



# **Network Traffic Camera**

## **Configuration Manual**

## Initiatives on the Use of Video Products

### **Thank you for choosing Hikvision products.**

Technology affects every aspect of our life. As a high-tech company, we are increasingly aware of the role technology plays in improving business efficiency and quality of life, but at the same time, the potential harm of its improper usage. For example, video products are capable of recording real, complete and clear images. This provides a high value in retrospect and preserving real-time facts. However, it may also result in the infringement of a third party's legitimate rights and interests if improper distribution, use and/or processing of video data takes place. With the philosophy of "Technology for the Good", Hikvision requests that every end user of video technology and video products shall comply with all the applicable laws and regulations, as well as ethical customs, aiming to jointly create a better community.

### **Please read the following initiatives carefully:**

- Everyone has a reasonable expectation of privacy, and the installation of video products should not be in conflict with this reasonable expectation. Therefore, a warning notice shall be given in a reasonable and effective manner and clarify the monitoring range, when installing video products in public areas. For non-public areas, a third party's rights and interests shall be evaluated when installing video products, including but not limited to, installing video products only after obtaining the consent of the stakeholders, and not installing highly-invisible video products.
- The purpose of video products is to record real activities within a specific time and space and under specific conditions. Therefore, every user shall first reasonably define his/her own rights in such specific scope, in order to avoid infringing on a third party's portraits, privacy or other legitimate rights.
- During the use of video products, video image data derived from real scenes will continue to be generated, including a large amount of biological data (such as facial images), and the data could be further applied or reprocessed. Video products themselves could not distinguish good from bad regarding how to use the data based solely on the images captured by the video products. The result of data usage depends on the method and purpose of use of the data controllers. Therefore, data controllers shall not only comply with all the applicable laws and regulations and other normative requirements, but also respect international norms, social morality, good morals, common practices and other non-mandatory requirements, and respect individual privacy, portrait and other rights and interests.
- The rights, values and other demands of various stakeholders should always be considered when processing video data that is continuously generated by video products. In this regard, product security and data security are extremely crucial. Therefore, every end user and data controller, shall undertake all reasonable and necessary measures to ensure data security and avoid data leakage, improper disclosure and improper use, including but not limited to, setting up access

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control, selecting a suitable network environment (the Internet or Intranet) where video products are connected, establishing and constantly optimizing network security.

- Video products have made great contributions to the improvement of social security around the world, and we believe that these products will also play an active role in more aspects of social life. Any abuse of video products in violation of human rights or leading to criminal activities are contrary to the original intent of technological innovation and product development. Therefore, each user shall establish an evaluation and tracking mechanism of their product application to ensure that every product is used in a proper and reasonable manner and with good faith.

## Legal Information

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### About this Manual

The Manual includes instructions for using and managing the Product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version of this Manual at the Hikvision website ( <https://www.hikvision.com/> ).

Please use this Manual with the guidance and assistance of professionals trained in supporting the Product.

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DEVELOPMENT OR PRODUCTION OF WEAPONS OF MASS DESTRUCTION, THE DEVELOPMENT OR PRODUCTION OF CHEMICAL OR BIOLOGICAL WEAPONS, ANY ACTIVITIES IN THE CONTEXT RELATED TO ANY NUCLEAR EXPLOSIVE OR UNSAFE NUCLEAR FUEL-CYCLE, OR IN SUPPORT OF HUMAN RIGHTS ABUSES.

IN THE EVENT OF ANY CONFLICTS BETWEEN THIS MANUAL AND THE APPLICABLE LAW, THE LATTER PREVAILS.

## Regulatory Information

### FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC compliance: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

### EU Conformity Statement



This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the LVD Directive 2014/35/EU, the RoHS Directive 2011/65/EU.



2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: [www.recyclethis.info](http://www.recyclethis.info)






2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: [www.recyclethis.info](http://www.recyclethis.info)

## **Industry Canada ICES-003 Compliance**

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.

## Symbol Conventions

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

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



## Safety Instruction

### Regulatory Information

This is a class A product and may cause radio interference in which case the user may be required to take adequate measures.

### Laws and Regulations

Use of the product must be in strict compliance with the local laws and regulations. Please shut down the device in prohibited area.

### Power Supply

- Use of the product must be in strict compliance with the local electrical safety regulations.
- Use the power adapter provided by qualified manufacturer. Refer to the product specification for detailed power requirements.
- It is recommended to provide independent power adapter for each device as adapter overload may cause over-heating or a fire hazard.
- Make sure that the power has been disconnected before you wire, install, or disassemble the device in the authorized way according to the description in the manual.
- To avoid electric shock, DO NOT directly touch exposed contacts and components once the device is powered up.
- DO NOT use damaged power supply devices (e.g., cable, power adapter, etc.) to avoid electric shock, fire hazard, and explosion.
- DO NOT directly cut the power supply to shut down the device. Please shut down the device normally and then unplug the power cord to avoid data loss.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.
- Make sure the power supply has been disconnected if the power adapter is idle.
- Connect to earth before connecting to the power supply.

### Transportation, Use, and Storage

- To avoid heat accumulation, good ventilation is required for a proper operating environment.
- Store the device in dry, well-ventilated, corrosive-gas-free, no direct sunlight, and no heating source environment.
- Avoid fire, water, and explosive environment when using the device.
- Install the device in such a way that lightning strikes can be avoided. Provide a surge suppressor at the inlet opening of the equipment under special conditions such as the mountain top, iron tower, and forest.
- Keep the device away from magnetic interference.
- Avoid device installation on vibratory surfaces or places. Failure to comply with this may cause device damage.
- DO NOT touch the heat dissipation component to avoid burns.

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- DO NOT expose the device to extremely hot, cold, or humidity environments. For temperature and humidity requirements, see device specification.
- No naked flame sources, such as lighted candles, should be placed on the equipment.
- DO NOT touch the sharp edges or corners.
- To prevent possible hearing damage, DO NOT listen at high volume levels for long periods.

### **Maintenance**

- If smoke, odor, or noise arises from the device, immediately turn off the power, unplug the power cable, and contact the service center.
- If the device cannot work properly, contact the store you purchased it or the nearest service center. DO NOT disassemble or modify the device in the unauthorized way (For the problems caused by unauthorized modification or maintenance, the company shall not take any responsibility).
- Keep all packaging after unpacking them for future use. In case of any failure occurred, you need to return the device to the factory with the original packaging. Transportation without the original packaging may result in damage to the device and the company shall not take any responsibility.

### **Network**

- Please enforce the protection for the personal information and the data security as the device may be confronted with the network security problems when it is connected to the Internet. Contact us if network security risks occur.
- Please understand that you have the responsibility to configure all the passwords and other security settings about the device, and keep your user name and password.

### **Lens**

- DO NOT touch the lens with fingers directly in case the acidic sweat of the fingers erodes the surface coating of the lens.
- DO NOT aim the lens at the strong light such as sun or incandescent lamp. The strong light can cause fatal damage to the device.

### **Data**

DO NOT disconnect the power during formatting, uploading, and downloading. Or files may be damaged.

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# Chapter 1 Application Mode Configuration

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 **Note**

- The supported application modes vary with different models. The actual device prevails.
  - If the application mode supports area drawing, you can check **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.
- 

 **Caution**

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

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## 1.1 Set Checkpoint Capture

### 1.1.1 Set Checkpoint Single I/O

Set checkpoint single I/O if capture is triggered by external I/O signal (digital signal). In this mode, the information including the vehicle passing time, vehicle overview, license plate number, license plate color, vehicle color, the facial features of the driver and the front passenger, etc. will be recorded.

**Before You Start**

Connect F+ of the I/O signal to the T interface of the device, and F- to the GND of the device.

**Steps**

1. Go to **Configuration** → **Capture** → **Application Mode** .
2. Select **Application Mode** as **Checkpoint Single I/O**.

**Application Mode**

Application Mode: Checkpoint Single I/O

Work Mode: [ ]

**Violation Detection Configuration**

Seatbelt Unbuckled: 1

Phone Call: 1

**Lane**

External Input:  IO1

T1

---

Occupy Emergency Lane Capture:

Linked Lane No.: 1

Lane Type: Normal Lane

Level Status: Falling Edge

Capture Pictures: 1

Capture Interval:  Time

Interval(ms): 0 - 0 - 0 - 0

Linkage Output:  F1  F2  F3  F4  F5  F6  F7

Flashlight Mode: Simultaneous

**Figure 1-1 Set Checkpoint Single I/O**

3. **Optional:** Select the violation type(s) to be detected, and set the corresponding parameters. Refer to **Set Violation and Incident Detection** for details.
4. Check the corresponding **External Input** according to the connected I/O signal.

 **Note**

Each input corresponds to one lane.

5. **Optional:** Check **Occupy Emergency Lane Capture** if you want to detect the violation of occupying emergency lane.
6. Set the lane parameters. Refer to **Set Linked Lane Parameters** for details.
7. Set the parameters below.

**Level Status**

Capture is triggered according to the level signal status. If you select **Falling Edge**, the device will trigger capture at the moment that the high level falls to low level. If you select **Rising Edge**, the device will trigger capture at the moment that the low level rises to high level.

## Capture Interval

Select **Time**, and set **Interval** (the time between the adjacent captures).

## Capture Pictures

The number of captured picture(s).

