Network Speed Dome & PTZ Camera User's Manual

Web 3.0

V2.0.0

Foreword

General

The manual introduces the functions and operations of the web interface of the network speed dome and PTZ camera (hereinafter referred to as "the Device").

Safety Instructions

The following categorized signal words with defined meaning might appear in the manual.

Signal Words	Meaning
DANGER	Indicates a high potential hazard which, if not avoided, will result in death or serious injury.
WARNING	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, lower performance, or unpredictable result.
TIPS	Provides methods to help you solve a problem or save you time.
NOTE	Provides additional information as the emphasis and supplement to the text.

Revision History

Version	Revision Content	Release Time
V2.0.0	Add some functions of the Baseline, and refine the whole manual.	January 2020
V1.1.1	Update some functions of Security Baseline.	September 2019
V1.0.0	First release.	May 2018

About the Manual

- The manual is for reference only. If there is inconsistency between the manual and the actual product, the actual product shall prevail.
- We are not liable for any loss caused by the operations that do not comply with the manual.
- The manual would be updated according to the latest laws and regulations of related regions. For detailed information, see the paper manual, CD-ROM, QR code or our official website. If there is inconsistency between paper manual and the electronic version, the electronic version shall prevail.

- All the designs and software are subject to change without prior written notice. The product updates might cause some differences between the actual product and the manual. Please contact the customer service for the latest program and supplementary documentation.
- There still might be deviation in technical data, functions and operations description, or errors in print. If there is any doubt or dispute, please refer to our final explanation.
- Upgrade the reader software or try other mainstream reader software if the manual (in PDF format) cannot be opened.
- All trademarks, registered trademarks and the company names in the manual are the properties of their respective owners.
- Please visit our website, contact the supplier or customer service if there is any problem occurred when using the device.
- If there is any uncertainty or controversy, please refer to our final explanation.

Important Safeguards and Warnings

The manual will help you to use the Device properly. Read the manual carefully before using the Device, and keep it well for future reference.

Operation Requirements

- Avoid heavy stress, violent vibration, and water splash during transportation, storage, and installation. Complete package is necessary during the transportation. We assume no responsibility for any damage or problem caused by the incomplete package during the transportation.
- To avoid damage, protect the Device from falling down and heavy vibration. Arrange more than one person to move the Device when necessary.
- Buckle the safety hook before installing the Device if it is included.
- Keep the Device away from devices that generate electromagnetic field like televisions, radio transmitters, electromagnetic devices, electric machine, transformers, and speakers; otherwise image quality will be influenced.
- Keep the Device away from smoke, vapor, heat, and dust.
- Do not install the Device near heating furnace, spotlight, and other heat sources. If it is installed on ceiling, in kitchen or near boiler room, the Device temperature might rise.
- Do not dissemble the Device; otherwise it might cause dangers or device damage. Contact your local retailer or customer service center for internal setup or maintenance requirement.
- Make sure that there is no metal, or inflammable, explosive substance in the Device; otherwise it might cause fire, short-circuit, or other damage. Power off the Device and disconnect the power cord immediately if there is water or liquid falling into the Device. And contact your local retailer or customer service center. Avoid sea water or rain eroding the Device.
- Avoid aiming the lens at intense light source, including sunlight, and incandescent light; otherwise the lens might be damaged.
- Clean the enclosure with soft cloth. To remove the dirt, you can dip the soft cloth in proper detergent, wring the soft cloth out, and then dry the enclosure with soft cloth. Do not use gasoline, paint thinner, or other chemicals to clean the enclosure; otherwise it might result in enclosure transfiguration or paint flake. Read all the manuals included before using chemical cloth. Avoid long time touch between the plastic or rubber material and the enclosure; otherwise it might result in device damage and paint flake.
- It is recommended to use the Device with a lightning-proof device for better lightning-proof effect.

Requirements for Installation and Maintenance Personnel

- Have certificates or experiences related to installation and maintenance of the closed-circuit television (CCTV), and have certificates related to working at height.
- Have basic knowledge and installation skills of CCTV system.
- Have basic knowledge and operation technique for low-voltage wiring and low-voltage electronic circuit connection.
- Have the ability to read and understand the manual.

Requirements for Lifting the Device

- Use secure lifting appliances suitable for the installation place and the product installation mode.
- Make sure that the selected tools reach the installation height and have high safety performance.

- All installation and operations shall conform to local electrical safety regulations.
- The power source shall conform to the requirements of the Safety Extra Low Voltage (SELV) standard, and supply power with rated voltage which conforms to Limited Power Source requirement according to IEC60950-1. Note that the power supply requirement is subject to the device label.
- Use the power adapter recommended by the manufacturer.
- For the Device that supports laser, do not aim the laser directly at eyes. And keep a proper distance from the flammable to avoid fire.
- Do not connect several devices to one power adapter; otherwise it might result in overheat or fire if it exceeds the rated load.
- Make sure that the power is off when you connect the cables, install or uninstall the Device.
- Power off the Device and disconnect the power cord immediately if there is any smoke, disgusting smell, or noise from the Device. And contact your local retailer or customer service center.
- Contact your local retailer or customer service center if the Device is abnormal. Do not disassemble or repair the Device by yourself. We assume no responsibility for any problems caused by unauthorized modifications, disassembly or repair, incorrect installation or use, and overuse of certain components.

Table of Contents

1 Network Configuration

1.1 Network Connection

To view the web interface on your PC, connect the Device to the PC first. There are mainly two connection modes between the Device and PC. See Figure 1-1 and Figure 1-2.

Figure 1-1 Direct connection by using a network cable

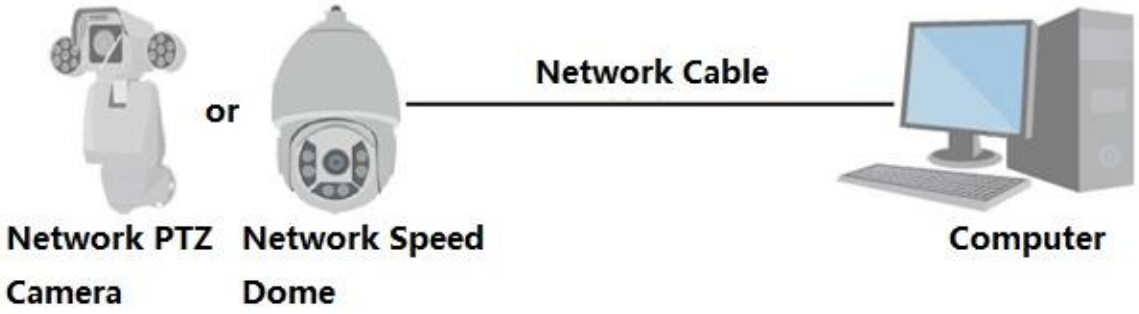
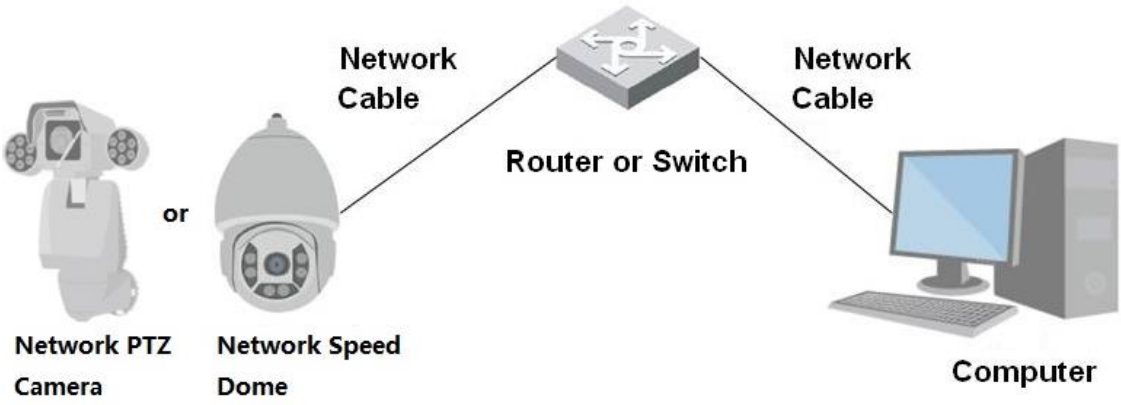


Figure 1-2 Connection over by using a switch or router



The models presented in the figures are for reference only, and the actual product shall prevail.

All devices have the same IP address (192.168.1.108 by default) when they are delivered out of factory. To make the device get access to network smoothly, plan available IP segment reasonably according to practical network environment.

1.2 Logging in to the Web Interface

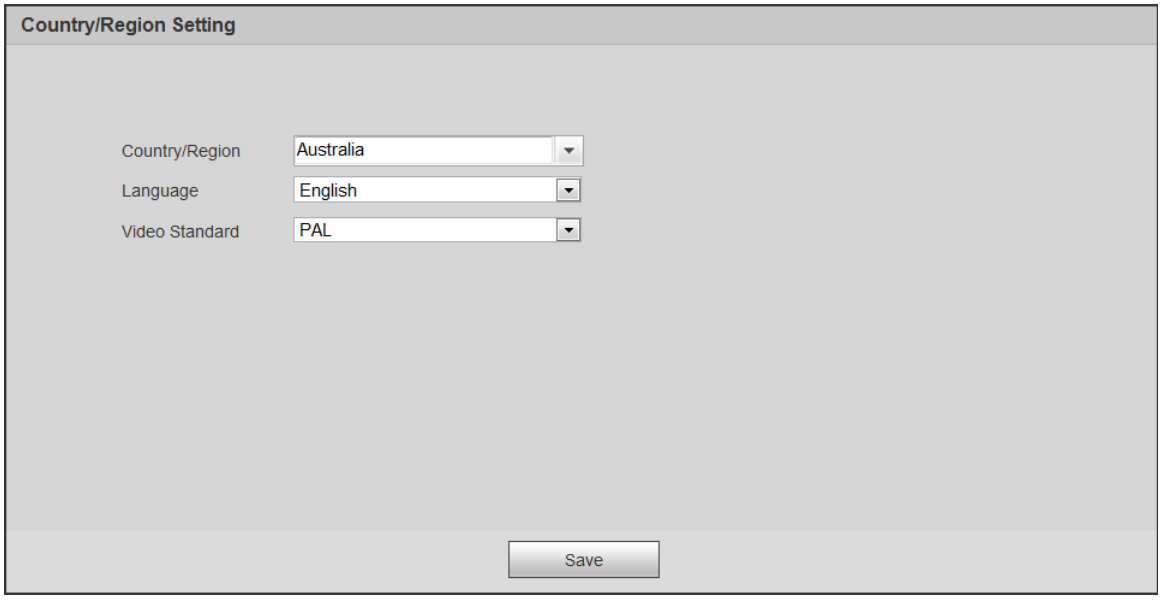
1.2.1 Device Initialization

For first-time use or after you have restored the Device to defaults, you need to initialize the Device by performing the following steps.

Step 1 Open the browser, enter the IP address of the Device in the address bar, and then press the Enter key.

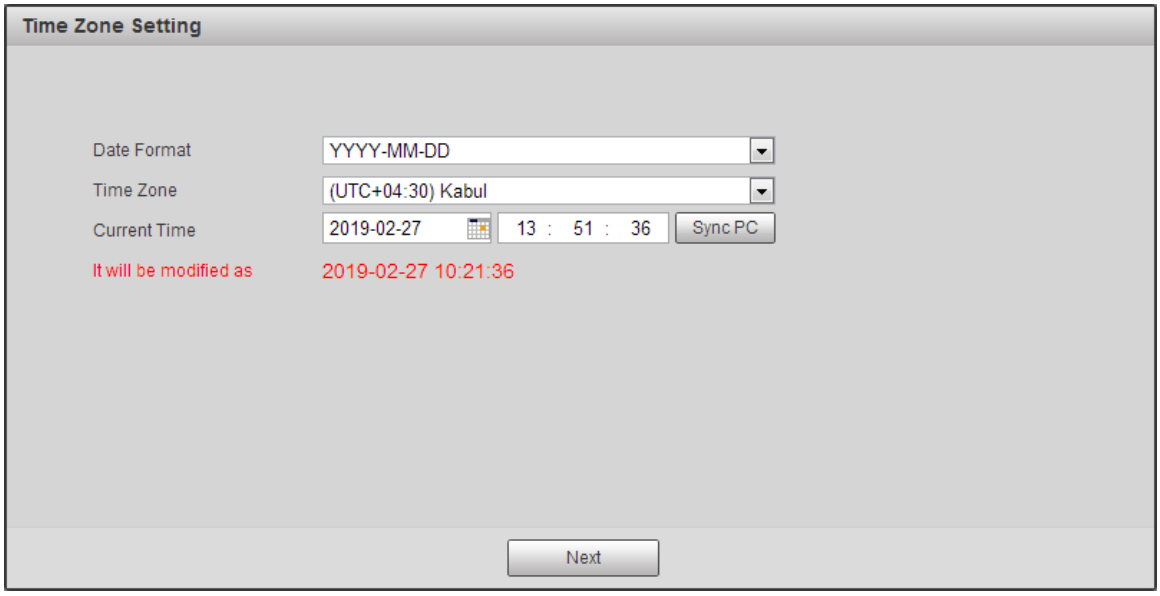
The **Country/Region Setting** interface is displayed. Set the **Country/Region**, **Language** and **Video Standard** as needed. See Figure 1-3.

Figure 1-3 Country/region setting interface



Step 2 Click **Save**, and the **Time Zone Setting** interface is displayed. Configure time parameters. See Figure 1-4.

Figure 1-4 Time zone setting interface



Step 3 Click **Next**.

The **Device Initialization** interface is displayed. For the interface, see Figure 1-5. For the parameter description, see Table 1-1.

Figure 1-5 Device initialization

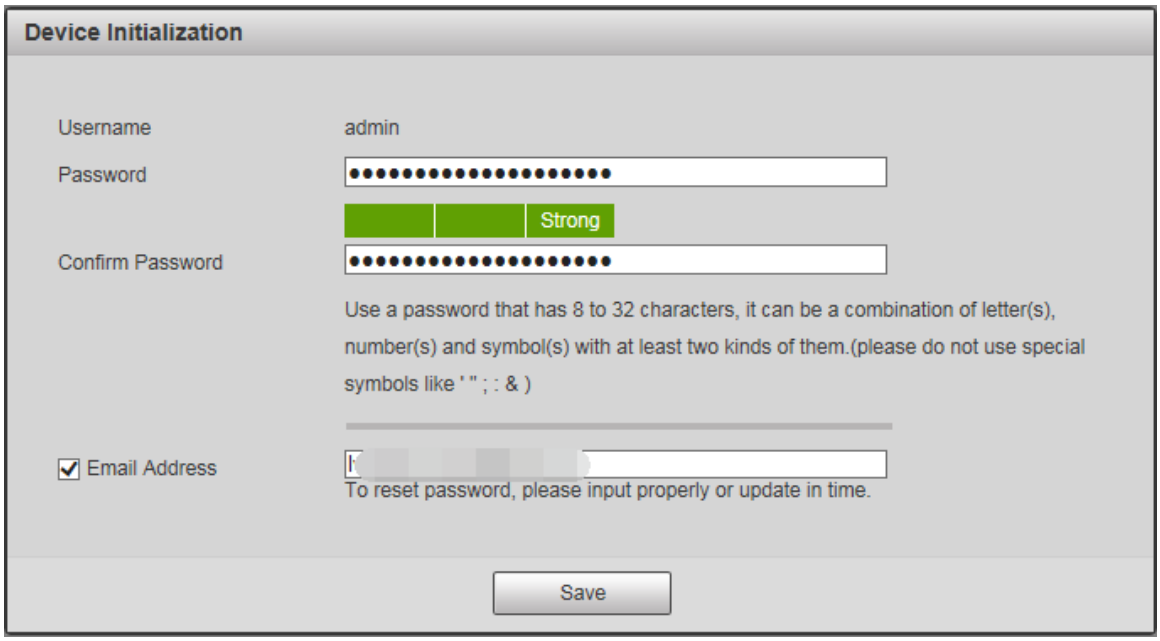


Table 1-1 Device initialization parameter description

Parameter	Description
Username	It is admin by default.
Password	The password should consist of 8 to 32 non-blank characters and contain at least two types of characters among upper case, lower case, number, and special characters (excluding ' " ; : &). Set a high security password according to the prompt of password strength. Make sure that the new password is the same as the confirming password.
Confirm Password	Enter the confirming password that shall be the same as the password you entered.
Email Address	Set the email address which is used to reset password. Email address is enabled by default. You can disable the function as needed.

Step 4 Click **Save**.

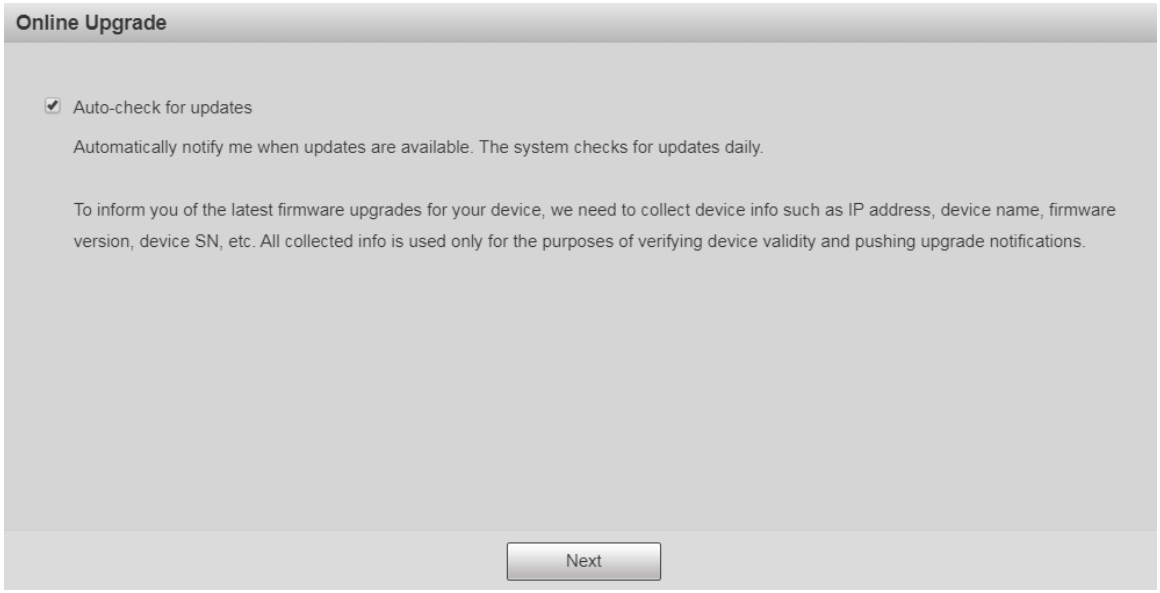
The **P2P** interface is displayed. See Figure 1-6.

Figure 1-6 P2P interface

Step 5 Scan the QR code on the interface, download the app, and then finish configurations according to the instructions on your mobile device. After that, click **Next**.

The **Online Upgrade** interface is displayed. See Figure 1-7.

Figure 1-7 Online upgrade



Step 6 Select **Auto-check for updates** check box as needed.

After the function is enabled, the Device will check for updates once a day automatically. There will be system notice if any update is available.

Step 7 Click **Next**, and the login interface is displayed. See Figure 1-8.

Figure 1-8 Login interface

1.2.2 First-time Login

You need to download and install the plug-in for the first-time login.

Step 1 Open the browser, enter the IP address of the Device in the address bar, and then press the Enter key.

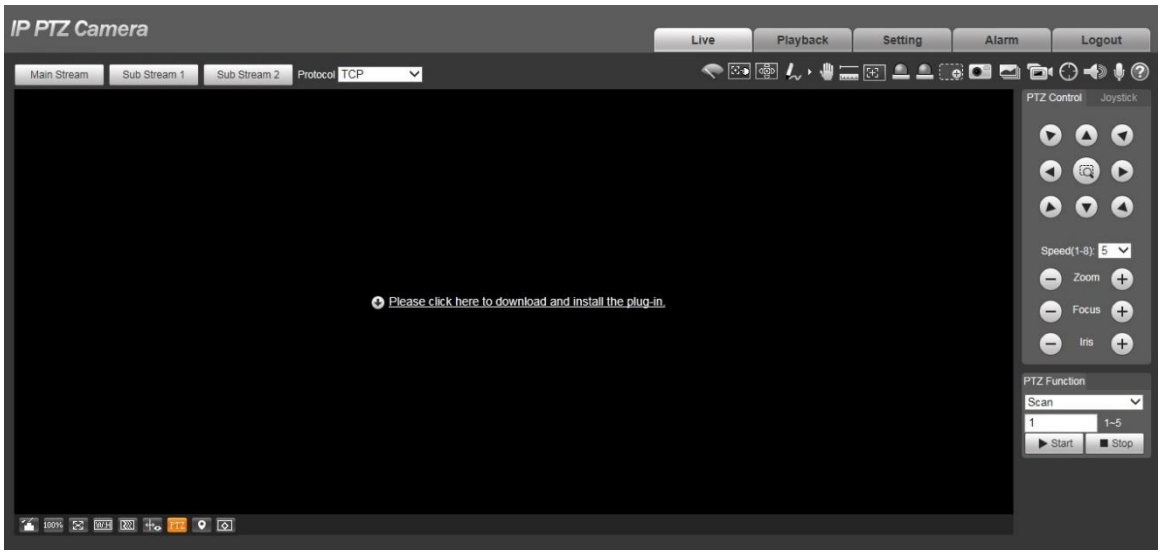
Step 2 Enter the username and password, and then click **Login**.

The web interface is displayed.

- If you enter the wrong password for 5 times, the account will be locked for 5 minutes. After the locked time, you can log in to the web interface again.
- You can set the number of allowed password attempts and locked time in "5.4.11.3 Illegal Access."

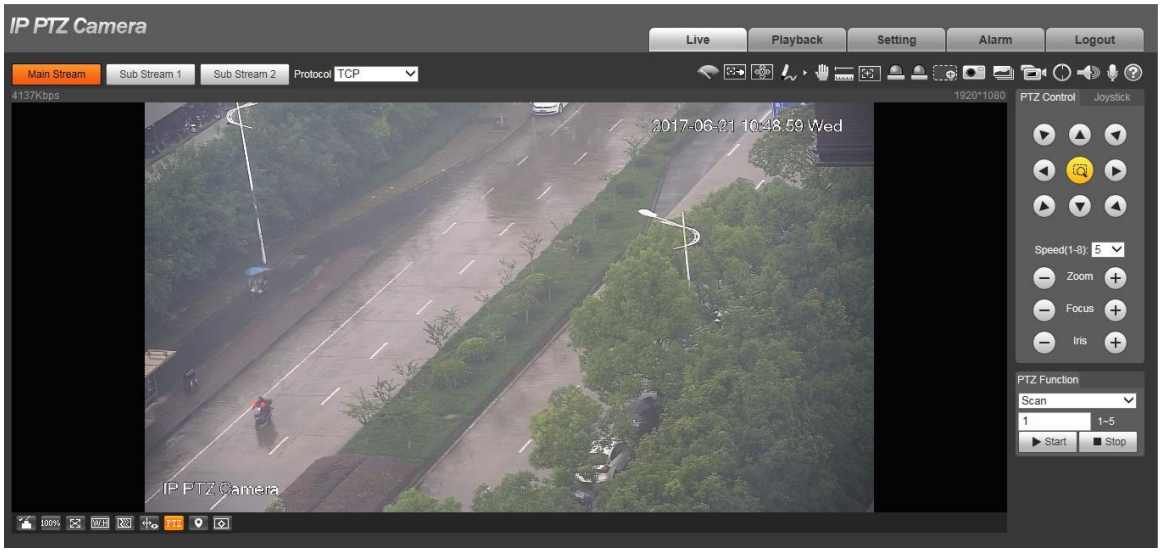
Step 3 Download and install the plug-in according to the on-screen instruction after logging in to the web interface. See Figure 1-9.

Figure 1-9 Installing the plug-in



Step 4 After the plug-in is installed, the web interface will be refreshed automatically, and the video is displayed in **Live** interface. See Figure 1-10.

Figure 1-10 Live interface



The **Live** interface shown in the manual is for reference only, and the actual interface shall prevail.

1.2.3 Device Login

Step 1 Open the browser, enter the IP address of the Device in the address bar, and then press the Enter key.

The **Login** interface is displayed. See Figure 1-11.

Figure 1-11 Device login

Step 2 Enter the username and password, and then click **Login**.

The web interface is displayed, and the video is displayed in **Live** interface.

- If you enter the wrong password for 5 times, the account will be locked for 5 minutes. After the locked time, you can log in to the web interface again.
- You can set the number of allowed password attempts and locked time. For details, see "5.4.11.3 Illegal Access."

1.2.4 Resetting Password

If you forget the password of the admin user, you can set the password through the provided email address.

Before resetting the password, you need to provide the email address in advance. For details, see "1.2.1 Device Initialization" or "5.6.3.2 System Service."

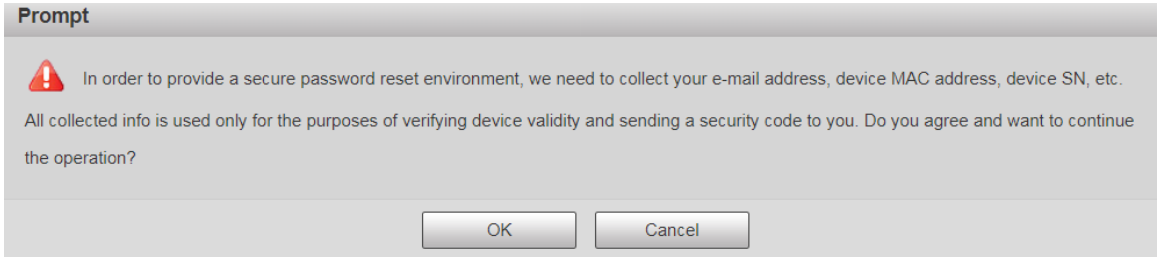
Step 1 Open the browser, enter the IP address of the Device in the address bar, and then press the Enter key.

The **Login** interface is displayed. See Figure 1-12.

Figure 1-12 Login

Step 2 Click **Forgot password?**, and the **Prompt** interface is displayed. See Figure 1-13.

Figure 1-13 Prompt



Step 3 Click **OK** to reset the password. The **Reset the password (1/2)** interface is displayed.

If you click **OK**, your email address, MAC address, device serial number, and other information might be collected.

Figure 1-14 Resetting the password (1)

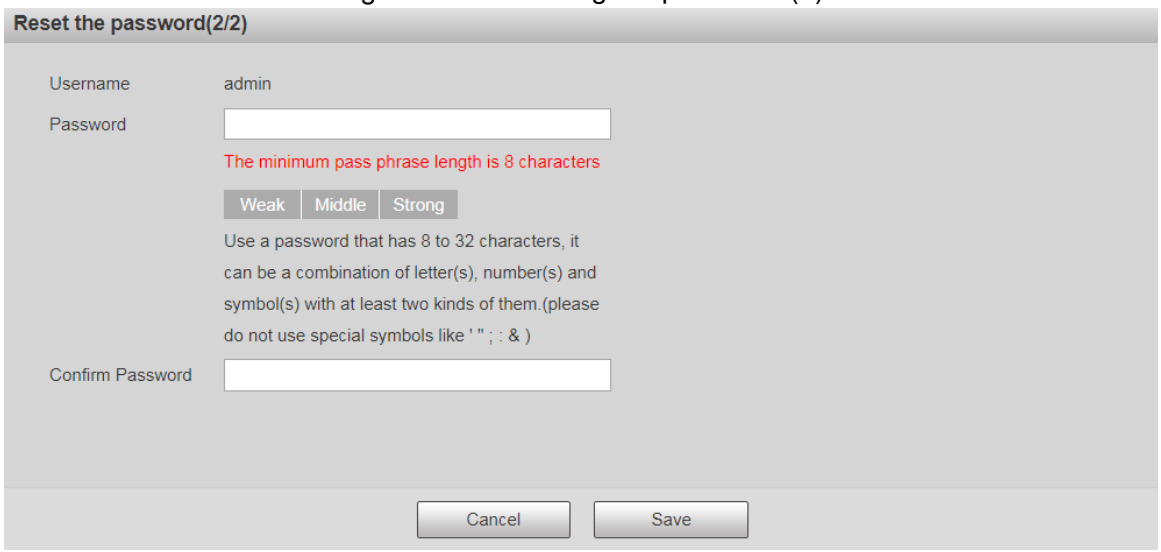
Step 4 Scan the QR code on the actual interface according to the instructions, and then enter the security code received in the mailbox.

Reset the password with the security code you received within 24 hours, otherwise the code will be invalid.

Step 5 Click **Next**.

The **Reset the password (2/2)** interface is displayed. See Figure 1-15.

Figure 1-15 Resetting the password (2)



Step 6 Set the password of the admin user again.

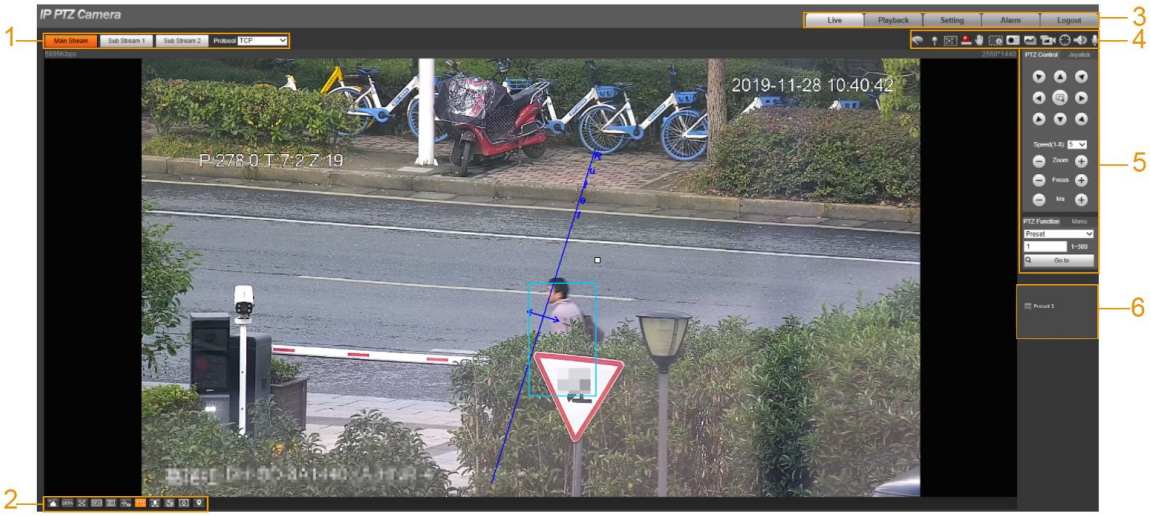
The password should consist of 8 to 32 non-blank characters and contain at least two types of characters among upper case, lower case, number, and special characters (excluding ' " ; : &). Set a high security password according to the prompt of password strength.

Step 7 Click **Save**.

2 Live

Click the **Live** tab, and the **Live** interface is displayed. See Figure 2-1.

Figure 2-1 Live interface



For descriptions of function bars on the **Live** interface, see Table 2-1.

Table 2-1 Function bars description

No.	Description
1	Encoding setting
2	Video window adjustment
3	System menu
4	Video window functions
5	PTZ configuration
6	PTZ status

2.1 Encoding Setting

Some devices do not support two sub streams.

For the encoding setting area, See Figure 2-2. For the parameter description, see Table 2-2.

Figure 2-2 Encoding setting

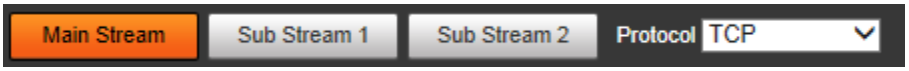


Table 2-2 Encoding setting parameter description

Parameter	Description
Main Stream	It has large bit stream value and image with high resolution, but requires large bandwidth. This option can be used for storage and monitoring.
Sub Stream 1	It has small bit stream value and smooth image, and requires little bandwidth. This option is normally used to replace main stream when bandwidth is not enough.
Sub Stream 2	It has small bit stream value and smooth image, and requires little bandwidth. This option is normally used to replace main stream when bandwidth is not enough.
Protocol	Select a protocol for video monitoring. The supported protocols include **TCP** (Transmission Control Protocol), **UDP** (User Datagram Protocol), and **Multicast**.

2.2 Video Window Adjustment

For the video window adjustment bar, See Figure 2-3. For parameter description, see Table 2-3.

Figure 2-3 Video window adjustment

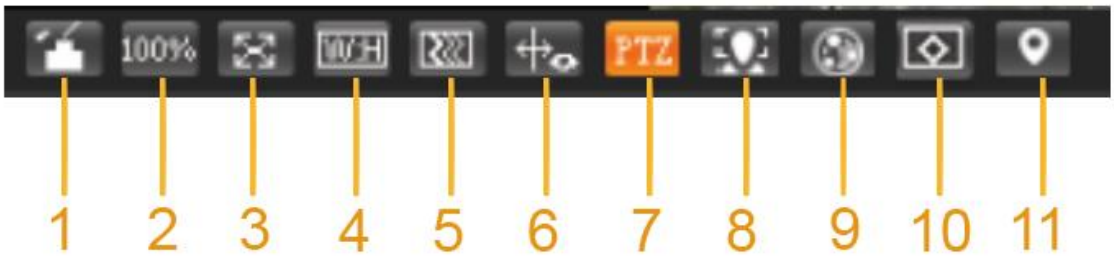


Table 2-3 Video window adjustment parameter description

No.	Parameter	Description
1	Image Adjustment	Click this button, and the **Image Adjustment** interface is displayed on the right side of the **Live** interface. You can adjust parameters such as brightness, contrast, hue, and saturation on the interface.
2	Original Size	Adjust the video image to original size.
3	Full Screen	Click this button, and the video is displayed in full screen. To exit full screen, double-click the screen or press the Esc button.
4	W:H	Adjust the video image to original ratio or a proper window.
5	Fluency	Click this button, and you can select **Realtime**, **General**, or **Fluent**. **General** is selected by default.
6	Rules Info	Click this button, and smart rules are displayed on the **Live** interface after the function is enabled. The function is

No.	Parameter	Description
		enabled by default.
7	PTZ	Click this button, and **PTZ** configurations are displayed on the **Live** interface after the function is enabled.
8	Face	Click this button, and face pictures are displayed on the screen. See Figure 2-8.
9	Video Metadata	Click this button, and information about motor vehicles, non-motor vehicles, and people is displayed on the screen in real time. See Figure 2-11.
10	Anti-aliasing	Click this button to enable anti-aliasing, and then aliasing can be avoided when video windows are small.
11	Panorama	Click this button, and a panorama window is displayed on the **Live** interface. You can perform operations such as positioning, calling presets, and setting tours.

Image Adjustment

For **Image Adjustment** interface, see Figure 2-4. For parameter description, see Table 2-4.

Figure 2-4 Image Adjustment

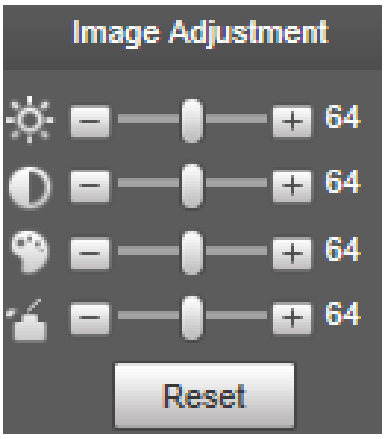


Table 2-4 Image adjustment parameter description

Parameter	Description
	Adjust the image brightness.
	Adjust the image contrast.
	Adjust the image hue.
	Adjust the image saturation.
Reset	Restore brightness, contrast, saturation and hue to default values.

