Deployment Guide to 2MP Starlight White Light & IR License Plate Recognition Bullet Camera（ANPR B1105） Outside China V1.1.1

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1 Revision History

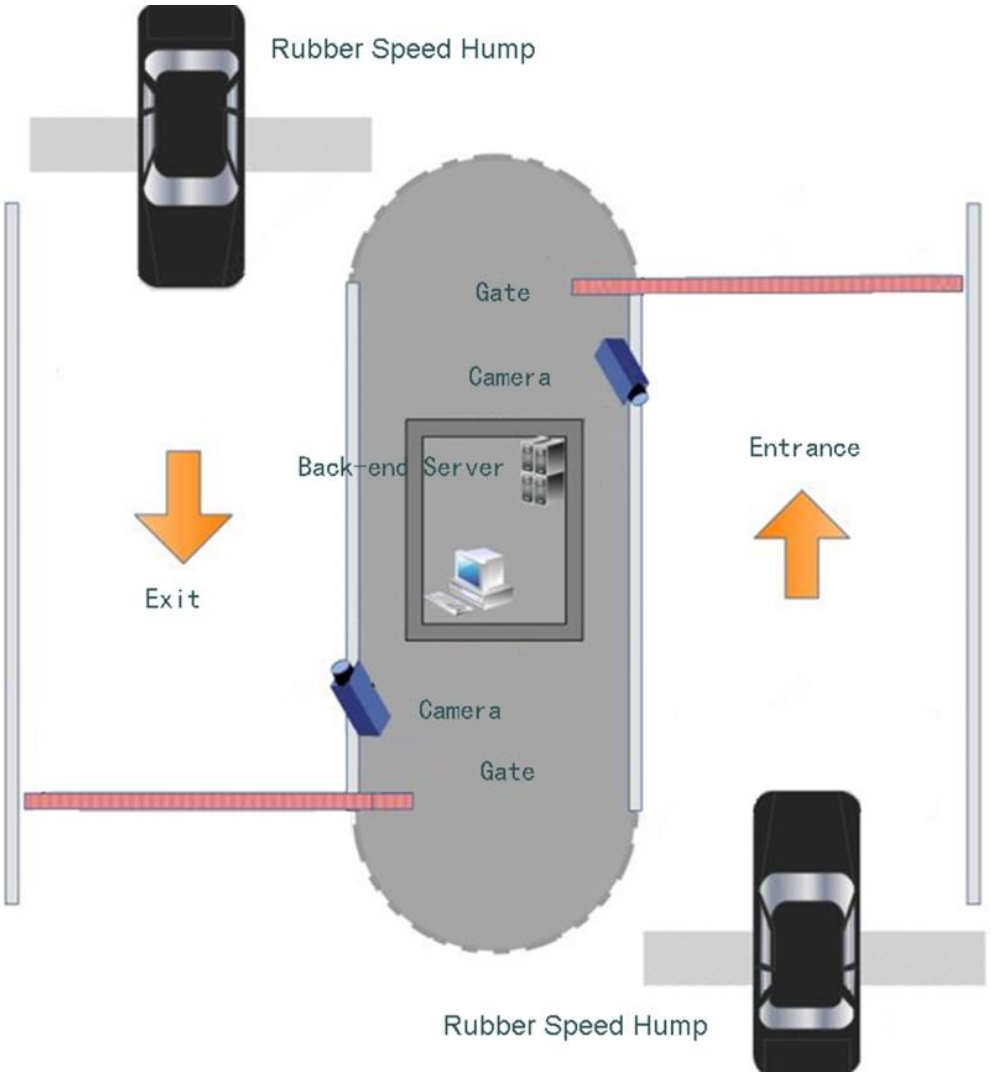
- Change Whitelist to Allowlist
- Changed Blacklist to Blocklist

2 Introduction

2.1 Applicable products

- 2MP white light recognition bullet camera：HC121@TS8C-Z-NB/HC121@TS8C-Z
- 2MP IR recognition bullet camera：HC121@TS8CR-Z-NB/HC121@TS8CR-Z