**8.** Link supplement light(s) to the specific lane(s). Refer to ***Set Supplement Light Linkage*** for details.

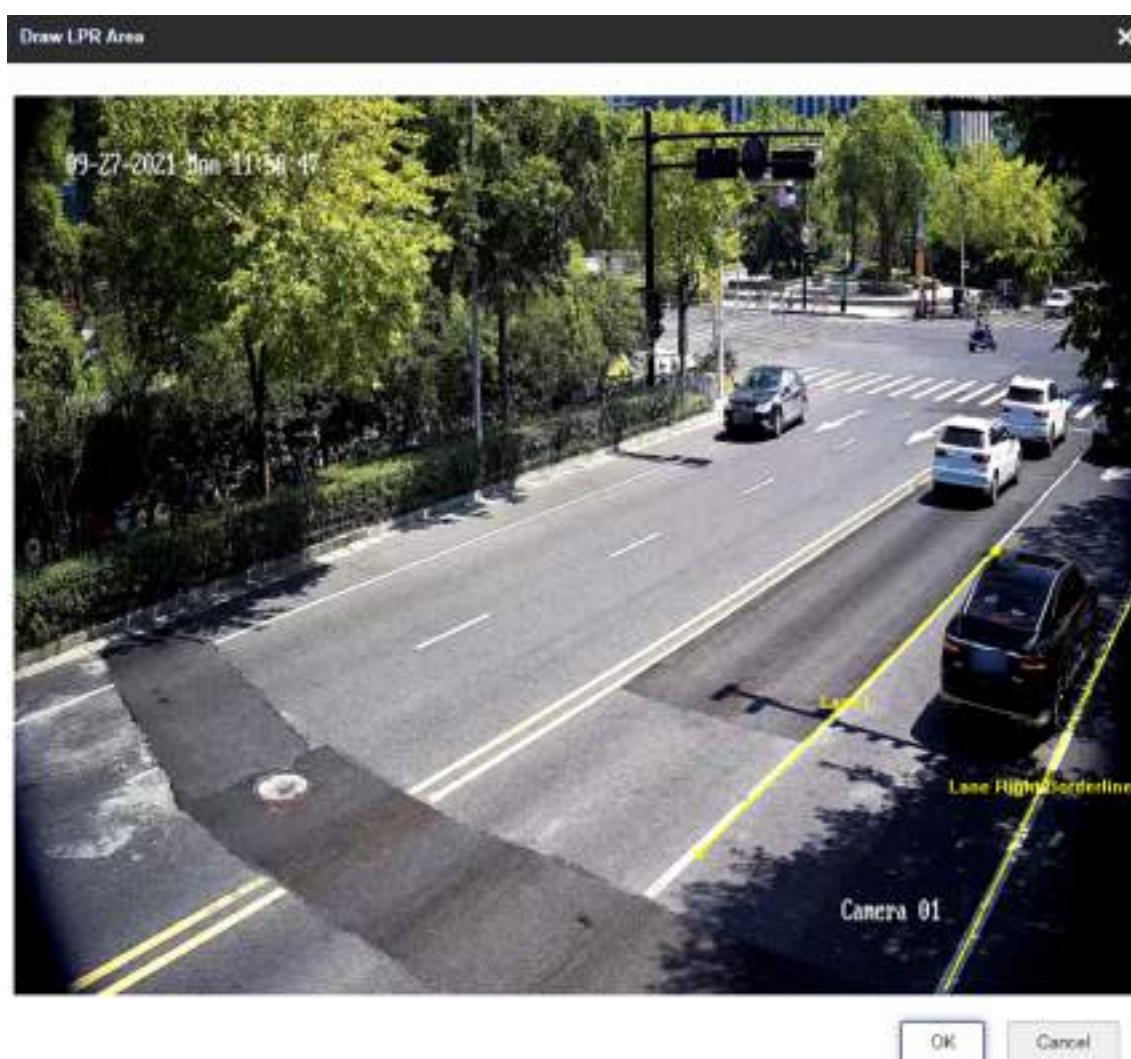
**9. Optional:** Check the other external input channel(s) to copy the same settings.

**10.** Draw lane lines.

1) Click **Draw Lane Line**.

2) Select the default lane 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) Click **OK**.



**Figure 1-2 Draw Lane Line**

**11.** Click **Save**.

### 1.1.2 Set RS-485 Radar

Set RS-485 radar if RS-485 signal (speed detection or capture via radar) is connected, and capture is triggered by radar. In this mode, the information including the vehicle speed, vehicle passing time, vehicle overview, license plate number, license plate color, vehicle color, the facial features of the driver and the front passenger, etc. will be recorded.

#### Before You Start

- Install the radar.
- Connect the D+ and D- of the radar RS-485 interface to the D+ and D- of the device RS-485 interface.

#### Steps

1. Go to **Configuration** → **Capture** → **Application Mode** .
2. Select **Application Mode** as **RS-485 Radar**.



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## Application Mode

Application Mode:

Work Mode: RS-485 Radar

## Violation Detection Configuration

Seatbelt Unbuckled:

Phone Call:

## Lane

Total Lanes:

Lane1	Lane2	Lane3												
<p>Linked Lane No.(Also for Overlay): <input type="text" value="1"/></p> <p>Lane Direction: <input type="text" value="Unknown"/></p> <p>Lane Type: <input type="text" value="Normal Lane"/></p> <p>Lane Property: <input type="text" value="High Way"/></p> <p>Capture: <input type="checkbox"/> Occupy Emergency Lane Capture <input type="checkbox"/> Enable Low Speed Capture <input type="checkbox"/> Speeding Capture</p> <p>Capture Pictures: <input type="text" value="1"/></p> <p>Capture Interval: <input checked="" type="radio"/> Time <input type="radio"/> Distance</p> <p>Interval(ms): <input type="text" value="0"/> - <input type="text" value="0"/> - <input type="text" value="0"/> - <input type="text" value="0"/></p> <div style="border: 1px solid gray; padding: 2px; margin: 5px 0;">             Vehicle... Abnor... Min. Sp... Speed... Speed... Abnor...         </div> <p>Speed(km/h)</p> <table border="1"> <tr> <td>Small Car</td> <td><input type="text" value="0"/></td> <td><input type="text" value="30"/></td> <td><input type="text" value="70"/></td> <td><input type="text" value="80"/></td> <td><input type="text" value="180"/></td> </tr> <tr> <td>Big Car</td> <td><input type="text" value="0"/></td> <td><input type="text" value="20"/></td> <td><input type="text" value="70"/></td> <td><input type="text" value="80"/></td> <td><input type="text" value="180"/></td> </tr> </table> <p>Capture Speed(km/h): <input type="text" value="0"/></p> <p>Linkage-Output: <input checked="" type="checkbox"/> F1 <input checked="" type="checkbox"/> F2 <input checked="" type="checkbox"/> F3 <input checked="" type="checkbox"/> F4 <input checked="" type="checkbox"/> F5 <input checked="" type="checkbox"/> F6 <input checked="" type="checkbox"/> F7</p> <p>Flashlight Mode: <input checked="" type="radio"/> Simultaneous <input type="radio"/> Sequential</p> <p>Radar Type: <input type="text" value="Multi-Lane Radar"/></p> <p>Linkage RS-485 No.: <input type="text" value="RS-485 Port 2"/></p> <p>Linearity Correction: <input type="text" value="1.0"/></p> <p>Constant Correction: <input type="text" value="0"/></p> <p>Copy to: <input checked="" type="checkbox"/> Lane1 <input type="checkbox"/> Lane2 <input type="checkbox"/> Lane3</p>			Small Car	<input type="text" value="0"/>	<input type="text" value="30"/>	<input type="text" value="70"/>	<input type="text" value="80"/>	<input type="text" value="180"/>	Big Car	<input type="text" value="0"/>	<input type="text" value="20"/>	<input type="text" value="70"/>	<input type="text" value="80"/>	<input type="text" value="180"/>
Small Car	<input type="text" value="0"/>	<input type="text" value="30"/>	<input type="text" value="70"/>	<input type="text" value="80"/>	<input type="text" value="180"/>									
Big Car	<input type="text" value="0"/>	<input type="text" value="20"/>	<input type="text" value="70"/>	<input type="text" value="80"/>	<input type="text" value="180"/>									

Figure 1-3 Set RS-485 Radar

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3. **Optional:** Select the violation type(s) to be detected, and set the corresponding parameters. Refer to **Set Violation and Incident Detection** for details.
4. Set the lane parameters. Refer to **Set Linked Lane Parameters** for details.
5. Set continuous capture parameters. Refer to **Set Continuous Capture Parameters** for details.
6. Set speed limit parameters. Refer to **Set Lane Speed Limit Parameters** for details.
7. Link supplement light(s) to the specific lane(s). Refer to **Set Supplement Light Linkage** for details.
8. Set radar parameters. Refer to **Set Radar Parameters** for details.
9. **Optional:** Check the other lane(s) to copy the same settings.
10. Draw lane lines.
  - 1) Click **Draw Lane Line**.
  - 2) Select the default lane lines 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) Click **OK**.

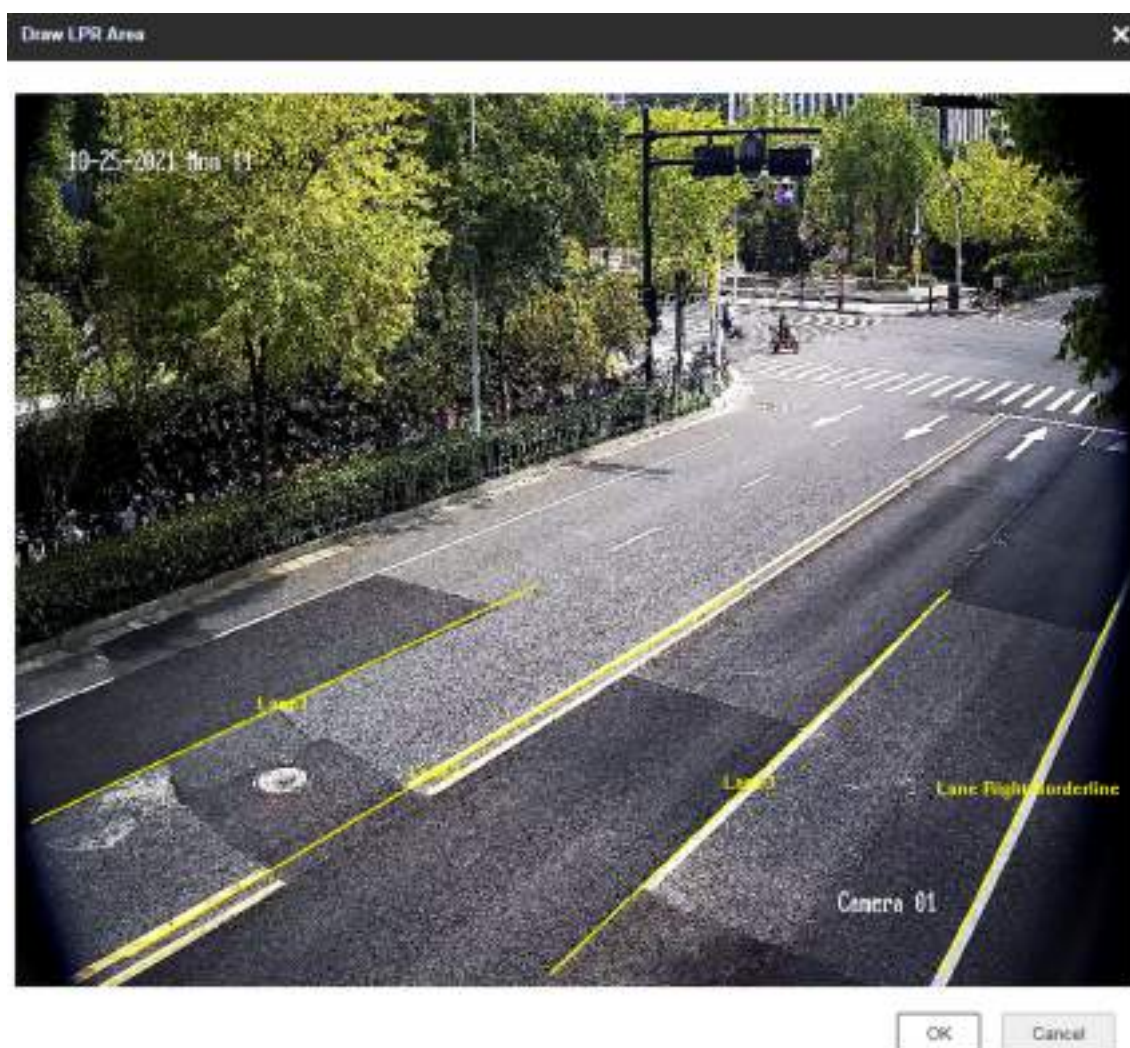


Figure 1-4 Draw Lane Line

**11.** Click **Save**.

### **1.1.3 Set Mixed-Traffic Lane**

Set mix-traffic lane if capture is triggered by virtual coils (video or radar detection). In this mode, the information including the vehicle speed, vehicle passing time, vehicle overview, license plate number, license plate color, vehicle color, the facial features of the driver and the front passenger, etc. will be recorded.

