textbox. Please set the

password according to the requirement of the password security level (Go to Config→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 “OK” 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 “Modify”.

The screenshot shows the "Edit User" dialog box. It includes a "Modify Password" checkbox which is checked. The "User Name" field is filled with "admin". There are empty text boxes for "Old Password", "New Password", and "Confirm Password". The "Level" field has a dropdown menu. Below the "Level" field, there is a note: "9~15 characters, including at least two of the following categories: numbers, special characters, upper case letters, lower case letters." The "Bind MAC" field contains "00:00:00:00:00:00" and has an unchecked checkbox next to it. At the bottom right, there are "OK" and "Cancel" buttons.

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 “OK” 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 “Delete” to delete the user.

**Note:** The default administrator account cannot be deleted.

## 5.7.2 Online Video User

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



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

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

### 5.7.3 Block and Allow Lists

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

The screenshot shows the 'IP/MAC Address Filter Settings' window. It has a title bar with the same text. Below the title bar, there is a checked checkbox for 'Enable address filtering'. Underneath, there are two radio buttons: 'Block the following address' (which is selected) and 'Allow the following address'. To the left of these options is a large empty text box. To the right, there are 'Add' and 'Delete' buttons. Below these is an input field containing '0.0.0.0'. To the right of the input field are three radio buttons: 'IPv4' (selected), 'IPv6', and 'MAC'. At the bottom center is a 'Save' button.

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 “Add”.

### 5.7.4 Security Management

Go to Config→Security→Security Management as shown below.

The screenshot shows the 'Security Service Password Security' window. It has a title bar with 'Security Service' and 'Password Security'. Below the title bar, there is a checked checkbox for 'Enable "locking once illegal login" function'. At the bottom right is a 'Save' button.

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**

The screenshot shows the 'Password Security' window. It has a title bar with 'Security Service' and 'Password Security'. Below the title bar, there are two settings: 'Password Level' with a dropdown menu set to 'Weak', and 'Expiration Time' with a dropdown menu set to 'Never'.

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

### 5.8.1 Backup & Restore

Go to Config→Maintenance→Backup & Restore.

**Import Setting**

Path

**Export Settings**

**Default Settings**

Keep

Network Config

Security Configuration

Image Configuration

- **Import & Export Settings**

Configuration settings of the camera can be exported from a camera into another camera.

1. Click “Browse” to select the save path for import or export information on the PC.
2. Click “Import Setting” or “Export Setting”.

- **Default Settings**

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

## 5.8.2 Reboot Device

Go to Config→Maintenance→Reboot.

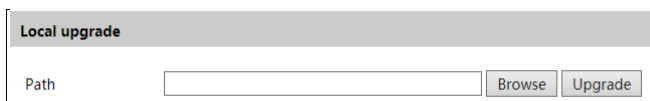
Click “Reboot” to reboot the device.

### 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 “Save” to save the settings.

## 5.8.3 Upgrade

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



The screenshot shows a web interface titled "Local upgrade". It contains a text input field labeled "Path", a "Browse" button, and an "Upgrade" button.

1. Click “Browse” to select the save path of the upgrade file

2. Click “Upgrade” to start upgrading the firmware.

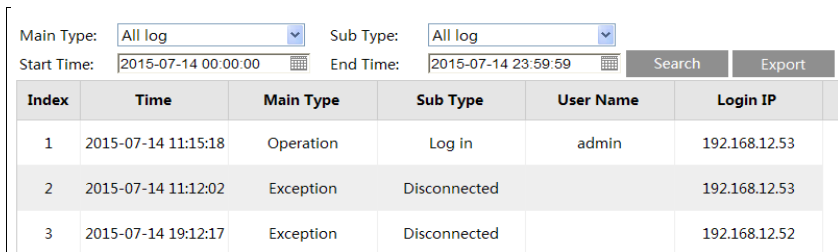
3. The device will restart automatically

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

## 5.8.4 Log

To query and export log

1. Go to Config→Maintenance→Operation Log.



The screenshot shows the "Operation Log" interface. It includes search filters for "Main Type" (All log), "Sub Type" (All log), "Start Time" (2015-07-14 00:00:00), and "End Time" (2015-07-14 23:59:59). There are "Search" and "Export" buttons. Below the filters is a table with the following data:

Index	Time	Main Type	Sub Type	User Name	Login IP
1	2015-07-14 11:15:18	Operation	Log in	admin	192.168.12.53
2	2015-07-14 11:12:02	Exception	Disconnected		192.168.12.53
3	2015-07-14 19:12:17	Exception	Disconnected		192.168.12.52