2.2 System Networking Diagram



3 Site Deployment Configuration

3.1 System Requirements

3.1.1 System Requirements

Attribute	System Requirements
OS	Microsoft Windows XP or later version, with Microsoft Windows 7 recommended
Software	Microsoft Internet Explorer 8 or later version recommended as the browser DirectX 9.0c or later version
CPU and the operating frequency	CPU in the Intel Core2 Duo series recommended, with the clock speed no lower than 2.4GHz Or CPU in the Pentium 4 series with the clock speed no lower than 2.8GHz
Memory	512MB at least, and 2GB or above recommended
Hard disk	40GB at least, and 160GB or above recommended
Graphics card	Minimum memory 128MB, mainstream discrete graphics card of NVIDIA GeForce 9800 GT with 512MB or more memory recommended, with the hardware supporting DirectX 9.0c Note: The graphics card needs to use the latest driver, and drivers after August 2009 are recommended.
Audio adapter	Required Note: The audio adapter needs to use the latest driver. Otherwise, audio intercom or voice broadcast may be unavailable.
Network adapter	100Mbit/s or above Ethernet card recommended
Display resolution	Higher than 1280*1024

3.2 Camera Configuration

The camera supports **PoE**

3.2.1 Plug-in Installation

NOTE!

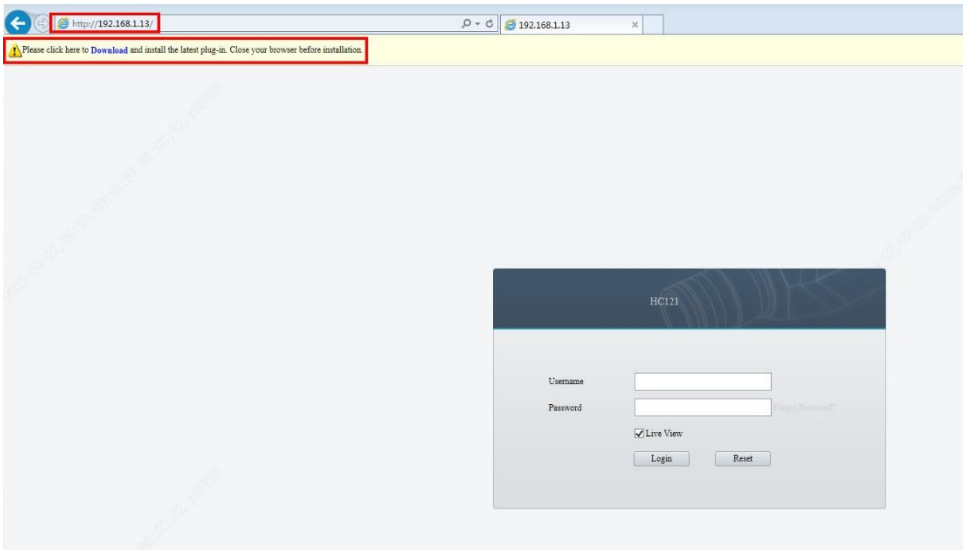
1. Installation of the plug-in is required if you are using Internet Explorer.
2. The camera supports Chrome (V57 or later), Firefox (V58 or later), and Edge (V16 or later). These browsers do not require you to install the plug-in at login. Chrome is recommended.
3. Skip this section if you are not using IE.
4. By default the plug-in is saved in C:\ Program Files (x86) \WebPlugin IPC UN or C:\ Program Files (x86) \WebPlugin IPC NB

5. You can uninstall the plug-in from the computer's control panel or by removing plug-in information in the directory.

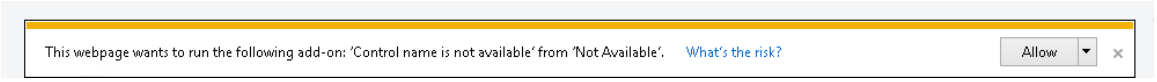
Step 1 Set the IP address of the PC to 192.168.1.X or 192.168.0.X (neither 192.168.1.13 nor 192.168.0.13)

Step 2 Run the Internet Explorer as administrator, Enter the IP address of the camera (192.168.0.13 or 192.168.1.13 by default) in the address bar of Internet Explorer to log on to the Web interface of the camera.

Step 3 On "Please click here to Download and install the latest plug-in. Close your browser before installation" displayed on the interface, click **Download**.



