



Dual-Sensor Smart Monitoring Camera

User Manual

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The symbols that may be found in this document are defined as follows.

Symbol	Description
 Danger	Indicates a hazardous situation which, if not avoided, will or could result in death or serious injury.
 Caution	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 Note	Provides additional information to emphasize or supplement important points of the main text.

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Chapter 1 Activation and Login

1.1 Activation

For the first-time access, you need to activate the device by setting an admin password. No operation is allowed before activation. The device supports multiple activation methods, such as activation via SADP software, web browser, and iVMS-4200 Client.



Note

Refer to the user manual of iVMS-4200 Client for the activation via client software.

1.1.1 Default Information

The device default information is shown as below.

- Default IP address: 192.168.1.64
- Default user name: admin

1.1.2 Activate via SADP

SADP is a tool to detect, activate, and modify the IP address of the device over the LAN.

Before You Start

- Get the SADP software from the supplied disk or the official website (<http://www.hikvision.com/>), and install it according to the prompts.
- The device and the computer that runs the SADP tool should belong to the same network segment.

The following steps show how to activate one device and modify its IP address. For batch activation and IP address modification, refer to *User Manual of SADP* for details.

Steps

1. Run the SADP software and search the online devices.
2. Find and select your device in online device list.
3. Enter a new password (admin password) and confirm the password.



Caution

STRONG PASSWORD RECOMMENDED-We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

4. Click **Activate** to start activation.

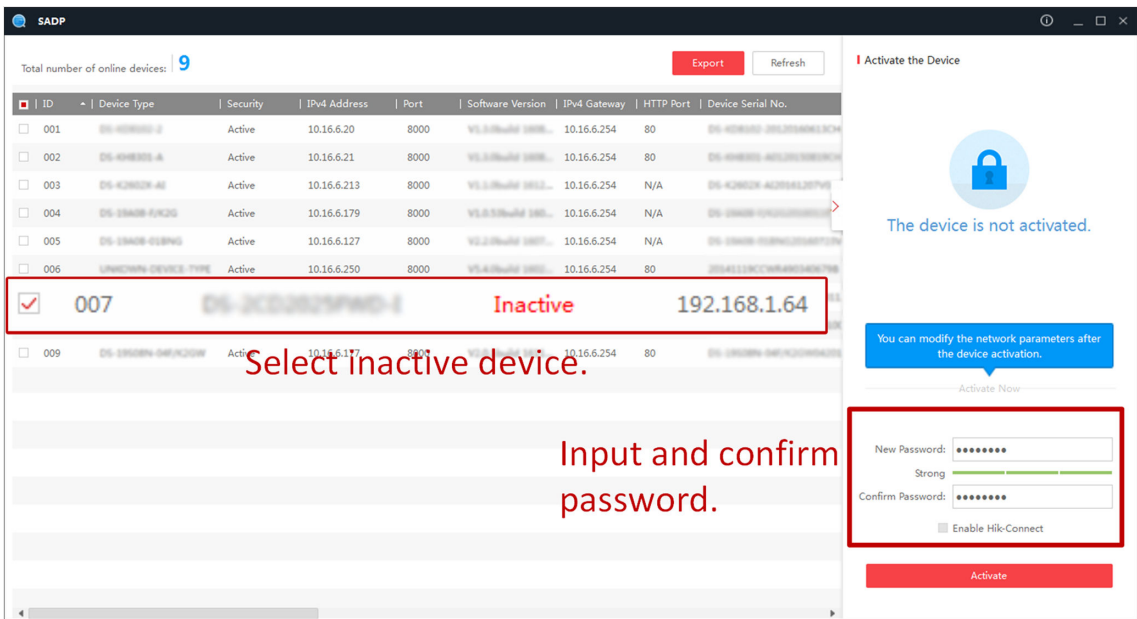


Figure 1-1 Activate via SADP

Status of the device becomes **Active** after successful activation.

5. Modify IP address of the device.

- 1) Select the device.
- 2) Change the device IP address to the same network segment as your computer by either modifying the IP address manually or checking **Enable DHCP** (Dynamic Host Configuration Protocol).
- 3) Enter the admin password and click **Modify** to activate your IP address modification.

1.1.3 Activate via Web Browser

Use web browser to activate the device. For the device with the DHCP enabled by default, use SADP software or client software to activate the device.

Before You Start

Ensure the device and the computer are in the LAN with the same network segment.

Steps

1. Change the IP address of your computer to the same network segment as the device.
2. Open the web browser, and enter the default IP address of the device to enter the activation interface.
3. Create and confirm the admin password.



Caution

STRONG PASSWORD RECOMMENDED-We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

4. Click **OK** to complete activation.
5. Go to the network settings interface to modify IP address of the device.

1.2 Login

You can log in to the device via web browser for further operations such as live view and local configuration.

Before You Start

Connect the device to the network directly, or via a switch or a router.

Steps

1. Open the web browser, and enter the IP address of the device to enter the login interface.
2. Enter **User Name** and **Password**.
3. Click **Login**.
4. Download and install appropriate plug-in for your web browser. Follow the installation prompts to install the plug-in.
5. Reopen the web browser after the installation of the plug-in and repeat steps 1 to 3 to login.
6. **Optional:** Click **Logout** on the upper right corner of the interface to log out of the device.

Chapter 2 Application Mode Configuration



Note

- The supported application modes vary with different models. The actual device prevails.
 - When you draw lane lines or detection areas on **Application Mode** interface:
 - You can enable **Display All Areas** to display all the lines and areas, convenient to view the effect of all the lines and areas. If you uncheck it, only the current selected lane will be displayed, convenient to draw the current lane.
 - You can enable **Small Target Detection** and draw the small target detection areas which are always set at the road distance to raise the detection effect of the distant targets.
 - The system will capture a picture and use it as the background. You can also enable **Video Background** to use the live view as the background.
-



Caution

You can click **Default** on **Application Mode** interface to restore all the set parameters to the default settings. Please operate with care.

2.1 Set Smart Monitoring Capture

The smart monitoring mode supports capturing motor vehicles, non-motor vehicles, and pedestrians via video triggering.

Steps

1. Go to **Configuration → Capture → Application Mode** .
2. Select a channel.
3. Select **Application Mode** as **Smart Mode**.

Application Mode

Channel 1

Channel 2

Application Mode

Smart Mode

Work Mode: Smart Mode

Smart Mode

Capture Type

☒ Motor Vehicle

☐ Non-Motor Vehicle

☐ Pedestrian

Capture Pictures

1

Capture Interval(ms)

200

Radar Track

☐

Lane

Total Lanes

3

Lane1

Lane2

Lane3

Lane Direction

Unknown

Direction

From Top to Bottom

Linked Lane No.

1

Copy to

☒ Lane1

☐ Lane2

☐ Lane3

Figure 2-1 Set Smart Monitoring Capture

4. Set smart mode parameters.

Capture Type

Select the targets to be recognized and captured in the scene.

Capture Pictures

The number of captured picture(s).

Capture Interval

The time between the adjacent captures.

Radar Track

Check it, and the radar tracks of the targets will be overlaid on the captured pictures.

5. Set the lane parameters.

Total Lanes

The number of the total lane(s) in the scene.

Lane Direction

The guidance direction of the lane.

Direction

If you select **From Top to Bottom**, the targets from the approaching direction towards the device will be captured. If you select **From Bottom to Top**, the targets from the leaving direction away from the device will be captured.

Linked Lane No.

The corresponding lane No. linked with the current lane. The lane No. will be overlaid on the captured picture.

Copy to

Check the other lane(s) to copy the same settings.

6. Draw lane lines.

1) Click **Draw Lane Line**.



Note

The system will capture a picture and use it as the background. You can also check **Video Background** to use the live view as the background.

-
- 2) Select the default lane lines, trigger line, and right border line, and drag the two end points of the line or drag the whole line to adjust its position according to the actual scene.
 - 3) **Optional:** Click **Redraw Lane Line** to redraw the lines.
 - 4) Click **OK**.

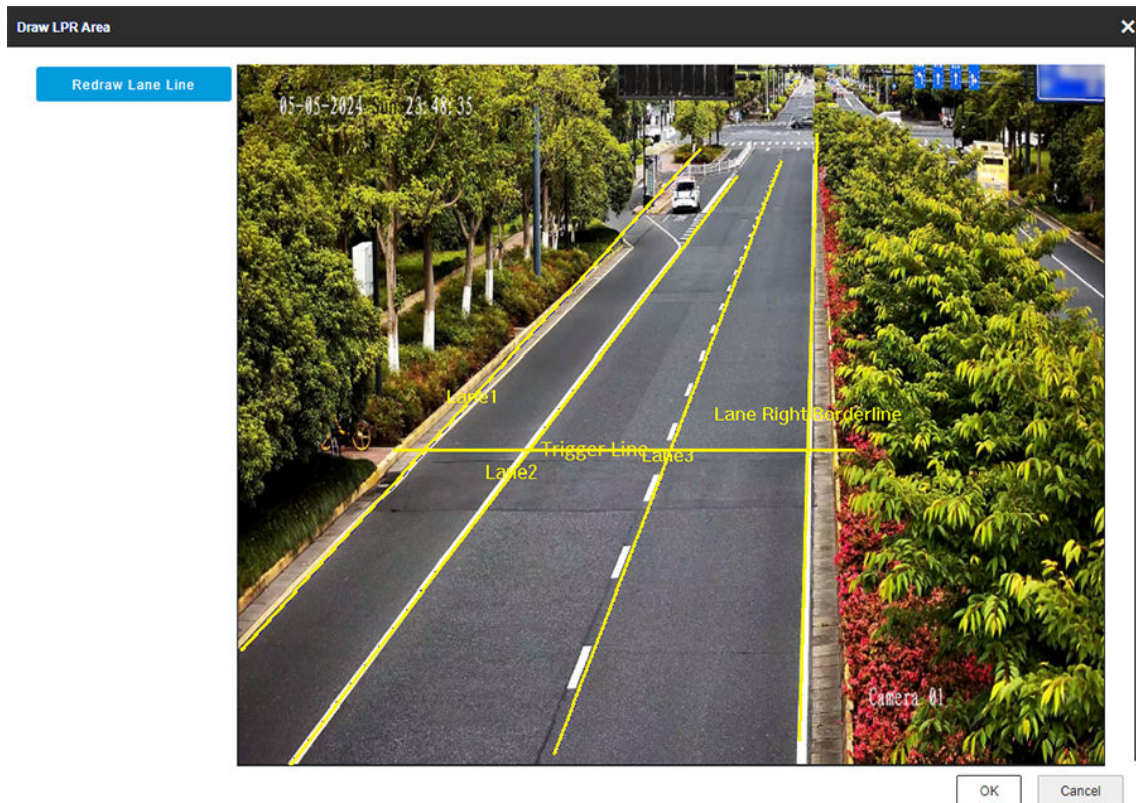


Figure 2-2 Draw Lane Line

7. Click **Save**.

2.2 Set Face Detection

If you need the device to capture the face pictures appeared in the detection area and upload them to the platform, set face detection.

Steps

1. Go to **Configuration → Capture → Application Mode**.
2. Select a channel.
3. Select **Application Mode** as **Face Detection**.

Application Mode

Channel 1 Channel 2

Application Mode Face Detection

Work Mode:

Algorithm Parameters

Capture Interval(Frame) 50

Capture Times 1

Detection Sensitivity 3

Capture Threshold 20

Generation Speed 3

Enable Face Picture Exposure

Exposure Duration(s) 60

Smart Information

Enable Information Overlay on Picture

Enable Video Information Overlay

Upload Face Picture Only

Area Amount

Pupil Distance Rectangle Amount 1

Rule Area Amount 1

Shielded Area Amount 4

Human Face Picture Matting

Face Close up Picture Matting Ratio Small Medium Large

Figure 2-3 Set Face Detection

4. Set algorithm parameters.

Capture Interval

Set the frame interval of every capture during the process that the face appears in the detection area and disappears from the area. The face picture with the highest quality rating will be captured.

Capture Times

Set the capture times of the same face picture during the process that the face appears in the detection area and disappears from the area.

Detection Sensitivity

Set the face detection sensitivity. If there are many mistaken face captures, adjust the sensitivity smaller. If there are many missing face captures, adjust the sensitivity larger.

Capture Threshold

Set the face capture rating threshold. Only the face picture larger than or equaling to the threshold can be captured.

Generation Speed

Set the generation speed of the face target appearing in the detection area. The larger the speed is, the more quickly the target can be generated.

Enable Face Picture Exposure

Enable the function and set **Exposure Duration**. When the face is recognized, the detected face area will be exposed partially for the set duration to raise the brightness of the area.

5. Set smart information.

Enable Information Overlay on Picture

Check it to overlay the detection rectangle on the face appeared in the captured scene picture.

Enable Video Information Overlay

Check it to overlay the detection rectangle on the face appeared in the video.



Note

You need to enable rule information in **Configuration → Local** before enabling video information overlay.

Upload Face Picture Only

If you check it, only the close-up face picture will be uploaded to the platform. Otherwise, both the scene picture and close-up face picture will be uploaded to the platform.

6. Select **Pupil Distance Rectangle Amount**, **Rule Area Amount**, and **Shielded Area Amount**.

7. If the default face detection area does not fit the current scene, click **Draw Area** to redraw the area.

Redraw pupil distance

Pupil distance refers to the distance between the pupils of both eyes. Draw to set the value. The recommended value is 40.

- Click **Redraw Pupil Distance**.
- Drag the mouse to draw the pupil distance rectangle.
- Click **OK**.



Note

Pupil distance must be set, or the face picture cannot be captured.

Redraw rule area

- Click **Redraw Rule Area**.
- Click the left button of the mouse to draw a rectangular or polygonal frame, and then click the right button of the mouse to finish.

Note

The rule area is recommended to occupy 1/2 of the live view image, and not more than 2/3 of the live view image.

c. Click **OK**.

Redraw shielded area

a. Click **Redraw Shielded Area**.

b. Click the left button of the mouse to draw a rectangular or polygonal frame, and then click the right button of the mouse to finish.

Note

The faces detected in the shielded area will not be captured. Up to four shielded areas can be set.

c. Click **OK**.

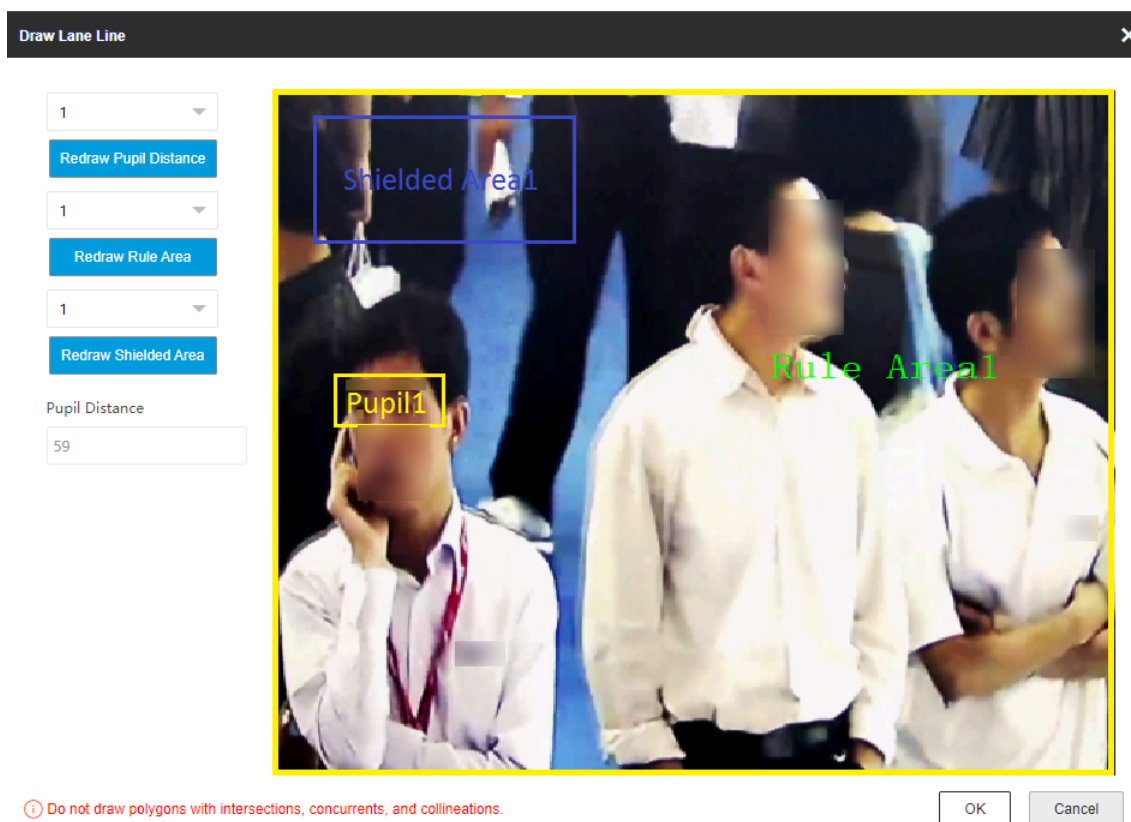


Figure 2-4 Draw Face Detection Area

8. Set Face Close-up Picture Matting Ratio.

9. Click **Save**.

Chapter 3 Radar Detection

Radar is used to detect the target and link the capture. Set radar detection parameters before capturing vehicle pictures.

 Note

The function varies with different models. The actual device prevails.

3.1 Before Radar Debug

Before debugging radar:

- Go to **Configuration** → **System** → **System Settings** → **Device Status** to view the radar status. If the status is normal, you can debug it. If the radar is in upgrading status, do not reboot the device.
- Go to **Configuration** → **Local** to enable **Rules Information**, **Feature Information**, and **Radar Track**.

3.2 Radar Interface Introduction

Click **Radar** to enter the radar settings interface. Refer to the figure and table below for the interface introduction.

