

KEDACOM

User Manual for Panoramic Vehicle PTZ Camera

V1.1 (February, 2021)

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Target Audience

Administrators and Operators of Video Surveillance Products

Document Version

V1.1

Applicable Models

IPC981-T230 series


Software Version

V7R2

Related Document

Quick Start Guide

Convention

Icon	Convention
	Notes and warning: necessary supplement of operations

Sign	Convention
BOLD	Menu, e.g. Drag to Zoom
>	Connector between menus of different level, e.g. Settings > Camera

Safety Instruction

These instructions are intended to ensure that the user can use the product correctly to avoid danger or property loss. Please read this Guide carefully before using the product, and keep it properly for future reference. If the product cannot work normally or is damaged because the user does not follow the safety instructions, we shall not assume any responsibility.

Before installation, please follow the instructions below:

Instructions

1. Please adopt power supply in the safety voltage range.
2. If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble or repair the product yourself in any way.
3. Do not drop the camera or subject it to physical shock.
4. When cleaning the lens, please use a rubber dust blower to remove dust on the lens or filter, and use dry soft cleaning cloth to remove the dirt on camera surface. For some hard dirt, user can apply some detergent to the cleaning cloth and wipe gently. Never apply any volatile solvent, such as ethanol, benzene and diluents, to avoid damage to surface coating.
5. Do not focus the camera lens on strong light such as the sun or incandescent lamp. The strong light can cause overexposure or light leak (not camera malfunction), which may shorten camera lifetime.
6. Do not expose the camera in the environment not defined in the Manual. Maintenance and fee due to exposure of product in the wrong conditions will be user's responsibility.
7. Indoor Dome Camera cannot be installed at rainy or wet places. If the Indoor Dome Camera has a connecting rod on the bracket, make sure there is no hole on the rod to avoid water.
8. Outdoor Dome Camera must be completely sealed to avoid dampness. Make sure there is no hole on the connecting rod of bracket to avoid water.
9. While shipping the camera, pack it in the factory packing or use materials with equivalent quality.
10. When it is necessary to replace a part, please contact your dealer in advance and replace the part with specified model or part of the same features. We shall not assume any responsibility for problems caused by unauthorized replacement.
11. Do not shield the sensor at front of the lens housing.

Anti-thunder and Anti-surge

The camera adopts built-in anti-thunder technology and can withstand instant 4KV thunder when it is well grounded. To prevent damage caused by thunders exceeding the built-in anti-thunder level, an independent anti-thunder engineering must be carried out. When installing it outdoor, please note the following tips to reduce damage efficiently such as thunder.

1. The distance between the signal wire and the high-tension apparatus or high voltage cable should be at least 50m.

2. Try to route cables along the eave when installing outdoor.
3. When installing camera in an open field, route cables inside sealed steel pipes under the earth and ground the pipes with one point. Never route cables in aerial way.
4. In heavy thunderstorm area or high-tension zone (such as high voltage transformer substation), an extra superpower anti-thunder apparatus and lightning rod must be installed.
5. The anti-thunder and grounding design of outdoor apparatus and wires must consider the anti-thunder requirements of the building and conform to the requests of national and industrial standards.
6. The system must be grounded with equipotential. The grounding apparatus must be anti-interference and electrically safe. It cannot be short-circuited or hybrid connected to the null line of high-voltage power grid. When it is grounded independently, the ground impedance is $\leq 4\Omega$ and the earth lead section surface must be $\geq 25\text{mm}^2$.
7. The anti-thunder grounding wire of the dome camera uses multi-strand copper cable with section surface $\geq 4\text{mm}^2$ (strand diameter about $\geq 2.3\text{mm}$).

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1. Product Appearance

The vehicle panoramic speed dome camera IPC981 series apply “6+1” design, which enables the camera to view both the details and the panorama and perfectly realizes comprehensive surveillance. The camera adopts integrated design, the panoramic lens’ seamless splicing reduces image distortion and the close-up lens’ ultrahigh resolution catches every detail of the panorama precisely. Large-scale scene without dead angle ensures full coverage of the panoramic surveillance area and enables quick linkage; with the intelligent functions of the device, it could capture event snapshots, realize people arming in temporary scenarios and etc.; outputting images of ultrahigh 4K resolution, with 5G efficient transmission, it ensures stable real-time communication between the surveillance points and the back-end platforms. It could be used in the intelligent panoramic scenarios in major industries such as traffic, public security, urban management, road administration, court and etc.



Picture 1-1 Appearance

2. Start Up

 **Note:** You are responsible for risks of accessing cameras to the Internet, including but not limited to possible cyber-attack, hacking attack, virus infection and etc. This company is not responsible for the product failures and information disclosure caused thereby, but will provide timely technical support for the cameras.

Please refer to the *Quick Start Guide* for device installation and wiring.

After the camera is installed, configure parameters and functions through the web client. Please ensure the mutual network communication between the camera and PC before configuring.

Requirements of PC for installing the client:

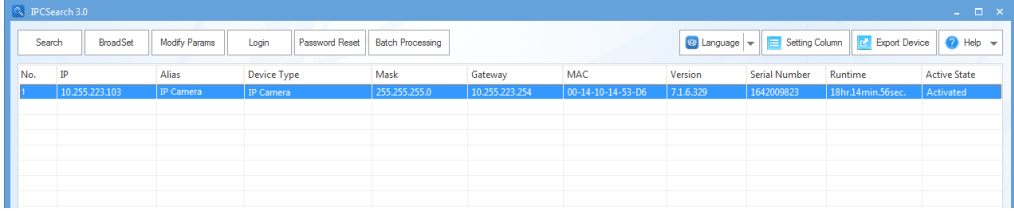
- Processor: Intel CORE®i5 series and higher versions
- Graphics Card: HD630 and above
- RAM Memory: 8GB and above
- Operating System: Windows 7 or higher versions
- Browser: Suggest using IE Kernel browser, otherwise it will affect some functions of the client
- WEB Plug-in: Hard decode plug-in
- DirectX: 9.0 c

2.1 Activate Camera

When the camera is first used, user should activate it and set the login password for normal use.

There are 2 methods to activate the camera: though IPCSearch or through browser.

- Activate through IPCSearch
 - a) Get IPCSearch from our web site: <https://www.kedacom.com/softtools/index:jhtml>, and install it according to the prompts;
 - b) After finishing installation, the system will search cameras in LAN automatically and display the list as shown below;

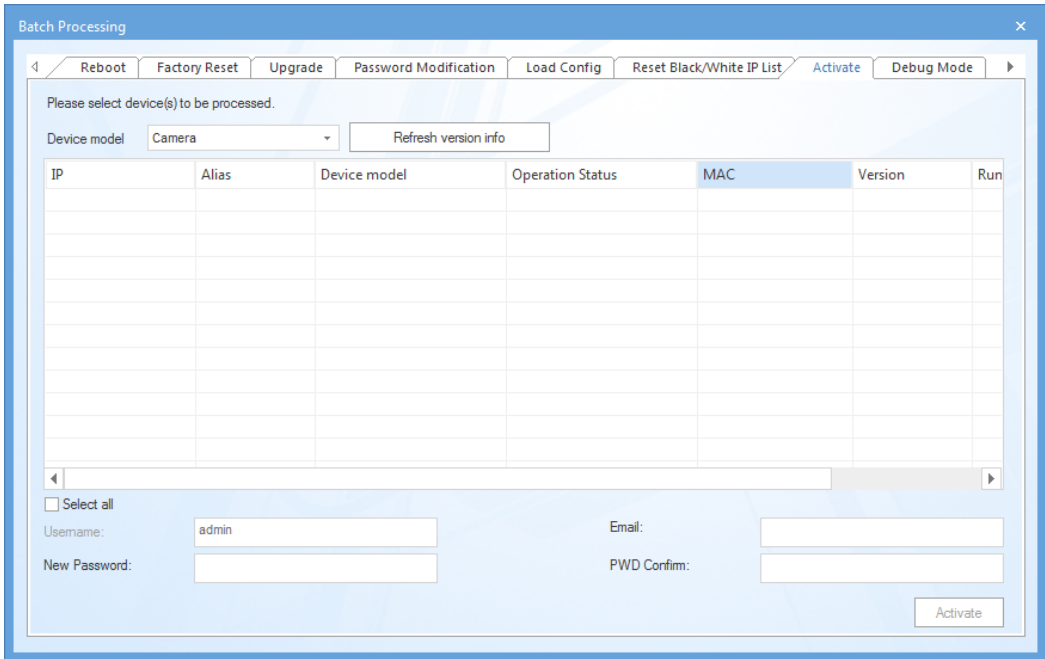


Picture 2-1 IPCSearch

i Note: Device type and alias is subject to actual search result.

c) Select the camera to be activated, right click and select "Activate". On the popup interface, configure admin user password and email for claiming password. Click "Activate".

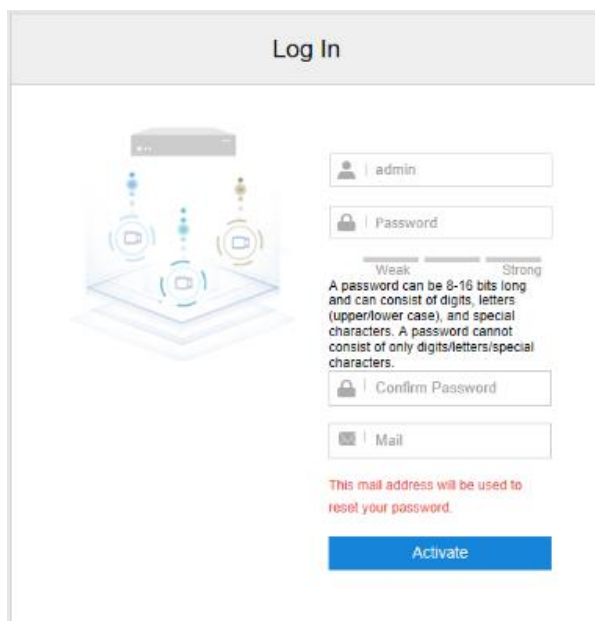
i Note: When there are more than one non-activated devices, select the devices and click "Batch processing". On the popup interface, set admin user's password and the email address to claiming password. Click "Activate" and wait for rebooting.



Picture 2-2 Activate through IPCSearch

➤ Activate through browser

a) Configure the IP addresses of PC in the same network segment as the camera and input the camera IP address in browser, the device activation interface will pop up, as shown below:



The screenshot shows a web browser window titled "Log In". On the left, there is a 3D diagram of a PTZ camera system. On the right, there is a form with the following elements:

- A text input field containing "admin".
- A password input field labeled "Password".
- A password strength indicator showing "Weak" and "Strong" levels.
- A note: "A password can be 8-16 bits long and can consist of digits, letters (upper/lower case), and special characters. A password cannot consist of only digits/letters/special characters."
- A text input field labeled "Confirm Password".
- A text input field labeled "Mail".
- A red warning message: "This mail address will be used to reset your password."
- A blue "Activate" button.

Picture 2-3 Activate through browser

- b) Configure admin user password and the email address for claiming password. Click "Activate" to activate the device.



Note:

- ◆ To ensure the safety of device on internet, it is strongly recommended that you set a strong password composed of at least 2 kinds of the following, numbers, upper-case letters, lower-case letters or specific symbols with length of 8 to 16 characters.
- ◆ Please modify the password periodically such as once every 3 months. If the device is used in highly risky environment, suggest modifying the password monthly or weekly.
- ◆ Please keep your username and password safe.

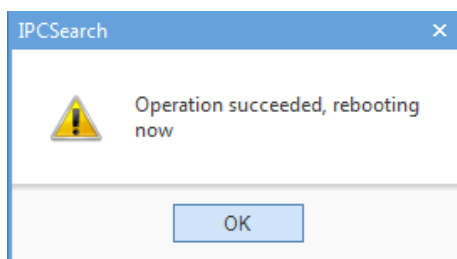
2.2 Quick Setting of Network Parameters

After activating the device, user can modify network parameters through IPCSearch quickly, including IP address, subnet mask, default gateway and etc.

- 1) Open IPCSearch and the system will search devices in the LAN automatically and display the result on the list;
- 2) Select a camera to be configured, click "Modify Params" or right click the mouse. Modify parameters and fill admin user name (admin) and the password set when activating the device.

Picture 2-4 Modify network Parameter

- 3) Click “OK” and in the popup window click “OK”. Wait for rebooting.



Picture 2-5 Reboot device

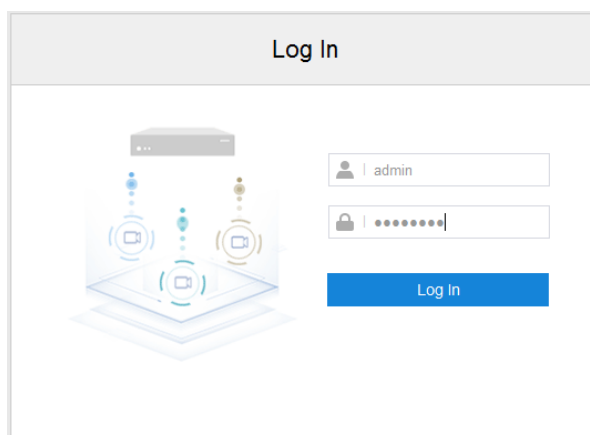
i Note: For more settings of camera network parameters, please log into the web client to configure and refer to chapter [7.1.1 Ethernet](#).

2.3 Log into and Log Out of the Client

- Log into the client


After being activated and modified, the device will reboot automatically. After reboot, select either of the following method to login to the client.

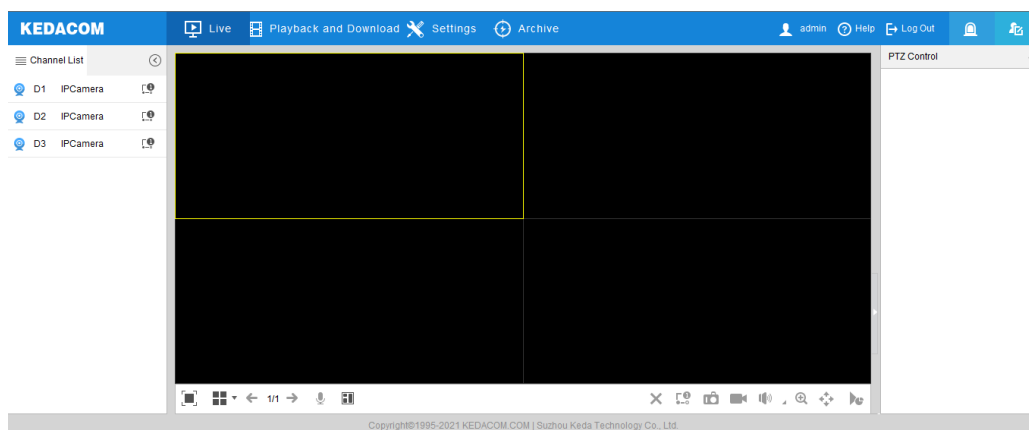
- Select the device from IPCSearch and click “Login” or double-click any position in the line where the device lies to enter the client. Input username “admin” and the password set during activation and click “Log In” to enter.
- Enter device IP address in the address bar of the browser and go to the login interface of the client. Input username “admin” and the password set during activation and click “Log In” to enter.



Picture 2-6 Client login interface

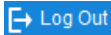
After logging in successfully for the first time, please download the plug-in and install it according to the prompts. During installation, please close all the browsers and when installation completes, please login again. The interface after logging in is as the following picture shows.

 **Attention:** Recommend using IE kernel browsers, otherwise some functions of the client may fail.




Picture 2-7 Client interface after login

- Log out of the client

Click the button  at the top right corner of the live view interface to log out safely.

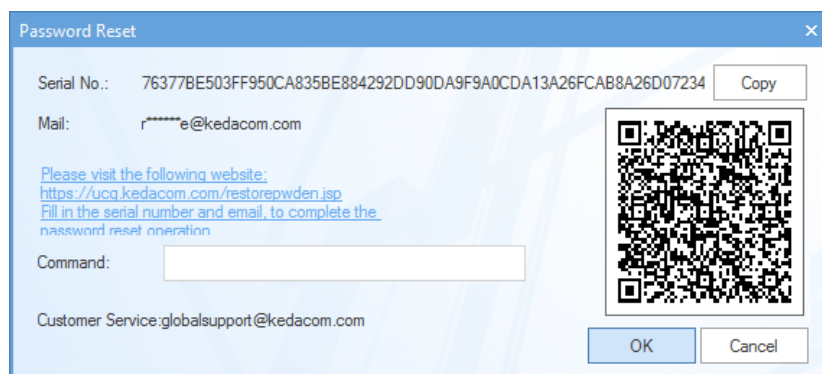
➤ Help

Click the button  at the top right corner of the live view interface to view the help file of the device.

2.4 Password Reset

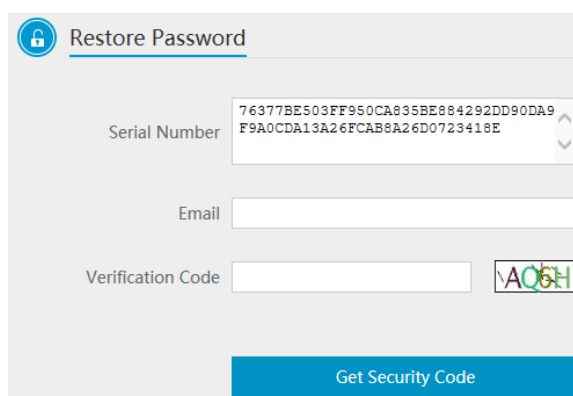
If user enters a wrong username or password for 3 times, the camera IP will be locked up for 10 minutes, during which user cannot login to this device. If user forgets the password, reset the password.

- 1) Open IPCSearch and select the device to be reset. Click “Password Reset” and the following window will pop up.



Picture 2-8 Password reset

- 2) Click the password reset link or scan the QR code in Picture 2-8 with a mobile device. Fill in the serial No. and mail address set during activation, as in picture 2-9. Click “Get Security Code”.



Picture 2-9 Reset password

- 3) Login to the email address to get a security code and fill in “Command” blank in Picture 2-8 and click “OK”. Please remember the new password and click “OK”. The device will reboot automatically.

2.5 Main Interface

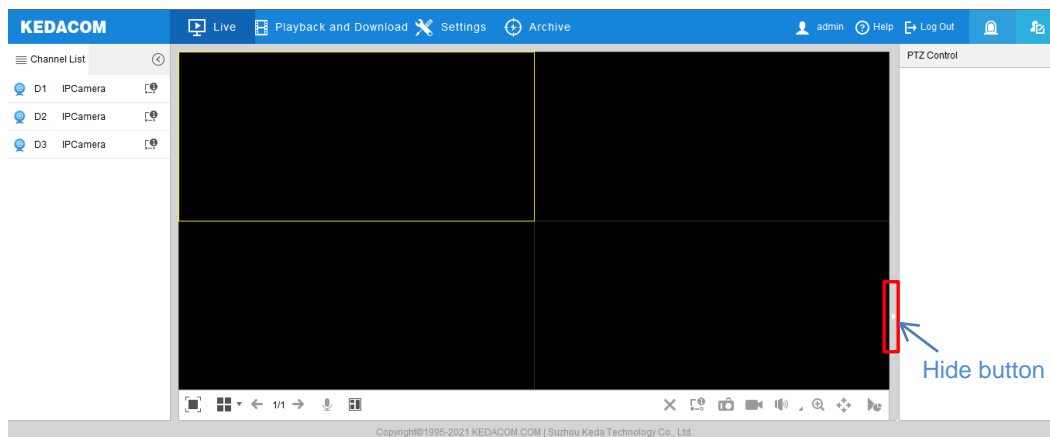
On the main interface of camera, you can view live video, playback and download video records, configure the device and etc.

- Live: preview camera live video and adjust image parameters;
- Playback and Download: search, playback and download video records or snapshots by timeline or record types;
- Settings: configure camera parameters and functions.
- Archive: configure the parameters of camera archive.



3. Basic Functions

3.1 Live View


Click “Live” to enter the browsing interface of the camera.



Picture 3-1 Live view

Click the icon  to the left of the window to hide channel list; click the icon  to show the list.

Click the hide icon to the right of the window to hide the panels of PTZ Control, Preset, Image Adjustment and Path; click again to unfold the panels.

 **Note:** When browsing different channels, the control panels to the right of the window are different. Please configure according to the actual interface of the device.

3.1.1 Channel List

The list displays all the video source channels of the camera.

 **Note:**


- ◆ By default, the D1 and D2 channels of the camera display the panoramic images while the D3 channel displays that of the close-up image.
- ◆ The panoramic image is 180° stitched image.

Select the live window and double-click the video source of the channel to be browsed to display the image of this channel in the live window.

: Channel offline.

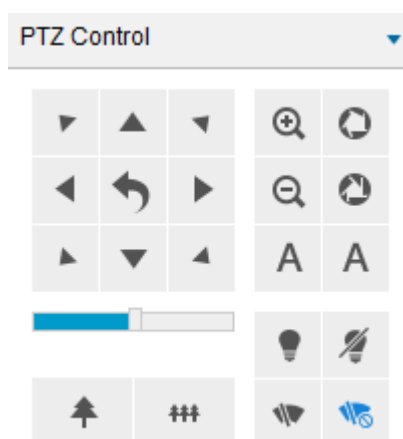
: Channel online.

: Channel being browsed.







: Channel video being recorded locally.


3.1.2 PTZ Control

Click **PTZ Control** to show the following interface:



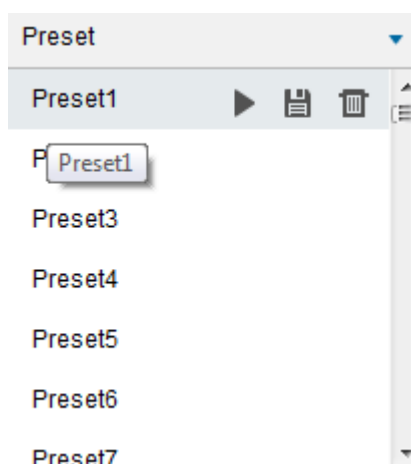
Picture 3-2 PTZ Control

Icon	Function
	Direction buttons, click the 8 direction buttons to rotate the image to different directions.  is the reset button, and click it to reset the close-up lens.
	Step length adjustment button, step length means the image rotation speed upon each click on the direction button. Drag the slide bar to adjust camera rotation step length. The larger the faster.
	Buttons to zoom in/ out the field of view, field of view means the viewing scope of the camera. The larger the field of view is, the wider the camera views.
	Focus near/ Focus far/ Auto focus buttons, click the buttons to adjust the definition of the object.
	Aperture+/- Aperture-/- Auto aperture, click the buttons to adjust aperture size.

	<p>Light on/ off buttons, click light on button to enable IR light detection, and when the light condition becomes dark, the IR light will be enabled to supplement illumination; click light off button, and even when the condition is dark, the IR light will not be on.</p>
---	---



3.1.3 Preset



Click **Preset** to show the following interface:



Picture 3-3 Preset

After setting and saving the presets, you can load, edit or delete them anytime. Alternatively, go to **Settings > Camera > PTZ > Preset** and configure. Please refer to chapter [5.5.3 Preset](#) for details.


 **Set:** Select a position and adjust lens direction and field of view to the requirements. Then select a preset from the list and click  to save the preset.

 **Load:** Click  to load a preset and the camera will rotate to the preset and display the image according to the set parameters.

 **Delete:** Click  to delete a preset.

3.1.4 Special Presets

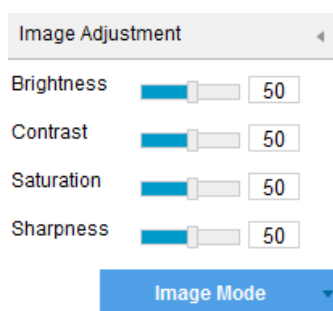
Special presets are presets having been set with default PTZ functions and on the live view interface, user can load special presets to realize corresponding functions. The corresponding relationship between special presets and their functions are shown in the following table:

 Note: Only channel D3 supports special presets. The special presets are non-editable.

Preset No.	Function	Preset No.	Function
33	Auto Flip	34	Return to Zero Position
35~38	Tour Scan 1~4	39	Day Mode
40	Night Mode	41~44	Mixed Scan 1~4
45	Preset Tour	46	Auto Night Cut
92	Configure Manual Restrictions	93	Confirm ManualRestrictions
94	Remote Reboot	95	Main Menu
96	Stop Scanning	97	Random Scan
98	Frame Scan	99	Pan Scan
100	Tilt Scan	101	Panoramic Scan
102~105	Tour Scan 5~8		

3.1.5 Image Adjustment

Click **Image Adjustment** to show the following interface:



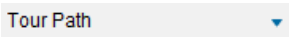
Picture 3-4 Image adjustment

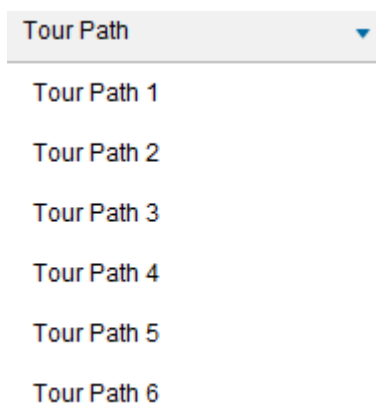
Drag the slide bars to adjust the brightness, contrast, saturation and sharpness of live image, or configure the values behind the slide bars.

- Brightness: Adjust current image brightness by actual request. The higher the value is, the brighter the image will be.
- Contrast: Adjust current image contrast by actual request. The higher the value is, the clearer contrast between the dark and the bright part of the image there will be.

- Saturation: Adjust current image saturation by actual request. The higher the value is, the fresher the image will be.
- Sharpness: Adjust current image sharpness by actual request. The higher the value is, the more distinct the objects on the image will look.
- Effect Parameters: Load pre-set image modes according to actual request. Configure in **Settings > Camera > Picture > Image Mode**. Please refer to chapter [5.1.10 Image Mode](#) for details.



3.1.6 Tour Path

Click  to show the control panel of tour path.








Picture 3-5 Tour path



The tour paths can be load anytime after they are set and saved. Go to **Settings > Camera > PTZ > Guard Tour** and configure. Please refer to chapter [5.5.5 Guard Tour](#) for details.

- ▶ Start Touring: Select a tour path and click  to start touring in this tour path.
- Stop Touring: Click  to stop touring in current tour path.




3.1.7 Live View Window

➤ Screen Layout














Icon	Function
	Click to browse all channels in full screen, and press Esc to exit full screen. Double-click the viewing window to display only this channel in full screen.
	Display only 1 viewing window, click  /  to view other windows.
	Display 4 viewing windows.



	Display 3 viewing windows, the top one displaying the panoramic image while the 2 windows below displaying the close-up images.
	Display image in the mode of "picture in picture", one main image overlaying one minor image, both in full screen.


➤ Stream Selection

Icon	Function
	Main stream, displaying HD image. The encoding format of live view, can be set in Settings > Camera > Video > Video Encoding .
	Secondary stream, displaying SD image. The encoding format of live view, can be set in Settings > Camera > Video > Video Encoding .
	Third stream, displaying SD image. The encoding format of live view, can be set in Settings > Camera > Video > Video Encoding .

➤ Viewing Toolbar

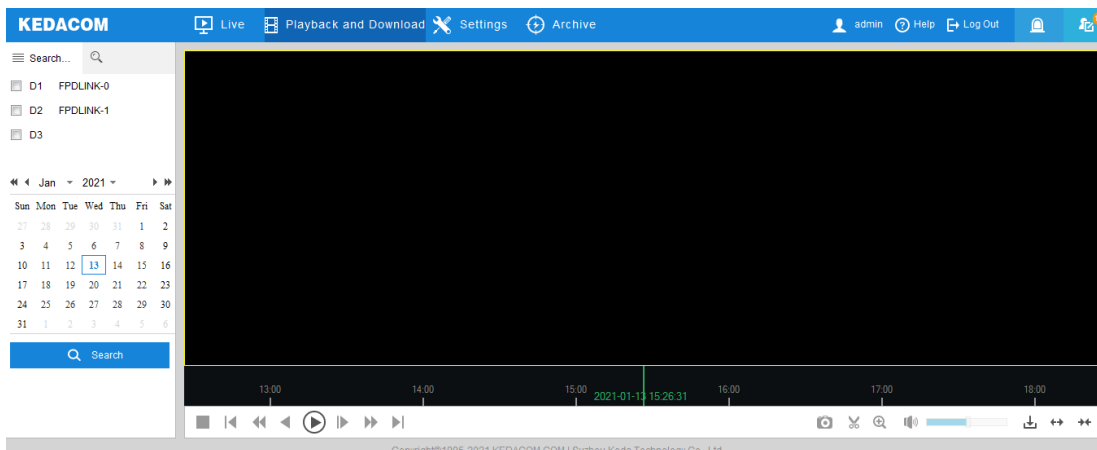
Icon	Function
	Previous/Next page, click the icon to flip over the viewing windows.
	Call, click to start calling, and click again to stop calling.
	Click the icon to display the intelligent snapshots to the right of the viewing window, including face and vehicle snapshots. Click the snapshot to view the panoramic image of the captured image channel. Click  to clear snapshots. Click  to select channel and display its snapshots. Configure the image parameters of channel D1 and D2 in Settings > Intelligence ; configure that of channel D3 in Settings > Event > Basic Intelligent Feature > Face Detection/ Car Plate Snapshot .
	Cancel viewing, click this icon to cancel the viewing channel and display black screen.
	Local snapshot, click to capture current image. The save path of snapshot can be configured in the client.
	Local recording, click to start video recording and click again to stop video recording.
	Volume, local audio decoding volume. Click the icon  and drag the slide bar  50 to adjust volume. The value for mute is 0. Click the icon  to select sound channel.
	Digital zoom-in, ePTZ function. Left click the icon and drag toward lower right to draw an area. The pixels of this area will be amplified and will cover the whole screen; left click and drag toward upper left

	to draw an area to recover.
	PTZ, click the icon to enable zooming. Left click and drag toward lower right to draw an area. The PTZ lens will rotate toward this position and this area will cover the whole screen; left click and drag toward upper left to draw an area to recover the image; double-click a point in the image to center this point.
	Statistics, click to show the stream information of the channel of the selected window, including video frame rate, video stream rate, video compression, video resolution and etc.

 Attention: When using PTZ function, after clipping image from the viewing window of the panoramic image, the close-up lens will rotate toward this position and display the part of image in full screen.

3.2 Playback and Download


Click “Playback and Download” to enter the interface and perform operations to video recordings on the SD card such as searching, viewing, downloading and clipping. The interface of “Playback and Download” is like the following.



Picture 3-6 Playback

There are two methods to playback and download video recordings, by time and by criteria. Operation steps are as follows:


➤ Search by time

- 1) Click  to enter “Search Time” interface. Select channels and the playback window will switch to proper layout according to the number of selected channels automatically. The calendar below the channel list refreshes automatically upon each selection of channels, and the date with a blue triangle at the bottom right corner means there is video recording on that day;









- 2) Select a date with video recording from the calendar below and click "Search" to display the video recordings on the timeline (the highlight parts on the timeline);
- 3) Click the "Play" button at the bottom of the interface to playback the video recording. During the playback, user can clip, accelerate and download the video recording through buttons on the toolbar;
- 4) Put the cursor of the mouse on the timeline to show the time of the video. Double-click or press the left button of the mouse and drag the timeline to the left or right to skip playing.







➤ Search by criteria


User can search and playback the video recordings of single or multiple channels in certain period of time by event type. Operation steps are as follows:

- 1) Click  to enter the interface of "Search Criteria". The default criteria is "Event" and the event type is "All";
- 2) Select channels from the channel list and set the "Start Time" and "End Time" of search duration. Click "Search" and the related videos will display on the list;
- 3) Select the video to be played and click the "Play" button to playback the video. During the playback, user can clip, accelerate and download the video recording through buttons on the toolbar;
- 4) Put the cursor of the mouse on the timeline to show the time of the video. Double-click or press the left button of the mouse and drag the timeline to the left or right to skip playing.

Toolbar buttons on the playback interface are explained in the following table:

Icon	Function
	Stop, click it to stop playing the video.
	Skip backward, click it and the video will skip backward by 30s, support continuous clicks.
	Skip forward, click it and the video will skip forward by 30s, support continuous clicks.
	Slow playback, click it to decelerate the playback speed, one click to decelerate by 1/2x and one more click by 1/4x, maximum by 1/16x.
	Fast playback, click it to accelerate the playback speed, each click to accelerate by 2x, maximum by 64x.
	Reverse playback/Pause, click it to reverse the playback and click again to pause.
	Play/Pause, click it to playback the video and click again to pause.
	Single-frame playback, each click on the icon plays one frame of image.

	Click the play button to recover playback.
	Snapshot, click the icon to capture current playback image. The save path for playback snapshots can be set in Settings > Local .
	Recording the playback video, click this icon to start recording of current video and click again to stop. The save path for recorded playback videos can be set in Settings > Local .
	Digital zooming, ePTZ function. Click this icon, left click and drag toward lower right to draw an area. The pixels of this area will cover the whole screen. Left click and drag toward upper left to draw an area, then image will recover.
	Volume, click the button to enable sound and click again to disable sound. Drag the slide bar to adjust volume.
	Download, click the icon to pop up the download interface. On the popup interface, select channel, file type and recording type, configure the start time and end time, and click “Query” to display the expected recordings on the list below. Select the files to be downloaded and click “Download”. User can view the download progress on the list and click “Stop” to stop downloading. The save path for downloaded recordings can be set in Settings > Local .
	Scale up/Scale down, adjust the scale base on the timeline. Click the icons to scale up or scale down the timeline. The scale bases on the timeline include 5 min, 10 min, 30 min and 60 min. Scaling up or down the timeline will not affect the playback time of current video.

 Note: Click “Download” to pop up the following interface. Select file type from the dropdown list and download the files.

Download

Channel List

- D1 IPCamera
- D2 IPCamera
- D3 IPCamera

Show All Channels

File Type Record data ▾

Recording Type All ▾

Start Time 2021-01-14 00:00:00 ▾ End Time 2021-01-14 23:59:59 ▾

ID	Channel	Start Time	End Time	Fragment Type	Download Progr...

Select All

Show All Channels
Query
Download
Close

Picture 3-7 Download

3.3 Local Setting

Go to **Settings > Local**. User can configure parameters of video playing, the size and save paths of video records and snapshots on local PC, as shown in the following picture.

Settings

Play

Protocol Type TCP UDP

Stream Type Main Preferred Secondary Preferred

Image Proportion Fill 4:3 16:9

Show Basic Intelligent Rules Enable Disable

Vertical Synchronization Enable Disable

Image Denoising Enable Disable

Denoising Level

Playback Performance Real-Time Balanced Smooth

Resume Previous Viewing Enable Disable

Recording

Record Block Size 256M 512M 1G

Save Path for Local Records During Viewing

Save Path for Clips During Playback

Save Path for Downloaded Records During Playback

Snapshot

Save Path for Snapshots During Viewing

Save Path for Snapshots During Playback

Downloaded Snapshot Save Path

Other

Download NVR Web Add-On

Picture 3-8 Local setting

➤ Play

- Protocol Type: Options include TCP and UDP, the default being TCP; UDP is applicable when the request for image quality is not high and the network is unstable.