Step 4 Follow the prompts to download the plug-in. The default storage path is



Step 5 Close Internet Explorer and run **Setup.exe** to install the plug-in.

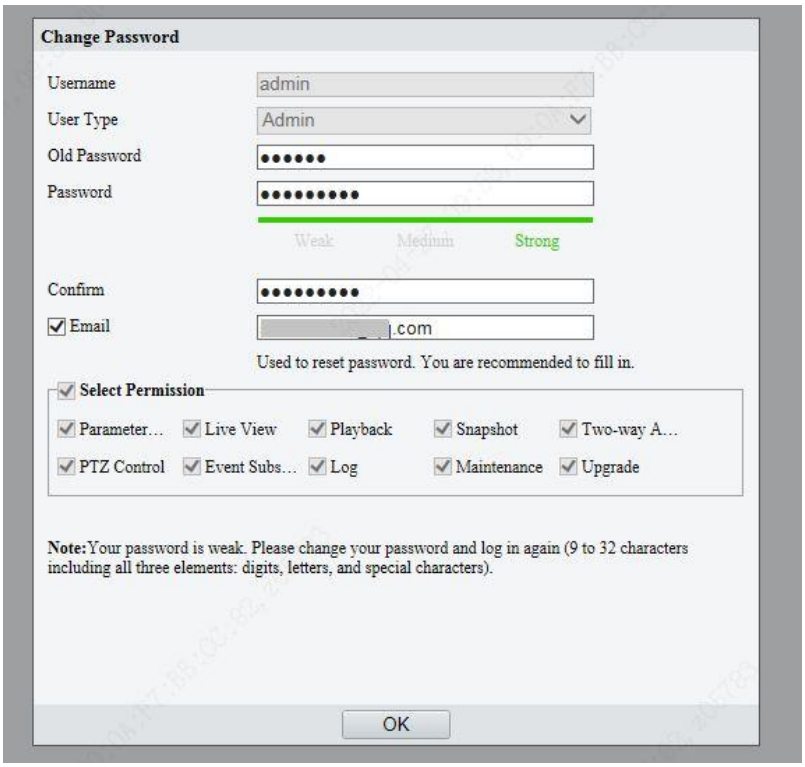
Step 6 Open the Web interface of the camera on a browser again. The interface does not display the plug-in installation prompt.

3.2.2 Password Change

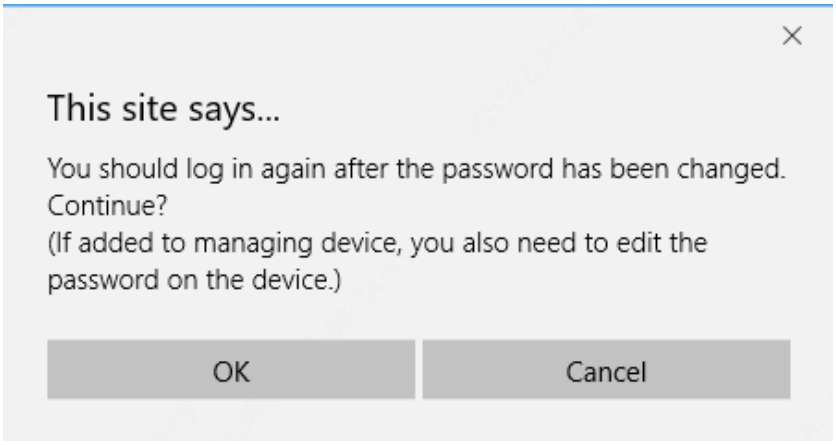
The password must be changed to a strong one when the camera is used for the first time. The initial username and password of the camera are admin and 123456, respectively.

Step 1 After the plug-in is installed, open the Web interface of the camera, and use the default username and password (admin and 123456, respectively) to log in to the camera.