#### **Before You Start**

- Install the radar if speed detection is needed.
- Connect the D+ and D- of the radar RS-485 interface to the D+ and D- of the device RS-485 interface.

#### **Steps**

- 1.** Go to **Configuration** → **Capture** → **Application Mode** .
- 2.** Select **Application Mode** as **Mixed-Traffic Lane**.

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**Application Mode**

Application Mode:

Work Mode:

**Violation Detection Configuration**

<input checked="" type="checkbox"/> Checkpoint	<input type="text" value="1"/>
<input type="checkbox"/> Speeding	<input type="text" value="2"/>
<input type="checkbox"/> Weaving out of the Lane	<input type="text" value="2"/>
<input type="checkbox"/> Illegal Lane Change	<input type="text" value="2"/>
<input type="checkbox"/> Seatbelt Unfastened	<input type="text" value="2"/>
<input type="checkbox"/> Without Helmet	<input type="text" value="2"/>
<input type="checkbox"/> Manned Non-Motor Vehicle	<input type="text" value="2"/>
<input type="checkbox"/> Wrong-Way Driving	<input type="text" value="2"/>
<input type="checkbox"/> Low Speed	<input type="text" value="2"/>
<input type="checkbox"/> Prohibition Violation	<input type="text" value="2"/>
<input type="checkbox"/> Phone Call	<input type="text" value="2"/>

Capture Interval:  Time  Distance

Interval(s):  -

**Scene and Mode Configuration**

Capture Type:

Capture Mode:  Basic  Strobe

Speed Detection Mode:  N/A  Radar  Video

**Lane**

Total Lanes:

Lane1	Lane2	Lane3												
<p>Lane No.: <input type="text" value="1"/></p> <p>Linked Lane No.: <input type="text" value="1"/></p> <p>Lane Direction: <input type="text" value="Unknown"/></p> <p>Lane Type: <input type="text" value="Normal Lane"/></p> <p>Lane Property: <input type="text" value="High Way"/></p> <p>Direction: <input checked="" type="radio"/> From Top to Bottom <input type="radio"/> From Bottom to Top</p> <p>Vehicle: <input type="text" value="Abror..."/> Mix. Sp. <input type="text" value="Speed..."/> Speed... <input type="text" value="Abror..."/></p> <p>Speed(km/h)</p> <table border="1"> <tr> <td>Small Car</td> <td><input type="text" value="0"/></td> <td><input type="text" value="30"/></td> <td><input type="text" value="70"/></td> <td><input type="text" value="80"/></td> <td><input type="text" value="180"/></td> </tr> <tr> <td>Big Car</td> <td><input type="text" value="0"/></td> <td><input type="text" value="25"/></td> <td><input type="text" value="70"/></td> <td><input type="text" value="80"/></td> <td><input type="text" value="180"/></td> </tr> </table> <p>Linkage Output: <input checked="" type="checkbox"/> F1 <input checked="" type="checkbox"/> F2 <input checked="" type="checkbox"/> F3 <input checked="" type="checkbox"/> F4 <input checked="" type="checkbox"/> F5 <input checked="" type="checkbox"/> F6 <input checked="" type="checkbox"/> F7</p> <p>Flashlight Mode: <input checked="" type="radio"/> Simultaneous <input type="radio"/> Sequential</p> <p>Copy to: <input checked="" type="checkbox"/> Lane1 <input type="checkbox"/> Lane2 <input type="checkbox"/> Lane3</p>			Small Car	<input type="text" value="0"/>	<input type="text" value="30"/>	<input type="text" value="70"/>	<input type="text" value="80"/>	<input type="text" value="180"/>	Big Car	<input type="text" value="0"/>	<input type="text" value="25"/>	<input type="text" value="70"/>	<input type="text" value="80"/>	<input type="text" value="180"/>
Small Car	<input type="text" value="0"/>	<input type="text" value="30"/>	<input type="text" value="70"/>	<input type="text" value="80"/>	<input type="text" value="180"/>									
Big Car	<input type="text" value="0"/>	<input type="text" value="25"/>	<input type="text" value="70"/>	<input type="text" value="80"/>	<input type="text" value="180"/>									

**Figure 1-5 Set Mixed-Traffic Lane**

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- 3. Optional:** Select the violation type(s) to be detected, and set the corresponding parameters. Refer to **Set Violation and Incident Detection** for details.
- 4.** Set continuous capture parameters. Refer to **Set Continuous Capture Parameters** for details.
- 5.** Set scene and mode parameters. Refer to **Set Scene Mode** for details.
- 6.** Set the lane parameters. Refer to **Set Linked Lane Parameters** for details.
- 7.** Set speed limit parameters. Refer to **Set Lane Speed Limit Parameters** for details.
- 8.** Link supplement light(s) to the specific lane(s). Refer to **Set Supplement Light Linkage** for details.
- 9.** Set radar parameters. Refer to **Set Radar Parameters** for details.
- 10. Optional:** Check the other lane(s) to copy the same settings.
- 11.** Draw lane lines.
  - 1) Click **Draw Lane Line**.
  - 2) Set the property of the lane lines.
  - 3) Select the default lane lines, right border line, and trigger line, and drag the two end points of the line or drag the whole line to adjust its position according to the actual scene.
  - 4) Click **OK**.

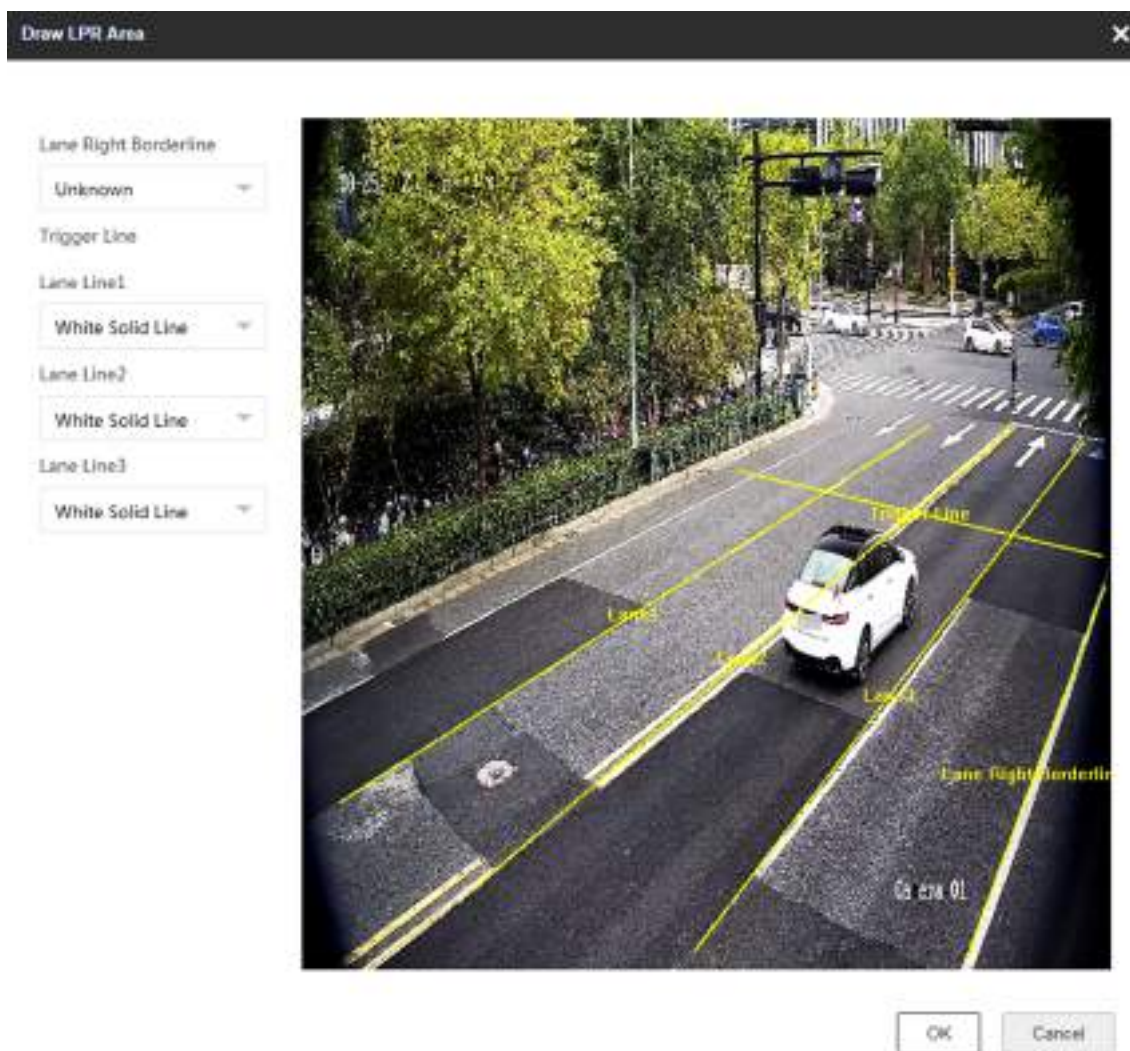


Figure 1-6 Draw Lane Line

12. Click **Save**.

## 1.2 Set Intersection Violation System Capture

Set video analysis intersection violation system if capture is triggered by virtual coils. In this mode, the information including the violation information, vehicle passing time, vehicle overview, license plate number, license plate color, vehicle color, etc. will be recorded.