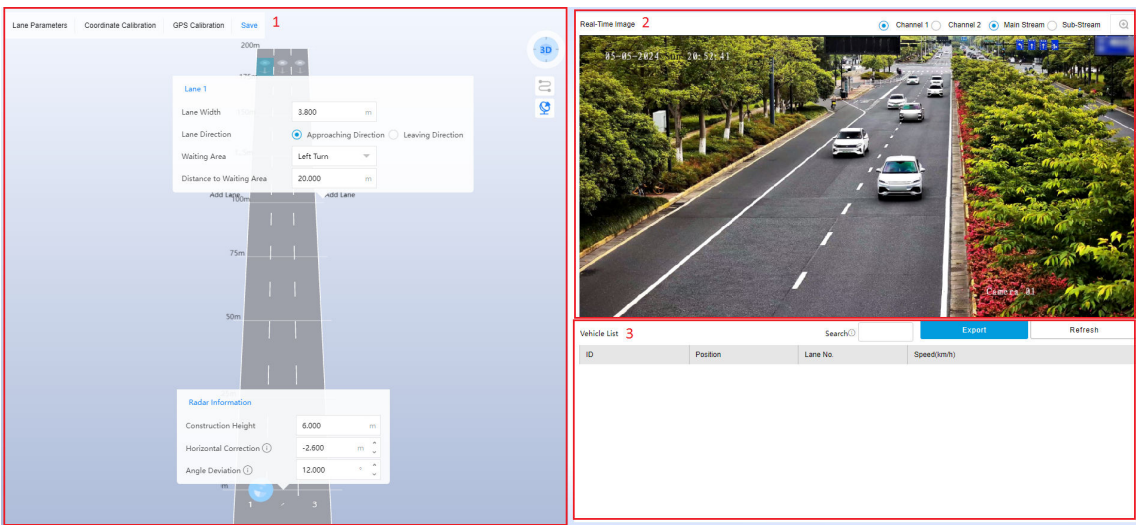


Figure 3-1 Radar

Table 3-1 Radar Interface Description

No.	Description
1	The lanes display and parameters settings part. Click Edit to edit the lanes and radar according to the actual scene, and click Save to save the settings. - You can scroll the mouse wheel to zoom in or out the lanes settings area, or hold the mouse left button to slide on the lanes area to adjust the lanes display angle. - Click Add Lane to add a lane on the left or right side. You can put the cursor on it until it turns into , and click it to delete the lane. - Click , and the corresponding lane settings interface pops up. You can set the corresponding lane parameters. - Click the radar icon and the radar settings interface pops up. You can set the radar parameters. - Click Lane Parameters to set the radar and lane parameters. Refer to <u>Set Detection Parameters</u> and <u>Set Lane Parameters</u> for details. - Click Coordinate Calibration to set auto calibration or manual calibration. Refer to <u>Auto Calibration</u> and <u>Manual Calibration</u> for details. - Click GPS Calibration to set GPS calibration. Refer to <u>GPS Calibration</u> for details. - Click the icons on the upper right corner of the lane settings area to adjust the display status. Refer to <u>Table 3-2</u> for details.
2	To view the real-time image of the selected channel. Refer to <u>View Real-Time Image</u> for details.
3	To view the detected vehicle information, search, and export the vehicle information. Refer to <u>Search Detected Vehicles</u> for details.

Table 3-2 Icon Description

Icon	Description
	Click to switch to the 2D or 3D display of the lanes area.
	Click to enable or disable the radar targets tracks display.
	Click to switch to the radar track or fusion track. The fusion track refers to the target track fused with the video detection and radar detection. In fusion track mode, you can view the targets detected by single radar, single video, or both radar and video according to the different colors displayed on the interface, and the detected vehicle information will be displayed in the vehicle list. Refer to <u>Figure 3-2</u> for the display effect.

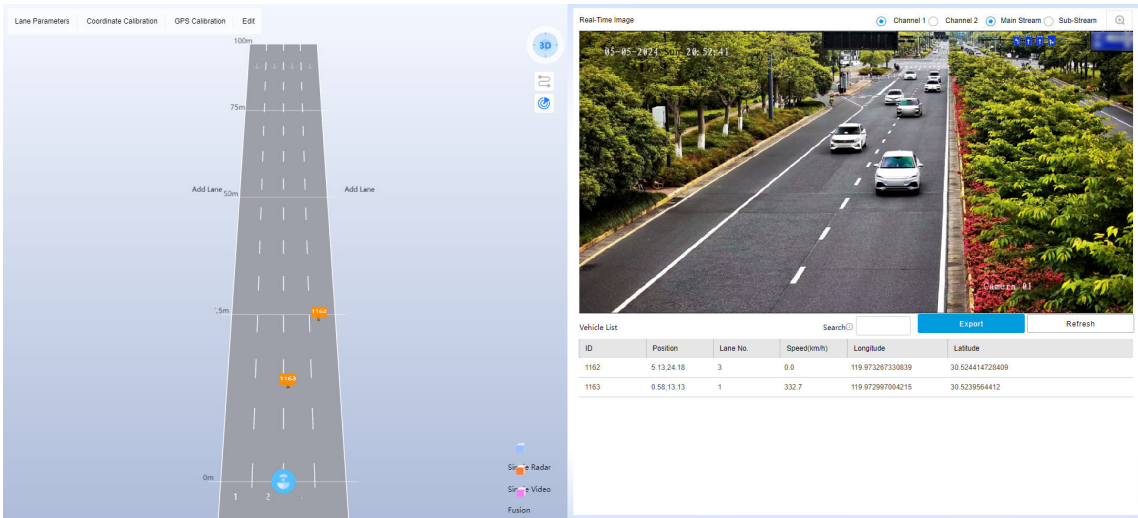


Figure 3-2 Fusion Track Display

3.3 Set Parameters

3.3.1 Set Detection Parameters

Set radar detection parameters according to the actual scene to raise the detection accuracy.

Steps

1. Go to **Radar** → **Lane Parameters** → **Radar** .

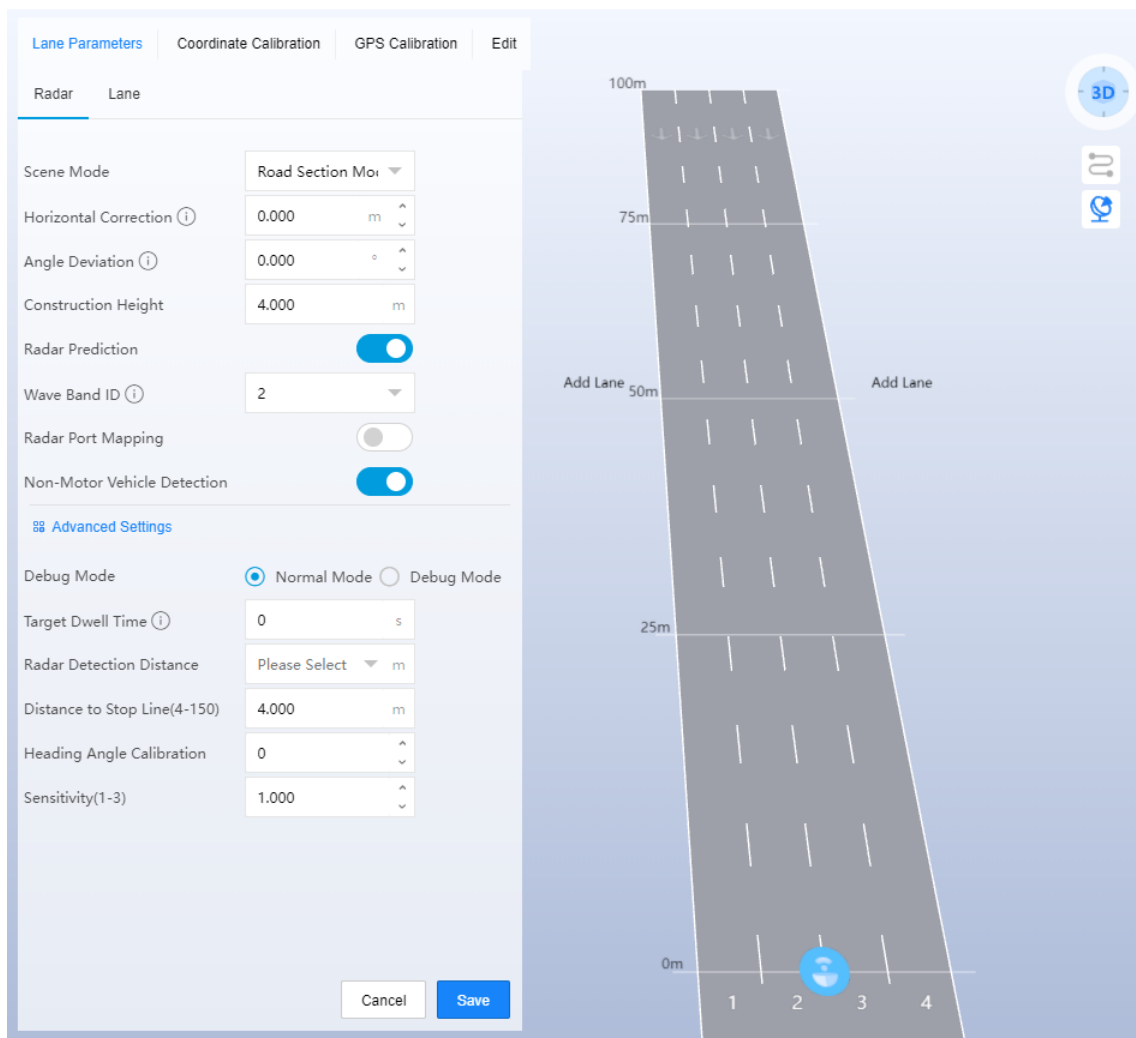


Figure 3-3 Set Radar Parameters

2. Set the basic parameters of the radar.

Scene Mode

Select the scene mode according to the actual construction scene of the device.

Horizontal Correction

It is the horizontal position deviation between the radar detected lane and the actual lane. You can set it in two ways.

- Method 1: Move the detected lane in the diagram leftwards or rightwards to overlap it with the actual lane to correct the difference.
- Method 2: Enter the horizontal distance(m) from the radar installation position to the middle line of the actual lane to correct the difference.

Angle Deviation

It is the angle deviation between the radar detected lane and the actual lane. Rotate the angle of the detected lane in the diagram to overlap it with the actual lane to correct the difference.

Construction Height

Set the construction height of the radar according to construction at the actual scene.

Radar Prediction

It is only used for debug by the professionals. Enable the function, and the radar will predict the target track which can be displayed on the interface according to the detected coordinates.

Wave Band ID

0 to 4 stand for five frequencies. Set different wave bands for different radars in the same scene to prevent the radars in the same wave band from influencing each other.

Radar Port Mapping

Enable the function and **SSH Service**, and the debugging command with radar configuration information will be sent to the device. The radar specified port can be mapped to the camera, and the radar can be debugged via the camera IP address with the radar debug software.

Non-Motor Vehicle Detection

Enable it to detect the non-motor vehicles by the radar.

3. Set advanced parameters of the radar.

Debug Mode

Select **Debug Mode**. In this mode, the vehicles outside the drawn area will be displayed, to make it convenient to debug the radar. After debug, you should switch to **Normal Mode**.

Auto Angle Correction

After enabling radar debug mode, you can enable it to get the radar deviation angle according to the moving path of vehicle.

Target Dwell Time

The dwell time of the vehicle. If the target dwell time is longer than the set time, vehicle data statistics will not be operated. Set it as 0 when measuring the queue length. It is only effective for the static targets.

Radar Detection Distance

It is the farthest distance that the radar can detect. The default value is 200 m. You can select the value to match the radar detection distance.

Distance to Stop Line

It is the distance from the point on the ground just below the installed radar to the stop line at the intersection. The targets detected in this range will be filtered.

Heading Angle Calibration

Set the angle between the driving direction and the device installation direction. The radar heading angle information of the current frame will be included when matching the video detected targets and radar detected targets.

Sensitivity

The lower the sensitivity is, the more sensitive the detection will be. For the detection which is too sensitive (e.g., some fixed facilities, such as the bus station on the lane, are detected as vehicles), you can adjust the sensitivity higher.

4. Click **Save**.

3.3.2 Set Lane Parameters

Set the parameters of the radar detected lanes.

Steps

1. Go to **Radar → Lane Parameters → Lane** .

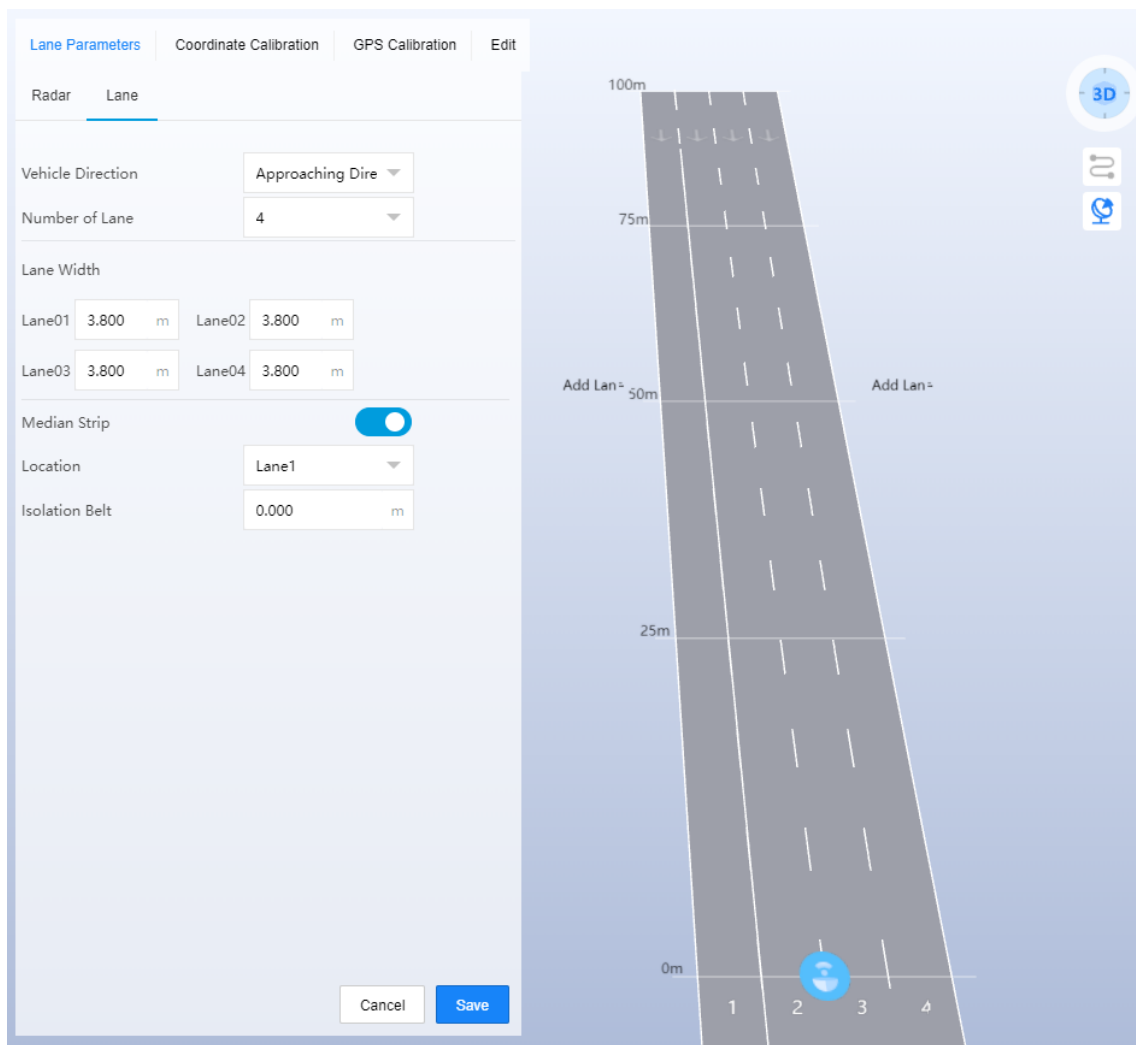


Figure 3-4 Set Lane Parameters

2. Set the lane parameters below.

Vehicle Direction

Approaching Direction

The vehicles are driven towards the construction position of the camera.

Leaving Direction

The vehicles are driven far away from the construction position of the camera.

Bidirection

There are vehicles driven both towards and far away from the construction position of the camera.

Number of Lane

The number of lanes should be consistent with the total lanes in the application mode settings.

Lane Width

Set the width of corresponding lane according to the actual scene.

Median Strip

When there is a median strip between the lanes of opposite directions, enable the function. Select the lane No. on the left of the isolation belt as **Location**, and set the isolation belt width according to the actual scene.

3. Click **Save**.

3.4 Set Radar Calibration

Calibrate radar after the radar detection parameters are set to display the targets detected by the radar on the video.

Steps

1. Click **Radar**.
2. Click **Coordinate Calibration** or **GPS Calibration**.
3. Set the radar calibration.
 - Set manual calibration. Refer to **Manual Calibration** for details.
 - Set auto calibration. Refer to **Auto Calibration** for details.
 - Set GPS calibration. Refer to **GPS Calibration** for details.



Note

The supported calibration modes vary with different models. The actual device prevails.

3.4.1 Manual Calibration

Steps

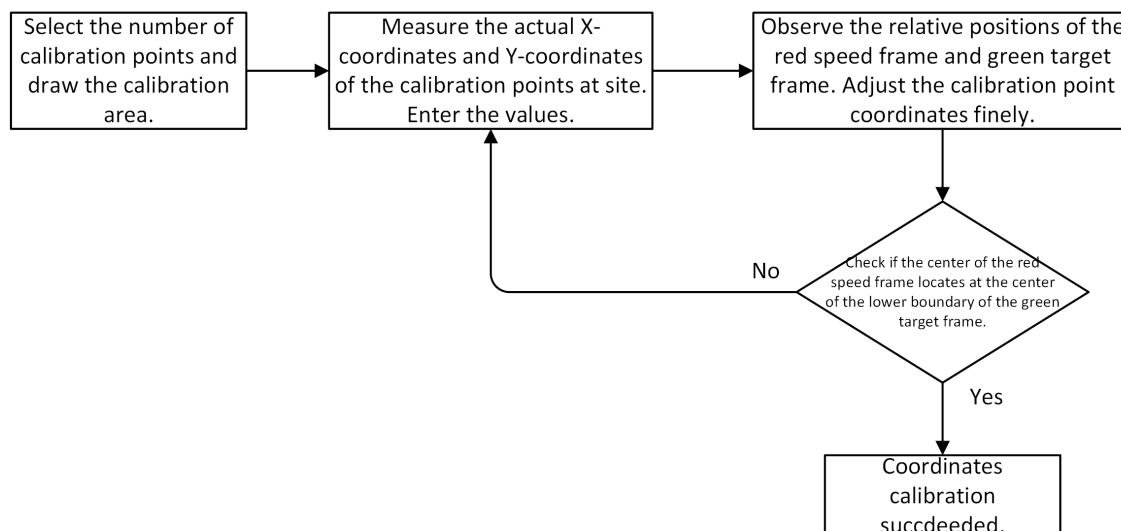


Figure 3-5 Manual Calibration Flow

1. Click **Coordinate Calibration**.
2. Select **Calibration Mode** as **Manual Calibration**.

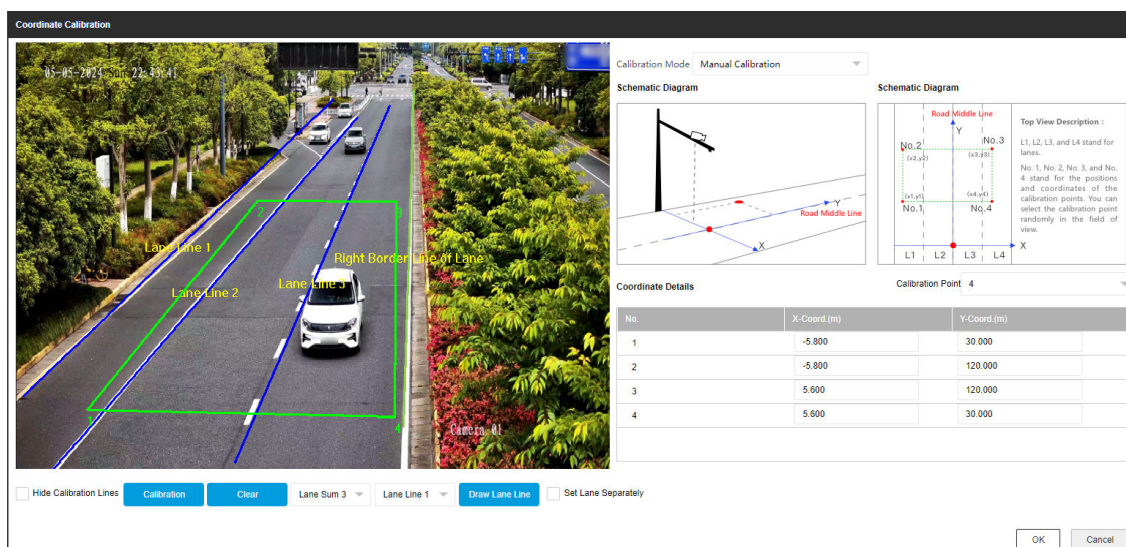


Figure 3-6 Manual Calibration

3. Draw the lane lines.
 - Disable **Set Lane Separately**. The device will recognize the lane lines in the scene according to the selected lane sum. Drag the two end points of the line or drag the whole line to adjust its position according to the actual scene.