Only brightness, contrast, hue, and saturation of live view image on the web interface can be adjusted with this function. To adjust the brightness, contrast, hue, and saturation of the Device, you can go to **Setting > Camera > Conditions**.

Panorama

For the **Panorama** interface, see Figure 2-5.

Figure 2-5 Panorama interface

- You can perform positioning in this window by drawing a box with the left mouse button. The located area is displayed on the **Live** interface and enlarged.
- After you click **Refresh**, the Device rotates from 0 to 360 degrees horizontally and from 6 to 65 degrees vertically to obtain a new panoramic image.
- You can adjust the size of the panoramic image by dragging the screen ratio bar  .
- You can click 

to call a corresponding preset on the right side of the window. For the interface, see Figure 2-6. For how to set a preset, see "5.3.2.1 Preset."

Figure 2-6 Preset

You can click 

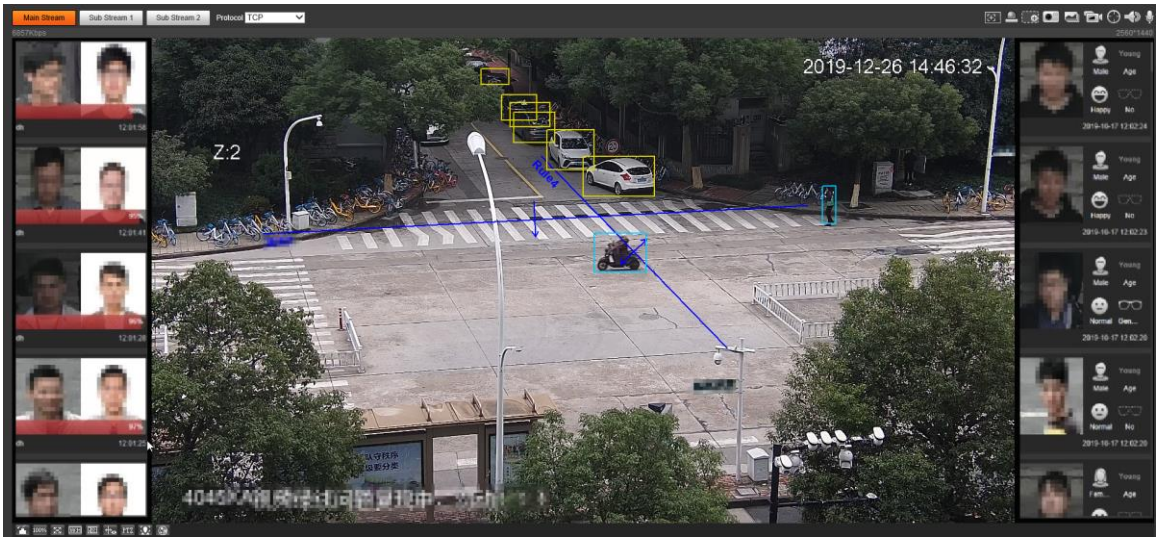
to call a corresponding tour on the right side of the window. For the interface, see Figure 2-7. For how to set a tour, see "5.3.2.2 Tour."

Figure 2-7 Tour

Face

For the **Face** interface, see Figure 2-8. Face recognition result is displayed on the left side, and the captured face picture and attributes are displayed on the right side.

Figure 2-8 Face

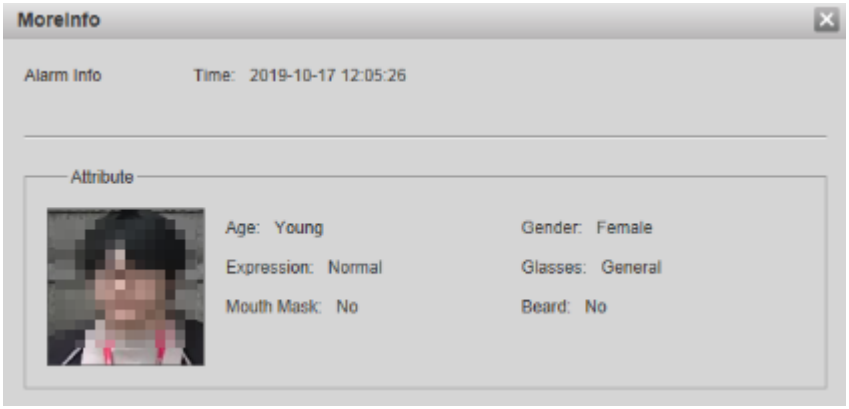


- Face recognition result display area: Displays the captured small face pictures, the corresponding face pictures in the database, and the similarities between them. After you click the picture, the attributes and details are displayed. See Figure 2-9.

Figure 2-9 Face recognition result display

- Face and attributes display zone: Displays the captured small face pictures and information such as gender, age, and expression. After you click the picture, the details are displayed. See Figure 2-10.

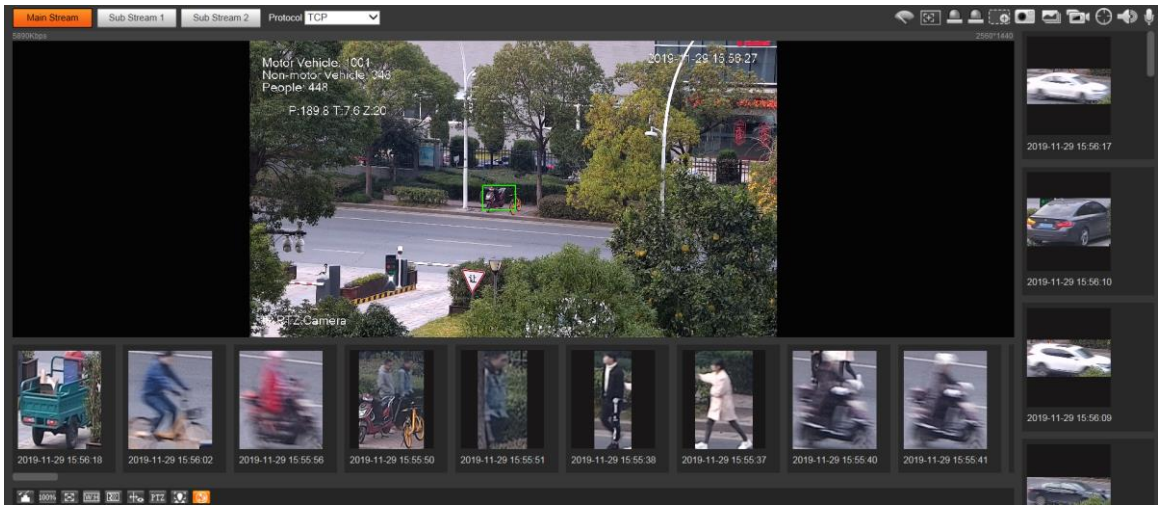
Figure 2-10 Face and attributes display



Video Metadata

For the interface, see Figure 2-11. Motor vehicle information is displayed on the right side, and the information about human and non-motor vehicles is at the bottom of the interface. For more details, see "5.4.9 Video Metadata."

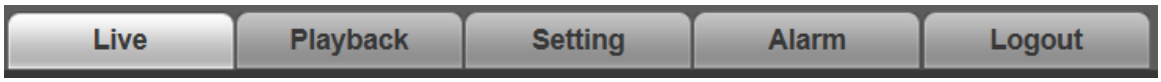
Figure 2-11 Video metadata



2.3 System Menu

To access an interface, click the corresponding tab on the system menu. For the system menu, see Figure 2-12.

Figure 2-12 System menu



2.4 Video Window Functions

For the video window function buttons, See Figure 2-13. For the parameter description, see Table 2-5.

Figure 2-13 Video window function buttons

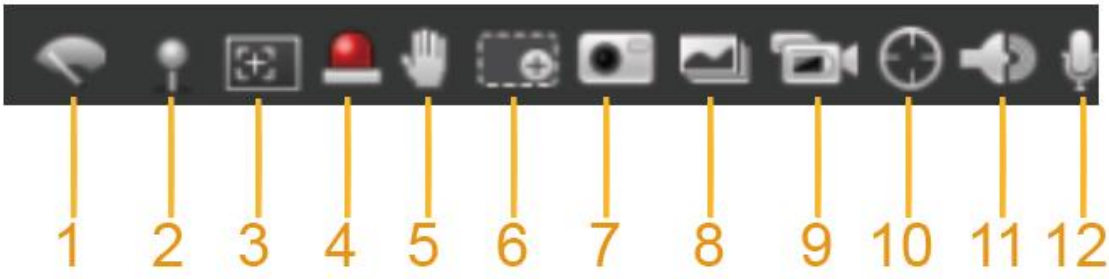


Table 2-5 Video window function button description

No.	Parameter	Description
1	Wiper Control	Click this button to select wiper operation. **Start**: Click this button, and the wiper starts and waves continuously. **Stop**: Click this button, and the wiper is turned off and stops waving. **Once**: Click this button, and the wiper starts and waves from

No.	Parameter	Description
		left to right for one time.
2	Mark	Click this button, right-click on the **Live** interface, and the function menu is displayed. See Figure 2-14. You can add information on the **Live** interface, and also manage added comments. ● Add Info: Select **Add Info** from the pop-up menu, and enter the comment. For the interface, see Figure 2-15. ● Managing comments: Select **Info Management** from the pop-up menu to display, hide, or delete added comments. For the interface, see Figure 2-16.
3	Regional Focus	Click the button, draw a box with the mouse on the live view, and then the Device will automatically focus on the area in the box.
4	Relay-out	Click the button, and an alarm will be triggered. When an alarm is triggered, the icon turns red; and when an alarm is canceled, the icon turns grey.
5	Gesture Control	Click the button, and you can drag the live view by pressing and holding the left mouse button to control PTZ; and you can also zoom in or out through the mouse wheel.
6	Digital Zoom	● Click the button, and then select an area in the live view to zoom in; right-click on the image to restore to the original status. In enlarged status, drag the image to check other area. ● Click the button, and then scroll the mouse wheel in the live view to zoom in or out.
7	Snapshot	Click the button to capture one picture of the current image, and it will be saved to the live snapshot storage path set in "5.1.2.5 Path."
8	Triple Snapshot	Click the button, and three pictures of the current image are captured with one snapshot per second. These snapshots will be saved to the live snapshot storage path set in "5.1.2.5 Path."
9	Record	Click the button to record videos. The recording will be saved to the live recording storage path set in "5.1.2.5 Path."
10	Manual Track	Click the button and select any area by dragging the left mouse button in the video window; the Device tracks objects in this area intelligently.
11	Audio	Click the button to enable or disable audio output of the monitoring stream. Before using the function, you need to enable the audio of the corresponding stream in **Setting > Camera > Audio** first.
12	Talk	Click the button to enable or disable the two-way audio.

Figure 2-14 Mark—menu

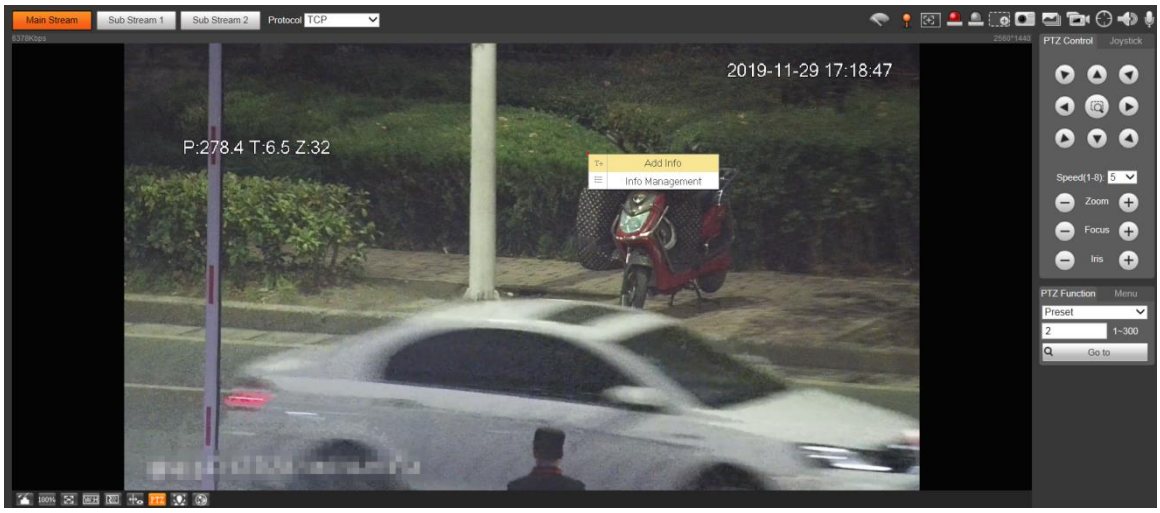
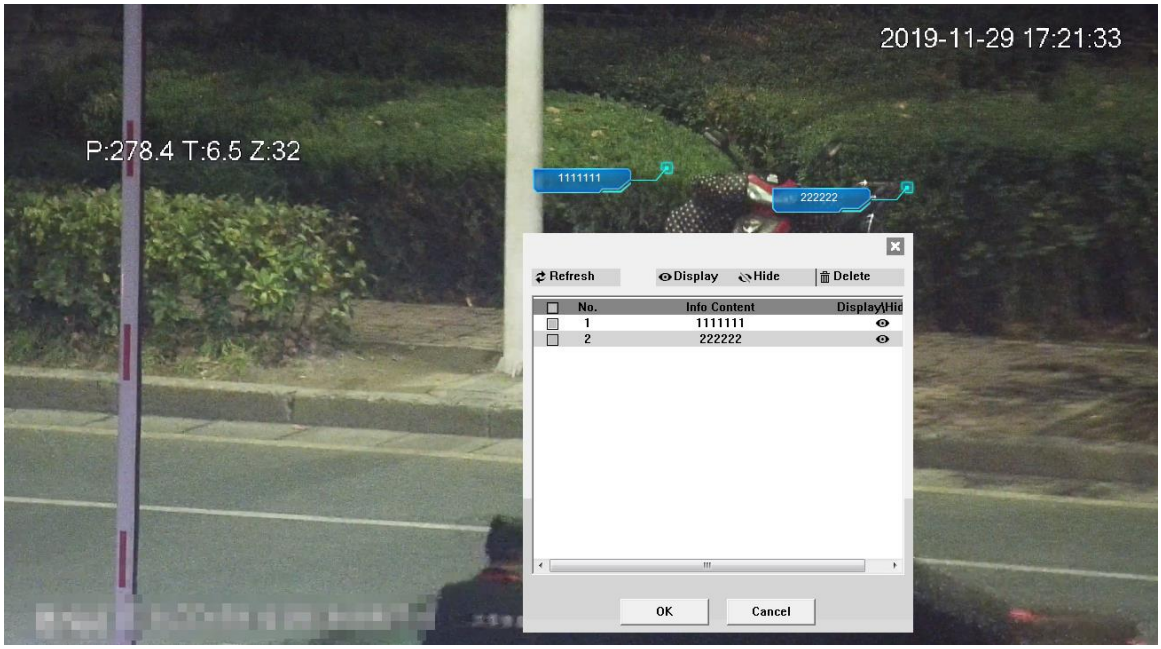


Figure 2-15 Mark—adding comments

Figure 2-16 Mark—managing comments



2.5 PTZ Configuration

You can control PTZ by using the **PTZ Control** panel or joystick. You can also set preset, scanning, and other functions in the **PTZ Function** area.

PTZ Control

Before using the **PTZ Control** panel, you need to set the PTZ protocol by selecting **Setting > PTZ > Protocol**.

For **PTZ Control** panel, See Figure 2-17. For parameter description, see Table 2-6.

Figure 2-17 PTZ control

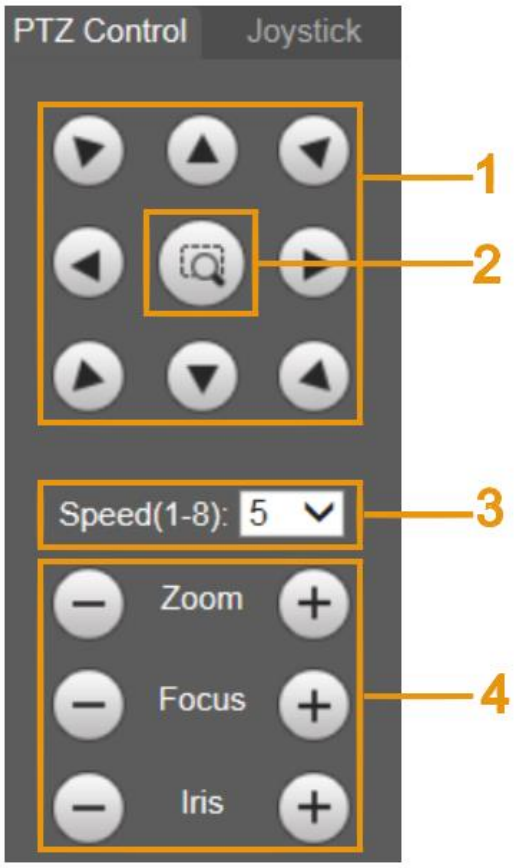


Table 2-6 PTZ control parameter description

No.	Parameter	Description
1	Direction buttons	There are 8 directions: Up, down, left, right, upper left, upper right, lower left, and lower right.
2	Position	Provides quick positioning function. Draw an box in the live view with the mouse, and then the PTZ rotates to and focuses on the selected area rapidly.
3	Speed	The changing speed of PTZ direction. The higher the value, the faster the speed.
4	Zoom/Focus/Iris	Click  to increase the value, and click  to decrease the value.

Joystick

You can drag the middle button to simulate joystick operations to control device rotation. For the operation interface, see Figure 2-18. Speed, zoom, focus, and iris configurations are the same as that of **PTZ Control** panel.

Figure 2-18 Joystick

PTZ Functions

The PTZ supports multiple functions. Select a function, click Start or Go to to start using the function, and then click Stop to stop using the function. For the configuration interface, see Figure 2-19. For the supported functions and settings, see Table 2-7.

Figure 2-19 PTZ function

Table 2-7 PTZ functions description

Parameter	Description
Scan	Select **Scan** from the list, enter a scan number, and then click **Start**. The PTZ starts scanning, and the default number is 1.
Preset	Select **Preset** from the list, enter a preset number, and then click **Go to**. The PTZ will rotate to the preset position.
Tour	Select **Tour** from the list, enter a tour number, and then click **Start**. The PTZ starts to tour.

Parameter	Description
Pattern	Select **Pattern** from the list, enter a pattern number, and then click **Start**. The PTZ starts to pattern.
Assistant	Reserved for special requirements. If necessary, enable this function under the guidance of professionals.
Pan	Select **Pan** from the list, and then click **Start**. The PTZ starts to pan.
Go to	• Select **Go to** from the list, enter horizontal angle value, vertical angle value and zoom, and then click **Go to**. The Device will turn to the position you want. • One unit of the horizontal angle value or vertical angle value you enter equals 0.1 degree.

Menu

For the menu interface, see Figure 2-20. For the parameter description, see Table 2-8.

Figure 2-20 Menu interface

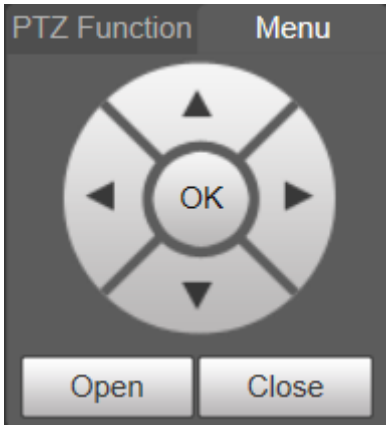


Table 2-8 Menu parameter description

Parameter	Description
Direction buttons	Click the up and down buttons to select parameters, and click the left and right buttons to select parameter values.
OK	Confirmation button.
Open	Open the OSD menu.
Close	Close the OSD menu.

Click **Open** to open the OSD menu. The OSD menu is displayed on the live view. See Figure 2-21.

Figure 2-21 OSD menu

You can finish the following settings through the menu:

- Camera settings: See "5.1 Camera."
- PTZ settings: See "5.3 PTZ Settings."
- System management: See "5.6 System Management."

You can change the location of the OSD menu in "5.1.2.3 Overlay."

2.6 PTZ Status

On the **Live** interface, the PTZ status is displayed at the lower right corner. See Figure 2-22.

The function is available on select models.

Figure 2-22 PTZ status

When the PTZ lifespan is close to the threshold, the warning will be displayed on the **Live** interface. See Figure 2-23 and Figure 2-24.

Figure 2-23 Warning (1)

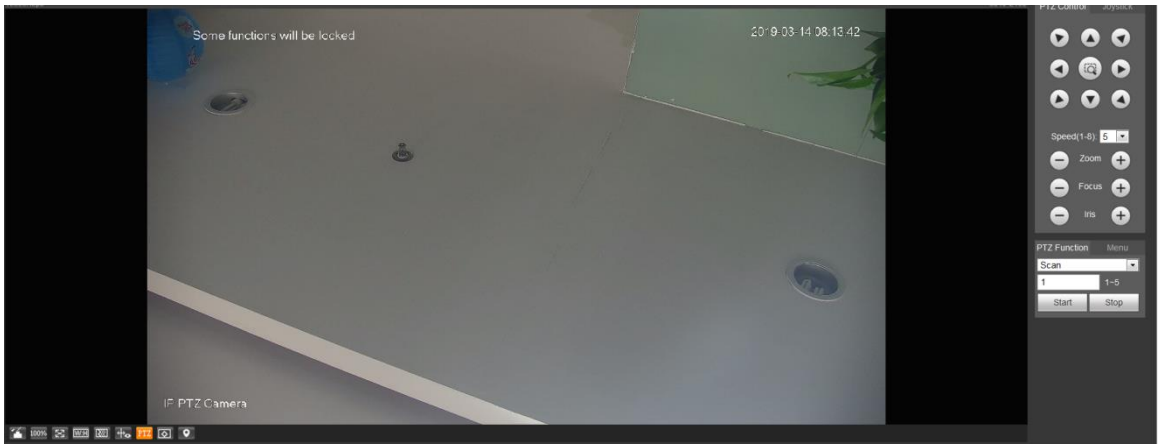


Figure 2-24 Warning (2)

3 AI Live

You can check the information of the detected human faces, human bodies, motor vehicles, and non-motor vehicles.

This function is available on select models.

3.1 AI Live Interface

For the **AI Live** interface, see Figure 3-1. For the layout description, see Table 3-1.

Figure 3-1 AI live interface

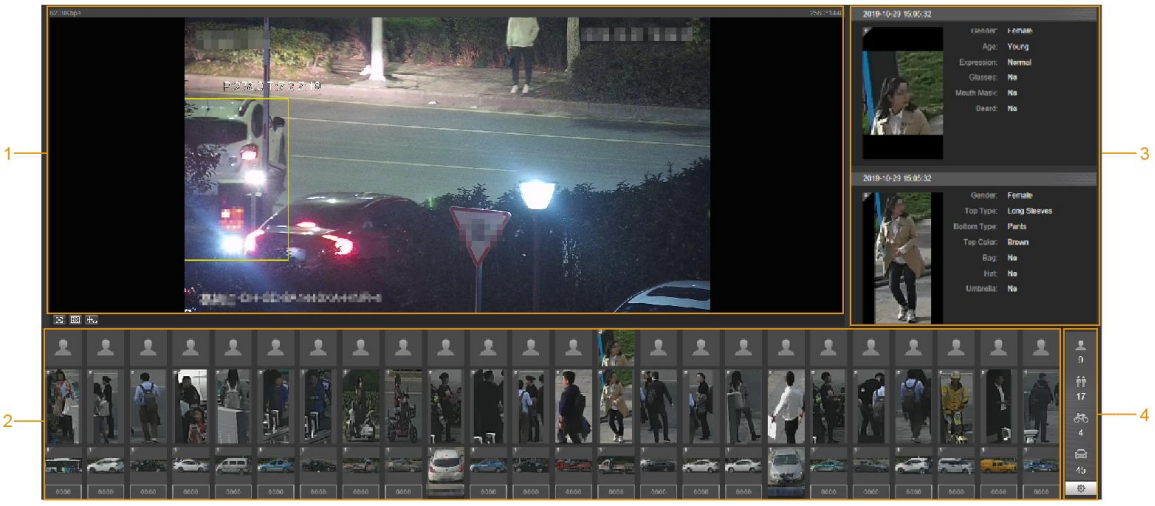


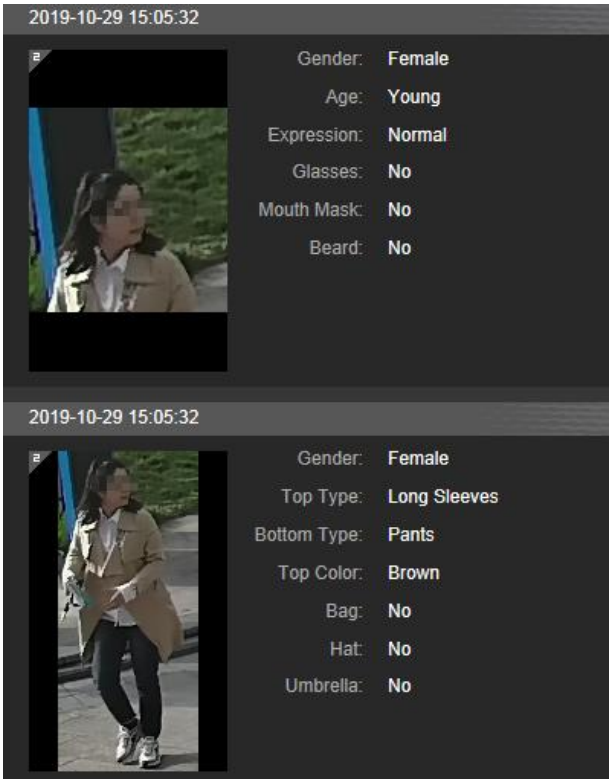
Table 3-1 AI live interface description

No.	Function
1	Live view
2	Snapshot display area
3	Information display area of detected targets
4	Statistics area of the detected targets

3.1.2 Information Display Area of Detected Targets

Display the information of the captured targets in real time. See Figure 3-2.

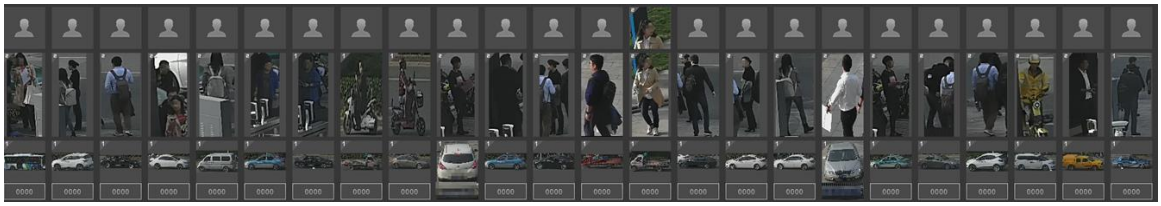
Figure 3-2 Information display of the detected targets



3.1.3 Snapshot Display Area

Display the snapshots of the detected targets. See Figure 3-3. Click any snapshot to view the information of the detected target in information display area.

Figure 3-3 Snapshot display area



3.1.4 Statistics Area of the Detected Targets

Display the number of the captured target in real time. See Figure 3-4.

Figure 3-4 Statistics area of the detected targets

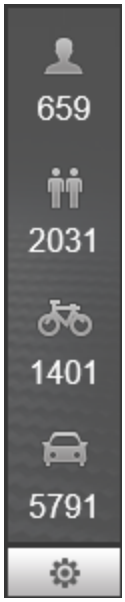


Table 3-2 Statistics area description of the detected targets

Icon	Detected Target	Description
	Face	Available detection items: Gender, age, expression, glasses, mouth mask, and beard.
	Human	Available detection items: Top, bottom, top color, bottom color, bag, hat, and umbrella.
	Non-motor vehicle	Available detection items: Vehicle type, vehicle body color, top, top color, occupancy, and hat.
	Motor vehicle	Available detection items: License plate, vehicle body color, vehicle type, vehicle logo, vehicle series, sunshield, seatbelt, smoking, calling, ornament, and annual inspection mark. Up to 7 items can be selected at the same time for motor vehicle detection.
	Settings	Click the button to select the detection items.

3.2 AI Live Settings

Preparation

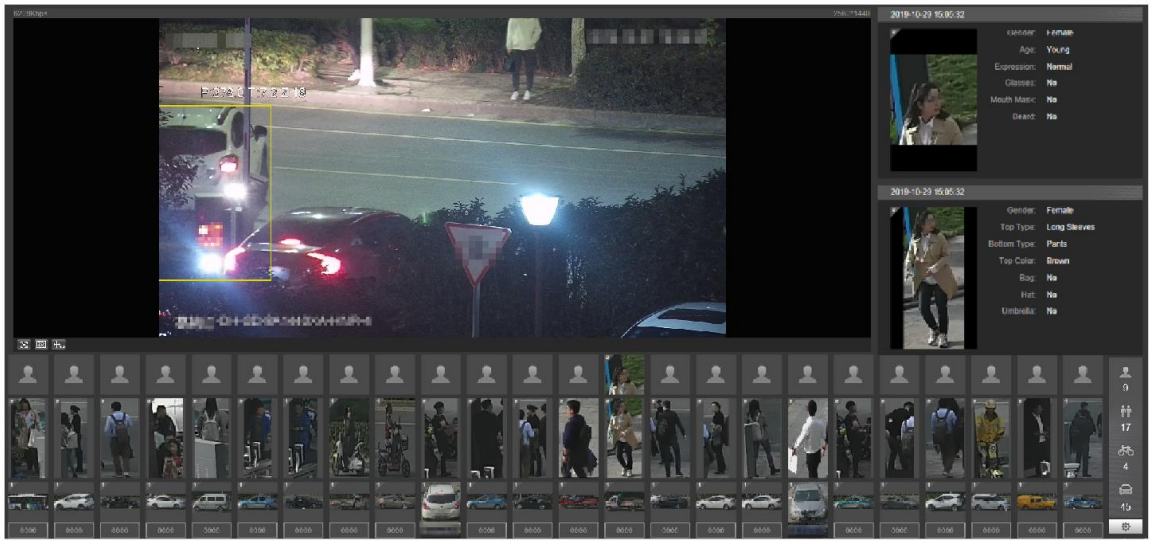
Select **Setting > Event > Smart Plan**, and then enable **Face Detection**, **Face Recognition** or **Video Metadata**. For the method to enable the function, see "5.4.4 Smart Plan.". For the operations, see "5.4.6 Face Recognition" or "5.4.9 Video Metadata."

Procedure

Step 1 Click the **AI Live** tab. The **AI Live** interface is displayed. See Figure 3-5. The information display area of detected targets is on the right side; the snapshot display

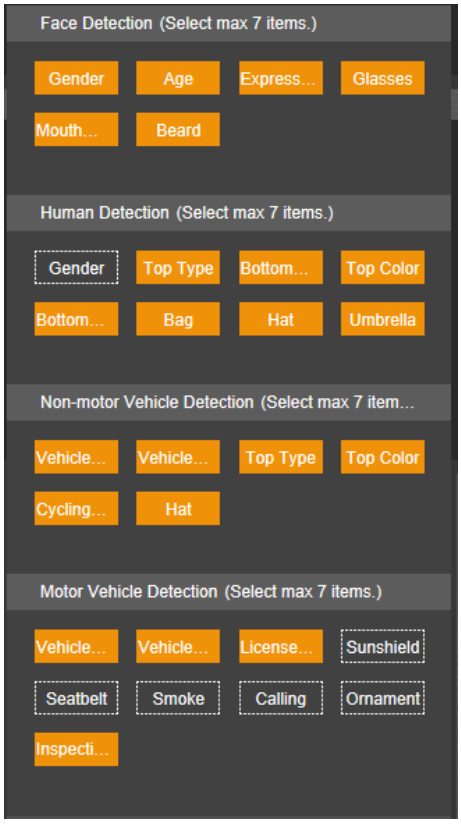
area is on the bottom; the statistics area of the detected targets is on the lower right corner.

Figure 3-5 AI live interface



Step 2 Click  to set the detection items of the targets. See Figure 3-6.

Figure 3-6 Detection items selection interface



Step 3 Click  to complete the configuration

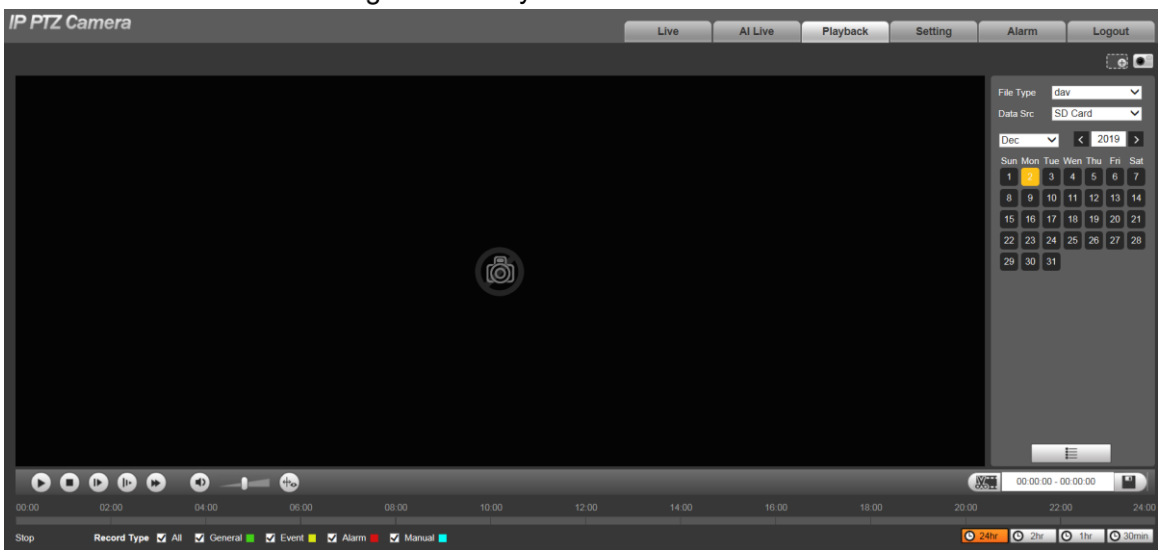
4 Playback

You can watch the saved pictures and videos on the **Playback** interface.

Before using the function, you need to set the period, storage method, and record control of recording and snapshot first. For details, see "5.5 Storage."

Click the **Playback** tab, and the **Playback** interface is displayed. See Figure 4-1.

Figure 4-1 Playback interface



4.1 Video Playback

Select **dav** from the **File Type** list, and the video playback interface is displayed. See Figure 4-2. For parameter description, see Table 4-1.