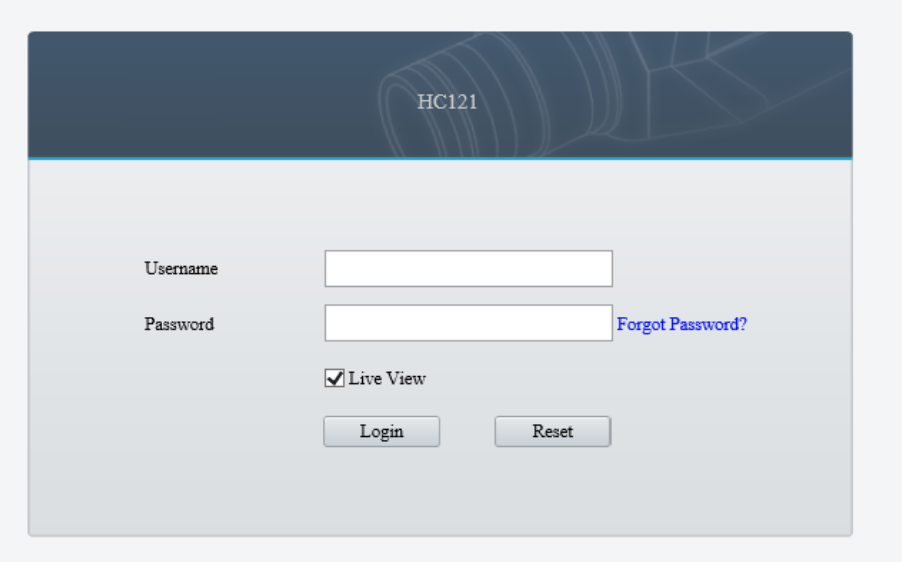
Step 2 The interface prompts you to change password. Enter the old password (that is, the initial password, 123456) in the **Old Password** field, and the new password in the **Password**, **Confirm** and **Email** fields. The new password must contain 9 to 32 characters including all three elements: digits, letters, and special characters. Click **OK** to confirm the password change.



Step 3 In the displayed dialog box, click **OK**.



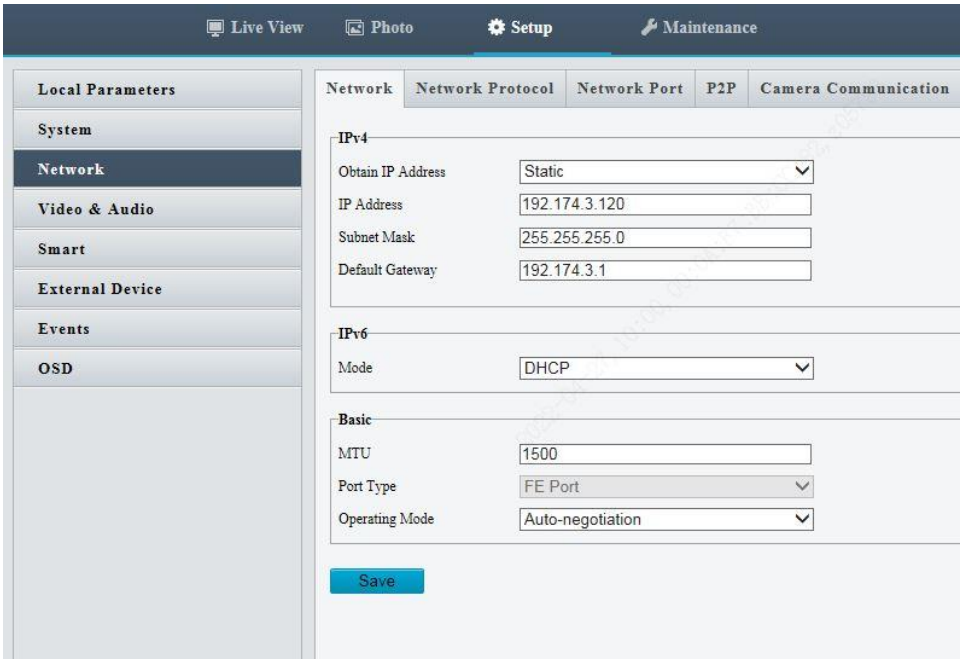
Step 4 When the login interface is displayed again, enter the new password for login.