- If the calibrated lanes are bidirectional, or the calibrated lane range is not consistent with the range in the application mode settings, enable **Set Lane Separately**, and select the lane sum. The lane lines and right border line will be displayed on the image, and you should adjust the positions and directions of the lane lines manually. Drag the two end points of the line or drag the whole line to adjust its position according to the actual scene.

Note

- The available lane sum depends on the set **Total Lanes** in **Configuration → Capture → Application Mode**.
- You can select the lane line No. and click **Draw Lane Line** to redraw the corresponding lane line.

4. Draw the calibration area.

- 1) Select **Calibration Point**.

Note

4-point calibration by default.

- 2) Click **Calibration**.
- 3) Click the left button of the mouse to locate the vertexes of the calibration area on the live view image clockwise, and click the right button of the mouse to finish the drawing.

Note

The number of vertexes should be consistent with the selected number of **Calibration Point**.

- 4) Measure the X-coordinates and Y-coordinates of the calibration points with measurement tool at site accurately, and enter the values in the corresponding coordinate text fields.

Note

- X-coordinate stands for the horizontal distance from the calibration point to the origin of the radar coordinates. Y-coordinate stands for the vertical distance from the calibration point to the origin of the radar coordinates. The origin (0, 0) of the radar coordinates locates in the middle of the whole lanes detected by the radar. You can refer to the schematic diagram on the right of the interface.
- If there are 4 points for the calibration area, the X-coordinates of point 1 and 2 should be negative values.
- If the speed displayed on the live view image is 0, you need to calibrate again. The best calibration effect is that the center of the red speed frame locates at the center of the lower boundary of the green target frame.

- 5) **Optional:** Click **Clear** to clear the drawn calibration area.

5. **Optional:** If there is no condition to measure the coordinates of the calibration points accurately at site, you can draw a calibration area and estimate the coordinates of the calibration points first, and then perform fine adjustment to the coordinates as the steps below.

- 1) Find a vehicle passing the calibration point in the live view image, and observe the relative position relationship between the vehicle target and the red speed frame. The distance between the position of the red speed frame and that of the green target frame may be large

before calibration. You need to observe the moving tendency of the target frame and the speed frame. As shown below, you can see that the red speed frames and the green target frames are moving relatively.



Figure 3-7 Fine Adjustment Example

- 2) According to the relative positions, if the red speed frame is in front of the green target frame, decrease the Y-coordinate value. If the red speed frame is behind the green target frame, increase the Y-coordinate value. Adjust the values until the lower boundaries of the red speed frame and the green target frame are on the same horizontal line.
- 3) According to the relative positions, if the red speed frame is in the left position of the lower boundary center of the green target frame, decrease the X-coordinate value. If the red speed frame is in the right position of the lower boundary center of the green target frame, increase the X-coordinate value. Adjust the values until the lower boundaries of the red speed frame and the green target frame are on the same vertical line.
- 4) Adjust the other calibration points according to the methods above until all the vehicles in the detection area satisfy the requirement.

6. Optional: Check **Hide Calibration Lines** to hide the lines on the live view image.

7. Click **OK**.

3.4.2 Auto Calibration

Steps

1. Click **Coordinate Calibration**.
2. Select **Calibration Mode** as **Auto Calibration**.

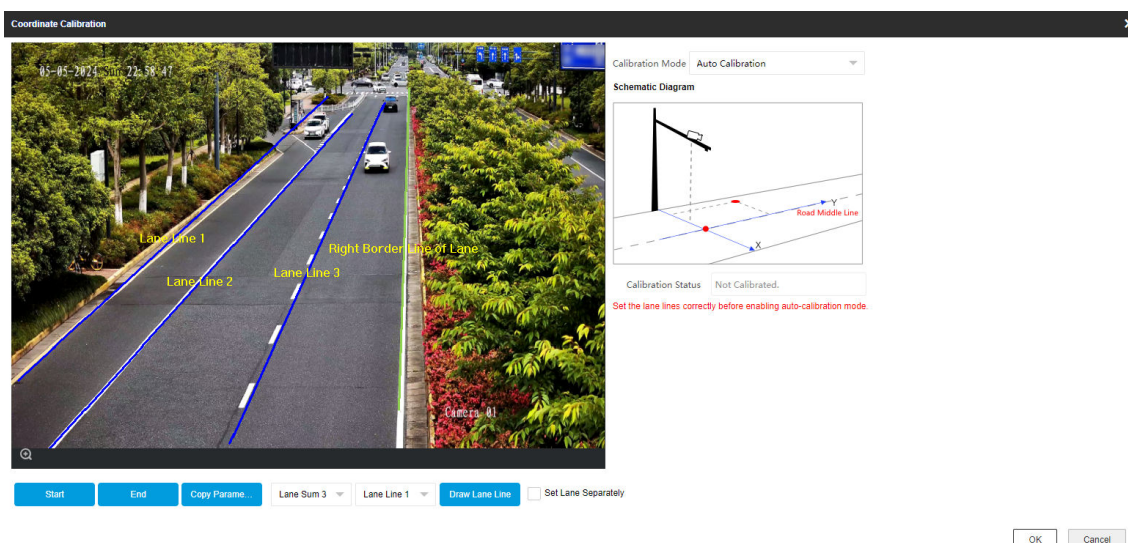


Figure 3-8 Auto Calibration

3. Draw the lane lines.

- Disable **Set Lane Separately**. The device will recognize the lane lines in the scene according to the selected lane sum. Drag the two end points of the line or drag the whole line to adjust its position according to the actual scene.
- If the calibrated lanes are bidirectional, or the calibrated lane range is not consistent with the range in the application mode settings, enable **Set Lane Separately**, and select the lane sum. The lane lines and right border line will be displayed on the image, and you should adjust the positions and directions of the lane lines manually. Drag the two end points of the line or drag the whole line to adjust its position according to the actual scene.

Note

- The available lane sum depends on the set **Total Lanes** in **Configuration → Capture → Application Mode**.
- You can select the lane line No. and click **Draw Lane Line** to redraw the corresponding lane line.
- The lane lines must be set accurately before auto calibration. For the scenes to which auto calibration is not applicable, like congestion, vehicles are waiting for the red traffic light, there are too few vehicles passing, etc., manual calibration is recommended.

4. Click Start.

The auto calibration starts, and you can view the calibration status and progress. 100% means the auto calibration is finished.

5. Optional: Click **End** if the calibration effect has met the requirement during the process.

6. Optional: Click **Copy Parameters to Coordinate Mode** to copy the auto calibrated coordinates to the coordinate mode.

7. Click OK.

What to do next

- After auto calibration, exit from the interface. Observe the calibration effect after a period of time. As shown below, if the red speed frame locates at the lower boundary center of the green target frame, that is, the red speed frame locates at the license plate position, the calibration effect satisfies the requirements. Otherwise, you need to calibrate again, or perform fine adjustment to the coordinates by the methods for the manual calibration. Refer to step 5 of **Manual Calibration** for details.



Figure 3-9 Good Calibration Effect Example

- For the scene with multiple lanes and congestion, observe the auto calibration effect. If the fusion effect is not good after the auto calibration is finished, you need to calibrate again manually. Refer to **Manual Calibration** for details.

3.4.3 GPS Calibration

You can link the physical coordinates with the GPS positions of the targets via GPS calibration to get the geographic positions of the targets which are converted from their physical positions in order to mark the targets positions on the map.

Steps

1. Click **GPS Calibration**.

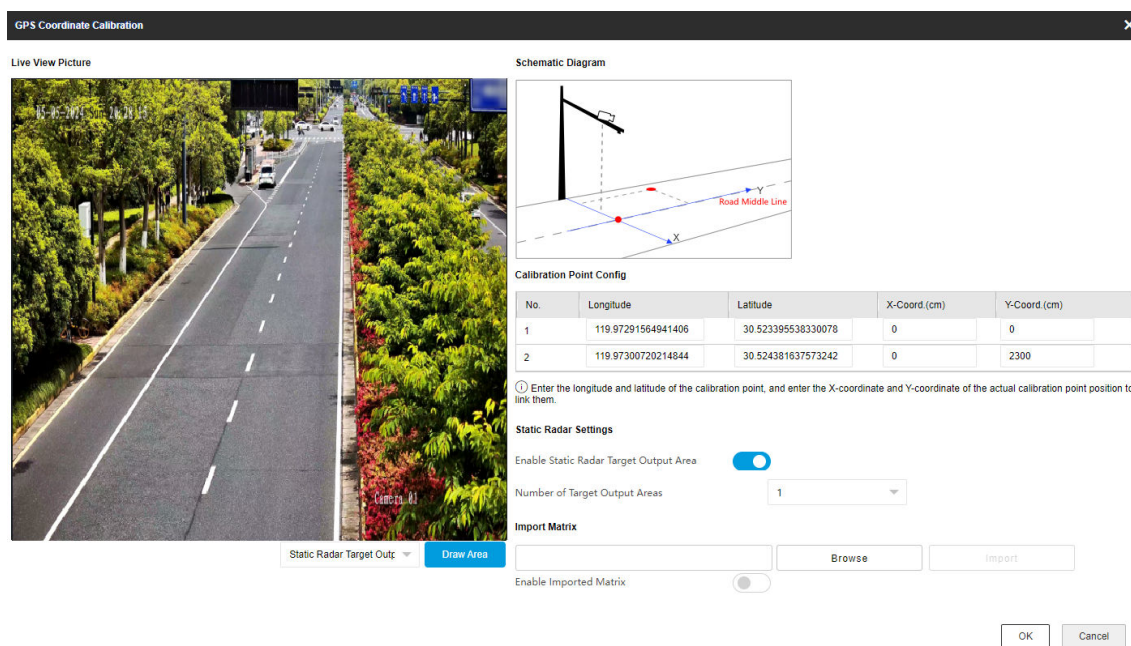


Figure 3-10 GPS Coordinate Calibration

2. Calibrate in two ways.

- Refer to the schematic diagram to set the two red points as the calibration points. Enter the longitudes and latitudes of the two calibration points. Set the camera construction location as the 0 point to calculate the X-coordinate and Y-coordinate of the two calibration points.
- Import GPS matrix to calibrate. Click **Browse** to select the matrix file in the format of .bin from the computer. Click **Import** to output the calibration coordinates. Then enable the imported matrix.

Note

The matrix file is provided from the research and development personnel. The technicians should get the file for GPS calibration according to corresponding requirements.

3. If there are deviations between the output GPS positions and the target actual GPS positions, adjust **Horizontal Correction** and **Angle Deviation** to make the output GPS positions close to the target actual GPS positions continuously.
4. **Optional:** Filter the static targets on the live view image.
 - 1) Enable static radar target output area.
 - 2) Select **Number of Target Output Areas**.
 - 3) Select the area and click **Draw Area**.
The static radar target output area will be displayed on the live view image.
 - 4) Drag the vertexes of the area to adjust its size or drag the whole area to adjust its position according to the actual scene.
5. Click **OK**.

Result

The device will output the GPS information of the targets combined with the radar detected positions and set longitudes and latitudes of the targets.

3.5 View Real-Time Image

You can view the real-time image of the channels in main stream or sub-stream.

Steps

1. Click **Radar**.
2. Select a channel and a stream type.

The real-time image of the selected channel in the selected stream type will be displayed below.

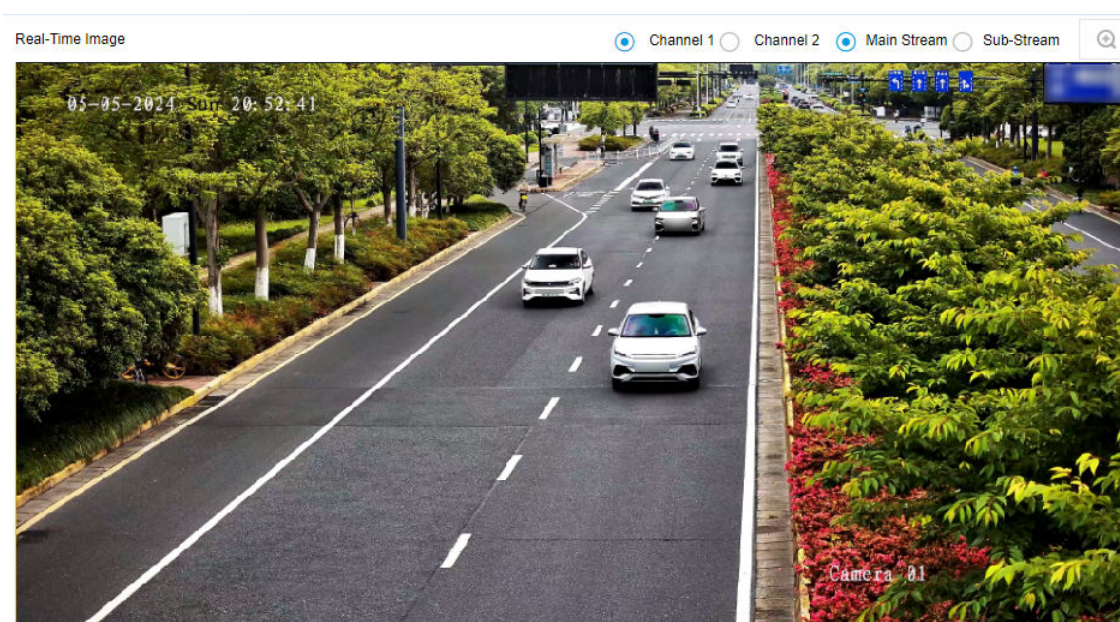


Figure 3-11 View Real-Time Image

3. **Optional:** You can click  on the upper right corner to enable digital zoom. Place the cursor on the live view image position which needs to be zoomed in. Drag the mouse rightwards and downwards to draw an area to zoom in. Click any position of the image to restore to normal image. Click  to disable digital zoom.

3.6 Search Detected Vehicles

You can search the radar detected vehicles and export the information.

Steps

1. Click **Radar**.

2. View the vehicle information in the vehicle list.
3. Enter the vehicle No. in the text field, and press **Enter** to search the vehicle information.
4. **Optional:** Export the vehicle information.
 - Search the vehicle first, and click **Export** to export the searched vehicle information to the computer.
 - Click **Export** directly to export the information of all the detected vehicles to the computer.

Chapter 4 Capture Parameters Configuration

4.1 Set License Plate Recognition Parameters

When there are vehicles of different types passing from different directions, set the license plate recognition parameters.

Steps



Note

The supported parameters vary with different models. The actual device prevails.

1. Go to **Configuration → Capture → Capture Parameters → License Parameters** .

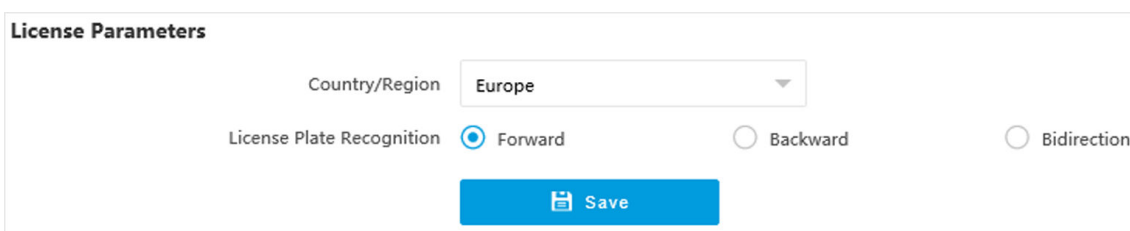


Figure 4-1 Set License Plate Recognition Parameters

2. Set **Country/Region** according to the actual needs.
3. Select **License Plate Recognition**.
 - Select **Forward** when license plates of vehicles from the approaching direction need to be recognized.
 - Select **Backward** when license plates of vehicles from the leaving direction need to be recognized.
 - Select **Bidirection** when license plates of vehicles from both the approaching direction and the leaving direction need to be recognized.
4. Click **Save**.

4.2 Set Supplement Light Parameters

Supplement light can enhance the image stabilization and adjust the brightness and color temperature.

Steps



Note

The supported parameters vary with different models. The actual device prevails.

1. Go to **Configuration → Capture → Capture Parameters → Supplement Light Parameters** .

I/O Output Mode: Constant Light Mode

Usage description:

Enable Mode: ☐ Default ☐ Time Schedule ☒ Environment Brightness

Threshold: 50

Duty Ratio(0-70): 15

Copy to I/O: ☐ F2

Save

Figure 4-2 Set Supplement Light Parameters

2. Select the I/O and set the usage.

I/O Output Mode

Constant Light Mode

The constant light supplements light for the scene.

Usage Description

Enter the usage description of the constant light.

3. Set the supplement light control mode.

- Select **Default** to disable the supplement light.
- Select **Time Schedule** when you want the supplement light to be enabled during a fixed time period. Set the start time and end time.
- Select **Environment Brightness** when you want the supplement light to be controlled by detecting the surroundings brightness automatically. Set the brightness threshold. The higher the threshold is, the harder the supplement light can be enabled.

4. **Optional:** Select other I/O(s) to copy the same settings.

5. Click **Save**.

4.3 Set Vehicle Feature Parameters

Set vehicle feature parameters if you need to detect the vehicle features of the passing vehicle.

Steps



Note

The parameters vary with different models. The actual device prevails.

1. Go to **Configuration → Capture → Capture Parameters → Vehicle Feature → Vehicle Feature**.
2. Select a channel.
3. Check the motor vehicle features that needed to be detected.
4. Click **Save**.

4.4 Set Body Picture Matting

Set body picture matting first if you need to upload body and vehicle pictures to the platform.

Steps



The function varies with different models. The actual device prevails.

1. Go to **Configuration → Capture → Capture Parameters → Vehicle Feature → Body Picture Matting**.
2. Select a channel.
3. Check **Enable Body Picture Matting**.