Figure 4-2 Video playback

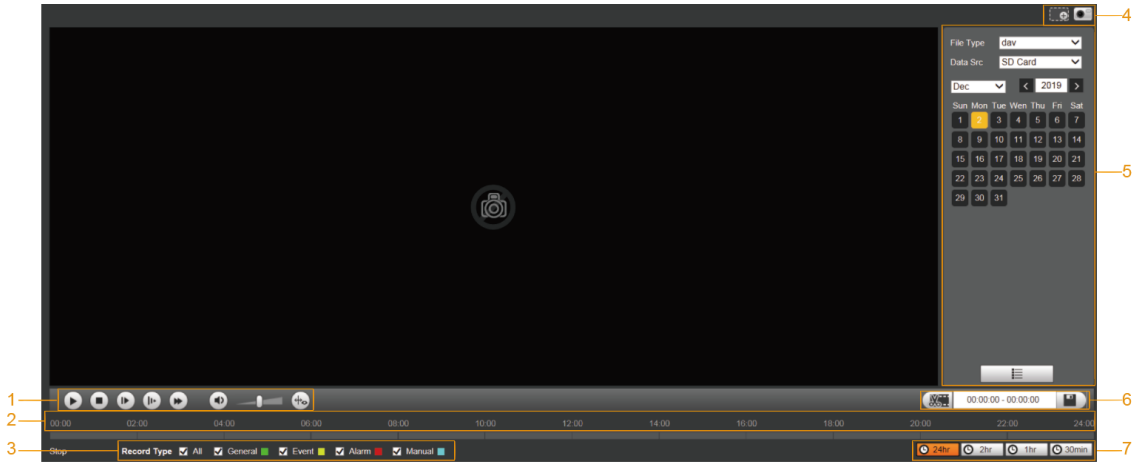


Table 4-1 Video playback parameter description

No.	Description
1	Video playing function bar
2	Progress bar

No.	Description
3	Recording types
4	Auxiliary functions
5	Video playback file search and display area
6	Video clipping area
7	Progress bar time formats

4.1.1 Video Play Function Bar

For the video playing function bar, see Figure 4-3. For the parameter description, see Table 4-2.

Figure 4-3 Video playing function bar

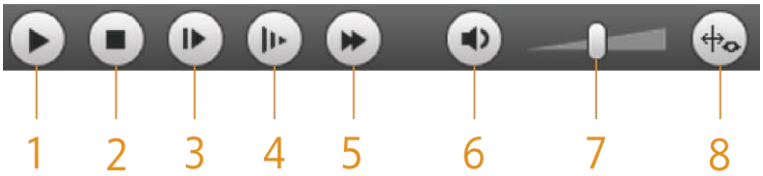


Table 4-2 Video play function bar description

No.	Parameter	Description
1	Play	Play the video.
2	Stop	Stop playing the video.
3	Next Frame	Play the next frame. You need to pause the playback before playing the next frame.
4	Slow	Slow down video playing.
5	Fast	Speed up video playing.
6	Sound	Mute or unmute the sound.
7	Volume	Adjust the volume.
8	Rules Info	Click this button, and smart rules will be displayed on the video playback interface if the smart rules are enabled.

4.1.2 Recording Type

Select a recording type, and then only files of the selected types will be displayed in the progress bar and file list. See Figure 4-4.

Figure 4-4 Recording Type

4.1.3 Auxiliary Functions

For the auxiliary functions, see Figure 4-5. For the parameter description, see Table 4-3.

Figure 4-5 Auxiliary functions

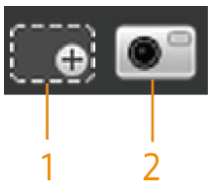


Table 4-3 Auxiliary functions parameter description

No.	Parameter	Description
1	Digital Zoom	● Click the button, and then select an area in the live view to zoom in; right-click on the image to restore to the original status. In zoomed-in status, drag the image to check other areas. ● Click the button, and then scroll the mouse wheel in the live view to zoom in or out.
2	Snapshot	Click the button, and then you can take snapshots of the video in playback, and save them in the playback snapshot path set in "5.1.2.5 Path."

4.1.4 Video Playback File Search and Display Area

There are videos and snapshots on days with blue shading. See Figure 4-6. For the parameter description, see Table 4-4.

Figure 4-6 Playback file (1)

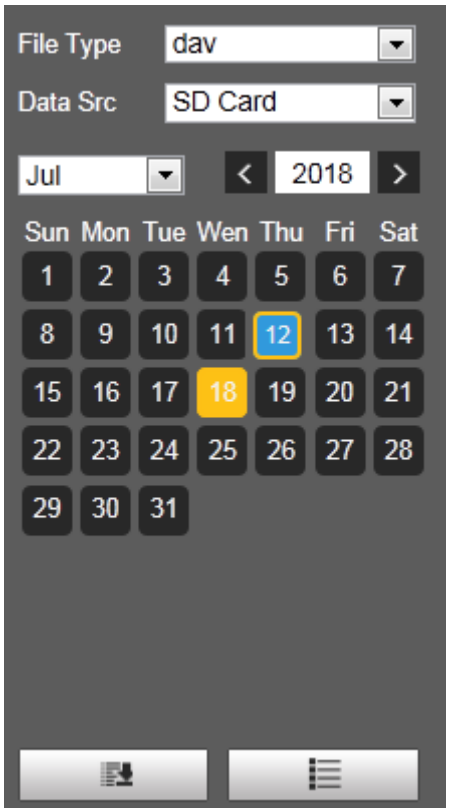


Table 4-4 Playback file parameter description (1)

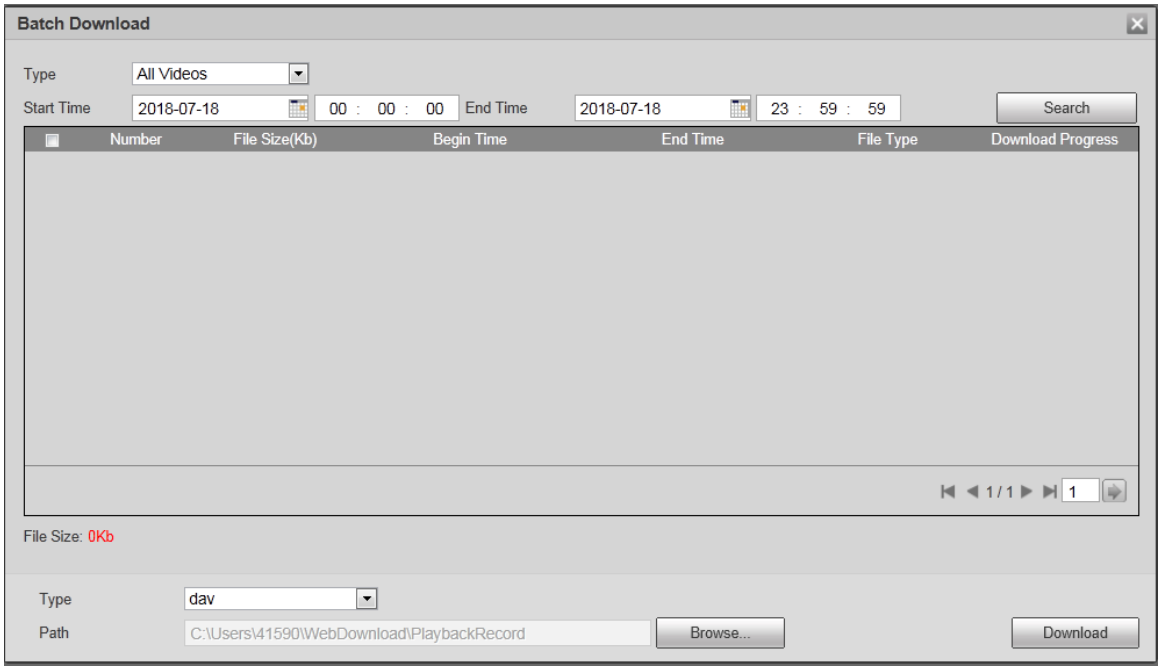
Parameter	Description
File Type	• To play back a recording, select **dav**. • To play back a picture, select **jpg**.
Data Src	The **SD Card** is used by default.
	Click this button, and recordings or pictures of a certain type on specific dates can be downloaded in batch. The function is available on select models.
	File list. Click this button, and the recording files on the selected day will be displayed in the list.

Download in Batches

Step 1 Click  .

The **Batch Download** interface is displayed. See Figure 4-7.

Figure 4-7 Batch download



Step 2 Configure parameters as needed. For the parameter description, see Table 4-5.

Table 4-5 Batch download parameters description

Parameter	Description
Type	Select the event type that triggers video recording. **All Videos**, **General**, **Event**, **Alarm**, **Manual**, and **Snapshot** are selectable. It is **All Videos** by default.
Start Time/EndTime	Select the start time and end time for video searching.
File type	Select the video type. dav and mp4 are selectable. It is dav by default.
Path	Click **Browse**, and set the saving path for video files. The default path is C:\Users\admin\WebDownload\PlaybackRecord.

Step 3 Click **Search** to search for the video files that meets the requirements.

Step 4 Select the video, and click **Download**. The video files are downloaded and saved in the saving path.

You can select multiple files to download them.

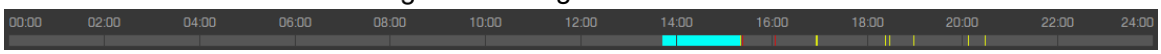
Displaying File List

Step 1 Click a day with blue shading, and recording file progress bar with different colors is displayed on the time axis.

- Green: Represents general videos.
- Yellow: Represents motion detection videos.
- Red: Represents alarm videos.
- Blue: Represents manually recorded videos.

Step 2 Click anywhere on the progress bar, and the video will be played from that time. For the progress bar, see Figure 4-8.

Figure 4-8 Progress bar



Step 3 Click  , and videos recorded on the selected day will be displayed in a list.

Step 4 For the playback file list, see Figure 4-9. For the parameter description, see Table 4-6. To play back a file in the list, double-click the file.

Figure 4-9 Playback file (2)

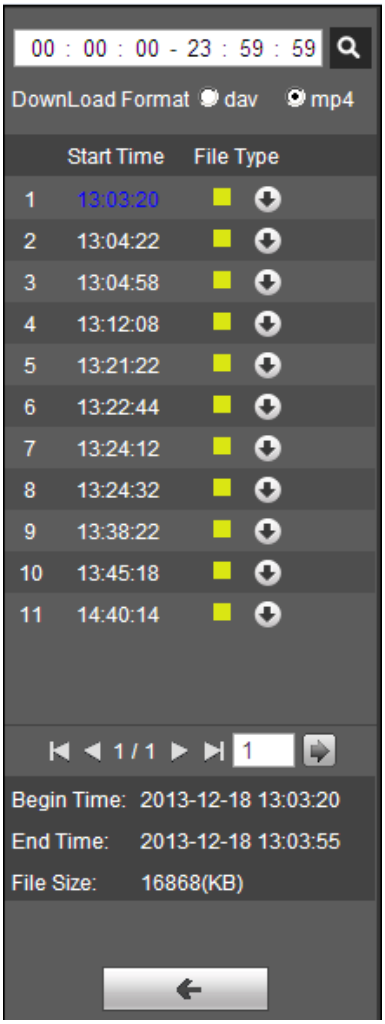


Table 4-6 Playback file parameter description (2)

Parameter	Description
	Search all the recorded files from the start time to the end time on the selected date.
Download Format	There are two options: **dav** and **mp4**.
	Click the download button, and the files will be saved to the storage path set in "5.1.2.5 Path." Downloading and playing video at the same time is not supported.
	Click the button to go back to the calendar interface.

4.1.5 Video Clipping Area

You can clip the videos in this area. See Figure 4-10.

Figure 4-10 Video clipping

Step 1 Click the time axis to select the start time for video clipping. The time must be within the progress bar range.

Step 2 Hover over  , and then **Select start time** is displayed.

Step 3 Click  to set the start time for video clipping.

Step 4 Click the time axis to select the end time for video clipping. The time must be within the progress bar range.

Step 5 Hover over  , and then **Select end time** is displayed.

Step 6 Click  to set the end time for video clipping.

Step 7 Click  , and the clipped video will be saved in the path set in "5.1.2.5 Path."

4.1.6 Progress Bar Time Formats

For the progress bar time format, see Figure 4-11. For the parameter description, see Table 4-7.

Figure 4-11 Progress bar time formats

Table 4-7 Progress bar time format description

Parameter	Description
	Click the button, and then the progress bar displays the recordings in 24-hour mode.
	Click the button, and then the video within the 2-hour period in which this video was recorded is displayed.
	Click the button, and then the video within the 1-hour period in which this video was recorded is displayed.
	Click the button, and then the video within the 30-minute period in which this video was recorded is displayed.

4.2 Picture Playback

Select **jpg** from the **File Type** list. For the picture playback interface, see Figure 4-12. For the parameter description, see Table 4-8.

Figure 4-12 Picture playback

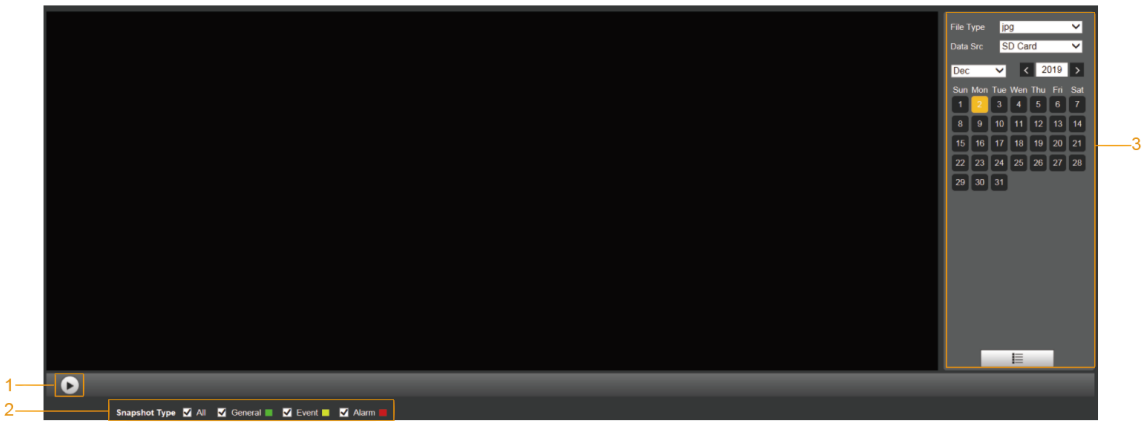


Table 4-8 Picture playback parameter description

No.	Description
1	Picture playing functions
2	Snapshot types
3	Picture playback file search and display area

4.2.1 Picture Playing Functions

For the picture playing buttons, see Figure 4-13.

Figure 4-13 Picture playing buttons

The status button is displayed as  by default, indicating the picture play is paused or no picture is being played.

- To play the picture, click  , and the button is switched to  .

- To pause the picture play, click  .

4.2.2 Picture Playback File Search and Display Area

For the playback file interface, see Figure 4-14 and Figure 4-15. For the description of buttons on the interface, see Table 4-9.

Figure 4-14 Playback file (1)

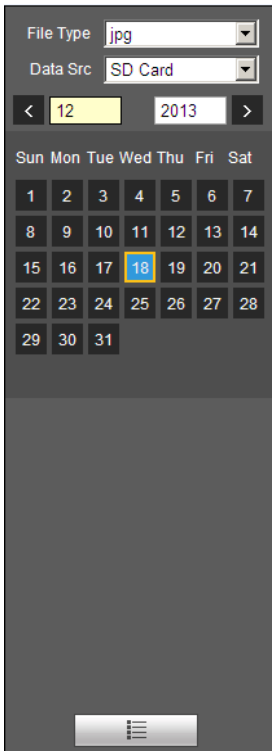
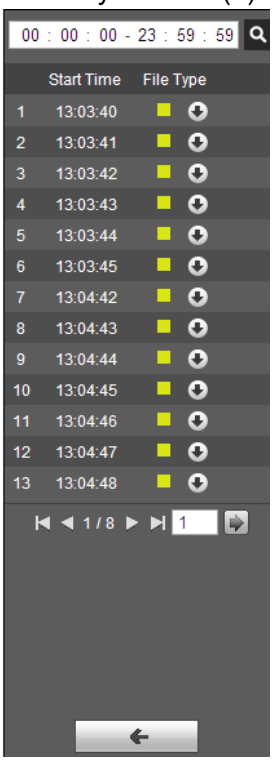


Table 4-9 Button description

Parameter	Description
File Type	Select **jpg** from the **File Type** list, and the picture will be played if any.
Data Src	The **SD Card** is used by default.
	File list. Click this button, and the recording files on the selected day will be displayed in the list.

Figure 4-15 Playback file (2)



Step 1 Click  , and the snapshots on a selected day will be displayed in a list.

Step 2 To play back a snapshot, double-click the corresponding file. For the parameter description, see Table 4-10.

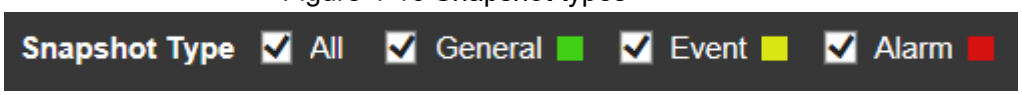
Table 4-10 Playback file parameter description

Parameter	Description
	Search all the snapshots from the start time to the end time on the selected date.
	Click the button to download the snapshot to local storage.
	Click the button to go back to the calendar interface.

4.2.3 Snapshot Types

After you select a snapshot type, only the files of the selected type are displayed in the file list. For snapshot types, See Figure 4-16.

Figure 4-16 Snapshot types



5 Setting

5.1 Camera

5.1.1 Conditions Settings

This section describes how to set camera attributes and manage profiles.

5.1.1.1 Conditions

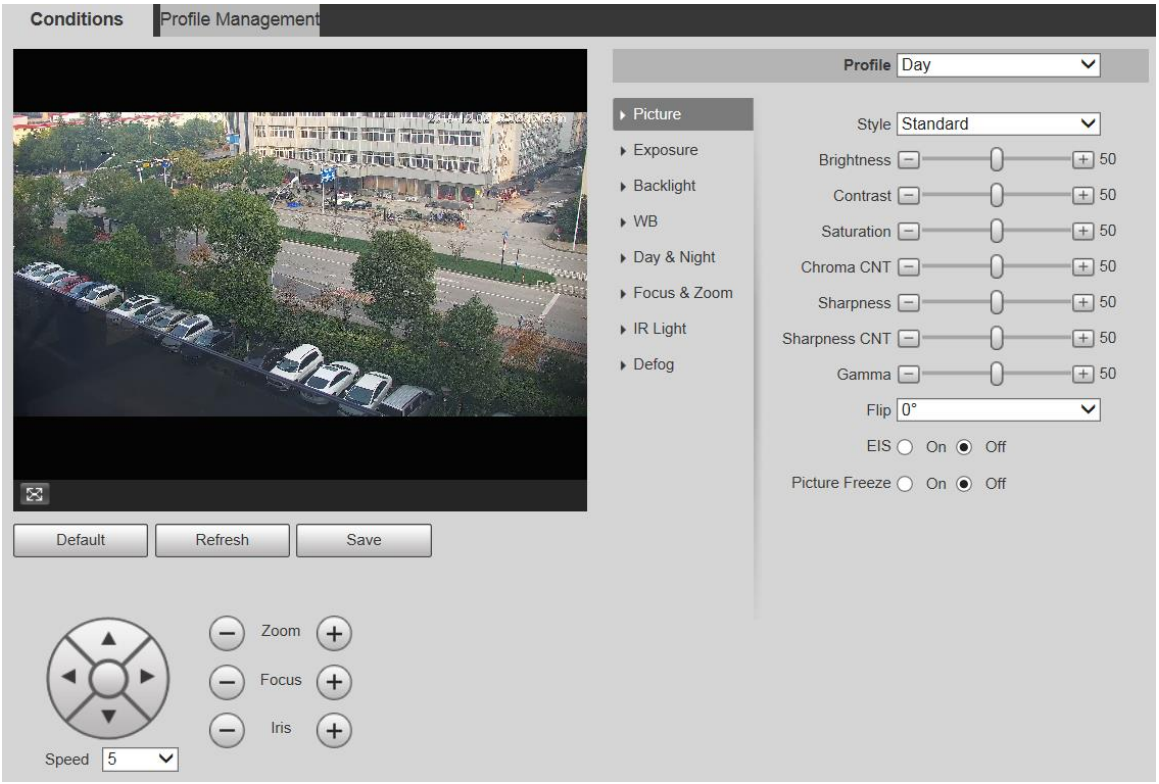
Picture

Set camera attributes and picture parameters to achieve the best display effect.

Step 1 Select **Setting > Camera > Conditions > Conditions > Picture**.

The **Picture** interface is displayed. See Figure 5-1.

Figure 5-1 Picture interface



Step 2 Configure parameters as needed. For parameter description, see Table 5-1.

Table 5-1 Picture setting parameter description

Parameter	Description
Profile	There are three options: **General**, **Day**, and **Night**. You can view the configurations and the effect of the selected mode. **Day** is selected by default.
Style	Set the image display style. There are three options: **Soft**, **Standard**, and **Vivid**. **Standard** is selected by default.
Brightness	Set the overall image brightness. The larger the value is, the brighter the image will be. The value ranges from 0 to 100.
Contrast	Set the image contrast. The larger the value is, the greater the contrast will be. The value ranges from 0 to 100.
Saturation	Set the intensity of colors. The larger the value is, the brighter the colors will be. The value ranges from 0 to 100.
Chroma CNT	The larger the value, the higher suppression on image colors. The value ranges from 0 to 100. This parameter takes effect only when the Device is in the environment with low luminance.
Sharpness	Set the sharpness of picture edges. The larger the value is, the more obvious the edge will be. The value ranges from 0 to 100. If the value is too large, there might be image noise. Set the value according to the actual condition.
Sharpness CNT	The larger the value is , the stronger the sharpness CNT will be. The value ranges from 0 to 100. This parameter takes effect only when the Device is in the environment with low luminance.
Gamma	Change image brightness through non-linear tuning to expand the dynamic display range of images. The larger the value is, the brighter the image will be. The value ranges from 0 to 100.
Flip	Monitoring videos can be flipped over. There are two options. ● **0°**: The monitoring video is normally displayed. It is **0°** by default. ● **180°**: The monitoring video is flipped over.
EIS	Electronic image stabilization (EIS) is used to effectively solve the problem of image shaking during use, thus presenting clearer images. It is **Off** by default. ● This function is available on select models. ● This parameter takes effect only when the Device is in the environment with low luminance. ● Optical image stabilization and electronic image stabilization cannot be enabled at the same time.
Picture Freeze	After you select **On**, the image at the called preset is displayed directly if you call a preset or tour, and no images during the rotation of the Device are displayed.

Step 3 Click **Save**.

Exposure

You can control the amount of light per unit area reaching the electronic image sensor by adjusting parameters on the **Exposure** interface.

Step 1 Select **Setting > Camera > Conditions > Conditions > Exposure**.

The **Exposure** interface is displayed. See Figure 5-2 to Figure 5-6.

Figure 5-2 Exposure—auto mode

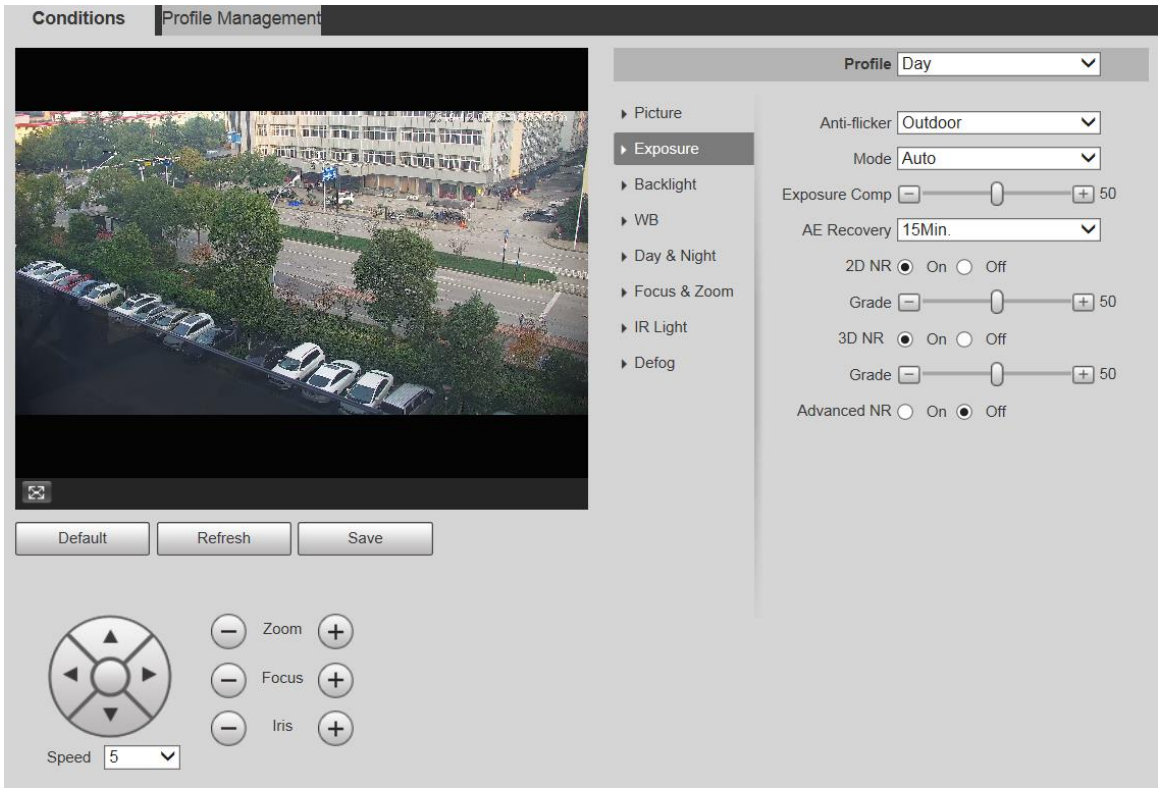


Figure 5-3 Exposure—aperture priority mode

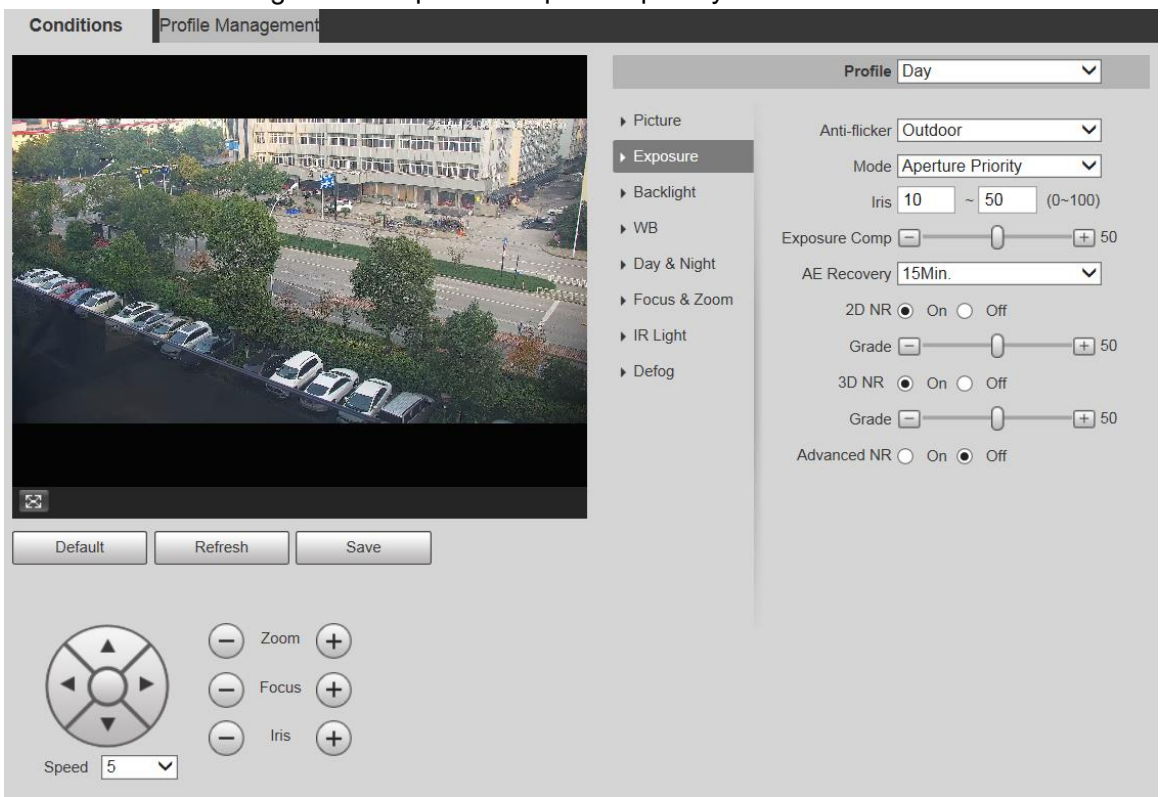


Figure 5-4 Exposure—shutter priority mode

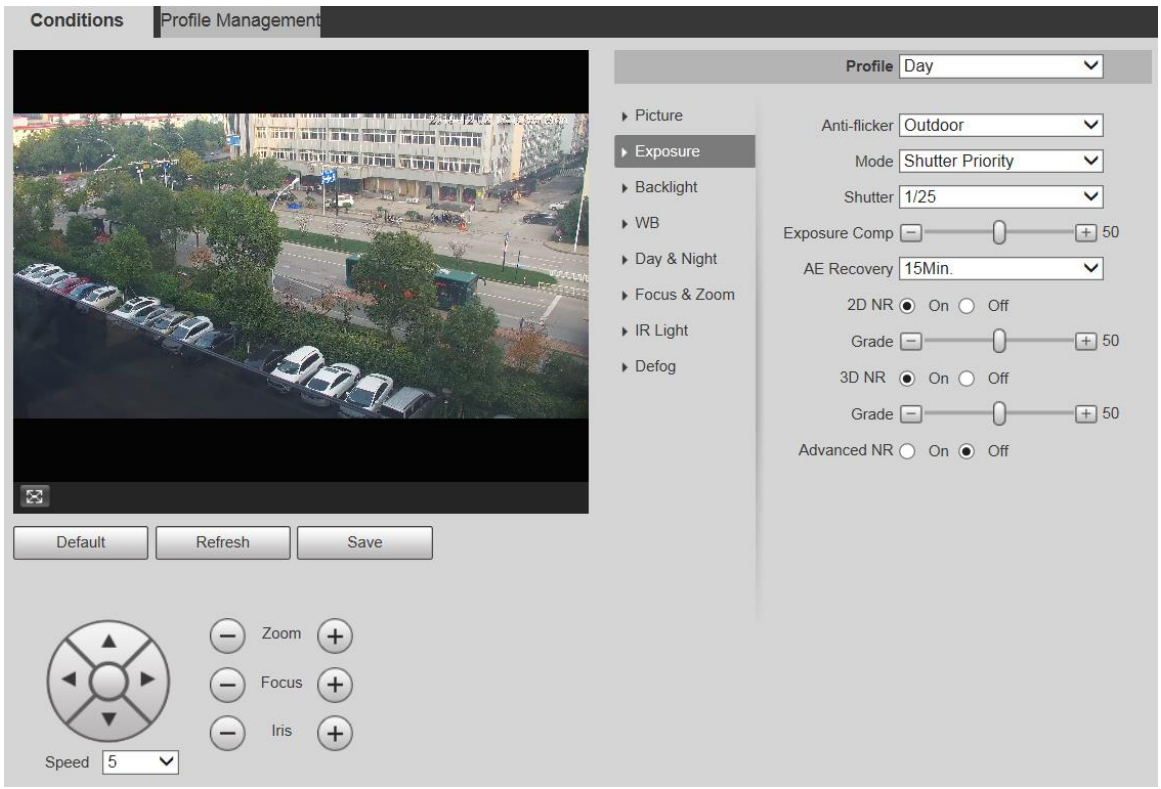


Figure 5-5 Exposure—gain priority mode

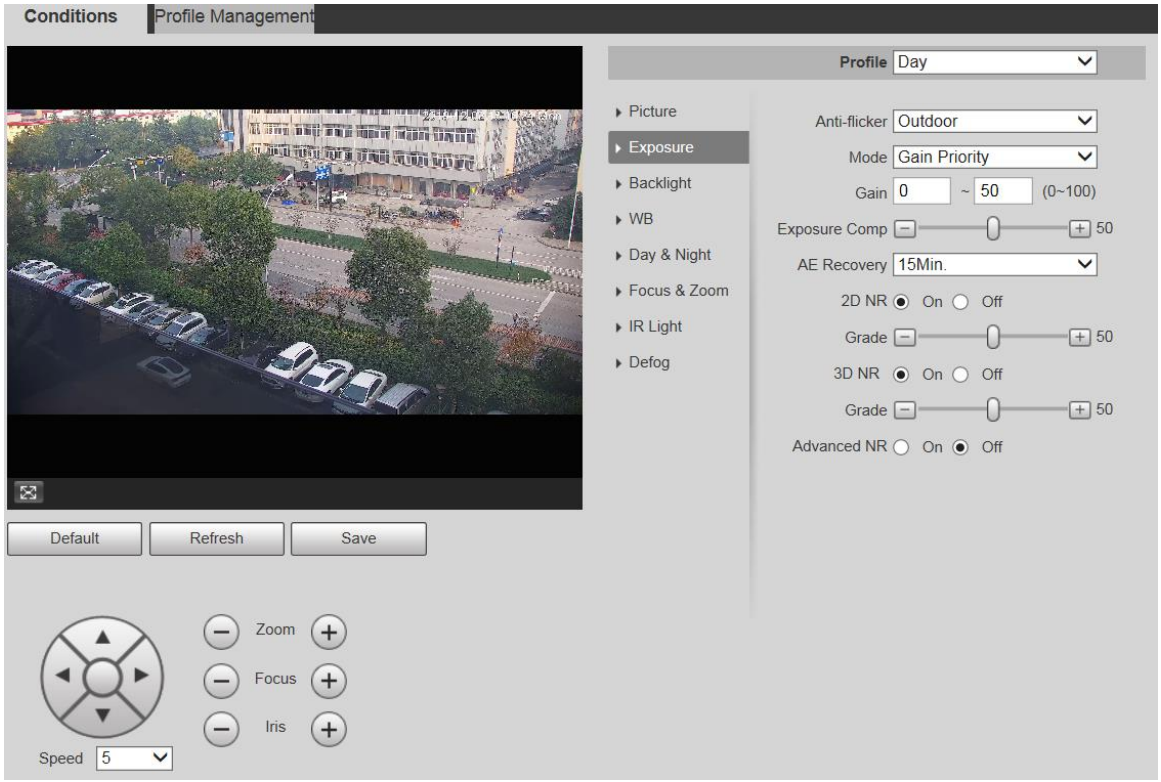
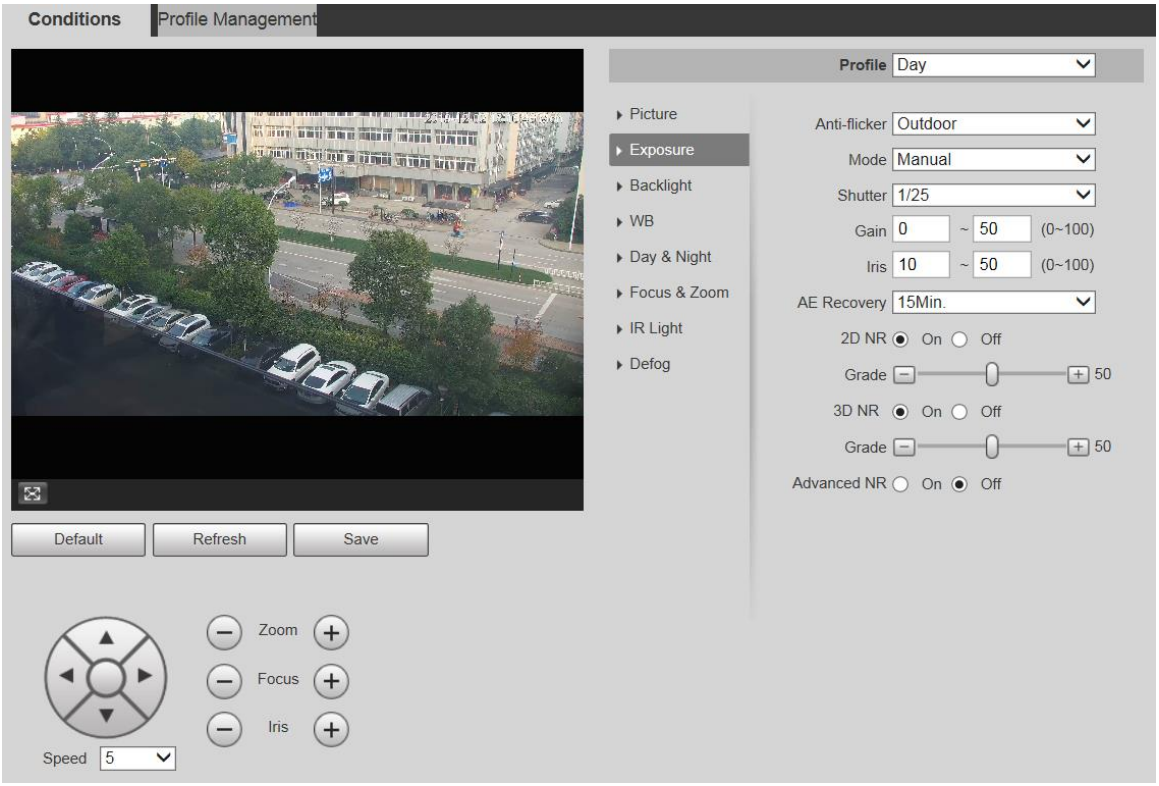


Figure 5-6 Exposure—manual mode



Step 2 Configure parameters as needed. For parameter description, see Table 5-2.