- Stream Type: Options include “Main Preferred” and “Secondary Preferred”, and the default for playback is “Main Preferred”. The parameters of main and secondary streams can be configured in **Settings > Camera > Video > Video Encoding**.
 - Image Proportion: Options include “Fill”, “4:3” and “16:9”, to configure the aspect ratio of image displaying in live view window.
 - Vertical Synchronization: When there is image tearing, enable vertical synchronization to improve image quality. Usually it’s unnecessary to enable this option as it will increase CPU utilization.
 - Image Denoising: Select “Enable” to enable image noise reduction and drag the slide bar of “Denoising Level” which is maximum 4. This function could change the viewing resolution of current user. When the denoising level is too high, it may cause trailing on the image of moving objects. Usually it’s unnecessary to enable this function.
 - Playback Performance: Options include "Real-time", "Balanced" and "Smooth". “Balanced” mode gives consideration of both real-time and smooth playing; “real-time” mode ensures the shortest latency of video playing but affects the smoothness of the video; “smooth” mode ensures smooth playing of the video but affects the real-timing of the video.
 - Resume Previous Viewing: After selecting “Enable”, if user leaves the live view interface and comes back later, the window will continue playing the image of the previous channel before leaving. The default selection is “Disable”.
- Recording
- Record Block Size: Configure the size of single record file saved on PC, options including 256M, 512M and 1G.
 - Save Path for Local Records During Viewing: Configure the local save path for recordings recorded during live viewing. Click "Browse" to select a save path. Click “Open” to open the folder where the recordings are saved currently.
 - Save Path for Clips During Playback: Configure the local save path for video clippings clipped during playback. Click "Browse" to select a save path. Click “Open” to open the folder where the clippings are saved currently.
 - Save Path for Downloaded Records During Playback: Configure the local save path for recordings downloaded during playback. Click "Browse" to select a save path. Click “Open” to open the folder where the recordings are saved currently.
- Snapshot
- Save Path for Snapshots During Viewing: Configure the local save path for snapshots captured during live viewing. Click "Browse" to select a save path. Click “Open” to open the folder where the recordings are saved currently.

- **Save Path for Snapshots During Playback:** Configure the local save path for snapshots captured during playback. Click "Browse" to select a save path. Click "Open" to open the folder where the recordings are saved currently.
 - **Downloaded Snapshot Save Path:** Configure the local save path for snapshots downloaded during playback. Click "Browse" to select a save path. Click "Open" to open the folder where the recordings are saved currently.
- **Other**
- **Download NVR Web Add-On:** Log into the web client with IE Kernel browser, and click "Download NVR Web Add-On" to download. When logging into the client for the first time, it's necessary to download and install the add-on to browse live view normally.

4. Channel

4.1 Channel Setting

4.1.1 Advanced

Go to **Settings > Channel > Advanced** to upgrade the channels and ensure the upgrade is finished, as shown below. Operation steps are as follows:

Model

<input type="checkbox"/> CHN ID	Channel Name	IP Address	Software Version	Upgrade Status
<input type="checkbox"/> 1	IPCamera	255.255.255.255		
<input type="checkbox"/> 2	IPCamera	255.255.255.255		

Picture 4-1 Upgrade the channels

- 1) Select a model from the dropdown list of "Model";
- 2) Select the channel(s) to be upgraded (support single selection, multiple selection and all);
- 3) Click "Upgrade" and select the upgrade packet from the popup window;
- 4) The "Upgrade Status" column displays the upgrading progress.



Note:

- ◆ User can view the software version of each channel on the channel upgrade interface.
- ◆ Please wait patiently during upgrading, and no other operation is allowed.
- ◆ Only the channel D3 can be upgraded on this interface. The upgrade of the channel D1 and D2 should be done in **Settings > Maintenance > Device Maintenance** by clicking the button under "Upgrade". Please refer to chapter [12.4.1 Device Maintenance](#) for details.

4.2 Basic Parameters

4.2.1 Channel Name


Go to **Settings > Channel > Basic > Channel Name** to configure channel name. Operation steps are as follows:

IP Channel ID

Channel Name

Set as Logo

Set as Device Name

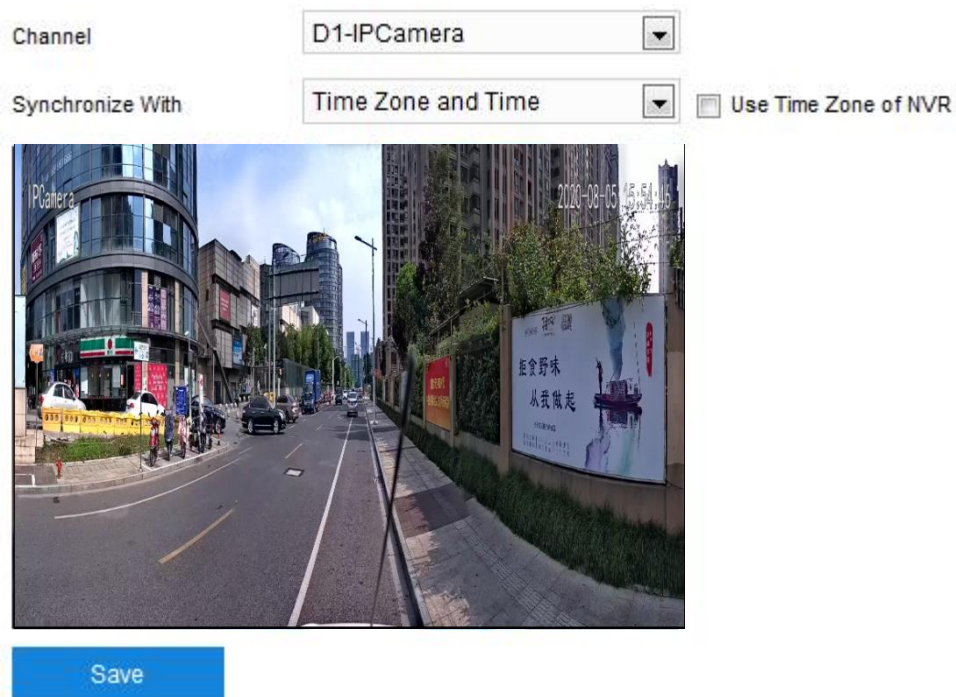


Picture 4-2 Channel name

- 1) Select a channel from the dropdown list of "IP Channel ID";
- 2) Configure channel name;
- 3) Select to set the channel name as OSD or as device name (only close-up camera supports);
- 4) Click "Save" to finish the configuration of channel name.

4.2.2 Time Synchronization

Go to **Settings > Channel > Basic > Time Synchronization** to configure channel time. Operation steps are as follows:



Picture 4-3 Time synchronization

- 1) Select a channel from the dropdown list of “Channel”;
- 2) Select time synchronization format;
 - Close: Disable time synchronization.
 - Timezone and Time: When this option is selected, user can select “Use Time Zone of NVR”, and the time of the channel will be synchronized to that of the device.
 - Local Time: When this option is selected, the time of the channel will be synchronized to that of the PC.
 - UTC Time: When this option is selected, the time of the channel will be synchronized to that of the UTC.
- 3) Click “Save” to finish the configuration of time synchronization.

5. Camera

Go to **Settings > Camera** to configure camera parameters, including picture, OSD, video, audio and PTZ interfaces.

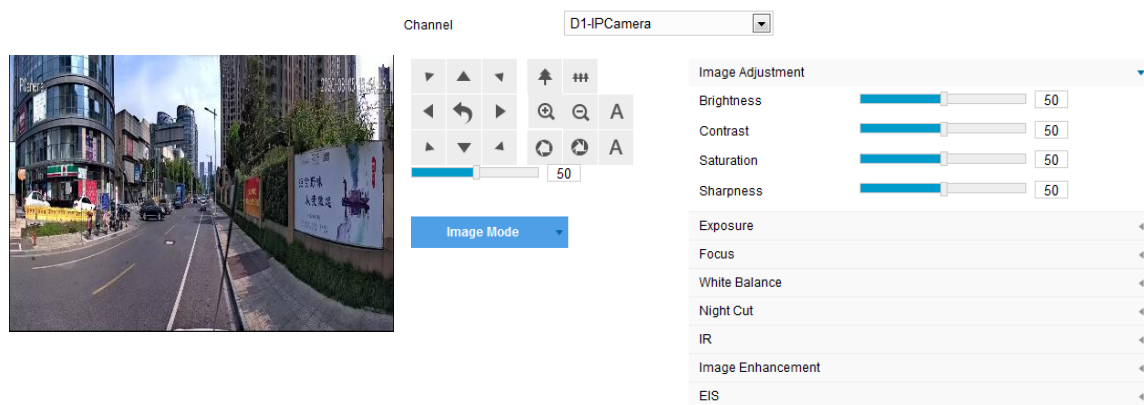
5.1 Image

Go to **Settings > Camera > Picture** and configure image parameters such as image adjustment, exposure, focus and etc.



Note:

- ◆ Select a channel from the dropdown list of “Channel” and configure the video sources respectively. The image parameters of different channels differ a little, so please subject to the actual interfaces.
- ◆ The image parameters of channel D1 and D2 can be edited synchronously, i.e. edit one of them and the other will change at the same time.



Picture 5-1 Picture

5.1.1 Image Adjustment

The image adjustment in this part is the same as that on the “Live” interface. Please refer to chapter [3.1.5 Image Adjustment](#).

5.1.2 Exposure

The screenshot displays the 'Exposure' configuration panel. It includes the following controls:

- Gain:** A dropdown menu set to 'Auto'.
- Gain Upper Threshold:** A slider bar with a value of 100.
- Aperture Mode:** A dropdown menu set to 'DC-IRIS Auto'.
- Aperture Sensitivity:** A slider bar with a value of 50.
- Shutter Mode:** A dropdown menu set to 'Auto'.
- Shutter Lower Threshold:** A dropdown menu set to '1/25'.
- Anti-flicker:** A dropdown menu set to '50hz', accompanied by a help icon (?)

Picture 5-2 Exposure

- **Gain:** A higher gain will make the image look brighter; meanwhile however, there will be more noise points on the image. Auto mode is suggested.
 - When selecting "Auto" mode, drag the slide bar below to set "Gain Upper Threshold". Then the value of gain can only be adjusted automatically within the range of 0 to the set upper threshold.
 - When selecting "Manual" mode, drag the slide bar below to set "Gain Level" and the value will remain.
- **Aperture Mode:** Aperture controls the light input through the lens. A large aperture allows more light input and the image looks bright. Options including "DC-IRIS Auto" and "DC-IRIS-Manual". Auto mode is suggested.
 - When selecting "DC-IRIS Auto", drag the slide bar to adjust the aperture sensitivity. Then the aperture will adjust its size automatically according to the outside environment. The higher the sensitivity is, the stronger the automatic adjustment will be.
 - When selecting "DC-IRIS Manual", drag the slide bar to set the value of aperture size and the aperture will remain as the size.
- **Shutter Mode:** Camera shutter means the exposure shutter speed of image pixels. The smaller the value is, the darker the image will look. Options include "Auto" and "Manual". Suggest "Auto".
 - When selecting "Auto", you can select shutter lower threshold from the dropdown list below. Then the shutter will be adjusted within the range from the lower threshold to the minimum shutter value automatically.
 - When selecting "Manual", you can select shutter level from the dropdown list below. Then the value of shutter will remain.

- Anti-flicker: When there are floating cross stripes on the image, select the correct anti-flicker frequency (50Hz or 60Hz or natural light) to solve the problem. The frequency should be in accordance with that of the nation's AC frequency and light frequency.

5.1.3 Focus



Note: Only the channel D3, the close-up channel supports configuration of focus.

Focus is the process of controlling a beam of light or particle flow to make it focused to one point as far as possible. It's necessary for imaging. Adjustment of focus mode will obtain the clearest image of the object.

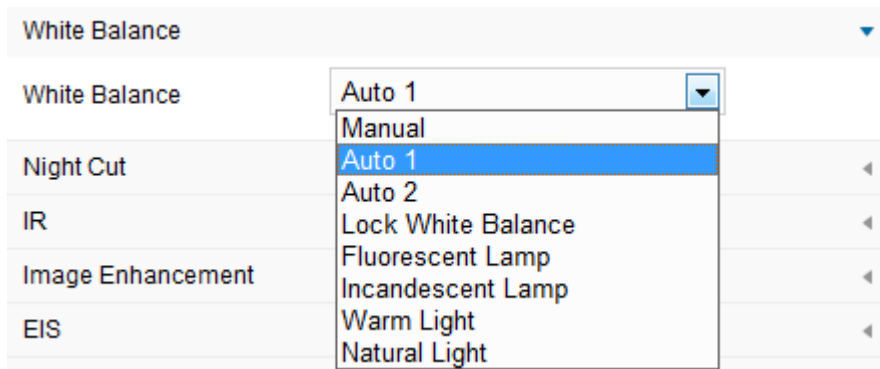
The screenshot shows a configuration panel for 'Focus'. At the top, there is a header 'Focus' with a downward arrow. Below it, there are two rows of controls. The first row is labeled 'Focus Mode' and has a dropdown menu currently showing 'Single Focus'. The second row is labeled 'Min Focus Distance' and has a dropdown menu currently showing '5m'.

Picture 5-3 Focus

- Focus Mode: Select focus mode from the dropdown list according to actual request. The default is auto focus.
 - Manual: On the “Live” interface, click the focus control buttons to focus manually.
 - Continuous Focus: When there is moving object in the image, the camera will focus automatically.
 - Single Focus: When the PTZ parameter changes, the camera will focus automatically once each time.
 - Camera Lock: Lock the parameters of current lens. Then the buttons of zooming and focusing on the “Live” interface will be disabled.
- Min Focus Distance: It means the minimum focus distance for the lens. Shorter than the minimum focus distance, the lens will be unable to focus clear automatically. Options include 30cm, 1m, 2m, 5m, 10m and 20m.

5.1.4 White Balance

Under different light conditions, there will be color cast in different images. White balance adjustment can restore the image to the most vivid status.



Picture 5-4 White Balance

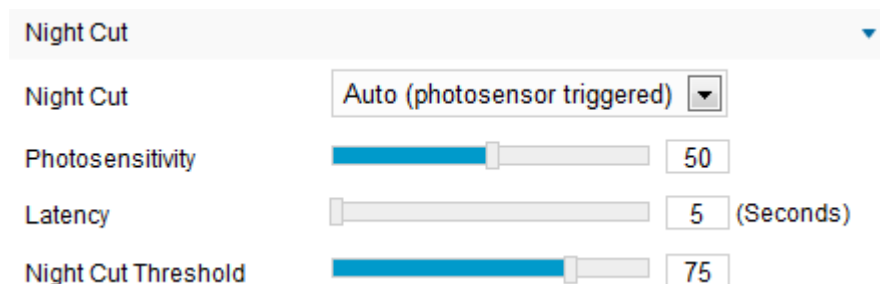
Select an option from the dropdown list of white balance mode. Suggest auto mode.

- Manual: support R Gain and B Gain adjustment.
- “Auto 2” has a larger white balance range than “Auto 1”, though both are auto modes.
- Lock White Balance: lock current color correction matrix.

If the camera works under light which provides fixed light condition, select from the following options according to actual environment.

- Fluorescent Lamp: for color temperature of 6500K.
- Incandescent Lamp: for color temperature of 3000K.
- Warm Light: for color temperature of 4000K.
- Natural Light: for color temperature of 5500K.

5.1.5 Night Cut



Picture 5-5 Night Cut

Select night cut mode from the dropdown list up to request. Explanation of different modes is as follows:

- Day: Under "Day" mode, the image always keeps colorful.
- Night: Under "Night" mode, the image always keeps black and white.

- Scheduled Day/Night: Under "Scheduled Day/Night" mode, click "Edit Time" and configure "Day Mode Start Time" and "Day Mode End Time" on the popup interface. The camera will switch day and night modes according to the scheduled durations.

Edit Time

	Day Mode Start Time	Day Mode End Time
<input type="checkbox"/> Everyday	07:00:00	18:00:00
<input checked="" type="checkbox"/> Sunday	07:00:00	18:00:00
<input type="checkbox"/> Monday	00:00:00	00:00:00
<input type="checkbox"/> Tuesday	00:00:00	00:00:00
<input type="checkbox"/> Wednesday	00:00:00	00:00:00
<input type="checkbox"/> Thursday	00:00:00	00:00:00
<input type="checkbox"/> Friday	00:00:00	00:00:00
<input type="checkbox"/> Saturday	00:00:00	00:00:00

Setting
Close

Picture 5-6 Edit time

- Auto (photosensor triggered): Camera detects the light strength of current environment with photoresistance, and determines to trigger switch by the returned value. When selecting this mode, configure photosensor sensitivity, latency and night cut threshold according to actual request.

 - Photosensitivity: The switch sensitivity from night mode to day mode. The lower the sensitivity is the higher light the camera requires switching to day mode; the higher the sensitivity is the lower light the camera requires.
 - Latency: When the camera detects the light condition meets the night cut threshold and remains for a longer time than the pre-set latency, it will switch automatically. The range is 5 s~ 120 s.
 - Night Cut Threshold: The switch threshold from day mode to night mode. The lower the value is, the harder it will switch to night mode.

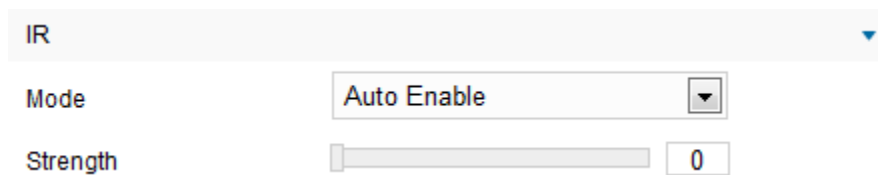
5.1.6 IR Light



Note: Only the channel D3, the close-up channel supports configuration of IR light.

Select mode from the dropdown list, options including "Close" and "Auto enable", and the default is "Auto enable". After selecting auto mode, when there is

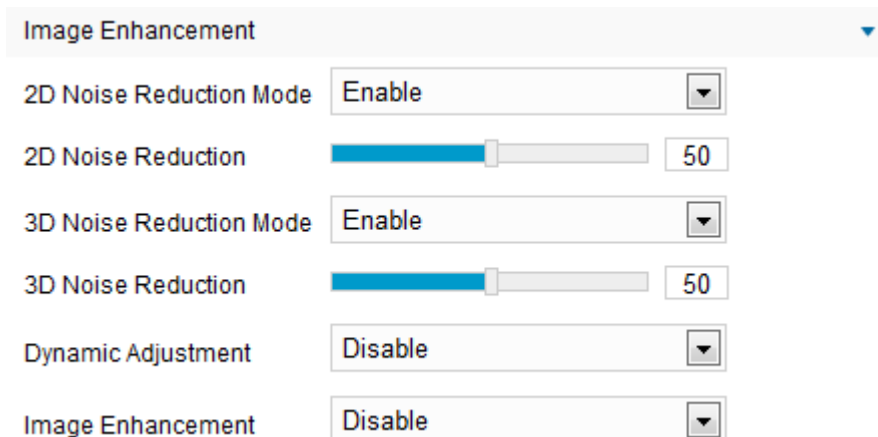
insufficient light in the scene, the camera will enable IR light automatically to obtain clear images. Drag the slide bars to adjust IR light strength.



Picture 5-7 IR light

5.1.7 Image Enhancement

When there are many noise points caused by environment and camera lens, noise reduction function can be enabled to correct images. Images processed by 2D noise reduction will look softer; while those processed by 3D noise reduction will have obviously fewer noise points and will look much clearer.



Picture 5-8 Image Enhancement

- 2D Noise Reduction: You can select "Enable" or "Disable". After enabling, you can drag the slide bar to adjust 2D noise reduction level.
- 3D Noise Reduction: You can select "Enable" or "Disable". After enabling, you can drag the slide bar to adjust 3D noise reduction level.



Note: When the 3D noise reduction level is too high, there will be hauling tail on the image of moving objects. Usually, it's unnecessary to edit this parameter.

- Dynamic Adjustment: When there is strong light background, which causes sharp contrast between the light and the dark part of the image, you can adjust and optimize images through dynamic adjustment. Select a mode from the dropdown list according to actual requirements.
 - Disable: the default option is "Disable", which disables dynamic adjustment.

- Backlight compensation: Backlight compensation can provide optimal exposure of target when there is strong background light. When selecting "Backlight Auto", drag the slide bar to adjust "Backlight Sensitivity"; when selecting "Backlight Manual", drag the slide bar to adjust "Backlight Sensitivity" and select an option from the dropdown list of "Backlight Area". If selecting "Custom", click "Edit" below the image window and drag mouse to draw a backlight compensation area, and click "Setting" to finish. Click "Clear All" to delete the edited area.
- HLC: The HLC function can avoid unclear image caused by strong light interference. Select "HLC" from the drop-down list of Dynamic Adjustment and drag the slide bar of "HLC Level".
- WDR: WDR can provide optimal exposure when there is strong background light. Select "WDR" from the drop-down list of Dynamic Adjustment and drag the slide bar of "WDR Sensitivity".
- Smart IR: SmartIR can adjust IR light illumination automatically. Select "SmartIR" and drag the slide bar of SmartIR sensitivity.
- Image Enhancement: "Defog" is disabled by default. When there is slight fog in the scene, enable "Defog" and drag the slide bar to adjust the defog sensitivity.

5.1.8 EIS



Note:

- ◆ After enabling EIS, the field of view of the camera will be narrowed and the higher the EIS level is, the smaller the field of view will become.
- ◆ Only the channel D3, the close-up channel supports configuration of EIS.

When the camera is installed in unstable environment, enable EIS to improve the stability of images.



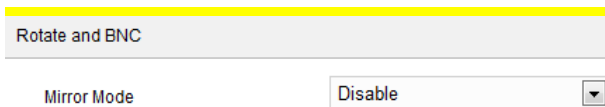
Picture 5-9 EIS

On the dropdown list of Mode, select "Enable" or "Disable" and drag the slide bar of EIS Level.

5.1.9 Rotate and BNC



Note: Only the channel D3, the close-up channel supports the configuration.



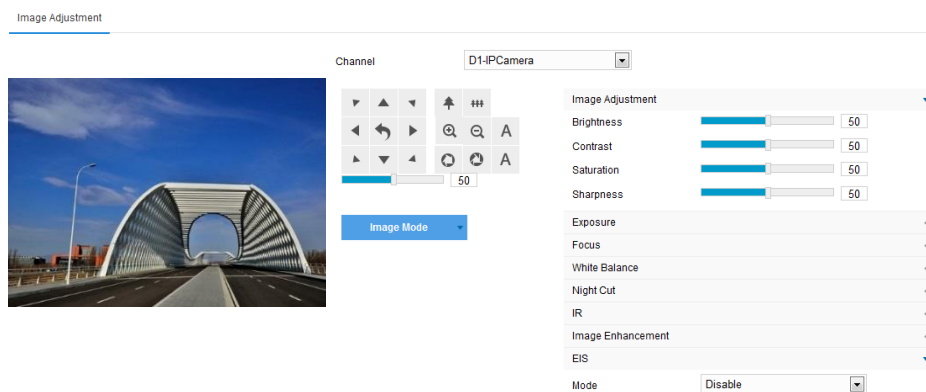
Picture 5-10 Rotate and BNC

Mirror Mode: When the camera is installed upside-down, correct the image upright by this function without re-installing the camera.

- **Disable:** Disable the mirror function and the image will not flip.
- **Up and Down:** The image will flip vertically but horizontally remains unchanged.
- **Left and Right:** The image will flip horizontally but vertically remains unchanged.
- **Center:** The image will flip by both vertically and horizontally.

5.1.10 Image Mode

Options of image mode include “Dynamic”, “Standard” and “Create Mode”.



Picture 5-11 Image mode

- **Standard:** Select “Standard” and all parameters will restore to defaults.
- **Dynamic:** Select “Dynamic” and configure the switch conditions on the popup interface, options including “Night Cut” and “Time Schedule”. If selecting the former, configure day scene mode and night scene mode; if selecting the latter, configure the start time and end time of switching.



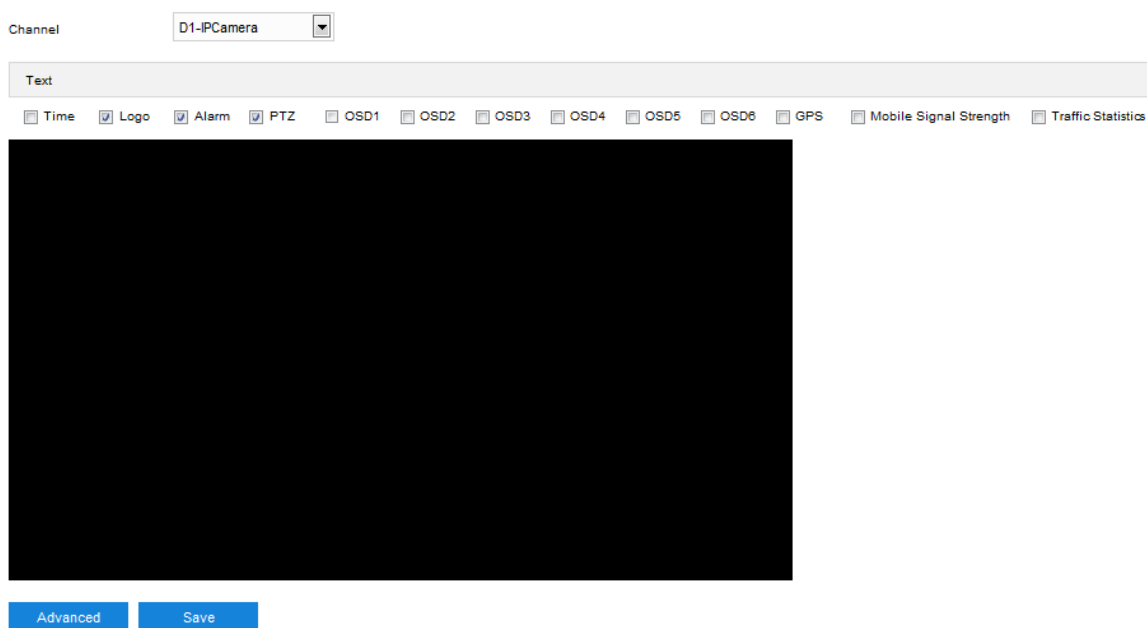
Picture 5-12 Dynamic mode

- **Create Mode:** Select “Create Mode” and enter “Scene Name” on the popup interface and click “OK”. Then all the configured parameters will be saved under the scene name and will show as a mode option on the dropdown list of “Image Mode” for future use.

5.2 OSD

OSD (on screen display) is the information displayed on the live interface. It could be the time, logo, alarm, PTZ and video information. Configuration steps are as follows:

- 1) Go to **Settings > Camera > OSD**;



Picture 5-13 OSD

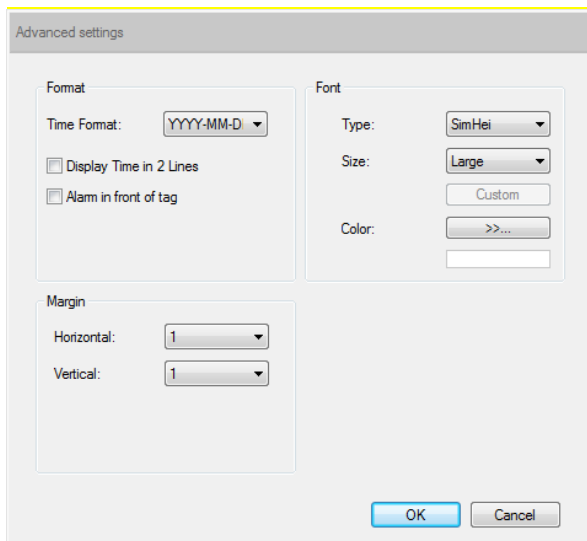
- 2) Select a channel from the dropdown list of “Channel”;



Note: The available OSD options for different channels are different. “GPS” and “Mobile Signal Strength” are only available for channel D1; PTZ is only available for channel D3.

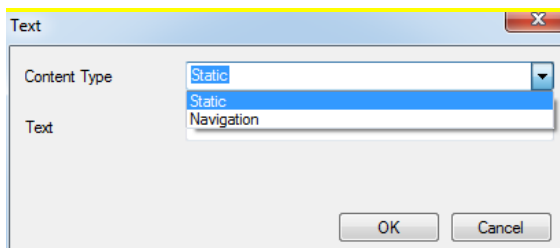
- 3) Select OSD options according to actual requirements, including "Time", "Logo", "Alarm", "PTZ" and "OSD";
- 4) Configure format. Click “Advanced” and set “Format”, “Font” and “Margin” on the popup interface;
 - Format configuration includes "Time Format" (“MM-DD-YYYY”, “YYYY-MM-DD” and “DD-MM-YYYY”), "Display time in 2 lines" (to display time and date in different lines) and "Alarm in front of tag" (to display alarm text over label text).
 - Font configuration includes font "Type", "Size" and "Color".

- Margin configuration includes adjustment of the distance between OSD border and image border, i.e. the distance from the yellow frame to the image border.



Picture 5-14 Advanced setting

- 5) Edit OSD texts: select the checkbox to show the content, double-click the OSD textbox on the image and input characters on the popup interface. Click "OK" to display the configured text;



Picture 5-15 Text setting

- 6) Edit OSD positions: select the OSD in the window and drag mouse to change its position. The white and light blue boxes can be moved freely in the yellow box and they can even overlap with each other. The time, label and alarm texts in white box can be moved with the box; while the custom texts and PTZ text in light blue box can be moved freely in the light blue box;
- 7) Click "Save" to validate setting.



Note:

- ◆ There is no light blue box in the panoramic channel, and the selected texts can be moved freely in the yellow box.
- ◆ The OSD box size changes with the font size, and the sizes of dark blue and light blue boxes change with the sizes of OSD boxes.
- ◆ PTZ text can be displayed as the settings in **Settings > Camera > PTZ > Basic**.

- ◆ A number, an English letter or a punctuation mark occupies one character, and the maximum length for each textbox is 32-character.

5.3 Video

Go to **Settings > Camera > Video** and configure Video Encoding, ROI and Privacy Mask.

5.3.1 Video Encoding

Go to **Settings > Camera > Video > Video Encoding** and configure video encoding parameters, including stream type, resolution, bit rate type and etc. You need to configure parameters for different channels respectively. The interface is like the following shows.

Channel	<input type="text" value="D1-IPCamera"/>	
Multi-Stream	<input type="text" value="Dual"/>	Parameter value changes take effect only after encoders are rebooted.
Stream Type	<input type="text" value="Main Stream"/>	
Resolution	<input type="text" value="1920*1080"/>	
Bitrate Type	<input type="text" value="CBR"/>	
Video Quality	<input type="text" value="Medium"/>	
Video Frame Rate	<input type="text" value="25"/>	Fps (1-30)
Bitrate Upper Limit	<input type="text" value="2048"/>	Kbps (256-32768)
Compression	<input type="text" value="H265"/>	
Encoding Level	<input type="text" value="Low"/>	
Max Key Frame Interval	<input type="text" value="75"/>	(1-200)
Smart Encoding	<input type="text" value="Disabled"/>	Parameter value changes take effect only after encoders are rebooted.
Stream Smoothing Factor	<input type="range" value="30"/>	30 (The higher factor, the lower image clarity.)
<input type="button" value="Save"/>		

Picture 5-16 Video Encoding

- Channel: Select a channel from the dropdown list.
- Multi-Stream: It means the same video source is encoded in several streams with different resolutions. This parameter can be configured according to actual request and the setting validates upon reboot.
- Stream Type: Configure the resolution and bitrate of main or secondary stream.
- Resolution: Select resolution from the dropdown list according to the requirements of image quality.
- Bitrate Type: Options include CBR and VBR.
- Video Quality: Select image quality level from the dropdown list according to actual requirements.
- Video Frame Rate: Set the encoding frames per second.

- **Average Bit Rate:** Set the average bit rate.
- **Compression:** Select according to actual requirements, options including H.264, H.265 and MJPEG.
- **Encoding Level:** Select encoding level according to actual request. Under the same bitrate, the higher the encoding level is, the better quality the image will have and the more bandwidth it will require. When the encoding format of the close-up channel is MJPEG, the encoding level is fixed to be “Low” but when it is H.265, the encoding level is fixed to be “Medium”.
- **Max Key Frame Interval:** Configure the interval frames between two key frames, ranging 1 ~ 250. Suggest applying the default value 75.
- **Smart Encoding:** Enabling smart encoding will reduce the frame rate. When enabling smart encoding under low bitrate, the image quality will be improved. Please select according to actual request. The setting validates upon reboot.
- **Stream Smoothing Factor:** Drag the slide bar or enter a number to configure stream smoothing factor. The smaller the value is, the clearer the video stream will be; the larger the value is, the smoother the stream transmission will be.



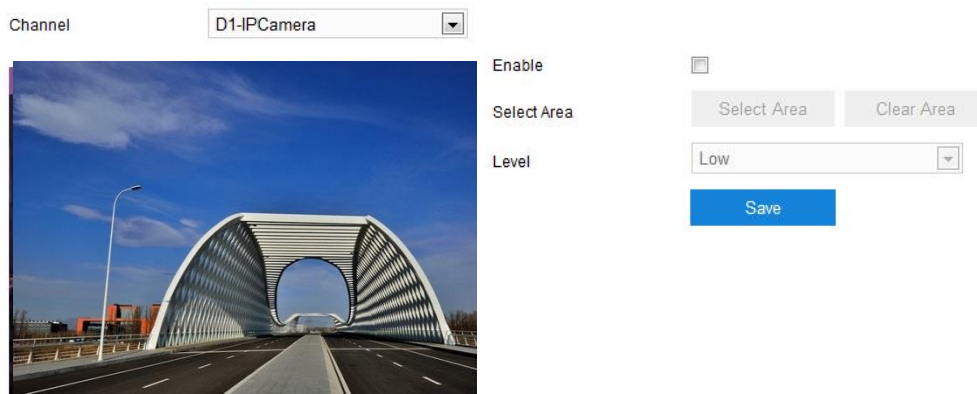
Note:

- ◆ The parameter of video quality is enabled only when “VBR” is selected and it will remain “Medium” when “CBR” is selected.
- ◆ Different compression types have different levels of encoding complexity.
- ◆ The higher the encoding level is, the more the stream will be compressed. In this way it will relieve bandwidth restriction somehow, but meanwhile it will also occupy the CPU resource of more devices. Suggest using the default level.
- ◆ After enabling smart encoding, some functions will be disabled, such as ROI and max key frame interval.

5.3.2 ROI

ROI means Region of Interest. The camera only encodes specific area of interest to improve image quality of this area while at the cost of decreasing the image quality outside this area. It not only ensures the image quality of ROI area, but also reduces the bitrate. Configuration steps are as follows:

- 1) Go to **Settings > Camera > Video > ROI**;



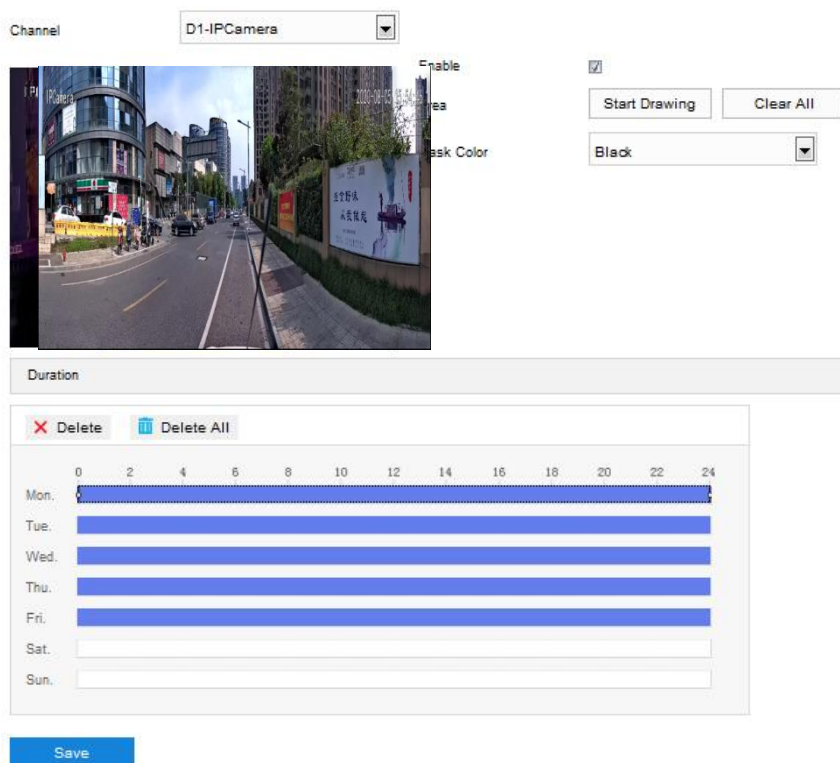
Picture 5-17 ROI

- 2) Select a channel from the dropdown list;
- 3) Select "Enable" to enable ROI function;
- 4) Click "Select Area" and drag an area from the left window. Select encoding level from the dropdown list. Click "Clear Area" to reset area;
- 5) Click "Save" to validate setting.