### Steps

1. Go to **Configuration** → **Capture** → **Application Mode** .
2. Select **Application Mode** as **Video Analysis E-Police**.

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**Application Mode**

Application Mode: Video Analysis E-Police

Work Mode: Work Mode

**Video Detection**

- Checkpoint
- Not Following Directional Sign
- Illegal Lane Change
- Wrong-Way Driving
- Stop Vehicle on Intersection
- Red Light Running
- Weaving out of the Lane
- Speeding
- Without Helmet
- Illegal U-Turn
- Illegal Parking
- Failing to Yield for Pedestrians
- Manned Non-Motor Vehicle

Capture Interval:  Time  Distance

Interval(s): 100

**Detection Mode Settings**

Capture Type: Motor Vehicle

Speed Detection Mode:  M/D  Radar

**Lane**

Total Lanes: 3

Lane1	Lane2	Lane3
Select Lane No.: 1 Lane Direction: Unknown Lane Type: Normal Lane Direction: Right Turn + Right Turn + Straight Recording Start Time: 2 Violation Recording: <input type="checkbox"/> Enable Speed Limit(km/h): 60 Speed Limit Sign(km/h): 70 Enable Positioning Frame: <input type="checkbox"/> Enable Positioning Frame Size: Small Copy to: <input checked="" type="checkbox"/> Lane1 <input type="checkbox"/> Lane2 <input type="checkbox"/> Lane3		

**Traffic Light**

Traffic Light Signal Input: Video Analysis Interface

Area Settings: Set

Signal Light Detection: Detect

Figure 1-7 Set Intersection Violation System Capture

**3. Optional:** Select the violation type(s) to be detected, and set the corresponding parameters. Refer to **Set Violation and Incident Detection** for details.

**4.** Set continuous capture parameters. Refer to **Set Continuous Capture Parameters** for details.

**5.** Set **Capture Type** and **Speed Detection Mode**. Refer to **Set Scene Mode** for details.

**6.** Set the lane parameters. Refer to **Set Linked Lane Parameters** for details.

**7.** Set violation recording parameters. Refer to **Set Violation Recording Parameters** for details.

**8.** Set speed limit parameters. Refer to **Set Lane Speed Limit Parameters** for details.

**9.** Check **Enable Positioning Frame**, and set **Positioning Frame Size**.

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

**10. Optional:** Check the other lane(s) to copy the same settings.

**11.** Set traffic light detection. Refer to **Set Traffic Light Detection Parameters** for details.

**12.** Draw the lane lines and other lines.

1) Click **Draw Lane Line**.

2) Set the property of the lane lines.

3) Select **Stop Line**, **Borderline of Turning Left**, **Borderline of Turning Right**, or **Trigger Line of Going Straight** according to the actual scene.

4) Select the default lane lines and other lines, and drag the two end points of the line or drag the whole line to adjust its position according to the actual scene.

5) Click **OK**.



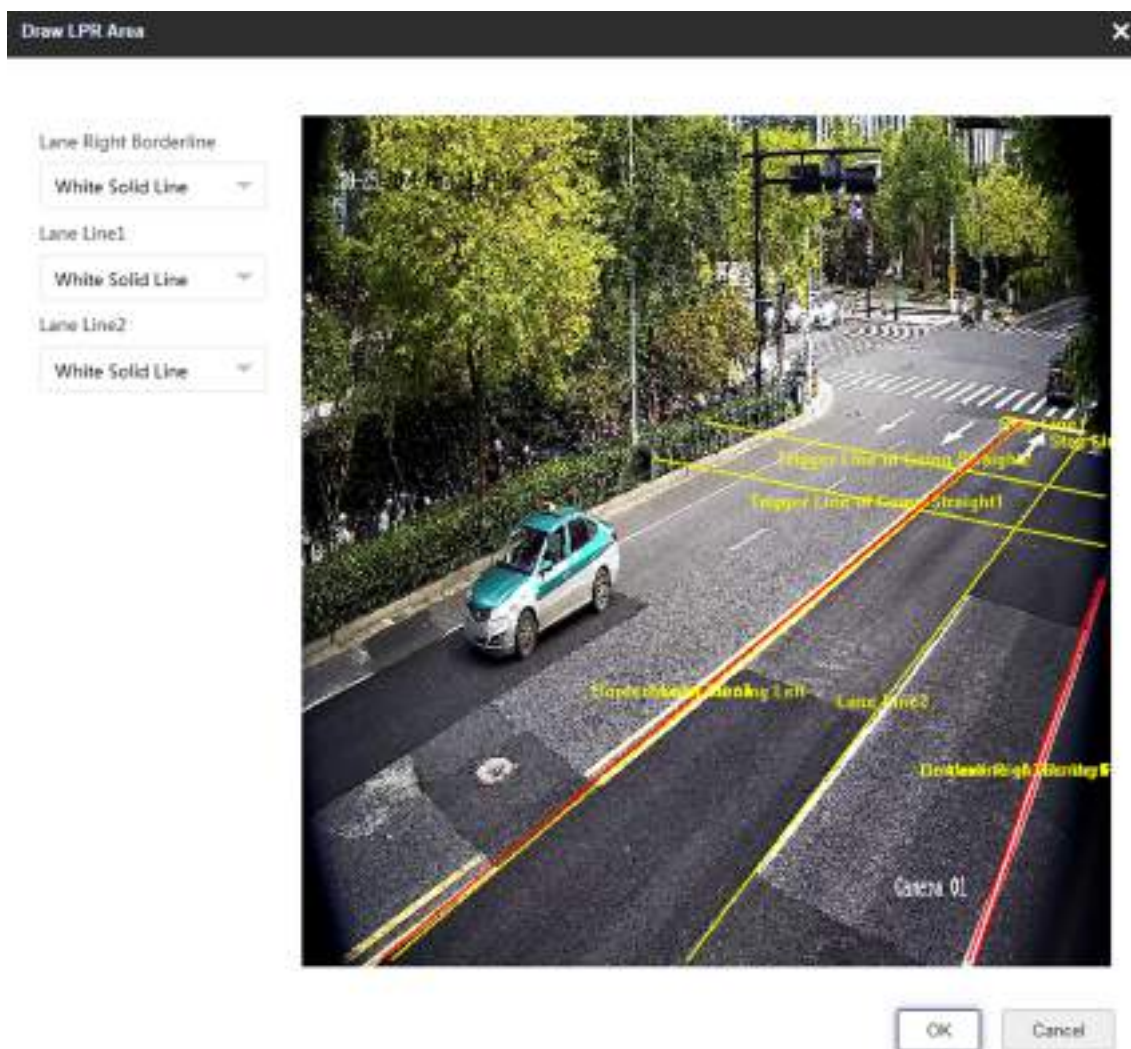


Figure 1-8 Draw Lane Line

13. Click **Save**.

### 1.3 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 **Application Mode** as **Smart Mode**.

**Application Mode**

Application Mode: Smart Mode ▼

Work Mode:

**Smart Mode**

Capture Type: Motor Vehicle ▼

Burst Times: 1 ▼

Interval(ms): 200

Total Lanes: 2 ▼

Lane1
Lane2

---

Lane Direction: Unknown ▼

Direction: From Top to Bottom ▼

Linked Lane No.: 1

Copy to:  Lane1  Lane2

**Figure 1-9 Set Smart Monitoring Capture**

3. Set smart mode parameters. Refer to ***Set Scene Mode*** for details.
4. Set continuous capture parameters. Refer to ***Set Continuous Capture Parameters*** for details.
5. Set the lane parameters. Refer to ***Set Linked Lane Parameters*** for details.
6. **Optional:** Check the other lane(s) to copy the same settings.
7. Draw lane lines.
  - 1) Click **Draw Lane Line**.
  - 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**.

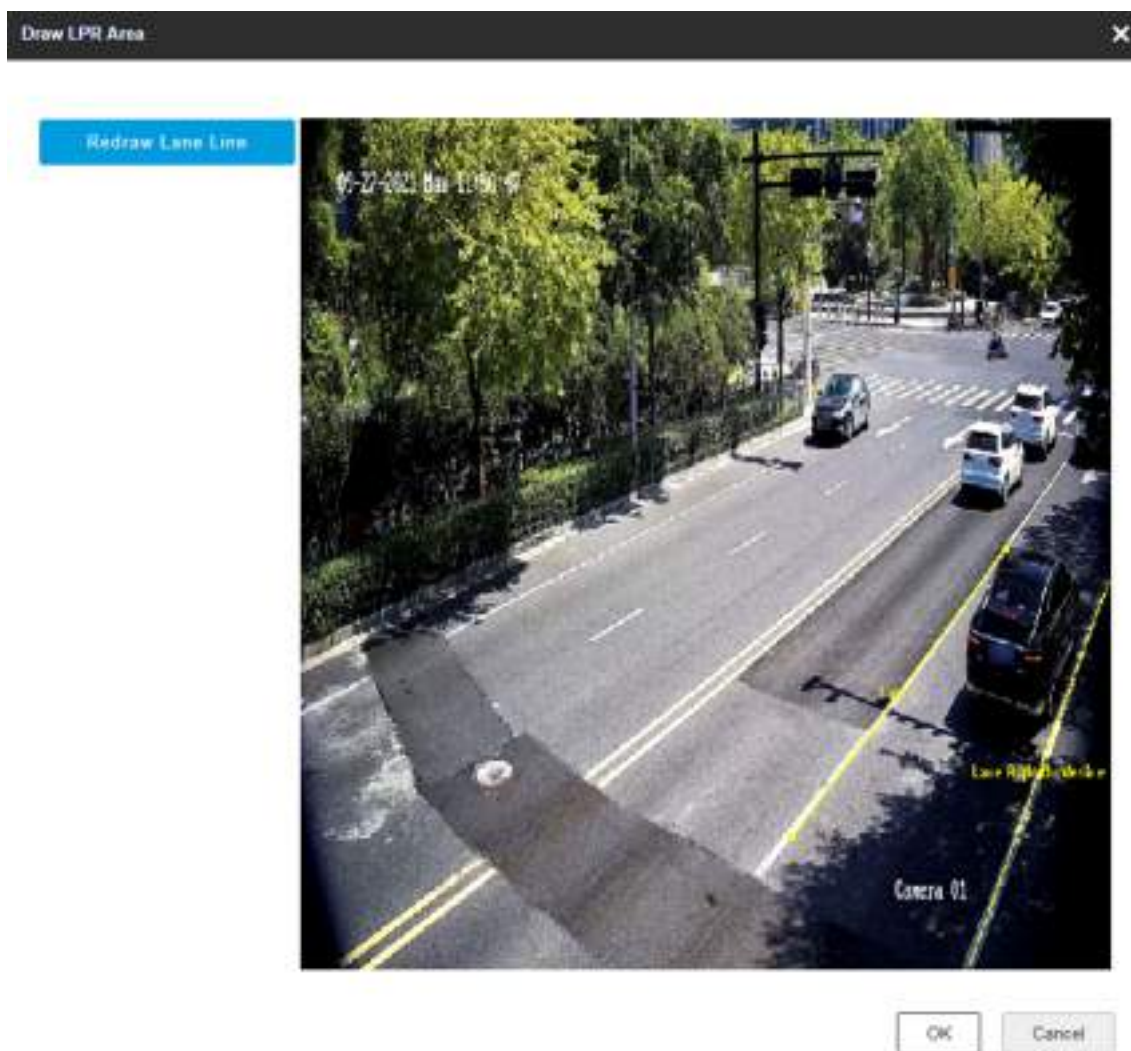


Figure 1-10 Draw Lane Line

8. Click **Save**.

### 1.4 Set License Plate Recognition System Capture

If you want to trigger capture of the passing vehicles and recognize the license plate numbers, set license plate recognition system capture.