2. Select the main type, sub type, start and end time.

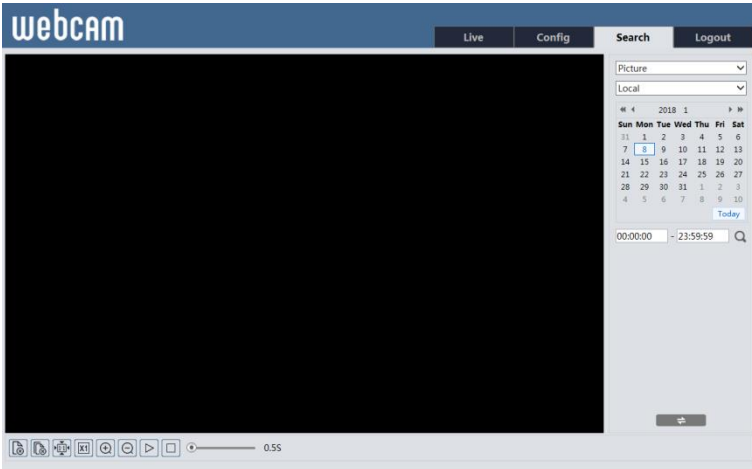
3. Click “Query” to view the operation log.

4. Click “Export” to export the operation log.


## Chapter 6 Playback

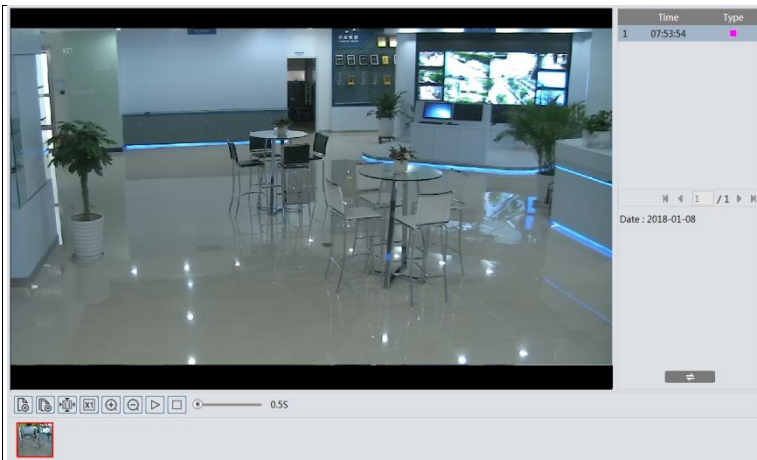
### 6.1 Image Search


Click Search to go to the interface as shown below. Images that are saved on the SD card can be found here.



#### ● Local Image Search

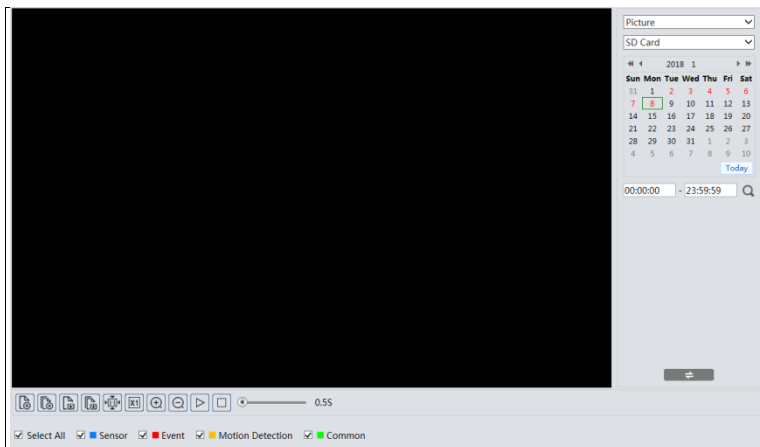
1. Choose “Picture”—“Local”.
2. Set time: Select date and choose the start and end time.
3. Click  to search the images.
4. Double click a file name in the list to view the captured photos as shown above.





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.

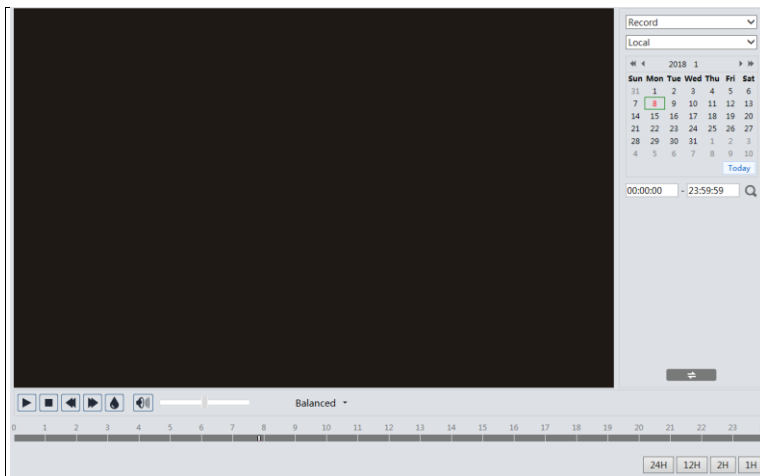
The descriptions of the buttons are shown as follows.