5.3.3 Privacy Mask

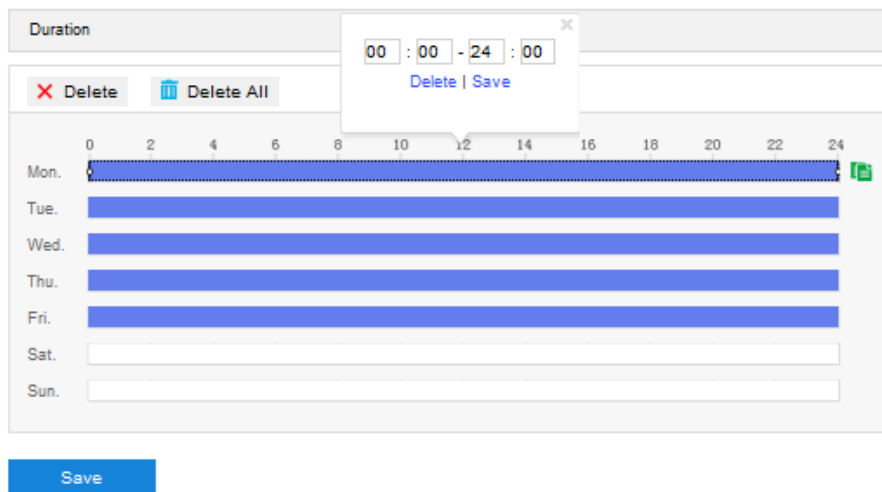
Privacy mask is to mask sensitive and private part of the image so as to keep sensitive information private. Configuration steps are as follows:

- 1) Go to **Settings > Camera > Video > Privacy Mask**;




Picture 5-18 Privacy mask

- 2) Select a channel from the dropdown list;
- 3) Select "Enable" to enable privacy mask;
- 4) Click "Start Drawing", left-click and drag an area toward lower right, and this area turns purple. Each camera supports maximum 4 privacy mask areas. Click "Stop Drawing" to finish setting. Click "Clear All" to reset the area;
- 5) Select a color from the dropdown list of "Mask Color";
- 6) Configure arming duration. The default arming duration is 24 hours in blue bars, or you can customize the durations;



Picture 5-19 Arming durations

- Set duration: Select a day of the week and click the white bar behind it and drag mouse to make a blue bar as the task duration of the day. Select the duration and there will be a window showing the start time and end time of the duration, and you can edit the time duration more accurate. Click "Save" to validate setting. There can be multiple durations (maximum 10) on one day and different durations cannot overlap with each other.
 - Copy: Click the copy icon  behind the duration to copy the duration setting of that day to another or many other days.
 - Delete: Click "Delete All" on the top of the duration bars to clear all durations. Click one and click "Delete" on the popup window or on the top of the duration bars to remove this duration.
- 7) Click "Save" to validate the settings.

5.4 Audio

5.4.1 Audio Encoding

Go to **Settings > Camera > Audio > Audio Encoding**, and configure audio encoding parameters.

Channel	<input type="text" value="D1-IPCamera"/>
Audio Source Type	<input type="text" value="linein"/>
Encoding Channel	<input type="text" value="1"/>
Compression	<input type="text" value="PCMA"/>
Sampling Rate	<input type="text" value="8k"/>
Encoding Volume	<input type="range" value="50"/> 50
<input type="button" value="Save"/>	

Picture 5-20 Audio encoding

- Channel: Select a channel from the dropdown list.
- Audio Source Type: The audio input type, default beinf “linein”.

i Note: The channel D1 supports wired audio input while the channel D3 supports Bluetooth audio input.

- Encoding Channel: Select the audio encoding channel, and configure sampling rate, encoding volume and compression format.
- Compression: Select audio encoding format from the dropdown list, by default PCMA.
- Sampling Rate: It means the sampling times to sound signals by the audio-recording device in 1 second. The higher the sampling rate is, the more real and natural the sound reproduction will be.
- Encoding Volume: Drag the slide bar to adjust audio encoding volume, i.e. audio input volume.

i Note: When the compression format is “AACLC”, configure sampling rate; under other formats, the sampling rate is fixed.

5.4.2 Audio Decoding

Go to **Settings > Camera > Audio > Audio Decoding**, and configure audio encoding parameters.

The screenshot shows the 'Audio Decoding' configuration page. It includes a dropdown menu for 'Channel' with 'D1-IPCamera' selected, a 'Decoding Volume' slider set to 50, and a checked 'Audio Mixing' checkbox. A blue 'Save' button is located at the bottom of the form.

Picture 5-21 Audio decoding

- Channel: Select a channel from the dropdown list.
- Decoding Volume: Drag the slide bar to adjust audio decoding volume, i.e. audio output volume.
- Audio Mixing: Select the checkbox to enable audio mixing recording function, which is valid only when “ADPCM” is selected.

i Note: When “Audio Mixing” is disabled, there will be only heard sound without calling sound during video recording; when it is enabled, there will be both heard and calling sound during video recording.

After finishing, click “Save” to validate the settings.

5.5 PTZ

The camera is equipped with digital PTZ, which is suitable for wide range surveillance and enlarges the field of view. User can control PTZ via web client. In the PTZ control part on the “Live” interface, user can control PTZ manually. The functions of the buttons are explained in chapter 3.1.2 *PTZ Control*.

i Note: The PTZ holder will stop rotating when reaching its pan limits. Please strictly follow the *Quick Start Guide* during installation so that the functions of preset loading and path patrol will not be affected.

5.5.1 Basic Configuration

Go to **Settings > Camera > PTZ > Basic** and configure basic PTZ parameters. The default channel is “D3-IPCamera” (channel of the close-up lens), as shown below:

Channel	D3-IPCamera	
Basic		
PT Version	2.0.25	
Patrolling Speed Level	10	(1~40)
Preset Moving Speed Level	40	(1~40)
Zooming Speed Level	Medium	
Enable Auto PT Speed	<input checked="" type="checkbox"/>	
Freeze Preset Video	<input type="checkbox"/>	
Show PT Location By	By Azimuth	
Last Spot Recovery		
Enable	<input checked="" type="checkbox"/>	
Recovery Mode	Remember Spot Upon Power (
Recovery Time	60	(30~360)s
Save		

Picture 5-22 Basic configuration

➤ Basic Config

- PT Version: Display the version of current PT.
- Patrolling Speed Level: The speed level during patrolling. The larger the value is, the faster it patrols, and vice versa.
- Preset Moving Speed Level: The speed level of loading preset. The larger the value is, the faster it rotates to the preset, and vice versa
- Zooming Speed Level: Select zooming speed level, options including “low”, “medium” and “high”.
- Enable Auto PT Speed: Select the checkbox to enable auto PT speed. When the PTZ control parameter is changing, the rotation speed of the camera will change in accordance with the zooming speed of the PTZ automatically.
- Freeze Preset Video: Select the checkbox to enable the function. When the PT rotates from one preset to another, the video freezes at the image of the first preset and switches to that of the second preset when arriving at it without showing the images during the move.

- Show PT Location By: Options include “By Azimuth” and “By PT Location”. Go to **Settings > Camera > OSD** and select “PTZ”; select “By Azimuth” on this interface and the PTZ location information will display on the “Live” interface by coordinates; select “By PT Location” on this interface and the PTZ location information will display on the “Live” interface by its location.
- Last Spot Recovery

Configure the rotation position of PT after the power recovers. Configuration steps are as follows:

 - 1) Select “Enable” to enable the function of last spot recovery;
 - 2) Select “Recovery Mode”: options include “Load Preset Upon Power-On” and “Remember Spot Upon Power Cut”;
 - Remember Spot Upon Power Cut, the PT will load to the last position before powering off when it is powered again. Configure recovery time when selecting this option;
 - Load Preset Upon Power-On, the PT will load to the selected preset directly when it is powered again. Select a preset when selecting this option.



Note:

- ◆ “Remember Spot Upon Power Cut” means when the time for which the PT stops at a position before powering off exceeds the set recovery time, it will return to this position automatically after powering on again. If the time is shorter than the set recovery time, the PT will return to the previous position of the one when it is powered off.
- ◆ When selecting “Load Preset Upon Power-On”, the parameter “Recovery Time” will turn into “Preset”. Select a number from the dropdown list of “Preset” for the PT to rotate to when it is powered on again.

After finishing, click “Save” to validate setting.

5.5.2 Guard Tour

Guard Tour means the dome camera can perform pre-set operations if not receiving any command in a specific period of time (i.e. the “Dwell Time” on the interface). Configuration steps are as follows:

- 1) Go to **Settings > Camera > PTZ > Guard Tour**, and select “D3-IPCamera” from the dropdown list of “Channel”;

Channel	<input type="text" value="D3-IPCamera"/>
Enable	<input type="checkbox"/>
Guard Mode	<input type="text" value="Load preset"/>
Dwell Time	<input type="text" value="1"/> (1~255)Minute
Preset ID	<input type="text" value="1"/>

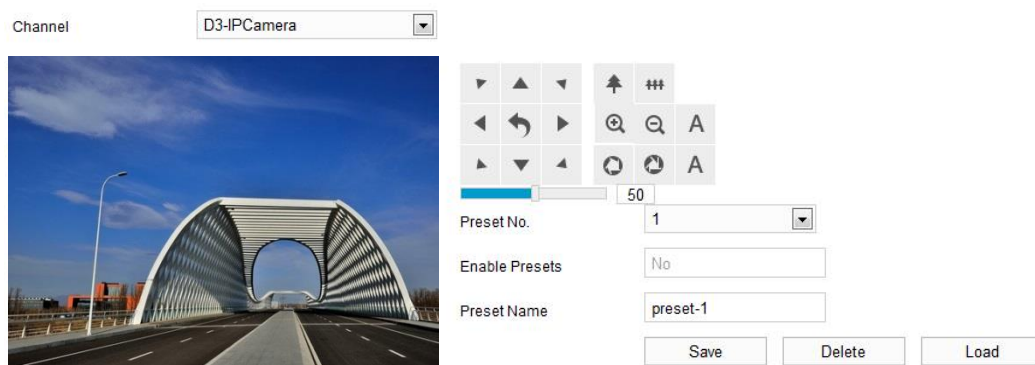
Picture 5-23 Guard Tour

- 2) Select "Enable" to enable guard tour;
- 3) Select "Guard Mode" from the dropdown list:
 - Pan mode: Camera rotates automatically by 0° to 360° in pan direction. The dwell time is configurable.
 - Tilt mode: Camera rotates automatically by -15° to 90° in tilt direction. The dwell time is configurable.
 - Load preset: After user stops operating on the camera for a certain period of time, the camera will return to a preset position automatically. The dwell time is configurable and the preset ID is selectable. Please refer to chapter [5.5.3 Preset](#) for setting steps.
 - Path mode: After user stops operating on the camera for a certain period of time, camera will enable path mode automatically. The dwell time is configurable and the patrol path is selectable. Please refer to chapter [5.5.5 Guard Tour-Path](#) for setting steps.
 - Frame mode: In every key frame interval, camera rotates frame by frame by 90° automatically in pan direction. The dwell time is configurable.
 - Random mode: Camera patrols at random speed in pan direction. The dwell time is configurable.
 - Panoramic mode: Camera patrols panoramically by -15° to 90° in tilt and 0° to 360° in pan. The dwell time is configurable.
 - Mixed mode: Camera patrols automatically following the historical PTZ patrol paths in a certain period of time. The dwell time is configurable. Please refer to chapter [5.5.6 Mixed Mode](#) for configuration steps.
- 4) Configure "Dwell Time" according to the selected mode;
- 5) Click "Save" to validate setting.

5.5.3 Preset

Preset position includes information of PT position and lens focal length. It is set by user and can be loaded, edited or deleted anytime. The maximum allowed number of presets is 255. Configuration steps are as follows:

- 1) Go to **Settings > Camera > PTZ > Preset**, and select “D3-IPCamera” from the dropdown list of “Channel”;



Picture 5-24 Preset

- 2) Adjust PTZ to expected position and configure lens parameters of focal length and aperture;
- 3) Select “Preset No.” from the drop-down list and input “Preset Name” in the text box;
- 4) Click “Save” to finish preset setting. User can set different preset positions for loading;
- 5) Click “Load” to load the expected preset;
- 6) Click “Delete” to remove the preset;
- 7) In the preset part on the “Live” interface, user can also select a preset



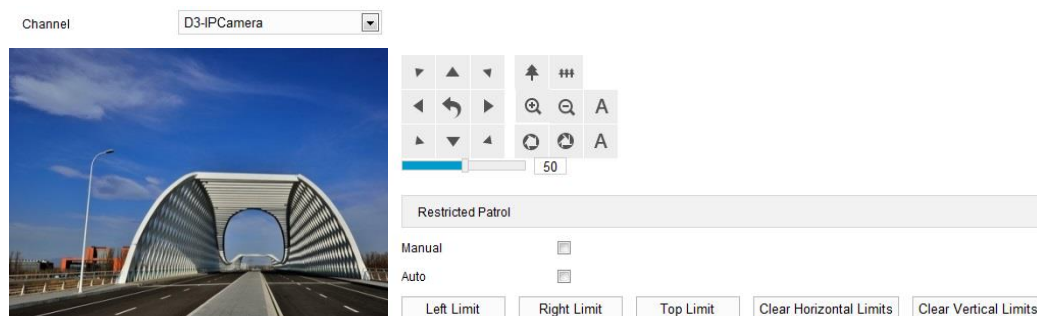
to load, save or delete. Please refer to chapter

[3.1.3 Preset](#) for details.

5.5.4 Restricted Patrol

Restricted Patrol includes “Manual” and “Auto” modes. After enabling this function, user can define borders of PTZ patrol. Configuration steps are as follows:

- 1) Go to **Settings > Camera > PTZ > Restricted Patrol**;



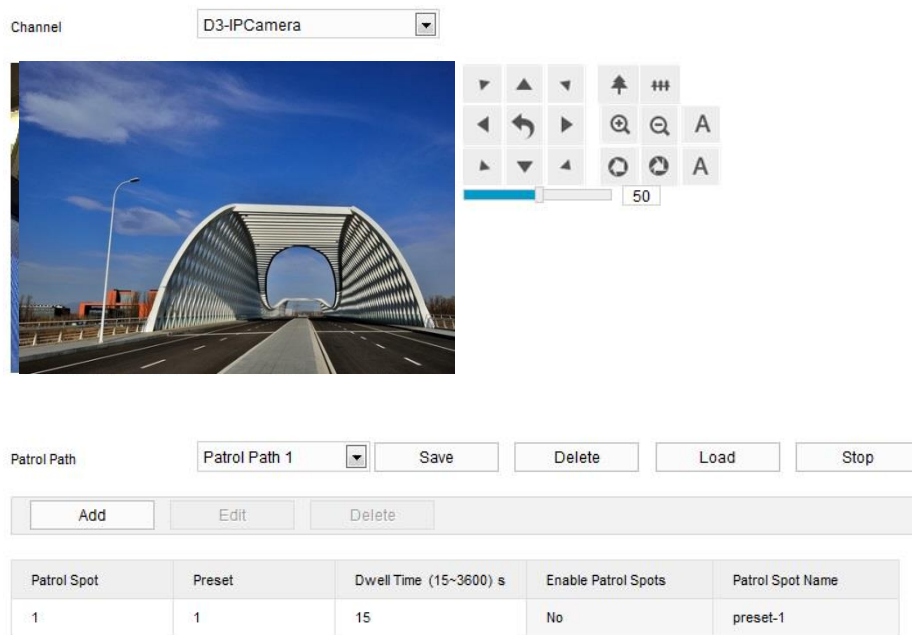
Picture 5-25 Restricted Patrol

- 2) Select “Manual” or “Auto”, adjust the PTZ to a proper position and set it as the “Left Limit”. Adjust the PTZ again to another position and set it as the “Right Limit”;
- 3) The setting takes effect immediately. To clear limits, click “Clear Horizontal Limits” or “Clear Vertical Limits”;
- 4) When enabling manual mode, user can control the PTZ manually and rotate it only between the left and the right limits; when enabling auto mode, the PTZ will patrol horizontally only between the left and the right limits.

5.5.5 Guard Tour-Path

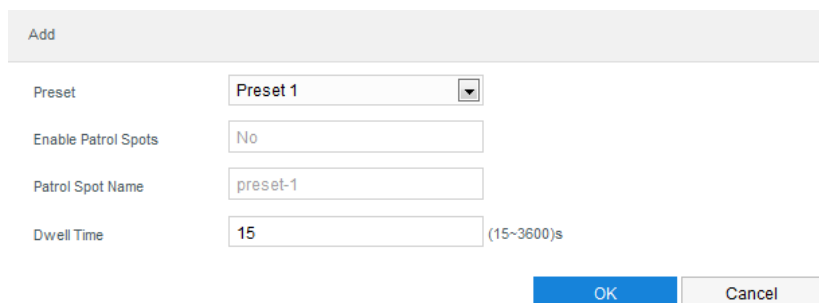
Guard tour-path means the camera patrols around all the valid presets on a path. After enabling this function, click any button on PTZ control to disable it. Currently, the camera supports 8 paths and the maximum allowed number of guard tour spots on each path is 32, which can be selected from 255 presets. Configuration steps are as follows:

- 1) Go to **Settings > Camera > PTZ > Guard Tour-Path**, and select “D3-IPCamera” (i.e. channel of the close-up lens);



Picture 5-26 Guard tour-path

- 2) Select path from the dropdown list of “Patrol Path”;
- 3) Select patrol spot and click “Add” to add a spot. Select preset, configure dwell time on the popup interface, and click “OK” to finish. The maximum allowed number of patrol spots on each path is 32, which can be selected from 255 presets;



Picture 5-27 Add patrol spot

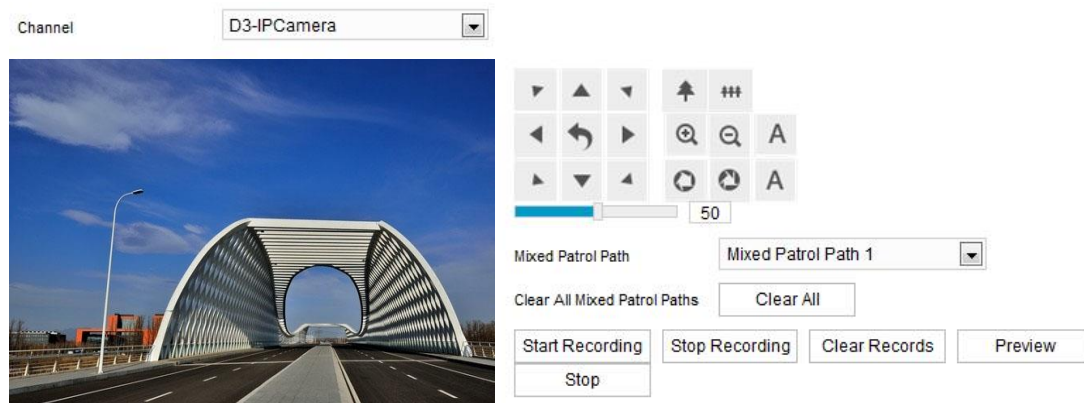
- 4) Click “Save” to finish;
- 5) Click “Delete”, “Load” or “Stop” to perform respective operations if necessary.

5.5.6 Mixed Mode

Camera patrols automatically following the historical PTZ patrol paths in a certain period of time. The maximum configurable number of mixed paths is 4.

Configuration steps are as follows:

- 1) Go to **Settings > Camera > PTZ > Mixed Mode**, and select “D3-IPCamera” (i.e. channel of the close-up lens);



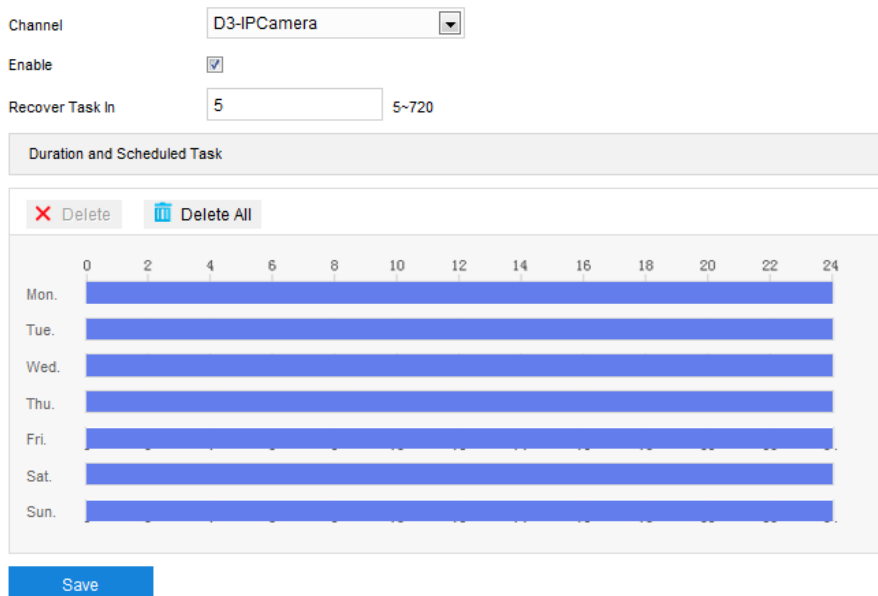
Picture 5-28 Mixed mode

- 2) Select a mixed patrol path from the dropdown list of “Mixed Patrol Path”;
- 3) Click “Start recording” and adjust PTZ position to record PTZ rotation, steps and zooming operations; click “Stop recording” to stop recording. The maximum duration of each path is 10 minutes;
- 4) Click “Preview” to preview all PTZ operations;
- 5) Click “Stop” to stop previewing;
- 6) Select path and click “Clear Records” to delete all recorded PTZ operations under this path;
- 7) Click “Delete All” to clear all mixed paths.



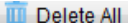
5.5.7 Scheduled Task

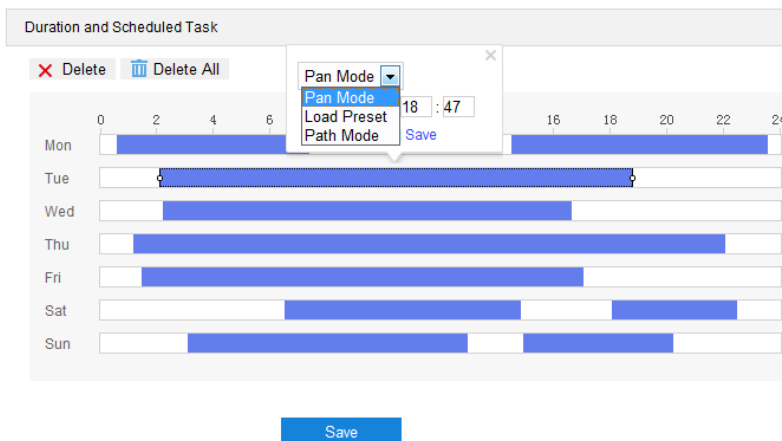
Enable scheduled task and set durations and tasks. Camera will complete the tasks within the configured durations. Configuration steps are as follows:

- 1) Go to **Settings > Camera > PTZ > Scheduled Task**, and select “D3-IPCamera” (i.e. channel of the close-up lens);



Picture 5-29 Scheduled task

- 2) Select “Enable” to enable scheduled task;
- 3) Enter “Recover Task In” (5~720s). Take “5s” as example, if user performs other PTZ operations during the task, camera will recover the scheduled task in 5 seconds;
- 4) Configure scheduled tasks and arming durations: the default task durations are 24 hours displaying in blue bar, or user can define durations up to request. It allows maximum 10 durations on one day;
 - a) Click any point on a day and drag mouse rightward to make a blue bar as task duration;
 - b) Click the duration and a window will pop up for editing the scheduled task. Select the scheduled task from the dropdown list. Or you can edit the start time and end time otherwise. Click “Save” to finish configuration of scheduled task;
 - c) Click any free point on the timeline and configure the next duration. Different durations cannot overlap;
 - d) Click the copy icon  behind the timeline and the copy window will pop up. Select several weekdays or “Select All” and click “Copy” to copy the scheduled task of the duration to the selected weekdays;
 - e) Click “Delete” on the window of editing scheduled task or click  below “Duration and Scheduled Task” to cancel the scheduled task. Click  below “Duration and Scheduled Task” to cancel all the scheduled tasks in one week.

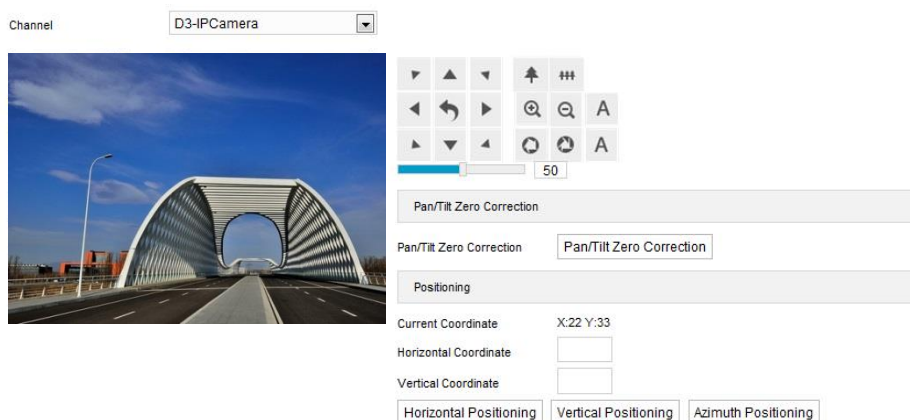


Picture 5-30 Edit scheduled task

5) Click “Save” to validate settings.

5.5.8 Positioning

Go to **Settings > Camera > PTZ > Positioning**, and configure camera positioning. Positioning means to configure the location of the camera, including its pan/tilt zero correction and positioning.



Picture 5-31 Positioning

Select “D3-IPCamera” (i.e. channel of the close-up lens) from the dropdown list of “Channel”. User can perform the following configurations:

- Zero Correction

When loading preset or performing other PTZ operations, the PT may be malposition and zero correction must be performed. After zero correction, camera will return to the mechanical zero position automatically. Click “Pan/Tilt Zero Correction” to perform.
- Positioning
 - Current Coordinate: Show the coordinates of current PTZ position.

- Horizontal Coordinate: Fill the expected horizontal coordinate and click “Horizontal Positioning”, then the PTZ will rotate to the configured position.
- Vertical Coordinate: Fill the expected vertical coordinate and click “Vertical Positioning”, then the PTZ will rotate to the configured position.
- Azimuth Positioning: It means the PTZ camera faces to the due north. Rotate the camera to a specific position and click “Azimuth Positioning” to save this position and set it as the due north direction.



Note: After azimuth positioning is set, go to **Settings > Camera > OSD** and select “PTZ”, it will show the pointer of the camera on “Live” interface.

6. Event

Go to **Settings > Event > Basic Intelligent Feature**.

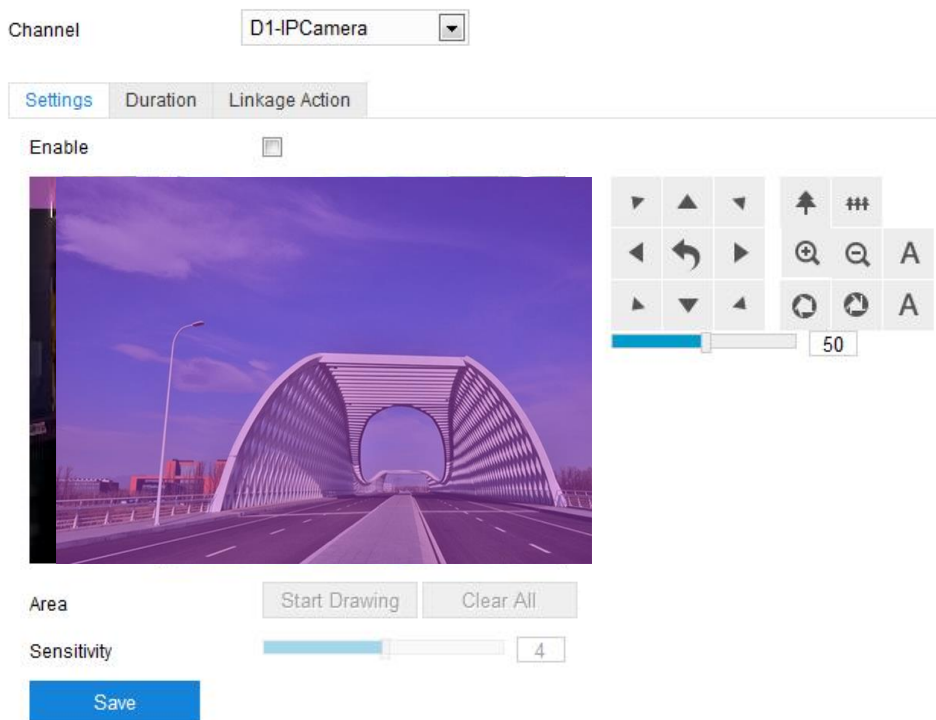
i Attention: Only the channel D3, channel of the close-up lens, supports configuration of intelligent functions.

6.1 Motion Detection

Motion detection is to detect if there is any moving object in specific areas during certain periods of time. Once the moving object exceeds the defined sensitivity, the system will start video recording or trigger an alarm according to the linkage method set by user.

Configuration steps of motion detection are as follows:

- 1) Go to **Settings > Event > Basic Intelligent Feature > Motion Detection**, and select channel from the dropdown list;



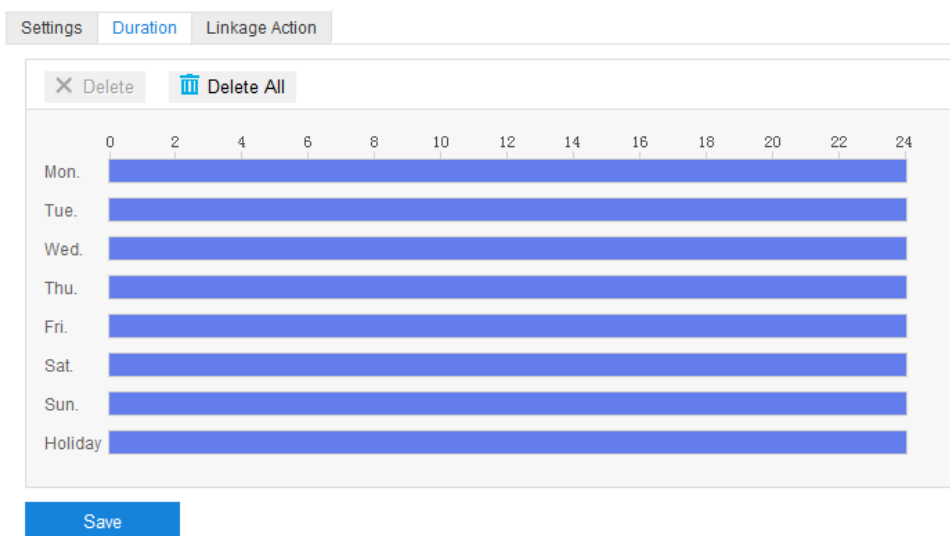
Picture 6-1 Motion detection

- 2) Configure parameters;
 - a) Select "Enable" to enable motion detection;
 - b) Adjust surveillance field of view through PTZ control;
 - c) Set motion detection area, the default being full area detection. Click "Clear All" to cancel full area detection. Click "Start Drawing" and the image will be divided into 16


columns and 12 lines of small squares. Click a square, drag toward lower right to draw an area of motion detection which will turn purple red. One camera supports maximum 4 motion detection areas at the same time. Draw an area toward upper left or click the defined squares one by one to cancel the area, and click "Stop Drawing" to finish the setting of motion detection;

- d) Drag the slide bar to adjust "Sensitivity". The higher the value is, the easier it will trigger an alarm;
 - e) After finishing, click "Save" to validate settings.
- 3) Set arming duration;

Click "Duration" to enter the configuration interface of duration. The default is 24 hours displaying in blue bar, or user can customize durations.



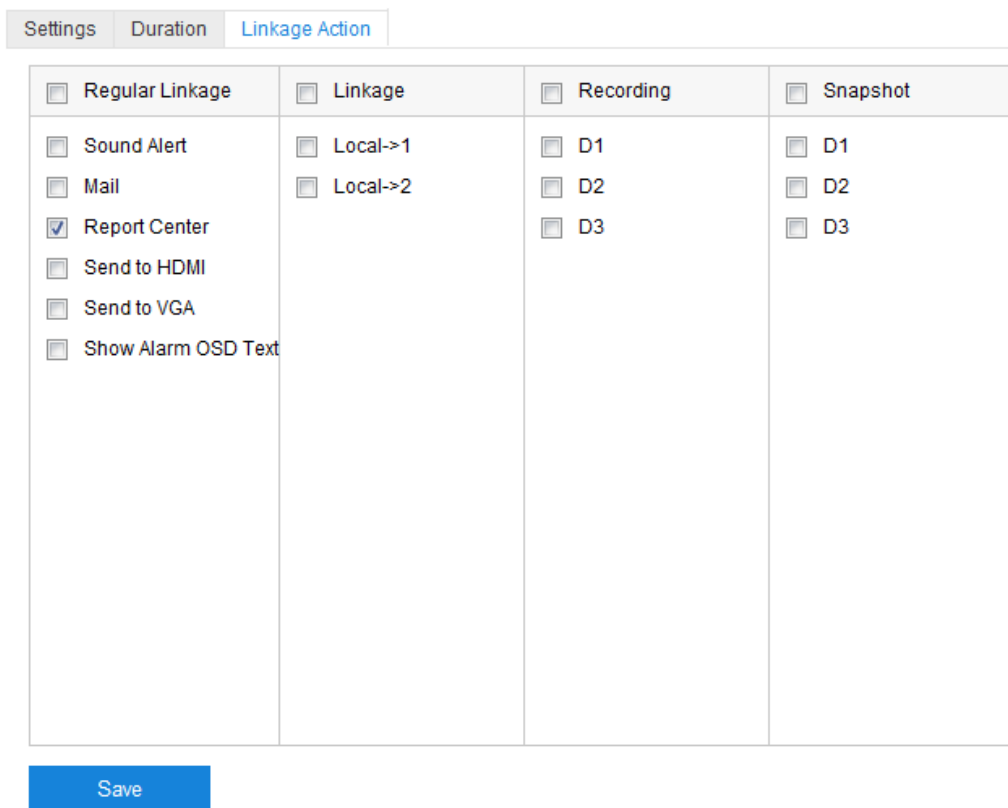
Picture 6-2 Durations

- Set duration: select a day and put the mouse on a point of the timeline, left-click and drag the mouse to the right to draw a bright blue color bar, on the top of which shows the start time and end time; click the color bar to pop up a window for editing the accurate start and end time; click "Save" to validate setting. It allows maximum 8 durations on one day and the durations cannot overlap with each other.
- Copy duration: click the copy icon  behind the timeline and copy the durations on the day to one or several other days.
- Delete duration: click "Delete All" on the top of the timeline to delete all the durations; select any duration and click "Delete" on the popup window or on the top of the timeline to delete the duration.