**Steps**

1. Go to **Configuration** → **Capture** → **Application Mode** .
2. Select **Application Mode** as **License Plate Recognition System**.

**Application Mode**

Application Mode: License Plate Recognition System

Work Mode: License Plate Recognition System

**License Plate Recognition System Mode**

Trigger Type: Video Detection

Picture Type: Scene Picture

Capture Type: Strobe Light Mode

Total Lanes: 1

---

Lane1

Lane Direction: Unknown

Linked Lane No.: 1

**Figure 1-11 Set License Plate Recognition System**

**3. Select Trigger Type.**

**Video Detection**

The passing vehicles will be recognized via videos. The capture mode is recommended as **Strobe Light Mode**.

**I/O Coil**

Select it when the device has been connected to I/O signal.

---

 **Note**

The trigger types vary with different models. The actual device prevails.

**4. Select Picture Type.**

**Scene Picture**

Only one passing vehicle picture will be output.

**Scene Picture + Close-up Picture**

One passing vehicle picture and one close-up picture will be output.

**5. Set the lane parameters. Refer to Set Linked Lane Parameters for details.**

**6. Set other parameters according to the selected trigger type.**

**I/O Trigger Default Status**

## Network Traffic Camera Configuration Manual

---

Capture is triggered according to the level signal status. If you select **Falling Edge**, the device will trigger capture at the moment that the high level falls to low level. If you select **Rising Edge**, the device will trigger capture at the moment that the low level rises to high level.

### Linked I/O No.

When the coil detects that there is a vehicle passing, a rising or falling edge signal is sent to the linked I/O of the device to trigger capture.

### 7. Draw lane lines.

- 1) Click **Draw Lane Line**.
- 2) Select the default lane 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) Click **OK**.



### Note

It is recommended to draw the trigger line at the position which is  $1/3$  to  $1/4$  of the lane line. The license plate pixel should be between 120 to 180 at the capture position.

---



**Figure 1-12 Draw Lane Line**

8. Click **Save**.

## 1.5 Set Application Mode Detailed Parameters

### 1.5.1 Set Violation and Incident Detection

The device supports different violation types detection. You can select the violation type(s) to be detected under different application modes, and set the corresponding parameters.

## Steps




### Note

- Not all the application modes support violation detection.
- The violation and incident detection types vary with different models. The actual device prevails.

1. Go to **Configuration → Capture → Application Mode** .
2. Select **Application Mode**.
3. Select the violation type(s) to be detected according to the actual needs.

**Table 1-1 Violation Detection Types Description**

Violation Detection Type	Description
Seatbelt Unbuckled	The driver of a motor vehicle does not buckle the seatbelt during driving. Check it and select the number of captured picture(s).
Phone Call	The driver of a motor vehicle uses the mobile phone to make or receive calls during driving. Check it and select the number of captured picture(s).
Checkpoint	Check it and select the number of captured picture(s).
Speeding	The motor vehicle is driven in the speed larger than the max. speed limit of the lane. Check it and select the number of captured picture(s).
Weaving out of the Lane	The motor vehicle is driven out of the lane and over the solid lane line. Check it, select the number of captured picture(s), and set the sensitivity.
Illegal Lane Change	Most part of the vehicle body crosses over the lane line and enters into another lane. Check it and select the number of captured picture(s).
Manned Non-Motor Vehicle	The non-motor vehicle carries a person illegally. Check it and select the number of captured picture(s).
Wrong-Way Driving	The vehicle is driven in the direction opposite to the guidance direction of the lane. Check it and select the number of captured picture(s).
Low-Speed Violation	The motor vehicle is driven in the speed lower than the min. speed limit of the lane. Check it and select the number of captured picture(s).
Prohibition Violation	Left-turn violation, right-turn violation, emergency lane occupation, large-sized vehicle passing violation, bus lane occupation, etc. Check it and select the number of captured picture(s).

Violation Detection Type	Description
	 <b>Note</b> If <b>Prohibition Violation</b> is enabled, and <b>Lane Type</b> is set as <b>Highway Emergency Lane</b> , the violation of occupying emergency lane will be captured.
Not Following Directional Sign	The moving direction of the motor vehicle is not consistent with the guidance direction at the intersection. Check it and select the number of captured picture(s).
Stop Vehicle on Intersection	It refers to the violation behavior that when the vehicle is waiting for the red light at intersection, it crosses over the stop line and stops at the intersection. Check it and set the dwell time and sensitivity. <p><b>Dwell Time</b></p> <p>If the vehicle stops at the intersection for more than the dwell time, capture will be triggered.</p> <p><b>Stopping Sensitivity</b></p> <p>It is used to judge if the vehicle is in the stopping status. If the displacement of the vehicle is smaller than the set sensitivity, then the vehicle is regarded as stopping at the intersection.</p>
Red Light Running	Check it, select the number of captured picture(s), and set the parameters below. <p><b>Prior Capture Event</b></p> <p>If you select <b>Red Light Running</b>, the violation will be captured in priority when other violations are also detected.</p> <p><b>Analysis Rule</b></p> <p>You can enable video analysis by direction or lane, and draw the corresponding trigger line.</p> <p><b>Capture Position of First Picture</b></p> <p>The vehicle position of the firstly captured picture.</p> <p><b>Offset for Second Capture</b></p> <p>The offset pixel of the second captured picture of the vehicle running the red light to the stop line.</p> <p><b>Offset for Third Capture</b></p> <p>The min. offset pixel of the third captured picture of the vehicle running the red light to the second captured picture. It is recommended to remain the default value.</p>



Violation Detection Type	Description
	<p><b>Enabling Red Light Delay Frame</b></p> <p>Due to the gotten traffic light status is not consistent with the actual status, the vehicles running when the light is yellow may be captured as running the red light. Set the delay frame, then the captured pictures of running the red light during the set frame will be regarded as invalid.</p>
Illegal U-Turn	The motor vehicle makes a U-turn at the intersection where U-turn or left turn is forbidden.
Illegal Parking	The motor vehicle stops at the positions where parking is forbidden. Check it and set the parameters. When the vehicle parks at the lane, and the parking duration exceeds the set <b>Parking Time</b> , capture will be triggered. When the congestion caused by the illegal parking exceeds the set <b>Congestion Threshold</b> , the lane is regarded as congested.
Failing to Yield for Pedestrians	<p>The motor vehicle does not yield for the pedestrians or let them go first. Check it to enable the violation capture of not yielding to pedestrian. Click <b>Draw Lane Line</b> to adjust the upper and lower border of triggering lines of not yielding to pedestrian. Set the corresponding parameters.</p> <p><b>No Displacement Capture of Pedestrian</b></p> <p>If you check it, when the pedestrian is standing still and the vehicle is passing by, it is regarded as not yielding to pedestrian, and capture will be triggered. If you do not check it, only when the pedestrian is moving and the vehicle is passing by, it is regarded as not yielding to pedestrian, and capture will be triggered.</p> <p><b>Not Yielding to Non-Motor Vehicle Capture</b></p> <p>Check it to enable the violation capture of not yielding to non-motor vehicles.</p> <p><b>Camera Location</b></p> <p>If the camera is installed at the intersection, the device can judge the intersection condition according to the traffic light connected via the RS-485 serial port.</p> <p><b>Sensitivity</b></p> <p>The higher the sensitivity is, the more easily the violation will be captured.</p> <p><b>Number of Pedestrian Not Yielded to</b></p>

Violation Detection Type	Description
	When the number of pedestrians not yielded to reaches the set value, capture will be triggered.

## 1.5.2 Set Linked Lane Parameters

You can set the properties and parameters of the linked lanes.

### Steps

---



#### Note

- Not all the application modes support linked lane parameters settings.
  - The linked lane parameters vary with different models. The actual device prevails.
- 

1. Go to **Configuration → Capture → Application Mode** .
2. Select **Application Mode**.
3. Set lane parameters.

#### Lane No.

The No. of the selected lane.

#### Linked Lane No.

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

#### Lane Type

If you select **Highway Emergency Lane** or **Truck Forbidden Lane**, set the period.

If you select **Opposite Lane**, the lane direction will be opposite from the current direction.

#### Total Lanes

The sum of the linked lane(s) under the current application mode.

#### Lane Direction

The guidance direction of the lane.

#### Lane Property

Select the lane type for speeding capture. The violation rules vary with different lane types.

#### Direction (in Mixed-Traffic Lane Mode and Smart Mode)

The driving direction of the vehicle. If you set the direction as **From Top to Bottom**, then the vehicle will be judged as wrong-way driving if it comes from bottom to top, and vice versa.

#### Direction (in Video Analysis E-Police Mode)

The vehicles on the selected direction will be detected.

## 1.5.3 Set Continuous Capture Parameters

Set continuous capture parameters to realize the continuous capture of the violation behaviors.

### Steps

---



#### Note

- Not all the application modes support continuous capture parameters.
  - The continuous capture parameters vary with different models. The actual device prevails.
- 

1. Go to **Configuration** → **Capture** → **Application Mode** .
2. Select **Application Mode**.
3. Set continuous capture parameters.

#### Capture Pictures

The number of captured picture(s).