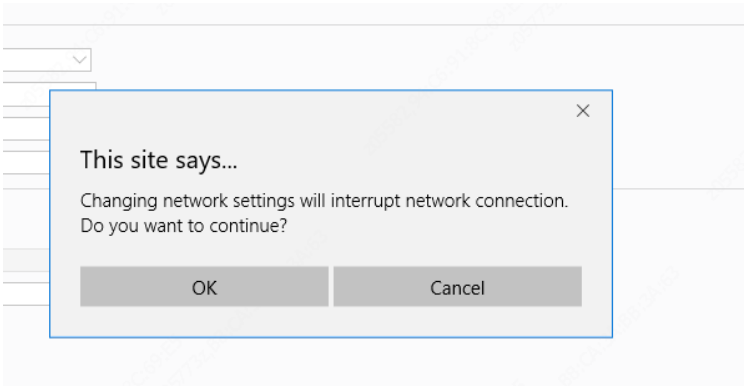
3.2.3 IP Configuration

The IP address of a new camera or a camera after u-boot upgrade is 192.168.0.13 or 192.168.1.13 by default, and needs to be changed to a planned one before the camera is used.

Step 1 Choose **Setup** > **Network** > **Network**. Change **IP Address**, **Subnet Mask**, and **Default Gateway**, and click **Save** to save the configuration.



Step 2 In the displayed dialog box, click **OK**.



Step 3 The browser jumps to the new IP address of the camera and displays the login interface.

3.3 Camera Software Configuration

This chapter describes the necessary configurations to complete the fundamental deployment

3.3.1 Camera Provisioning

Camera installation angles: Horizontal angle:-45°~45°.Vertical angle: 30°.Horizontal tilt angle: -15°~15°

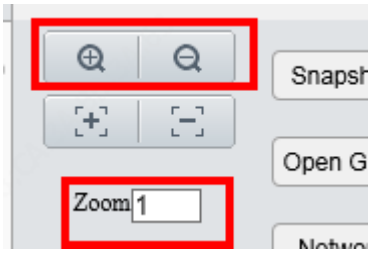
Plate width: Max identification range is 60~300 pixels

Best identification range: 90~150 pixels

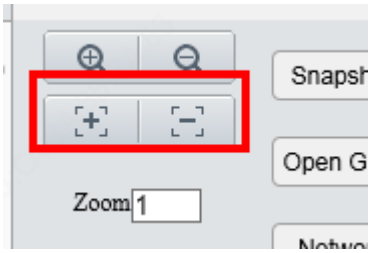
Step 1 Perform an initial adjustment of the camera's installation angle. Park a car at the intended capture point to adjust the monitoring direction of the camera.

Step 2 Open the **live view** page.

Step 3 Click **+** or **-** to adjust zoom, or enter a value in the **Zoom** field (max. 160. Modify the **Max Zoom Ratio** in **Setup > Video&Audio > Image**) Adjust properly according to on-site conditions.



Step 4 Click **+** or **-** to adjust focus till the license plate number is clearly visible.



3.3.2 Image

Step 1 Choose **Setup > Video&Audio> Image**. See the table below to set image parameters.

Model	Recommended parameters
HC121@TS8C-Z-NB/ HC121@TS8C-Z	Gain 10, shutter 1/500s, far-illumination off, near-illumination level 100
HC121@TS8CR-Z -NB/HC121@TS8CR-Z	Gain 10, shutter 1/500s, far-illumination off, near-illumination level 1

3.3.3 Detection Mode Configuration

Step 1 Choose **Setup > Smart > Smart**. Click **Draw Detection Rules** to draw a detection area. The detection area shall cover areas where vehicles will drive on.

Keep the following in mind while drawing detection rules:

(1) Position: Usually the detection area shall be on the lower part of the image.

(2) Height: The height of the detection area shall occupy 1/3 to 1/2 of the image height. Take both large vehicles (such as a truck) and small vehicles (such as a compact car) into consideration, because usually the license plate on a large vehicle is higher than that on a small vehicle.