After finishing, click "Save" to validate settings.

- 4) Configure linkage action;

Click “Linkage Action” to configure linkage methods on the interface. There are various linkage methods, including “Regular Linkage”, “Linkage”, “Recording” and “Snapshot”.



Picture 6-3 Linkage action

- Regular Linkage: including sound alert, mail, report center and etc.
 - Sound Alert: Select it and when there is an alarm, it will trigger sound alarming signal.
 - Mail: Configure email address in **Settings > Network > Other Protocol > SMTP**, and select “Mail”. When there is an alarm, it will send the alarming message to the mailbox of configured recipient.
 - Report Center: Select it and when there is an alarm, it will report the alarming message to the surveillance center.
- Linkage: Select it and when there is an alarm, it will link to the connected alarming device to output alarm. Select output ports by requirements.
- Recording: Select it and when there is an alarm, it will start video recording and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.
- Snapshot: Select it and when there is an alarm, it will capture snapshots and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.

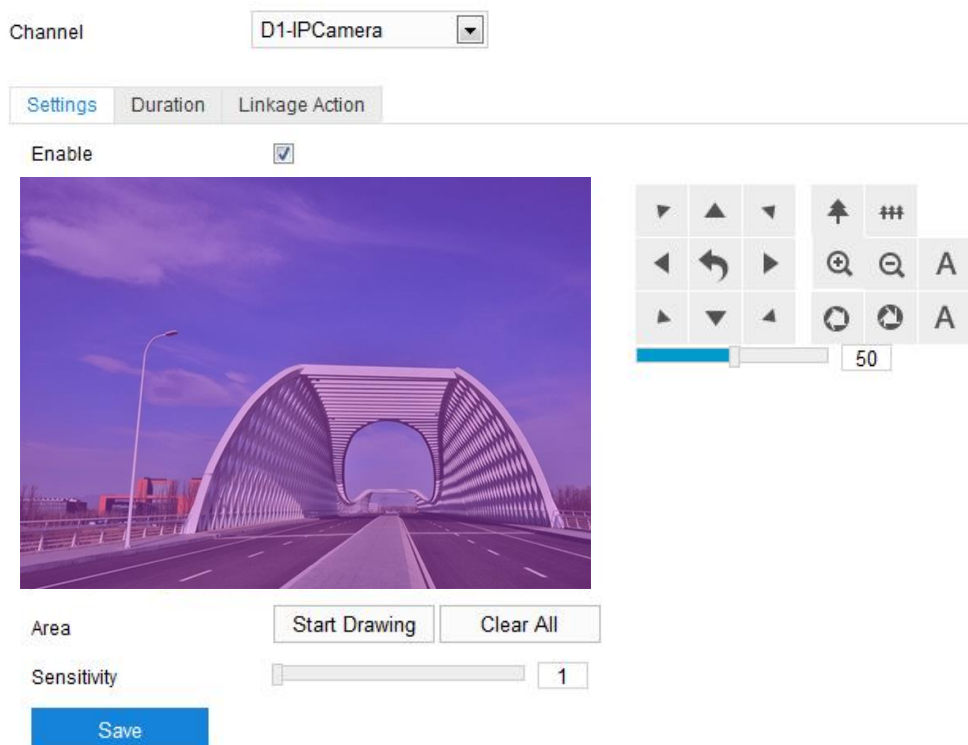
After finishing, click “Save” to validate settings.

6.2 Video Blocked

When the pre-set video blocked area is blocked intentionally which disables normal surveillance of this area, an alarm will be triggered. After the alarm is triggered, user can find the cause of video blocked quickly and recover the surveillance scene.

Configuration steps of video blocked are as follows:

- 1) Go to **Settings > Event > Basic Intelligent Feature > Video Blocked**, and select channel from the dropdown list;



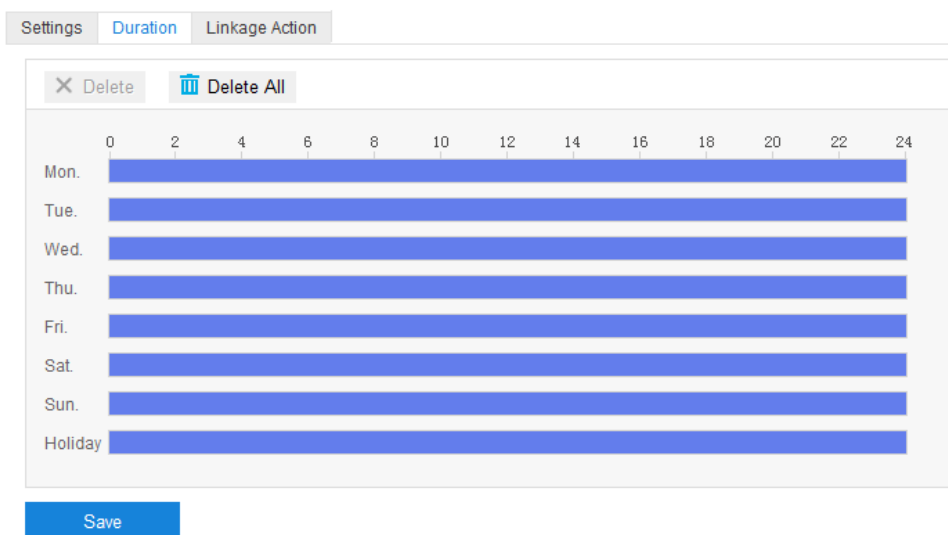
Picture 6-4 Video blocked

- 2) Configure parameters;
 - a) Select “Enable” to enable video blocked;
 - b) Adjust surveillance field of view through PTZ control;
 - c) Set video blocked area, the default being full area detection. Click “Clear All” to cancel full area detection. Click “Start Drawing” and the image will be divided into 16 columns and 12 lines of small squares. Click a square, drag toward lower right to draw an area of video blocked which will turn purple red. One camera supports maximum 1 video blocked area at the same time. Draw an area toward upper left or click the defined squares one by one to cancel the area, and click “Stop Drawing” to finish the setting of video blocked;


- d) Drag the slide bar to adjust “Sensitivity”. The higher the value is, the easier it will trigger an alarm;
- e) After finishing, click “Save” to validate settings.

3) Set arming duration;

Click “Duration” to enter the configuration interface of duration. The default is 24 hours displaying in blue bar, or user can customize durations.



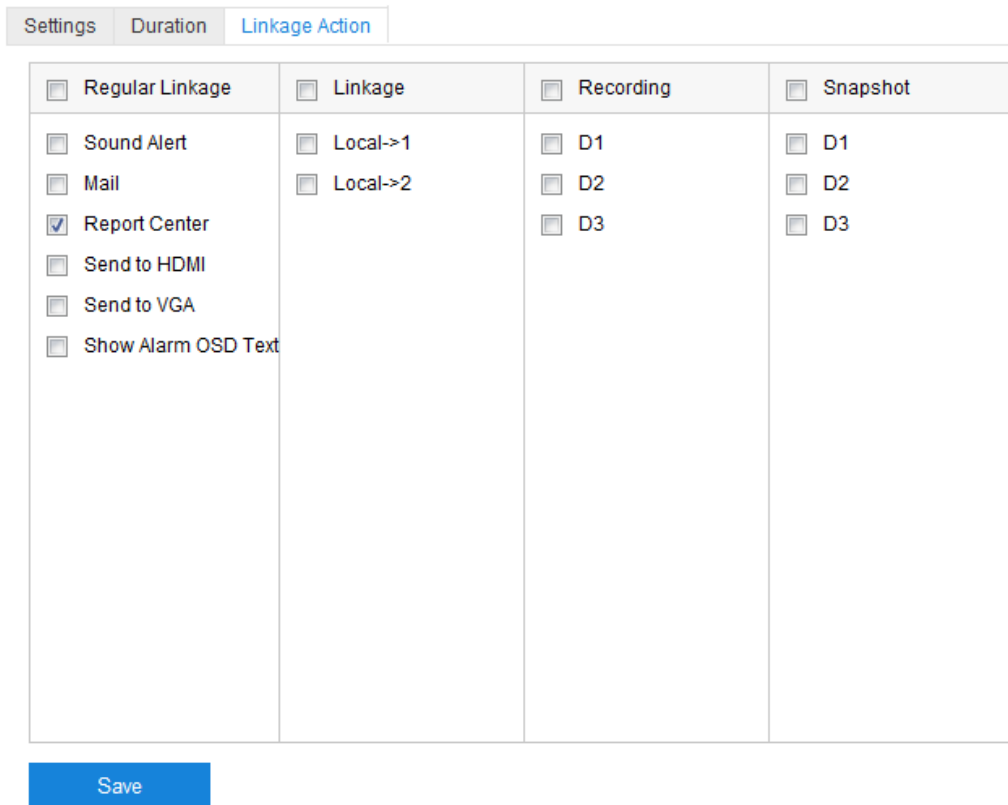
Picture 6-5 Durations

- Set duration: select a day and put the mouse on a point of the timeline, left-click and drag the mouse to the right to draw a bright blue color bar, on the top of which shows the start time and end time; click the color bar to pop up a window for editing the accurate start and end time; click "Save" to validate setting. It allows maximum 8 durations on one day and the durations cannot overlap with each other.
- Copy duration: click the copy icon  behind the timeline and copy the durations on the day to one or several other days.
- Delete duration: click "Delete All" on the top of the timeline to delete all the durations; select any duration and click "Delete" on the popup window or on the top of the timeline to delete the duration.

After finishing, click "Save" to validate settings.

4) Configure linkage action;

Click “Linkage Action” to configure linkage methods on the interface. There are various linkage methods, including “Regular Linkage”, “Linkage”, “Recording” and “Snapshot”.



Picture 6-6 Linkage action

- Regular Linkage: including sound alert, mail, report center and etc.
 - Sound Alert: Select it and when there is an alarm, it will trigger sound alarming signal.
 - Mail: Configure email address in **Settings > Network > Other Protocol > SMTP**, and select “Mail”. When there is an alarm, it will send the alarming message to the mailbox of configured recipient.
 - Report Center: Select it and when there is an alarm, it will report the alarming message to the surveillance center.
- Linkage: Select it and when there is an alarm, it will link to the connected alarming device to output alarm. Select output ports by requirements.
- Recording: Select it and when there is an alarm, it will start video recording and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.
- Snapshot: Select it and when there is an alarm, it will capture snapshots and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.

After finishing, click “Save” to validate settings.

6.3 Guard Line

Guard line is to detect if there is any object entering the guard line in the pre-set moving direction(s), and the camera will determine to trigger an alarm by its judgment.

Configuration steps of guard line are as follows:

- 1) Go to **Settings > Event > Basic Intelligent Feature > Guard Line**, and select channel from the dropdown list;

Channel: D3-IPCamera

Settings | Duration | Linkage Action

Enable

Scheme: 1

Associate Presets: Internal Preset

Guard Line Direction: A->B

Target Filter: Start Drawing Clear All

Max and Min Target Ratio: 1

Area: Start Drawing Clear All

Sensitivity: 50

Save

Preset No.: 1

Enable Presets: No

Preset Name: preset-1

Save Delete

Load

Picture 6-7 Guard line

- 2) Configure parameters;
 - a) Select “Enable” to enable guard line;
 - b) Adjust surveillance field of view through PTZ control;
 - c) Select a preset from the dropdown list of “Preset No.” and click “Save” to link the preset with the guard line alarming;
 - d) Select a number from the dropdown list of “Scheme”;

i Note: One scheme can configure only one guard area and one area is allowed to edit only one guard line. After saving the guard line, user can configure other guard lines. It supports maximum 4 guard lines.

e) Select a number from the dropdown list of “Associated Presets”;

i Note: If selecting “Internal Preset”, when the device loads a preset and the preset is not linked with any intelligent event, it will load the intelligent event linking with internal preset.

f) Select a direction from the dropdown list of “Guard Line Direction”, options including "A->", "B->" and "A->&&B->"; "A->" means only when the object moves from A to B the system will trigger an alarm, “B->” meaning only when objects move from B to A the system will trigger an alarm, while “A->&&B->” meaning the system will trigger an alarm when object move from A to B and B to A;

g) Set "Target Filter", i.e. target area. Click “Start Drawing” and drag the mouse in the scene to draw a rectangle. Click “Stop Drawing” after finishing and drag the slide bar of “Max and Min Target Ratio” (1% by default). Moving objects over max or below min will not trigger an alarm when they enter the guard line(s);

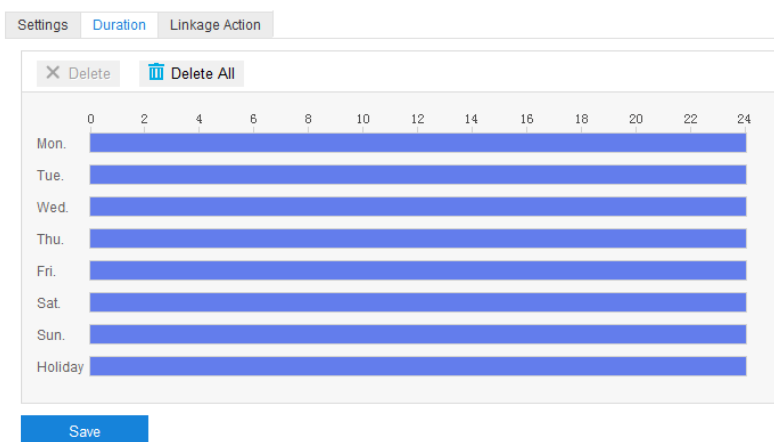
h) Area Setting: to set guard lines. Click “Start Drawing” and drag the mouse in the scene to draw a guard line. User can click its starting or end point to adjust its length and angle, click “Stop Drawing” to stop editing;

i) Drag the slide bar of “Sensitivity” to set the guard line’s sensitivity to moving objects; the higher the sensitivity is, the easier it will trigger;


j) After finishing, click “Save” to validate settings.

3) Set arming duration;

Click “Duration” to enter the configuration interface of duration. The default is 24 hours displaying in blue bar, or user can customize durations.



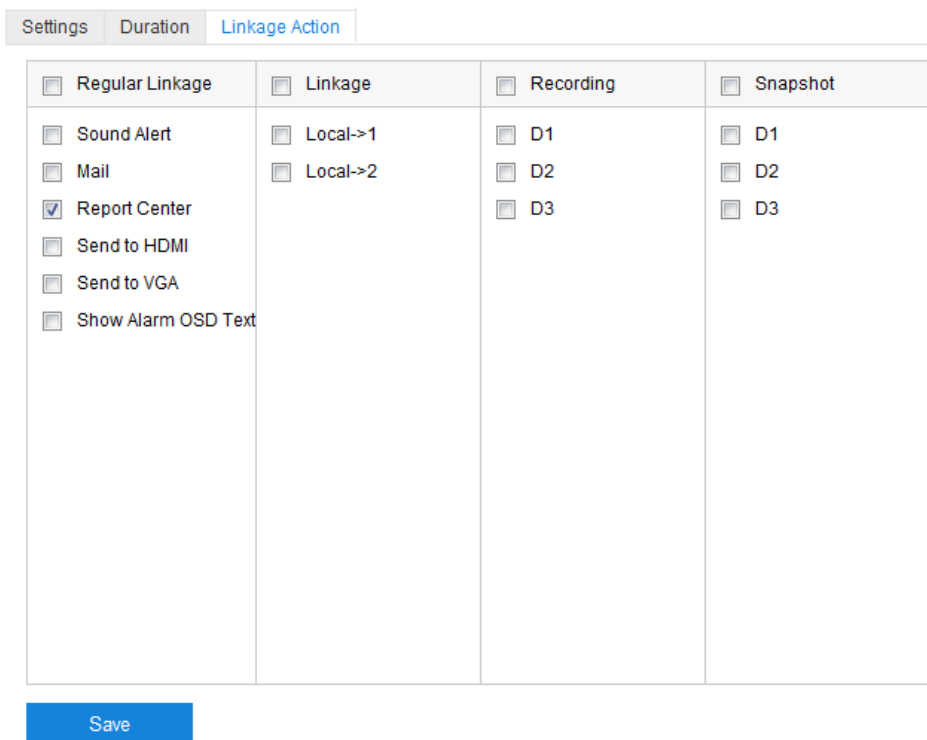
Picture 6-8 Durations

- Set duration: select a day and put the mouse on a point of the timeline, left-click and drag the mouse to the right to draw a bright blue color bar, on the top of which shows the start time and end time; click the color bar to pop up a window for editing the accurate start and end time; click "Save" to validate setting. It allows maximum 8 durations on one day and the durations cannot overlap with each other.
- Copy duration: click the copy icon  behind the timeline and copy the durations on the day to one or several other days.
- Delete duration: click "Delete All" on the top of the timeline to delete all the durations; select any duration and click "Delete" on the popup window or on the top of the timeline to delete the duration.

After finishing, click "Save" to validate settings.

4) Configure linkage action;

Click "Linkage Action" to configure linkage methods on the interface. There are various linkage methods, including "Regular Linkage", "Linkage", "Recording" and "Snapshot".



Picture 6-9 Linkage action

- Regular Linkage: including sound alert, mail, report center and etc.
 - Sound Alert: Select it and when there is an alarm, it will trigger sound alarming signal.
 - Mail: Configure email address in **Settings > Network > Other Protocol > SMTP**, and select "Mail". When there is an alarm, it will send the alarming message to the mailbox of configured recipient.

- Report Center: Select it and when there is an alarm, it will report the alarming message to the surveillance center.
- Linkage: Select it and when there is an alarm, it will link to the connected alarming device to output alarm. Select output ports by requirements.
- Recording: Select it and when there is an alarm, it will start video recording and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.
- Snapshot: Select it and when there is an alarm, it will capture snapshots and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.

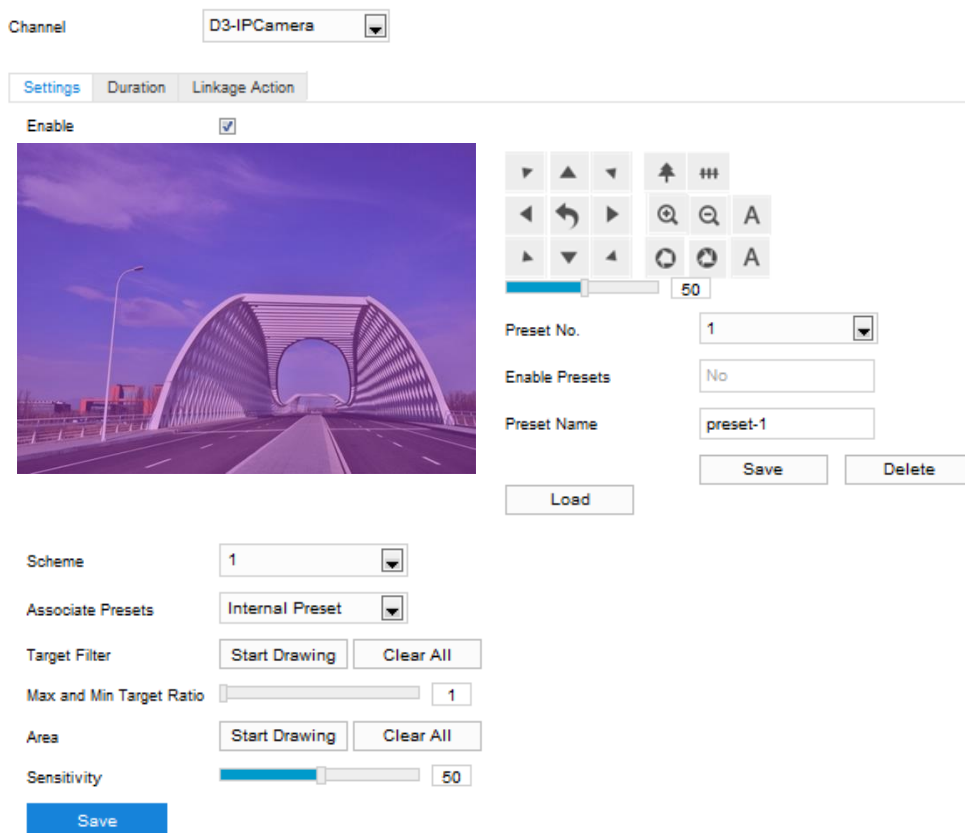
After finishing, click “Save” to validate settings.

6.4 Entry Guard Area

The function is to detect if there is anything entering the set guard area, and the camera will judge if it is necessary to trigger an alarm.


Configuration steps are as follows:

- 1) Go to **Settings > Event > Basic Intelligent Feature > Entry Guard Area**, and select channel from the dropdown list;




Picture 6-10 Entry guard area

- 2) Configure parameters;
 - a) Select "Enable" to enable entry guard area;
 - b) Adjust surveillance field of view through PTZ control;
 - c) Select a preset from the dropdown list of "Preset No." and click "Save" to link the preset with the entry guard area alarming;
 - d) Select a number from the dropdown list of "Scheme";

 Note: One scheme can configure only one guard area. After saving, user can configure other areas. It supports maximum 4 guard areas.

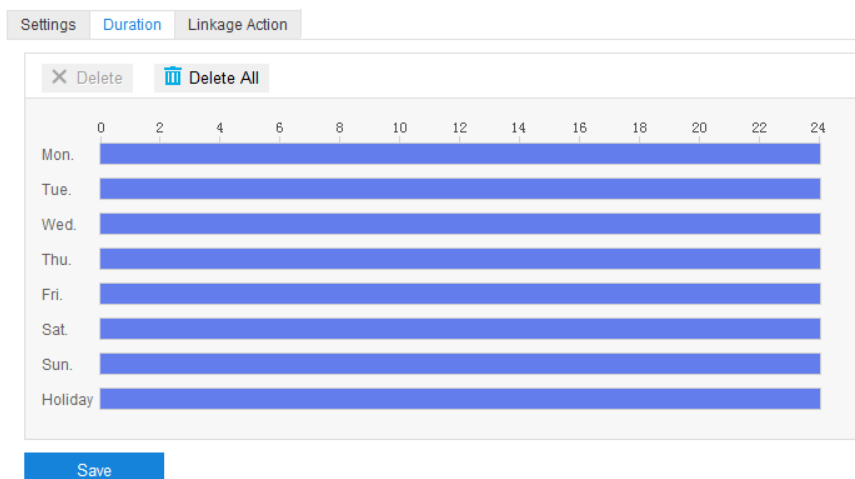
- e) Select a number from the dropdown list of "Associated Presets";

 Note: If selecting "Internal Preset", when the device loads a preset and the preset is not linked with any intelligent event, it will load the intelligent event linking with internal preset.


- f) Set "Target Filter", i.e. target area. Click "Start Drawing" and drag the mouse in the scene to draw a rectangle. Click "Stop Drawing" after finishing and drag the slide bar of "Max and Min Target Ratio" (1% by default). Moving objects over max or below min will not trigger an alarm when they enter the guard area(s);
- g) Area Setting: to set guard area. Click "Start Drawing" and click mouse to draw a closed area made up of 3 to 6 points in the scene. Right click or click the starting or ending point to close the area. Click "Stop Drawing" to finish editing;
- h) Drag the slide bar of "Sensitivity" to set the alarming sensitivity of entry guard area; the higher the sensitivity is, the easier it will trigger;
- i) After finishing, click "Save" to validate settings.

- 3) Set arming duration;

Click "Duration" to enter the configuration interface of duration. The default is 24 hours displaying in blue bar, or user can customize durations.



Picture 6-11 Durations

- Set duration: select a day and put the mouse on a point of the timeline, left-click and drag the mouse to the right to draw a bright blue color bar, on the top of which shows the start time and end time; click the color bar to pop up a window for editing the accurate start and end time; click "Save" to validate setting. It allows maximum 8 durations on one day and the durations cannot overlap with each other.
- Copy duration: click the copy icon  behind the timeline and copy the durations on the day to one or several other days.
- Delete duration: click "Delete All" on the top of the timeline to delete all the durations; select any duration and click "Delete" on the popup window or on the top of the timeline to delete the duration.

After finishing, click "Save" to validate settings.

4) Configure linkage action;

Click "Linkage Action" to configure linkage methods on the interface. There are various linkage methods, including "Regular Linkage", "Linkage", "Recording" and "Snapshot".

Settings Duration Linkage Action			
<input type="checkbox"/> Regular Linkage	<input type="checkbox"/> Linkage	<input type="checkbox"/> Recording	<input type="checkbox"/> Snapshot
<input type="checkbox"/> Sound Alert	<input type="checkbox"/> Local->1	<input type="checkbox"/> D1	<input type="checkbox"/> D1
<input type="checkbox"/> Mail	<input type="checkbox"/> Local->2	<input type="checkbox"/> D2	<input type="checkbox"/> D2
<input checked="" type="checkbox"/> Report Center		<input type="checkbox"/> D3	<input type="checkbox"/> D3
<input type="checkbox"/> Send to HDMI			
<input type="checkbox"/> Send to VGA			
<input type="checkbox"/> Show Alarm OSD Text			

Picture 6-12 Linkage action

- Regular Linkage: including sound alert, mail, report center and etc.
 - Sound Alert: Select it and when there is an alarm, it will trigger sound alarming signal.
 - Mail: Configure email address in **Settings > Network > Other Protocol > SMTP**, and select "Mail". When there is an alarm, it will send the alarming message to the mailbox of configured recipient.
 - Report Center: Select it and when there is an alarm, it will report the alarming message to the surveillance center.
- Linkage: Select it and when there is an alarm, it will link to the connected alarming device to output alarm. Select output ports by requirements.
- Recording: Select it and when there is an alarm, it will start video recording and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.
- Snapshot: Select it and when there is an alarm, it will capture snapshots and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.

After finishing, click "Save" to validate settings.

6.5 Exit Guard Area

The function is to detect if there is anything leaving the set guard area, and the camera will judge if it is necessary to trigger an alarm.

Configuration steps are as follows:

- 1) Go to **Settings > Event > Basic Intelligent Feature > Exit Guard Area** and select channel from the dropdown list;

Channel: D3-IPCamera

Settings | Duration | Linkage Action

Enable:

PTZ Control Panel:

- Navigation: Left, Up, Right, Down, Home, Stop
- Zoom: In, Out, Auto
- Speed: 50

Configuration Fields:

- Preset No.: 1
- Enable Presets: No
- Preset Name: preset-1
- Buttons: Save, Delete, Load
- Scheme: 1
- Associate Presets: Internal Preset
- Target Filter: Start Drawing, Clear All
- Max and Min Target Ratio: 1
- Area: Start Drawing, Clear All
- Sensitivity: 50
- Save Button

Picture 6-13 Exit guard area

- 2) Configure parameters;
 - a) Select “Enable” to enable exit guard area;
 - b) Adjust surveillance field of view through PTZ control;
 - c) Select a preset from the dropdown list of “Preset No.” and click “Save” to link the preset with the exit guard area alarming;
 - d) Select a number from the dropdown list of “Scheme”;

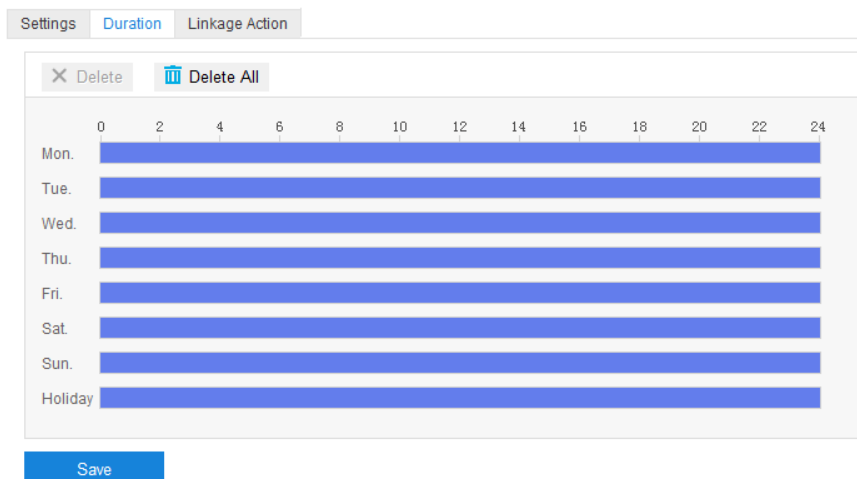
i Note: One scheme can configure only one guard area. After saving, user can configure other areas. It supports maximum 4 guard areas.

- e) Select a number from the dropdown list of “Associated Presets”;


i Note: If selecting “Internal Preset”, when the device loads a preset and the preset is not linked with any intelligent event, it will load the intelligent event linking with internal preset.

- f) Set "Target Filter", i.e. target area. Click “Start Drawing” and drag the mouse in the scene to draw a rectangle. Click “Stop Drawing” after finishing and drag the slide bar of “Max and Min Target Ratio” (1% by default). Moving objects over max or below min will not trigger an alarm when they exit the guard area(s);
 - g) Area Setting: to set guard area. Click “Start Drawing” and click mouse to draw a closed area made up of 3 to 6 points in the scene. Right click or click the starting or ending point to close the area. Click “Stop Drawing” to finish editing;
 - h) Drag the slide bar of “Sensitivity” to set the alarming sensitivity of exit guard area; the higher the sensitivity is, the easier it will trigger;
 - i) After finishing, click “Save” to validate settings.
- 3) Set arming duration;

Click “Duration” to enter the configuration interface of duration. The default is 24 hours displaying in blue bar, or user can customize durations.



Picture 6-14 Durations

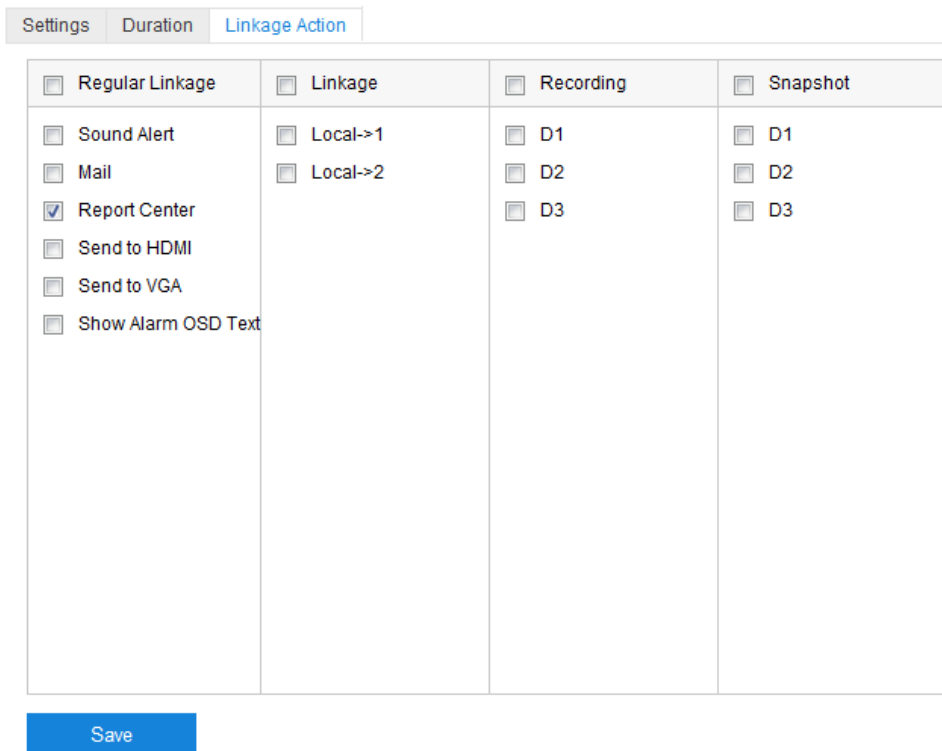
- Set duration: select a day and put the mouse on a point of the timeline, left-click and drag the mouse to the right to draw a bright blue color bar, on the top of which shows the start time and end time; click the color bar to pop up a window for editing the accurate start and end time; click "Save" to validate setting. It allows maximum 8 durations on one day and the durations cannot overlap with each other.
- Copy duration: click the copy icon  behind the timeline and copy the durations on the day to one or several other days.

- Delete duration: click "Delete All" on the top of the timeline to delete all the durations; select any duration and click "Delete" on the popup window or on the top of the timeline to delete the duration.

After finishing, click "Save" to validate settings.

4) Configure linkage action;

Click "Linkage Action" to configure linkage methods on the interface. There are various linkage methods, including "Regular Linkage", "Linkage", "Recording" and "Snapshot".



Picture 6-15 Linkage action

- Regular Linkage: including sound alert, mail, report center and etc.
 - Sound Alert: Select it and when there is an alarm, it will trigger sound alarming signal.
 - Mail: Configure email address in **Settings > Network > Other Protocol > SMTP**, and select "Mail". When there is an alarm, it will send the alarming message to the mailbox of configured recipient.
 - Report Center: Select it and when there is an alarm, it will report the alarming message to the surveillance center.
- Linkage: Select it and when there is an alarm, it will link to the connected alarming device to output alarm. Select output ports by requirements.

- Recording: Select it and when there is an alarm, it will start video recording and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.
- Snapshot: Select it and when there is an alarm, it will capture snapshots and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.

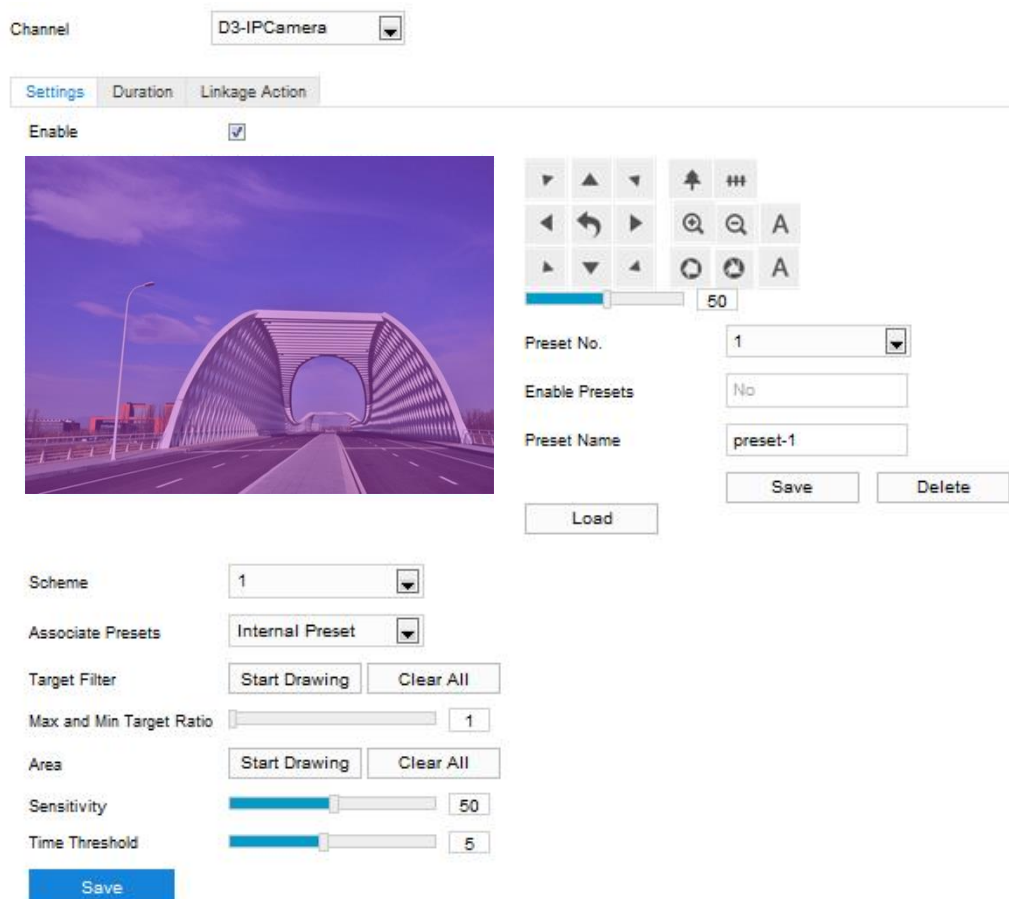
After finishing, click “Save” to validate settings.