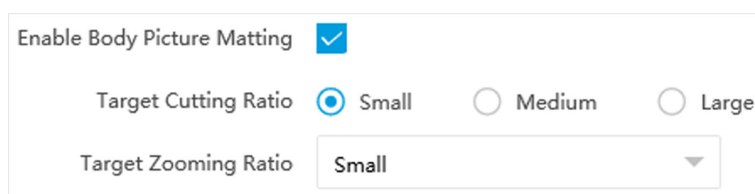


Figure 4-3 Set Body Picture Matting

4. Set body picture matting parameters according to the actual needs.
5. Click **Save**.

Result

If the device is level 1 armed, the matting pictures will be uploaded to this device directly. If the device is level 2 armed, the matting pictures will be saved to the SD/TF card and uploaded to a level 2 armed device.

4.5 Set Picture Composition

You can enable the picture composition to composite several pictures into one to make it convenient to view the violation captured pictures.

Steps



Functions and parameters vary with different models. The actual device prevails.

1. Go to **Configuration → Capture → Capture Parameters → Image Encoding and Composition → Checkpoint Image Composition**.
2. Select a channel.
3. Check **Enable Composition**.

Enable Composition ☒

One Picture

Two Pictures

Close-up Zooming Ratio

Close-up Picture No.

Close-up Offset(px)

Output Close-up Independently ☐

Save

Figure 4-4 Set Picture Composition

4. Set composition types for different picture quantities.
5. Set other composition parameters.

Close-up Zooming Ratio

The higher the value is, the larger the close-up is.

Close-up Picture No.

It is the picture where the close-up comes from.

Plate Close-up Offset

The default value is 0, which is recommended to be adopted. The device can capture close-up pictures according to the set offset when no license plate is recognized.

6. **Optional:** Check **Output Close-up Independently** to output close-up pictures independently when the picture composition is not enabled.

Note

Enabling composition and outputting close-up independently functions conflict with each other. You can only enable one.

7. Click **Save**.

4.6 Set Information Overlay

4.6.1 Set Single Picture Overlay

If you want to overlay information on the captured single pictures, set capture overlay.

Steps



Note

The supported parameters vary with different models. The actual device prevails.

1. Go to **Configuration → Capture → Capture Parameters → Text Overlay**.
2. Select a channel.
3. Select the single picture channel.
4. Check **Capture Picture Overlay**.

Percentage 100

Transparency 0

Time Format 24-hour

Date Format YYYY-MM-DD

Font Size 16*32

Foreground Color fffffff

Background Color 000000

Overlay Position ☐ Overlay on the Picture ☒ Overlay Above the Picture ☐ Overlay Below the Picture

Sync Video Overlay ☐

Overlay Number Zeroizing ☒

Overlay Plate Close-up ☐

Overlay OSD on Close-up Picture ☐

Copy to... ☐ Checkpoint Composition

Figure 4-5 Set Single Picture Overlay

5. Set the percentage, front size, color, overlay position, etc.

Percentage

It is the percentage that the overlaid information occupies on the picture. For example, if you set the percentage to 50, the overlaid information in a row will occupy up to half of the image width, and the excess content will be overlaid from a new line.

Transparency

It is the condition of viewing the live view image through the overlaid information.

Sync Video Overlay

Enable the function to synchronize the video overlay information to the captured pictures. The overlay information, font size, color, alignment, etc. will be consistent with those set in

Configuration → Video → Text Overlay on Video → Text Overlay on Video . Overlaying on the picture will be disabled.

Overlay Number Zeroizing

When the overlaid number digits are smaller than the fixed digits, 0 will be overlaid before the overlaid number. E.g., the fixed digits for lane No. is 2. If the lane No. is 1, 01 will be overlaid on the picture.

Overlay Plate Close-up

Check it to overlay license plate close-up pictures on the captured pictures. Set **Plate Picture Close-Up Zooming Ratio** to adjust the close-up picture size.

Overlay OSD on Close-up Picture

Check it to overlay the OSD information on the close-up pictures.

6. **Optional:** Check the other channel(s) to copy the same settings.

7. Select the overlay information from the list.



Note

The overlay information varies with different models. The actual device prevails.

8. Set the overlay information.

View Default Type	You can view the default overlay information.
Set Type	You can edit the type.
Set Overlay Information	For some information types, you can edit the detailed information.
Set Overlay Position	If you check it, the current information will be displayed from a new line.
Set Space	Edit the number of space between the current information and the next one from 0 to 255. 0 means there is no space.
Set Line Break Characters	Edit the number of characters from 0 to 100 between the current information line and the previous information line. 0 means no line break.
Adjust overlay sequence	Click / to adjust the display sequence of the overlay information.

9. Click **Save**.

4.6.2 Set Composite Picture Overlay

If you want to overlay information on the composite pictures, set composite picture overlay.

Steps

1. Go to **Configuration → Capture → Capture Parameters → Text Overlay** .
2. Select a channel.

3. Select composite picture channel.

4. Check **Capture Picture Overlay**.

Percentage 100

Transparency 0

Time Format 24-hour

Date Format YYYY-MM-DD

Font Size 16*32

Foreground Color fffffff

Background Color 000000

Overlay Position ☐ Overlay on the Picture ☐ Overlay Above the Picture ☒ Overlay Below the Picture

Composite Picture Capture Time First

Copy to... ☐ Checkpoint Single

Figure 4-6 Set Composite Picture Overlay

5. Set the font size, color, overlay position, etc.

Percentage

It is the percentage that the overlaid information occupies on the picture. For example, if you set the percentage to 50, the overlaid information in a row will occupy up to half of the image width, and the excess content will be overlaid from a new line.

Transparency

It is the condition of viewing the live view image through the overlaid information.

Composite Picture Capture Time

The capture time of the selected picture sequence will be overlaid on the composite picture.

6. **Optional:** Check the other channel(s) to copy the same settings.

7. Select the overlay information from the list.



Note

The overlay information varies with different models. The actual device prevails.

8. Set the overlay information.

View Default Type	You can view the default overlay information.
Set Type	You can edit the type.
Set Overlay Information	For some information types, you can edit the detailed information.

Set Overlay Position	If you check it, the current information will be displayed from a new line.
Set Space	Edit the number of space between the current information and the next one from 0 to 255. 0 means there is no space.
Set Line Break Characters	Edit the number of characters from 0 to 100 between the current information line and the previous information line. 0 means no line break.
Adjust overlay sequence	Click  /  to adjust the display sequence of the overlay information.

9. Click **Save**.

4.7 Set Image Encoding Parameters

If the captured pictures are not clear, set the resolution of the captured pictures and the picture size.

Steps

1. Go to **Configuration → Capture → Capture Parameters → Image Encoding and Composition → Image Encoding**.
2. Select a channel and set the parameters.

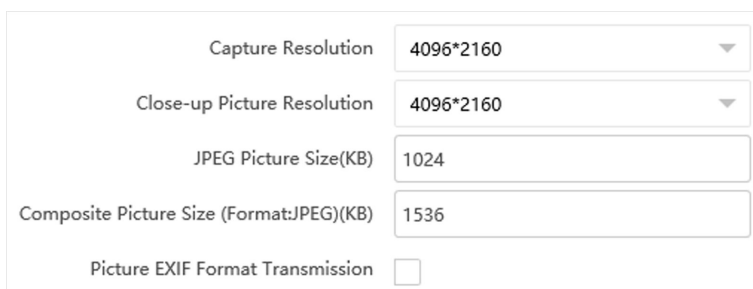


Figure 4-7 Set Image Encoding Parameters

3. Select **Capture Resolution**.
4. Select **Close-up Picture Resolution**.
5. Enter the picture size.

JPEG Picture Size

The size of the compressed captured picture. The actual size is related to the scene complexity.

Composite Picture Size

The size of the compressed composite picture. The actual size is related to the scene complexity.

Note

Only the device supporting picture composition supports composite picture size settings. The actual device prevails.

Picture EXIF Format Transmission

The captured pictures will be transmitted in the EXIF format.

6. Click **Save**.

4.8 Set Captured Image Parameters

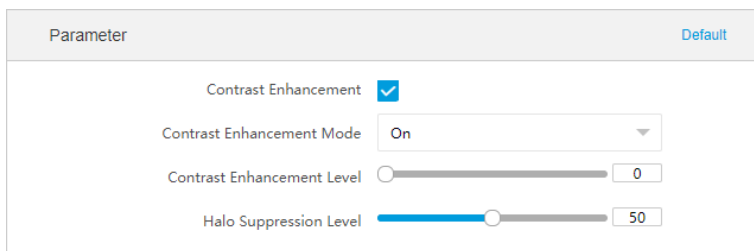
Set the parameters of captured images to raise the image quality.

Steps

Note

The function varies with different models. The actual device prevails.

1. Go to **Configuration → Capture → Capture Images → Image Parameters**.
2. Select a channel.
3. Set the captured image parameters.



Parameter	Default
Contrast Enhancement	☒
Contrast Enhancement Mode	On
Contrast Enhancement Level	0
Halo Suppression Level	50

Figure 4-8 Set Captured Image Parameters

Note

You can click **Default** to restore all the set parameters to the default settings.

Contrast Enhancement

Check **Contrast Enhancement** to capture clearer images. Select **Contrast Enhancement Mode**, and set corresponding parameters.

Contrast Enhancement Mode	Description
On	The contrast enhancement mode is always enabled.
Time	The contrast enhancement mode is enabled during the set start time and end time. In other time, it is disabled.
Brightness	The contrast enhancement mode is enabled according to the brightness of the surroundings. In this case, you can set Brightness Level .

Contrast Enhancement Level

The higher the level is, the more the contrast is enhanced.

Halo Suppression Level

Halo suppression is to suppress the halo of the vehicle headlights. The higher the level is, the more the halo is suppressed.

4.9 Set ICR

ICR adopts mechanical IR filter to filter IR in the day to guarantee the image effect, and to remove the IR filter at night to guarantee full-spectrum rays can get through the device.

Steps



Note

For the device supporting black and white mode at night, when the day-night mode is night, and **Black and White Mode at Night** has been enabled in **Configuration → Video → Camera Parameter → Camera Parameter → General Parameter**, the image displays as black and white. When **Black and White Mode at Night** is disabled, the image displays as color.

1. Go to **Configuration → Capture → Capture Images → ICR**.
2. Select a channel.
3. Select **ICR Mode**.

Auto Switch The ICR mode will switch to day or night mode automatically according to the surrounding light conditions. When the surrounding light is sufficient and higher than the set **Threshold**, the ICR mode will switch to day. When the surrounding light is insufficient and lower than the set **Threshold**, the ICR mode will switch to night.

Manual Switch Select **Day-night Mode** to switch to the day or night manually.

Schedule Switch Set **Day-night Mode**, **Start Time**, and **End Time** to switch to the day or night mode only during the set time period.

4. Click **Save**.

4.10 Debug



The debug configurations below are only provided to debug the device by the professionals.

4.10.1 Debug Device

You can enable the functions to debug the device.

Steps

1. Go to **Configuration → Capture → Advanced → System Service** .
2. Check the debug information according to your needs.



The supported parameters vary with different models. The actual device prevails.

Enable Algorithm POS Information Debug

The algorithm POS information will be overlaid on the playback image when you play back the video with the dedicated tool.

Enable Positioning Frame Debug

The positioning frames of vehicle bodies and license plates will be overlaid on the captured pictures.

Enable Closed Positioning Frame

The bottom lines of the positioning frames on the captured pictures will be displayed. The frames will be closed.

Enable LPR Area Frame

The LPR area frames on the captured pictures will be displayed.



The function is only valid in the trigger modes of checkpoint single I/O and RS-485 radar, and manual capture. In these modes, the license plate may not be included in the LPR area, and the LPR rate is low. To solve the problem, you can enable the function to add a green frame on the captured picture to check whether the license plate is included in the LPR area.

LPR Area Frame Y-Direction Deviation

If the license plate is not included in the LPR area frame, adjust the LPR area frame position in the Y-direction by pixel. Enter the deviation pixel in the text field. The value = image height × (deviation distance/100). Set the value according to the actual needs. Range: -100% to 100%. The LPR area frame moves up if the value is negative, and it moves down if the value is positive.

Enable License Plate Frame

The license plate frames will be overlaid on the captured pictures.

Enable Multi-Way Upload

Data will be uploaded in multiple set ways simultaneously.

Enable Lane Line Debug

Check it to overlay lane lines on a captured picture.

3. Click **Save**.

4.10.2 Vehicle Capture and Recognition Service

Set the vehicle capture and recognition service to debug the device.

Steps



Note

The function varies with different models. The actual device prevails.

1. Go to **Configuration → Capture → Advanced → Vehicle Capture and Recognition Service**.
 2. Check the service(s) according to your needs.
-



Note

The supported services vary with different models. The actual device prevails.

Filter Checkpoint Capture of Same Vehicle

It is used to debug the device with the same vehicle. When the same vehicle is triggered many times during a short period in the scene, the checkpoint pictures of the vehicle will not be captured. Set **Effective Time of Filtering** to filter the vehicle during the set time.

Capture Frame Priority Mode

Check it to adopt license plate recognition results that processed by the single frame recognition algorithm.

Enable License Plate Supplementary Recognition

Check it and the device will enable license plate recognition algorithm again to re-recognize the unrecognized license plates.

Do Not Capture Reverse-driving Vehicle

The reverse-driving vehicles will not be captured. For example, if you need to capture the vehicles driven from the west to the east, enable the function and the vehicles driven from the east to the west will not be captured.

Enable SIRA Protocol

For the device supporting Middle East SIRA protocol, check it to enable the protocol. Then the license plates will be overlaid on the captured pictures according to the license plate types of the Middle East license plate recognition library.

Enable Video Electric Alarm Steering Flow

In video analysis E-police application mode, you can enable the function to make statistics about the traffic flow of left turn and right turn at the intersection and upload the statistics data to the connected platform.

Enable Non-Motor Vehicle Flow Statistics

Check it to enable the non-motor vehicle flow statistics.

Enable Statistics Integral Upload

The device will upload data at every integral minute according to the set time interval under the collection mode. For example, if the set time interval is 2, the device will upload data at 8:00:00, 8:02:00, 8:04:00, etc.

Filter Two-Wheelers Without License

Check it to not capture the two-wheelers without license plates.

Enable ANR

Enable ANR (Automatic Network Replenishment) to save the videos in the condition of network disconnection, and synchronize data after the network is recovered.

Add No. After Violation Type

The No. of the captured pictures will be added after the overlaid violation type on the pictures.

Filter Violation Capture of Motorcycle

The violation pictures of motorcycles will not be captured.

Disable Non-Motor Vehicle Speed Detection

The speeds of non-motor vehicles will not be detected.

VCA Alarm for Target Picture Matting

If target picture matting is enabled, the alarms will be triggered and the matted target pictures will be uploaded via VCA protocol.

3. Click **Save**.

4.10.3 Set Image Format

You can enable smartJPEG which can save the storage space without influencing the resolution.

Steps

1. Go to **Configuration → Capture → Advanced → Image Service**.
2. Check **smartJPEG**.
3. Set image quality according to your needs.



Note

The higher the value is, the better the image quality is.

-
4. **Optional:** Set **Expansion Ratio of License Plate Image** to expand the cutout scale of license plate image.
 5. Click **Save**.

Chapter 5 Smart Display

You can view the live view image and the captured pictures in real time. The properties of the captured targets can be analyzed in real time and you can view the detailed information of the captured targets and data statistics results of the captured face pictures, motor vehicles, and non-motor vehicles.

Note

The smart display is only available for the browsers of IE 9 or above, Google Chrome 45 or above, Edge, and Firefox.

Click **Smart Display**. Refer to the figure and table below for the description of the interface.



Figure 5-1 Smart Display

Table 5-1 Smart Display Interface Description

No.	Description
1	The live view image. You can click the icons below the image to operate. Refer to Live View for details.
2	To display the captured pictures of motor vehicles, non-motor vehicles, and faces.
3	To view the detailed information of the captured targets.
4	To view the data statistics of the captured targets. You can click  or  to view more pictures.

Chapter 6 View Real-Time Picture

You can view the real-time captured pictures and license plate information.

Steps

 Note

The supported parameters vary with different models. The actual device prevails.

1. Go to **Live View** → **Real-Time Capture** .
2. Click **Arming**.
3. Select an item from the list, and you can view the capture scene picture and recognized license plate information.

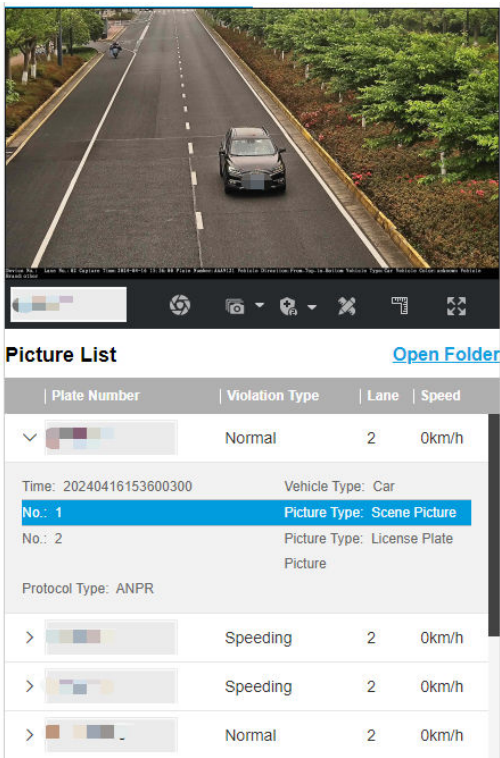


Figure 6-1 Real-Time Capture

4. **Optional:** You can also do the following operations.



- **Level 1 Arming** can only connect one client or web. The uploaded pictures will not be stored in the storage card. The pictures in the storage card will be uploaded to the level 1 arming.
- **Level 2 Arming** can connect three clients or webs. The pictures will be uploaded to the client/web, and stored in the storage card.
- **Disarming** is to cancel the alarm status or real-time picture.



Click it to measure the license plate pixel. Click it again to disable the measurement.



Click it to enable the ruler to measure the license plate.



Click it to enable manual capture.



Click it to set continuous capture parameters and the device will capture pictures according to the set interval.

- **Capture Times:** Up to five pictures can be captured per continuous capture.
- **Interval:** Up to four intervals can be set, and the default interval is 100 ms.



Display the images in full screen mode.

**Open
Folder**

Open the saving path of captured pictures.

Chapter 7 View Traffic Statistics

7.1 View Real-Time Traffic Statistics

You can view the real-time traffic statistics if the device supports this function.

Steps



Note

This function varies with different models. The actual device prevails.

1. Go to **Configuration** → **Capture** → **Advanced** → **Traffic Parameters** → **Traffic Parameters** .
2. Check **Enable**.
3. Set **Interval**.
4. Go to **Live View** → **Traffic Statistics** to view real-time data.

7.2 View Traffic Flow Statistics

The device supports counting and uploading traffic follow data.

Steps



Note

This function varies with different models. The actual device prevails.

1. Go to **Configuration** → **Capture** → **Advanced** → **Traffic Parameters** → **TPS Parameters** .
2. Check **Enable**.
3. Set **Interval**.
4. Click **Save**.

Chapter 8 Live View and Local Configuration

8.1 Live View

8.1.1 Start/Stop Live View

Click  to start live view. Click  to stop live view.