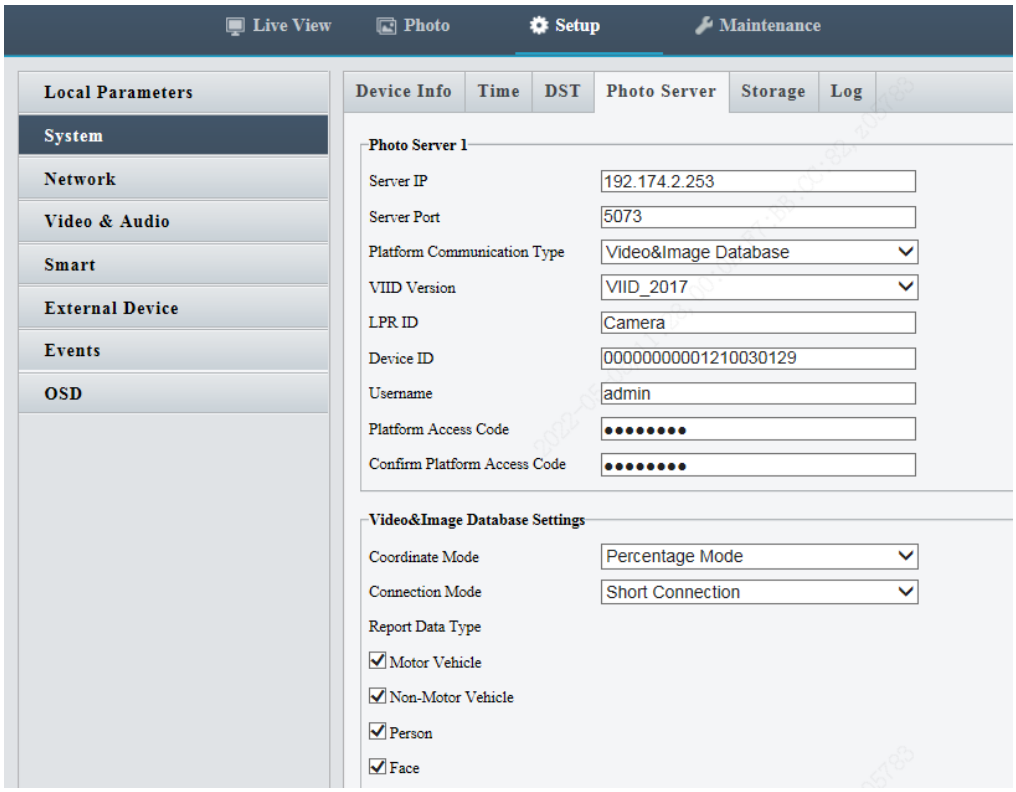
(3) Width: The detection area shall cover the far left and far right sides where vehicles may pass through. Make sure the width of the detection area does not exceed 2/3 of the image width; otherwise, it will result in prolonged snapshot time and mistaken snapshots of the neighboring vehicles.

4 Video&Image Database Registration

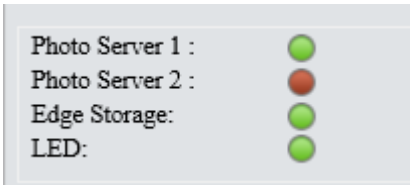
4.1 Registration

Step 1 Log in to the camera's web interface, choose **Setup > System > Photo Server**. For **Platform Communication Type**, select **Video & Image Database**.

Step 2 For Server IP, input the IP address of the corresponding Video & Image Database server. Set **Server Port** to **5073**. For **LPR ID**, enter a number that you like. The **Device ID** is a 20-digit number with 121 for digits 11-13. The device ID must be unique on the LAN. The **Username** and **Platform Access Code** are the username and password used to log in to the server. **Confirm Platform Access Code** is the same as **Platform Access Code.**

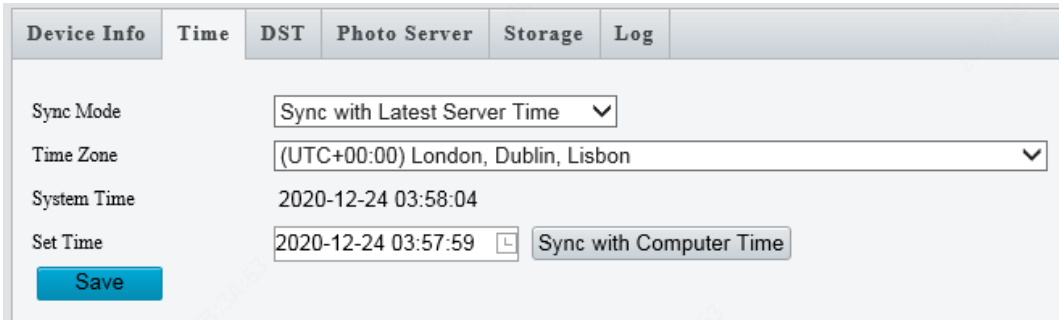


Step 3 Add the camera to the VIID server. Check the indicator for **Photo Server 1.** means the camera is added successfully.