6.6 Enter Guard Area

The function is to detect if there is anything entering the set guard area and staying for a period of time reaching the set threshold. The camera will judge if it is necessary to trigger an alarm.

Configuration steps are as follows:


- 1) Go to **Settings > Event > Basic Intelligent Feature > Enter Guard Area** and select channel from the dropdown list;




Picture 6-16 Enter guard area

- 2) Configure parameters;
 - a) Select “Enable” to enable enter guard area;

- b) Adjust surveillance field of view through PTZ control;
- c) Select a preset from the dropdown list of "Preset No." and click "Save" to link the preset with the exit guard area alarming;
- d) Select a number from the dropdown list of "Scheme";

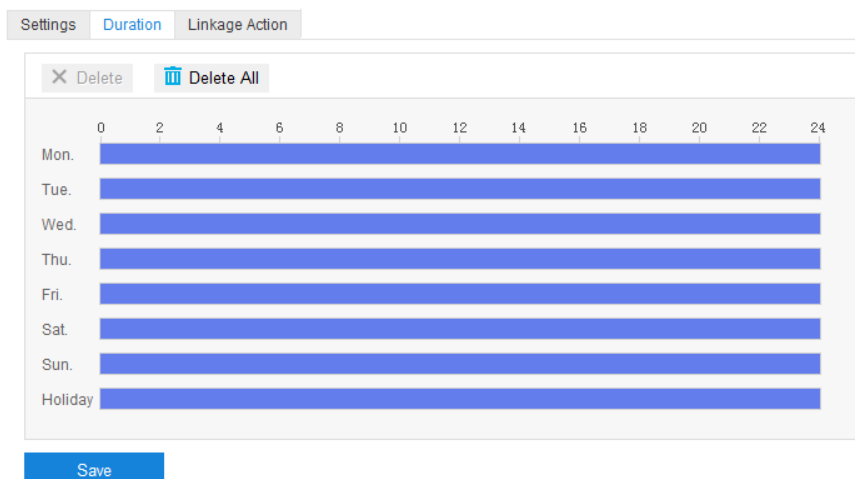
 Note: One scheme can configure only one guard area. After saving, user can configure other areas. It supports maximum 4 guard areas.

- e) Select a number from the dropdown list of "Associated Presets";


 Note: If selecting "Internal Preset", when the device loads a preset and the preset is not linked with any intelligent event, it will load the intelligent event linking with internal preset.

- f) Set "Target Filter", i.e. target area. Click "Start Drawing" and drag the mouse in the scene to draw a rectangle. Click "Stop Drawing" after finishing and drag the slide bar of "Max and Min Target Ratio" (1% by default). Moving objects over max or below min will not trigger an alarm when they enter the guard area(s);
 - g) Area Setting: to set guard area. Click "Start Drawing" and click mouse to draw a closed area made up of 3 to 6 points in the scene. Right click or click the starting or ending point to close the area. Click "Stop Drawing" to finish editing;
 - h) Drag the slide bar of "Sensitivity" to set the alarming sensitivity of enter guard area; the higher the sensitivity is, the easier it will trigger;
 - i) Drag the slide bar of "Time Threshold", i.e. the maximum allowed time for the object to stay in the area. For example, if it is set 5 s, when there is an object entering the guard area and stays for 5 s, it will trigger an alarm;
 - j) After finishing, click "Save" to validate settings.
- 3) Set arming duration;

Click "Duration" to enter the configuration interface of duration. The default is 24 hours displaying in blue bar, or user can customize durations.



Picture 6-17 Durations

- Set duration: select a day and put the mouse on a point of the timeline, left-click and drag the mouse to the right to draw a bright blue color bar, on the top of which shows the start time and end time; click the color bar to pop up a window for editing the accurate start and end time; click "Save" to validate setting. It allows maximum 8 durations on one day and the durations cannot overlap with each other.
- Copy duration: click the copy icon  behind the timeline and copy the durations on the day to one or several other days.
- Delete duration: click "Delete All" on the top of the timeline to delete all the durations; select any duration and click "Delete" on the popup window or on the top of the timeline to delete the duration.

After finishing, click "Save" to validate settings.

4) Configure linkage action;

Click "Linkage Action" to configure linkage methods on the interface. There are various linkage methods, including "Regular Linkage", "Linkage", "Recording" and "Snapshot".

Settings Duration Linkage Action			
<input type="checkbox"/> Regular Linkage	<input type="checkbox"/> Linkage	<input type="checkbox"/> Recording	<input type="checkbox"/> Snapshot
<input type="checkbox"/> Sound Alert	<input type="checkbox"/> Local->1	<input type="checkbox"/> D1	<input type="checkbox"/> D1
<input type="checkbox"/> Mail	<input type="checkbox"/> Local->2	<input type="checkbox"/> D2	<input type="checkbox"/> D2
<input checked="" type="checkbox"/> Report Center		<input type="checkbox"/> D3	<input type="checkbox"/> D3
<input type="checkbox"/> Send to HDMI			
<input type="checkbox"/> Send to VGA			
<input type="checkbox"/> Show Alarm OSD Text			

Picture 6-18 Linkage action

- Regular Linkage: including sound alert, mail, report center and etc.
 - Sound Alert: Select it and when there is an alarm, it will trigger sound alarming signal.
 - Mail: Configure email address in **Settings > Network > Other Protocol > SMTP**, and select "Mail". When there is an alarm, it will send the alarming message to the mailbox of configured recipient.
 - Report Center: Select it and when there is an alarm, it will report the alarming message to the surveillance center.
- Linkage: Select it and when there is an alarm, it will link to the connected alarming device to output alarm. Select output ports by requirements.
- Recording: Select it and when there is an alarm, it will start video recording and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.
- Snapshot: Select it and when there is an alarm, it will capture snapshots and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.

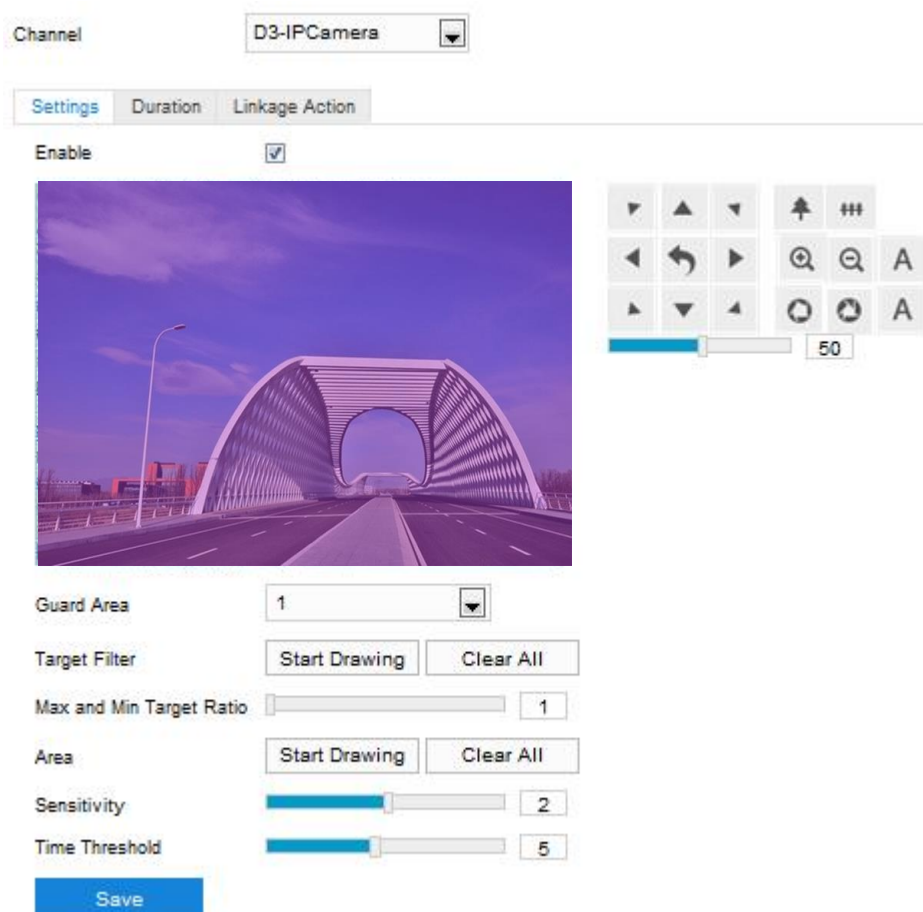
After finishing, click "Save" to validate settings.

6.7 Object Left

The function is to detect if there is any object being left in the set guard area and staying for a period of time reaching the set threshold. The camera will judge if it is necessary to trigger an alarm.

Configuration steps are as follows:

- 1) Go to **Settings > Event > Basic Intelligent Feature > Object Left** and select channel from the dropdown list;



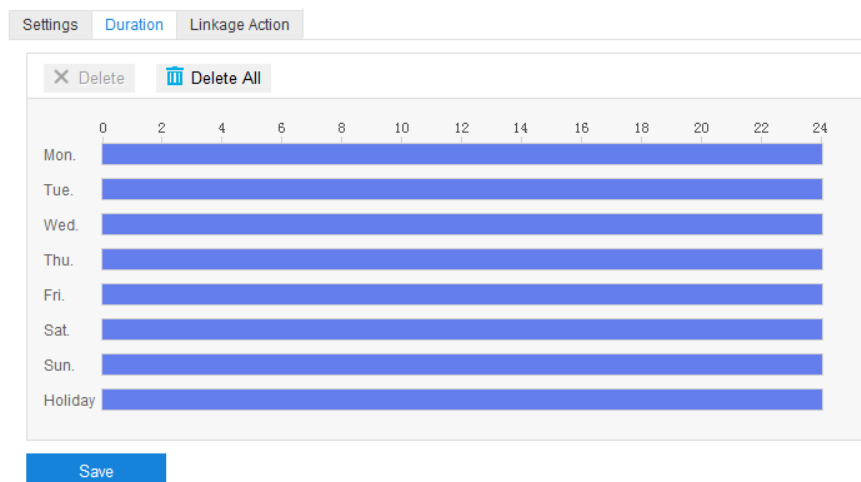
Picture 6-19 Object left

- 2) Configure parameters;
 - a) Select "Enable" to enable object left;
 - b) Adjust surveillance field of view through PTZ control;
 - c) Select a number from the dropdown list of "Guard Area". User can set only one guard area at one time. After saving, user can configure other areas. It supports maximum 4 guard areas;
 - d) Set "Target Filter", i.e. target area. Click "Start Drawing" and drag the mouse in the scene to draw a rectangle. Click "Stop Drawing" after finishing and drag the slide bar


of “Max and Min Target Ratio” (1% by default). Moving objects over max or below min will not trigger an alarm when they are left in the guard area(s);

- e) Area Setting: to set guard area. Click “Start Drawing” and click mouse to draw a closed area made up of 3 to 6 points in the scene. Right click or click the starting or ending point to close the area. Click “Stop Drawing” to finish editing;
 - f) Drag the slide bar of “Sensitivity”; the higher the sensitivity is, the easier it will trigger an alarm;
 - g) Drag the slide bar of “Time Threshold”, i.e. the maximum allowed time for the object to stay in the area. For example, if it is set 5 s, when there is an object entering the guard area and stays for 5 s, it will trigger an alarm;
 - h) After finishing, click “Save” to validate settings.
- 3) Set arming duration;

Click “Duration” to enter the configuration interface of duration. The default is 24 hours displaying in blue bar, or user can customize durations.



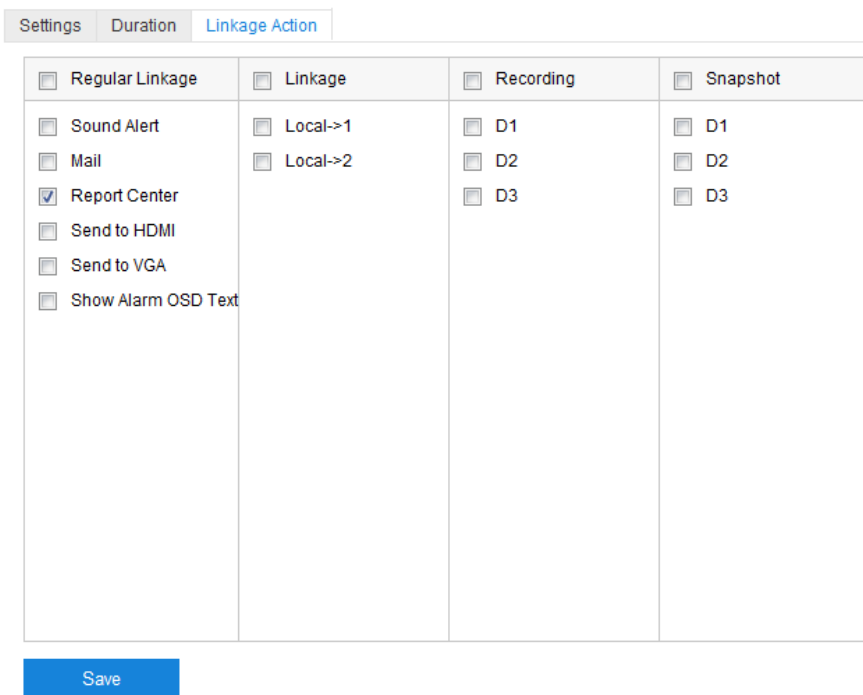
Picture 6-20 Durations

- Set duration: select a day and put the mouse on a point of the timeline, left-click and drag the mouse to the right to draw a bright blue color bar, on the top of which shows the start time and end time; click the color bar to pop up a window for editing the accurate start and end time; click "Save" to validate setting. It allows maximum 8 durations on one day and the durations cannot overlap with each other.
- Copy duration: click the copy icon  behind the timeline and copy the durations on the day to one or several other days.
- Delete duration: click "Delete All" on the top of the timeline to delete all the durations; select any duration and click "Delete" on the popup window or on the top of the timeline to delete the duration.

After finishing, click "Save" to validate settings.

4) Configure linkage action;

Click “Linkage Action” to configure linkage methods on the interface. There are various linkage methods, including “Regular Linkage”, “Linkage”, “Recording” and “Snapshot”.



Picture 6-21 Linkage action

- Regular Linkage: including sound alert, mail, report center and etc.
 - Sound Alert: Select it and when there is an alarm, it will trigger sound alarming signal.
 - Mail: Configure email address in **Settings > Network > Other Protocol > SMTP**, and select “Mail”. When there is an alarm, it will send the alarming message to the mailbox of configured recipient.
 - Report Center: Select it and when there is an alarm, it will report the alarming message to the surveillance center.
- Linkage: Select it and when there is an alarm, it will link to the connected alarming device to output alarm. Select output ports by requirements.
- Recording: Select it and when there is an alarm, it will start video recording and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.
- Snapshot: Select it and when there is an alarm, it will capture snapshots and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.

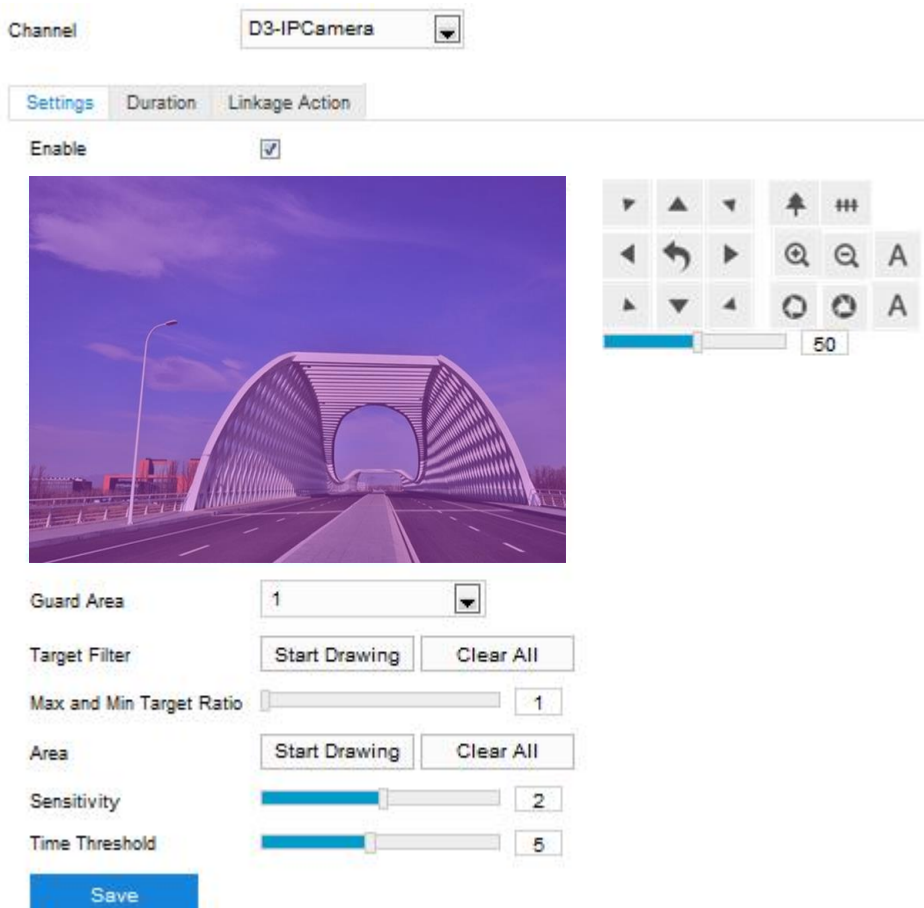
After finishing, click “Save” to validate settings.

6.8 Object Removal

The function is to detect if there is any object disappearing from the set guard area reaching the set time threshold. The camera will judge if it is necessary to trigger an alarm.

Configuration steps are as follows:

- 1) Go to **Settings > Event > Basic Intelligent Feature > Object Removal** and select channel from the dropdown list;



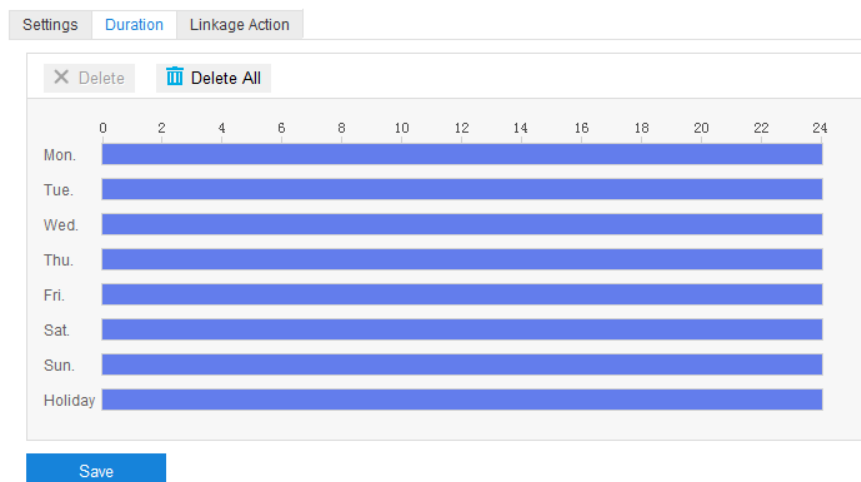
Picture 6-22 Object removal

- 2) Configure parameters;
 - a) Select “Enable” to enable object removal;
 - b) Adjust surveillance field of view through PTZ control;
 - c) Select a number from the dropdown list of “Guard Area”. User can set only one guard area at one time. After saving, user can configure other areas. It supports maximum 4 guard areas;
 - d) Set "Target Filter", i.e. target area. Click “Start Drawing” and drag the mouse in the scene to draw a rectangle. Click “Stop Drawing” after finishing and drag the slide bar


of “Max and Min Target Ratio” (1% by default). Moving objects over max or below min will not trigger an alarm when they disappear from the guard area(s);

- e) Area Setting: to set guard area. Click “Start Drawing” and click mouse to draw a closed area made up of 3 to 6 points in the scene. Right click or click the starting or ending point to close the area. Click “Stop Drawing” to finish editing;
 - f) Drag the slide bar of “Sensitivity”; the higher the sensitivity is, the easier it will trigger an alarm;
 - g) Drag the slide bar of “Time Threshold”, i.e. the maximum allowed time for the object to disappear from the area. For example, if it is set 5 s, when there is an object entering the guard area and stays for 5 s, it will trigger an alarm;
 - h) After finishing, click “Save” to validate settings.
- 3) Set arming duration;

Click “Duration” to enter the configuration interface of duration. The default is 24 hours displaying in blue bar, or user can customize durations.



Picture 6-23 Durations

- Set duration: select a day and put the mouse on a point of the timeline, left-click and drag the mouse to the right to draw a bright blue color bar, on the top of which shows the start time and end time; click the color bar to pop up a window for editing the accurate start and end time; click "Save" to validate setting. It allows maximum 8 durations on one day and the durations cannot overlap with each other.
- Copy duration: click the copy icon  behind the timeline and copy the durations on the day to one or several other days.
- Delete duration: click "Delete All" on the top of the timeline to delete all the durations; select any duration and click "Delete" on the popup window or on the top of the timeline to delete the duration.

After finishing, click "Save" to validate settings.

4) Configure linkage action;

Click “Linkage Action” to configure linkage methods on the interface. There are various linkage methods, including “Regular Linkage”, “Linkage”, “Recording” and “Snapshot”.

<input type="checkbox"/> Regular Linkage	<input type="checkbox"/> Linkage	<input type="checkbox"/> Recording	<input type="checkbox"/> Snapshot
<input type="checkbox"/> Sound Alert	<input type="checkbox"/> Local->1	<input type="checkbox"/> D1	<input type="checkbox"/> D1
<input type="checkbox"/> Mail	<input type="checkbox"/> Local->2	<input type="checkbox"/> D2	<input type="checkbox"/> D2
<input checked="" type="checkbox"/> Report Center		<input type="checkbox"/> D3	<input type="checkbox"/> D3
<input type="checkbox"/> Send to HDMI			
<input type="checkbox"/> Send to VGA			
<input type="checkbox"/> Show Alarm OSD Text			

Save

Picture 6-24 Linkage action

- Regular Linkage: including sound alert, mail, report center and etc.
 - Sound Alert: Select it and when there is an alarm, it will trigger sound alarming signal.
 - Mail: Configure email address in **Settings > Network > Other Protocol > SMTP**, and select “Mail”. When there is an alarm, it will send the alarming message to the mailbox of configured recipient.
 - Report Center: Select it and when there is an alarm, it will report the alarming message to the surveillance center.
- Linkage: Select it and when there is an alarm, it will link to the connected alarming device to output alarm. Select output ports by requirements.
- Recording: Select it and when there is an alarm, it will start video recording and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.
- Snapshot: Select it and when there is an alarm, it will capture snapshots and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.

After finishing, click “Save” to validate settings.

6.9 Gathering

When the coverage of people in the guard area exceeds a set ratio, the camera will judge if it is necessary to trigger an alarm. For example, if the ratio is set 50%, when 50% or more of the area is covered by people, an alarm will be triggered.

Configuration steps are as follows:

- 1) Go to **Settings > Event > Basic Intelligent Feature > Gathering** and select channel from the dropdown list;

Channel: D3-IPCamera

Settings | Duration | Linkage Action

Enable:

Scheme: 1

Associate Presets: Internal Preset

Ratio: 50

Area: Start Drawing Clear All

Save

PTZ Control: Load

Preset No.: 1

Enable Presets: No

Preset Name: preset-1

Save Delete

Picture 6-25 Gathering

- 2) Configure parameters;
 - i) Select “Enable” to enable gathering;
 - ii) Adjust surveillance field of view through PTZ control;
 - iii) Select a preset from the dropdown list of “Preset No.” and click “Save” to link the preset with the gathering alarming;
 - iv) Select a number from the dropdown list of “Scheme”;

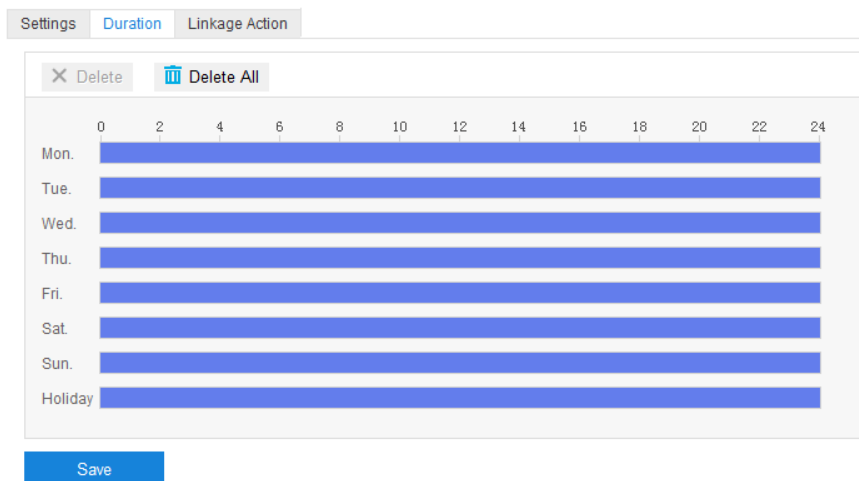
i Note: One scheme can configure one guard area. After saving, user can configure other guard areas. It supports maximum 4 guard areas.

- v) Select a number from the dropdown list of “Associated Presets”;


i Note: If selecting “Internal Preset”, when the device loads a preset and the preset is not linked with any intelligent event, it will load the intelligent event linking with internal preset.

- vi) Drag the slide bar of "Ratio" to set the coverage of people in the set area;
 - vii) Area Setting: to set guard area. Click “Start Drawing” and click mouse to draw a closed area made up of 3 to 6 points in the scene. Right click or click the starting or ending point to close the area. Click “Stop Drawing” to finish editing;
 - viii) After finishing, click “Save” to validate settings.
- 3) Set arming duration;

Click “Duration” to enter the configuration interface of duration. The default is 24 hours displaying in blue bar, or user can customize durations.



Picture 6-26 Durations

- Set duration: select a day and put the mouse on a point of the timeline, left-click and drag the mouse to the right to draw a bright blue color bar, on the top of which shows the start time and end time; click the color bar to pop up a window for editing the accurate start and end time; click "Save" to validate setting. It allows maximum 8 durations on one day and the durations cannot overlap with each other.
- Copy duration: click the copy icon  behind the timeline and copy the durations on the day to one or several other days.
- Delete duration: click "Delete All" on the top of the timeline to delete all the durations; select any duration and click "Delete" on the popup window or on the top of the timeline to delete the duration.

After finishing, click "Save" to validate settings.

- 4) Configure linkage action;

Click “Linkage Action” to configure linkage methods on the interface. There are various linkage methods, including “Regular Linkage”, “Linkage”, “Recording” and “Snapshot”.

<input type="checkbox"/> Regular Linkage	<input type="checkbox"/> Linkage	<input type="checkbox"/> Recording	<input type="checkbox"/> Snapshot
<input type="checkbox"/> Sound Alert	<input type="checkbox"/> Local->1	<input type="checkbox"/> D1	<input type="checkbox"/> D1
<input type="checkbox"/> Mail	<input type="checkbox"/> Local->2	<input type="checkbox"/> D2	<input type="checkbox"/> D2
<input checked="" type="checkbox"/> Report Center		<input type="checkbox"/> D3	<input type="checkbox"/> D3
<input type="checkbox"/> Send to HDMI			
<input type="checkbox"/> Send to VGA			
<input type="checkbox"/> Show Alarm OSD Text			

Picture 6-27 Linkage action

- Regular Linkage: including sound alert, mail, report center and etc.
 - Sound Alert: Select it and when there is an alarm, it will trigger sound alarming signal.
 - Mail: Configure email address in **Settings > Network > Other Protocol > SMTP**, and select “Mail”. When there is an alarm, it will send the alarming message to the mailbox of configured recipient.
 - Report Center: Select it and when there is an alarm, it will report the alarming message to the surveillance center.
- Linkage: Select it and when there is an alarm, it will link to the connected alarming device to output alarm. Select output ports by requirements.
- Recording: Select it and when there is an alarm, it will start video recording and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.
- Snapshot: Select it and when there is an alarm, it will capture snapshots and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.

After finishing, click “Save” to validate settings.

6.10 Audio Surge

When there is audio surge in the surveillance scene, the camera will judge if it is necessary to trigger an alarm.

Configuration steps are as follows:

- 1) Go to **Settings > Event > Basic Intelligent Feature > Audio Surge** and select channel from the dropdown list;

The screenshot shows the configuration interface for the Audio Surge feature. At the top, there is a 'Channel' dropdown menu currently set to 'D3-IPCamera'. Below this, there are three tabs: 'Settings', 'Duration', and 'Linkage Action'. The 'Settings' tab is selected and contains the following options:

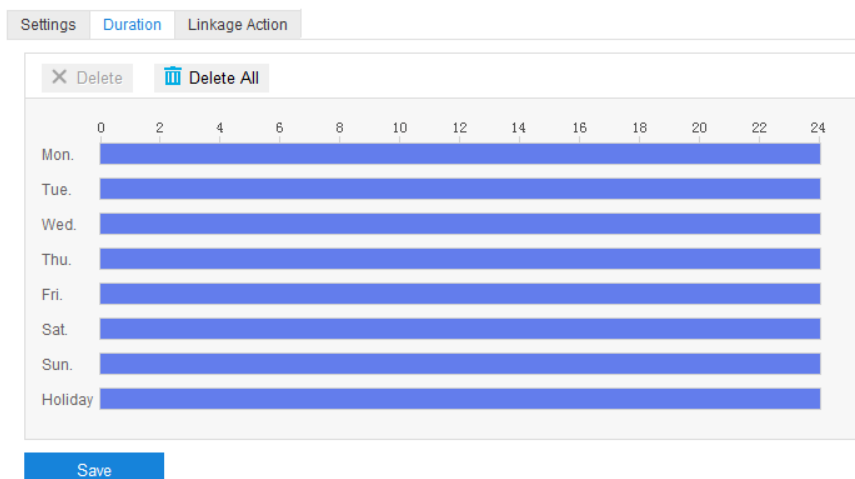
- Enable:** A checkbox that is checked.
- Sensitivity:** A slider control with a blue bar and a numerical input field set to 50.
- Voice Intensity Threshold:** A slider control with a blue bar and a numerical input field set to 50.

At the bottom of the configuration area, there is a blue 'Save' button.


Picture 6-28 Audio surge

- 2) Configure parameters;
 - a) Select "Enable" to enable audio surge;
 - b) Drag the slide bar of "Sensitivity" to adjust the detection sensitivity to voice mutation;
 - c) Drag the slide bar of "Voice Intensity Threshold" to configure the threshold value;
 - d) After finishing, click "Save" to validate settings.
- 3) Set arming duration;

Click "Duration" to enter the configuration interface of duration. The default is 24 hours displaying in blue bar, or user can customize durations.



Picture 6-29 Durations

- Set duration: select a day and put the mouse on a point of the timeline, left-click and drag the mouse to the right to draw a bright blue color bar, on the top of which shows the start time and end time; click the color bar to pop up a window for editing the accurate start and end time; click "Save" to validate setting. It allows maximum 8 durations on one day and the durations cannot overlap with each other.
- Copy duration: click the copy icon  behind the timeline and copy the durations on the day to one or several other days.
- Delete duration: click "Delete All" on the top of the timeline to delete all the durations; select any duration and click "Delete" on the popup window or on the top of the timeline to delete the duration.

After finishing, click "Save" to validate settings.

4) Configure linkage action;

Click "Linkage Action" to configure linkage methods on the interface. There are various linkage methods, including "Regular Linkage", "Linkage", "Recording" and "Snapshot".

Settings Duration Linkage Action			
<input type="checkbox"/> Regular Linkage	<input type="checkbox"/> Linkage	<input type="checkbox"/> Recording	<input type="checkbox"/> Snapshot
<input type="checkbox"/> Sound Alert	<input type="checkbox"/> Local->1	<input type="checkbox"/> D1	<input type="checkbox"/> D1
<input type="checkbox"/> Mail	<input type="checkbox"/> Local->2	<input type="checkbox"/> D2	<input type="checkbox"/> D2
<input checked="" type="checkbox"/> Report Center		<input type="checkbox"/> D3	<input type="checkbox"/> D3
<input type="checkbox"/> Send to HDMI			
<input type="checkbox"/> Send to VGA			
<input type="checkbox"/> Show Alarm OSD Text			

Picture 6-30 Linkage action

- Regular Linkage: including sound alert, mail, report center and etc.
 - Sound Alert: Select it and when there is an alarm, it will trigger sound alarming signal.
 - Mail: Configure email address in **Settings > Network > Other Protocol > SMTP**, and select “Mail”. When there is an alarm, it will send the alarming message to the mailbox of configured recipient.
 - Report Center: Select it and when there is an alarm, it will report the alarming message to the surveillance center.
- Linkage: Select it and when there is an alarm, it will link to the connected alarming device to output alarm. Select output ports by requirements.
- Recording: Select it and when there is an alarm, it will start video recording and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.
- Snapshot: Select it and when there is an alarm, it will capture snapshots and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.

After finishing, click “Save” to validate settings.

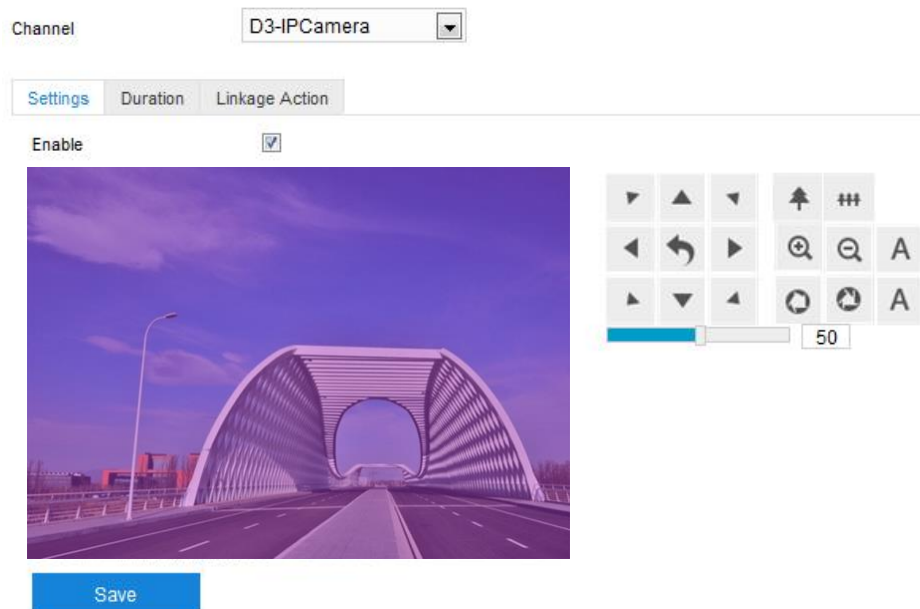
6.11 Face Detection

Face detection is to detect if there is human face appearing in the surveillance scene, and the camera will make judgment if it's necessary to capture a snapshot of the human face.

i Note: Only the channel D3 (channel of the close-up lens) supports the function of face detection on this interface. To enable face detection of channel D1 or D2, please refer to chapter [10 Intelligence](#).