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.
	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.

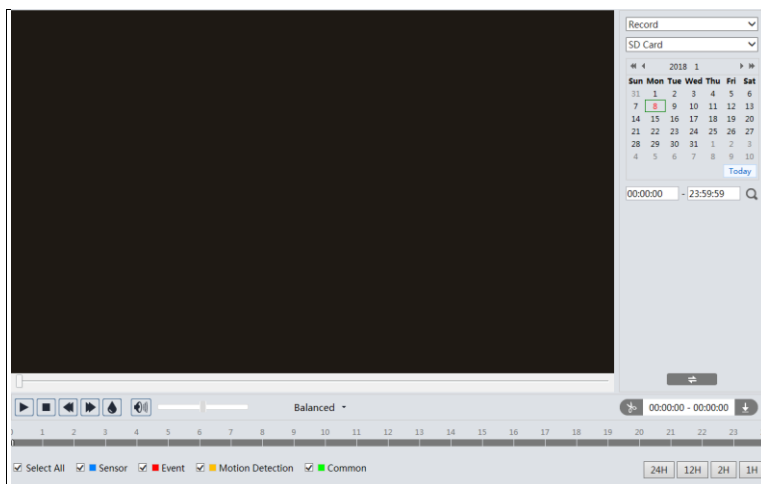


Icon	Description	Icon	Description
	Play button. After pausing the video, click this button to continue playing.		Pause button
	Stop button		Speed down
	Speed up		Watermark display
	Enable / disable audio; drag the slider to adjust the volume after enabling audio.		

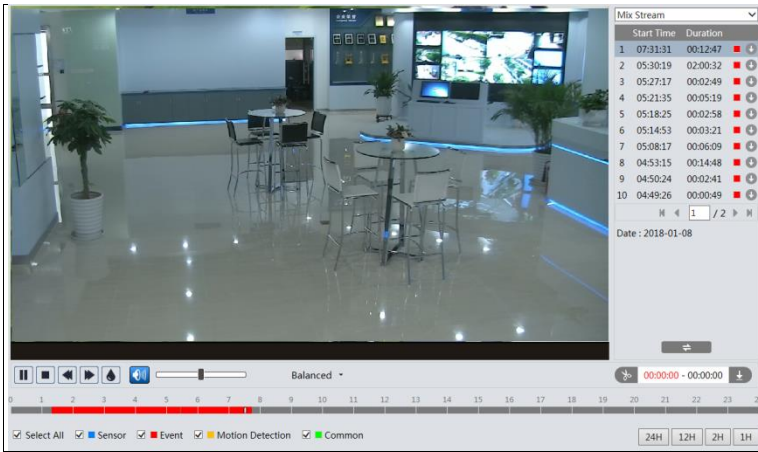
## 6.2.2 SD Card Video Search

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.

Index	Process	Record	Start Time	End Time	Path	Operate
1	100%	Cut	2018-01-16 01:1...	2018-01-16 01:1...	Favorites	Open

Set up D:\Favorites Clear List Close

- 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.



## Chapter 7 Face Match Result Search

Click “Face Log” tab to go to the face recognition result search interface.

Set the start time and end time and click “Search” to view the face recognition result.

A photo of each recognized face is marked with a colored bar.

The red color of the bar means no comparison result. Green color means there is a comparison result. White color means that the recognized face has not been compared with the face database. The most common reason for such a situation is that, the camera waits for the comparison operation when the “Comparison in free time” option is enabled. Clicking the picture marked with green color displays the following face comparison information.

Comparison information			
Similarity	89 %	Similarity threshold	75 %
Snapshot time	2019-07-13 08:16:43 759	Face ID	10698
Personnel information			
Name	lqj	Gender	Female
Age	0	Type	Stranger
Tel		ID number	
Remark			

## Chapter 8 Q & A

### 1. Q: I forget the password. How can I do?

Reset the system to the factory default setting or contact the dealer.

Default IP: 192.168.0.2

User name: admin

Password: 12345

### 2. Q: The devices can't connect through IE browser. Why?

- ① Network is not connected well. Please check the connection and make sure it is connected well.
- ② IP is not available. Reset the valid IP.
- ③ Web port number has been revised: contact administrator to get the correct port number.
- ④ Exclude the above reasons. Restore the default setting by IP-Tool.