4.2 Time Configuration

Step 1 Log in to the camera, choose **Setup** > **System** > **Time**. Select a sync mode. The default mode is **Sync with Latest Server Time**. The default time zone is UTC+00:00) London, Dublin, Lisbon.

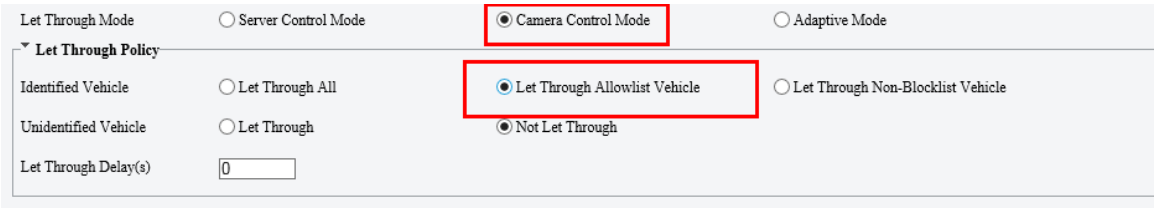


5 Function Configuration

5.1 Blocklist, Allowlist and let-through policy

5.1.1 Allowlist Configuration

Step 1 Choose **Setup > Smart > Vehicle List**. Select **Entrance&Exit Allowlist**. For **Let Through Mode**, select **Camera Control Mode**. For **Identified Vehicle**, select **Let Through Allowlist Vehicle**.



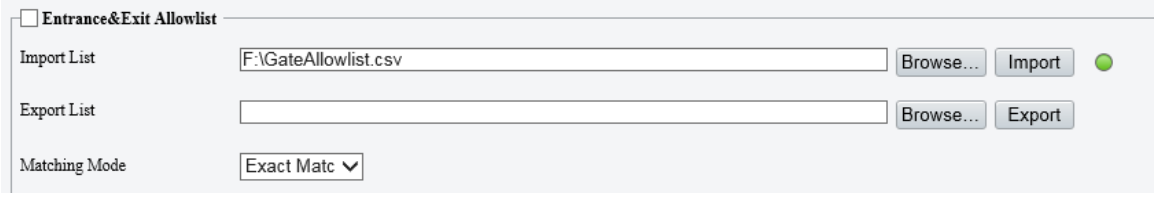
Step 2 Choose **Setup > Smart > Vehicle List**. Select **Entrance&Exit Allowlist.**

Step 3 Export the allowlist template: click the **Browse** button right to the **Export** List field, specify a local directory, and click **Export**. A GateAllowlist.csv file will be saved in the directory.

Step 4 Use EXCEL to edit the allowlist template, and save it when you are done.

	A	B	C	D
1	A325KB	20210101	20220101	
2	AW205F	20210101	20220101	
3				
4				

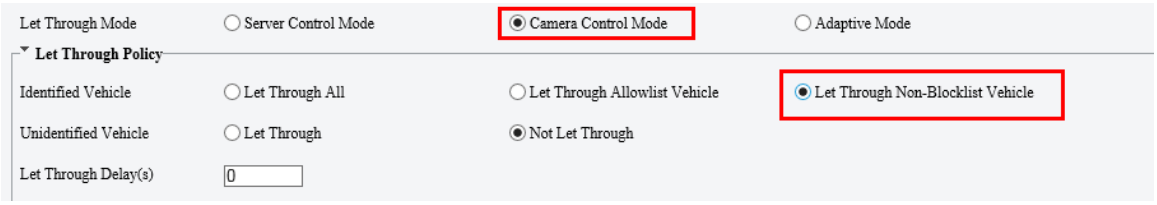
Step 5 Import the allowlist: click the **Browse** button right to the **Import List** field, select the GateAllowlist.csv on your computer, and then click **Import** to import the allowlist.