Configuration steps are as follows:

- 1) Go to **Settings > Event > Basic Intelligent Feature > Face Detection**, and select channel from the dropdown list of "Channel";

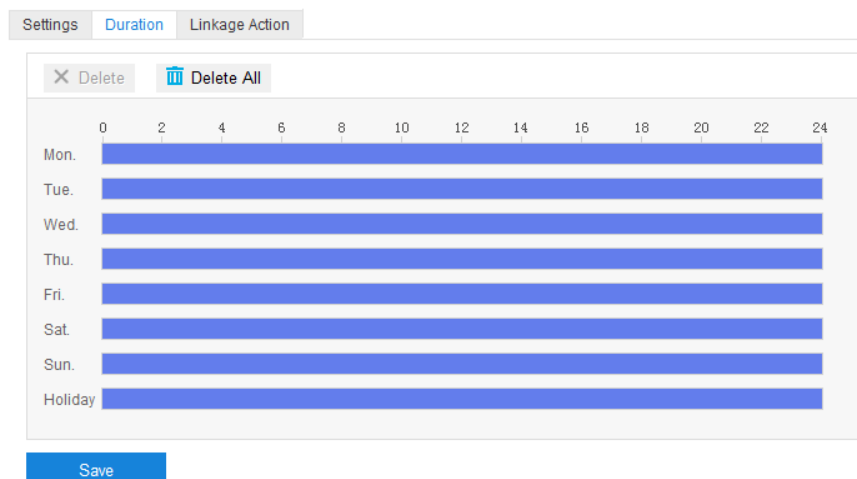


Picture 6-31 Face detection


- 2) Configure parameters;
 - a) Select "Enable" to enable face detection;
 - b) Adjust surveillance field of view through PTZ control;
 - c) After finishing, click "Save" to validate settings.

- 3) Set arming duration;

Click "Duration" to enter the configuration interface of duration. The default is 24 hours displaying in blue bar, or user can customize durations.



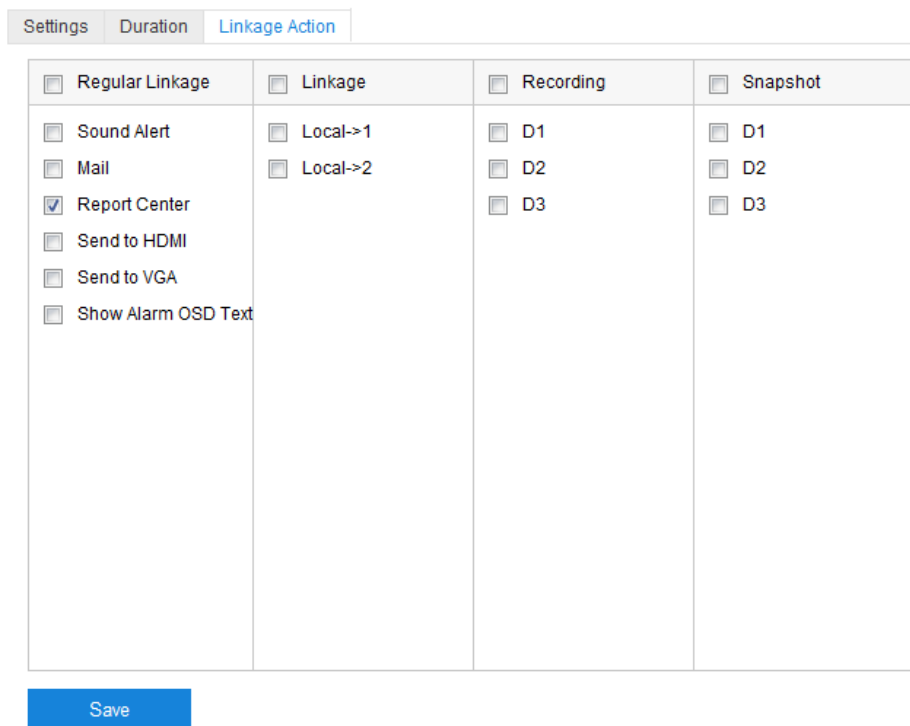
Picture 6-32 Durations

- Set duration: select a day and put the mouse on a point of the timeline, left-click and drag the mouse to the right to draw a bright blue color bar, on the top of which shows the start time and end time; click the color bar to pop up a window for editing the accurate start and end time; click "Save" to validate setting. It allows maximum 8 durations on one day and the durations cannot overlap with each other.
- Copy duration: click the copy icon  behind the timeline and copy the durations on the day to one or several other days.
- Delete duration: click "Delete All" on the top of the timeline to delete all the durations; select any duration and click "Delete" on the popup window or on the top of the timeline to delete the duration.

After finishing, click "Save" to validate settings.

4) Configure linkage action;

Click "Linkage Action" to configure linkage methods on the interface. There are various linkage methods, including "Regular Linkage", "Linkage", "Recording" and "Snapshot".



Picture 6-33 Linkage action

- Regular Linkage: including sound alert, mail, report center and etc.
 - Sound Alert: Select it and when there is an alarm, it will trigger sound alarming signal.
 - Mail: Configure email address in **Settings > Network > Other Protocol > SMTP**, and select “Mail”. When there is an alarm, it will send the alarming message to the mailbox of configured recipient.
 - Report Center: Select it and when there is an alarm, it will report the alarming message to the surveillance center.
- Linkage: Select it and when there is an alarm, it will link to the connected alarming device to output alarm. Select output ports by requirements.
- Recording: Select it and when there is an alarm, it will start video recording and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.
- Snapshot: Select it and when there is an alarm, it will capture snapshots and will stop until there is no moving object in the surveillance image. Select video recording channel by requirements.

After finishing, click “Save” to validate settings.

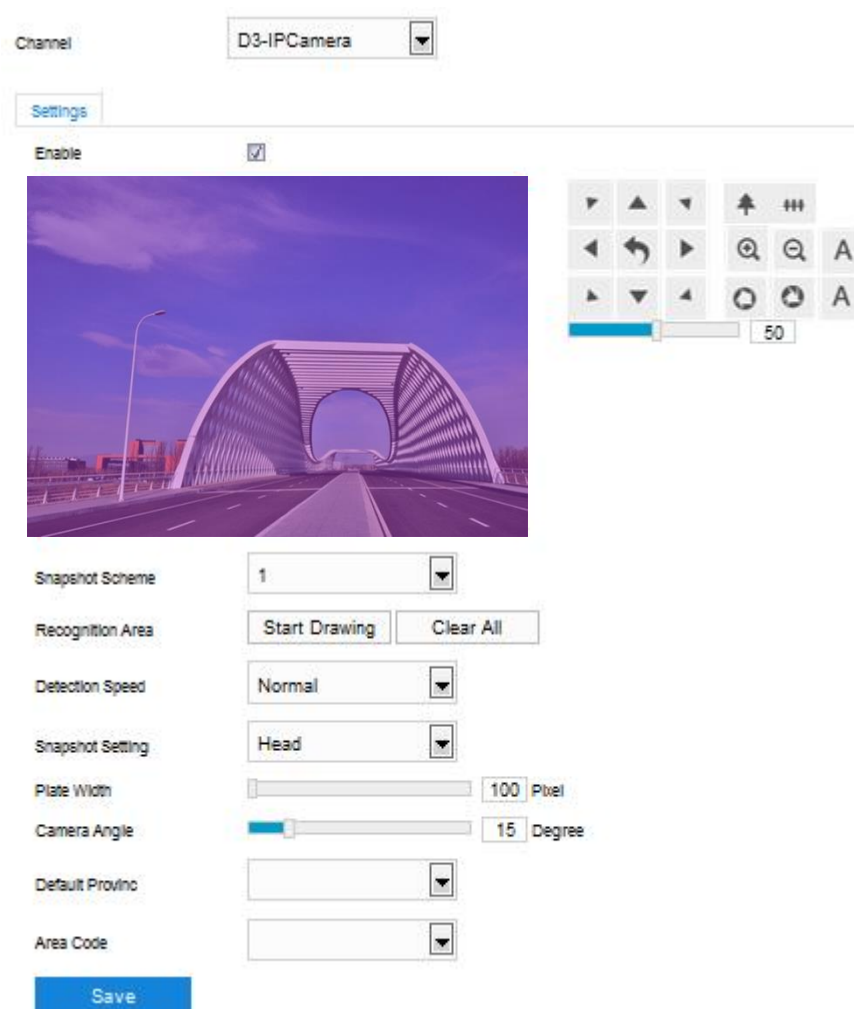
6.12 Car Plate Snapshot

Car plate snapshot is to detect if there is vehicle plate appearing in the surveillance scene, and the camera will make judgment if it's necessary to capture a snapshot of the vehicle plate.

i Note: Only the channel D3 (channel of the close-up lens) supports the function of vehicle plate snapshot on this interface. To enable vehicle plate snapshot of channel D1 or D2, please refer to chapter [10 Intelligence](#).

Configuration steps are as follows:


- 1) Go to **Settings > Event > Basic Intelligent Feature > Car Plate Snapshot**, and select channel from the dropdown list of "Channel";



Picture 6-34 Car plate snapshot

- 2) Select "Enable" to enable vehicle plate snapshot;
- 3) Adjust surveillance field of view through PTZ control;

- 4) Select a number from the dropdown list of “Snapshot Scheme”;

 Note: One scheme can configure one guard area. After saving, user can configure other guard areas. It supports maximum 4 guard areas

- 5) Recognition area setting: configure the recognition area. Click “Start Drawing” and click mouse to draw a closed area made up of 3 to 6 points in the scene. Right click or click the starting or ending point to close the area. Click “Stop Drawing” to finish editing;
- 6) Configure “Detection Speed”, i.e. the speed of vehicle plate recognition, options including “Normal” and “Fast”. When selecting “Fast”, the accuracy of vehicle plate recognition will decrease somehow;
- 7) Configure “Snapshot Setting” to select vehicle head or rear, the default being “Rear”;
- 8) Drag the slide bar of “Plate Width” to configure the vehicle plate width according to actual situation; drag the slide bar of “Camera Angle” by actual conditions, trying to be in accordance with camera installation angle as far as possible;
- 9) Select “Default Province” and “Area Code”;
- 10) After finishing, click “Save” to validate settings.

7. Network

Go to **Settings > Network** to configure the network parameters of the camera, including IP and port, upward protocol and other protocols.

7.1 IP and Port

7.1.1 Ethernet


Go to **Settings > Network > IP and Port > Ethernet** and configure network parameters, including IP address, subnet mask, default gateway and etc.

Working Mode	Multi-Address
NIC	LAN2
NIC Speed	Forcible 100M
IP Mode	Static
IP Address	10.67.38.158
Subnet Mask	255.255.240.0
Default Gateway	10.67.47.254
Obtain DNS Server Address Automatically	<input type="checkbox"/>
Preferred DNS Server	0.0.0.0
Alternate DNS Server	0.0.0.0
Default Route	LAN2

Save

Picture 7-1 LAN

- NIC Speed: Select NIC speed by requirement.
- IP Mode: Select the way to obtain IP address by requirement. When selecting “DHCP”, the camera will obtain IP address automatically; when selecting “Static”, user shall configure IP address, subnet mask and default gateway manually;

 Attention: The IP address cannot be edited in the segment of 192.168.1.x.

- **Obtain DNS Server Address Automatically:** Select this option if necessary. If selected, the camera will obtain the configuration parameters of DNS server from the gateway automatically; otherwise, user should configure DNS server parameters manually.
- **Default Route:** The default is “LAN2”, non-editable.

After finishing, click “Save” to validate settings.

7.1.2 Service Port

Go to **Settings > Network > IP and Port > Service Port** and configure the port parameters.

HTTP Port	<input type="text" value="80"/>	(1~65535)
RTSP Port	<input type="text" value="554"/>	(1~65535)
HTTPS Port	<input type="text" value="443"/>	(1~65535)

Picture 7-2 Service port

- **HTTP Port:** Hypertext Transport Protocol Port. When logging in through browser, user needs to add a port number behind camera IP address. For example, if HTTP port is edited as 83, when logging in through browser, you need to input "http://camera IP address:83". The number is 80 by default, range being 1 ~ 65535.
- **RTSP Port:** Real Time Streaming Protocol Port. When logging in through browser, user needs to add a port number behind camera IP address. For example, if RTSP port is edited as 555, when logging in through browser, you need to input “rtsp://camera IP address:555/id=0 (id=0 play main stream, id=1 play secondary stream)”. RTSP port number is 554 by default, range being 1 ~ 65535.
- **HTTPS Port:** Hypertext Transport Protocol Secure Port based on SSL. When logging in through browser, user needs to add a port number behind camera IP address. For example, if HTTPS port is edited as 442, when logging in through browser, you need to input "http://camera IP address:442". The number is 443 by default, range being 1 ~ 65535.

After finishing configuration, click “Save”.

7.1.3 Wi-Fi

Go to **Settings > Network > IP and Port > Wi-Fi**, and configure the wireless network parameters under Wi-Fi and other modes. Configuration steps are as follows:

The screenshot displays the Wi-Fi configuration interface, organized into three main sections:

- Wi-Fi Module:** A dropdown menu set to "External". A note states: "Switching the Wi-Fi module requires the device to reboot."
- Enable Wi-Fi:** A checked checkbox.
- Wi-Fi mode:** A dropdown menu set to "AP Hotspot".

2.4 GHz Wireless:

- 2.4 GHz Wireless:** Radio buttons for "Enable" (selected) and "Disable".
- SSID:** Text input field containing "IPC981-T230-NIRK308000001-2.4g". A checked checkbox for "Enable SSID Broadcasting" is to the right.
- Security Mode:** Dropdown menu set to "wpa2_personal".
- Encryption Protocol:** Dropdown menu set to "AES".
- WLAN Password:** Password input field with masked characters "*****". A "Show" checkbox is to the right.

5 GHz Wireless:

- 5 GHz Wireless:** Radio buttons for "Enable" (selected) and "Disable".
- SSID:** Text input field containing "IPC981-T230-NIRK308000001-5g". A checked checkbox for "Enable SSID Broadcasting" is to the right.
- Security Mode:** Dropdown menu set to "wpa2_personal".
- Encryption Protocol:** Dropdown menu set to "AES".
- WLAN Password:** Password input field with masked characters "*****". A "Show" checkbox is to the right.

Address and Extension:

- IP Address:** Text input field containing "192.200.1.200".
- Subnet Mask:** Text input field containing "255.255.255.0".
- Start Address for Allocation:** Text input field containing "192.200.1.100".
- End Address for Allocation:** Text input field containing "192.200.1.199".

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

Picture 7-3 Wi-Fi


- 1) Select Wi-Fi module from the dropdown list, the default being "External";



Note: When Wi-Fi module is switched, it takes effect upon rebooting the camera.

- 2) Select "Enable Wi-Fi";
- 3) Select Wi-Fi mode from the dropdown list by actual requirements, options including "AP Hotspot" and "WLAN";
 - AP Hotspot: As a transmitting terminal of wireless signal, camera can connect to the wireless terminal. The 2.4GHz and 5GHz frequency ranges

cannot be enabled at the same time. The address range of wireless terminal can be configured through "Address and Extension".

- 2.4GHz Wireless:
 - i) Select "Enable" to enable 2.4GHz Wi-Fi signal;
 - ii) Input camera SSID by request and SSID broadcasting is selected by default but user can unselect if necessary. After unselecting "Enable SSID Broadcasting", the camera will not be searched by other wireless terminal;
 - iii) Select "Security Mode" and "Encryption Protocol" from the dropdown list by requirements. Options for encryption protocol differ with different security modes;
 - iv) Input WLAN password by request, the default being "admin123". Select "Show" to display the password if necessary.
- 5GHz Wireless:
 - i) Select "Enable" to enable 5GHz Wi-Fi signal;
 - ii) Input camera SSID by request and SSID broadcasting is selected by default but user can unselect if necessary. After unselecting "Enable SSID Broadcasting", the camera will not be searched by other wireless terminal;
 - iii) Select "Security Mode" and "Encryption Protocol" from the dropdown list by requirements. Options for encryption protocol differ with different security modes;
 - iv) Input WLAN password by request, the default being "admin123". Select "Show" to display the password if necessary.
- Address and Extension
 - i) Input device IP address by request, the default being 192.200.1.200;
 - ii) Input subnet mask by request;
 - iii) Input start IP address and end IP address for allocation according to the configured IP address and subnet mask.
- WLAN: As a wireless terminal, camera can connect to wireless signal and access to the network.
 - a) Click "Refresh" to display the list of available nearby networks;
 - b) Select a Wi-Fi name from the list and click  ;

- c) On the popup interface, input Wi-Fi password and select “Show Advanced Settings”. The default IP mode is “DHCP”. If selecting “Static”, enter IP address, subnet mask, gateway and etc.


Add Connection	
Wireless Router SSID	TP-LINK_6D35
Password	
Show Password	<input type="checkbox"/>
Show Advanced Settings	<input checked="" type="checkbox"/>
IP Mode	DHCP
IP Address	
Subnet Mask	
Gateway	
Obtain DNS Server Address Automatically	<input checked="" type="checkbox"/>
Preferred DNS Server	
Alternate DNS Server	

Picture 7-4 Add connection

- d) Click “OK” to finish connection. Click “Refresh” to refresh the wireless network list.
- 4) After finishing configuration, click “Save”.

7.1.4 Mobile Network

Go to **Settings > Network > IP and Port > Mobile Network** to configure parameters of mobile network. The default option for “SIM” is “SIM1”; select “Enable Data Services” to enable mobile network.

 **Note:** Before enabling mobile network, make sure SIM card has been inserted into the camera.

SIM: SIM1

Enable Data Services:

APN

IP Mode: Auto APN

VPN

Enable VPN:

Traffic Monitoring

Enable Traffic Monitoring:

Other

Enable Routing Service:

Save

Picture 7-5 Mobile network

- APN: Configure the parameters of camera APN to the mobile network by requirements. Select an option from the dropdown list of “IP Mode”, options including “Auto APN” and “Manually”.
 - Auto APN: Select “Auto APN” from the dropdown list of “IP Mode”, and camera will recognize APN automatically according to the type of SIM card.
 - Manually: Select “Manually” from the dropdown list of “IP Mode”, and input SIM card information such as name, port and username.

APN

IP Mode: Manually

Name: CMNET

APN: cmnet

Proxy:

Port: 0

Username:

Password:

Server:

MMSC:

MNC: 0

PPP Telephone Number:

MMS Proxy:

MMS Port: 0

MCC: 460

Authentication Type: None

APN Type:

APN Protocol: IPv4

APN Roaming Protocol: IPv4

MVNO Type: None

MVNO Value:

Picture 7-6 APN setting

- VPN: Build up private network among the mobile networks of camera by requirements. Select “Enable VPN” and input VPN parameters by actual conditions.

VPN

Enable VPN

VPN List

Name

Type

Username

Password

Server Address

DNS Search Domain

DNS Server

Forward Route

Picture 7-7 VPN setting

- Traffic Monitoring: Configure the traffic monitoring function of camera mobile network by requirements. Select “Enable Traffic Monitoring” and input parameters by actual conditions.

Traffic Monitoring

Enable Traffic Monitoring

Stat Period

Traffic Alarm Threshold %

Total Traffic MB

Pre-interrupted Stream

Picture 7-8 Traffic monitoring

After finishing configuration, click “Save”.

7.1.5 DHCP Server

Go to **Settings > Network > IP and Port > DHCP Server** to configure parameters of DHCP server. When camera works as a network device in the management network, it could allocate IP addresses to accessed devices according to the address pool. Configuration steps are as follows:

Enable If you enable DHCP Server, the Wi-Fi function will be disabled.

Start IP Address

End IP Address

Lease Time Minute (1~2880)

Picture 7-9 DHCP server

- 1) Select “Enable” to enable DHCP server;

i Note: After enabling DHCP server, the AP hotspot function of the Wi-Fi will be disabled.

- 2) Input start and end IP addresses by requirements;
- 3) Input lease time of IP addresses, the range being 1~2880 minutes;
- 4) After finishing configuration, click “Save”.

7.2 Upward Protocol

7.2.1 VSIP

The web client supports accessing to back-end platform through VSIP protocol. Configuration steps are as follows:

- 1) Go to **Settings > Network > Upward Protocol > VSIP**;

Register with Platform

Register By

Platform IPv4

Platform Port (1~65535)

Device UUID

Device Password

Send NAT Probe

Report Secondary Stream

Report Virtual Channel

Picture 7-10 VSIP

- 2) Select "Register with Platform" to enable VSIP access;
- 3) Select a method from the dropdown list of "Register By";
- 4) Input "Platform IPv4" or "System Domain";
- 5) Input "Platform Port", the default being 5510;
- 6) Input "Device UUID" and "Device Password". The device UUID is distributed by back-end platform and the password needs no verification thus needs no edition;
- 7) When the camera is in NAT (using private IP address) and needs to access to the platform in a different segment, select "Send NAT Probe";
- 8) Select "Report Secondary Stream";
- 9) After finish, click "Save" to validate setting.

 Note:

- ◆ Please refer to the User Manual for PMC for the steps of adding front-end devices to back-end platform.
- ◆ VSIP protocol only supports registering to back-end platform of this company or other SDK-integrated back-end platforms.

7.2.2 SIP

SIP means GB28181 access protocol. Add the camera to GB platform according to the requirements of GB/T28181. Configuration steps are as follows:

- 1) Go to **Settings > Network > Upward Protocol > SIP;**

Register with Platform	Platform 1	Registration Failed
Enable	<input checked="" type="checkbox"/>	
Local Port	5060	(1024~65535)
Device ID	31000000001120000051	
Device Name	IPCamera	
Platform ID	31000000002000000000	
Platform IP	223.112.105.194	
Platform Port	5511	
Username	31000000001120000051	
Password	*****	
Renewal Time	3600	s (30~999999)
Heartbeat Interval	30	s (10~1000)
Number of Timeouts	6	(1~10)
Administrative Division		
Device Owner		
Guard Area		
Installation Address		
Number of Video Channels	3	<input type="button" value="Edit"/> (1~9)
Number of Alarm Channels	0	<input type="button" value="Edit"/> (0~7)

Standard Order

SIP->SIP Extension (2014)->SIP Extension (2016)

Extension>>

Picture 7-11 SIP

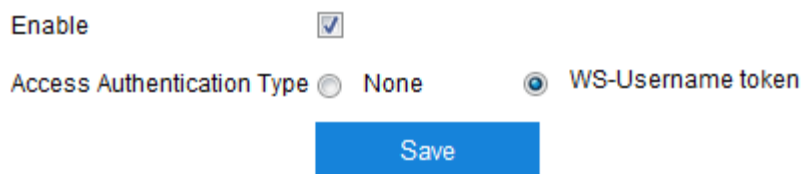
- 2) Select "Enable" and select "Register with Platform" (Platform 1 or Platform 2). The device supports registration to 2 different GB platforms;
- 3) Select "Enable" to enable GB28181 protocol access and input "Local Port";
- 4) Input "Device ID", "Platform ID", "Platform IP", "Platform Port", "Username", "Password" and "Number of Video Channels", which are all provided by registered platform;
- 5) After finishing, click "Save" to validate settings.

7.2.3 ONVIF

The client supports adding device to the back-end platform through ONVIF protocol, which enables different network video products such as front-end devices and video recorders, from different manufacturers to communicate with each other.

Configuration steps are as follows:

- 1) Go to **Settings > Network > Upward Protocol > ONVIF**;



Picture 7-12 ONVIF protocol

- 2) Select "Enable" to enable ONVIF protocol access. Afterwards, the device will generate a server address (URL) automatically, default port number being 80;
- 3) Select authentication method for ONVIF login. When selecting "None", user can login freely without username and password; when selecting "WS-Username token", user needs to verify username and password before login;
- 4) Click "Save" to validate settings.

7.2.4 VIID

The camera can upload the captured snapshots to VIID platform for future data analysis and comparison. Configuration steps are as follows:

- 1) Go to **Settings > Network > Upward Protocol > VIID**;

VIID	<input type="text" value="VIID 1"/>
Enable	<input type="checkbox"/>
Device ID	<input type="text" value="00000000000000000000"/>
VIID IP	<input type="text" value="0.0.0.0"/>
VIID Port	<input type="text" value="8080"/> (1~65535)
Username	<input type="text" value="admin"/>
Password	<input type="password" value="•••••"/>
Heartbeat Interval	<input type="text" value="60"/> (30~300)
Installation Address	<input type="text" value="1"/>
Administrative Division	<input type="text" value="1"/>
Department	<input type="text" value="1"/>
<input type="button" value="Save"/>	

Picture 7-13 VIID

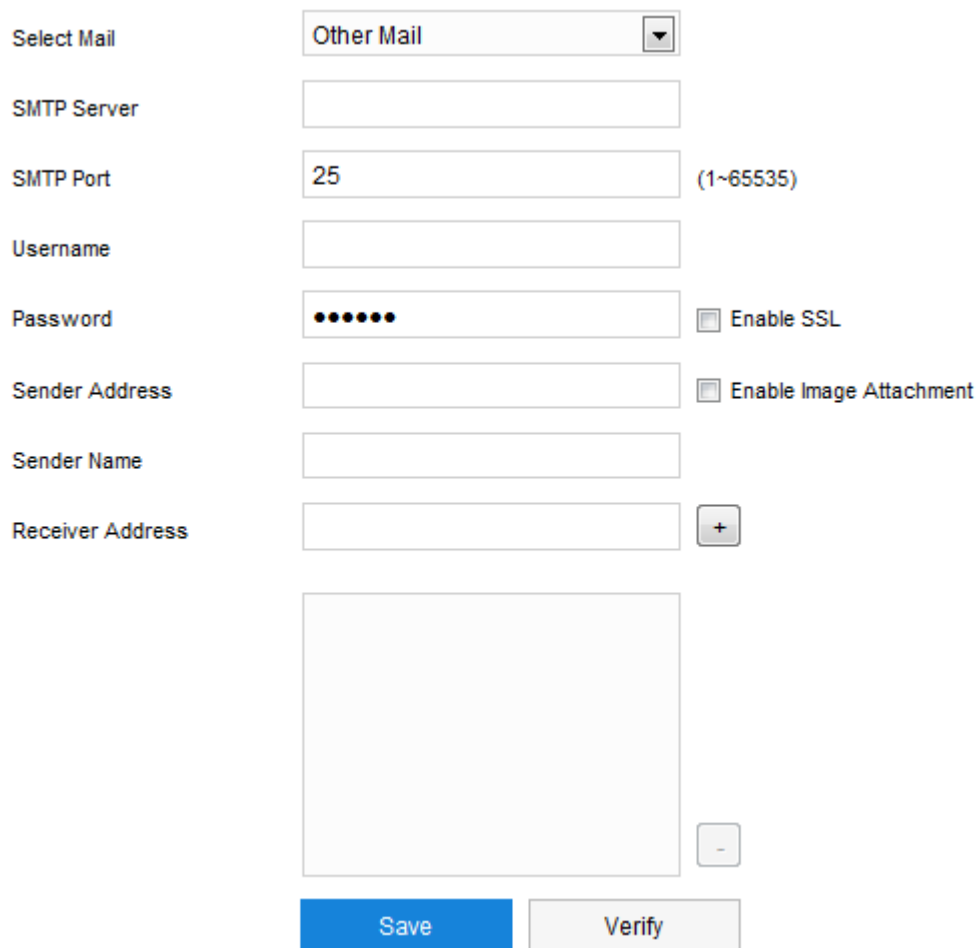
- 2) Select the registered VIID from the dropdown list of "VIID";
- 3) Select "Enable" to enable VIID access;
- 4) Enter VIID platform ID in "Device ID";
- 5) Enter VIID platform IP address and port number in "VIID IP" and "VIID Port";
- 6) Enter VIID platform username and password in "Username" and "Password";
- 7) Heartbeat interval is used to detect abnormal disconnection of TCP. Usually it sends simple communication packets periodically. If the system does not receive any response from the other side in the configured interval, it will judge the other side has been disconnected. For example, if the parameter is set 30, the system will send the packet once every 30 s;
- 8) Enter installation address and administrative division if necessary for device positioning;
- 9) Click "Save" to validate settings.

7.3 Other Protocol

7.3.1 SMTP

SMTP is the acronym of Simple Message Transfer Protocol. When an alarm is triggered, the system will send email notification automatically through SMTP protocol. Configuration steps are as follows:

- 1) Go to **Settings > Network > Other Protocol > SMTP**;



Select Mail: Other Mail

SMTP Server: []

SMTP Port: 25 (1~65535)

Username: []

Password: [] Enable SSL

Sender Address: [] Enable Image Attachment

Sender Name: []

Receiver Address: []


[]

Save Verify

Picture 7-14 SMTP

- 2) Select mail type;
- 3) Input SMTP server IP and SMTP port number, whose range is 1 ~ 65535 and the default being 25;
- 4) Input "Username" and "Password" to enable SSL protocol;
- 5) Input "Sender Address" and "Sender Name"; optionally select "Enable Image Attachment";

- 6) Add "Receiver Address". Input the receiver's email address and click the symbol "+" behind it and the address will be saved to the list below. Select an address from the list and click the symbol "-" to remove the email address;
- 7) Click "Verify" to test the availability of the receiver address;
- 8) Click "Save" to validate setting.

 Note: After finishing configuration and when email notification is enabled, it will send alarm notification emails normally.

7.3.2 DDNS

DDNS (Dynamic Domain Name Server) is to connect the camera to various servers so that user can login to the camera through the servers. Apply domain names at different server websites and then visit the device by the domain names directly even if the IP address has been modified. Therefore, efficiently solve the problem of visiting the camera through public networks. Configuration steps are as follows:

- 1) Go to **Settings > Network > Other Protocol > DDNS**;

Enable	<input type="checkbox"/>
DDNS Type	<input type="text" value="CAMTRONICS"/>
Device Domain	<input type="text"/>
Server Address	<input type="text"/>
Username	<input type="text" value="admin"/>
Password	<input type="text"/>
Port	<input type="text" value="80"/>
MAC Address of Device	<input type="text" value="001423221456"/>
<input type="button" value="Save"/>	

Picture 7-15 DDNS

- 2) Select "Enable" to enable DDNS service;
- 3) Input "Device Domain" and "Server Adress";
- 4) Input "Username" and "Password";
- 5) Click "Save" to validate setting.

7.3.3 FTP

The web client supports FTP protocol and user can upload the pictures of the camera to specific FTP server. Configuration steps are as follows:

- 1) Go to **Settings > Network > Other Protocol > FTP**;

IP	<input type="text" value="10.67.38.129"/>	
Port	<input type="text" value="2312"/>	(1~65535)
Username	<input type="text" value="admin"/>	<input type="checkbox"/> Anonymous Login
Password	<input type="password"/>	
Directory	<input type="text" value="Level 2"/>	▼
One Level	<input type="text" value="Time"/>	▼
Two Levels	<input type="text" value="Device ID"/>	▼
	<input type="checkbox"/> Upload Picture	
	<input type="button" value="Test"/>	<input type="button" value="Save"/>

Picture 7-16 FTP

- 2) Input FTP server "IP" and "Port";
- 3) Input "Username" and "Password" of users who have the authority to upload. If an anonymous user also has the authority to upload, select "Anonymous Login" to visit FTP server anonymously;
- 4) Configure directory structure, i.e. the file save path. Select from the dropdown list by actual request, options including "Root", "Level 1" and "Level 2";
- 5) Select "Upload Picture" if necessary;
- 6) Click "Test" to verify if current FTP is available, and the result will show on the popup dialogue box;
- 7) Click "Save" to validate setting.

8. Capture

After configuring the hard disks for the camera, user can perform schedule settings.



Note: The camera supports configuration of video recording schedule by channels.

8.1 Recording Schedule


Go to **Settings > Capture > Recording Schedule** to configure video recording schedule. After finishing configuration of recording schedule, camera will execute the recording tasks according to the schedule automatically and save the recordings on hard disks. Configuration steps are as follows:

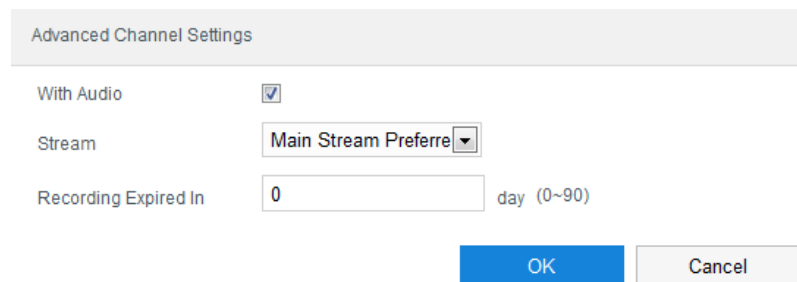
- 1) Go to **Settings > Capture > Recording Schedule**;

	0	2	4	6	8	10	12	14	16	18	20	22	24
Mon.	[Blue bar from 0 to 24]												
Tue.	[Blue bar from 0 to 24]												
Wed.	[Blue bar from 0 to 24]												
Thu.	[Blue bar from 0 to 24]												
Fri.	[Blue bar from 0 to 24]												
Sat.	[Blue bar from 0 to 24]												
Sun.	[Blue bar from 0 to 24]												
Holiday	[Blue bar from 0 to 24]												

Picture 8-1 Recording schedule

- 2) Select the channel for recording schedule from the dropdown list;
- 3) Select recording mode, options including “Always Enabled”, “Scheduled and Event Triggered” and “Always Disabled”;
- 4) Configure durations for recording schedule: the default is 24 hours displaying in blue bar, or user can customize durations. The maximum allowed number of durations is 8 on one day;
 - a) Left-click on one day to select the day and drag the mouse from left to right to configure duration;
 - b) Click the duration to pop up a window for editing the accurate start time and end time; click "Save" to complete setting of recording schedule;

- c) Click any free point on the timeline without a task to configure another duration, and different durations cannot overlap with each other;
 - d) Click the copy icon  behind the timeline to pop up a window and copy the durations on the day to one or several other days;
 - e) Select any duration and click "Delete" above the timeline or on the time-editing window to delete the duration. Click "Delete All" above the timeline to delete all durations in the week.
- 5) Click "Advanced Channel Setting" to pop up a dialogue box for configuring video recording parameters;



Advanced Channel Settings

With Audio

Stream Main Stream Preference

Recording Expired In day (0~90)

OK Cancel

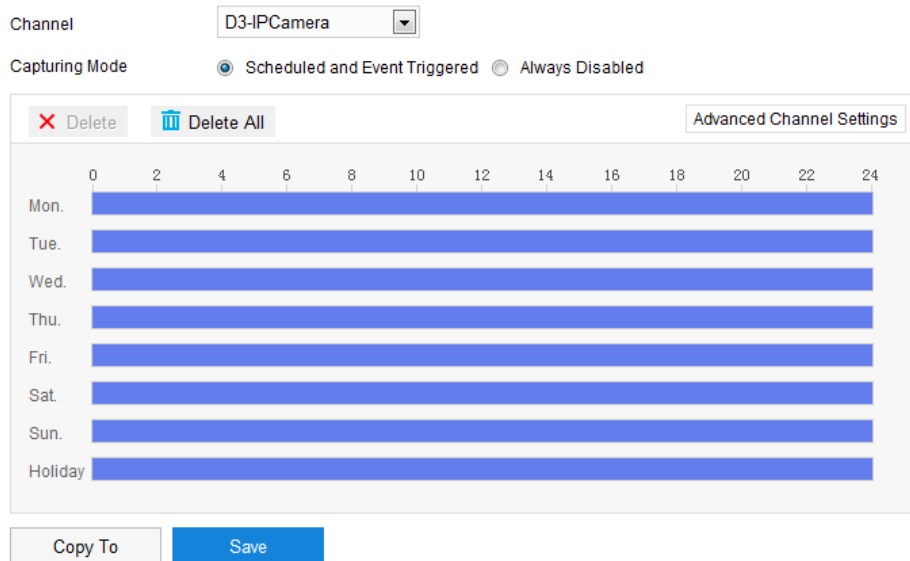
Picture 8-2 Advanced channel setting

- a) Select "With Audio", and the audio stream will be recorded at the same time of video recording;
 - b) Select stream of video recording from the dropdown list;
 - c) Configure term of validity for video recording, the range being 0~90 days;
 - d) After finishing, click "OK".
- 6) Click "Copy To" to copy durations of recording schedule to other channels;
- 7) Click "Save" to validate settings.