Note: The default IP: 192.168.0.2, mask number: 255.255.255.0

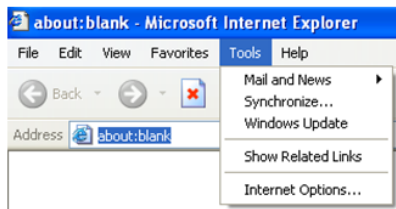
### 3. Q: IP tool cannot search devices. How can I do?

It may be caused by the anti-virus software in your computer. Please exit it and try to search device again.

### 4. Q: IE cannot download ActiveX control. How can I do?

IE browser blocks ActiveX. Please do setup following below.

- ① Open IE browser. Click Tools-----Internet Options....



- ② Select Security-----Custom Level....Refer to Fig 4-1.
- ③ Enable all the sub options under "ActiveX controls and plug-ins". Refer to Fig 4-2.

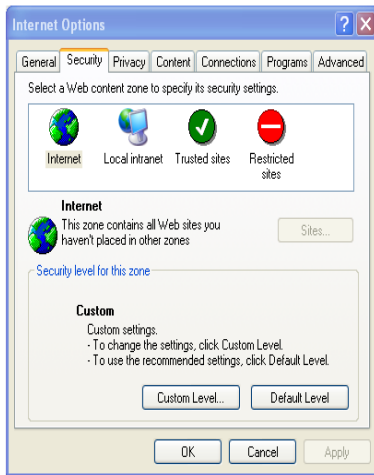


Fig 4-1

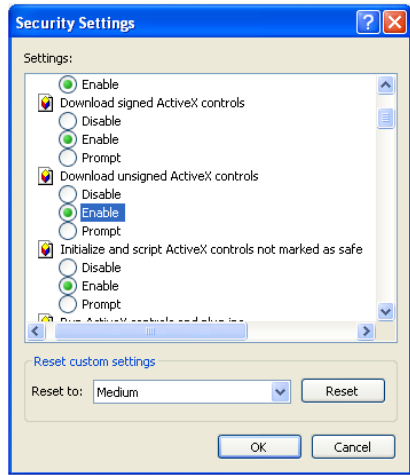


Fig 4-2

④ Then click OK to finish setup.

Other plug-ins or anti-virus blocks ActiveX. Please uninstall or close them.

### 5. Q: Why does the device fail to sound?

The audio input device is not connected. Please connect and try again.

The audio function is not enabled at the corresponding channel. Please check AUDIO item to enable this function.

### 6. Q: How to do when the device is unable to start normally when upgrading?

If the device is unable to start normally when upgrading, please rename the files suffixed with .tar as updatepack.tar and copy it to the root directory of SD card. Restart the device and then the device will upgrade automatically from the SD card. After finishing upgrading, the user can search the IP address of IP Cam in the IP Tool.

## Appendix Preset Description

Call Preset	Call NO.90 Preset	Run track 1
	Call NO.91 Preset	Run cruise 1
	Call NO.92 Preset	Run cruise 2
	Call NO.93 Preset	Run cruise 3
	Call NO.94 Preset	Run cruise 4
	Call NO.95 Preset	OSD menu
	Call NO.97 Preset	Enable random scan
	Call NO.99 Preset	Enable P-P SCAN
	Call NO.100 Preset	Wiper ON
	Call No.101 Preset	Wiper OFF
Set Preset	Set NO. 91 Preset	Set random scan; task auto call the start position
	Set NO. 92 Preset	Set left border of P-PSCAN
	Set NO. 93 Preset	Set right border of P-PSCAN
	Set NO.94 Preset three times	Set the boundary value of the near and middle infrared light
	Set NO.95 Preset three times	Set the boundary value of the middle and far infrared light

# Warranty

Product Name	Network Camera	Warranty Term
Model name	NT2100PT-IR-Z25W NT2100PT-IR-Z32W NT4100PT-IR-Z25W NT4100PT-IR-Z37W	1 years after purchase (This warranty term can be changed by contract for supply.)
Purchase Date	/ / /	
Warranty Term	/ / /	
Serial No		

Customer's address	Name	
	Contact	
Address of shop(Company name)	Name	
	Contact	

◆ Please fill out vacant area before selling products.

## ★ For customer service ★

Please read through product manual before claiming customer service.

Any simple malfunctions due to customer's misunderstanding on the product will be fixed by customer's side.

For requesting service?

Please inform details of malfunctions correctly.

Free or non free repair will be decided based on details of warranty card.

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435-862 Korea

Main : TEL : +82-31-428-9300

Client Service : TEL : +82-1644-3421

The damage coming from following condition will be repaired at customer's cost.

- 1) Any damage comes from customer's carelessness.
- 2) In case not recommended power is entered.
- 3) In case user repair unit at their own.
- 4) Any damage comes from natural disaster (Fire, Flood, etc)
- 5) Consumable parts replacement.



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