#### Occupy Emergency Lane Capture

Check it to capture emergency lane occupation violation. One more picture will be captured beyond the set number of captured picture(s).

#### Enable Low Speed Capture

Check it to capture the violation of driving in the speed lower than **Min. Speed Allowed**.

#### Speeding Capture

Check it to capture the speeding violation. One more picture will be captured beyond the set number of captured picture(s).

#### Capture Interval

Set **Interval (dm)** (the distance between the adjacent captures) if you select **Distance**, and set **Interval (ms)** (the time between the adjacent captures) if you select **Time**.

#### Burst Times

The number of picture(s) for continuous capture.

#### Interval

The time between the adjacent captures.

4. Click **Save**.

## 1.5.4 Set Scene Mode

Set the capture type, capture mode, and speed detection mode for the application mode.

## Steps

---



### Note

- Not all the application modes support scene mode settings.
  - The scene mode parameters vary with different models. The actual device prevails.
- 

1. Go to **Configuration** → **Capture** → **Application Mode** .
2. Select **Application Mode**.
3. Set **Capture Type**.

#### **Motor Vehicle, Non-Motor Vehicle, and Pedestrian**

The motor vehicles, non-motor vehicles, and pedestrians in the scene will be recognized and captured.

#### **Motor Vehicle**

Only the motor vehicles in the scene will be recognized and captured.

#### **Non-Motor Vehicle**

Only the non-motor vehicles in the scene will be recognized and captured.

4. Set **Capture Mode**.

#### **Burst**

It adopts the separate exposure, and is applicable to the condition of viewing face pictures clearly at night.

---



### Note

In burst mode, if you enable weaving out of the lane and illegal lane change detection, the burst light will not on, but captures will be triggered normally.

---

#### **Strobe**

It adopts the frame extracting, and the captured pictures share the same exposure parameters with the video image. It is applicable to the condition of capturing license plates only.

5. Set **Speed Detection Mode**.

#### **Radar**

Speed detection via radar.

#### **Video**

Speed detection via video.

6. Click **Save**.

## 1.5.5 Set Radar Parameters

Set radar parameters for speed detection via radar.

## Steps

---



### Note

- Not all the application modes support radar parameters.
  - The radar parameters vary with different models. The actual device prevails.
- 

1. Go to **Configuration → Capture → Application Mode** .
2. Select **Application Mode**.
3. Set the parameters.

#### Radar Type

Select the connected radar type.

#### Angle

The angle between the radar and the horizontal direction. Set it according to the actual construction angle. Improper angle may affect the speed detection.

#### Sensitivity

The higher the value is, the more sensitive the radar detection will be.

#### Linkage 485 No.

Select the connected RS-485 port No. of the radar.

#### Radar Efficient Time

If the duration from the time that the radar sends the detected vehicle speed to the device to the time that the device captures the vehicle locates in the efficient time, then the radar detected speed is valid. If not, it is invalid.

#### Linearity Correction

Adjust the radar output result according to the actual speed.

#### Constant Correction

The constant correction is to improve the accuracy of the detection speed. It is the extra added/minus speed value.

---



### Note

The final speed is calculated according to the radar output speed, the linearity correction, and constant correction together. E.g., the detected speed is 80 km/h, and you set the linearity correction as 1.2, and the constant correction as 5, then the final speed is  $80 \text{ km/h} \times 1.2 + 5 = 101 \text{ km/h}$ . And if you do not want to make any change to the detected speed, you can set the linearity correction as 1, and the constant correction as 0.

---

4. Click **Save**.

## 1.5.6 Set Violation Recording Parameters

You can enable violation recording and set the parameters.

## Steps

---



### Note

- Not all the application modes support violation recording.
  - The violation recording parameters vary with different models. The actual device prevails.
- 

1. Go to **Configuration → Capture → Application Mode** .
2. Select **Application Mode**.
3. Enable **Violation Recording**.
4. Set the violation recording parameters.

#### Recording Start Time

Select the number of captured picture(s). Record will start after the set number of picture(s) captured.

#### Pre-record Time

The time before the violation recording starts.

#### Post-record Time

The time after the violation recording ends.

5. Click **Save**.

## 1.5.7 Set Supplement Light Linkage

You can link supplement light(s) to the specific lane(s).

### Before You Start

Connect the supplement light(s) to the corresponding interface(s) of the device.

## Steps

---



### Note

- Not all the application modes support supplement light linkage.
  - The supplement light linkage parameters vary with different models. The actual device prevails.
- 

1. Go to **Configuration → Capture → Application Mode** .
2. Select **Application Mode**.
3. Check the corresponding supplement light triggering output interface(s).
4. Select **Flashlight Mode**.

#### Simultaneous

The supplement lights of all the lanes will be triggered simultaneously when there is vehicle passing.

#### Sequential

Only the supplement light of the specific lane will be triggered when there is vehicle passing.

---

 **Note**

If LED supplement light is adopted, the recognition rate of the vehicle body color cannot be guaranteed at night.

---

5. Click **Save**.

## 1.5.8 Set Lane Speed Limit Parameters

Set the speed limit parameters for different types of vehicles.

### Steps

---

 **Note**

- Not all the application modes support lane speed limit parameters.
  - The lane speed limit parameters vary with different models. The actual device prevails.
- 

1. Go to **Configuration** → **Capture** → **Application Mode** .
2. Select **Application Mode**.
3. Set the lane speed limit parameters for small-sized and large-sized vehicles.

#### Abnormal Low Speed

When the detected speed of the vehicle is lower than the value, the detection is regarded as abnormal, and a normal speed will be provided randomly.

#### Min. Speed

The actual allowed min. speed for the vehicles. When the vehicle speed is lower than the value, low speed capture will be triggered.

---

 **Note**

The min. speed of large-sized vehicles should be smaller than that of the small-sized vehicles.

---

#### Speed Limit Sign

The speed limit on the sign for the vehicles. The value will be overlaid on the captured pictures.

#### Speed Limit

The actual speed limit for the vehicles. When the vehicle speed exceeds the value, speeding capture will be triggered.

---

 **Note**

The speed limit of large-sized vehicles should be smaller than that of the small-sized vehicles.

---

#### Abnormal Speed Threshold

When the detected speed of the vehicle exceeds the value, the detection is regarded as abnormal, and a normal speed will be provided randomly.

## Capture Speed

When the speed of the vehicle on the lane (except the emergency lane) is lower than the set value, no capture will be triggered.

4. Click **Save**.

## 1.5.9 Set Traffic Light Detection Parameters

Traffic light detection is supported for video analysis intersection violation system.

### Steps

1. Go to **Configuration → Capture → Application Mode**.
2. Select **Application Mode** as **Video Analysis E-Police**.
3. Select **Traffic Light Signal Input** and set the corresponding parameters.

**RS-485** Set **Linked Red Light Channel** and **Yellow Light Related Channel No.** according to the actual wiring.

**Video Analysis Interface** Click **Set** to set the video analysis area.



**Figure 1-13 Set Video Analysis Area**

- a. Select the area.
- b. Set the parameters.

### Guiding Direction of Traffic Light

The direction guided by the traffic light.



## Traffic Light Color

The color of the traffic light.

## Traffic Light Amount

The number of the traffic light(s).

## Traffic Light Layout

The arrangement of the traffic light(s).

- c. Click **Zoom In** to zoom in the live view image.
- d. Click **Add Traffic Light** to add the traffic light.
- e. Drag the four points of the region to adjust the size or drag the whole region to adjust its position according to the actual scene.
- f. Click **Delete Current Traffic Light** to delete the area.
- g. Click **OK**.

You can click **Detect** to test the traffic light.

<b>Network Mode</b>	Set <b>Linked Red Light Channel</b> and <b>Yellow Light Related Channel No.</b> according to the actual wiring.
---------------------	---

---



### Note

You can go to **Live View → Traffic Light Status** to view the traffic light status.

---

4. Click **Save**.

## 1.6 Set Capture Parameters

### 1.6.1 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** .



**Figure 1-14 Set Captured Image Parameters**

**2. Set the captured image parameters.**

**Brightness**

It refers to the max. brightness of 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.

**Daytime Brightness Enhancement**

It refers to the brightness of the image in the daytime. Higher value stands for brighter image.

**Window Enhancement**

In front light or back light scene, the flash light may not pass through the vehicle window, or the image effect of the window is bad caused by the light. In this condition, you can check **Window Enhancement**. The higher the **Brightness Enhancement Level** is, the brighter the window image is. The higher the **Defog Level** is, the better the permeability of the window image is.

**White Balance Level**

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

## 1.6.2 Set License Plate Recognition Parameters

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

### Before You Start

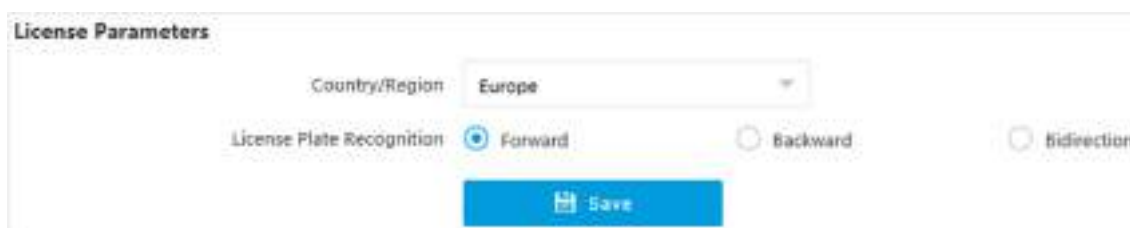
For some models, you need to select **Application Mode** as **License Plate Recognition System**.

### Steps

#### Note

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

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



**Figure 1-15 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**.

## 1.6.3 Set Supplement Light Parameters

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

### Steps

#### Note

- For video intersection violation system mode, only strobe light can be connected, and the I/O effective status should be set as pulse.
- The supported parameters vary with different models. The actual device prevails.

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



**Figure 1-16 Set Supplement Light Parameters**

2. Select the I/O and set the supplement light parameters.

### I/O Output Mode

#### Flash Light Mode

The flash light will be triggered by the signals and output high intensity illumination instantaneously. The light can pass through the windshield and help to capture the details.

#### Constant Light Mode

The constant light supplements light for the scene.

#### Output in Advance

It is the preact time [0 to 1000  $\mu$ s] of the flash light, to ensure that the flash light is on when capture is triggered.

#### Output Dwell Time

It is the dwell time [0 to 10000  $\mu$ s] after the flash light responds. The actual flash light supplement time is the result of the dwell time minus advanced time.

#### Effective Status

Select the effective status of the supplement light according to the actual condition.