8.2 Snapshot Schedule

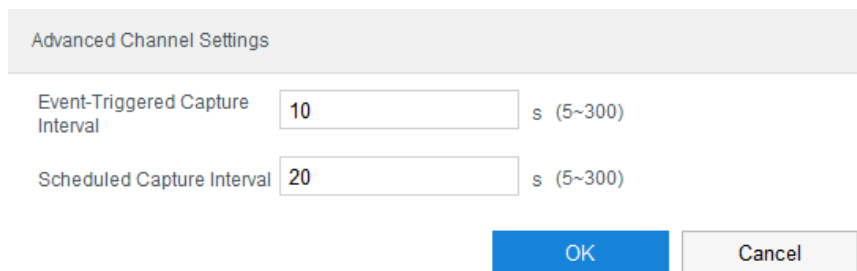
Go to **Settings > Capture > Snapshot Schedule** to configure snapshot schedule. After finishing configuration of snapshot schedule, camera will execute the snapshot tasks according to the schedule automatically and save the snapshots on hard disks. Configuration steps are as follows:

- 1) Go to **Settings > Capture > Snapshot Schedule**;



Picture 8-3 Snapshot schedule

- 2) Select the channel for snapshot schedule from the dropdown list;
- 3) Select capturing mode, options including “Scheduled and Event Triggered” and “Always Disabled”;
- 4) Configure durations for snapshot schedule: the default is 24 hours displaying in blue bar, or user can customize durations. The maximum allowed number of durations is 8 on one day;
 - a) Left-click on one day to select the day and drag the mouse from left to right to configure duration;
 - b) Click the duration to pop up a window for editing the accurate start time and end time; click "Save" to complete setting of snapshot schedule;
 - c) Click any free point on the timeline without a task to configure another duration, and different durations cannot overlap with each other;
 - d) Click the copy icon  behind the timeline to pop up a window and copy the durations on the day to one or several other days;
 - e) Select any duration and click "Delete" above the timeline or on the time-editing window to delete the duration. Click "Delete All" above the timeline to delete all durations in the week.
- 5) Click “Advanced Channel Setting” to pop up a dialogue box for configuring snapshot parameters;



Picture 8-4 Advanced channel setting

- a) Configure “Event-Triggered Capture Interval”, the range being 5~300 s;
 - b) Configure “Scheduled Capture Interval”, the range being 5~300 s;
 - c) After finishing, click “OK”.
- 6) Click “Copy To” to copy durations of snapshot schedule to other channels;
 - 7) Click “Save” to validate settings.

8.3 Holiday

After configuring holiday, camera will suspend video recording and snapshot actions during holiday. It supports totally 12 holidays and single holiday supports continuous calendar days. Configuration steps are as follows:

- 1) Go to **Settings > Capture > Holiday**;

No.	Name	Start Date	End Date	Status	Edit
1				Close	
2				Close	
3				Close	
4				Close	
5				Close	
6				Close	
7				Close	
8				Close	
9				Close	
10				Close	
11				Close	
12				Close	

Picture 8-5 Holiday setting

- 2) Select one line and click “Edit”. On the popup window, select “Enable” to enable holiday. Input holiday “Name”, select “Select Date By”, configure “Start Time” and “End Time”, and click “OK” to finish;

The screenshot shows a dialog box titled "Edit". It contains the following elements:

- Enable:** A checkbox that is currently unchecked.
- Name:** A text input field.
- Select Date By:** A dropdown menu.
- Start Time:** A date picker showing "05-02-2021".
- End Time:** A date picker showing "05-02-2021".
- Buttons:** "OK" and "Cancel" buttons at the bottom right.

Picture 8-6 Edit holiday

- 3) Click "Save" to complete setting.

8.4 Advanced Setting

Go to **Settings > Capture > Advanced** to configure the storage strategy when the recording space is full, and configure parameters of pre-recording time and prolong recording time.

The screenshot shows the "Advanced" settings page with the following configuration:

- When recording space is full:** Radio buttons for "Overwrite data" (selected) and "Stop recording".
- Pre-recording:** Input field with value "6" and unit "s (6~300)".
- Prolong Recording:** Input field with value "6" and unit "s (6~300)".
- Buttons:** A "Save" button at the bottom.

Picture 8-7 Advanced setting

- When recording space is full: Configure the video recording strategy when there is insufficient storage space on hard disks. "Overwrite data": when there is insufficient storage space, overwrite the oldest video; "Stop recording": when there is insufficient storage space, stop video recording automatically.
- Pre-recording: i.e. the prerecord duration before recording starts. It is certain to be 30 s.
- Prolong Recording: i.e. the prolonged recording duration after the configured duration.

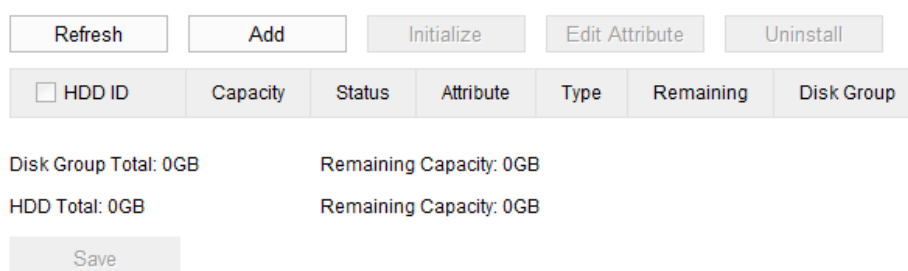
9. Storage

Go to **Settings > Storage > Basic** to view storage device list and format storage card. When camera storage is configured and the storage device works normally, user can configure camera recording schedule and snapshot schedule.



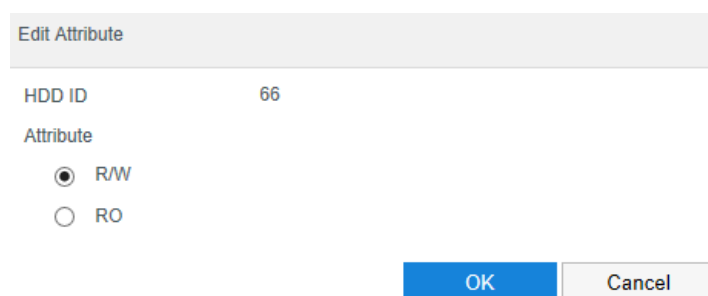
Note:

- ◆ Camera supports using 2 SD cards at the same time.
- ◆ When using a storage card for the first time, please click "Initialize" to format the SD card first.



Picture 9-1 Storage management

- Refresh: Click "Refresh" to display the latest parameters on the list below, such as "Capacity", "Status" and etc.
- Initialize: Select the SD card(s) to be initialized, or select "HDD ID" to select all SD cards, click "Initialize" and click "OK" on the popup window to format the selected disk(s).
- Edit Attribute: Select the SD card(s) to edit attribute, or select "HDD ID" to select all SD cards, click "Edit Attribute" to pop up a window displaying the HDD ID, select "R/W" or "RO" as the attribute, and click "OK" to validate settings.



Picture 9-2 Edit HDD attribute

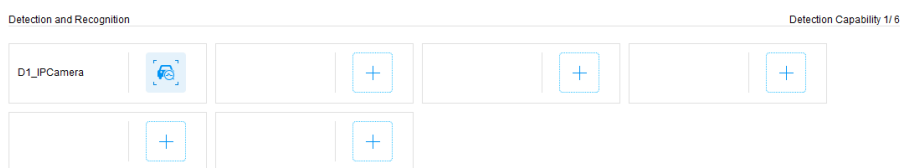
After finishing, click "Save" to validate settings.

10. Intelligence

10.1 Intelligent Processing

Go to **Settings > Intelligence > Intelligent Processing** to configure the face and vehicle plate detection and recognition schemes for channel D1 and D2. It allows maximum 6 detection schemes.

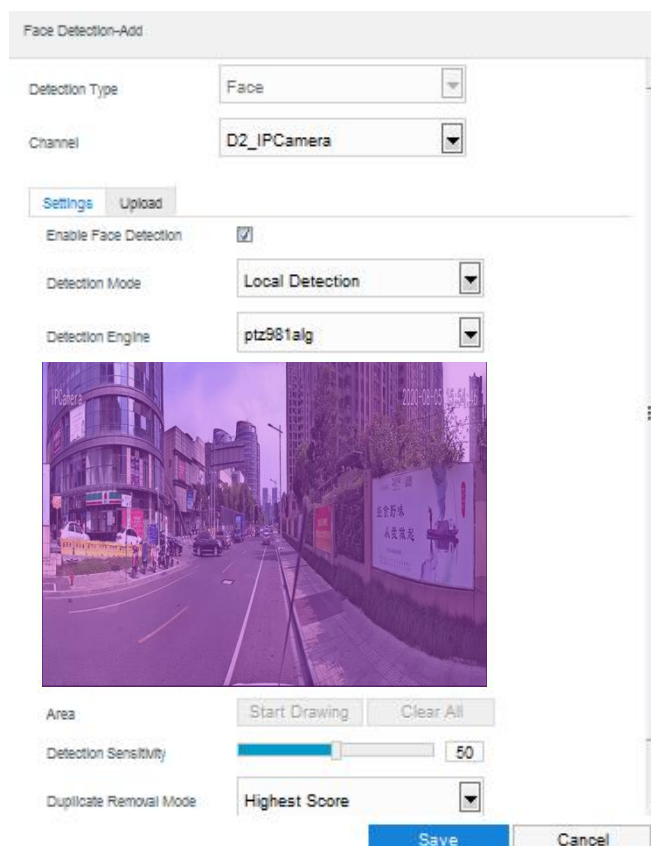
i Attention: Channel D1 and D2 allow to enable maximum 1 vehicle plate recognition scheme at the same time, and the face recognition and vehicle plate detection cannot be enabled at the same time in the same channel.



Picture 10-1 Intelligent processing

Configuration steps of intelligent processing:

- 1) Click to pop up a dialogue box of adding face detection;



Picture 10-2 Add face detection

- 2) Select “Face” or “Vehicle” from the dropdown list of “Detection Type”, and select “D1_IPCamera” or “D2_IPCamera” from the dropdown list of “Channel”;
- 3) Configure parameters;
 - a) Select “Enable Face Detection” or “Enable Vehicle Detection” to enable face detection or vehicle detection;
 - b) Detection mode is fixed to be “Local Detection” and detection engine is certain to be the uploaded algorithm engine;
 - c) Drag the slide bar of “Detection Sensitivity” by requirements. The larger the value is, the stronger the sensitivity will be. The adjustable range is 0~100, and the default is 50;
 - d) The default option for “Duplicate Removal Mode” is “Highest Score”.



Note: The default is full area detection.

- 4) Processing method:

Picture 10-3 Processing method

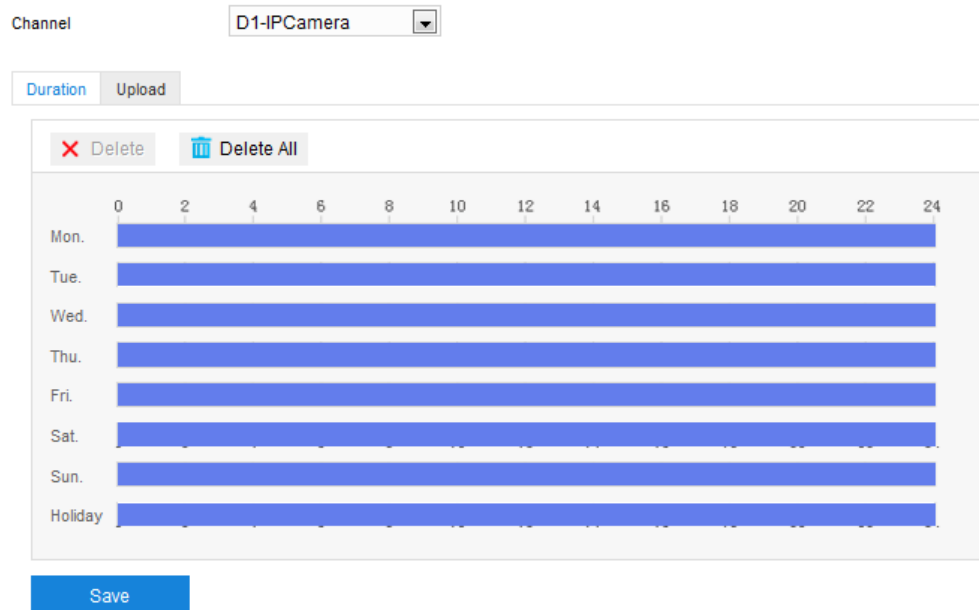
- a) Select the VIID to upload snapshots;
 - b) Select snapshot mode from the dropdown list.
- 5) After finishing, click “Save” to validate settings.



Note: After saving detection parameters, click / to edit the configured parameters; click to delete the configured parameters.

10.2 VIID

Go to **Settings > Intelligence > VIID** to configure the face and vehicle snapshot schedule for channel D1 and D2.




Picture 10-4 VIID big data

Configuration steps of VIID big data are as follows:

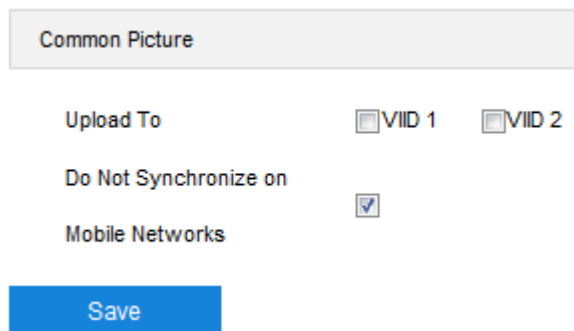
- 1) Select "D1-IPCamera" or "D2-IPCamera" from the dropdown list of "Channel";
- 2) Configure schedule durations;

Click "Duration" to enter duration edition interface and configure the schedule. The default is 24 hours displaying in blue bar, or user can customize durations.

- Set duration: select a day and put the mouse on a point of the timeline, left-click and drag the mouse to the right to draw a bright blue color bar, on the top of which shows the start time and end time; click the color bar to pop up a window for editing the accurate start and end time; click "Save" to validate setting. It allows maximum 8 durations on one day and the durations cannot overlap with each other.
- Copy duration: click the copy icon  behind the timeline and copy the durations on the day to one or several other days.
- Delete duration: click "Delete All" on the top of the timeline to delete all the durations; select any duration and click "Delete" on the popup window or on the top of the timeline to delete the duration.

After finishing, click "Save" to validate setting.

- 3) Configure processing method. Click "Upload" to enter the interface of configuration.



Common Picture

Upload To VID 1 VID 2


Do Not Synchronize on

Mobile Networks

Save

Picture 10-5 Processing method

- Select the VIID by request.
- Select “Do Not Synchronize on Mobile Networks”, and when face or vehicle detection is working, it will not use mobile networks. It is selected by default.

 Note: When using mobile networks, go to **Settings > Network > IP and Port > Mobile Network** to confirm data services is enabled.

After finishing, click “Save” to validate settings.

11. System

11.1 Basic

Go to **Settings > System > Basic** to configure basic parameters.

11.1.1 Basic

Go to **Settings > System > Basic > Basic** to configure basic parameters.

Basic parameters include device name, device ID and operation password. User can customize device name but specific symbols are not supported.

After selecting “Enable Operation Password”, it will pop up a window to verify password. Input password and click “OK” to validate setting. After finishing setting, user should verify admin user password again when initializing HDD, editing admin email address, restoring factory defaults to improve system security level, which is limited to admin user only. The interface is like the following shows.


Device Name	<input type="text" value="IPCamera"/>	
Device ID	<input type="text" value="255"/>	(1~255)
Enable Operation Password	<input checked="" type="checkbox"/>	
<input type="button" value="Save"/>		

Picture 11-1 Device info

11.2 Time

Go to **Settings > System > Time** to configure device time, including timezone, time, auto time synchronization, NTP time synchronization and DST. Configure time by actual requirements. After finishing, click “Save” to validate setting.

Picture 11-2 Time setting

- Timezone/ Time: Select timezone from the dropdown list and click  behind time to configure time. Optionally select "Use PC time" to synchronize device time with PC time.
- DST: (daylight saving time) It is the practice of advancing clocks during summer months so that evening daylight lasts longer, while sacrificing normal sunrise times and the time applied during DST is called DST time. Select "Enable DST" and set "Start Time", "End Time" and "Time Offset".
- Auto Time Synchronization: Select "Enable Auto Time Synchronization" and select "AUTO" or any protocol from the dropdown list (including NTP, VSIP, ONVIF, SIP-1, SIP-2). Configure the "Poll Interval".
 - AUTO: When selecting "AUTO", select protocols by requirements and set "Priority" sequence and poll interval (i.e. the save time during protocol switching).
 - Protocol: The protocol of the device to add to platform or server. When selecting a protocol, the device will synchronize time automatically with the platform or server using the protocol.



Note:

- ◆ In the box of “Priority”, the option on the top has higher priority.
- ◆ Select a protocol and click “Move Up” to improve its priority and “Down” to decrease its priority; click “Default” to apply the default priority levels.
- ◆ If selecting “NTP”, configure the parameters thereof.

11.3 User Safety

11.3.1 User Information

Go to **Settings > System > User Safety > User Information** to add or delete user, edit username and password, configure user authorizations and etc.

Create					
Username	Level	Status	Edit User	Delete User	Authorization
admin	-	1 Online	Edit	-	-

Picture 11-3 User information

- Add user: Click “Create”, and enter username and password on the popup interface. Select “User Level” from the dropdown list, options including “Administrator”, “Operator” and “Viewer”. After setting, click “OK”.

Create User

Username

Password

Low
High

A password can be 8-16 bits long and can consist of digits, letters (upper/lower case), and special characters. A password cannot consist of only digits/letters/special characters.

Confirm Password

User Level ▼

Picture 11-4 Add user

- Edit user: Select user and click “Edit” under the column of “Edit User” to edit on the popup interface. The editable parameters include username, password, user level and status. After finishing, click “OK”.

Picture 11-5 Edit user

- Delete user: Select user and click “Delete” under the column of “Delete User”. On the popup interface, click “OK” to delete the selected user.

Picture 11-6 Delete user

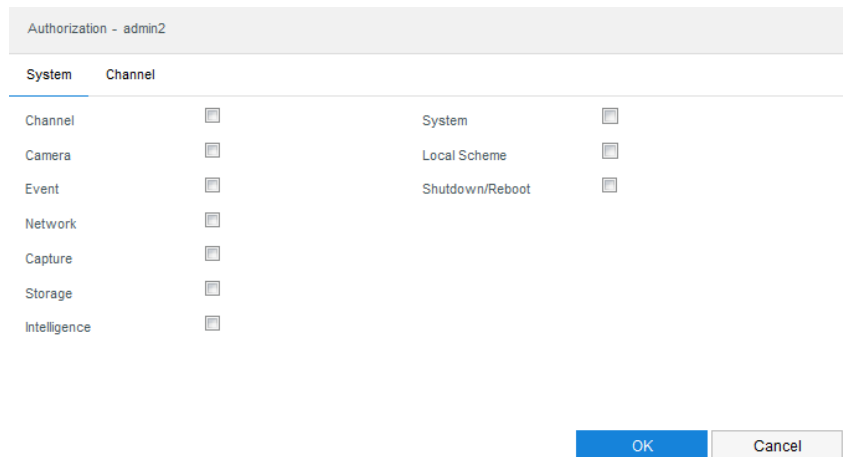
i Attention: “admin” user cannot be deleted and its username cannot be edited. Only its password cannot be modified.

- Authorization: Select user and click “Authorization” under the column of “Authorization”. On the popup interface, assign system authorities and channel authorities to the user.

i Note:

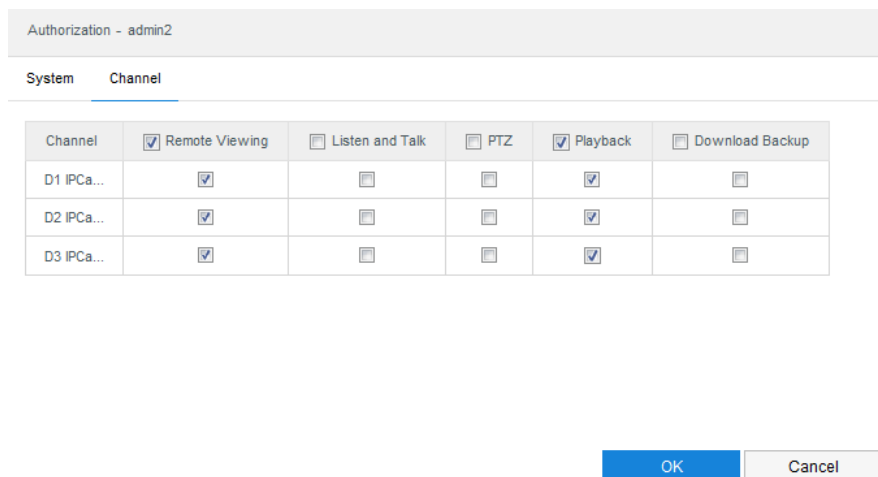
- ◆ By default, administrator user has the authorities of all options; operator user has the authorities of remote live viewing, listening to the dialogue, adjusting PTZ control, playing back video recordings and downloading videos and snapshots; view user only has the authorities of live viewing and playing back videos.
- ◆ Some settings take effect after rebooting the camera, which requires user with both the authorizations of configuration and reboot.

- **System Authority:** On the interface of system authority, allocate system authorities to the user by requirements.



Picture 11-7 System authority

- **Channel authority:** On the interface of channel authority, allocate channel authorities to the user by requirements.



Picture 11-8 Channel authority

After finishing allocation, click “OK”.

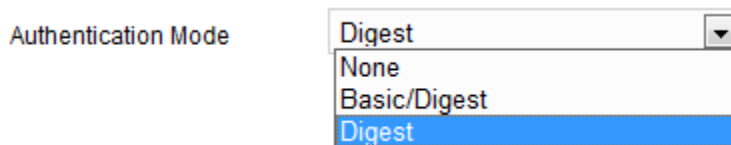
11.3.2 RTSP Authentication

Go to **Settings > System > User Safety > RTSP Authentication**, and select authentication mode from the dropdown list, options including “None”, “Basic/Digest” and “Digest”. By default, it is “Basic/Digest”.



Note: “Basic” means basic authentication, which transfers messages without encryption and has a severe safety risk; “Digest” means digest

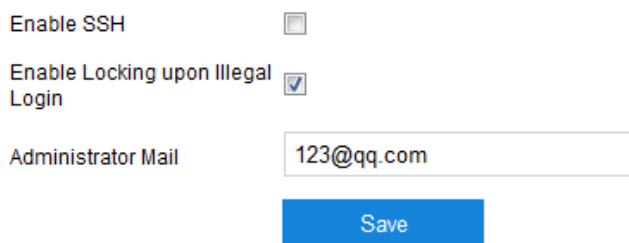
authentication, which transfers information through MD5 Hash conversion and has a higher level of safety.



Picture 11-9 RTSP authentication

11.3.3 Safety Service

Go to **Settings > System > User Safety > Safety Service** and configure the parameters to ensure account safety.



Picture 11-10 Safety service

- **Enable SSH:** Select “Enable SSH” to enable SSH service and user can login by SSH mode. Usually it’s unnecessary to enable when the camera works normally.
- **Enable Locking upon Illegal Login:** Select “Enable Locking upon Illegal Login” to enable locking of unauthorized login. When the locking conditions meet, the IP address of the illegal login PC will be locked.



Note: Select “Enable Locking upon Illegal Login” and when user fails to log in for 3 times, the IP address will be locked up for 10 minutes; unselect “Enable Locking upon Illegal Login” to disable illegal login locking and the locked IP address will be unlocked.

- **Administrator Mail:** Input administrator’s mail address.

After finishing, click “Save”.

11.3.4 IP Address Filtering

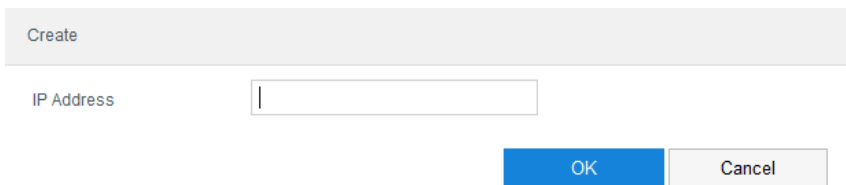
Go to **Settings > System > User Safety > IP Address Filtering** to configure access limitation of IP address. Configuration steps are as follows:

- 1) Go to **Settings > System > User Safety > IP Address Filtering;**



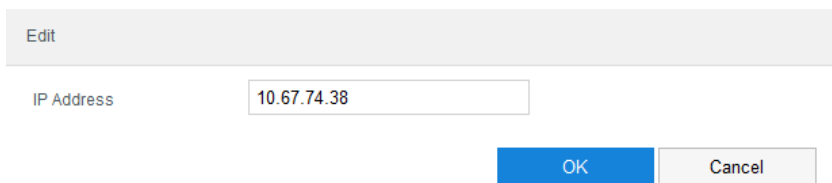
Picture 11-11 IP address filtering

- 2) Select "Enable" to enable IP address filtering;
- 3) Select filtering mode from the dropdown list, options including "Blacklist" and "Whitelist";
 - Whitelist is a list of IP addresses able to access to the device.
 - Blacklist is a list of IP addresses unable to access to the device.
- 4) Create blacklist/ whitelist. Click "Create" and input IP address on the popup interface, and click "OK";



Picture 11-12 Create

- 5) Edit Blacklist/ Whitelist. Select the IP address from the list and click "Edit" to edit the IP address on the popup interface, and click "OK";



Picture 11-13 Edit

- 6) Delete Blacklist/ Whitelist. Select IP address from the list and click "Delete" to delete the IP address. Alternatively, select the number under the column of "No." on the list and click "Delete" to delete all the added IP addresses.
- 7) After finish setting, click "Save" to validate setting.

11.4 Exception

Go to **Settings > System > Exception** to configure the alarm methods of camera in case of exceptions.

	<input type="checkbox"/> Sound Alert	<input type="checkbox"/> Send Mail
No Recording Space	<input type="checkbox"/>	<input type="checkbox"/>
No Snapshot Space	<input type="checkbox"/>	<input type="checkbox"/>
Camera Disconnected	<input type="checkbox"/>	<input type="checkbox"/>
Illegal Access	<input type="checkbox"/>	<input type="checkbox"/>
Internet Disconnected	<input type="checkbox"/>	<input type="checkbox"/>
IP Address Conflict	<input type="checkbox"/>	<input type="checkbox"/>
MAC Address Conflict	<input type="checkbox"/>	<input type="checkbox"/>

Save

Picture 11-14 Exception

12. Maintenance

12.1 System Status

12.1.1 Device Information

Go to **Settings > Maintenance > System Status > Device Information** to view information of device model, serial number, using status and etc.

Model	IPC981-T230-NIR
Serial Number	K308000001
Production Date	20140214
Hardware Version	1.0.0
Software Version	7.2.3.995 Jan 28 2021 07:03:58
Web Version	2021-01-28
Web Add-on Version	7.2.3.657600
Cellular Module Version	sim0:2c7c
CPU Usage(%)	49
Memory Usage(%)	63

Picture 12-1 Device information

12.1.2 Channel Status

Go to **Settings > Maintenance > System Status > Channel Status** to view information of device model, channel status and other information of different channels. Click “Refresh” to refresh the latest status of all channels.

Channel	Model	Channel Status	Motion Detection	Alarm Input
D1-IPCamera	IPC981-T230-NIR	Online	Disabled	---
D2-IPCamera	IPC981-T230-NIR	Online	Disabled	---
D3-IPCamera	IPC981_T230_NIR	Online	Disabled	---

Refresh

Picture 12-2 Channel status

12.1.3 Recording Status

Go to **Settings > Maintenance > System Status > Recording Status** to view information of recording status, video stream and other information of different channels. Click “Refresh” to refresh the latest recording status of all channels.

Channel	Recording Status	Stream	Resolution	Frame Rate	Bitrate (kbps)	With Audio
D1-IPCamera	Stopped	---	---	---	---	---
D2-IPCamera	Stopped	---	---	---	---	---
D3-IPCamera	Stopped	---	---	---	---	---

Refresh

Picture 12-3 Recording status

12.1.4 Lifespan

Go to **Settings > Maintenance > System Status > Lifespan** to view the operating data of channel D3.

Camera	D3-IPCamera
Time Elapsed Since First Use	165days17hours44minutes
Time Elapsed When Running Under High Temperature	0days0hours0minutes
Time Elapsed When Running Under Low Temperature	0days0hours0minutes
Number of Night Cuts	104
Number of Pannings	841
Number of Tiltings	515
Number of Zoomings	649

Picture 12-4 Lifespan

12.2 Log

Go to **Settings > Maintenance > Log > Search** to search, view and export logs.

Log Category	All
Type	All
Source	All
Start Time	07-02-2021T00:00:00
End Time	07-02-2021T23:59:59
<input type="button" value="Search"/>	

Picture 12-5 Log information

Operation steps are as follows:

- 1) Select log category from the dropdown list of "Log Category", and the default is "All";

- 2) Select log type from the dropdown list of “Type”, and the default is “All”;
- 3) Configure start time and end time, and click “Search” to pop up the interface of search result;

Search Results

No.	Source	Type	Details	Recorded At
1	admin	User Login	Details	2021-02-07 15:55:12
2	admin	User Login	Details	2021-02-07 14:55:17
3	admin	User Logout	Details	2021-02-07 14:54:01
4	admin	User Login	Details	2021-02-07 13:51:54
5	admin	User Logout	Details	2021-02-07 13:51:36
6	admin	Added a user	Details	2021-02-07 13:48:14
7	admin	Added a batch of personnel	Details	2021-02-07 13:19:39
8	admin	Added a batch of personnel	Details	2021-02-07 13:09:45

Export
Close

Picture 12-6 Search result

- 4) Click “Export” to export all logs. Click “Close” to return to the search interface;
- 5) Click “Details” of any entry of log to view the details of the log.

Details

Type	User Login
Source	admin
Time	2021-02-07 13:51:54
Description	Operation Address:10.67.13.145

OK

Picture 12-7 Details



Note:

- ◆ When selecting “All” for log category, the log type and source are certain to be “All” and are non-editable. When selecting other option for log category, user can select log type and source by requirements.
- ◆ When the number of searched logs exceeds 2000 entries, the system only displays 2000 entries and pops a prompt. And it can save maximum 2,000 entries of logs. When it is full, the latest one will overwrite the oldest one automatically.

12.3 Network

12.3.1 Ethernet Status

Go to **Settings > Maintenance > Network > Ethernet Status** to view the network transmitting status of the device.

Access Bandwidth for IP Channel	6 Mbps
Remaining Bandwidth for IP Channel	54 Mbps
Data Sent in Current Network	0 Mbps
Sending Capability for Remaining Data	60 Mbps

Ethernet Status	LAN1	LAN2
Connection Status	Connected	Connected
Connection Type	100M Full Duplex	Self-adaptive
MAC Address	00-14-23-22-14-56	78-FC-A0-AF-45-02
IP Address	192.168.1.100	10.67.38.158
Subnet Mask	255.255.255.0	255.255.240.0
Default Gateway	0.0.0.0	10.67.47.254
Preferred DNS	0.0.0.0	0.0.0.0
Alternate DNS	0.0.0.0	0.0.0.0
Default Route	No	Yes

Picture 12-8 Ethernet status

12.3.2 Mobile Network Status

Go to **Settings > Maintenance > Network > Mobile Network Status** to view the device utility status of mobile network.

Mobile Network Status	SIM1
SIM Card Status	Not inserted
Network Operator	---
Current Network Type	---
Ethernet Status	---
Signal Intensity	---
IP Address	---
DNS Address	---
IMEI	---

Picture 12-9 Mobile network status

12.3.3 Wi-Fi Status

Go to **Settings > Maintenance > Network > Wi-Fi Status** to view the device utility status of Wi-Fi.

Status Enabled
 Mode AP Hotspot
 Connected List

Name	IP Address	Connected Time
	192.200.1.100	1h 33min 52s

Picture 12-10 Wi-Fi status

12.4 Device Maintenance

12.4.1 Device Maintenance

Go to **Settings > Maintenance > Device Maintenance > Device Maintenance** to reboot and upgrade the device.

Picture 12-11 Device maintenance

- Reboot: Click “Reboot” to reboot the device softly.
- Upgrade: Upgrade the business version of the device. Open local upgrade file in <*.pkg> format. During upgrading, please wait patiently without performing other operations. Please do not power off or disconnect the network during upgrading, nor close the browser. After finishing, re-login to the web client.



Note: Click “Browse” to upgrade the channel of panoramic lens only. To upgrade the channel of close-up lens, go to **Settings > Channel > Advanced > Upgrade** and configure. Please refer to chapter [4.1.1 Advanced](#) for details.

- Reset to Factory Defaults: Include “Full Recovery” and “Custom Recovery”.
 - Full Recovery: It means all parameters of the device will restore to factory defaults.

- Custom Recovery: User can select options to restore to factory defaults, including “Network”, “Recording”, “Channel”, “System” and so on.

After selecting recovery option(s), click “Reset to Factory Defaults”.



Note: Option of “Network” means all configurations under menu of “Network”; “Recording” means all configurations about recording and hard disks; “Channel” means all configurations under menu of “Channel”; “System” means all configurations under menu of “System”, “Event” means all configurations under menu of “Basic Intelligent Feature”; “Intelligence” means all configurations under menu of “Basic Intelligent Feature” and “Intelligent Processing”.

- Import/Export Configurations: Include exporting and importing configuration files.
 - Export Configurations: After configuring camera parameters, export the configurations to local PC for configuring other cameras with the same parameters. Click "Export Configurations" and select a local save path to export.
 - Import Configurations: Import local configuration file from local PC without manual setting but applying parameters of other cameras. Click "Import Configurations" and select local configuration file to import.

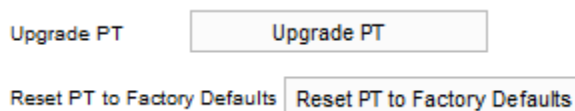


Note: During configurations importing and exporting, please do not power off the device; otherwise it may cause device exception.