Table 5-2 Exposure setting parameter description

Parameter	Description
Anti-flicker	You can select **50Hz**, **60Hz**, or **Outdoor** from the list. ● **50Hz**: When the alternating current is 50Hz, the exposure is automatically adjusted to make sure that there are no stripes on images. ● **60Hz**: When the alternating current is 60Hz, the exposure is automatically adjusted to make sure that there are no stripes on images. ● **Outdoor**: You can switch the modes to achieve the effect you want.
Mode	Set the exposure modes. You can select **Auto**, **Manual**, **Aperture Priority**, **Shutter Priority**, **Gain Priority**. The **Auto** mode is selected by default. ● **Auto**: Exposure is automatically adjusted according to scene brightness if the overall brightness of images is in the normal exposure range. ● **Manual**: You can adjust the **Gain**, **Shutter**, and **Iris** value manually. ● **Aperture Priority**: You can set the iris to a fixed value, and the Device adjusts shutter value then. If the image brightness is not enough and the shutter value has reached upper or lower limit, the system adjusts gain value automatically to ensure the image is at ideal brightness. ● **Shutter Priority**: You can customize the shutter range. The Device automatically adjusts the aperture and gain according to the scene brightness. ● **Gain Priority**: Gain value and exposure compensation value can be adjusted manually.

Parameter	Description
Gain	You can set the exposure gain. The value ranges from 0 to 100.
Shutter	You can adjust the exposure time of the Device. The larger the shutter value, the brighter the image.
Iris	You can set the Device luminous flux. The larger the iris value, the brighter the image.
Exposure Comp	You can set the exposure compensation value. The value ranges from 0 to 100.
AE Recovery	Automatic exposure is an automated digital camera system that adjusts the aperture and shutter speed, based on the external lighting conditions for images and videos. If you have selected an **AE Recovery** time, the exposure mode will be restored to the previous mode after you adjusted the Iris value. There are five options: **Off**, **5Min**, **15Min**, **1Hour**, and **2Hour**.
2D NR	2D noise reduction is the process of removing noise from a signal. The higher the grade is, the less the noise will be, and images appear to be blurrier.
3D NR	3D noise reduction is the process of removing noise from a signal. The higher the grade is, the less the noise will be, and images appear to be blurrier.
Grade	Noise reduction grade. The value ranges from 0 to 100. The larger the value is, the less the noise will be.
Advanced NR	Realize noise suppression effect through 3D and 2D video filtering method. The function is available on select models.

Step 3 Click **Save**.

Backlight

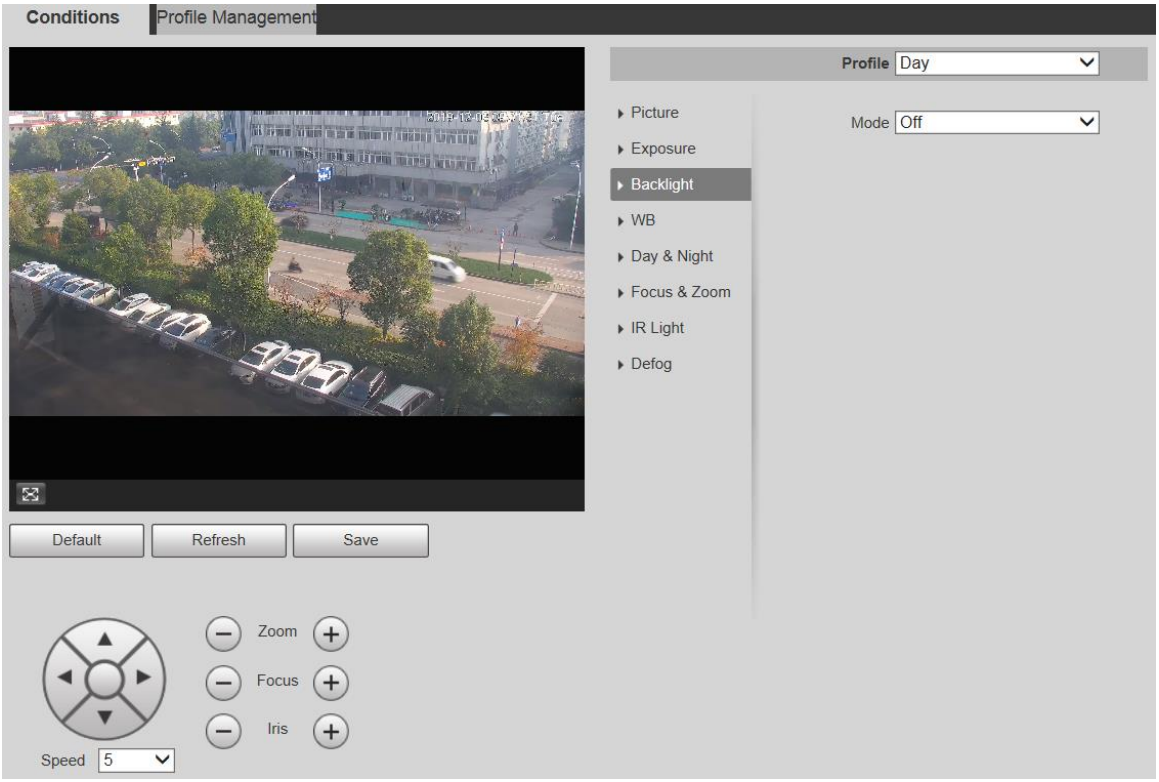
The backlight function cannot be configured if defog function is enabled. There will be a prompt on the interface.

You can use this function to adjust the backlight compensation mode of the monitoring screen.

Step 1 Select **Setting > Camera > Conditions > Conditions > Backlight**.

The **Backlight** interface is displayed. See Figure 5-7.

Figure 5-7 Backlight settings



Step 2 Select a backlight mode from the list.

There are 4 options: **Off**, **BLC**, **HLC**, and **WDR**.

- Off: Backlight is disabled.
- BLC: Backlight compensation corrects regions with extremely high or low levels of light to maintain a normal and usable level of light for the object in focus.
- WDR: When in WDR (Wide Dynamic Range) mode, the Device constrains over bright areas and compensates dark areas to improve the image clarity.
- HLC: Highlight compensation dims strong light, so that the Device can capture details of faces and license plates in extreme light conditions. It is applicable to the entrance and exit of toll stations or parking lots.

Step 3 Click **Save**.

If you select **Off**, other backlight mode configurations will not be effective.

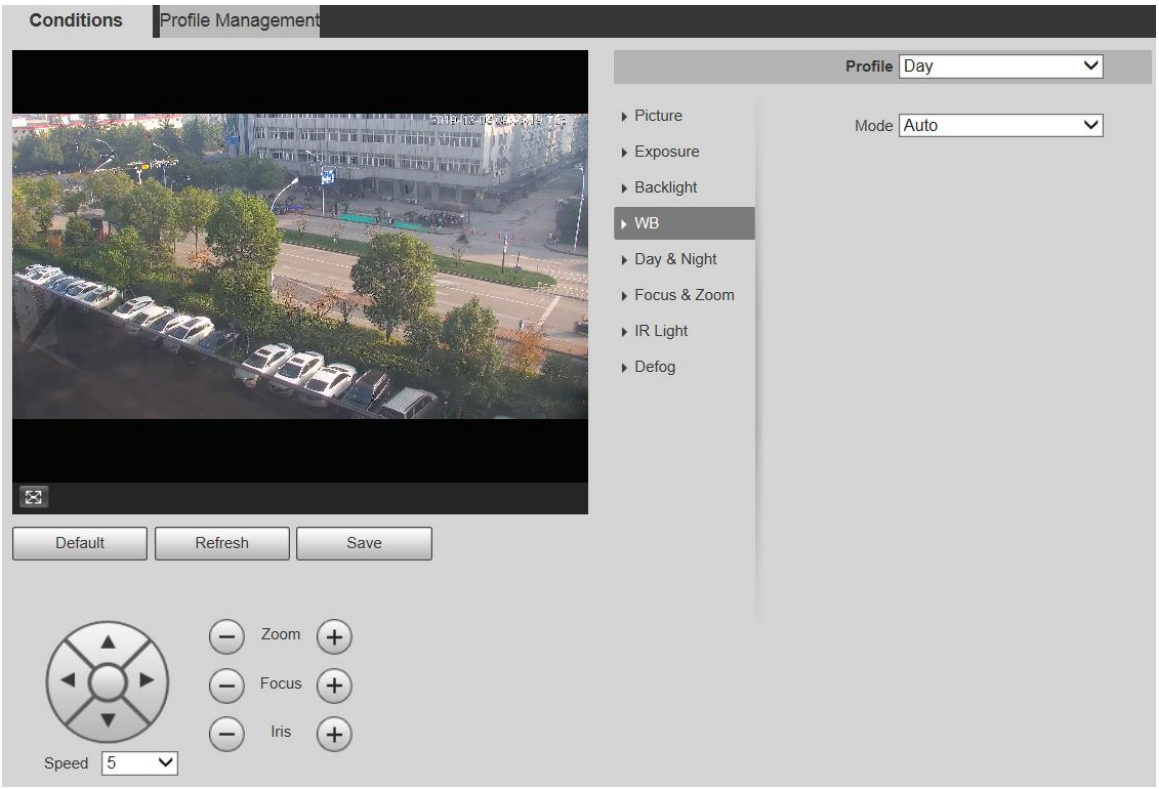
WB

In this mode, you can make a white object displaying itself clearly on the video image in all environments.

Step 1 Select **Setting > Camera > Conditions > Conditions > WB**.

The **WB** interface is displayed. See Figure 5-8.

Figure 5-8 WB settings



Step 2 Select WB mode from the list.

You can select from **Auto**, **Indoor**, **Outdoor**, **ATW**, **Manual**, **Sodium Lamp**, **Natural**, and **Street Lamp**. **Auto** is selected by default.

Step 3 Click **Save**.

Day & Night

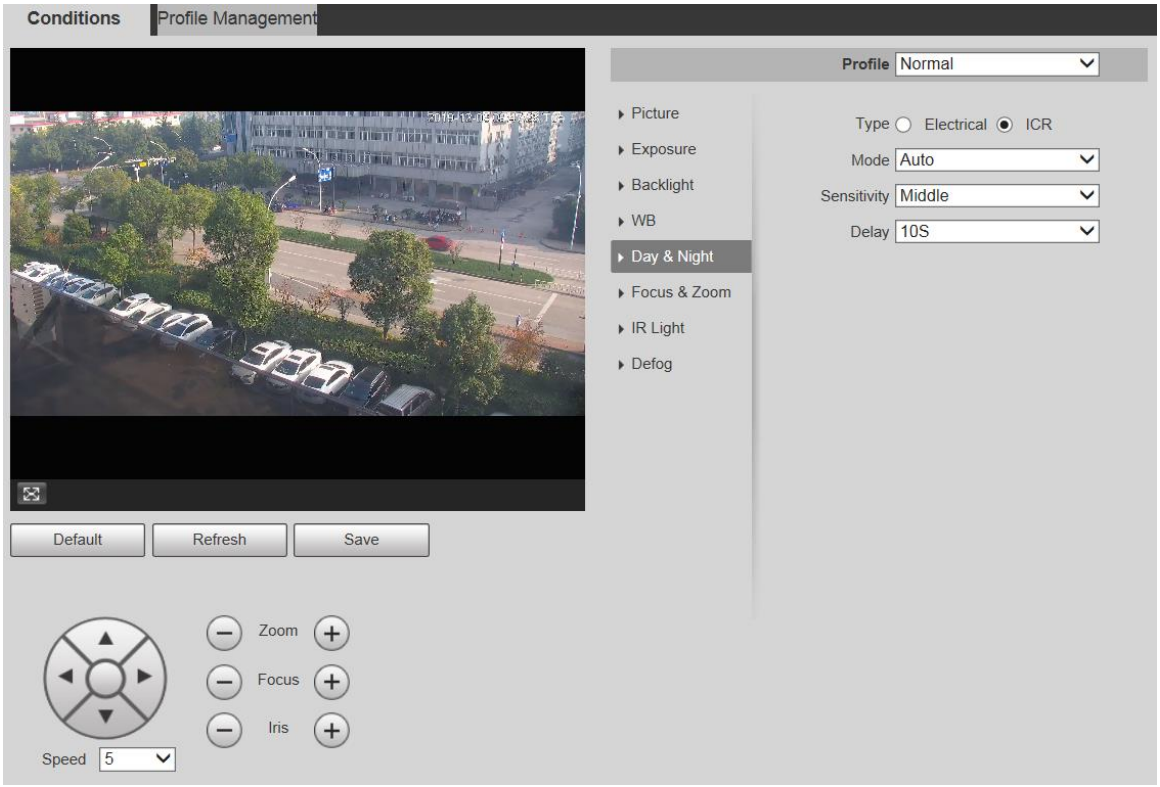
Defog function cannot be configured if **Day & Night** function is enabled. There will be a prompt on the interface.

This function allows you to switch between the color mode and the black & white mode, ensuring clear monitoring screen in a dim environment.

Step 1 Select **Setting > Camera > Conditions > Conditions > Day & Night**.

The **Day & Night** interface is displayed. See Figure 5-9.

Figure 5-9 Day & night settings



Step 2 Configure parameters as needed. For parameter description, see Table 5-3.

Table 5-3 Day & night parameter description

Parameter	Description
Type	There are two options: **Electrical** and **ICR**. **ICR** is selected by default. ● ICR: IR filter is used for day & night switch. ● Electrical: Image processing method is used for day & night switch.
Mode	Select a mode from the list (Your selection is independent from the profile). **Auto** is selected by default. ● **Color**: The Device only outputs color images. ● **Auto**: The Device outputs color images or black-and-white images according to ambient conditions. ● **B/W**: The Device only outputs black-and-white images.
Sensitivity	Adjust the sensitivity to switch between different modes. There are three options: **Low**, **Middle**, and **High**. You can set sensitivity only when **Day & Night** mode is set to **Auto**.
Delay	Adjust the delay time to switch between different modes. The value ranges from 2 s to 10 s. You can set **Delay** only when **Day & Night** mode is set to **Auto**.

Step 3 Click **Save**.

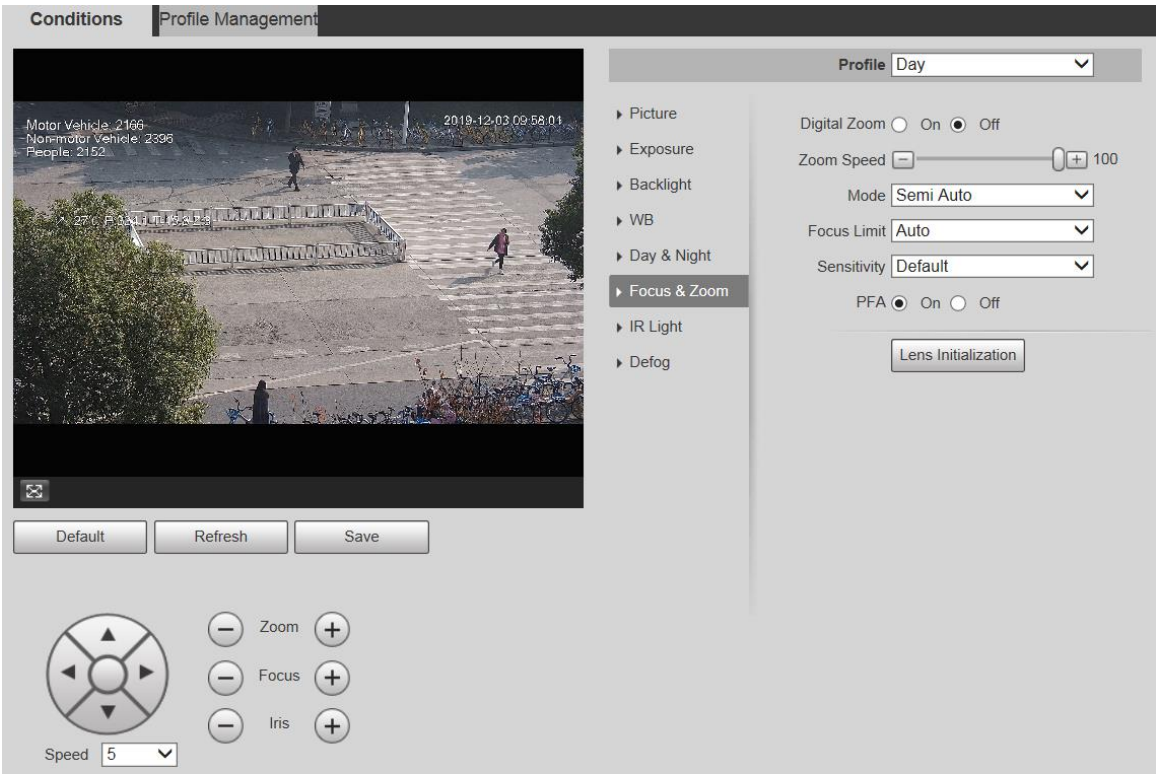
Focus & Zoom

Digital zoom refers to capturing a part of the image to magnify it. The higher the magnification is, the blurrier the images will become.

Step 1 Select **Setting > Camera > Conditions > Conditions > Focus & Zoom**.

The **Focus & Zoom** interface is displayed. See Figure 5-10.

Figure 5-10 Focus & zoom settings



Step 2 Configure each parameter as needed. See Table 5-4.

Table 5-4 Focus & zoom parameter description

Parameter	Description
Digital Zoom	Select **On** or **Off** to enable or disable digital zoom. **Off** is selected by default.
Zoom Speed	The larger the value is, the faster the Device zooms.
Mode	Select the focus triggering mode. There are three options: **Semi Auto**, **Auto**, and **Manual**. **Semi Auto** is selected by default. ● **Semi Auto**: The Device focuses automatically when zoom or ICR switch is detected. ● **Auto**: The Device focuses automatically when scene changes, zoom, or ICR switch are detected. ● **Manual**: The Device cannot focus automatically. You need to adjust the focus manually.
Focus Limit	You can select the shortest focus distance, which means the Device will focus on objects farther than the shortest focus distance. If you select **Auto**, the Device will select an appropriate shortest distance according to the zoom value.
Sensitivity	Sensitivity is the capacity of resisting interference of the Device when focusing. The smaller the value is, the more capable the Device can resist interference when focusing.
PFA	If you enable this function, the image is relatively clear during zoom. If you disable this function, the speed is relatively high during zoom.

Parameter	Description
Lens Initialization	Click this button, and the lens will be initialized automatically. The lens will be extended to calibrate the zoom and focus.

Step 3 Click **Save**.

IR Light

Common illuminators are classified into infrared IR lights, white lights, and laser lights. Different device models support different types of illuminators, and have different configuration interfaces. The actual interface shall prevail. This section describes how to configure these light types.

Infrared IR Light/White Light

These are the conditions for using infrared IR light and white light.

- When the day & night mode is set to **B/W**, the monitoring screen is black and white. In this case, infrared IR light is used.
- When the day & night mode is set to **Color**, the monitoring screen is colored. In this case, white light is used.
- When the day & night mode is set to **Auto**, the monitoring screen color changes with the ambient light condition, and the illuminator varies with the monitoring screen. In **B/W** mode, the infrared IR light is turned on; in **Color** mode, the white light is turned on.

- Some models are equipped with photoresistor that can turn on different types of illuminators based on the ambient brightness.

Perform the following steps to set illuminators.

Step 1 Select **Setting > Camera > Conditions > Conditions > IR Light**.

The **IR Light** interface is displayed. See Figure 5-11.

Figure 5-11 IR light settings—ZoomPrio

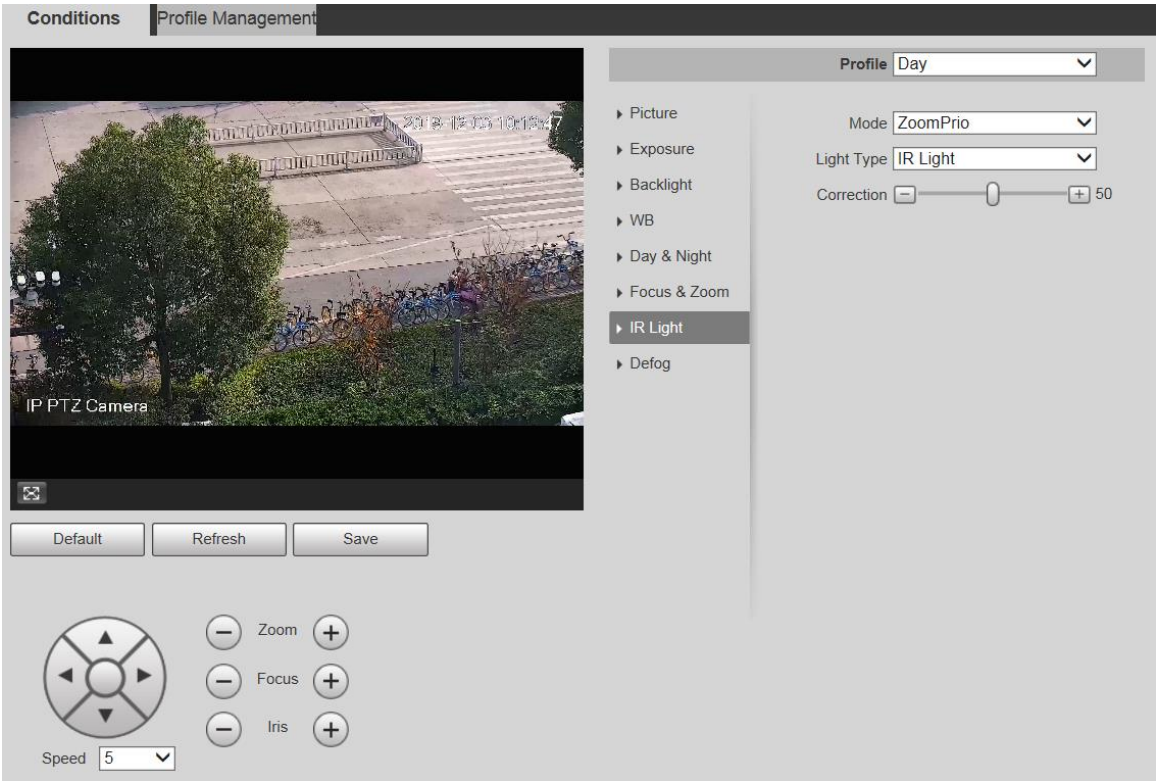


Figure 5-12 IR light settings—SmartIR

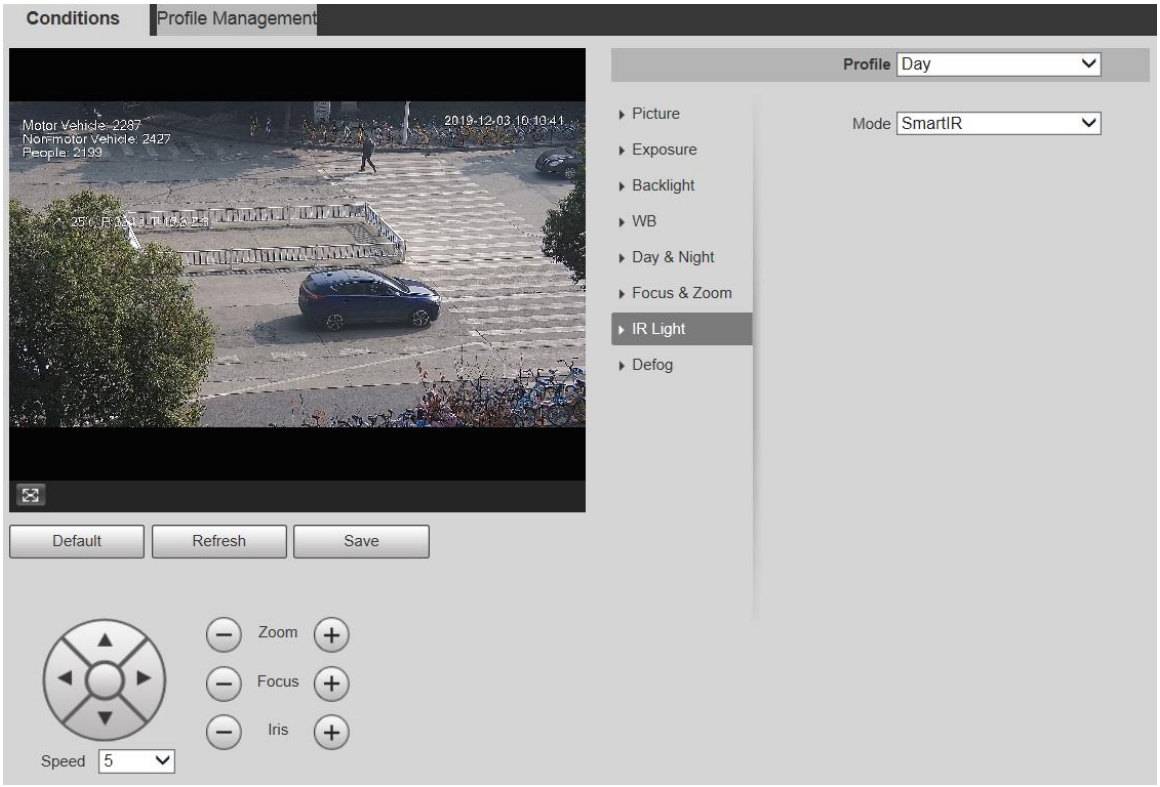


Figure 5-13 IR light settings—manual

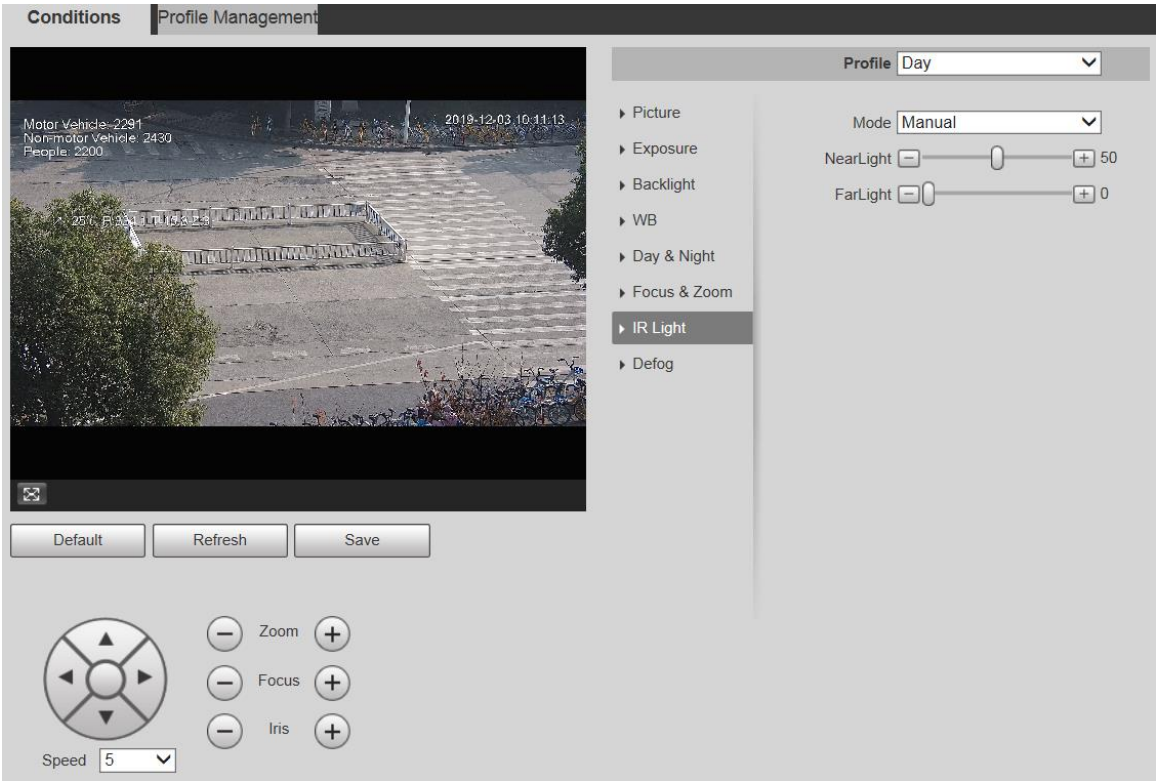


Figure 5-14 IR light setting—timing

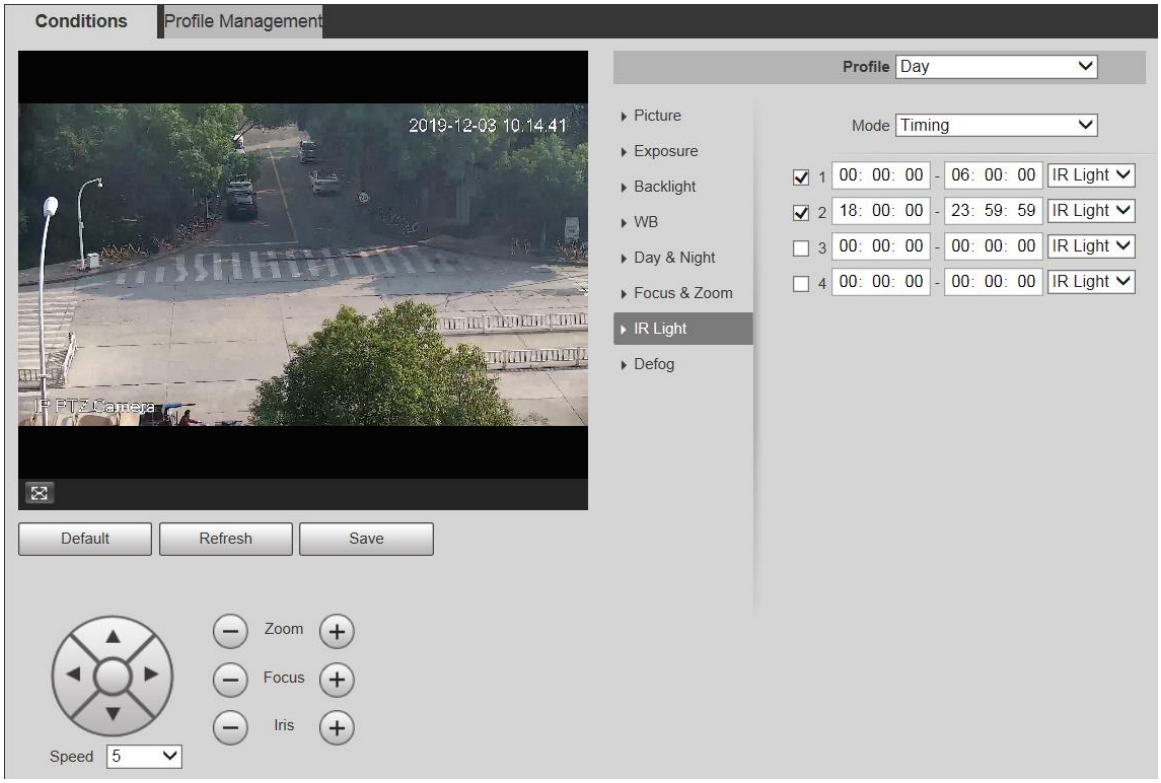
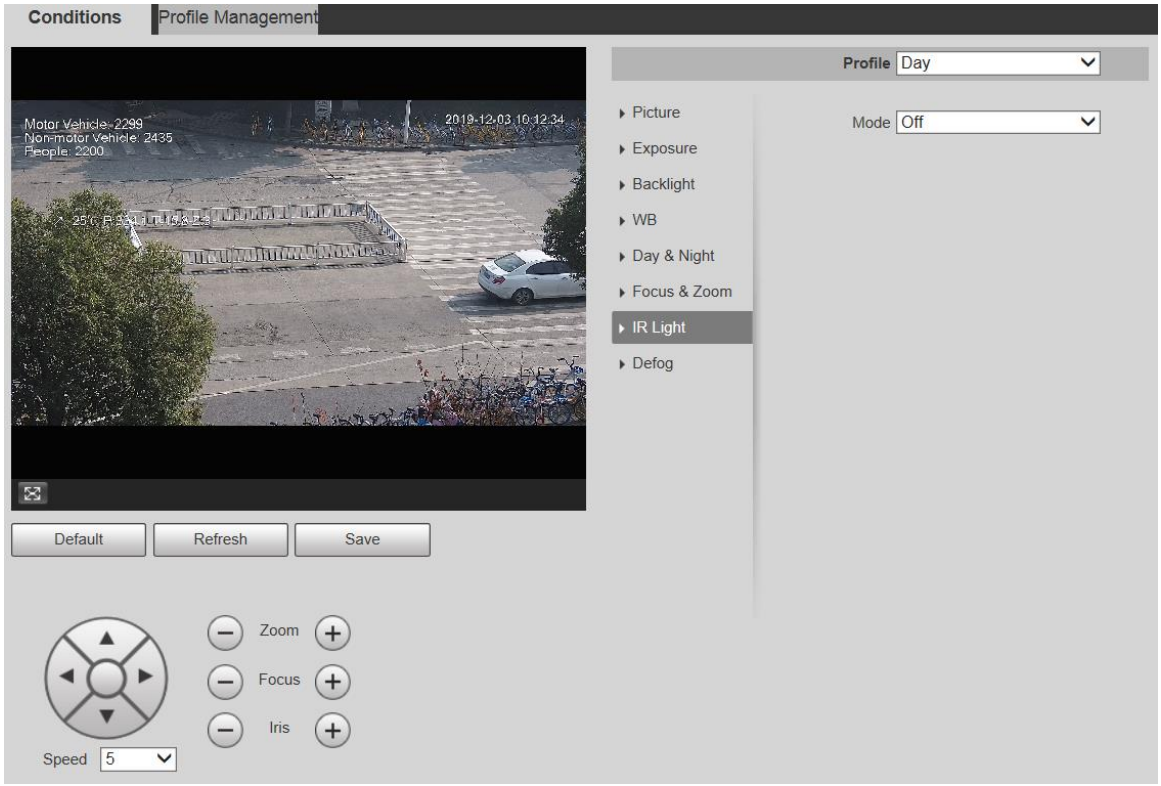


Figure 5-15 IR light setting—off



Step 2 Configure each parameter as needed. For the parameter description, see Table 5-5.