#### High/Low

When high/low level signal is output to the supplement light, the light will flash.

The effective status should stay different with the default status for I/O to take effect. And the default status changes according to the selection of the effective status. If you set the effective status as high level, the default level goes to low level.

### Pulse

When pulse signal is output to the supplement light, the light will flash.

If you set the effective status as pulse, you can select the default status as high level or low level, and set **Frequency Coefficient** which is the frequency multiplication of 25 of output pulse by flash light, to keep the flash light as constant. You can set it as default value.

### Light Compensation Mode

Select **Checkpoint** to enable checkpoint capture light supplement. Select **Violation Action** to enable violation capture light supplement.

### Duty Ratio

It is the time occupation of the high level in a certain period. The higher the duty ratio, the brighter the solid light. High duty ratio will cut life span of the solid light.

3. Set the supplement light control mode.
  - Check **Default** to disable the supplement light.
  - Check **Time Schedule** when you want the supplement light to be enabled during a fixed time period. Set the start time and end time.
  - Check **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.
  - Check **License Plate Brightness** when you want the supplement light to be enabled according to the license plate brightness automatically. It is valid only when you select **Effective Status** as **Pulse**.

---

#### Note

The four modes conflict with each other. You can only enable one mode.

---

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

5. Click **Save**.

### 1.6.4 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

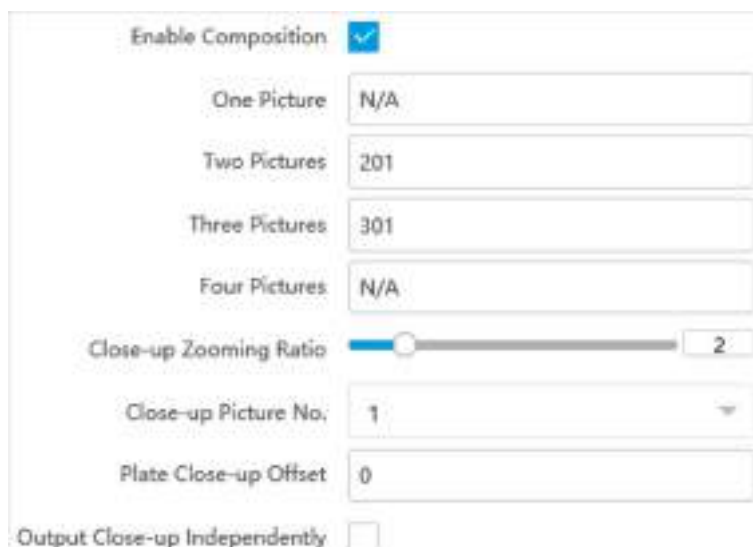
---

#### Note

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

---

1. Go to **Configuration** → **Capture** → **Capture Parameters** → **Picture Encoding and Composition** → **Image Composition/Violation Picture Composition** .



**Figure 1-17 Set Picture Composition**

2. Check **Enable Composition**.
3. Set composition types for different picture quantities.
4. 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.

5. **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.

6. Click **Save**.

## 1.6.5 Set Information Overlay

### Set Single Picture Overlay

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

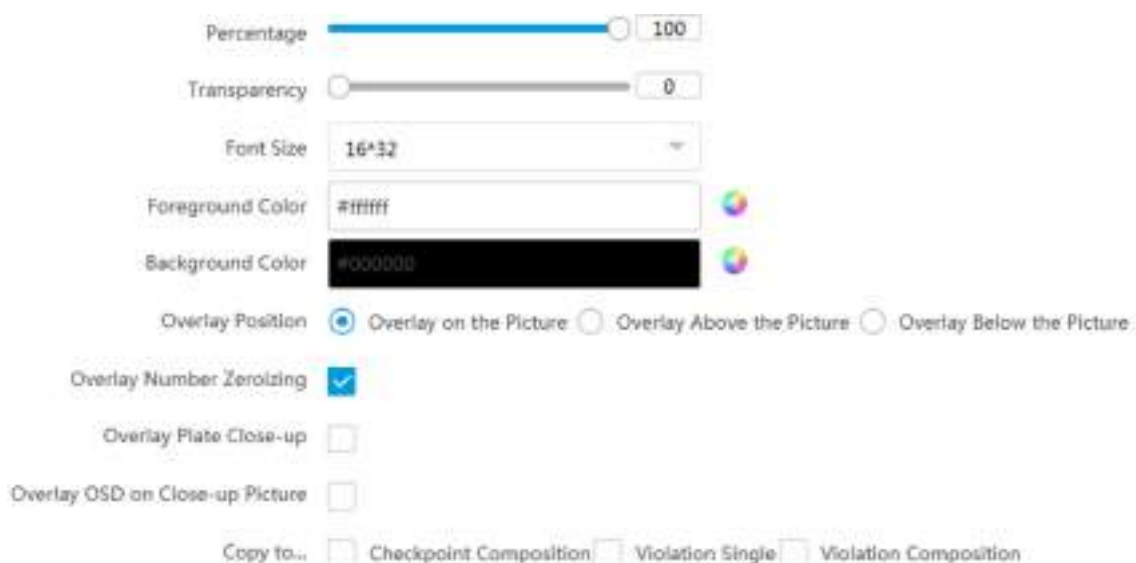
#### Steps



#### Note

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

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



**Figure 1-18 Set Single Picture Overlay**

4. 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.

#### 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

## Network Traffic Camera Configuration Manual

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Check it to overlay license plate close-up pictures on the captured pictures.

### Overlay OSD on Close-up Picture

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

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

6. Select the overlay information from the list.





#### Note

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

---

7. Set the overlay information.

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

8. Click **Save**.

## Set Composite Picture Overlay

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

### Steps

---



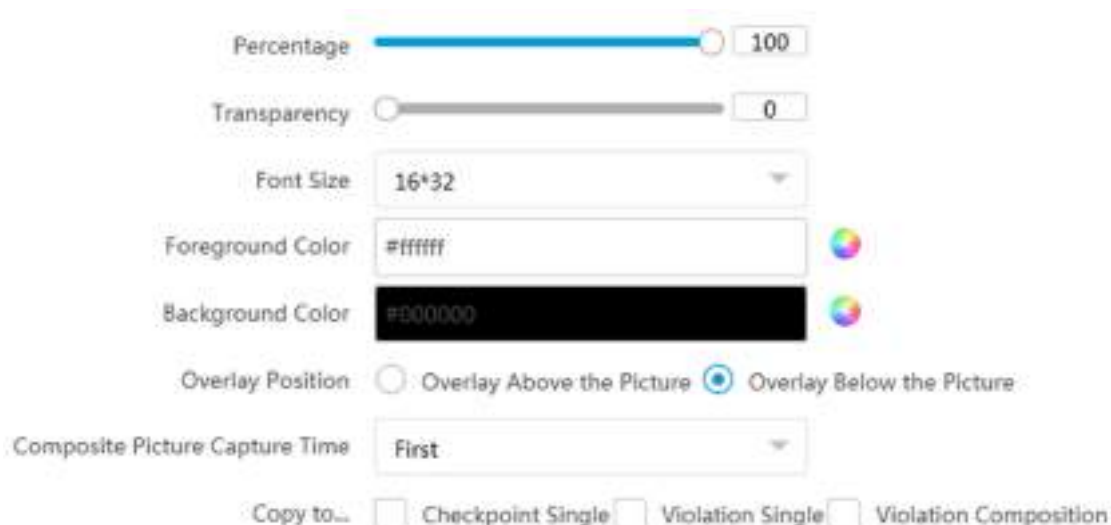
#### Note

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

---

1. Go to **Configuration** → **Capture** → **Capture Parameters** → **Text Overlay** .
2. Select composite picture channel.
3. Check **Capture Picture Overlay**.





**Figure 1-19 Set Composite Picture Overlay**

4. 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.

**Composite Picture Capture Time**

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

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

6. Select the overlay information from the list.



 **Note**

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

7. Set the overlay information.

<b>Set Type</b>	You can edit the type.
<b>Set Overlay Information</b>	For some information types, you can edit the detailed information.
<b>Set Overlay Position</b>	If you check it, the current information will be displayed from a new line.
<b>Set Space</b>	Edit the number of space between the current information and the next one from 0 to 255. 0 means there is no space.
<b>Set Line Break Characters</b>	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.

8. Click **Save**.

## 1.6.6 Set Body Picture Matting

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

### Steps

---

#### **Note**

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

---

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



**Figure 1-20 Set Body Picture Matting**

3. Set body picture matting parameters according to the actual needs.
4. 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.

## 1.6.7 Set Traffic Light

### Set Traffic Light Enhancement

Adjust the traffic light enhancement parameters to restore true colors of the traffic lights.

### Steps

---

#### **Note**

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

---

1. Go to **Configuration** → **Video** → **Traffic Light Enhancement** .
2. Check **Traffic Light Enhancement**.



**Figure 1-21 Set Traffic Light Enhancement**

3. Select **Enhancement Mode**.



**Note**

Select **Smart Traffic Light Enhancement** if the device supports this mode.

4. Draw traffic light areas.
  - 1) Select **Magnification**.
  - 2) Click **Zoom In**.
  - 3) Click **Add Traffic Light**.
  - 4) Adjust the drawn areas according to the actual scene.



**Note**

You need to cover the whole scene where the traffic lights locate if you select **Smart Traffic Light Enhancement**. Draw areas according to each traffic light location if you select **Traffic Light Enhancement**.



**Figure 1-22 Sample**

- 5) **Optional:** Select **Light Shape**.
- 6) **Optional:** Set **Yellow Light Delay Time**.
5. Set traffic light enhancement parameters according to the actual needs.



**Note**

Keep default settings if the device supports smart traffic light enhancement mode.

---

**Correction Level**

You can set different correction levels for different periods. The higher the value is, the brighter the traffic image color will be.

**Detection Sensitivity**

It is recommended to adjust by 5 once. This function is valid during daytime. The higher the value is, the less enhancement exception is.

**Extended Pixel**

It is recommended to adjust by 5 once. The higher the value is, the clearer the enhanced area is.

**Halo Suppression Level**

It is recommended to adjust by 10 once. This function is valid during night. The higher the value is, the lighter the halo is.

**Exposure Level**

The higher the exposure level is, the brighter the image is.

**Extended Pixel of Mask**

It is recommended to adjust by 1 once. The higher the value is, the less possibility to get exceptional image edges of the traffic lights. However, the traffic lights will be easily enhanced.

6. Click **Save**.

## Set Traffic Light Synchronization

If you want to synchronize the shutter with the traffic light, enable the traffic light synchronization.