- Advanced: Only "admin" user can perform advanced configuration. Click "Advanced"; input the right password for advanced user on the popup interface; click "OK" to enter the advanced configuration interface. On the interface of “Network”, select “Enable UDP Packet Retransmission”, and configure parameters of “First Retransmission Checkpoint”, “Second Retransmission Checkpoint”, “Third Retransmission Checkpoint”, and “Expired At” by requirements; on the interface of “System”, select “Enable Triple-Stream”, “Enable Audio” and/or “Enable Two-Way Audio”, and configure parameters of “Audio Compression”, “Record Block Size” and etc.
- Auto Maintenance: Select an option from the dropdown list of “Type”, and configure “Time” according to the selected type. Click "Save" to validate setting.

12.4.2 PT Maintenance

Go to **Settings > Maintenance > Device Maintenance > PT Maintenance** to upgrade PT and reset PT to factory defaults.




Picture 12-12 PT maintenance

- Upgrade PT: Upgrade PT version.
- Reset PT to Factory Defaults: Reset parameters of PT to factory defaults.

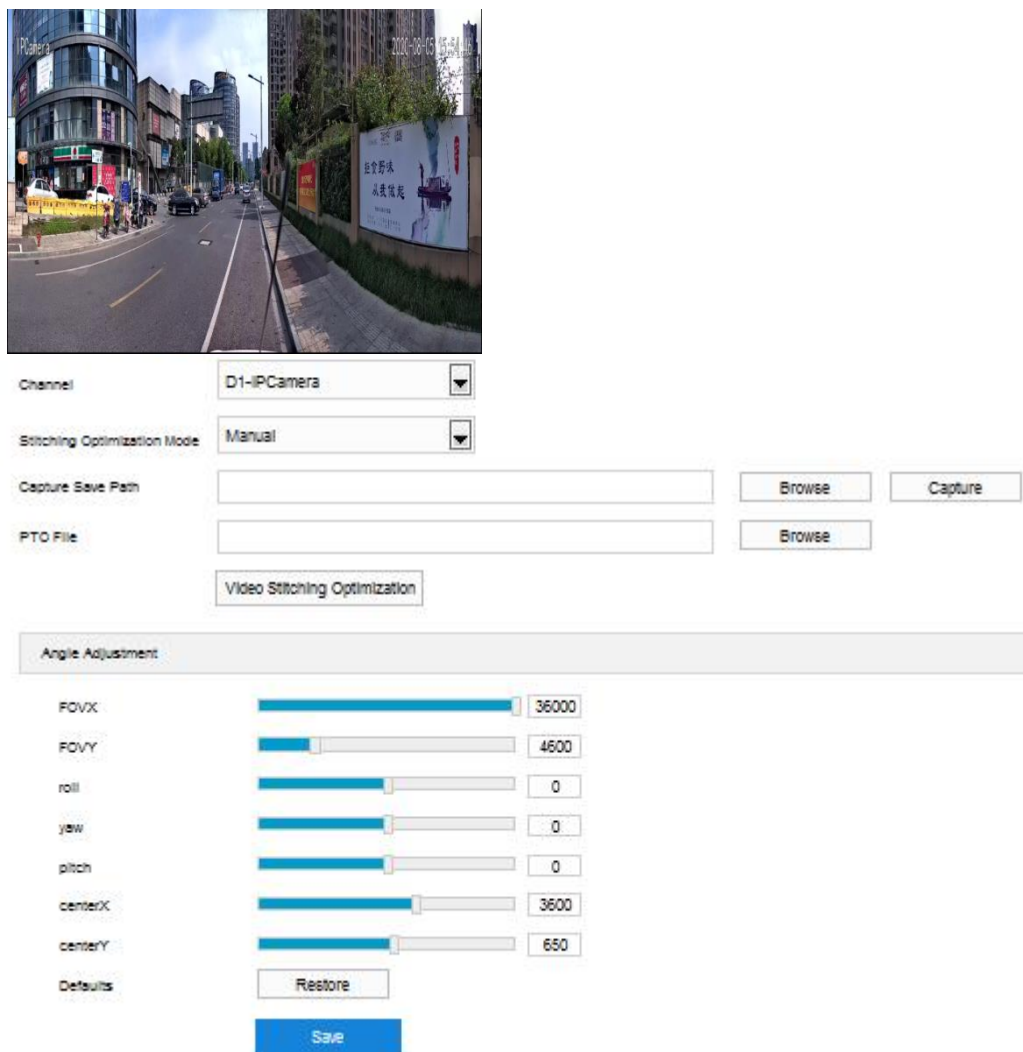
12.4.3 Video Stitching Optimization

Go to **Settings > Maintenance > Device Maintenance > Video Stitching Optimization** to configure parameters of video stitching.

 Note: Camera has finished configuration of video stitching optimization when going out of factory. If the default stitching effect is good, it's unnecessary to configure for the second time

 Attention:

- ◆ When the shooting object is near, there may be seams on the image which is quite normal.
- ◆ As camera applies wide-angle lens, it's normal to see distortion on panoramic image.



Picture 12-13 Video stitching optimization

Operation steps are as follows:

- 1) Select “D1-IPCamera” from the dropdown list of “Channel”;
- 2) Select “Manual” from the dropdown list of “Stitching Optimization Mode”;



Picture 12-14 Manual stitching

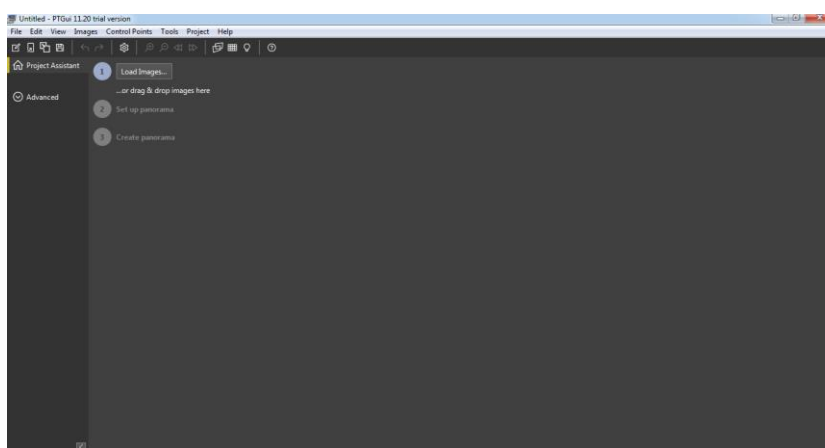
- a) Select “Manual” from the dropdown list of “Stitching Optimization Mode”;
- b) Click “Browse” to select “Capture Save Path” and click “Capture”; wait for a moment and go to the path to view the captured snapshots;

- c) Click “Browse” to select “PTO File” and click “Video Stitching Optimization” to finish stitching optimization.

i Attention: No Chinese characters shall appear in the “Capture Save Path” and “PTO File” save path.

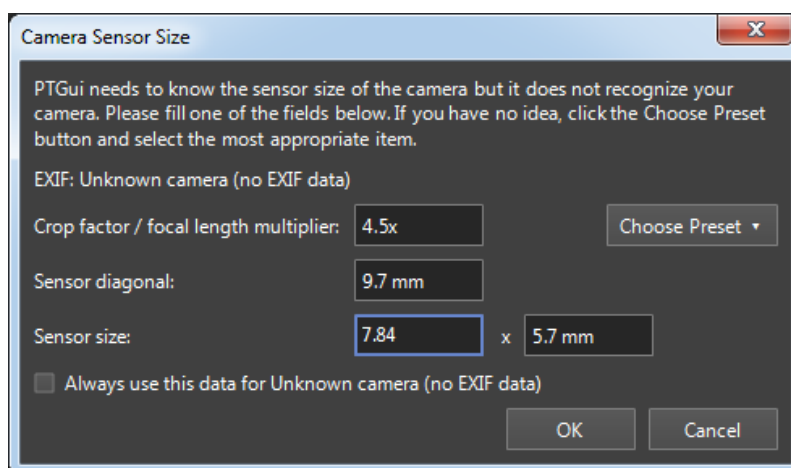
i Note: Stitch the captured snapshots with PTGui software and generate PTO file. Operation steps are as follows:

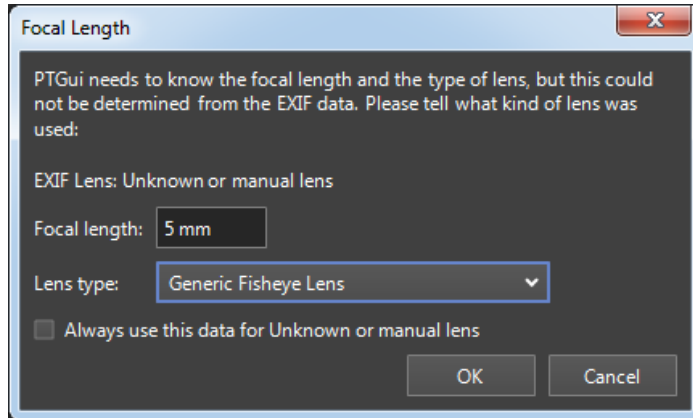
- 1) Open PTGui software, and click “Load Images” to select snapshots;



Picture 12-15 Software interface

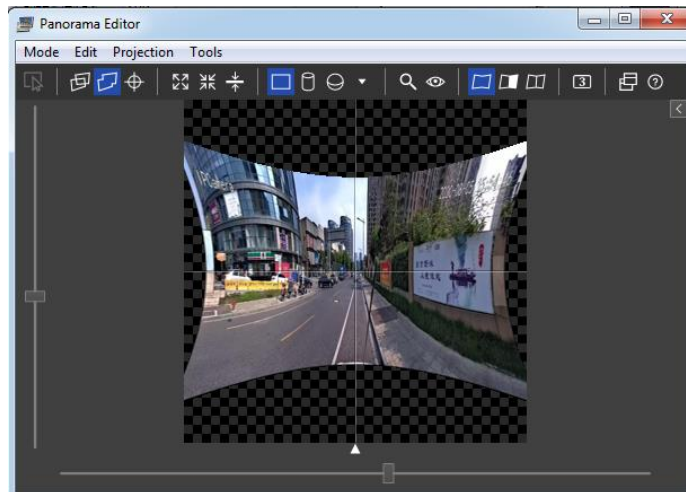
- 2) Input information in the popup dialogue box. Select “Generic Fisheye Lens” for “Lens type”, input “5” in “Focal length” and “7.84” for “Sensor Size”, and other parameters will generate automatically. Click “OK”;





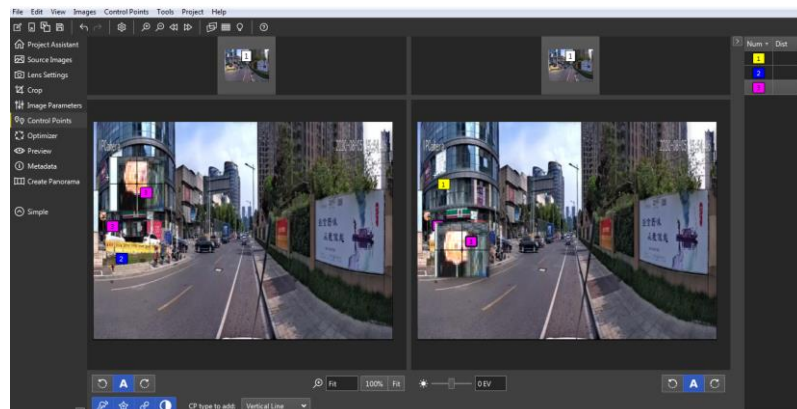
Picture 12-16 Camera/Lens database

- 3) Click “Panorama Editor” to view and adjust image in the popup window;



Picture 12-17 Panorama editor

- 4) Return to the main interface of the software and click “Control Points”. Mark the common objects at the junction part of two images as the control points. User can mark repeatedly until the panorama images stitch normally;



Picture 12-18 Control points

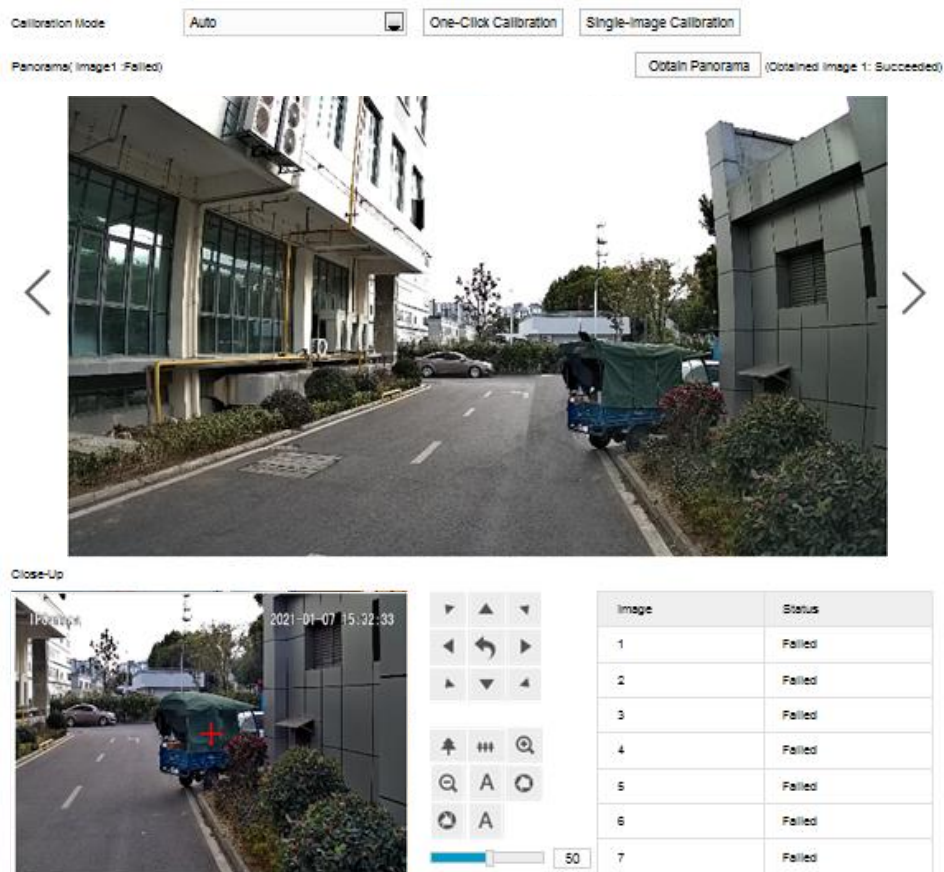
- 5) Click "File" on the top of toolbar and select "Export" to save the .pto file.
- 3) Adjust angles by requirements;

 Note:

- ◆ FOVX: Start from 1420, the image moves to the right.
 - ◆ FOVY: Start from 100, the image moves upward.
 - ◆ roll: Start from 17800, the horizontal viewing angle broadens.
 - ◆ yaw: Start from 8280, the vertical viewing angle broadens.
 - ◆ pitch: Start from 0, the image moves to the right, adjust if necessary.
 - ◆ centerX: Start from 0, adjust the middle moving steps, adjust if necessary.
 - ◆ centerY: Start from 0, the image rotates anti-clockwise, adjust if necessary.
- 4) Click "Save" and repeat the above steps to finish configuration of other panorama lenses.

12.4.4 Panorama Calibration

Go to **Settings > Maintenance > Device Maintenance > Panorama Calibration** and calibrate coordinates by requirements.



Picture 12-19 Panorama calibration

The calibration mode of panorama image includes “Auto” and “Manual”, and “Auto” mode is suggested. Operation steps are as follows:

- Manual calibration
 - a) Select “Manual” from the dropdown list of “Calibration Mode”;
 - b) Click < /> to select surveillance scene, and click “Obtain Panorama” to get current panorama image;
 - c) Select any line from the list of coordinates, click “Add” and drag + in the panorama image to the expected position so as to determine the coordinates of the panorama image;
 - d) Adjust the surveillance scope of close-up image through PTZ control so that the + in the close-up image matches with the + in the panorama image, and click “Save” to calibrate successfully;
 - e) Configure other coordinates according to the above steps, at least 15 coordinates;
 - f) Click “Start Calibration” to finish setting of one scene.
- Auto Calibration

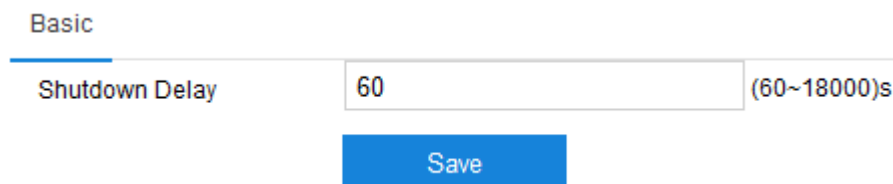
Select "Auto" from the dropdown list of "Calibration Mode", which includes "One-Click Calibration" and "Single-Image Calibration".

- One-Click Calibration: Click "One-Click Calibration" and camera will obtain current image automatically to calibrate coordinates for different scenes.
- Single-Image Calibration: Click < /> to select surveillance scene; click "Single-Image Calibration" and camera will obtain image automatically to calibrate coordinates for the scene.

13. Mobile Settings

13.1 Basic

Go to **Settings > Mobile Settings > Basic** to configure the shutdown delay time of the camera when it is used on vehicle.



The screenshot shows the 'Basic' settings page. At the top, the word 'Basic' is displayed with a blue underline. Below it, there is a table with one row. The first column is labeled 'Shutdown Delay', the second column contains the value '60', and the third column contains the range '(60~18000)s'. Below the table is a blue 'Save' button.

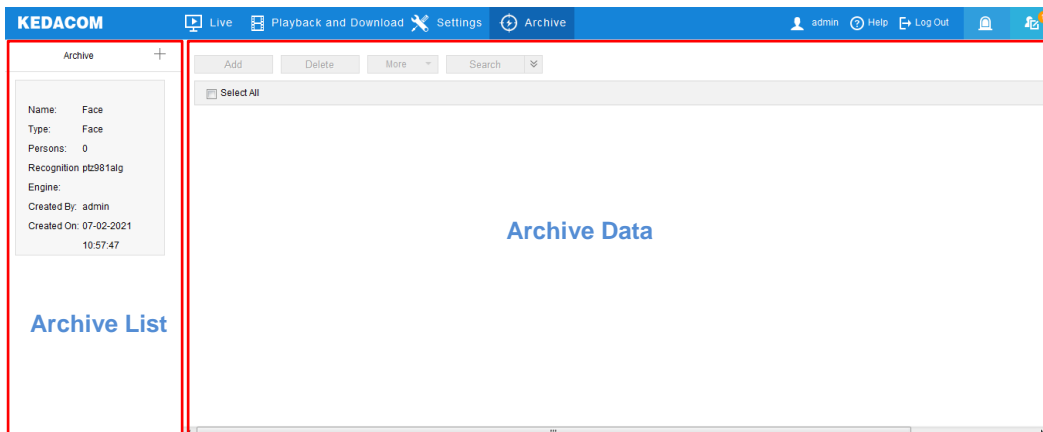
Basic		
Shutdown Delay	60	(60~18000)s

Save

Picture 13-1 Basic parameter

14. Archive

Go to “**Archive**” interface to add archive and perform operations such as add, delete or edit the archive or the personnels in the archive so as to help camera match data and detect alarms.



Picture 14-1 Archive

14.1 Archive Management

Camera supports adding, editing and deleting archives.

➤ Add archive

Click + to pop up a dialogue box of adding archive. Input the parameters thereon by requirements, and click “OK”.

 Note: It allows maximum 32 archives.

Add Archive

Name

Type

Recognition Engine

Custom Tag Name

Custom Tag Name

Custom Tag Name


Picture 14-2 Add archive

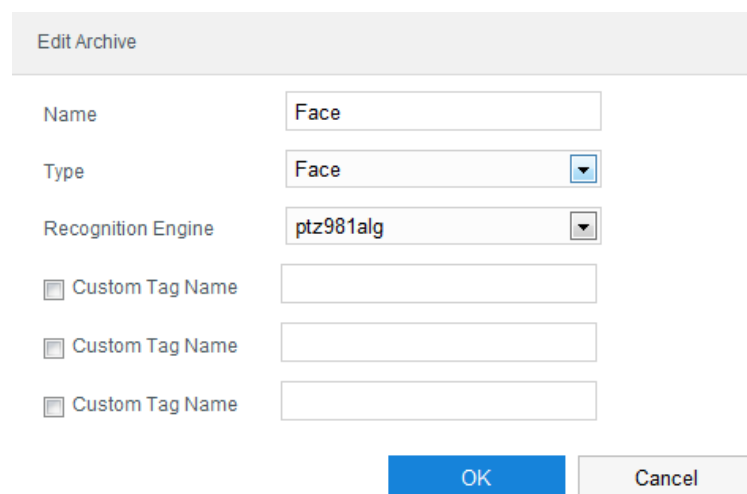
- Name: Input archive name by requirements.

- Type: Select archive type from the dropdown list.
- Recognition Engine: Select recognition engine from the dropdown list.
- Custom Tag Name: Select custom tag name by requirements for describing personnel information.

 Note: If selecting “Custom Tag Name”, the name cannot be empty.

➤ Edit archive

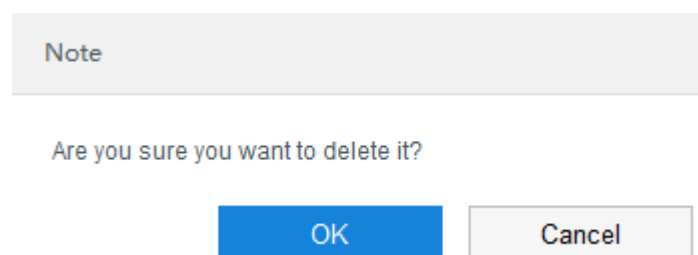
Select an existing archive and click  to pop up a dialogue box of editing archive. Input the parameters thereon by requirements, and click “OK”.



Picture 14-3 Edit archive

➤ Edit archive

Select an existing archive and click  to pop up a prompt dialogue box, and click “OK”.



Picture 14-4 Delete archive

14.2 Archive Configuration

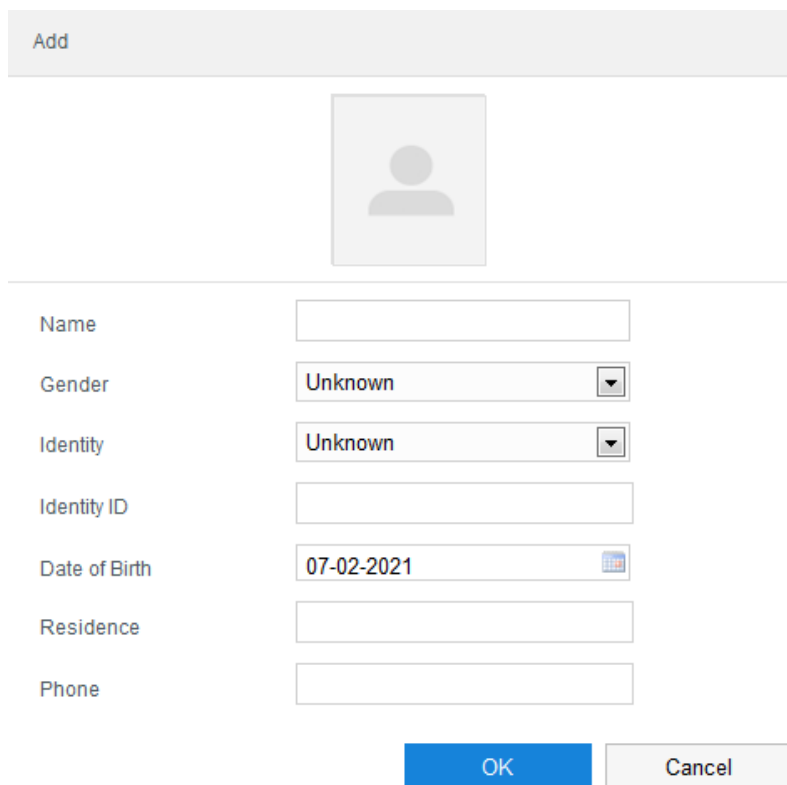
Camera supports adding, viewing and editing data of existing archives.

14.2.1 Add Data

Select an archive from the list to add data to this archive. It supports single adding and batch adding.

- Single adding
 - a) Click “Add” to pop up the dialogue box of adding personnel;
 - b) Click photo to upload personnel photo;
 - c) Input information of name, gender and identity;
 - d) Click “OK” to finish.

 Note: Photo and name are mandatory.



The screenshot shows a dialog box titled "Add". At the top is a grey bar with the word "Add". Below this is a square area with a grey person icon, intended for a photo. Underneath is a form with the following fields:

Name	<input type="text"/>
Gender	Unknown <input type="button" value="v"/>
Identity	Unknown <input type="button" value="v"/>
Identity ID	<input type="text"/>
Date of Birth	07-02-2021 <input type="button" value="calendar"/>
Residence	<input type="text"/>
Phone	<input type="text"/>

At the bottom right are two buttons: a blue "OK" button and a grey "Cancel" button.

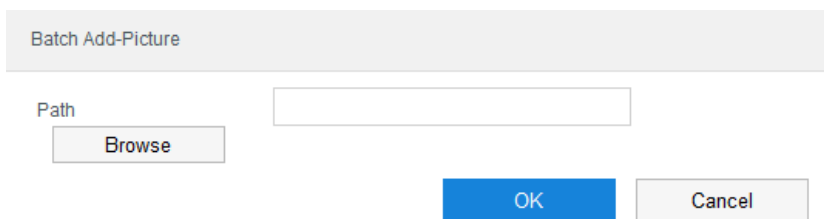
Picture 14-5 Add personnel

- Batch adding

Click “More > Batch Add”, and select “Picture” or “Index” by requirements.

 - Picture mode
 - i) Select “Picture”;
 - ii) Click “Browse” to open file path and select picture folder;

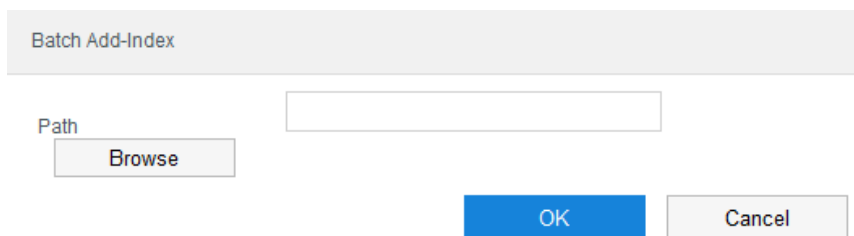
iii) Click “OK” to finish adding.



Picture 14-6 Batch adding by picture

■ Index mode

- i) Select “Index”;
- ii) Open file path and select index folder which contains the index file and corresponding pictures;
- iii) Click “OK” to finish.





Picture 14-7 Batch adding by index

i Note:

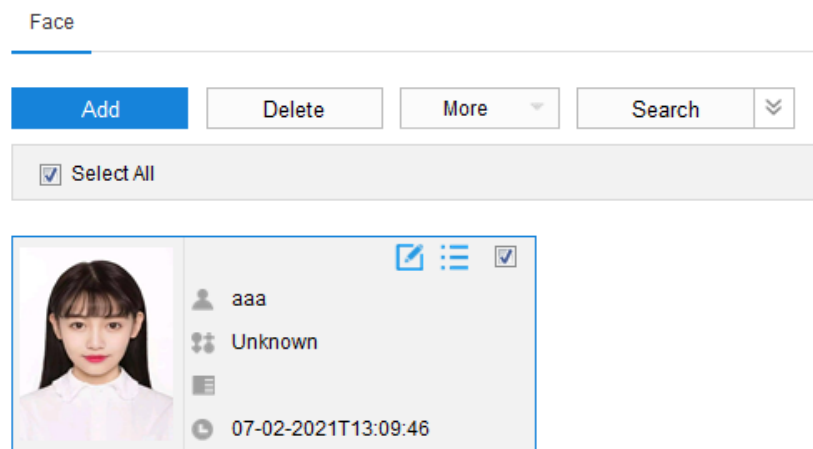
- ◆ The format of picture must be JPG/JPEG/BMP. The first 32 characters at the beginning of the name of picture added by this mode will be saved automatically as the filed of name.
- ◆ The foramt of index must be CSV/XLS, including fields of name, gender (F/ M), ID type (Passport/ ID Card/ Military Card/ Other), ID no., phone no., date of birth, address, picture name and custom tag. The fields of name and picture name are mandatory, and the picture name must be in accordance with the name of the picture (including format an surfix).

14.2.2 View Data

After adding data to the archive, click “Search” to display the added data on the information area. Click  to configure accurate search filters and view the data. The archive data displays in the style of a chart by default.

Select an entry of data and click  to view the details to the right of the data chart. Click “Close” to close the details.

i Note: In the displaying style of list, it's unnecessary to select data.

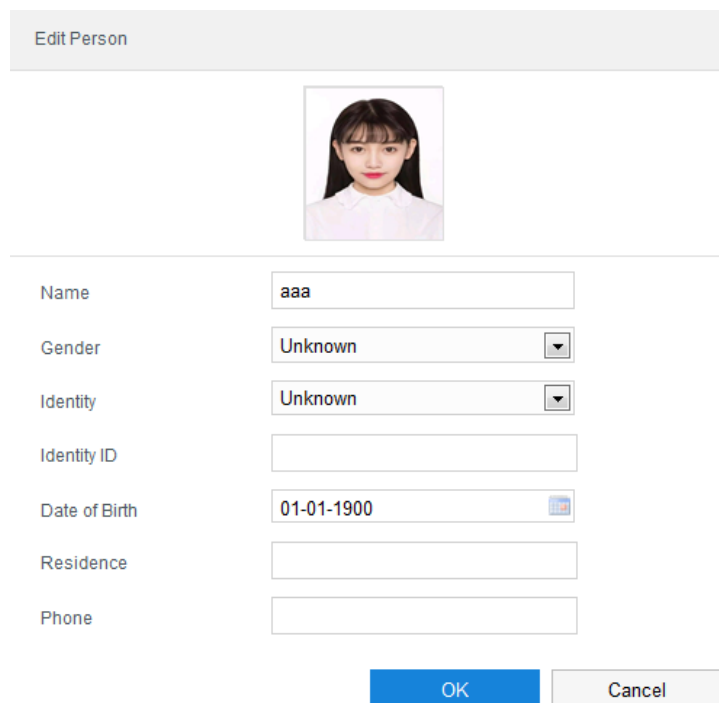


Picture 14-8 Data information

14.2.3 Edit Data

Select an entry of data and click  to edit added information.

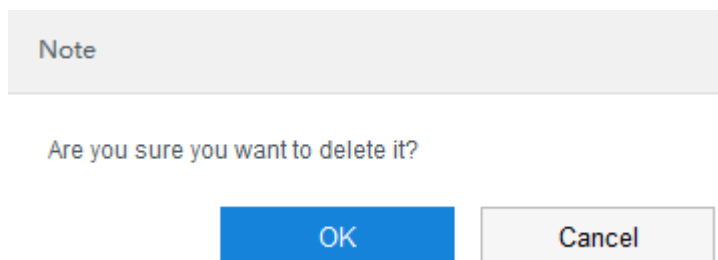
i Note: In the displaying style of list, it's unnecessary to select data.



Picture 14-9 Edit personnel information

14.2.4 Delete Data

Select data entries by requirements or select “Select All” and click “Delete”. On the popup prompt dialogue box, click “OK” to delete the added data.

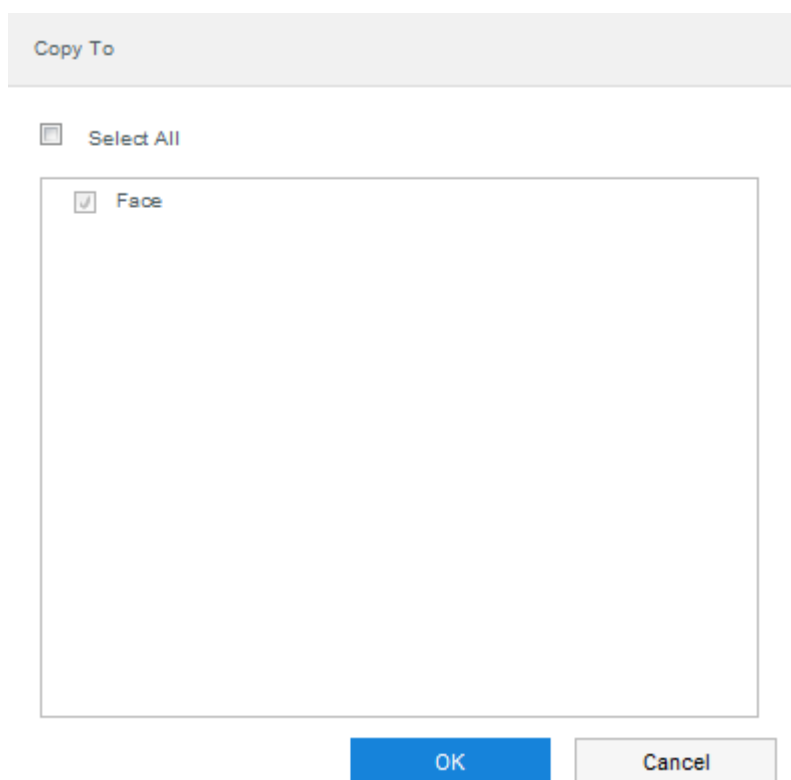


Picture 14-10 Delete data

14.2.5 Copy Data

Camera supports copying data among different archives. Operation steps are as follows:

- 1) Select data by requirements or select “Select All”, and click “More > Copy To”;
- 2) On the popup dialogue box, select archive(s) to be copied to;
- 3) Click “OK” to finish copying.



Picture 14-11 Copy data

14.2.6 Backup Data

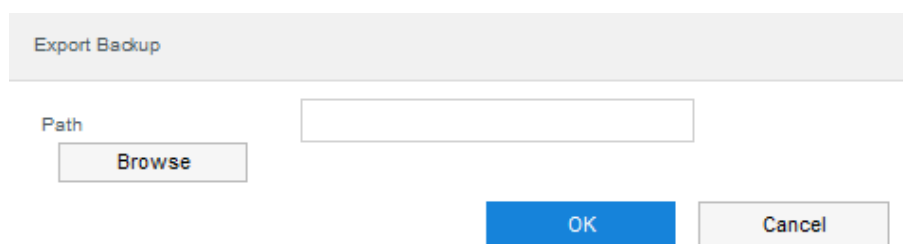
Camera supports backing up archive data, including “Import Backup” and “Export Backup”.

➤ Export Backup

- 8) Select an archive from the list;
- 9) Click “More > Export Backup > Export All” or “More > Export Backup > Select”, and click “Browse” to open file path;
- 10) Click “OK” to finish exporting backup, and click “Close” to close the dialogue box of export backup.

 Note:

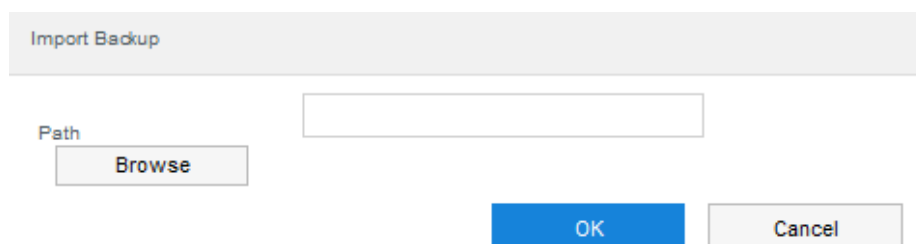
- ◆ Export All: Select “Export All” to export all the personnel information of the archive.
- ◆ Select: Select “Select” to export the selected personnel information of this archive.



Picture 14-12 Export backup

➤ Import Backup

- 1) Select an archive from the list;
- 2) Click “More > Import Backup”, and click “Browse” to open file path and select backup file;
- 3) Click “OK” to finish importing backup.



Picture 14-13 Import backup