8.1.2 Select Image Display Mode

Click  to select an image display mode.

8.1.3 Select Window Division Mode

Click  to select a window division mode.

8.1.4 Select Stream Type

Click  to select the stream type. It is recommended to select the main stream to get the high-quality image when the network condition is good, and select the sub-stream to get the fluent image when the network condition is not good enough. The third stream is custom.



Note

The third stream varies with different models. The actual device prevails.

8.1.5 Capture Picture Manually

You can capture pictures manually on the live view image and save them to the computer.

Steps

1. Click  to capture a picture.
2. **Optional:** Click **Configuration** → **Local** → **Live View Parameters** and select **Image Format**.
3. **Optional:** Click **Configuration** → **Local** → **Picture and Clip Settings** to view the saving path of snapshots in live view.

8.1.6 Record Manually

You can record videos manually on the live view image and save them to the computer.

Steps

1. Click  to start live view.
2. Click  to start recording.
3. Click  to stop recording.
4. **Optional:** Click **Configuration** → **Local** → **Record File Settings** to view the saving path of record files.

8.1.7 Enable Digital Zoom

You can enable digital zoom to zoom in a certain part of the live view image.

Steps

1. Click  to start live view.
2. Click  to enable digital zoom.
3. Place the cursor on the live view image position which needs to be zoomed in. Drag the mouse rightwards and downwards to draw an area.
The area will be zoomed in.
4. Click any position of the image to restore to normal image.
5. Click  to disable digital zoom.

8.1.8 Enable Regional Focus

Steps



Note

The function varies with different models. The actual device prevails.

1. Click .
2. Drag the cursor from the upper left corner to the lower right corner to select the area that needs to be focused.

Result

The selected area is focused.

8.1.9 Select Video Mode

Set the video mode when adjusting the device focus during construction.

Click  and select  when the device is running normally.

8.2 PTZ Operation

Click **Live View**. Click  and click  to show the PTZ control panel.



Note

- The PTZ supports power-off memory. When the device is suddenly cut off power or restarted normally, it can automatically return to the position before the power cut or reboot.
- The PTZ function varies with different models. The actual device prevails.
- Other unmentioned buttons are reserved buttons.

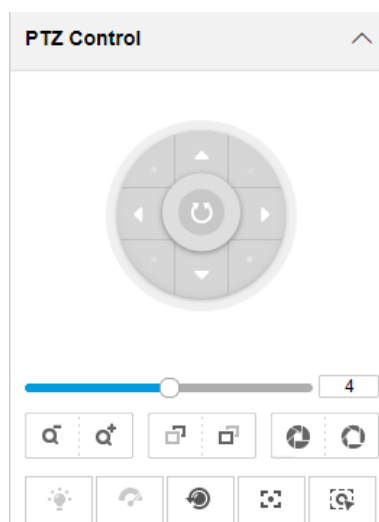


Figure 8-1 PTZ Control Panel

Table 8-1 Button Description

Button	Description
	Adjust the PTZ speed.
	Zoom + and Zoom - • Hold  to zoom in the scene. • Hold  to zoom out the scene.
	Focus + and Focus - • Hold  under the manual focus mode to make near objects become clear and distant objects become vague. • Hold  to make distant objects become clear and near objects become vague.
	Iris + and Iris -

Button	Description
	• Hold  to increase the iris diameter when in a dark environment. • Hold  to decrease the iris diameter when in a bright environment.
	Lens Initialization It is applicable to devices with motorized lenses. You can use this function when overcoming image blurs caused by overtime zooming or focusing.
	Auxiliary Focus It is applicable to devices with motorized lenses. Use this function to focus the lens automatically and make images become clear.
	Heating and Defogging If water mist exists on the lens, you can click the icon to heat the lens for 20 minutes to remove the water mist.

8.3 Local Configuration

Go to **Configuration** → **Local** to set the live view parameters and change the saving paths of videos, captured pictures, scene pictures, etc.

Note

The parameters vary with different models. The actual device prevails.

Live View Parameters

Protocol Type	☒ TCP	☐ UDP	☐ HTTP	☐ HTTPS
Stream Type	☒ Main Stream	☐ Sub-Stream		
Live View Performance	☐ Shortest Delay	☒ Balanced	☐ Fluency	
Decoding Type	☒ Software Decoding	☐ Hardware Decoding		
Rules Information	☐ Enable	☒ Disable		
Feature Information	☐ Enable	☒ Disable		
Image Size	☒ Auto-fill	☐ 4:3	☐ 16:9	
Image Format	☒ JPEG	☐ BMP		
Rendering Engine	☐ D3D9	☒ D3D11		
Radar Track	☐ Enable	☒ Disable		

Record File Settings

Record File Size	☐ 256M	☒ 512M	☐ 1G
Save record files to	C:\Users\ \PluginWeb\RecordFiles	Browse	
Save downloaded files to	C:\Users\ \PluginWeb\DownloadFiles	Browse	

Picture and Clip Settings

Save snapshots in live view to	C:\Users\ \PluginWeb\CaptureFiles	Browse
Save downloaded pictures to	C:\Users\ \PluginWeb\ViewPics	Browse
Save scene pictures to	C:\Users\ \PluginWeb\ScenePics	Browse
Save snapshots when playback to	C:\Users\ \PluginWeb\PlaybackPics	Browse
Save clips when playback to	C:\Users\ \PluginWeb\PlaybackFiles	Browse

Save

Figure 8-2 Local Configuration

Protocol Type

Select the network transmission protocol according to the actual needs.

TCP

Ensures complete delivery of streaming data and better video quality, but the real-time transmission will be affected.

UDP

Provides real-time audio and video streams.

HTTP

Gets streams from the device by a third party client.

HTTPS

Gets streams in https format.

Stream Type

Main Stream

Select it to get the high-quality image when the network condition is good.

Sub-Stream

Select it to get the fluent image when the network condition is not good enough.

Live View Performance

Shortest Delay

The video is real-time, but its fluency may be affected.

Balanced

Balanced mode considers both the real time and fluency of the video.

Fluency

When the network condition is good, the video is fluent.

Decoding Type

Software Decoding

Decode via software. It takes up more CPU resources but provides images with better quality when it compares to the hardware decoding.

Hardware Decoding

Decode via GPU. It takes up less CPU resources but provides images with worse quality when it compares to the software decoding.

Rules Information

If you enable this function, tracking frames will be displayed on the live view interface when there are vehicles passing.

Feature Information

Enable it to display feature information of the target on the live view image.

Image Size

The display ratio of the live view image.

Image Format

The saving format of manually captured images.

Rendering Engine

Select the rendering API of the browser. D3D9 uses fixed rendering pipeline. D3D11 uses programmable graphics pipeline, in which the shader replaces the traditional fixed rendering pipeline to improve visual effects and enhance the picture quality.

Radar Track

When the radar is connected, enable it to generate and overlay the radar tracks.

Record File Size

Select the packed size of the manually recorded video files. After the selection, the max. record file size is the value you selected.

Save record files to

Set the saving path of the manually recorded video files.

Save downloaded files to

Set the saving path of the download files.

Save snapshots in live view to

Set the saving path of the manually captured pictures in live view mode.

Save downloaded pictures to

Set the saving path of the downloaded pictures.

Save scene picture to

Set the saving path of the captured pictures in **Live View → Real-Time Capture** .

Save snapshots when playback to

Set the saving path of the manually captured pictures in playback mode.

Save clips when playback to

Set the saving path of the clips in playback mode.

Chapter 9 Record and Capture

9.1 Set Storage Path

9.1.1 Set Storage Card

If you want to store the files to the storage card, make sure you insert and format the storage card in advance.

Before You Start

Insert the storage card to the device.

Steps

1. Go to **Configuration → Storage → Storage Management → HDD Management → HDD Storage** .

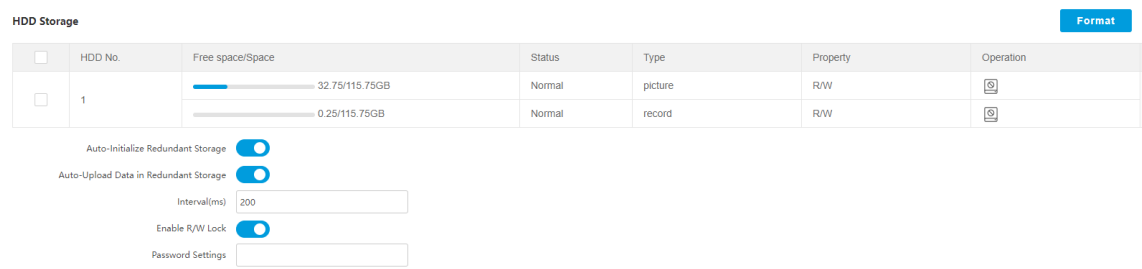


Figure 9-1 Set Storage Card

2. Format the storage card in two ways.
- Check the storage card, and click **Format** to format it manually.

Note

For the newly installed storage card, you need to format it manually before using it normally.

- If you want to format the storage card automatically when the card is abnormal, enable **Auto-Initialize Redundant Storage**.

Note

If you enable **Auto-Initialize Redundant Storage**, reboot the device to take the settings into effect.

3. Set other parameters.

Auto-Upload Data in Redundant Storage

If the device has been connected to the platform, and you want to upload the storage card information automatically, enable the function and set the interval.

Enable R/W Lock

Enable the function to encrypt the data in the storage card to protect the data from being stolen. Set the encryption password.

4. Click **Save**.

9.1.2 Set Quota

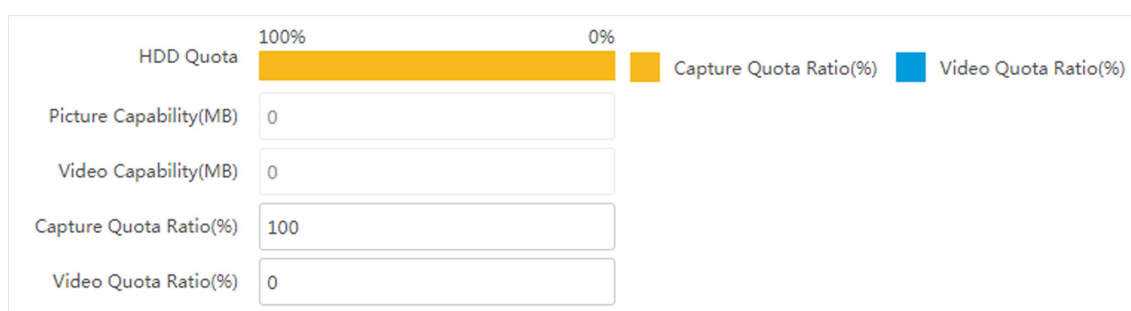
Set the video and picture ratio in the storage.

Before You Start

Install the storage card.

Steps

1. Go to **Configuration → Storage → Storage Management → HDD Management → HDD Quota** .



HDD Quota	
Picture Capability(MB)	0
Video Capability(MB)	0
Capture Quota Ratio(%)	100
Video Quota Ratio(%)	0

Figure 9-2 Set Quota

2. Set **Capture Quota Ratio** and **Video Quota Ratio** according to the actual needs.



The percentage sum of the capture and video quota ratio should be 100 %.

3. Click **Save**.

What to do next

Format the storage card after the settings.

9.1.3 Set FTP

Set FTP parameters if you want to upload the captured pictures to the FTP server.

Before You Start

Set the FTP server, and ensure the device can communicate normally with the server.

Steps

1. Go to **Configuration → Network → Data Connection → FTP** .

Enable FTP☒

Number of Enabled FTP ☒ One ☐ Two

FTP1

Server Address TypeIP

Server Address0.0.0.0

Port21

User Name

Password*****

Confirm Password*****

Path/Picture Name Encoding ModeUTF-8

Connection ModeTransitory Connection

FTP Test

Not Upload Plate Close-up☐

Upload Face Picture☐

Upload Target Picture☐

Upload Additional Information to FTP☐

Upload CSV Vehicle Passing Statistic...☐

Protocol TypeFTP

Directory StructureSave in Root Directory

Parent DirectoryNone

Level 2 DirectoryNone

Level 3 DirectoryNone

Level 4 DirectoryNone

Level 5 DirectoryNone

Level 6 DirectoryNone

Figure 9-3 Set FTP

- 2. Check **Enable FTP**.
- 3. Select **Number of Enabled FTP**.

 Note

You can only enable one FTP if the device does not support the violation capture. If more than one FTP is enabled, you should set upload data type for each FTP according to your needs.

- 4. Set FTP parameters.
 - 1) Select **Sever Address Type** and enter corresponding information.
 - 2) Enter **Port**.
 - 3) Enter **User Name** and **Password**, and confirm the password.
 - 4) Select **Protocol Type**.

 Note

If you select **SFTP**, the files will be transmitted via encryption mode to guarantee security.

- 5) Select **Directory Structure**.

 Note

You can customize the directory structure according to your needs.

- 6) Select **Path/Picture Name Encoding Mode**.

UTF-8

UNICODE encoding.

- 7) Select **Connection Mode**.

Transitory Connection

The connection is temporarily made for one data transmission task. After this task, the connection will be broken.

Persistent Connection

The connection is made for long-term data transmission, which will be broken only when the device is disconnected from the FTP server.

5. **Optional:** Enable upload functions.



Note

Supported functions vary with different models. The actual device prevails.

Not Upload Plate Close-up

The close-up pictures of a license plate will not be uploaded.

Upload Face Picture

Upload face close-up pictures to the FTP server.

Upload Target Picture

Upload the pictures of the target detection area to the FTP server.

Upload Additional Information to FTP

Add related information when uploading data to the FTP server.

Upload CSV Vehicle Passing Statistics Information to FTP

Upload the CSV vehicle passing statistics information to the FTP server.

6. **Optional:** Click **FTP Test** to check the FTP server.

7. Set naming rules and separators according to the actual needs.



Note

For the European version, select **Custom** and enter **adr** or **ADR** in the text field, and the ADR (Autorisation Dangerous Road) vehicle plate number will be added in the corresponding vehicle picture name.

8. **Optional:** Edit **OSD Information** which can be uploaded to the FTP server with the pictures to make it convenient to view and distinguish the data.

9. Click **Save**.

9.1.4 Set Cloud Storage

Cloud storage is a kind of network storage. It can be used as the extended storage to save the captured pictures.

Before You Start

- Arrange the cloud storage server.
 - You have enabled level 1 arming in **Live View → Real-Time Capture**.
-

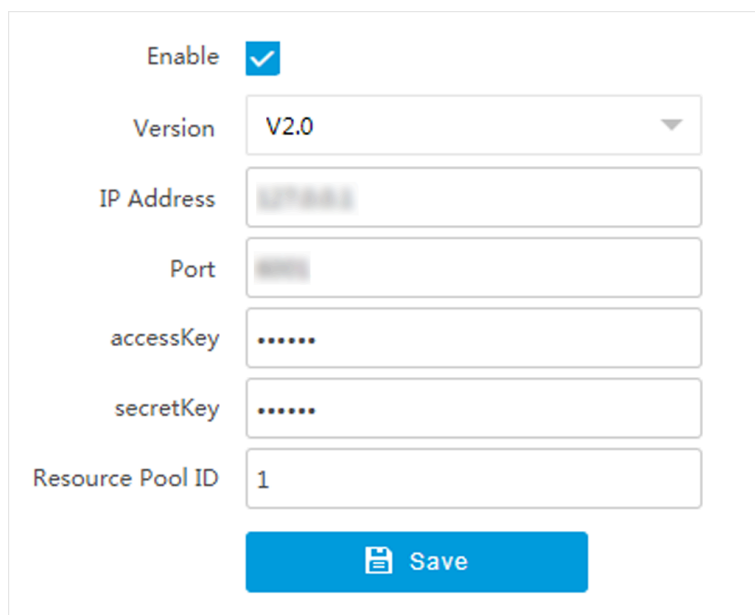


Note

The real-time capture should be used with dedicated platform.

Steps

1. Go to **Configuration → Storage → Storage Management → Cloud Storage**.



The screenshot shows a configuration form for cloud storage. It has the following fields and values:

- Enable:** A checkbox that is checked with a blue checkmark.
- Version:** A dropdown menu showing 'V2.0'.
- IP Address:** A text input field with a blurred value.
- Port:** A text input field with a blurred value.
- accessKey:** A text input field with six dots.
- secretKey:** A text input field with six dots.
- Resource Pool ID:** A text input field containing the number '1'.
- Save:** A blue button with a floppy disk icon and the text 'Save'.

Figure 9-4 Set Cloud Storage

2. Check **Enable**.

3. Select **Version**.

V1.0 a. Enter **IP Address** and **Port**

b. Enter **User Name** and **Password**.

c. Enter **Cloud Storage ID** and **Violation Cloud Storage ID** according to the server storage area No.

V2.0 a. Enter **IP Address** and **Port**

b. Enter **accessKey** and **secretKey**.

c. Enter **Resource Pool ID** according to the server storage area No. of uploading pictures.

4. Click **Save**.

9.2 Set Record Schedule

Set record schedule to record video automatically during configured time periods.

Before You Start

Install the storage card.

Steps

1. Go to **Configuration → Storage → Schedule Settings → Record Schedule**.

2. Select a channel.

3. **Optional:** Enable the functions below according to your needs.

Enable Recording Overwriting

When the storage is full, the earliest videos will be overwritten.

Enable Storing Expiration

Enable the function and set **Expired Time** for the recorded videos stored in the storage card. Beyond the time, the files will be overwritten.

4. Enable the record schedule.

Advanced

Record Stream: Main Stream

Enable Recording Overwriting: ☒

Enable Storing Expiration: ☒

Expired Time (day): 1

Enable Record Schedule: ☒

Record Configuration

Record Type: Continuous

Delete

	0	2	4	6	8	10	12	14	16	18	20	22	24	
Mon	[Continuous Recording Bar]													📄
Tue	[Continuous Recording Bar]													📄
Wed	[Continuous Recording Bar]													📄
Thu	[Continuous Recording Bar]													📄
Fri	[Continuous Recording Bar]													📄
Sat	[Continuous Recording Bar]													📄
Sun	[Continuous Recording Bar]													📄

Continuous

Save

Figure 9-5 Set Record Schedule

5. Select **Record Type**.

6. Drag the cursor on the time bar to set a recording time.



Note

Up to 8 time periods can be set on a time bar.

7. Adjust the recording time.

- Click a set recording period and enter the start time and end time in the pop-up window.
- Drag two ends of the set recording period bar to adjust the length.
- Drag the whole set recording period bar and relocate it.

8. **Optional:** Delete recording periods.

- Click a set recording period and click **Delete** in the pop-up window.
- Click a set recording period and click **Delete** on the record configuration interface.

9. **Optional:** Click 📄 to copy set recordings to other days.

10. Click **Save**.

Result

The device will only record at the set periods.

9.3 Set Snapshot Schedule

You can enable storage expiration of the snapshots saved in the storage card.

Before You Start

Install the storage card.

Steps

1. Go to **Configuration** → **Storage** → **Schedule Settings** → **Snapshot Schedule**.
2. Select a channel.
3. Enable storing expiration.