Table 5-5 IR light parameter description

Parameter	Description
Mode	There are 5 options: **Manual**, **SmartIR**, **ZoomPrio**, **Timing**, and **Off**. ● **ZoomPrio**: The system adjusts the IR light brightness automatically according to the zoom times. ● **SmartIR**: The system controls the IR light intensity according to actual

Parameter	Description
	conditions. ● **Manual:** Set IR light brightness manually. ● **Timing**: Enable different light types in different time periods according to actual condition. ● **Off**: Turn off the IR light. ● Some models do not support **SmartIR**, **Manual**, **Timing**, or **Off**. ● In **ZoomPrio** mode, IR light and white light are supported, and IR light is selected by default. ● In **Timing** mode, you can set four periods with different light types. ● Only infrared IR light supports the SmartIR mode. ● The IR light is turned off for cameras with low power consumption by default. Turn on the IR light if necessary.
Light Type	You can select **IR Light** or **White Light**.
Correction	Compensate for the brightness of the IR light. The value ranges from 0 to 100.
Near Light	Set the brightness of the near light. The value ranges from 0 to 100.
Far Light	Set the brightness of the far light. The value ranges from 0 to 100.

Step 3 Click **Save**.

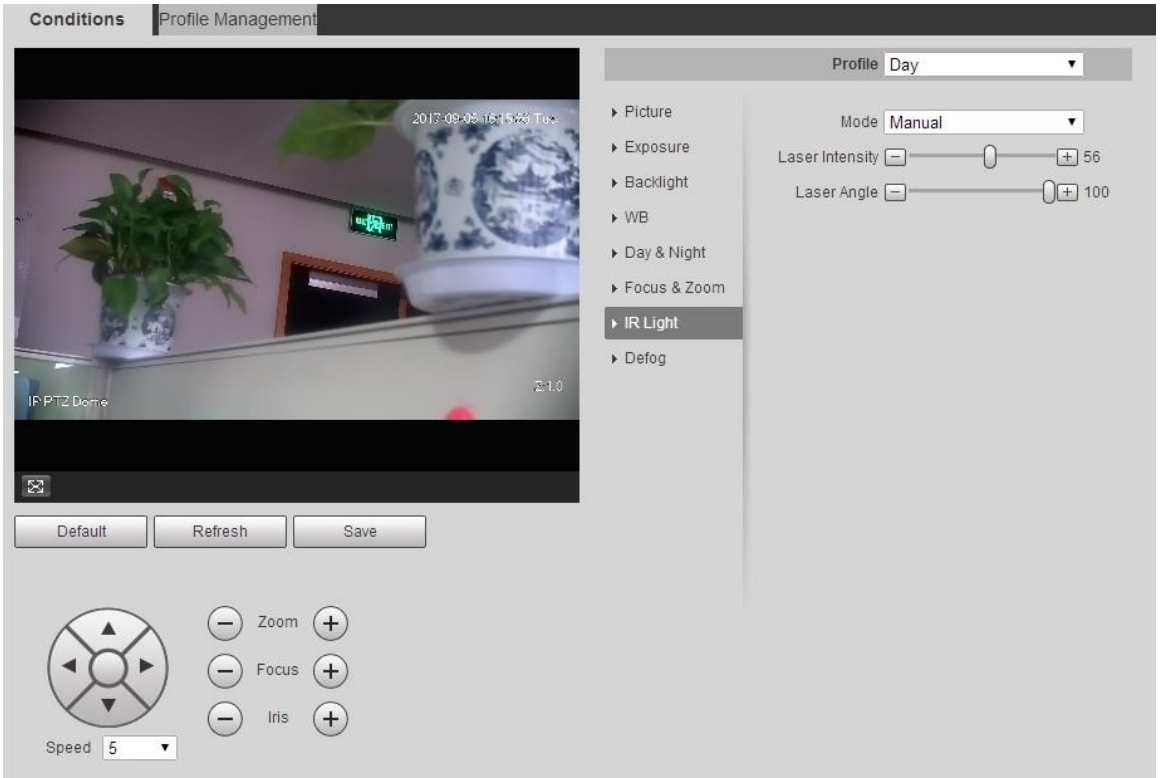
Laser Light

Laser light makes compensation for the ambient environment when it is used for long-distance monitoring.

Step 1 Select **Setting > Camera > Conditions > Conditions > IR Light**.

The **IR Light** interface is displayed. See Figure 5-16.

Figure 5-16 Laser light settings



Step 2 Configure parameter as needed. Refer to Table 4-6 for more details.

Table 5-6 Laser light setting parameter description

Parameter	Description
Mode	Select the laser light mode from **ZoomPrio** and **Manual**. It is **ZoomPrio** by default. ● **ZoomPrio**: The Device can automatically adjust laser light brightness according to the zoom times. ● **Manual**: Manually set laser light brightness and angle value.
Laser Intensity	Set the intensity of the laser light. The value ranges from 0 to 100.
Laser Angle	Set the angle value from 0 to 100.

Step 3 Click **Save**.

Defog

The defog function cannot be configured if backlight function is enabled. There will be a prompt on the interface.

Image quality drops if the Device is installed in foggy or hazy environment. You can enable defog to improve image quality.

Step 1 Select **Setting > Camera > Conditions > Conditions > Defog**.

The **Defog** interface is displayed. See Figure 5-17 and Figure 5-18.

Figure 5-17 Defog settings—manual

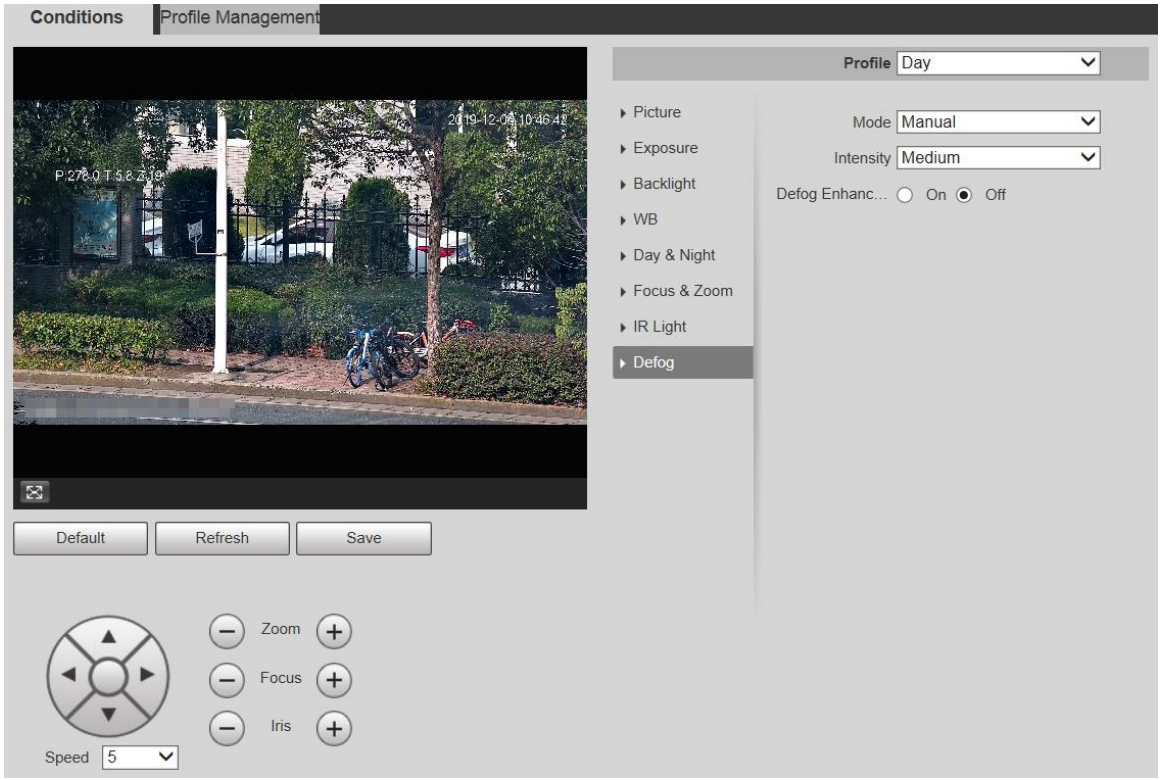
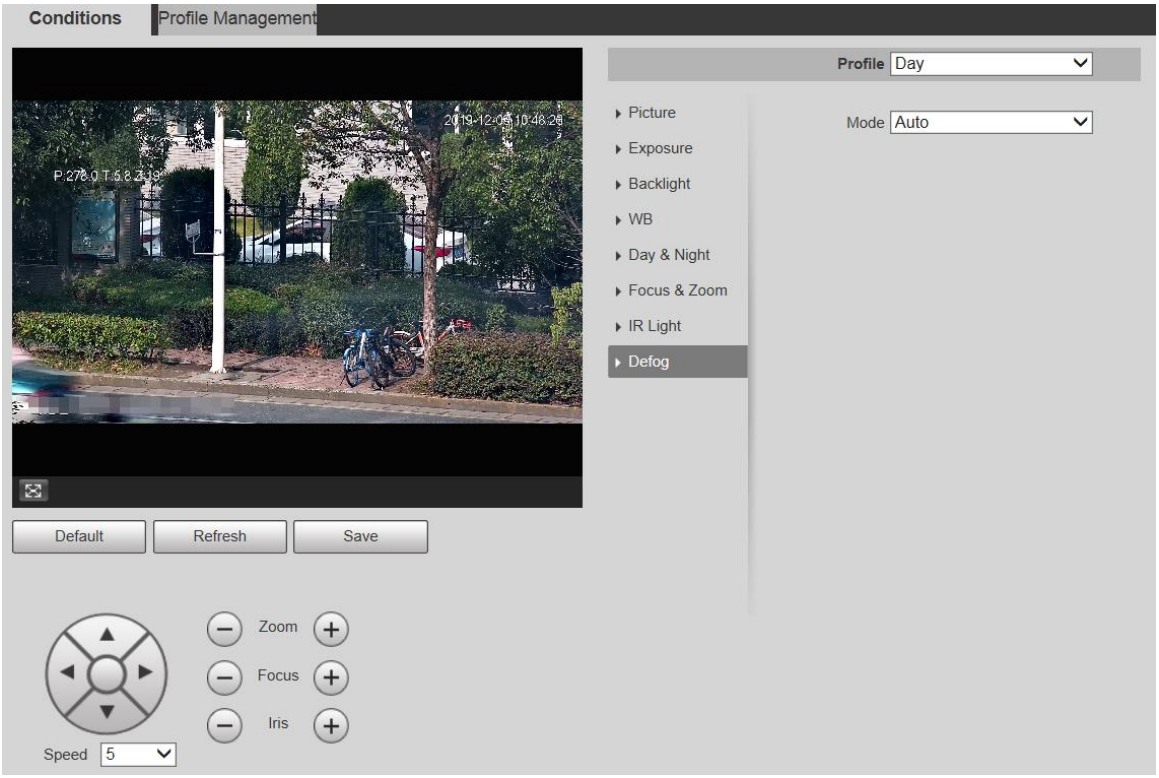


Figure 5-18 Defog settings—auto



Step 2 Configure parameters as needed. For parameter description, see Table 5-7.

Table 5-7 Defog parameter description

Parameter	Description
Mode	Select the defog mode of the Device. You can select **Auto**, **Manual**, or **Off**. It is **Off** by default. For the Device that supports optical defog, in **Auto** mode, optical defog and electronic defog switch automatically according to the algorithm. And in **Off** mode, electronic defog is enabled by default.
Intensity	Set the defog intensity of the Device. You can select from **Low**, **Medium**, or **High**.
Defog Enhancement	Only the Device that supports optical defog has this parameter. In **Manual** mode, if you enable this function, both optical defog and electronic defog are enabled. (You need to enable **Auto** mode for **Day & Night** to use the function.)

Step 3 Click **Save**.

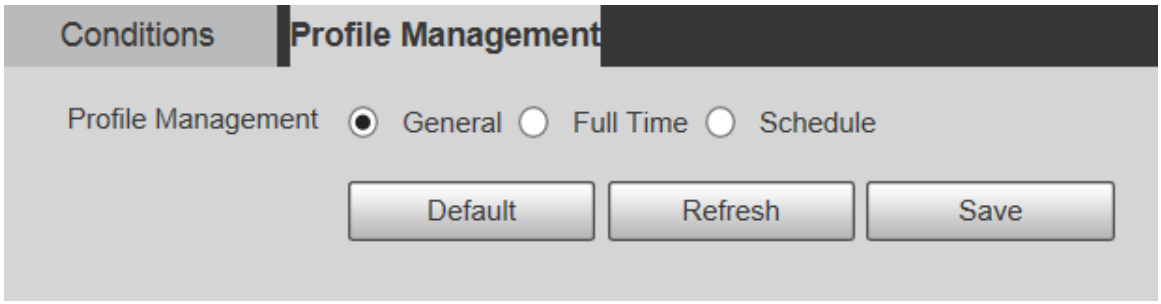
5.1.1.2 Profile Management

Step 1 Select **Setting > Camera > Conditions > Profile Management**.
The **Profile Management** interface is displayed.

Step 2 Select the profile management mode.
There are three options: **General, Full Time** and **Schedule.**

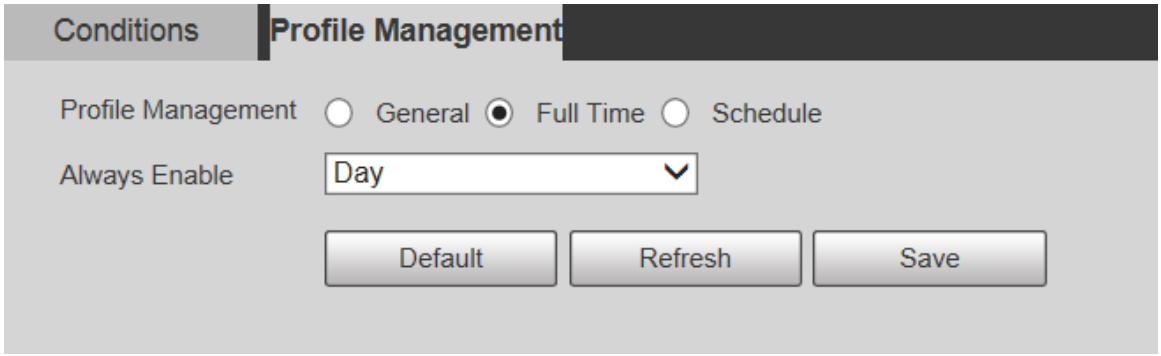
- If you select General, monitoring is based on the general configuration of the Device. See Figure 5-19.

Figure 5-19 Profile management—general



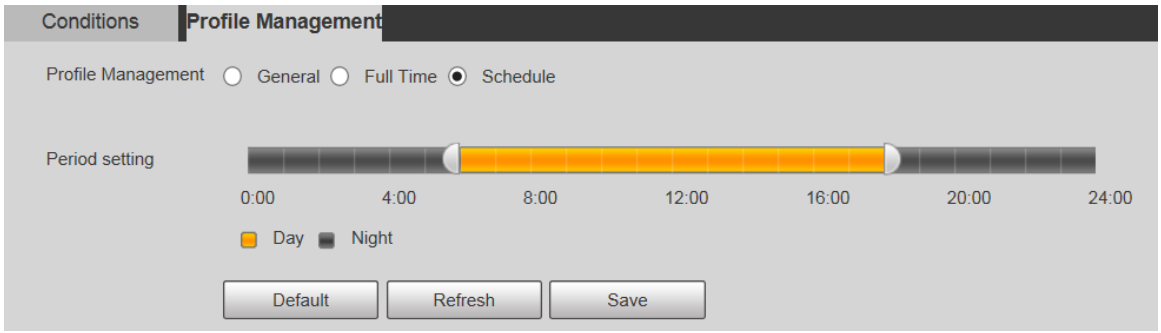
- If you select Full Time, Day and Night are selectable, and the corresponding camera property profile is day or night. See Figure 5-20.

Figure 5-20 Profile management—full time



- If you select Schedule, you can select one period for day configuration and another period for night configuration. For the configuration interface, see Figure 5-21. For example, you can set the day-time configuration from 6:00 to 18:00, and set the night-time configuration from 18:00 to 6:00 on the next day.

Figure 5-21 Profile management—schedule



Step 3 Click **Save**.

5.1.2 Video

You can set the video stream, snapshot stream, video overlay, ROI, and storage path of the Device.

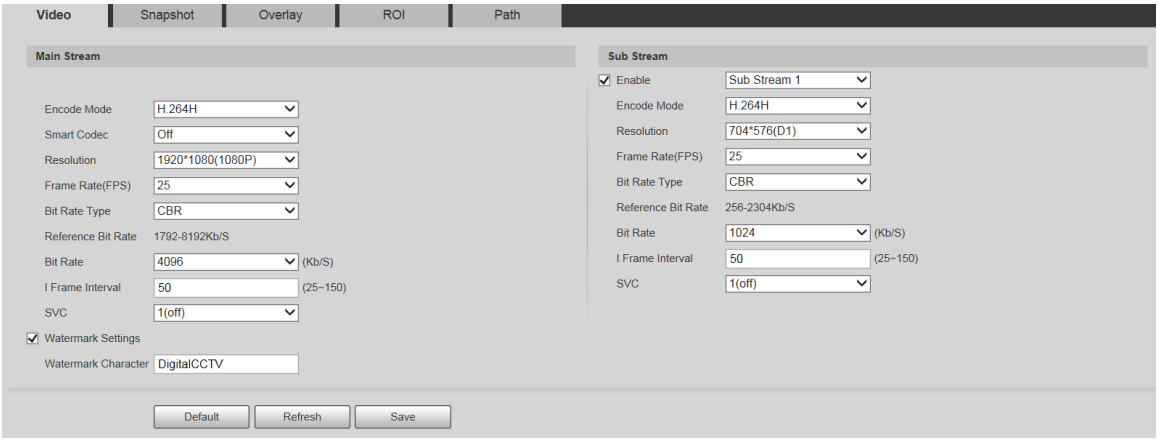
5.1.2.1 Video Stream

This section describes how to set the video stream for the monitoring screen.

Step 1 Select **Setting > Camera > Video > Video**.

The **Video** interface is displayed. See Figure 5-22.

Figure 5-22 Video stream settings



- The stream configuration interfaces might vary depending on devices, and the actual interface shall prevail.
- The default bit rate of different devices might vary, and the actual product shall prevail.

Step 2 Configure parameters as needed. For parameter description, see Table 5-8.

Table 5-8 Video stream parameter description

Parameter	Description
Enable	You can select the check box to enable sub stream. The sub stream is enabled by default.
Encode Mode	You can select H.264, H.264H, H.264B, H.265, MJPEG, MPEG4, or SVAC.
Smart Codec	Enable **Smart Codec** to improve video compressibility and save storage space. After **Smart Codec** is enabled, the Device does not support the third stream, ROI, smart event, and other functions. The actual interface shall prevail.
Resolution	Multiple resolution types are available for you to choose, and each type corresponds to a unique recommended stream value.
Frame Rate (FPS)	PAL: 1–25 frames/s or 1–50 frames/s. The frame rate changes with the resolution.
Bit Rate Type	There are two options: **CBR** (constant bit rate) and **VBR** (variable bit rate). ● Picture quality can be set only in VBR mode, and cannot be set in CBR mode. ● In **MJPEG** encode mode, **CBR** is the only option for **Bit Rate Type**.
Reference Bit Rate	The recommended bit rate range is based on the resolution and frame rate.
Bit Rate	It is the upper limit of stream in VBR. In CBR, the value is fixed.
I Frame Interval	The number of P frames between two I frames. The range varies with the frame rate, and the maximum value is 150. It is recommended to set the interval twice the frame rate.
SVC	Layered encoding can be done for FPS. SVC is a scalable encoding method on time domain. It is 1 by default, which means no layered coding. You can set 2, 3 or 4 layered encoding.

Parameter	Description
Watermark Settings	You can verify the watermark to check if the video has been tampered.
Watermark Character	You can verify the watermark to check if the video has been tampered. Select **Watermark Settings** check box to enable **Watermark Character**. The watermark character is **DigitalCCTV** by default, and you can modify it. Watermark character consists of up to 128 characters from letters, standard symbols, spaces, and special characters.

Step 3 Click **Save**.

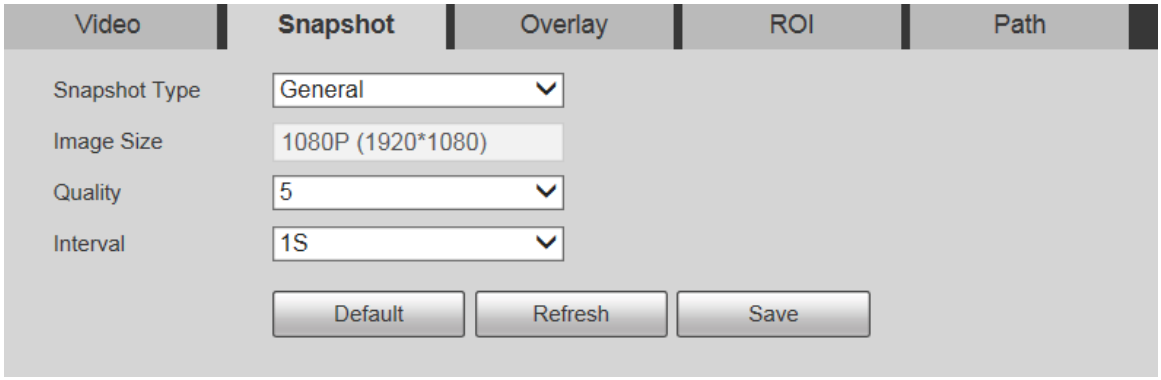
5.1.2.2 Snapshot

This section describes how to set streams for snapshots.

Step 1 Select **Setting > Camera > Video > Snapshot**.

The **Snapshot** interface is displayed. See Figure 5-23.

Figure 5-23 Snapshot stream settings



Step 2 Configure parameters as needed. For parameter description, see Table 5-9.

Table 5-9 Snapshot stream parameter description

Parameter	Description
Snapshot Type	You can select **General** or **Event**. ● **General** refers to capturing pictures within the time range set in the schedule. For details, see "5.5.1 Schedule." ● **Event** means capturing pictures when motion detection, video tampering, or local alarms are triggered. For how to enable snapshots for motion detection, video tampering, or local alarms, see "5.4 Event Management."
Image Size	It is the same as the resolution of the selected snapshot main stream, and cannot be modified on this interface.
Quality	You can set the snapshot quality from 1 to 6 levels. Level 1 is the lowest level, and level 6 is the highest level.
Interval	Set the snapshot frequency. You can select from 1 s through 7 s or **Customized**.

Step 3 Click **Save**.

5.1.2.3 Overlay

This section describes how to set the overlay information on the monitoring screen.

Step 1 Select **Setting > Camera > Video > Overlay**.

The **Overlay** interface is displayed.

Step 2 Configure overlay information as needed. For the configuration interfaces, see the following figures. For the parameter description, see Table 5-10.