### Steps



#### Note

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

1. Go to **Configuration** → **Video** → **Camera Parameter** → **Power Synchronization** .
2. Check **Power Synchronization**.



**Figure 1-23 Set Traffic Light Synchronization**

3. Set **Phase Position** and **Signal Frequency** according to the actual needs.
4. Click **Save**.

## 1.6.8 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** .



**Figure 1-24 Set Vehicle Feature Parameters**

2. Check the vehicle features that needed to be detected, and set the corresponding parameters.  
**Non-Motor Vehicle User Wearing Helmet Detection**

Set **Helmet Detection Sensitivity**. It will capture when the amount of people who are not wearing helmets reaches the set value. If there are 2 or above people in the vehicle, it will not capture when the amount of people who are not wearing helmets is less than the set value. If there is only one person in the vehicle and he/she is not wearing a helmet, it will capture.

3. Select **Steering Wheel Location** according to the actual condition.
4. Click **Save**.

## 1.6.9 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** → **Picture Encoding and Composition** → **Image Encoding**.



**Figure 1-25 Set Image Encoding Parameters**

2. Select **Capture Resolution**.
3. 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.

4. Click **Save**.

## 1.7 Set Barrier Gate Linkage

If a barrier gate has been connected to the device, you can link barrier gate to realize the control and management of the vehicles at the entrance or exit.

## Note

Only the device supporting license plate recognition system supports barrier gate linkage. The actual device prevails.

## 1.7.1 Set Allowlist and Blocklist

Set allowlist and blocklist if you want to control the passing vehicles at the entrance or exit via the barrier gate.

### Before You Start

- Connect the barrier gate to the relay output interface of the device.
- Install the storage card, and ensure the storage status is normal.

### Steps

1. Go to **Configuration → Capture → Entrance and Exit → Allowlist and Blocklist**.
2. Add an allowlist or blocklist.
  - 1) Click **Add**.
  - 2) Set **License Plate Number** and **Card No.**, and select the list type.
  - 3) **Optional:** If you want to control allowlist vehicles during fixed time period, enable **Time Settings**, and set the effective start time and end time.
  - 4) Click **OK**.

## Note

Wait for 15 minutes to let the added allowlist or blocklist write into the storage. Do not reboot the device during the process.

The information of the added vehicles in the allowlist or blocklist will be listed below.



License Plate Number	Setting Type	Card No.	Start Time for Entry	End Time for Entry	Operation
京A12345	Blocklist				 
京A12345	Blocklist		2021-10-26	2021-10-26 14:56:14	 

**Figure 1-26 Set Allowlist and Blocklist**

3. You can search, modify, delete, import, or export the allowlist and blocklist.

**Search** Select the search type, or enter the keywords. Click **Search**. The searched vehicle information will be listed below.

**Modify** Select an item from the list, and click . Modify the information, and click **OK**.

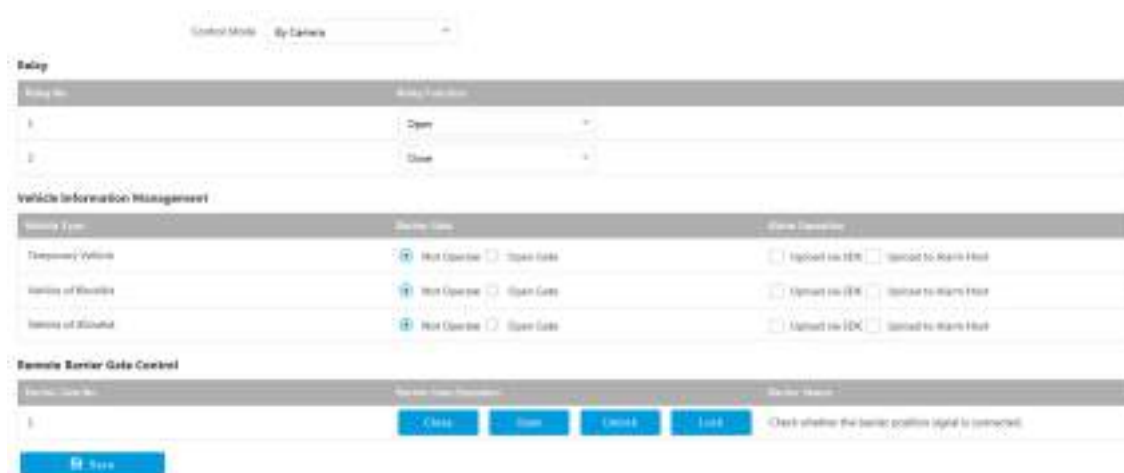
- Delete**
- Select the delete type, or enter the keywords. Click **Delete** to delete the lists of the same type.
  - Select an item from the list, and click **X** to delete the item.
  - Click **Delete All** to delete all the lists.
- Import**
- a. Click **Import**.
  - b. Click **Download Template**, and save the template.
  - c. Open the template, edit the information, and save it.
  - d. Click **Import** again.
  - e. Click **Browse** to select the edited template.
  - f. Click **Import** to import the information to the device.
- Export** Click **Export** and select the saving path to export the allowlist or blocklist to the computer.

## 1.7.2 Control Barrier Gate

Link the barrier gate to realize the control and management of the vehicles at the entrance or exit.

### Steps

1. Go to **Configuration → Capture → Entrance and Exit → Barrier Gate**.



**Figure 1-27 Control Barrier Gate**

2. Select **Control Mode**.

#### By Camera

The barrier gate is controlled via the license plates recognized by the capture camera.

3. Set the relay function.



 **Note**

The supported number of relays varies with different models. Relay 1 corresponds to the 1A and 1B of the terminal. Relay 2 corresponds to the 2A and 2B of the terminal.

4. Set the barrier gate operation and alarm operation for the temporary vehicles, vehicles in the blacklist, and vehicles in the allowlist.
  - Check **Upload via SDK** to arm and upload the vehicle information to the arming terminal via SDK.
  - If the device has been connected to the alarm device, check **Upload to Alarm Host**. When the barrier gate is open, the alarm device will be triggered to alarm.
5. **Optional:** You can click **Close**, **Open**, **Unlock**, or **Lock** to control the barrier gate remotely.

 **Note**

The functions of remote control of barrier gate vary with different models. The actual device prevails.

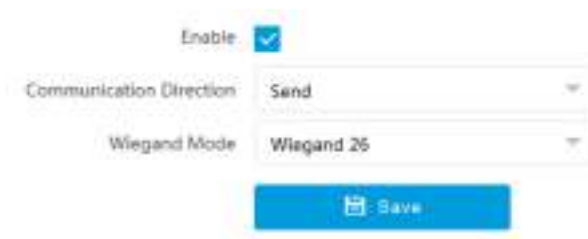
6. Click **Save**.

### 1.7.3 Set Wiegand Parameters

The barrier gate can be connected to the device via Wiegand interface.

**Steps**

1. Go to **Configuration → Capture → Entrance and Exit → Wiegand Parameters**.
2. Check **Enable**.



**Figure 1-28 Set Wiegand Parameters**

3. Select **Communication Direction**.

**Send**

The barrier gate can be connected to the device via Wiegand 26 or Wiegand 34 mode.

4. Select **Wiegand Mode**.
5. Click **Save**.

## Chapter 2 Radar Detection

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

### Before You Start

Select the application mode as **RS-485 Radar**, and select **Radar Type** as **Multi-Lane Radar**.

### Steps



#### Note

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

1. Click **Radar**.
2. View the radar information.

#### Software Version

The software version of the radar.

#### Radar Status

The current radar status. The radar can be normally used in normal status. If the radar is in upgrading status, do not reboot the device. Refresh the interface every one minute, and the status can be restored to normal.

3. Check **Debug Mode** to set the parameters.



Figure 2-1 Set Radar Parameters

- 1) Set construction parameters.

#### Construction Height

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

## Angle Deviation

Set the angle compensation according to the target moving track detected by the radar.

## Horizontal Deviation

Set the deviation between the radar construction position and the horizontal central position. The center of all the lanes is 0. Horizontal left deviation is a minus value, and horizontal right deviation is a positive value. If the radar is constructed on the left lane, the horizontal deviation should be a minus value. If the radar is constructed on the right lane, the horizontal deviation should be a positive value.

## Trigger Speed

If the vehicle speed exceeds the set value, capture will be triggered.

## Trigger Mode

### Trigger Vehicle Head

Capture is triggered by the vehicle head. The vehicles from the approaching direction will be detected.

### Trigger Vehicle Tail

Capture is triggered by the vehicle tail. The vehicles from the leaving direction will be detected.

### Trigger Vehicle Head and Tail

Capture can be triggered by the vehicle head or tail. The vehicles from both the approaching and leaving directions will be detected.

## 2) Set lane parameters.

### Lane X Width

Enter the lane width according to the actual condition.

### Lane X Trigger Location

The speed information of the detected targets on each lane will be uploaded by the radar once they are at the set location.

---

## Note

- The number of lanes is consistent with the total lanes in the application mode settings.
  - After setting the construction and lane parameters, observe the real-time vehicle condition in the middle window of the interface. The target track should be straight. The initial position of the target should be larger than the trigger distance, or the vehicle targets may be missed. For example, if the trigger distance is 28 m from the approaching direction, the initial position of the target should be approximately 35 m. The target track should correspond to the actual lane, or the lane No. cannot be corresponded to when the data is uploaded. Adjust **Angle Deviation** and **Horizontal Deviation** to guarantee the vehicle target is on the corresponding lane.
- 

## 3) Click **Save**.

## 4) **Optional**: Check **Auto Angle Correction**.

## Network Traffic Camera Configuration Manual

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The radar will adjust the angle deviation automatically according to the target track.

**4. Uncheck **Debug Mode** to detect the vehicle speed.**

You can view the captured vehicle information such as the license plate color, license plate number, speed, and illegal type in real time.



**Figure 2-2 Radar Detection**

## Chapter 3 View Real-Time Picture

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

### Steps

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



**Figure 3-1 Real-Time Picture**

3. **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 to measure the license plate pixel.



Click to enable manual capture.



Click 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.

**Capture All** Open the saving path of captured pictures.

## Chapter 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:** 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.

## Chapter 5 View Traffic Statistics

### 5.1 View Real-Time Traffic Statistics

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

#### Steps

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.

### 5.2 View Traffic Flow Statistics

The device supports counting and uploading traffic follow data.

#### Steps










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



## Chapter 6 View Traffic Light Status

For the device supporting traffic light detection, you can go to **Live View** → **Traffic Light Status** to check real-time traffic light status after the traffic light detection mode is set.



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