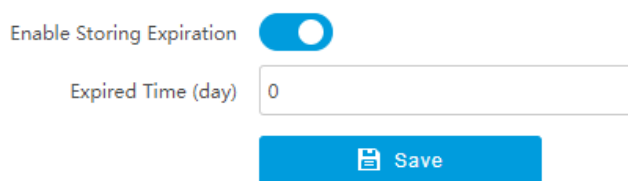


Figure 9-6 Set Snapshot Schedule

4. Set **Expired Time**.
5. Click **Save**.

Result

Beyond the set expired time, the snapshots saved in the storage card will be overwritten.

9.4 Search Picture

You can search the captured pictures stored in the storage card and export the pictures you need.

Before You Start

Install the storage card, and ensure the storage status is normal.

Steps

1. Click **Picture**.
2. Set search conditions.



Note

Search conditions vary with different models. The actual device prevails.

3. Click **Search**.

The searched pictures information will be displayed in the picture list.



Note

If you have set level 1 arming for the device, the captured pictures will not be saved in the storage card. Go to the saving path of scene pictures to view them. You can go to **Configuration** → **Local** to check the saving path.

4. Optional: You can do the following operations.

Download pictures	Check picture(s) and click Download to save them to local. The downloaded picture(s) will be marked as "Downloaded". You can go to Configuration → Local to check the saving path.
View picture details	Click Live View to view the picture details, such as the license plate number, vehicle type, etc.

9.5 Playback

You can search, play back, and download videos that stored on the storage card.

Steps

1. Click **Playback**.
2. Select a channel.
3. Select a date.
4. Click **Search**.
5. Click  to start playback.
6. **Optional:** You can also do the following operations.

Set playback time	• Drag the time bar to the target time and click  to play the video. • Click the current time point showed above the time bar and enter the target time point in the popup window. Click OK and click  to play the video.
Capture image	Click  to capture an image.
Clip record	Click  /  to start/stop clipping the record.
Play back in single frame	Click  once to play back the video in one frame.
Download record	a. Click . b. Select the start time and end time. c. Click Search. d. Check record files that need to be downloaded. e. Click Download.
Stop playback	Click  to stop playback.
Slow forward	Click  to slow down the playback.
Fast forward	Click  to speed up the playback.

Digital zoom

Click  to enable digital zoom.

Click  to disable digital zoom.

Adjust volume

Click  to enable volume.

Chapter 10 Encoding and Display

10.1 Set Video Encoding Parameters

Set video encoding parameters to adjust the live view and recording effect.

- When the network signal is good and the speed is fast, you can set high resolution and bitrate to raise the image quality.
- When the network signal is bad and the speed is slow, you can set low resolution, bitrate, and frame rate to guarantee the image fluency.
- When the network signal is bad, but the resolution should be guaranteed, you can set low bitrate and frame rate to guarantee the image fluency.
- Main stream stands for the best stream performance the device supports. It usually offers the best resolution and frame rate the device can do. But high resolution and frame rate usually means larger storage space and higher bandwidth requirements in transmission. Sub-stream usually offers comparatively low resolution options, which consumes less bandwidth and storage space. Third stream is offered for customized usage.

Steps



Note

The supported parameters vary with different models. The actual device prevails.

1. Go to **Configuration → Video → Video Encoding → Video Encoding**.
2. Select a channel.
3. Set the parameters.

Stream Type

Select the stream type according to your needs.



Note

The supported stream types vary with different models. The actual device prevails.

Bitrate

Select relatively large bitrate if you need good image quality and effect, but more storage spaces will be consumed. Select relatively small bitrate if storage requirement is in priority.

Frame Rate

It is to describe the frequency at which the video stream is updated and it is measured by frames per second (fps). A higher frame rate is advantageous when there is movement in the video stream, as it maintains image quality throughout.

Resolution

The higher the resolution is, the clearer the image will be. Meanwhile, the network bandwidth requirement is higher.

SVC

Scalable Video Coding (SVC) is an extension of the H.264/AVC and H.265 standard. Enable the function and the device will automatically extract frames from the original video when the network bandwidth is insufficient.

Bitrate Type

Select the bitrate type to constant or variable.

Video Quality

When bitrate type is variable, 6 levels of video quality are selectable. The higher the video quality is, the higher requirements of the network bandwidth.

Profile

When you select H.264 or H.265 as video encoding, you can set the profile. Selectable profiles vary according to device models.

I Frame Interval

It refers to the number of frames between two key frames. The larger the I frame interval is, the smaller the stream fluctuation is, but the image quality is not that good.

Video Encoding

The device supports multiple video encoding types, such as H.264, H.265, and MJPEG. Supported encoding types for different stream types may differ. H.265 is a new encoding technology. Compared with H.264, it reduces the transmission bitrate under the same resolution, frame rate, and image quality.

4. Click **Save**.

10.2 Set Image Parameters

You can adjust the image parameters to get clear image.

Steps



Note

The supported parameters may vary with different models. The actual device prevails.

1. Go to **Configuration → Video → Camera Parameter → Camera Parameter**.
2. Select a channel.
3. Set the camera parameters.

▼ General Parameter

Default

Saturation

50

Sharpness

50

White Balance

Auto WB2

▼

White Balance Level

50

WDR Mode

Off

▼

Advanced Settings

Hide Details ^

Brightness Enhancement at Night

50

Enable Defog

☐

Light Compensation on Licence Plate

☒

Sensitivity

50

Enable Gamma Correction

☐

Black and White Mode at Night

☒

> Video

Default

Figure 10-1 Set Image Parameters

Note

- The supported parameters vary with different models. The actual device prevails.
 - You can click **Default** to restore the parameters to default settings.
-

General Parameter

Saturation

It refers to the colorfulness of the image color.

Sharpness

It refers to the edge contrast of the image.

White Balance

It is the white rendition function of the device used to adjust the color temperature according to the environment.

WDR Mode

Wide Dynamic Range (WDR) can be used when there is a high contrast of the bright area and the dark area of the scene.

Select **WDR Switch** and set corresponding parameters according to your needs.

On

Set **WDR Level**. The higher the level is, the higher the WDR strength is.

Time

Enable WDR according to the set time period and level.

Brightness

Set **Light Threshold** and **WDR Level**. When the brightness reaches the threshold, WDR will be enabled.

Brightness Enhancement at Night

The scene brightness will be enhanced at night automatically.

Enable Defog

Enable defog to get a clear image in foggy days.

Light Compensation on License Plate

Check it. The plate brightness compensation can be realized, and various light supplement conditions can be adapted via setting license plate expectant brightness and supplement light correction coefficient. The higher the sensitivity is, the easier this function can be enabled.

Enable Gamma Correction

The higher the gamma correction value is, the stronger the correction strength is.

Black and White Mode at Night

When ICR is in night mode, you can check it to keep the video in black and white mode at night.

Video

Brightness

It refers to the brightness the image.

Contrast

It refers to the contrast of the image. Set it to adjust the levels and permeability of the image.

Shutter

If the shutter speed is quick, the details of the moving objects can be displayed better. If the shutter speed is slow, the outline of the moving objects will be fuzzy and trailing will appear.

Gain

It refers to the upper limit value of limiting image signal amplification. It is recommended to set a high gain if the illumination is not enough, and set a low gain if the illumination is enough.

Hue Range

Select the range to adapt to the display.

3D DNR

Digital Noise Reduction (DNR) reduces the noise in the video stream.

In **Normal Mode**, the higher the **3D DNR Level** is, the stronger the noise will be reduced. But if it is too high, the image may become fuzzy.

In **Expert Mode**, set **Spatial Intensity** and **Time Intensity**. If the space domain intensity is too high, the outline of the image may become fuzzy and the details may lose. If the time domain intensity is too high, trailing may appear.

2D DNR

The higher the **2D DNR Level** is, the stronger the noise will be reduced. But if it is too high, the image may become fuzzy.

Slow Shutter

This function can be used in underexposure condition. It lengthens the shutter time to ensure full exposure. The higher **Slow Shutter Level** is, the slower the shutter speed is.

Video Standard

Select the video standard according to the actual power supply frequency.

4. **Optional:** You can click  under the live view image to enable digital zoom. Refer to **Enable Digital Zoom** for details.
5. **Optional:** Click **Capture Test** to check the image effect.

10.3 Set ROI

ROI (Region of Interest) encoding helps to assign more encoding resources to the region of interest, thus to increase the quality of the ROI whereas the background information is less focused.

Before You Start

Please check the video encoding type. ROI is supported when the video encoding type is H.264 or H.265.

Steps

1. Go to **Configuration → Video → Video Encoding → ROI**.
2. Select a channel and set the parameters.

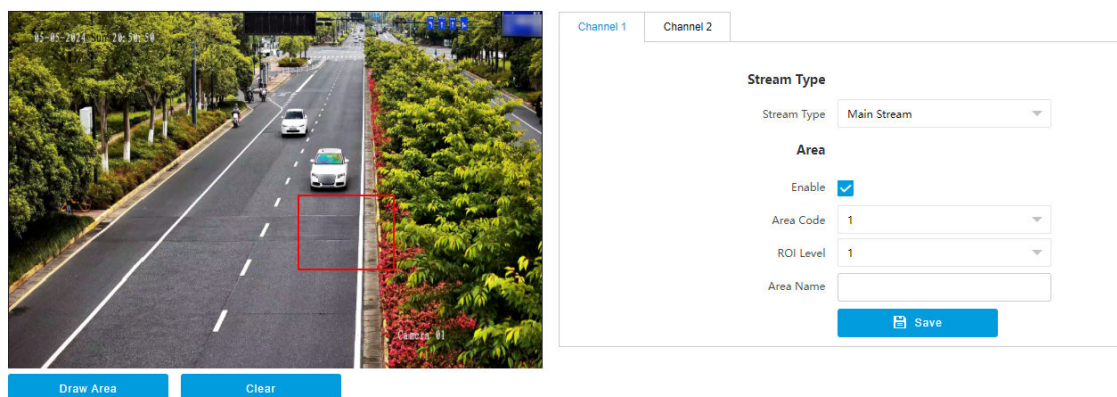


Figure 10-2 Set ROI

3. Select **Stream Type**.
4. Set ROI region.
 - 1) Check **Enable**.
 - 2) Select **Area Code**.
 - 3) Click **Draw Area**.
 - 4) Drag the mouse on the live view image to draw a fixed area.
 - 5) Select the fixed area that needs to be adjusted and drag the mouse to adjust its position.
5. Select **ROI Level** and enter **Area Name**.



Note

The higher the ROI level is, the clearer the image of the detected area is.

6. Click **Save**.
7. **Optional:** Select other area codes and repeat the steps above if you need to draw multiple fixed areas.

10.4 Enable Regional Exposure

Enable regional exposure to adjust the brightness of the whole live view image according to the drawn partial area.

Steps

1. Go to **Configuration → Video → Video Encoding → BLC**.
2. Select a channel.
3. Check **Enable**.
4. Drag the mouse to draw an area.

The brightness of the whole live view image will be adjusted according to the drawn area.

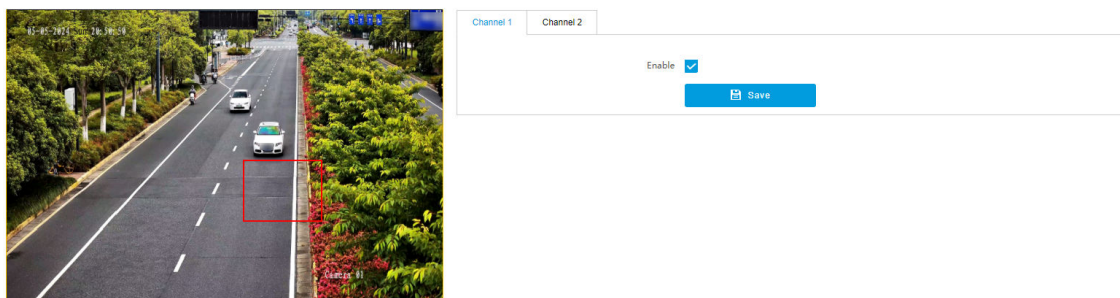


Figure 10-3 Enable Regional Exposure

5. Click **Save**.

10.5 Set OSD

You can customize OSD information on the live view.

Steps

1. Go to **Configuration → Video → Text Overlay on Video → Text Overlay on Video**.



Note

The supported functions vary with different models. The actual device prevails.

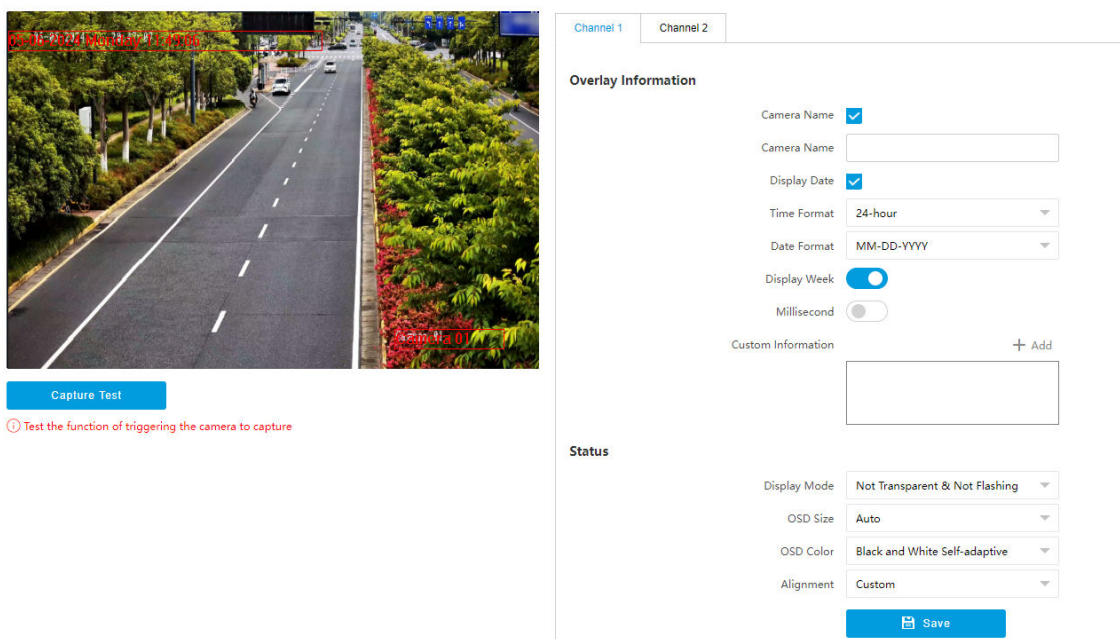


Figure 10-4 Set OSD

2. Set display contents.

1) Check **Camera Name**.

2) Enter **Camera Name**.

3) Check **Display Date**, and set the time and date format.

4) Enable **Display Week** or **Millisecond** according to your needs.

3. **Optional:** Click **Add** and enter information if you want to add custom information.



Note

Up to 6 items of custom information can be added.

4. Set display properties (size, color, etc.).

5. Select **Alignment**.



Note

If you select **Align Left** or **Align Right**, set **Min. Horizontal Margin** and **Min. Vertical Margin**.

6. Drag the red frames on the live view image to adjust their positions.

7. Click **Save**.

Result

The set OSD will be displayed in live view image and recorded videos.

Chapter 11 Network Configuration

11.1 Set IP Address

IP address must be properly configured before you operate the device over network. IPv4 and IPv6 are both supported. Both versions can be configured simultaneously without conflicting to each other.

Steps



Note

The supported parameters vary with different models. The actual device prevails.

1. Go to **Configuration → Network → Network Parameters → Network Interface** .

NIC Settings

NIC Type	10M/100M/1000M Auto ▼
DHCP	☐
IPv4 Address	
IPv4 Subnet Mask	
IPv4 Default Gateway	
IPv6 Mode	DHCP ▼
IPv6 Address	::
IPv6 Prefix Length	64
IPv6 Default Gateway	
Mac Address	
MTU	
Multicast Address	

DNS Server

Preferred DNS Server	
----------------------	----------------------

Save

Figure 11-1 Set IP Address

2. Set network parameters.

NIC Type

Select a NIC (Network Interface Card) type according to your network condition.

IPv4

Two modes are available.

DHCP

The device automatically gets the IP parameters from the network if you check **DHCP**. The device IP address is changed after enabling the function. You can use SADP to get the device IP address.



The network that the device is connected to should support DHCP (Dynamic Host Configuration Protocol).

Manual

You can set the device IP parameters manually. Enter **IPv4 Address**, **IPv4 Subnet Mask**, and **IPv4 Default Gateway**.

IPv6

Three IPv6 modes are available.

Route Advertisement

The IPv6 address is generated by combining the route advertisement and the device Mac address.



Route advertisement mode requires the support from the router that the device is connected to.

DHCP

The IPv6 address is assigned by the server, router, or gateway.

Manual

Enter **IPv6 Address**, **IPv6 Subnet Mask**, and **IPv6 Default Gateway**. Consult the network administrator for required information.

MTU

It stands for maximum transmission unit. It is the size of the largest protocol data unit that can be communicated in a single network layer transaction.

The valid value range of MTU is 1280 to 1500.

Multicast

Multicast is group communication where data transmission is addressed to a group of destination devices simultaneously. After setting the IP address of the multicast host, you can send the source data efficiently to multiple receivers.

DNS

It stands for domain name server. It is required if you need to visit the device with domain name. And it is also required for some applications (e.g., sending email). Set **Preferred DNS Address** properly if needed.

3. Click **Save**.

11.2 Set Port

The device port can be modified when the device cannot access the network due to port conflicts.

Go to **Configuration → Network → Network Parameters → Port** for port settings.

The screenshot displays a configuration window titled 'Port' with several sections for different protocols. Each section includes an 'Enable' checkbox and a text input field for the port number.

Protocol	Enable	Port
HTTP Port	☒	80
HTTPS Port	☐	443
RTSP Port	☒	554
SDK Port	☐	8000
SADP Port	☒	
SDK over TLS Port	☐	8433

Figure 11-2 Set Port

HTTP Port

It refers to the port through which the browser accesses the device. For example, when the **HTTP Port** is modified to 81, you need to enter ***http://192.168.1.64:81*** in the browser for login.

HTTPS Port

It refers to the port through which the browser accesses the device, but certificate verification is needed.

RTSP Port

It refers to the port of real-time streaming protocol.

SDK Port

It refers to the port through which the client adds the device.

SADP Port

It refers to the port through which the SADP software searches the device.

SDK over TLS Port

It refers to the port that adopts TLS protocol over the SDK service, to provide safer data transmission.



Note

- After editing the port, access to the device via the new port.
 - Reboot the device to bring the new settings into effect.
 - The supported ports vary with different models. The actual device prevails.
-

11.3 Set IEEE 802.1X

IEEE 802.1X is a port-based network access control. It enhances the security level of the LAN/WLAN. When devices connect to the network with IEEE 802.1X standard, the authentication is needed.