Figure 5-24 Overlay settings—privacy masking

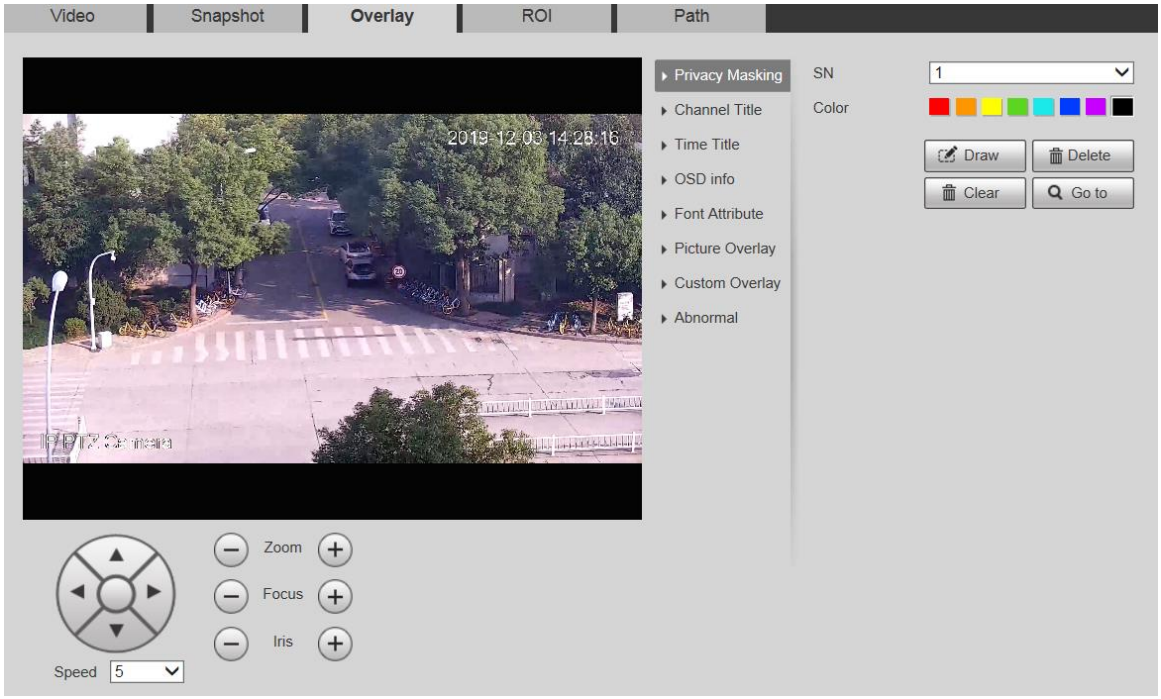


Figure 5-25 Overlay settings—channel title

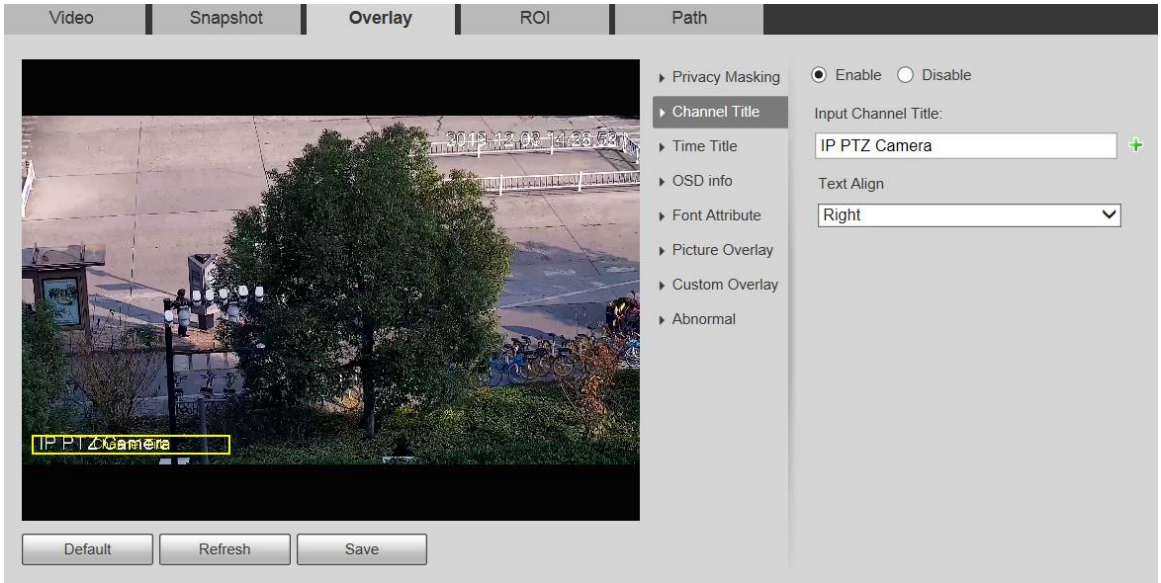


Figure 5-26 Overlay settings—time title

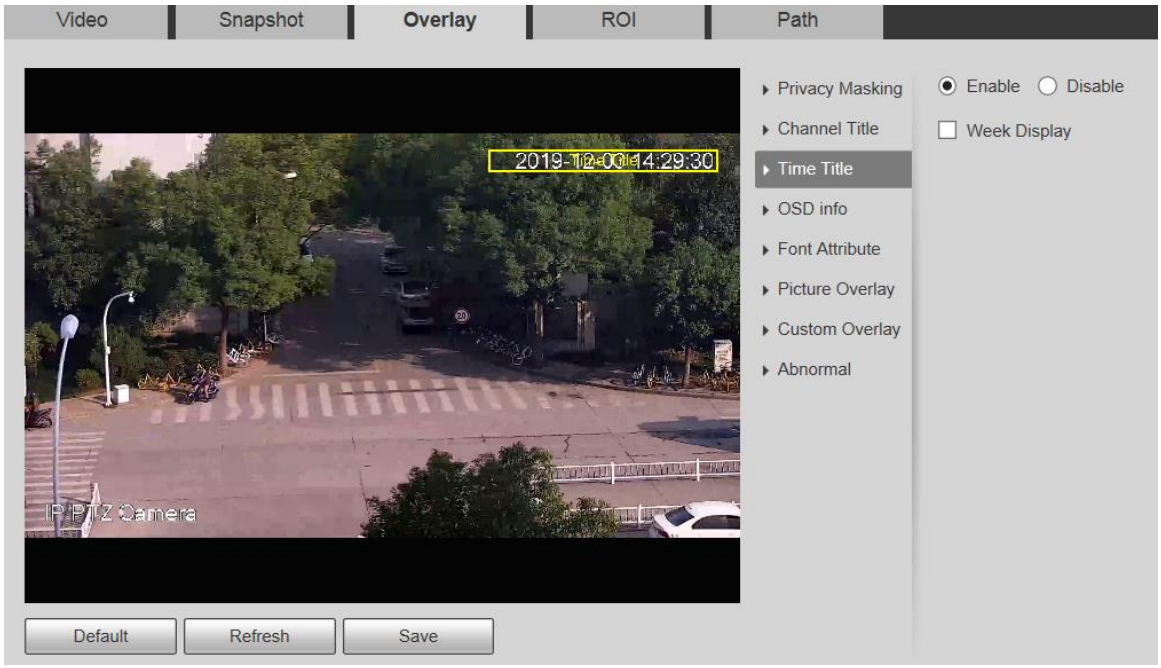


Figure 5-27 Overlay settings—OSD info

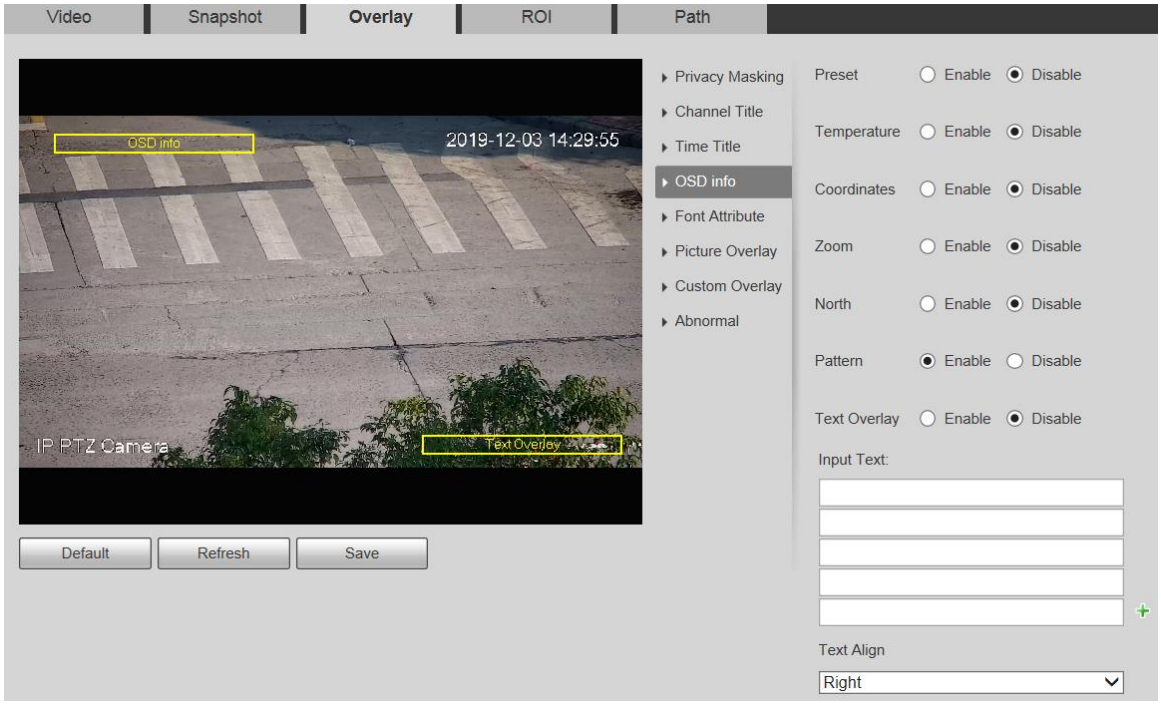


Figure 5-28 Overlay settings—font attribute

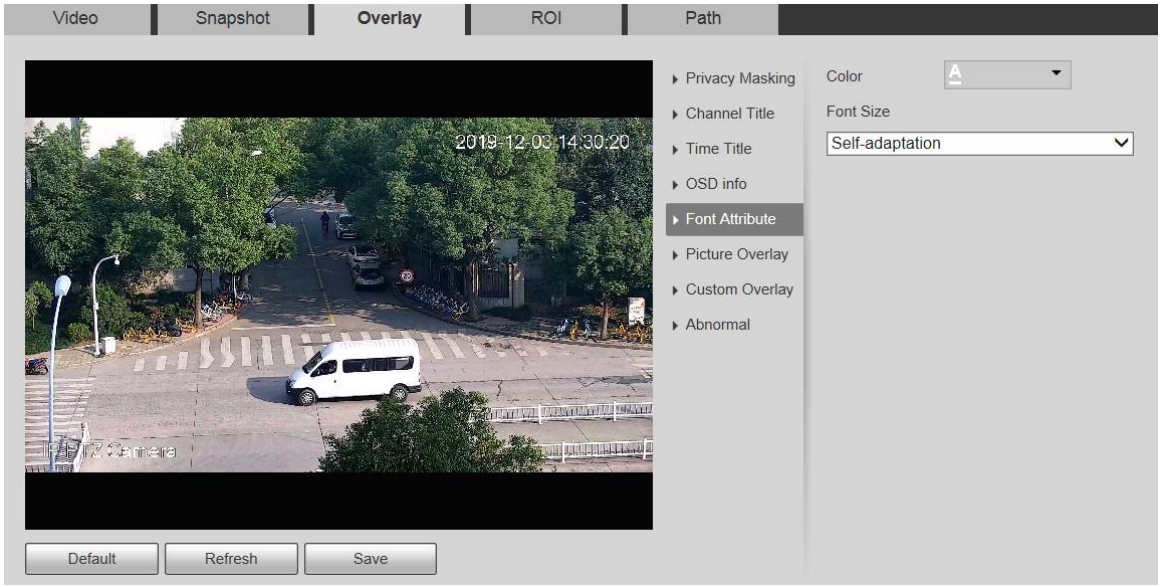


Figure 5-29 Overlay settings—picture overlay

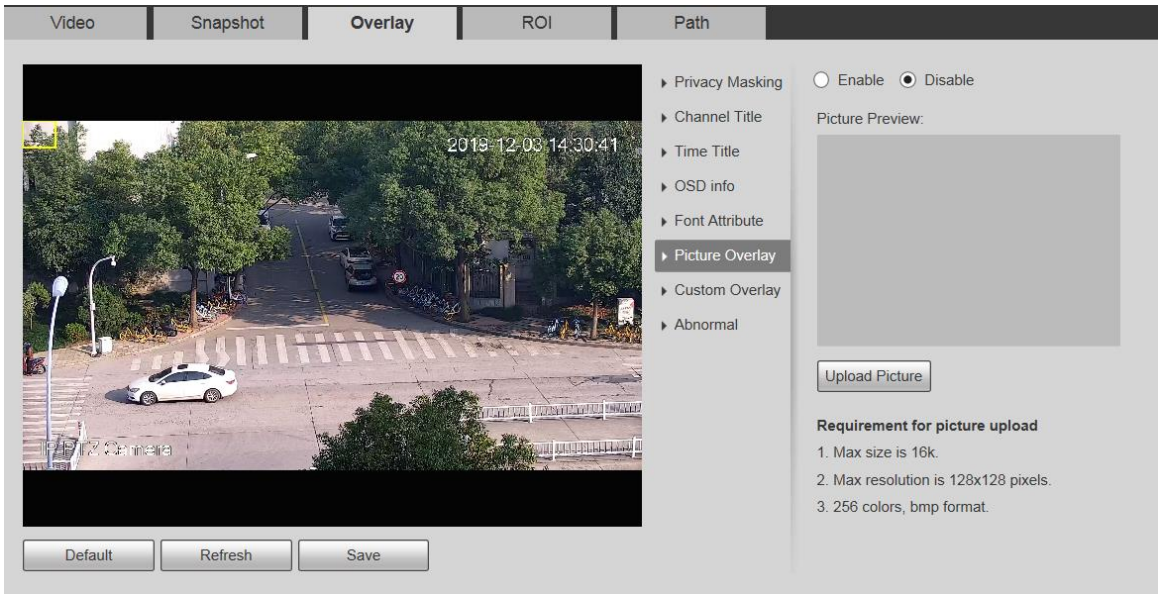


Figure 5-30 Overlay settings—abnormal

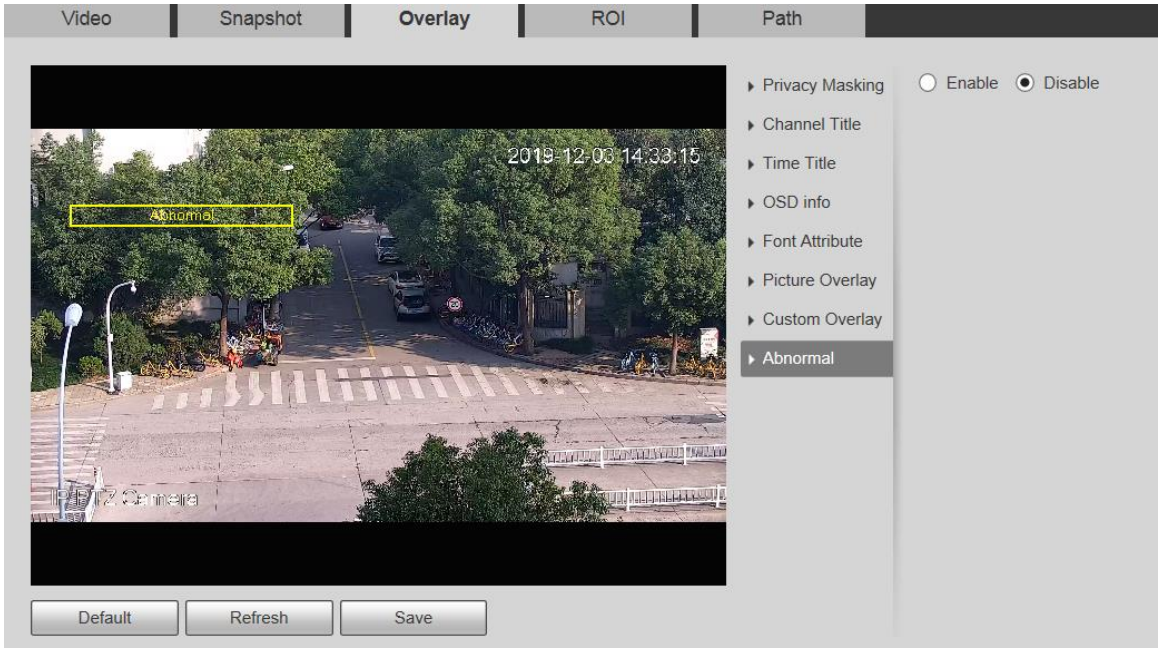


Figure 5-31 Overlay settings—GPS position

Figure 5-32 Overlay settings—custom overlay

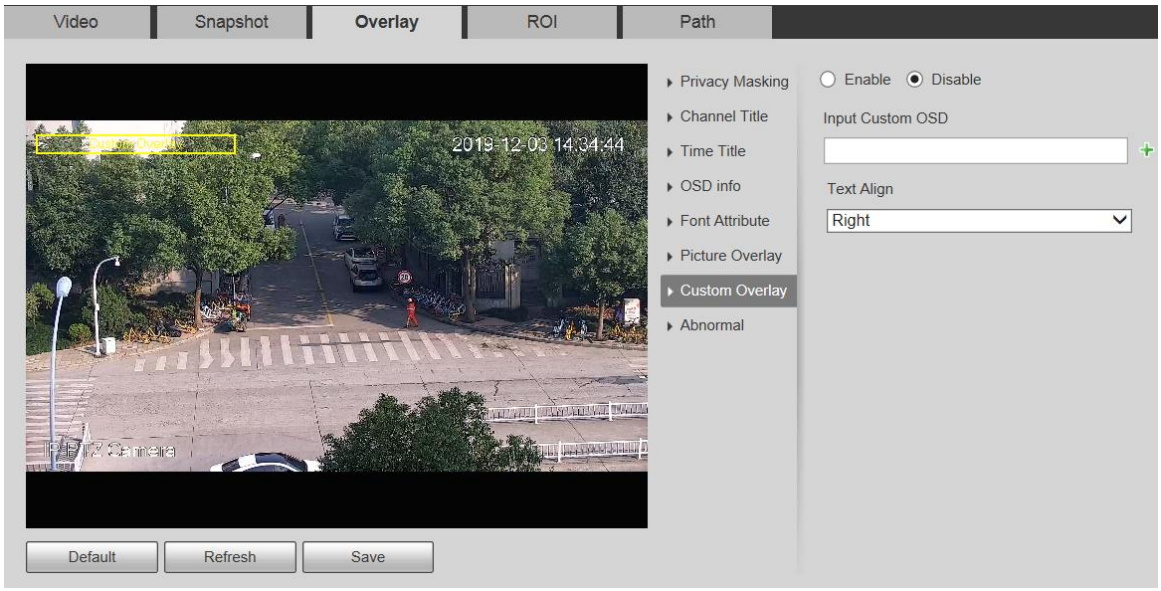


Table 5-10 Overlay setting parameter description

Parameter	Description
Privacy Masking	Privacy masking refers to setting a certain region in the monitoring screen to protect privacy. ● To draw a privacy mask in the live view, click **Draw**. ● To delete a privacy mask, click **Delete**. ● To clear all privacy masks, click **Clear**. You can set the number, type and color of the privacy mask. To view a privacy mask, click **Go to**.
Channel Title	Set whether to display the channel title on the monitoring screen. You can adjust the channel title location by dragging the box. Click + to add a channel title. You can also select the **Text Align** of the channel title.
Time Title	Set whether to display time on the monitoring screen, and you can select whether to display the week. You can adjust the time title location by dragging the box.
OSD info	Set whether to display the preset, temperature, PTZ coordinate, zoom, north direction, RS485, and other information on the monitoring screen. You can adjust the OSD info location by dragging the box. There are two options for **Text Align**: **Left** and **Right**.
Font Attribute	Set the font of the channel title, time title, and OSD info, and you can also set the color and size of the font.
Picture Overlay	Set whether to display the overlaid picture on the monitoring screen. Click **Upload Picture** to overlay local pictures on the monitoring screen. You can adjust the location of an overlaid picture by dragging the yellow box. Geographic location and picture overlay cannot be both enabled.
Abnormal	Set whether to display abnormality information on the monitoring screen.

Parameter	Description
Custom Overlay	Add custom OSD information on the monitoring screen. Click + to add one line of custom OSD information. You can also select the **Text Align** of the channel title.

Step 3 Click **Save**.

5.1.2.4 ROI

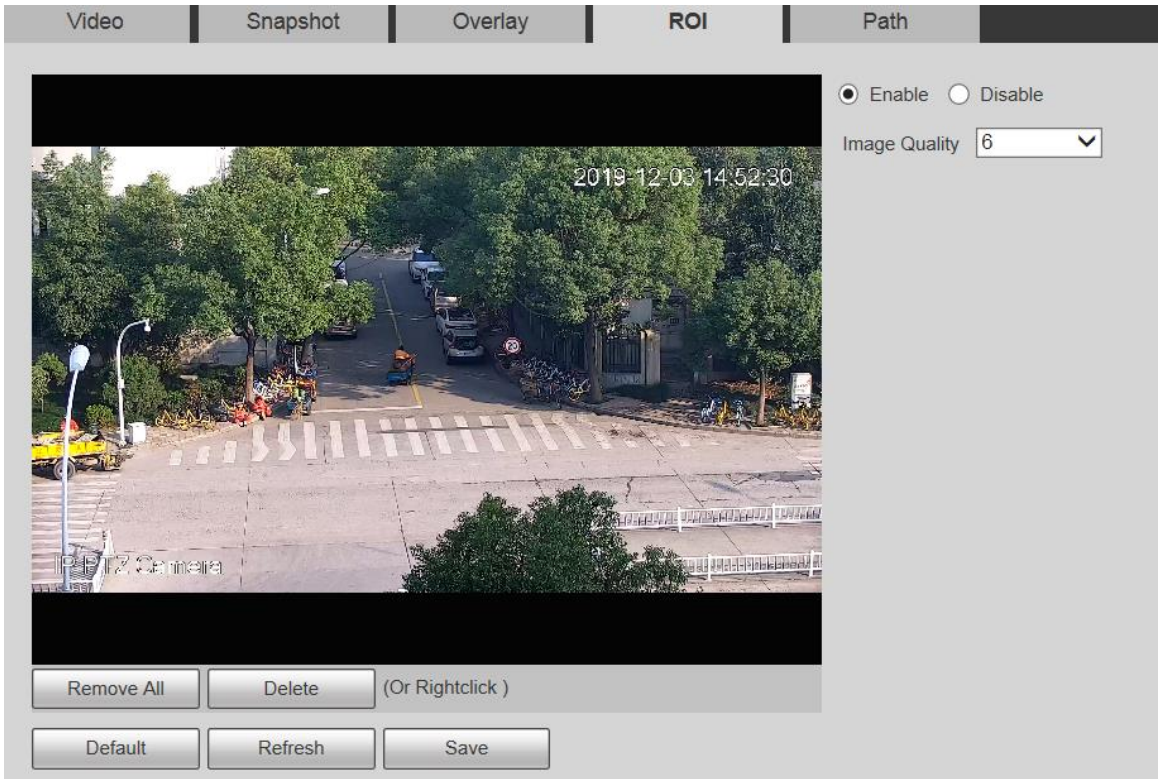
ROI is available on select models.

Set a key monitoring region as a ROI (region of interest). You can set the image quality of this region.

Step 1 Select **Setting > Camera > Video > ROI**.

The **ROI** interface is displayed. See Figure 5-33.

Figure 5-33 ROI settings



Step 2 Select **Enable** to enable this function.

Step 3 Press and hold the left mouse button to draw boxes on the monitoring screen. You can draw up to 4 boxes.

- Click **Delete** or right click to delete the drawn boxes.
- Click **Remove All** to clear all boxes.

Step 4 Set the image quality of the ROI.

Step 5 Click **Save**.

5.1.2.5 Path

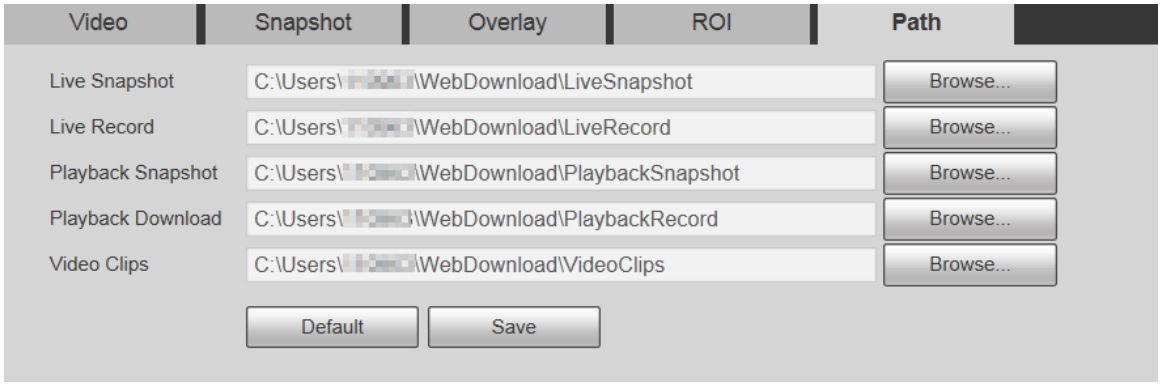
The storage path is associated with the snapshot and recording on the **Live** interface. You can set the path of **Live Snapshot** and **Live Record** respectively.

The storage path is associated with the snapshot, downloaded and clipped files on the **Playback** interface. You can set the path of **Playback Snapshot**, **Playback Download**, and **Video Clips** respectively.

Step 1 Select **Setting > Camera > Video > Path**.

The **Path** interface is displayed. See Figure 5-34.

Figure 5-34 Path settings



Step 2 Set each storage path.

- Default storage path for snapshots: C:\Users\admin\WebDownload\LiveSnapshot.
- Default storage path for recording: C:\Users\admin\WebDownload\LiveRecord.
- Default storage path for playback snapshot: C:\Users\admin\WebDownload\PlaybackSnapshot.
- Default storage path for playback download: C:\Users\admin\WebDownload\PlaybackRecord.
- Default storage path for video clips: C:\Users\admin\WebDownload\VideoClips.

admin is the login account.

Step 3 Click **Save**.

5.1.3 Audio

This function is available on select models.

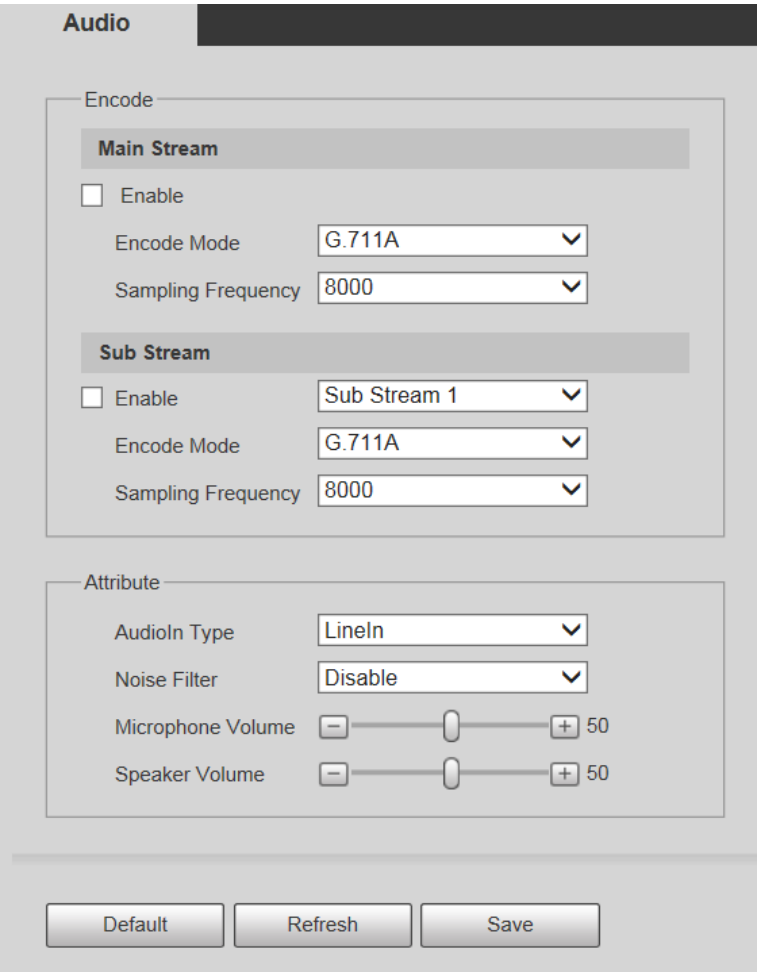
5.1.3.1 Audio

Set audio parameters of the Device.

Step 1 Select **Setting > Camera > Audio > Audio**.

The **Audio** interface is displayed. See Figure 5-35.

Figure 5-35 Audio settings



Step 2 Configure parameters as needed. For parameter description, see Table 5-11.

Table 5-11 Audio setting parameter description

Parameter	Description
Enable	Enable **Main Stream** or **Sub Stream**, and then the network stream contains both audio and video; otherwise, it is only video stream. Audio can be enabled only when video has been enabled.
Encode Mode	The audio encoding modes include **G.711A**, **G.711Mu**, **G726**, **PCM**, **MPEG2-Layer2**, **G.722.1**, **G.729**, and **AAC**. It is **G.711A** by default. The audio encoding mode set here applies to both audio streams and voice talks.
Sampling Frequency	The supported sampling frequencies include **8000**, **16000**, **32000**, **48000**, and **64000**. The sampling frequency varies depending on the encoding mode. Select an encoding mode as needed.
AudioIn Type	Set the audio input type. You can select **LineIn** or **Mic**.
Noise Filter	Set whether to enable noise filter. The function is enabled by default.

Parameter	Description
NR (Noise Reduction) Level	Adjust the noise reduction level from 0 to 100. This parameter takes effect when noise filter is enabled.
Microphone Volume	Adjust the microphone volume from 0 to 100.
Speaker Volume	Adjust the speaker volume from 0 to 100.

Step 3 Click **Save**.

5.2 Network Settings

5.2.1 TCP/IP

Configure the IP address and DNS server of the Device to connect it to other devices in the network.

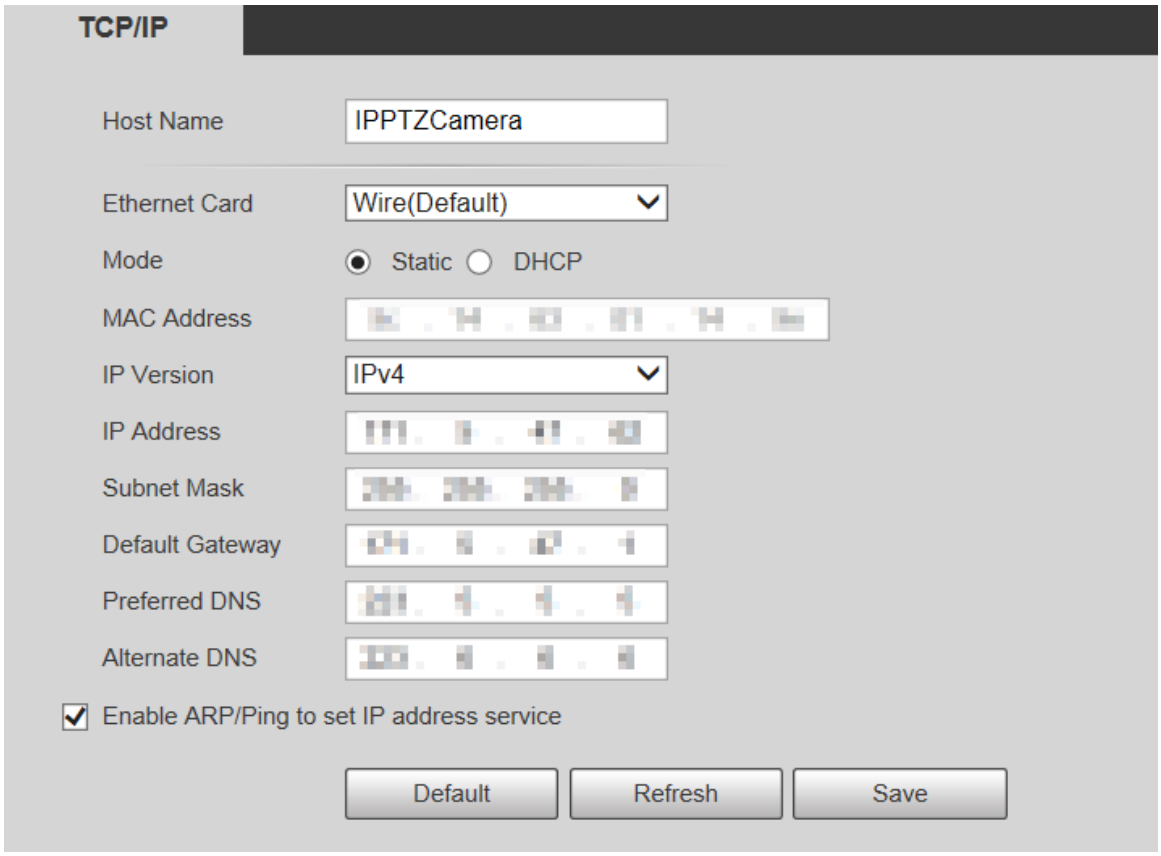
Before configuring network parameters, make sure that the Device is connected to the network properly.

- If there is no router in the network, assign an IP address in the same network segment.
- If there is a router in the network, set the corresponding gateway and subnet mask.

Step 1 Select **Setting > Network > TCP/IP**.

The **TCP/IP** interface is displayed. See Figure 5-36.

Figure 5-36 TCP/IP settings



Step 2 Set TCP/IP parameters. For details, see Table 5-12.

Table 5-12 TCP/IP parameter description

Parameter	Description
Host Name	Set the name of the current device. The host name can be English or Chinese within 63 bytes.
Ethernet Card	Select the Ethernet card to be configured. **Wire** is selected by default. If the Device is configured with multiple Ethernet cards, the default Ethernet card can be changed. If you reset the default Ethernet card, restart the Device.
Mode	**Static** and **DHCP** modes are available. ● If **DHCP** is selected, the IP address is obtained automatically. In this case, the IP address, subnet mask, and gateway cannot be set. ● If **Static** is selected, you need to set the IP address, subnet mask, and gateway manually.
MAC Address	Display the MAC address of the Device.
IP Version	You can select **IPv4** or **IPv6**. Both versions are supported and can be accessed.
IP Address	Enter correct digits to change the IP address.
Subnet Mask	Set the subnet mask according to actual conditions. The subnet prefix is a number in the range of 1 to 255. The subnet prefix identifies a specific network link, and usually contains a hierarchical structure. The Device checks the validity of all IPv6 addresses. The IP address and the default gateway must be in the same network segment. Make sure that a certain part of the subnet prefix in the IP address and default gateway are the same.
Default Gateway	Configure as needed. The default gateway must be in the same network segment as the IP address.
Preferred DNS	IP address of the DNS server.
Alternate DNS	Alternate IP address of the DNS server.
Enable ARP/Ping to set IP address service	Select the check box, and then you can modify and set the device IP address through ARP/Ping command if the MAC address is known. The function is enabled by default. During reboot, you will have no more than 2 minutes to configure the Device IP address by a ping packet with certain length. The server will be turned off in 2 minutes, or it will be turned off immediately after the IP address is successfully configured. If the function is not enabled, the IP address cannot be configured with ping packet.

For IPv6 version, in the **IP Address**, **Default Gateway**, **Preferred DNS**, and **Alternate DNS** fields, enter 128 bits, and these fields cannot be blank.

Step 3 Click **Save**.

An Example of Configuring IP Address with ARP/Ping

Step 1 To obtain a usable IP address, make sure that the Device and your PC are in the same LAN.

Step 2 Get the MAC address from the Device label.

Step 3 Open command editor on the PC and enter the following command. See Table 5-13.

Table 5-13 Command lists

System	Command
Windows syntax	arp -s <IP Address> <MAC> ping -l 480 -t < IP Address > Example: arp -s 192.168.1.125 11-40-8c-18-10-11 ping -l 480 -t 192.168.0.125
UNIX/Linux/Mac syntax	arp -s <IP Address> <MAC> ping -s 480 < IP Address > Example: arp -s 192.168.1.125 11-40-8c-18-10-11 ping -s 480 192.168.0.125
Win7 syntax	netsh i i show in netsh -c “i i” add neighbors ldx <IP Address> <MAC> ping -l 480 -t < IP Address > Example: netsh i i show in netsh -c “i i” add neighbors 12 192.168.1.125 11-40-8c-18-10-11 ping -l 480 -t 192.168.1.125

Step 4 Power off the Device and then restart it, or restart the Device over the network.

Step 5 Check the PC command line. If there is information such as "Reply from 192.168.1.125…", it means the configuration succeeds. In this case, you can close the command editor.

Step 6 Enter *http://<IP address>* in the browser address bar to log in.

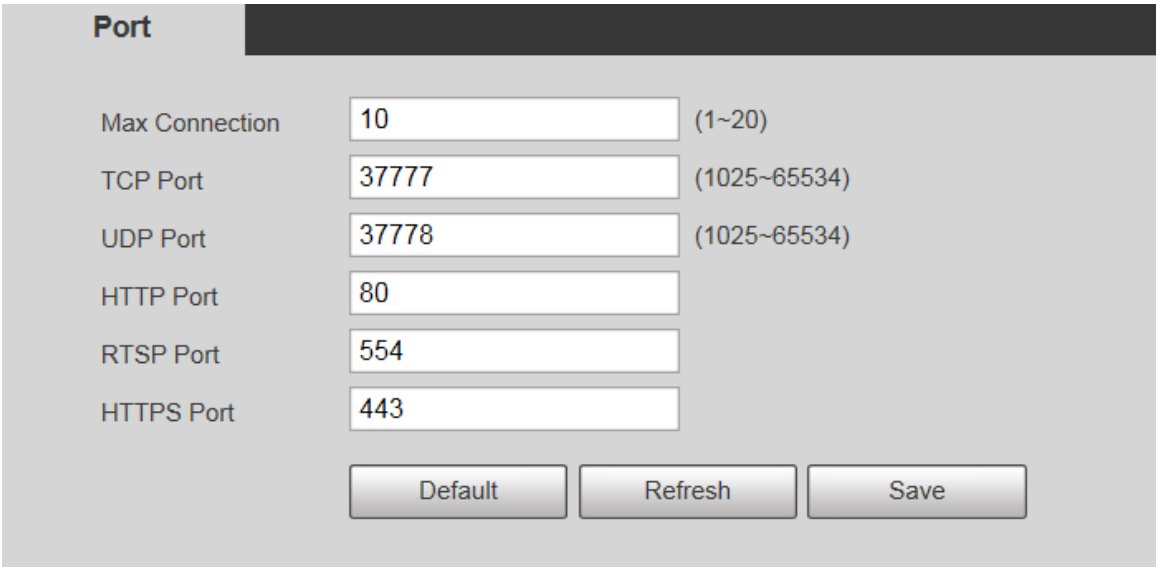
5.2.2 Port

Configure the maximum port numbers and values on this interface.

Step 1 Select **Setting > Network > Port**.

The **Port** interface is displayed. See Figure 5-37.

Figure 5-37 Port interface



Step 2 Configure each port value of the Device. For details, see Table 5-14.

- Except **Max Connection**, modifications of other parameters will take effect after restart.
- 0–1024, 1900, 3800, 5000, 5050, 9999, 37776, 37780–37880, 39999, and 42323 are occupied for specific uses.
- It is not recommended to use the default values of other ports during port configuration.

Table 5-14 Port parameter description

Parameter	Description
Max Connection	The maximum number of users that can log in to the web interface of the Device simultaneously. The value ranges from 1 to 10, and it is 10 by default.
TCP Port	TCP service port. The value is 37777 by default. You can set this parameter as needed.
UDP Port	User Datagram Protocol port. The value is 37778 by default. You can set this parameter as needed.
HTTP Port	HTTP communication port. The value is 80 by default. You can set this parameter as needed.

Parameter	Description
RTSP Port	Real Time Streaming Protocol port. Keep the default value 554 if it is displayed. If you play live view through Apple's QuickTime or VLC, the following format is available. This function is also supported by Blackberry mobile phone. When the URL format requiring RTSP, you need to specify channel number and bit stream type in the URL, and also username and password if needed. When playing live view with Blackberry mobile phone, you need to disable the audio, and then set the stream encoding mode to H.264B and resolution to CIF. URL format example: rtsp://username:password@ip:port/cam/realmonitor?channel=1&subtype=0 ● Username: Your username. For example, admin. ● Password: Your password. For example, admin. ● IP: Your device IP. For example, 192.168.1.122. ● Port: Leave it if the value is 554 by default. ● Channel: Channel number starting from 1. For example, if it is channel 2, then enter channel=2. ● Subtype: stream type. The main stream is 0 (subtype=0); the sub stream is 1 (subtype=1). For example, if you require the sub stream of channel 2 from a certain device, then the URL shall be: rtsp://admin:admin@192.168.1.123:554/cam/realmonitor?channel=2&subtype=1 If certification is not required, you do not need to specify the username and password. Use the following format: rtsp://ip:port/cam/realmonitor?channel=1&subtype=0
RTSP Port	A network protocol for real-time data communication. The value is 1935 by default. You can enter the value as needed.  Enable RTMP to push audio and video data to the third-party server. Make sure that the address is trusted; otherwise it might cause data leakage.
HTTPS Port	HTTPS communication port. The value is 443 by default. You can set this parameter as needed.

Step 3 Click **Save**.

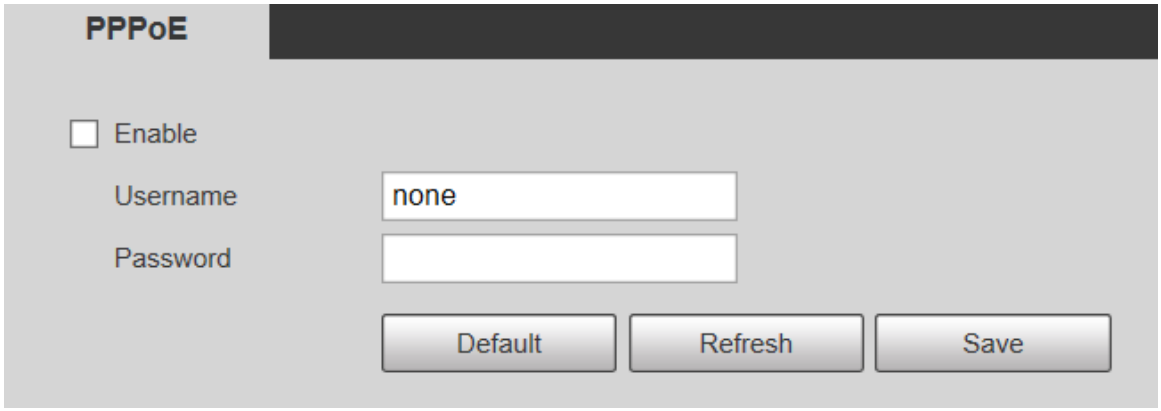
5.2.3 PPPoE

You can enable PPPoE (Point-to-Point Protocol over Ethernet) to establish network connection. In this case, the Device obtains a dynamic IP address. To use this function, you need to obtain the PPPoE username and password from the Internet Service Provider (ISP).

Step 1 Select **Setting > Network > PPPoE**.

The **PPPoE** interface is displayed. See Figure 5-38.

Figure 5-38 PPPoE interface (1)

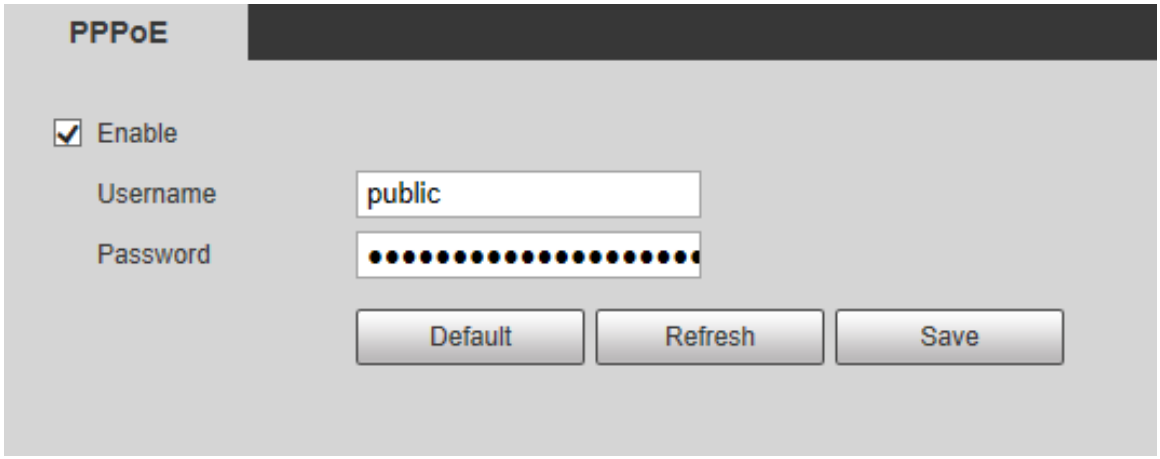


Step 2 Select **Enable**, and then enter PPPoE username and password.

Step 3 Click **Save**.

Save Succeeded! is displayed, and the obtained IP address of public network is displayed in real time. See Figure 5-39. You can access the Device through the IP address.

Figure 5-39 PPPoE interface (2)



5.2.4 DDNS

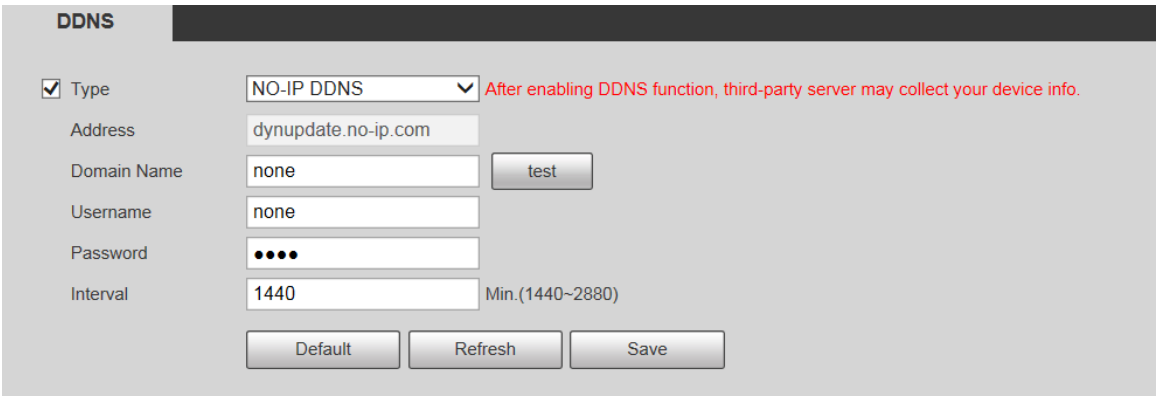
Properly configure DDNS, and then the domain name on the DNS server matches your IP address and refresh the matching relation in real time. You can always access your device with the same domain name no matter how much your device IP address changes. Before making any changes, check whether your device supports the DNS server.

- The third party servers might collect your device information if DDNS is enabled.
- Register and log in to the DDNS website, and then you can view the information of all the connected cameras in your account.

Step 1 Select **Setting > Network > DDNS**.

The **DDNS** interface is displayed. See Figure 5-40.

Figure 5-40 DDNS



Step 2 Select **Type**, and then configure the parameters as needed. For details, see Table 5-15.

Table 5-15 DDNS parameter description

Parameter	Description
Type	The name and website of the DDNS service provider. Here is the matching relationship: ● CN99 DDNS Server address: www.3322.org ● NO-IP DDNS Server address: dynupdate.no-ip.com ● Dyndns DDNS Server address: members.dyndns.org
Server address	
Domain Name	The domain name you registered on the DDNS website.
Username	Enter the username and password obtained from DDNS service provider. You need to register an account (including username and password) on the website of DDNS service provider.
Password	
Interval	The update cycle of the connection between your device and the server, and the time is 10 minutes by default.

Step 3 Click **Save**.