Steps

1. Go to **Configuration → Network → Network Parameters → 802.1X**.

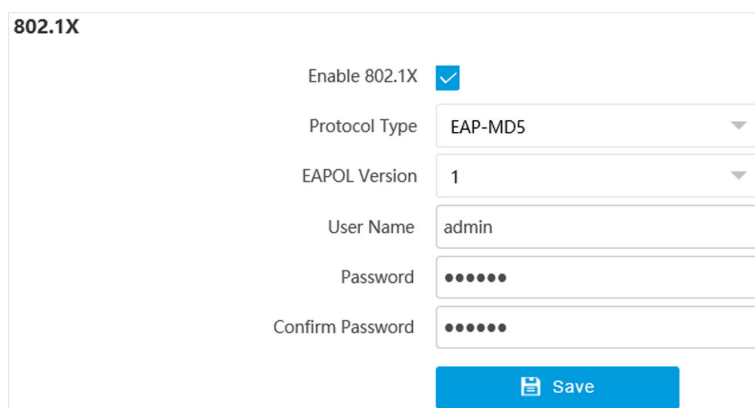


Figure 11-3 Set IEEE 802.1X

2. Check **Enable 802.1X**.
3. Select **Protocol Type** and **EAPOL Version**.

Protocol Type

The authentication server must be configured. Register a user name and password for 802.1X in the server in advance. Enter the user name and password for authentication.

EAPOL Version

The EAPOL version must be identical with that of the router or the switch.

4. Enter **User Name** and **Password** registered in the server.
5. Confirm the password.
6. Click **Save**.

11.4 Set DDNS

You can use the Dynamic DNS (DDNS) for network access. The dynamic IP address of the device can be mapped to a domain name resolution server to realize the network access via domain name.

Before You Start

- Register the domain name on the DDNS server.
- Set the LAN IP address, subnet mask, gateway, and DNS server parameters. Refer to **Set IP Address** for details.
- Complete port mapping. The default ports are 80, 8000, and 554.

Steps

1. Go to **Configuration → Network → Network Parameters → DDNS**.

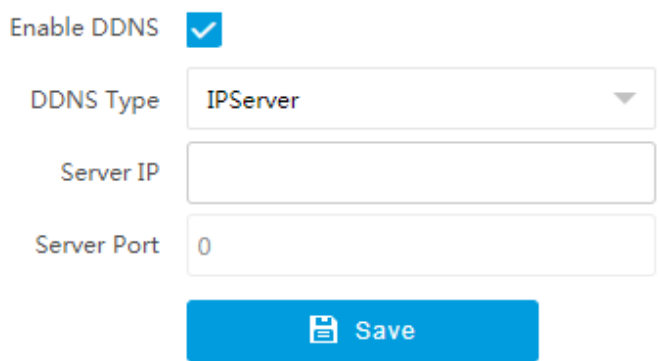


Figure 11-4 Set DDNS

2. Check **Enable DDNS**.
3. Enter the server address and other information.



Note

You can select **IPServer**, **DynDNS**, and **NO-IP** for the DDNS type.

4. Click **Save**.
5. Access the device.

By Browsers	Enter the domain name in the browser address bar to access the device.
By Client Software	Add domain name to the client software. Refer to the client software manual for specific adding methods.

11.5 Set SNMP

You can set the SNMP network management protocol to get the alarm event and exception messages in network transmission.

Before You Start

Download the SNMP software and manage to receive the device information via SNMP port.

Steps

1. Go to **Configuration → Network → Network Parameters → SNMP**.

The screenshot displays the SNMP configuration page, organized into three main sections: **SNMP v1/v2c**, **SNMP v3**, and **SNMP Other Settings**.

- SNMP v1/v2c:** Includes checkboxes for 'Enable SNMPv1' and 'Enable SNMPv2c'. Below these are text input fields for 'Read SNMP Community' (set to 'public'), 'Write SNMP Community' (set to 'private'), 'Trap Address', 'Trap Port', and 'Trap Community' (set to 'public').
- SNMP v3:** This section is divided into two identical blocks for Read and Write operations. Each block contains: 'Enable SNMPv3' checkbox; 'Read/Write UserName' text field; 'Security Level' radio buttons (selected: 'Not Authentication or Encryption'); 'Authentication Algorithm' radio buttons (selected: 'MD5'); 'Authentication Password' masked text field; 'Encryption Algorithm' radio buttons (selected: 'DES'); 'Encryption Password' masked text field; and 'Write UserName' text field.
- SNMP Other Settings:** Contains an 'SNMP Port' text field.

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

Figure 11-5 Set SNMP

2. Check **Enable SNMPv1/Enable SNMP v2c/Enable SNMPv3**.

Note

- The SNMP version you select should be the same as that of the SNMP software.
- Use different versions according to the security levels required. There exists information leakage using SNMP v1 or v2. You're recommended to use SNMP v3, which provides encryption and is safer. If you use v3, HTTPS protocol must be enabled.

3. Set the SNMP parameters.



Note

For SNMP v3, you need to set **Authentication Algorithm** and **Authentication Password**, and **Encryption Algorithm** and **Encryption Password**.

4. Click **Save**.

11.6 Set QoS

QoS (Quality of Service) can help improve the network delay and network congestion by setting the priority of data sending.



Note

QoS needs support from network devices such as routers and switches.

Steps

1. Go to **Configuration → Network → Network Parameters → QoS**.
 2. Enable DSCP according to the actual needs and set the value.
-



Note

Network can identify the priority of data transmission. The bigger the DSCP value is, the higher the priority is. Same settings need to be set in the router for configuration.

3. Click **Save**.

11.7 Connect to Platform

11.7.1 Set Arm Host

The device can upload the captured pictures via the arm host.

Steps



Note

For level 1 arm, the pictures can be uploaded normally. If uploading failed, the device will upload again. For level 2 arm, the pictures will be uploaded once. No more upload if uploading failed. For level 3 arm, pictures will not be uploaded.

1. Go to **Configuration → Network → Data Connection → Arm Upload**.

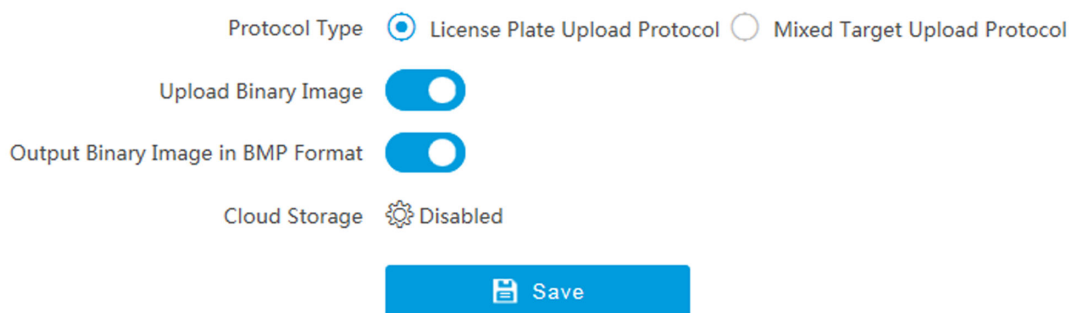


Figure 11-6 Set Arm Host

2. Select **Protocol Type**.



Note

Supported functions vary with different models. The actual device prevails.

License Plate Upload Protocol

Uploads arming alarm images of the license plate. You can enable **Upload Binary Image** if you need to upload binary images full of black or white pixel points. Enable **Output Binary Image in BMP Format** if you want to output images in this format.

Mixed Target Upload Protocol

Uploads images of multiple targets such as humans and vehicles. You can enable the body property to recognize clothes, bags, and other properties.

3. Optional: If you want to save the alarm information and pictures to the cloud storage, click ⚙️ to set **Cloud Storage**. Refer to [Set Cloud Storage](#) for details.

4. Click Save.

11.7.2 Set SDK Listening

The SDK listening can be used to receive the uploaded information and pictures of the device arming alarm.

Before You Start

The listening service has been enabled for the SDK listening, and the network communication with the device is normal.

Steps

1. Go to Configuration → Network → Data Connection → SDK Listening .

Enable SDK Listening ☒

IP Address/Domain

Port

Enable Picture Uploading Listening ☒

Protocol Type ☒ License Plate Upload Protocol ☐ Mixed Target Upload Protocol

Upload Binary Image ☒

Output Binary Image in BMP Format ☒

Cloud Storage  Disabled

Figure 11-7 Set SDK Listening

2. Enable SDK listening.
3. Set **IP Address/Domain** and **Port** if you need to upload the alarm information and pictures.
4. **Optional:** The device will transmit images via the SDK listening if you enable the picture uploading listening.
5. Select **Protocol Type**.



Note

Supported functions vary with different models. The actual device prevails.

License Plate Upload Protocol

Uploads arming alarm images of the license plate. You can enable **Upload Binary Image** if you need to upload images which are full of black or white pixel points. Enable **Output Binary Image in BMP Format** if you want to output images in this format.

Mixed Target Upload Protocol

Uploads images of multiple targets such as humans and vehicles. You can enable the body property to recognize clothes, bags, and other properties.

6. **Optional:** If you want to save the alarm information and pictures to the cloud storage, click  to set **Cloud Storage**. Refer to [Set Cloud Storage](#) for details.
7. Click **Save**.

11.7.3 Set ISAPI Listening

ISAPI listening and SDK listening are mutually exclusive protocols. If you enable the picture uploading listening, the device will transmit images via the SDK listening. If not, the device will upload images via ISAPI protocol after the ISAPI parameters are set.

Before You Start

The listening service has been enabled for the ISAPI host, and the network communication with the device is normal.

Steps

1. Go to **Configuration → Network → Data Connection → ISAPI Listening**.
2. Enable the ISAPI listening.

Enable ISAPI Listening ☒

Version

ANPR IP/Domain

ANPR Port

Host URL

Heartbeat Interval (s) ⓘ

Uploaded Picture Type

Authentication Mode

Upload Binary Image ☒

Output Binary Image in BMP Format ☒

Cloud Storage Disabled

Save

Figure 11-8 Set ISAPI Listening

3. Set **ANPR IP/Domain**, **ANPR Port**, and **Host URL**.
4. Enter **Heartbeat Interval**.

Note

If you set it as 0, the heartbeat is disabled.

5. Set **Uploaded Picture Type**.
-

6. Select **Authentication Mode** and set corresponding parameters to guarantee that only the authorized users can access the device.



Note

If you select **None**, the device will not verify the authentication condition of the access users. It is recommended to select an authentication mode to guarantee the device information security.

7. **Optional:** Enable **Upload Binary Image** if you need to upload images which are full of black or white pixel points.



Note

Enable **Output Binary Image in BMP Format** if you want to output images in this format.

8. **Optional:** If you want to save the alarm information and pictures to the cloud storage, click  to set **Cloud Storage**. Refer to [Set Cloud Storage](#) for details.
9. Click **Save**.

11.7.4 Connect to ISUP Platform

ISUP is a platform access protocol. The device can be remotely accessed via this platform.

Before You Start

- Create the device ID on ISUP platform.
- Ensure the device can communicate with the platform normally.

Steps

1. Go to **Configuration → Network → Data Connection → ISUP**.

Enable ISUP ☒

Protocol Version

Address Type

Server IP Address

Server Port

Device ID

Key ① 8-32 letters or numbers, case sensitive. You are recommended to use a combination of letters or numbers.

Register Status

	Server Type	Server IP	Server Port	Uploaded Type
Platform Status	Alarm Server	0.0.0.0	0	Upload Directly
	Picture Server	0.0.0.0	0	Upload Directly

① Unable to send picture to ISUP platform at the first access. Please restart the system and try again.

Upload Binary Image ☒

Output Binary Image in BMP Format ☒

Figure 11-9 Connect to ISUP Platform

2. Check **Enable ISUP**.
3. Select **Protocol Version**.
4. Select **Address Type**.
5. Enter **Sever IP Address**, **Server Port**, and **Device ID**.

Note

You need to enter **Key** if you select **Protocol Version** as **v5.0**.

6. **Optional:** For protocol **v5.0**, you can enable **Upload Binary Image** if you need to upload images which are full of black or white pixel points.

Note

Enable **Output Binary Image in BMP Format** if you want to output images in this format.

7. Click **Save**.

What to do next

When the registration status is online, you can manage the device via the platform or server.

11.7.5 Connect to OTAP

The device can be accessed to the ISC platform via OTAP protocol to realize live view, view incident information, manage the devices, etc. via the platform.

Before You Start

- Ensure the device can communicate with the platform normally.
- Disable the other platform accesses conflicting with OTAP.

Steps

1. Go to **Configuration → Network → Data Connection → OTAP**.
2. Select **Platform Access Mode** as **Private Deployment**.
3. Check **Enable**.

Platform Access Mode: Private Deployment

OTAP server number: 1

Enable: ☒

Address Type: IP Address

Server IP Address:

Server Port:

Device ID:

Key: ⓘ 8-16 letters or numbers, case sensitive. You are recommended to use a combination of letters or numbers.

ⓘ Please configure the secret key first

Register Status: Offline

ⓘ You need to set the network parameters including device IP address, gateway, DNS, etc. to get access to the network.

Figure 11-10 Connect to OTAP

4. Set corresponding parameters.

Address Type

Select the address type of the connected platform or server.

Server IP Address/Server Domain Name

The IP address or domain name of the connected platform or server.

Server Port

The port of the connected platform or server.

Device ID

The device ID should be the same with the added one on the OTAP platform.

Key

Set a custom key to encrypt the data connection between the device and the platform or server.

5. Click **Save**.

What to do next

When the registration status is online, you can manage the device via the platform or server.

11.7.6 Connect to Hik-Connect

The device can be remotely accessed via Hik-Connect.

Before You Start

- Connect the device to the Internet.
- Set the IP address, subnet mask, gateway, and DNS server of the LAN.

Steps



Note

This function varies with different models. The actual device prevails.

1. Enable Hik-Connect in two ways.

- Get access to Hik-Connect V2.0. Go to **Configuration → Network → Data Connection → OTAP** , and select **Platform Access Mode** as **Hik-Connect**. Check **Enable**.

Figure 11-11 Connect to Hik-Connect (V2.0)

- Get access to Hik-Connect V3.0. Go to **Configuration → Network → Data Connection → Hik-Connect Platform** . Check **Enable Hik-Connect Platform**.

Enable Hik-Connect Platform ☒

Server Domain Name ☐ Custom

Register Status

Offline Reason

Offline Code

Binding Status

Verification Code

Enable Video Encryption ☒

Video Encryption Password ⓘ 8-16 letters or numbers, case sensitive. You are recommended to use a combination of letters or numbers.

ⓘ Please create video encryption password first.

Confirm Video Encryption Password ⓘ You need to set the network parameters including device IP address, gateway, DNS, etc. to get access to the network.

Figure 11-12 Connect to Hik-Connect (V3.0)

- Optional:** If you have allocated a custom server, check **Custom** and enter the custom **Server Domain Name**.
- Enter a custom **Verification Code** used to add the device via Hik-Connect.



Caution

The verification code should be 6 letters or numbers, case sensitive. You are recommended to use a combination of letters or numbers.

- Optional:** Check **Enable Video Encryption** and set **Video Encryption Password** to encrypt the videos transmission. Confirm the password.
- Click **Save**.
- Add the device to Hik-Connect.
 - Get and install Hik-Connect application by the following ways.
 - Visit <https://appstore.hikvision.com> to download the application according to your mobile phone system.
 - Visit the official site of our company. Then go to **Support** → **Tools** → **Hikvision App Store**.
 - Scan the QR code below to download the application.



Figure 11-13 Hik-Connect



Note

If errors like "Unknown app" occur during the installation, solve the problem in two ways.

- Visit <https://appstore.hikvision.com/static/help/index.html> to refer to the troubleshooting.
- Visit <https://appstore.hikvision.com/>, and click **Installation Help** at the upper right corner of the interface to refer to the troubleshooting.

2) Start the application and register a user account to log in.

3) Add device by the serial No. on the device body and the verification code.



Note

Refer to the user manual of Hik-Connect application for details.

11.8 Set Integration Protocol

You can connect the device via ONVIF protocol.

Steps

1. Go to **Configuration → Network → Data Connection → Integration Protocol**.
2. Check **Enable**.
3. Add a user.
 - 1) Click **Add**.
 - 2) Set user name, password, and user level, and confirm the password.
 - 3) Click **OK**.
 - 4) **Optional**: You can select the added user and click **Modify** to edit the user information, or click **Delete** to delete the user.
4. Click **Save**.

Result

Only the added users can access the device via ONVIF protocol.

Chapter 12 Serial Port Configuration

12.1 Set RS-485

Set RS-485 parameters if the device needs to be connected to other peripheral devices controlled by RS-485 serial port.

Before You Start

The corresponding device has been connected via the RS-485 serial port.

Steps



Note

The number of available RS-485 serial port varies with different models.

1. Go to **Configuration → System → System Settings → Serial Port → RS-485**.

RS-485							
No.	Baud Rate	Data Bit	Stop Bit	Parity	Flow Control	Work Mode	
1	115200 bps	8	1	None	None	Application Trigger	
2	115200 bps	8	1	None	None	Application Trigger	
3	9600 bps	8	1	None	None	Application Trigger	

Figure 12-1 Set RS-485

2. Set **Baud Rate, Data Bit, Stop Bit**, etc.



Note

The parameters should be same with those of the connected device.

3. Set **Work Mode**.

Application Trigger

Select it when a signal trigger device (such as a radar) is connected to the RS-485 serial port of the device.

Transparent Channel

Select it when the other peripheral device is connected to the RS-485 serial port of the device for communication transmission.

4. Click **Save**.

12.2 Set RS-232

Set RS-232 parameters if you need to debug the device via RS-232 serial port.

Before You Start

The debugging device has been connected via the RS-232 serial port.

Steps

1. Go to **Configuration → System → System Settings → Serial Port → RS-232**.

RS-232						
No.	Baud Rate	Data Bit	Stop Bit	Parity	Flow Control	Work Mode
1	9600 bps	8	1	None	None	Transparent Channel

Figure 12-2 Set RS-232

2. Set **Baud Rate, Data Bit, Stop Bit**, etc.



Note

The parameters should be same with those of the connected device.

3. Select **Work Mode**.



Note

- The supported work modes vary with different models. The actual device prevails.
- You need to reboot the device after editing the work mode to take effect.

Console

Select it when you need to debug the device via RS-232 serial port.

Transparent Channel

Select it, and the network command can be transmitted to RS-232 control command via the RS-232 serial port.

Narrow Bandwidth Transmission

Reserved.

4. Click **Save**.

Chapter 13 Event and Alarm

13.1 Exception Alarm

Set exception alarm when the network is disconnected, the IP address is conflicted, etc.

Steps



Note

The supported exception types vary with different models. The actual device prevails.

1. Go to **Configuration → Event → Alarm Linkage → Exception** .
2. Select the exception type(s) and the linkage method.
3. Click **Save**.