Open the browser, enter the domain name in the address bar, and then press the Enter key. The login interface is displayed.

5.2.5 SMTP (Email)

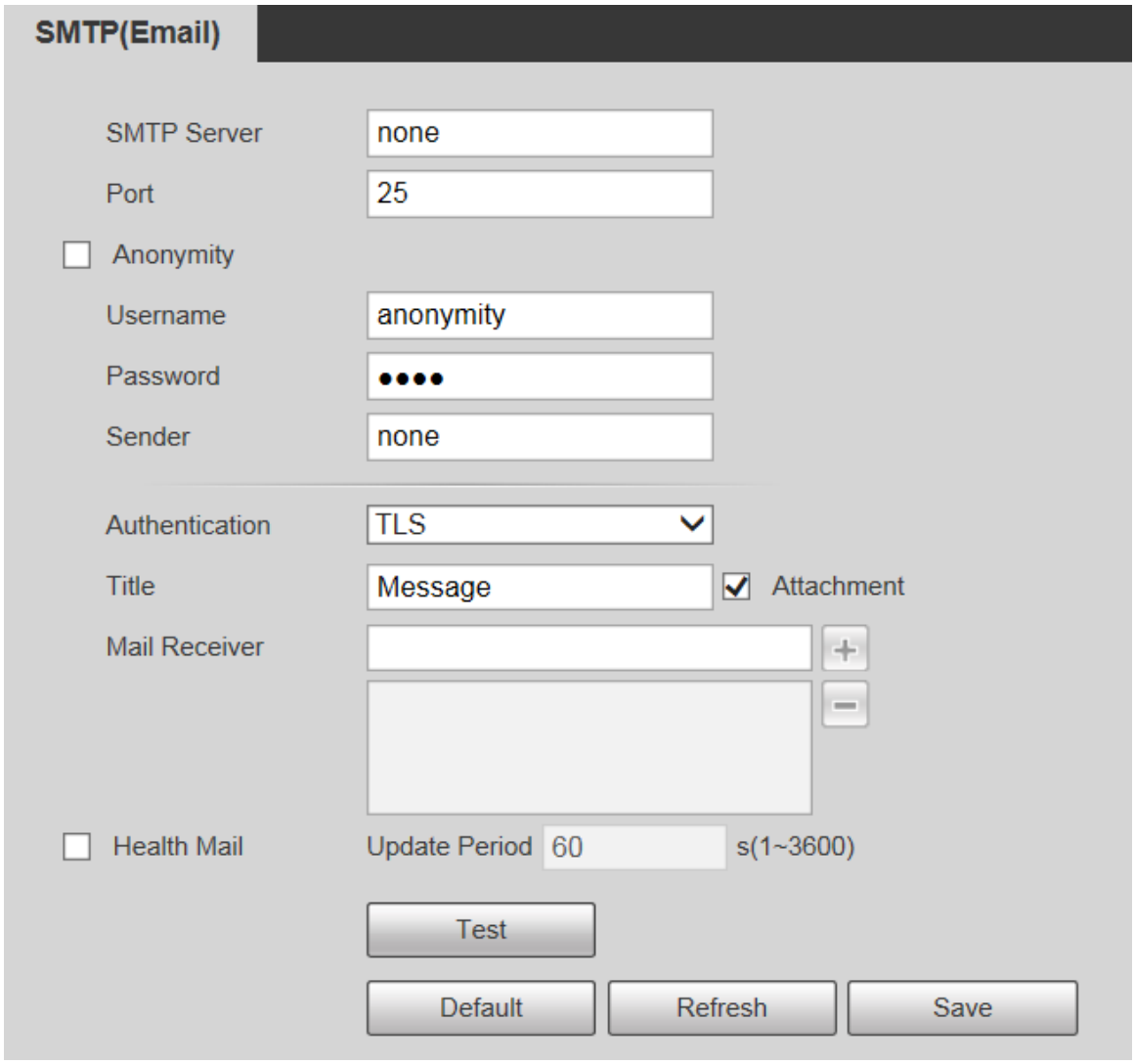
After this function is enabled, the device data will be sent to the given server. There is data leakage risk. Think twice before enabling the function.

Configure **SMTP (Email)**. When alarms, video detection and abnormal events are triggered, an email will be sent to the recipient server through SMTP server. The recipient can log in to the incoming mail server to receive emails.

Step 1 Select **Setting > Network > SMTP (Email)**.

The **SMTP (Email)** interface is displayed. See Figure 5-41.

Figure 5-41 SMTP (Email)



Step 2 Configure parameters as needed. For parameter description, see Table 5-16.

Table 5-16 SMTP (Email) parameter description

Parameter	Description	
SMTP Server	IP address of the outgoing mail server complying with SMTP protocol.	For the detailed configuration, see Table 5-17.
Port	Port number of the outgoing mail server complying with SMTP protocol. It is 25 by default.	
Username	Username of sender mailbox.	
Password	Password of sender mailbox.	
Anonymity	For servers supporting anonymous email, you can log in anonymously without entering username, password, and sender information.	
Sender	Email address of the sender.	

Parameter	Description
Authentication	Select authentication type from **None**, **SSL** and **TLS**. **TLS** is selected by default. ● For the detailed configuration, see Table 5-17. ● There might be risks if you select the authentication type other than TLS. TLS is recommended.
Title	You can enter no more than 63 characters in Chinese, English, and Arabic numerals.
Mail Receiver	Email address of the receiver. Support 3 addresses at most.
Attachment	Select the check box to support attachment in the email.
Health Mail	The system sends test mail to check if the connection is successfully configured. Select the **Health Mail** check box and configure the **Update Period**, and then the system sends test mails according to the defined period.
Test	Test whether the email function is normal. If the configuration is correct, the email address of the receiver will receive the test email. Save the email configuration before running rest.

For common email configurations, see Table 5-17.

Table 5-17 Common email configuration description

Type	SMTP Server	Authentication	Port	Description
QQ	smtp.qq.com	SSL	465	● The authentication type cannot be **None**. ● You need to enable SMTP service in your mailbox. ● The authentication code is required; either the QQ password or email password is not applicable. Authentication code is the code you receive when enabling SMTP service.
		TLS	587	
163	smtp.163.com	SSL	465/994	● You need to enable SMTP service in your mailbox. ● The authentication code is required; the email password is not applicable. Authentication code is the code you receive when enabling SMTP service.
		TLS	25	
		—	25	
Sina	smtp.sina.com	SSL	465	You need to enable SMTP service in your mailbox.
		—	25	
126	smtp.126.com	—	25	You need to enable SMTP service in your mailbox.

Step 3 Click **Save**.

5.2.6 UPnP

After UPnP is enabled, Intranet service and port of the Device will be mapped to Extranet. Think twice before enabling it.

UPnP (Universal Plug and Play) allows you to establish the mapping relationship between Intranet and Extranet. Extranet users can access Intranet device by visiting Extranet IP address. Intranet port is device port and Extranet port is router port. Users can access the Device by accessing Extranet port. When you are not using routers for UPnP, disable UPnP to avoid affecting other functions.

Once UPnP is enabled, the Device supports UPnP protocol. In Windows XP or Windows Vista, after UPnP is enabled, the Device can be automatically searched by Windows network.

Perform the following steps to add UPnP network service in the Windows system.

Step 1 Open **Control Panel**, and select **Add or Remove Programs**.

Step 2 Click **Add/Remove Windows Components**.

Step 3 Select **Network Service** from the **Windows Components Wizard** and click **Details** button.

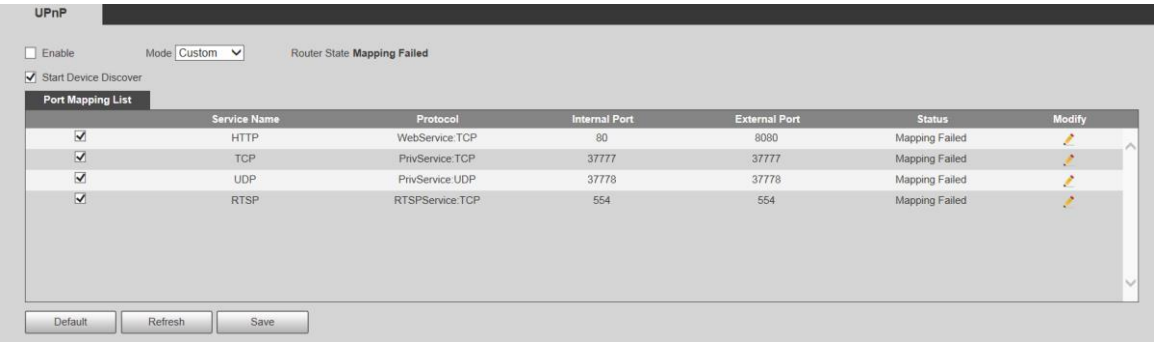
Step 4 Select **Internet Gateway Device Discovery and Control Client**, and **UPnP User Interface**, and then click **OK** to start installation.

Perform the following steps to configure UPnP:

Step 1 Select **Setting > Network > UPnP**.

The **UPnP** interface is displayed. See Figure 5-42.

Figure 5-42 UPnP



Step 2 Select **Enable**.

Step 3 Select a mode from the drop-down list.

There are 2 mapping modes: **Custom** and **Default**. In **Custom** mode, users can modify the external port. Select **Default**, and then the system finishes mapping with unoccupied port automatically. In this case, you do not need to modify mapping relation.

Step 4 Select **Start Device Discover** as needed.

Step 5 Click **Save**.

5.2.7 SNMP

SNMP (Simple Network Management Protocol) is a basic network management framework. You need to install certain software to the Device to obtain the configuration information of the Device.

The following requirements must be satisfied if you want to use SNMP function:

- Install SNMP monitoring and managing tools, such as MIB Builder and MG-SOFT MIB Browser.
- Obtain two MIB files corresponding to the current version from the technical personnel.

Step 1 Select **Setting > Network > SNMP**.

The **SNMP** interface is displayed. See Figure 5-43 and Figure 5-44.

Figure 5-43 SNMP (1)

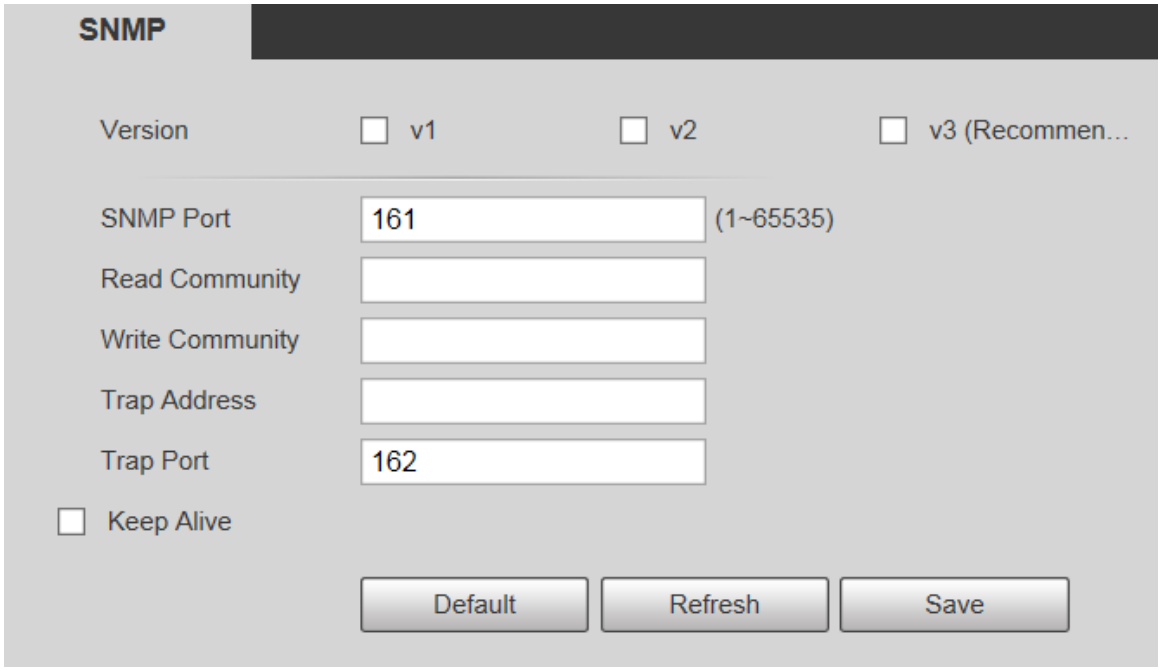
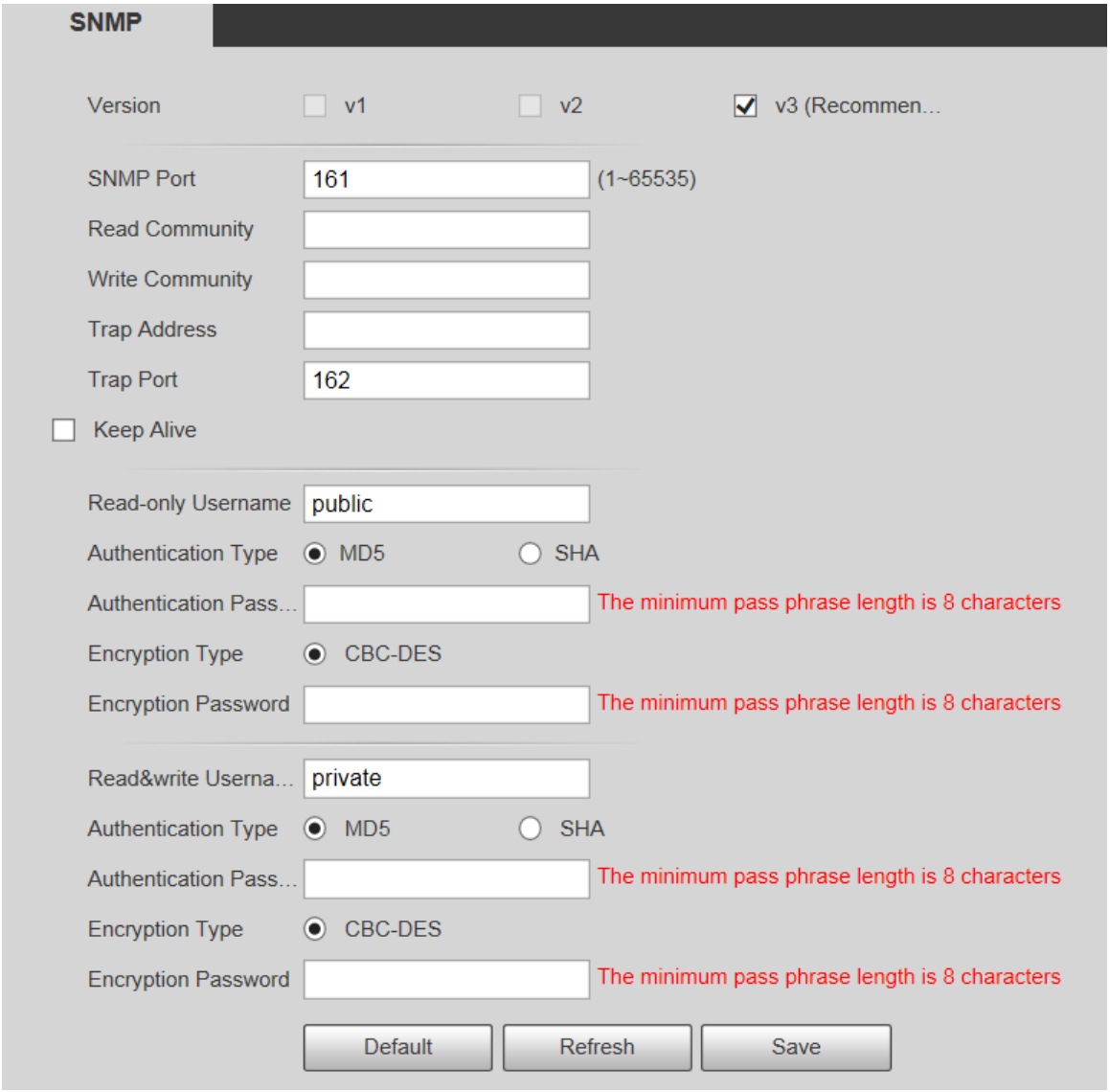


Figure 5-44 SNMP (2)



Step 2 Select a version to enable SNMP.

In the **Trap Address** field, enter the IP address of the PC that has MG-SOFT MIB Browser installed, leaving other parameters to the default values.

Table 5-18 SNMP parameter description

Parameter	Description
Version	Select the check box of the version you need, and the system can process information of the corresponding version. ● Select **V1**, and the system can only process information of V1 version. ● Select **V2**, and the system can only process information of V2 version. ● Select **V3**, and then **V1** and **V2** become unavailable. You need to set the username, password, and authentication type to visit your device from the server. **V1** and **V2** might cause data leakage, and **V3** is recommended.
SNMP Port	The listening port of the software agent in the Device.

Parameter	Description
Read Community/Write Community	The read and write community strings that the software agent supports. The name can only consist of number, letter, underline (_), and strikethrough (-).
Trap Address	The target address of the trap information sent by the software agent in the Device.
Trap Port	The target port of the trap information sent by the software agent in the Device.
Keep Alive	Select the **Keep Alive** check box, and the system can send data package to ensure network connection without interruption.
Read-only Username	The name is **public** by default. The username can only consist of number, letter, and underline.
Read&write Username	The name is **private** by default. The username can only consist of number, letter, and underline.
Authentication Type	You can select from **MD5** and **SHA**, and it is **MD5** by default.
Authentication Password	It shall be no less than 8 digits.
Encryption Type	It is CBC-DES by default.
Encryption Password	It shall be no less than 8 digits.

Step 3 Click **Save**.

Step 4 View device information.

1) Run MIB Builder and MG-SOFT MIB Browser.
2) Compile the two MIB files with MIB Builder.
3) Load the generated modules with MG-SOFT MIB Browser.
4) Enter the IP address of the Device you need to manage in the MG-SOFT MIB Browser, and then select version to search.
5) Expand all the tree lists displayed in the MG-SOFT MIB Browser, and then you can view the configuration information, video channel amount, audio channel amount, and software version.

Use PC with Windows operating system (OS) and disable SNMP Trap service. The MG-SOFT MIB Browser will display prompt when an alarm is triggered.

5.2.8 Bonjour

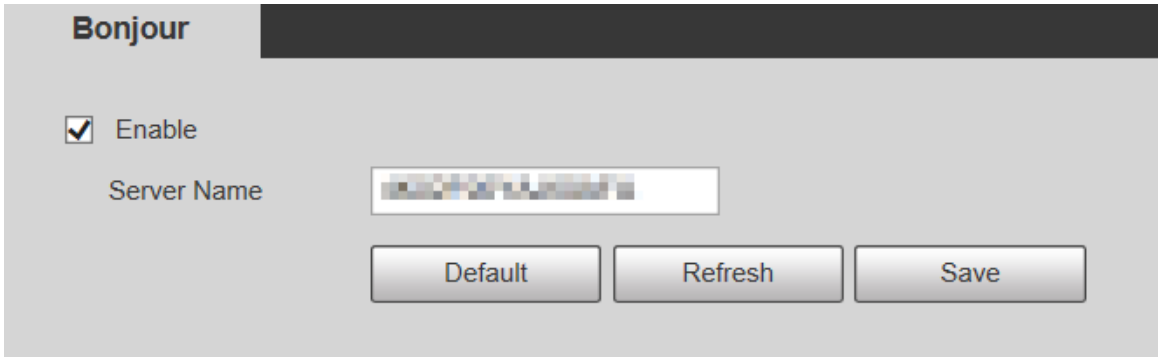
Bonjour is also called zero-configuration networking, which can automatically discover computers, devices and services on IP networks. Bonjour is a protocol of industry standard which allows devices to search and find each other. IP address or DNS server is not required during the process.

Enable this function, and the network camera will be automatically detected by the OS and client with Bonjour function. When the network camera is automatically detected by Bonjour, server name you have set will be displayed.

Step 1 Select **Setting > Network > Bonjour**.

The **Bonjour** interface is displayed. See Figure 5-45.

Figure 5-45 Bonjour interface



Step 2 Select **Enable**, and then set **Server Name**.

Step 3 Click **Save**.

In the OS and clients that support Bonjour, perform the following steps to visit the web interface of the Device with Safari browser.

Step 1 Click **Show all bookmarks** in Safari.

Step 2 The OS or client automatically detects the network cameras with Bonjour enabled in the LAN.

Step 3 Click to visit the corresponding web interface.

5.2.9 Multicast

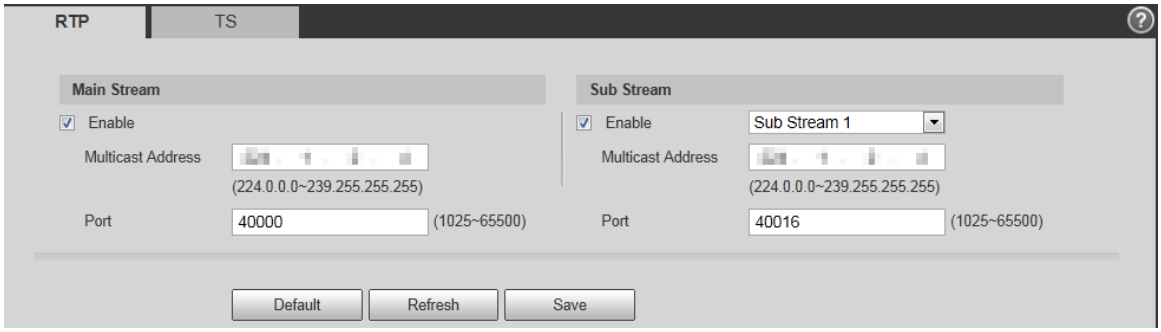
Access the Device by network to see live view. If the access times exceed its upper limit, preview might fail. You can set multicast IP to access by multicast protocol to solve the problem. The Device supports two multicast protocols: **RTP** and **TS**. RTP is enabled by default when main stream and sub stream are used. TS is disabled by default.

5.2.9.1 RTP

Step 1 Select **Setting > Network > Multicast > RTP**.

The **RTP** interface is displayed. See Figure 5-46.

Figure 5-46 RTP interface



Step 2 Enable main stream or sub stream as needed.

Step 3 Enter multicast address and port number.

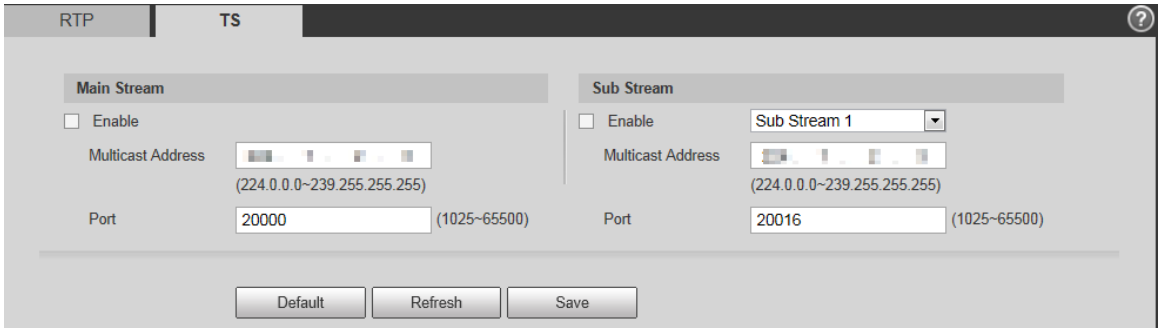
Step 4 Click **Save**.

5.2.9.2 TS

Step 1 Select **Setting > Network > Multicast > TS**.

The **TS** interface is displayed. See Figure 5-47.

Figure 5-47 TS interface



Step 2 Enable main stream or sub stream as needed.

Step 3 Enter multicast address and port number.

Step 4 Click **Save**.

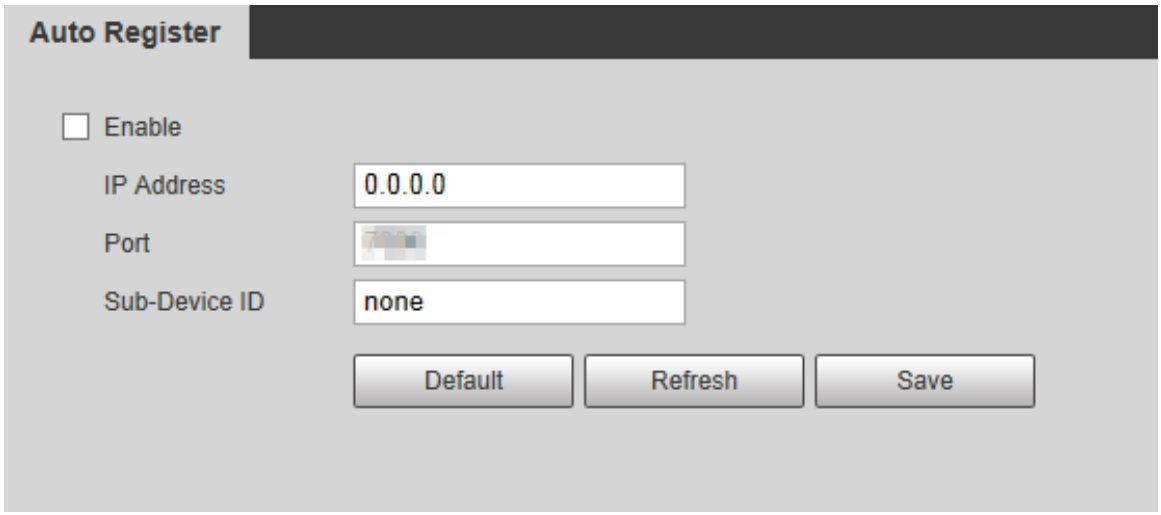
5.2.10 Auto Register

After you enable this function, when the Device is connected to Internet, it will report the current location to the specified server which acts as the transit to make it easier for the client software to access the Device.

Step 1 Select **Setting > Network > Auto Register**.

The **Auto Register** interface is displayed. See Figure 5-48.

Figure 5-48 Auto register



Step 2 Select the **Enable** check box to enable **Auto Register**.

Step 3 Enter **IP Address**, **Port** and **Sub-Device ID**. For details, see Table 5-19.

Table 5-19 Auto register parameter description

Parameter	Description
IP Address	The IP address of server that needs to be registered to.
Port	The port for auto-registration.
Sub-Device ID	Sub device ID assigned by server.

Step 4 Click **Save**.

5.2.11 Wi-Fi

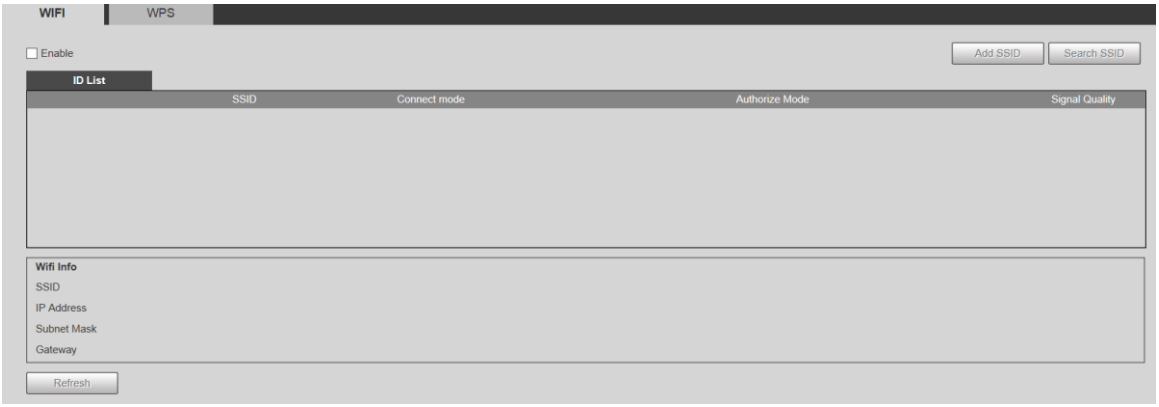
Devices with Wi-Fi function can access network through Wi-Fi.

- Wi-Fi and WPS are available on select models.
- All devices with WPS button support WPS function.

5.2.11.1.1 Wi-Fi

The name, status and IP information of current hotspot are displayed in the Wi-Fi information bar. Click **Refresh** after reconnection to make sure that the operating status is displayed in real time. Connecting Wi-Fi hotspot takes some time depending on network signal strength. For Wi-Fi configuration interface, see Figure 5-49.

Figure 5-49 Wi-Fi interface

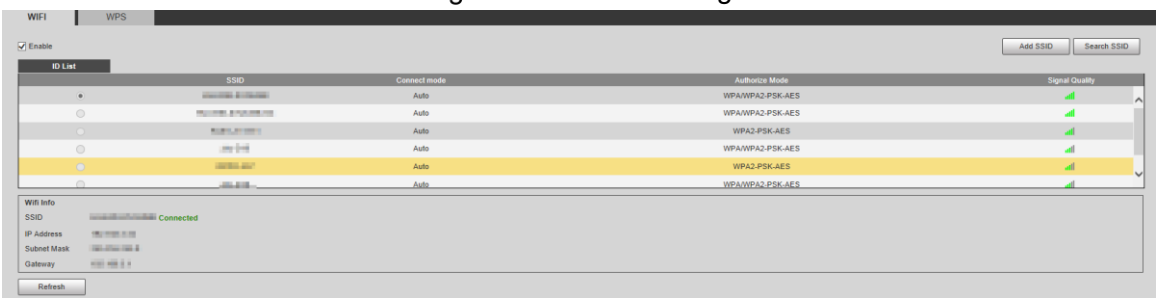


Perform the following steps to configure Wi-Fi.

Step 1 Select the **Enable** check box.

Step 2 Click **Search SSID**, and Wi-Fi hotspots in the environment of current network camera are displayed. See Figure 5-50.

Figure 5-50 Wi-Fi setting

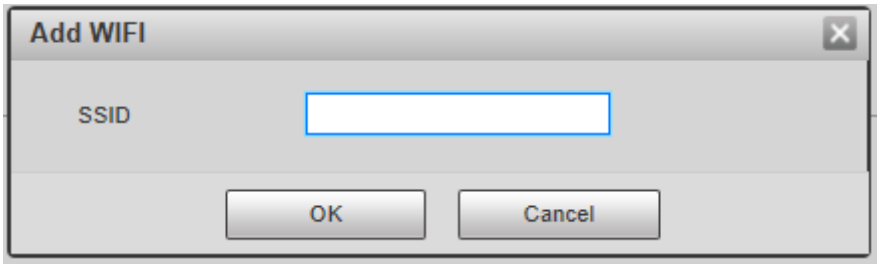


Step 3 To manually add Wi-Fi, click **Add SSID**, and the **Add WiFi** interface is displayed. See Figure 5-51.

Step 4 Enter a network name in the dialog box.

It is recommended to set a secure encryption method for the Device to connect routers.

Figure 5-51 Adding Wi-Fi



Step 5 Double-click one hotspot to display the **Signal Quality** and the **Authentication Manner**.

- If the password is required, enter it. When entering the password, its index number shall be consistent with that on the router.
- Click **Connection** if password is not required.

5.2.11.1.2 WPS

For WPS configuration interface, see Figure 5-52.

Figure 5-52 WPS setting

PIN and SSID can be obtained from the router. Enter PIN and SSID, and then click **Refresh** to display operating status in real time.

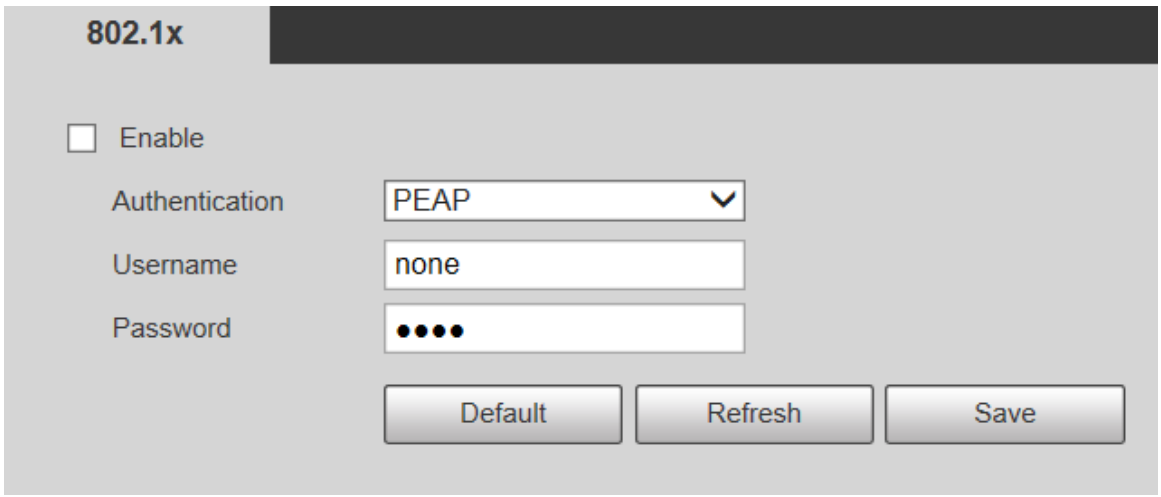
5.2.12 802.1x

802.1x is a port-based network access control protocol. It allows users to manually select authentication mode to control device access to LAN, and meet authentication, billing, safety and management requirements of the network.

Step 1 Select **Setting > Network > 802.1x**.

The **802.1x** interface is displayed, see Figure 5-53.

Figure 5-53 802.1x interface



Step 2 Select the **Enable** check box to enable **802.1x**.

Step 3 Select an authentication mode, and enter username and password. For parameter description, see Table 5-20.

Table 5-20 802.1X setting parameter description

Parameter	Description
Authentication	PEAP (protected EAP protocol).
Username	The username that was authenticated on the server.
Password	Corresponding password.

Step 4 Click **Save**.

5.2.13 QoS

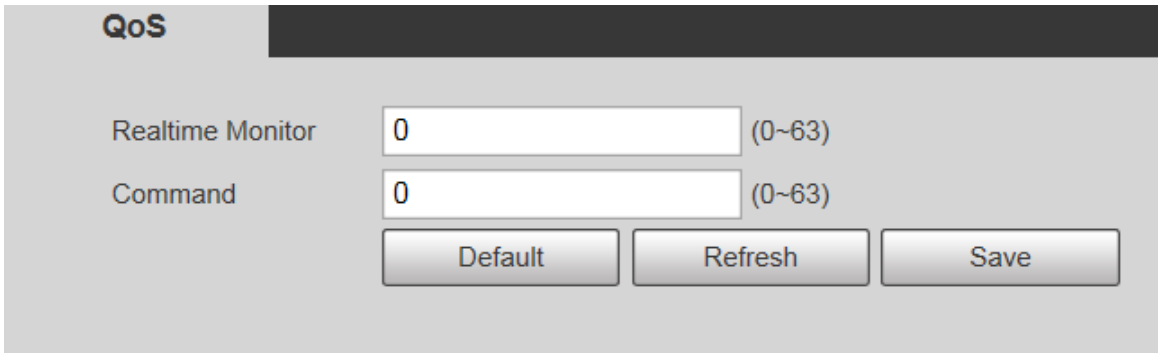
QoS (Quality of Service) is a network security mechanism, and is also a technology to solve network delay, congestion, and other problems. For network business, QoS includes transmission bandwidth, time delay in transmission, and packet loss of data. In network, QoS can be improved by ensuring transmission bandwidth, and reducing time delay in transmission, packet loss rate, and delay jitter.

For DSCP (Differentiated Services Code Point), there are 64 priority degrees (0–63) of data packets. 0 represents the lowest priority, and 63 the highest priority. Based on the priority, the packets are classified into different groups. Each group occupies different bandwidth and has different discard percentage when there is congestion so as to improve service quality.

Step 1 Select **Setting > Network > QoS**.

The **QoS** interface is displayed. See Figure 5-54.

Figure 5-54 QoS interface



Step 2 Configure **Realtime Monitor** and **Command**. For parameter description, see Table 5-21.

Table 5-21 QoS setting parameter description

Parameter	Description
Realtime Monitor	Data packet of network video monitoring. The value ranges from 0 to 63.
Command	Data packet of device configuration and query. The value ranges from 0 to 63.

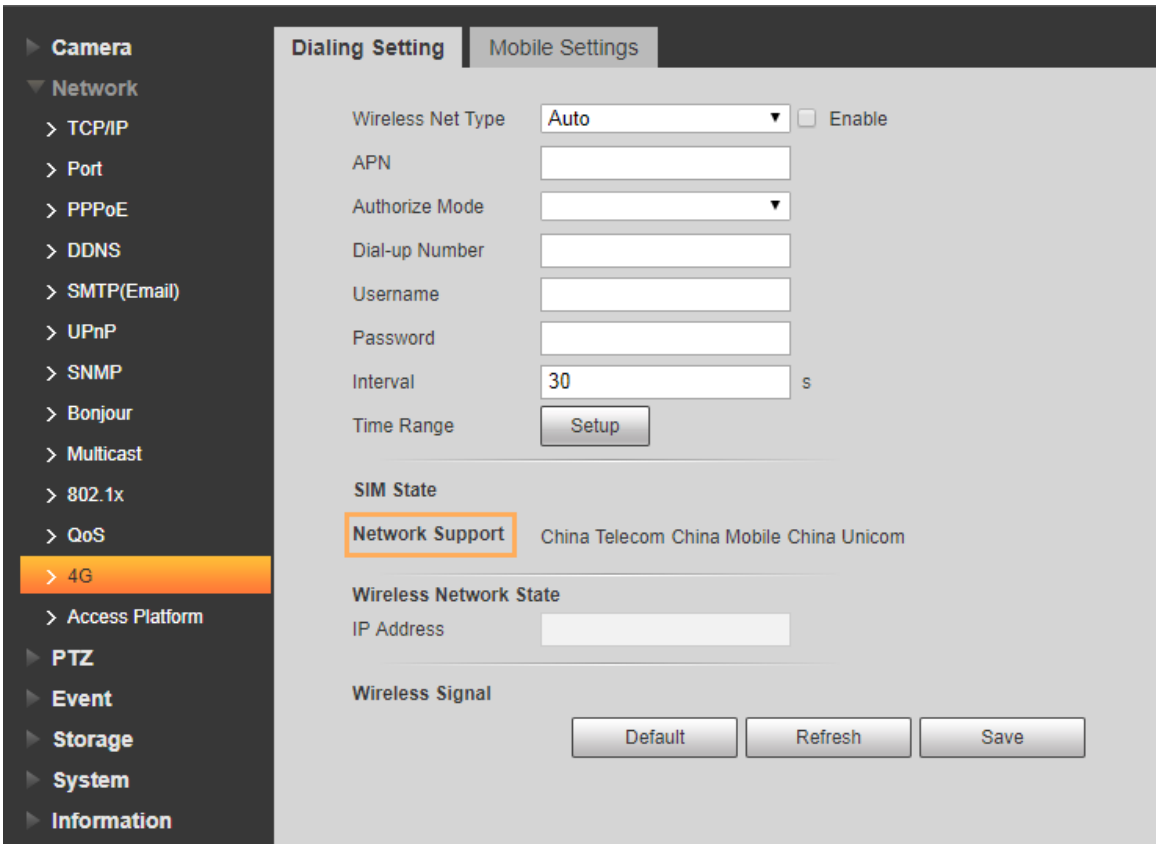
Step 3 Click **Save**.

5.2.14 4G

5.2.14.1 Dialing Setting

Log in to web interface, select **Setting > Network > 4G > Dialing Setting** and the **Dialing Setting** interface is displayed. See Figure 5-55.

Figure 5-55 Dialing setting interface



Some devices only support certain mobile carriers, and only the supported carriers are displayed in Network Support.

Step 1 Select the **Enable** check box.

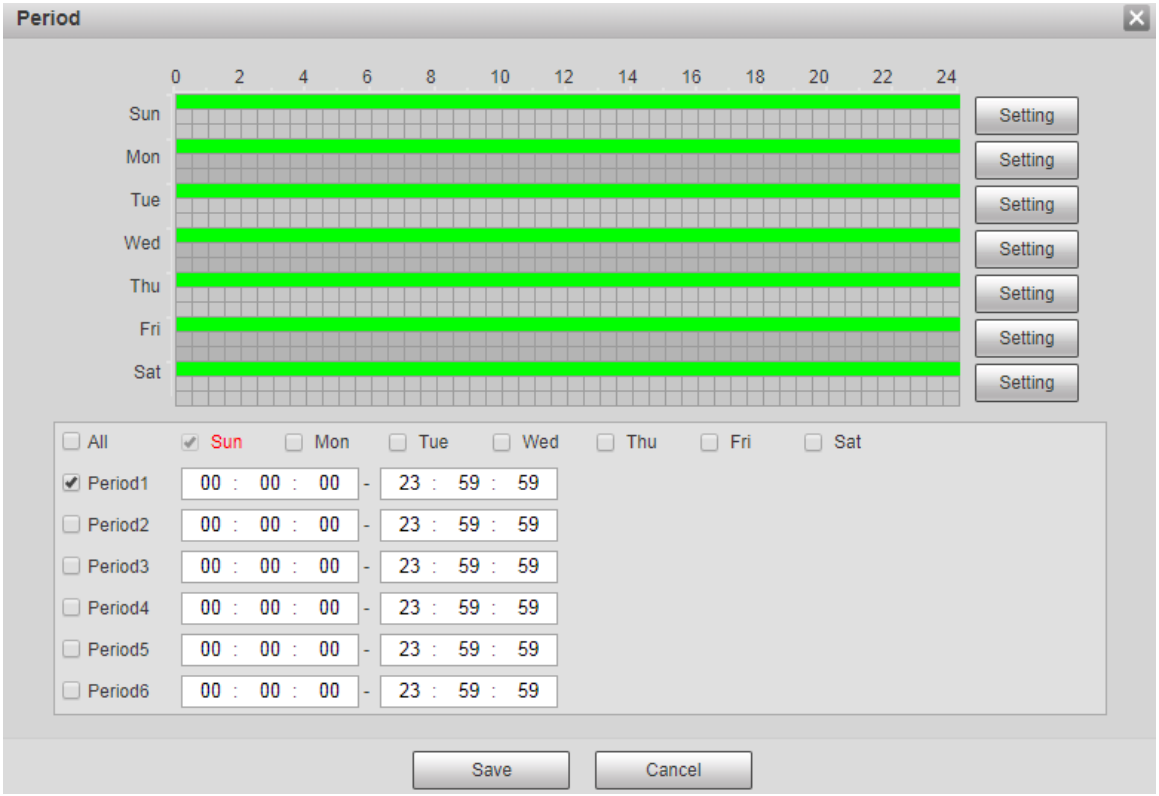
Step 2 Enter **APN**, **Authorize Mode**, **Dial-up Number**, **Username**, and **Password** according to the SIM card inserted.

These parameters might vary by countries. Contact local carrier or customer service for details.

Step 3 Set the period to use 4G. See Figure 5-56.

- If the current time is in the period you set, 4G network connection will be enabled. The IP address of the SIM card will be displayed in IP Address. And you can access the device through 4G after finishing the rest steps.
- If the current time is not in the period you set, 4G network connection will not be enabled. Only the corresponding **Wireless Signal** is displayed on the interface. And you cannot access the device through 4G.

Figure 5-56 Period setting



Step 4 Set the interval to enable 4G through message or phone call if you want to use 4G outside the period set in Step 3.

The value range is 0–7200 s and it is 30 s by default. If the interval is 30 s, after activating 4G, you can use it for 30 s. After 30 s, you need to activate 4G again. If you set the interval to 0 s, you can use 4G without disconnection and you do not need to activate it again. For the method to activate 4G through message or phone call, see "4.2.12.2 Mobile Setting."

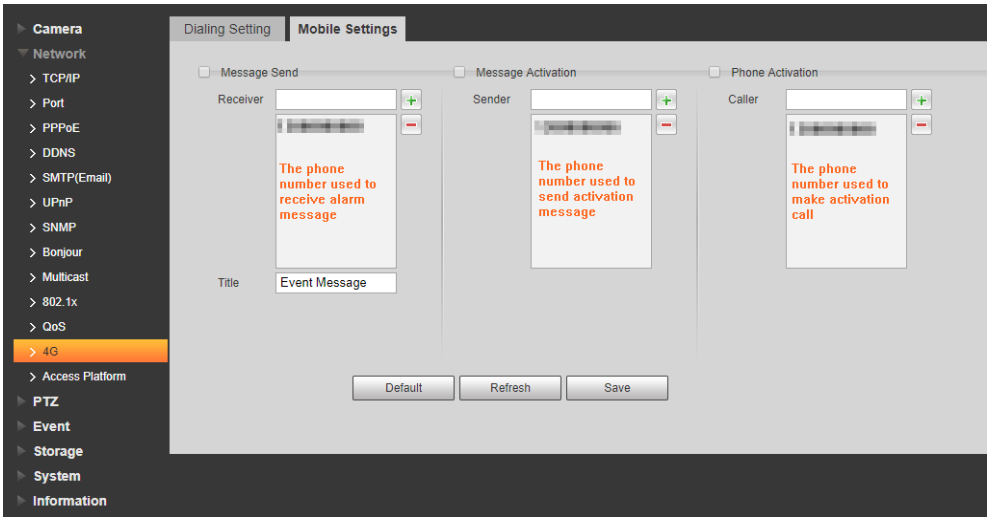
Step 5 Click **Save**.

5.2.14.2 Mobile Setting

Log in to web interface, select **Setting > Network > 4G > Mobile Settings**, and the **Mobile Setting** interface is displayed. See Figure 5-55.

You can add the phone number to receive alarms. You also can add phone number used to activate 4G through message or phone call if you want to use 4G outside the period set in Step 3 of "5.2.14.1 Dialing Setting." See Figure 5-57.

Figure 5-57 Mobile setting interface



- **Message Send**: When alarms are triggered, the phone number added will receive message.
- **Message Activation**: You can enable 4G through message outside the period you set to use 4G. You need to send "ON" or "OFF" to phone number of the SIM card in the Device. "ON" indicates and "OFF" indicates disabling.
- **Phone Activation**: You can enable 4G through phone calls outside the period you set to use 4G. You need to call the phone number of the SIM card in the Device. If the call gets through, it means 4G has been enabled.

- Make sure that your SIM card supports making phone calls and sending messages, and it can be used normally.
- Make sure that you use activation function outside the time range you set; otherwise it does not work.

Step 1 Select the check box of the service you need to enable. You can select one or more services.

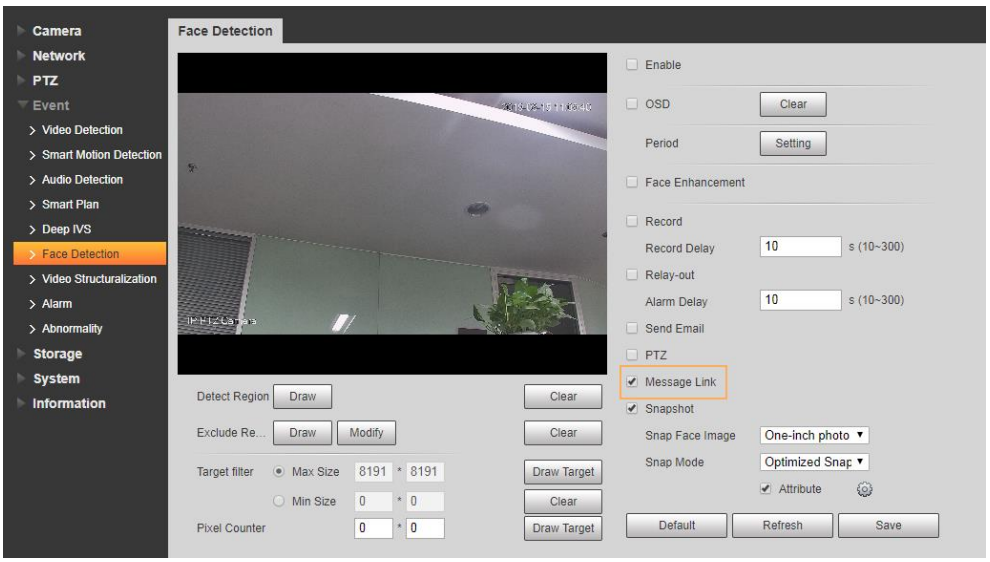
Step 2 Enter the phone number and click  to add it.

Step 3 Click **Save**.

Step 4 Select the **Message Link** check box on the interface of the event for which you want to receive message.

Take Face Detection for example. Click **Setting > Event > Face Detection** and select the **Message Link** check box.

Figure 5-58 Message link



Step 5 Click **Save** on the interface of the corresponding event. And you will receive message if the alarm is triggered.

5.2.15 Access Platform

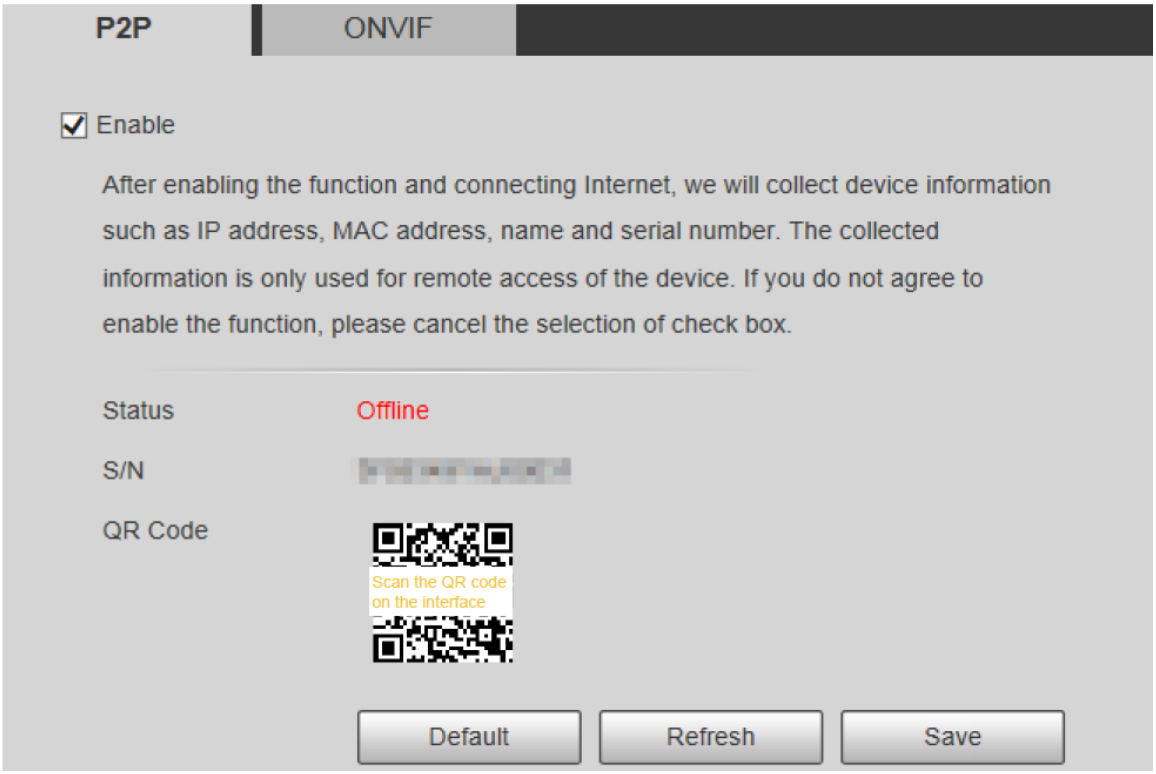
5.2.15.1 P2P

P2P is a private network traversal technology which enables users to manage devices easily without requiring DDNS, port mapping or transit server. Scan the QR code with your smart phone, and then you can add and manage more devices on your mobile client.

Step 1 Select **Setting > Network > Access Platform > P2P**.

The **P2P** interface is displayed.

Figure 5-59 P2P interface



- P2P is enabled by default. You can manage the devices remotely.
- When P2P is enabled and the device is connected to network, the status is displayed as **Online**. We might collect the information including IP address, MAC address, device name, and serial number. The information collected is for remote access only. If you do not agree with this, you can clear the **Enable** check box.

Step 2 Log in to mobile phone client and tap **Device Management**.

Step 3 Tap **Add +** at the upper-right corner.

Step 4 Scan the QR code on the P2P interface.

Step 5 Follow the instructions to finish settings.

5.2.15.2 ONVIF

The ONVIF authentication is **On** by default, which allows the network video products (including video recording device and other recording devices) from other manufacturers to connect to the Service.

ONVIF is enabled by default.

Step 1 Select **Setting > Network > Access Platform > ONVIF**.

The **ONVIF** interface is displayed. See Figure 5-60.

Figure 5-60 ONVIF interface

Step 2 Select **On** for **Authentication**.

Step 3 Click **Save**.

5.2.15.3 RTMP

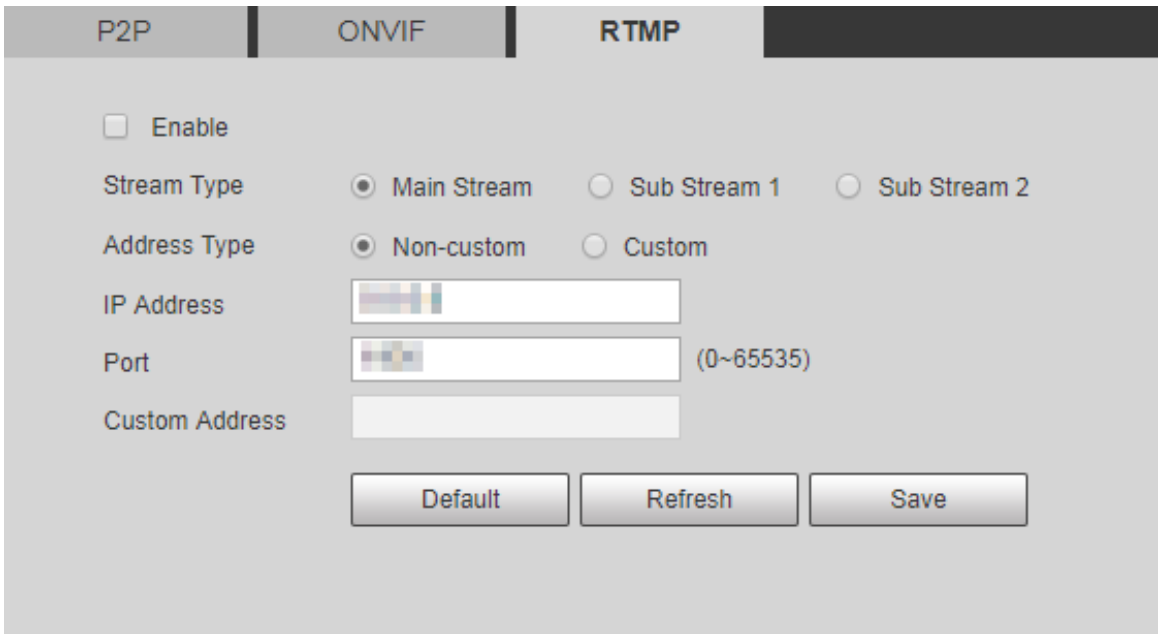
You can connect the third party platforms (such as YouTube) to play live video through RTMP protocol.

- Only admin user can configure RTMP.
- RTMP only supports H.264, H.264B and H.264H video formats, and Advanced Audio Coding (AAC) audio format.

Step 1 Select **Setting > Network >Access Platform > RTMP**.

The **RTMP** interface is displayed. See Figure 5-61.

Figure 5-61 RTMP interface



Step 2 Select the **Enable** check box, and RTMP will be enabled.

When enabling RTMP, make sure that the address can be trusted.

Step 3 Set parameters. For details, see Table 4-20.

Table 5-22 RTMP parameter setting description

Parameter	Description
Stream Type	Select live video stream type. Make sure that the video format of the stream is H.264, H.264B or H.264H, and the audio format is AAC.
Address Type	There are two options: **Non-custom** and **Custom**. **Non-custom**: You need to fill in the IP address or domain name. **Custom**: You need to fill in the address allocated by the server.
IP Address	If you have selected **Non-custom**, IP address and port need to be filled in. IP Address: IPv4 or domain name is supported. Port: It is recommended to use the default value.
Port	

Parameter	Description
Custom Address	If you have selected **Custom**, the address allocated by the server needs to be filled in.

Step 4 Click **Save**.

5.3 PTZ Settings

5.3.1 Protocol

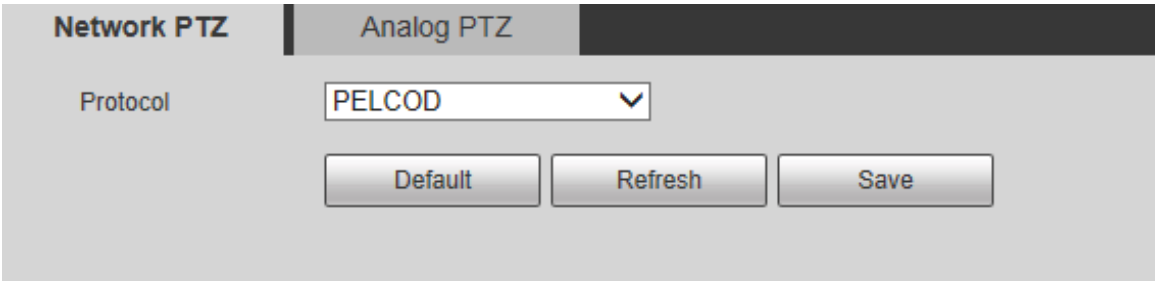
Network PTZ setting and analog PTZ setting are available on select models.

5.3.1.1 Network PTZ Settings

Step 1 Select **Setting > PTZ > Protocol > Network PTZ**.

The **Network PTZ** interface is displayed. See Figure 5-62.

Figure 5-62 Network PTZ setting



Step 2 Select a protocol as needed. You can select **DH-SD1**, **DH-SD3**, **PELCOD**, or **PELCOP**. **DH-SD1** is selected by default.

DH-SD1 protocol supports up to 80 presets, and DH-SD3 protocol supports up to 300 presets.

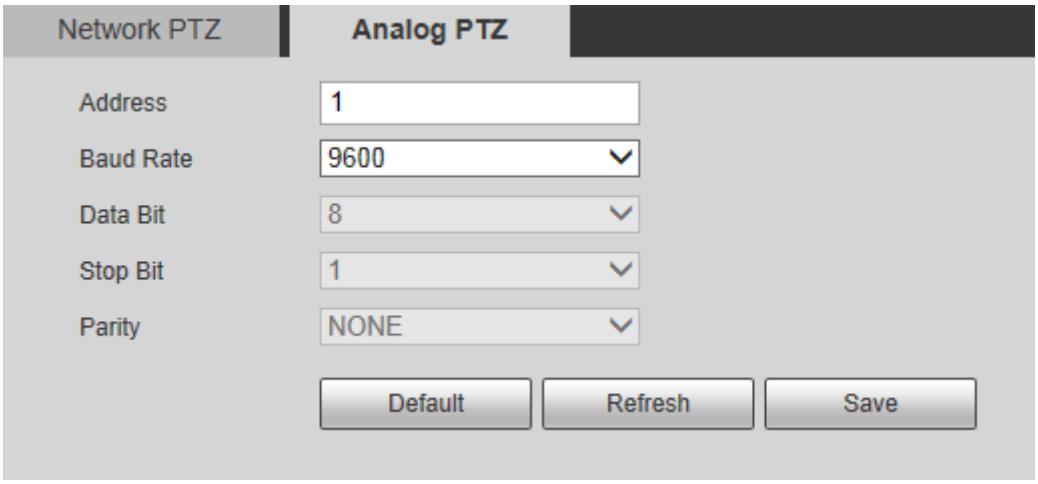
Step 3 Click **Save**.

5.3.1.2 Analog PTZ Settings

Step 1 Select **Setting > PTZ > Protocol > Analog PTZ**.

The **Analog PTZ** interface is displayed. See Figure 5-63.

Figure 5-63 Analog PTZ setting



Step 2 Configure parameters as needed. See Table 5-23.

Table 5-23 Analog PTZ parameter description

Parameter	Description
Address	Enter the address of the Device. Make sure that the address is the same as the device address; otherwise you cannot control the device.
Baud Rate	Select the baud rate of the Device.
Data Bit	It is 8 by default.
Stop Bit	It is 1 by default.
Parity	It is **NONE** by default.

Step 3 Click **Save**.

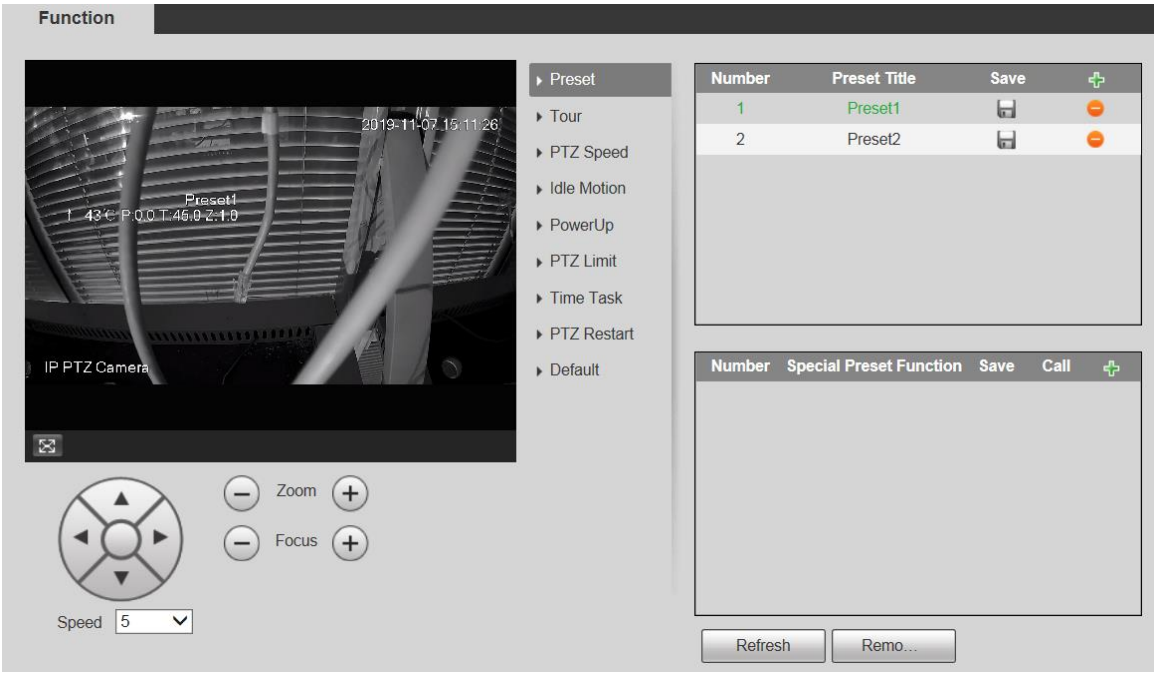
5.3.2 Function

5.3.2.1 Preset

Select **Setting > PTZ > Function > Preset**. The **Preset** interface is displayed. See Figure 5-64.

If you click **Remove All**, all presets and special presets will be cleared.

Figure 5-64 Preset settings



Preset

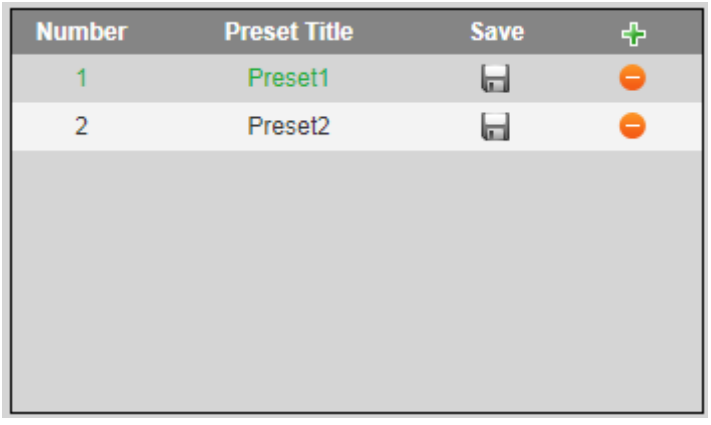
Preset means a certain position of the Device. Users can adjust the PTZ and camera to the location quickly through calling presets.

Step 1 At the lower left corner of the **Preset** interface, click the direction buttons, Speed 5, , and to adjust the PTZ direction, speed, zoom, and focus of the Device.

Step 2 Click to add a preset.

The current position is set to a preset and is displayed in the list. See Figure 5-65

Figure 5-65 Adding presets



Step 3 Click to save the preset.

Step 4 Perform operations on presets.

- Double-click the preset title to edit the title displayed on the monitoring screen.
- Click to delete the preset.

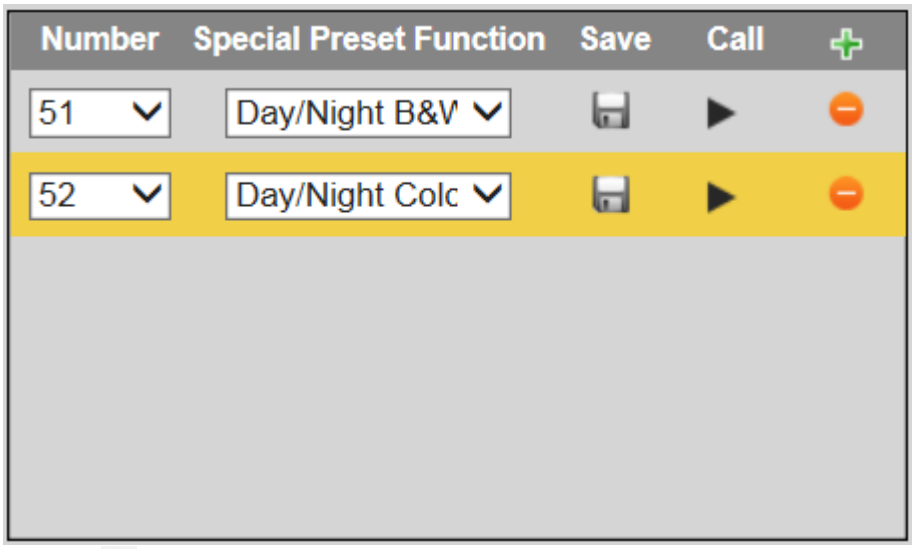
Special Preset

Special presets serve as the shortcut for some special functions switch or calling, and they no longer represent the location of the PTZ camera.

Step 1 Click to add a special preset. The added special preset will be displayed in the list. See Figure 4-60.

The number of special presets starts from 51 by default, and 100 is the largest number.

Figure 5-66 Special presets



Step 2 Click to save the added special preset.

Step 3 Perform operations on special presets.

- Click Day/Night B&W to modify the special preset function.
- Click to delete the special preset.
- Click to quickly call the function configured for the special preset.

If the PTZ is restored to default settings, all preset configurations will be cleared, but the called function will remain.

5.3.2.2 Tour

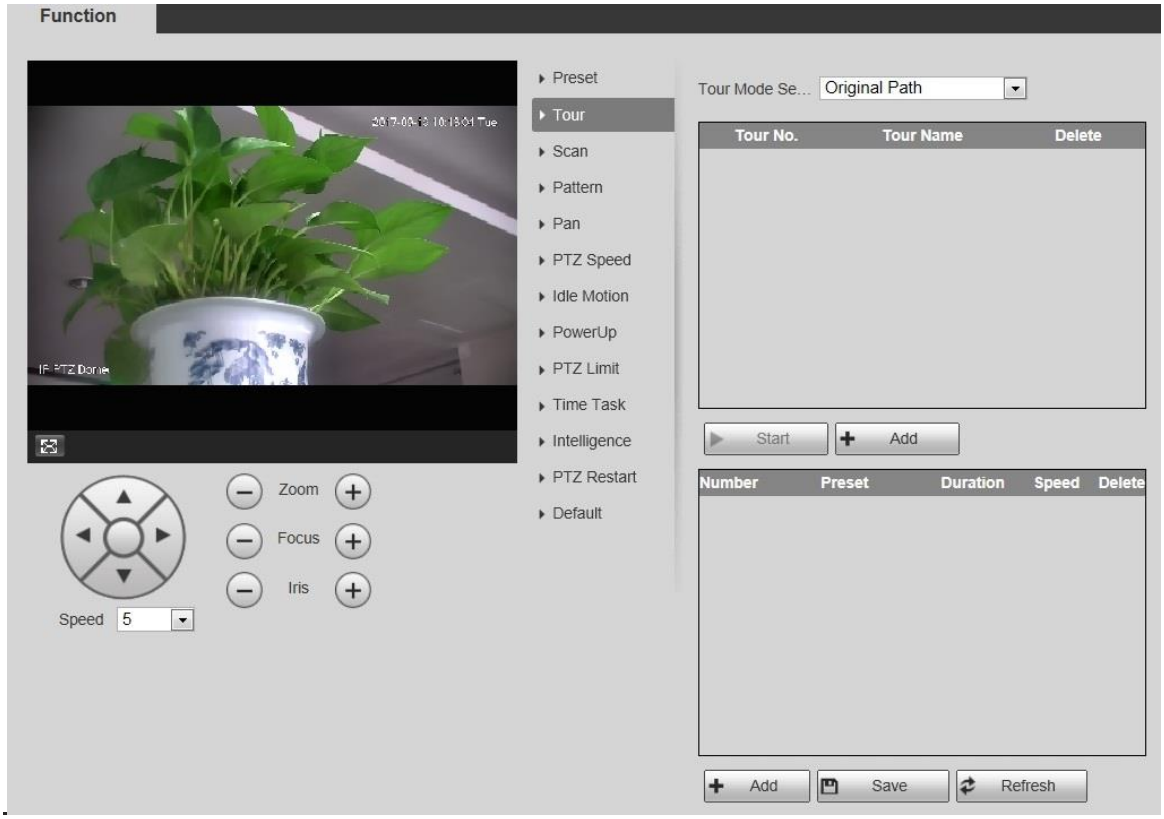
Tour means a series of movements that the Device makes along several presets.

You need to set several presets in advance.

Step 1 Select **Setting > PTZ > Function > Tour**.

The **Tour** interface is displayed. See Figure 5-67.

Figure 5-67 Tour settings



Step 2 Select the **Tour Mode** from **Original Path** and **Shortest Path**. **Original Path** is selected by default.

- Original Path: Tour in the order of adding presets.
- Shortest Path: Starting from the preset with largest horizontal zoom value and vertical zoom value, pass all presets in the tour to ensure the shortest path. The Device reaches the corresponding preset and ensure the minimum number of rotation.

Step 3 Click **Add** at the bottom of the list at the upper right corner of the interface to add a tour path.

Step 4 Click **Add** at the bottom of the list at the lower right corner of the interface to add several presets.

Step 5 Perform tour operations.

- Double-click tour name to edit the name of the corresponding tour.
- Double-click duration to set the time that the Device stays at the corresponding preset.
- Double-click speed to modify the tour speed. The default value is 7, and the value range is 1–10. The larger the value, the faster the speed.

Step 6 Click **Start** to start the tour.

The ongoing tour stops if any operation is made to the PTZ.

5.3.2.3 Scan

Scan means the Device moves horizontally at a certain speed between the defined left and right limits.

Step 1 Select **Setting > PTZ > Function > Scan**.