13.2 Set Email

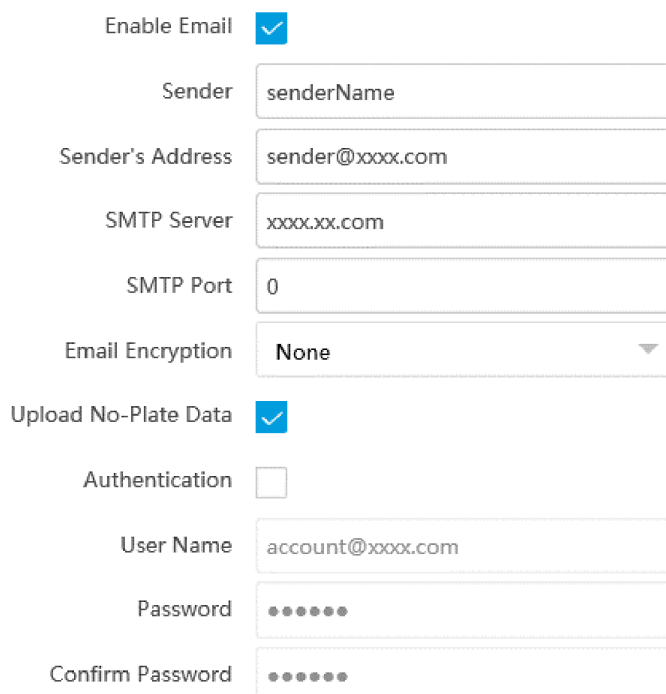
When the email is enabled and set, the device will send an email notification to all designated receivers if an alarm event is detected.

Before You Start

Set the DNS server before using the email function. Go to **Configuration → Network → Network Parameters → Network Interface** for DNS settings.

Steps

1. Go to **Configuration → Network → Data Connection → Email** .
2. Check **Enable Email**.



Enable Email ☒

Sender

Sender's Address

SMTP Server

SMTP Port

Email Encryption

Upload No-Plate Data ☒

Authentication ☐

User Name

Password

Confirm Password

Figure 13-1 Set Email

3. Set email parameters.

- 1) Enter the sender's email information, including **Sender**, **Sender's Address**, **SMTP Server**, and **SMTP Port**.
- 2) Select **Email Encryption**.

None

Emails are sent without encryption.

TLS

Emails are sent after being encrypted by TLS.

- 3) **Optional:** If you want to upload no-plate data, check **Upload No-Plate Data**.
- 4) **Optional:** If your email server requires authentication, check **Authentication** and enter your user name and password to log in to the server.
- 5) Enter the receiver's information, including the receiver's name and address.
- 6) **Optional:** Click **Test** to see if the function is well configured.

4. Click **Save.**

13.3 Set Email Event

When the set event occurs, the device can be set to send an email with alarm information to the user.

Before You Start

The email has been enabled and related email parameters have been configured.

Steps

1. Go to **Configuration → Event → Alarm Linkage → Email Event** .
2. Check **Enable** to trigger an email alarm.
3. Click **Save**.

Chapter 14 Safety Management

14.1 Manage User

The administrator can add, modify, or delete other accounts, and grant different permissions to different user levels.

Steps

1. Go to **Configuration → System → User Management → User List**.
2. Select **Password Level**.

The password level of the added user should conform to the selected level.

3. Add a user.
 - 1) Click **Add**.
 - 2) Enter **User Name** and select **Type**.
 - 3) Enter **Admin Password**, **New Password**, and confirm the password.



Caution

To increase security of using the device on the network, please change the password of your account regularly. Changing the password every 3 months is recommended. If the device is used in high-risk environment, it is recommended that the password should be changed every month or week.

-
- 4) Assign remote permissions to users based on needs.

User

Users can be assigned permissions of live view, playback, log search, checking working status, and changing their own passwords, but no permission for other operations.

Operator

Operators can be assigned all the permissions same as the administrator.

- 5) Click **OK**.

4. **Optional:** You can do the following operations.

Change the password and permissions Click  to change the password and permissions.

Delete the user Click  to delete the user.

14.2 Enable User Lock

To raise the data security, you are recommended to lock the current IP address.

Steps

1. Go to **Configuration → System → Security → Security Service → Software**.
2. Check **Enable User Lock**.

3. Click **Save**.

Result

When the times you entered incorrect passwords have reached the limit, the current IP address will be locked automatically.

14.3 Set SSH

To raise network security, you are recommended to disable SSH service. The configuration is only used to debug the device for the professionals.

Steps

1. Go to **Configuration → System → Security → Security Service → Software**.
2. Enable or disable **SSH Service**, and set **SSH Port** if you enable the function.
3. Click **Save**.

14.4 Prohibit PING

You can prohibit the external devices to operate network connection volume test to the current device.

Steps

1. Go to **Configuration → System → Security → Security Service → Software**.
2. Enable **Prohibit PING**.
3. Click **Save**.

14.5 Enable System Log Service

The security audit logs refer to the security operation logs. You can search and analyze the security log files of the device so as to find out the illegal intrusion and troubleshoot the security events. Security audit logs can be saved on device internal storage. The log will be saved every half hour after device booting. Due to limited storage space, you are recommended to save the logs on a log server.

Steps

1. Go to **Configuration → System → Security → Security Service → Log Audit Service**.
2. Enable system log service.
3. Enter **IP Address** and **Port** of the log server.
4. Click **Save**.

Result

The device will upload the security audit logs to the log server regularly.

14.6 Set Timeout Logout

You can improve network access security by setting timeout logout.

Steps

1. Go to **Configuration → System → Security → Security Service → Timeout Logout**.
2. Enable timeout logout for static page.
3. Set **Max. Timeout**.
4. Click **Save**.

Result

When the page static time exceeds the set time, the device will automatically log out.

14.7 Set Password Validity Period

You can improve network access security by setting password validity period.

Steps

1. Go to **Configuration → System → Security → Security Service → Password Validity Period**.
2. Select **Validity Type**.
 - Select **Permanent**. The password will be permanently valid.
 - Select **Daily** and set **Password Expiry Time**. It will prompt you that the password is expired according to the set password expiry time, and you need to set the new password.
3. Click **Save**.

14.8 Set SDK Protocol Authentication Mode

When you need to operate development integration or data collection via SDK protocol, you are recommended to enable SDK protocol authentication to enhance the information security.

Steps

1. Go to **Configuration → System → Security → Security Service → SDK Service Module**.
2. Select **SDK Protocol Authentication Mode**.



Note

You are recommended to select **Safety Mode**. In this mode, the device cannot be logged in via an invertible password of SDK protocol, which can enhance the information security.

3. Click **Save**.

14.9 Set RTSP Authentication

You can improve network access security by setting RTSP authentication.

Steps

1. Go to **Configuration → System → Security → Security Settings**.
2. Select **RTSP Authentication**.
digest
The device only supports digest authentication.
3. Click **Save**.

14.10 Set IP Address Filtering

You can set the IP addresses allowable and not allowable to access the device.

Steps

1. Go to **Configuration → System → Security → Security Settings**.
2. Check **Enable IP Address Filtering**.
3. Set **Filtering Mode**.
Blocklist Mode
The added IP addresses are not allowed to access the device.
Allowlist Mode
The added IP addresses are allowed to access the device.
4. Click **Add**, enter the IP address, and click **OK**.



Note

The IP address only refers to the IPv4 address.

-
5. **Optional**: Edit, delete, or clear the added IP addresses.
 6. Click **Save**.

14.11 Set HTTPS

14.11.1 Create and Install Self-signed Certificate

HTTPS is a network protocol that enables encrypted transmission and identity authentication, which improves the security of remote access.

Steps

1. Go to **Configuration → Network → Network Parameters → HTTPS**.
2. Select **Create Self-signed Certificate**.

3. Click **Create**.
4. Follow the prompt to enter **Country/Region, Domain/IP, Validity**, and other parameters.
5. Click **OK**.

Result

The device will install the self-signed certificate by default.

14.11.2 Install Authorized Certificate

If the demand for external access security is high, you can create and install authorized certificate via HTTPS protocol to ensure the data transmission security.

Steps

1. Go to **Configuration → Network → Network Parameters → HTTPS**.
2. Select **Create certificate request first and continue the installation**.
3. Click **Create**.
4. Follow the prompt to enter **Country/Region, Domain/IP, Validity**, and other parameters.
5. Click **Download** to download the certificate request and submit it to the trusted authority for signature.
6. Import certificate to the device.
 - Select **Signed certificate is available, start the installation directly**. Click **Browse** and **Install** to import the certificate to the device.
 - Select **Create the certificate request first and continue the installation**. Click **Browse** and **Install** to import the certificate to the device.
7. Click **Save**.

Chapter 15 Maintenance

15.1 View Device Information

Basic Information and Algorithms Library Version

Go to **Configuration** → **System** → **System Settings** → **Basic Information** to view the basic information and algorithms library version of the device.

You can edit **Device Name** and **Device No.** The device No. is used to control the device. It is recommended to reserve the default value.

Device Status

Go to **Configuration** → **System** → **System Settings** → **Device Status** to view the device status, live view and arming status, and data upload monitoring.

You can click **24h Data Monitoring**, and select the IP address of the picture upload server to view the data upload statistics in 24 hours. The statistics data will be cleared if the device is rebooted by default. You can enable **Power Outage Maintenance** and set **Power Outage Maintenance Time** to keep the statistics data not to be cleared when the device is rebooted within the set time.

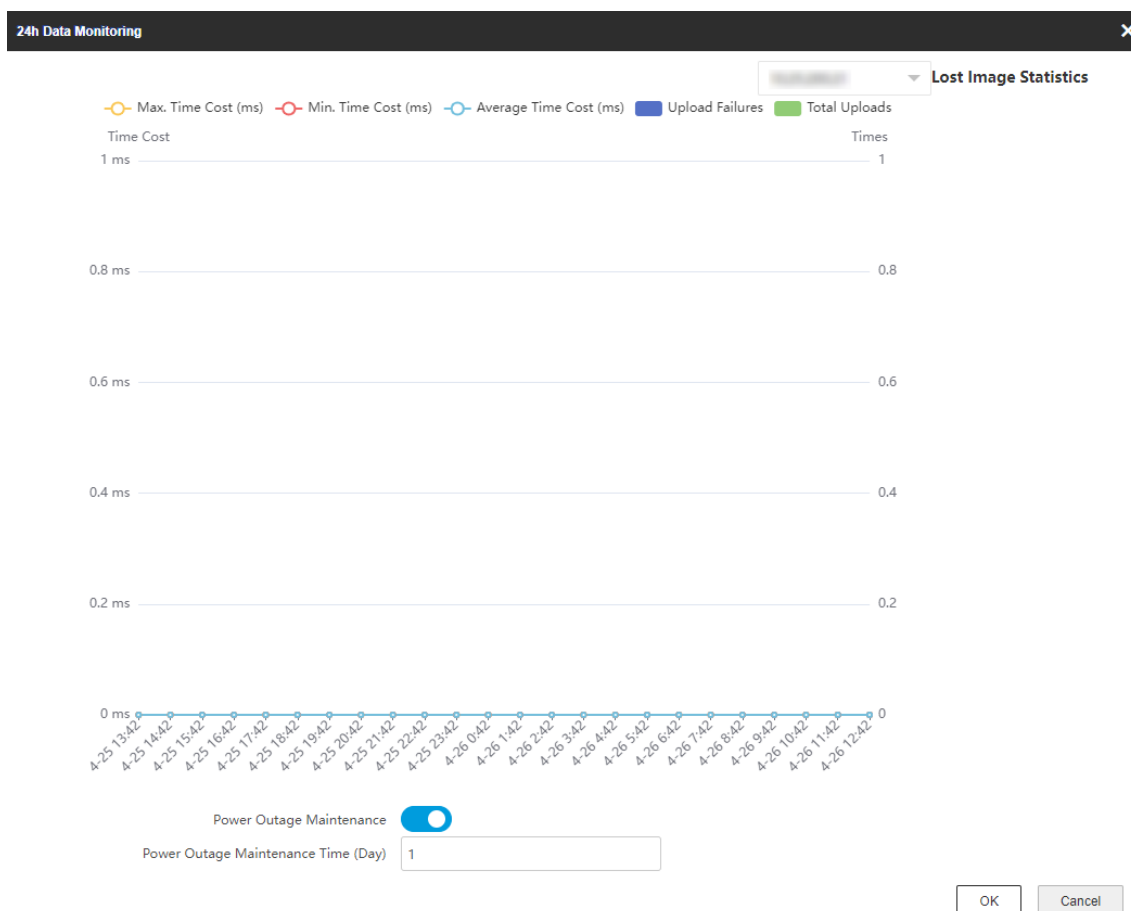


Figure 15-1 24h Data Monitoring

15.2 Synchronize Time

Synchronize the device time when it is inconsistent with the actual time.

Steps

1. Go to **Configuration → System → System Settings → Time Settings**.
2. Select **Time Zone**.
3. Select **Sync Mode**.

NTP Synchronization

Select it to synchronize the device time with that of the NTP server. Set **Server IP**, **NTP Port**, and **Interval**. Click **NTP Test** to test if the connection between the device and the server is normal.

Manual Synchronization

Select it to synchronize the device time with that of the computer. Set time manually, or check **Sync. with computer time**.

SDK

If the remote host has been set for the device, select it to synchronize time via the remote host.

ONVIF

Select it to synchronize time via the third-party device.

PTP

Select it to synchronize time more accurately. Precision Time Protocol (PTP) is a protocol to synchronize clocks in a computer network, similar to NTP. NTP is accurate, under ten milliseconds. PTP, however, is accurate up to less than a microsecond and is measured in nanoseconds.

No

Select it to disable time synchronization.

All

Select it, and you can select any mode above.



Note

The time synchronization modes vary with different models. The actual device prevails.

4. Click **Save**.

15.3 Set DST

If the region where the device is located adopts Daylight Saving Time (DST), you can set this function.

Steps

1. Go to **Configuration → System → System Settings → DST**.
2. Check **Enable DST**.
3. Set **Start Time**, **End Time**, and **DST Bias**.
4. Click **Save**.

15.4 Reboot

When the device needs to be rebooted, reboot it via the software instead of cutting off the power directly.

Steps

1. Go to **Configuration → System → Maintenance → Upgrade & Maintenance → Device Maintenance**.
2. Click **Reboot**.
3. Click **OK** to reboot the device.



Note

You can also click **Reboot** on the upper right corner of the page to reboot the device.

15.5 Restore Parameters

When the device is abnormal caused by the incorrect set parameters, you can restore the parameters.

Steps

1. Go to **Configuration → System → Maintenance → Upgrade & Maintenance → Device Maintenance**.
2. Select the restoration mode.
 - Click **Restore**, and select the parameters to be saved instead of being restored. Click **OK**. Then the parameters except the IP parameters, user parameters, and the saved parameters will be restored to the default settings.
 - Click **Restore Factory Settings** and click **OK** to restore all the parameters to the factory settings.
3. Click **OK**.

15.6 Export Parameters

You can export the parameters of one device, and import them to another device to set the two devices with the same parameters.

Steps

1. Go to **Configuration → System → Maintenance → Upgrade & Maintenance → Data Export**.
2. Click **Export** after **Configuring Parameters**.
3. Set an encryption password, confirm the password, and click **OK**.



Note

The password is used for importing the configuration file of the current device to other devices.

4. Select the saving path, and enter the file name.
5. Click **Save**.

15.7 Export Debug File

The technicians can export the debug file to troubleshoot and maintain the device.

Steps

1. Go to **Configuration → System → Maintenance → Upgrade & Maintenance → Data Export**.
2. Click **Export** after **Debug File**.
3. Select the saving path, and enter the file name.

4. Click **Save**.

15.8 Export Diagnosis Information

The technicians can export the diagnosis information to troubleshoot and maintain the device.

Steps

1. Go to **Configuration → System → Maintenance → Upgrade & Maintenance → Data Export**.
2. Click **Export** after **Diagnosis Information**.
3. Select the saving path, and enter the file name.
4. Click **Save**.

15.9 Upgrade

Upgrade the system when you need to update the device version.

Before You Start

Prepare the upgrade file. If the upgrade file is a compressed package, it needs to be decompressed into the .dav format.

Steps

1. Go to **Configuration → System → Maintenance → Upgrade & Maintenance → Upgrade**.
2. Click **Browse** to select the upgrade file.
3. Click **Upgrade**.
4. Click **OK** in the popup window.



Note

The upgrade process will take 1 to 10 minutes. Do not cut off the power supply.

Result

The device will reboot automatically after upgrade.

15.10 Import Configuration File

Import the configuration file of another device to the current device to set the same parameters.

Before You Start

Save the configuration file to the computer.

Steps



Caution

Importing configuration file is only available to the devices of the same model and same version.

1. Go to **Configuration → System → Maintenance → Upgrade & Maintenance → Advanced Settings → Data Import** .
2. Select **Importing Method**.



Note

If you select **Import Part**, check the parameters to be imported.

3. Click **Browse** to select the configuration file.
4. Click **Import**.
5. Enter the password which is set when the configuration file is exported, and click **OK**.
6. Click **OK** on the popup window.

Result

The parameters will be imported, and the device will reboot.

15.11 Log

15.11.1 Enable Log According to Module

You can enable the log according to the module for debugging.

Steps



Note

The function varies with different models. The actual device prevails.

1. Go to **Configuration → System → Maintenance → Debug → Log** .
2. Check the module(s) according to your needs.



Note

If you want to disable the log automatically, you can enable auto close log and set close time.

3. Click **Save**.

15.11.2 Search Log

Log helps to locate and troubleshoot problems.

Steps

1. Go to **Configuration → System → Maintenance → Log Search** .
2. Set search conditions.
3. Click **Search**.

The matched log files will be displayed on the log list.

4. **Optional:** Click **Export** to save the log files to your computer.

15.12 Enable Maintenance Service

If you want to realize remote camera maintenance and debug via the platform server, enable maintenance service and set the access mode.

Steps

- 1. Go to **Configuration → System → Maintenance → Maintenance Service** .
- 2. Enable maintenance service.

Maintenance Service

Enable Maintenance Service ☒

Agent Settings

Address Type

IPv4 Address

IPv4 Address

Port

Client Identifier Type

Custom

Client Identifier

Authentication Information

User Name

admin

Password

Heartbeat Cycle(s)

120

End Time

2024-04-10 06:17:17

Status

Offline

Protocol Settings

+ Add

No.	Name	Protocol Type	Client Target IP Address	Client Target Port	Max. Number of Simultaneous Accesses via Client	Operation
1	SSH	TCP			5	

Figure 15-2 Maintenance Service

- 3. Set agent parameters.
 - 1) Select **Address Type**.
 - 2) Set the IP address/domain name and port of the agent.
 - 3) Select **Client Identifier Type** and set **Client Identifier** according to the actual supporting conditions of the camera. The identifier serves as a unique mark of the camera.
- 4. Set the authentication information.

User Name/Password

The user name and password of the camera for the authentication via the platform server access.

Heartbeat Cycle(s)

You are recommended to keep the default value.

End Time

The camera will disconnect with the platform server when reaching the set end time.

- 5. Set protocol parameters.
 - 1) Click **Add** to add a protocol.
 - 2) Set the corresponding parameters of the protocol.



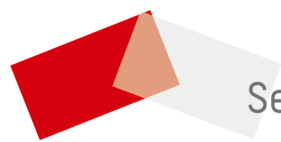
Note

You can login and access up to 5 cameras (clients) simultaneously via HTTP or SSH protocol.

6. Click **Save**.

What to do next

After settings, refresh the interface and check the authentication status of the camera. If the status is online, you can access and debug the camera via the platform server.



See Far, Go Further