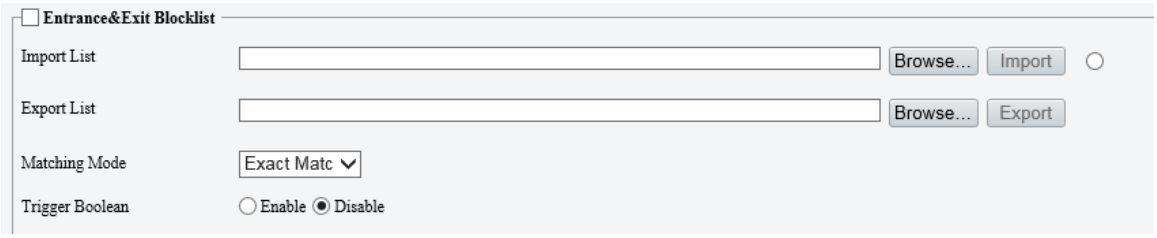
Step 6 The green icon means the import has succeeded.

5.1.2 Blocklist Configuration

Step 1 Choose Setup > Smart > Vehicle List. Select Entrance&Exit Blocklist. For **Let Through Mode**, select **Camera Control Mode**. For **Identified Vehicle**, select **Let Through Non-Blocklist Vehicle**.

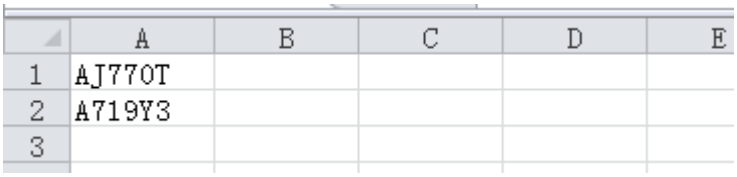


Step 2 Choose **Setup > Smart > Vehicle List**. Select **Entrance&Exit Blocklist.**



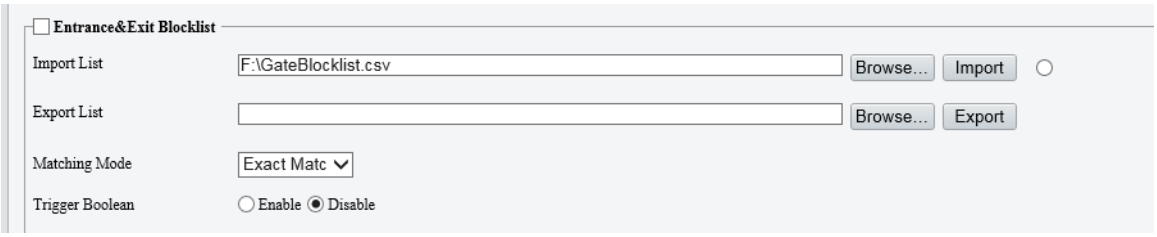
Step 3 Export the blocklist template: click the **Browse** button right to the **Export** List field, specify a local directory, click **Export**. A GateBlocklist.csv file will be saved in the directory.

Step 4 Use EXCEL to edit the blocklist template.



	A	B	C	D	E
1	AJ770T				
2	A719Y3				
3					

Step 5 Import the blocklist: click the **Browse** button right to the **Import List** field, select the GateBlocklist.csv on your computer, and then click **Import** to import the blocklist.

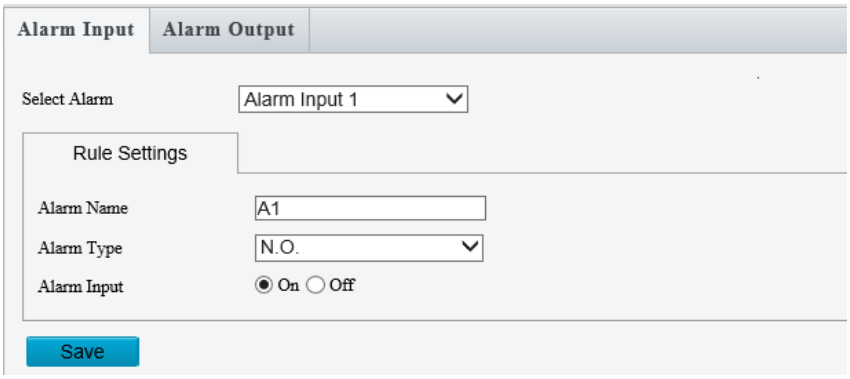


Step 6 The green icon means the import has succeeded.

5.2 Alarm

5.2.1 Alarm Input

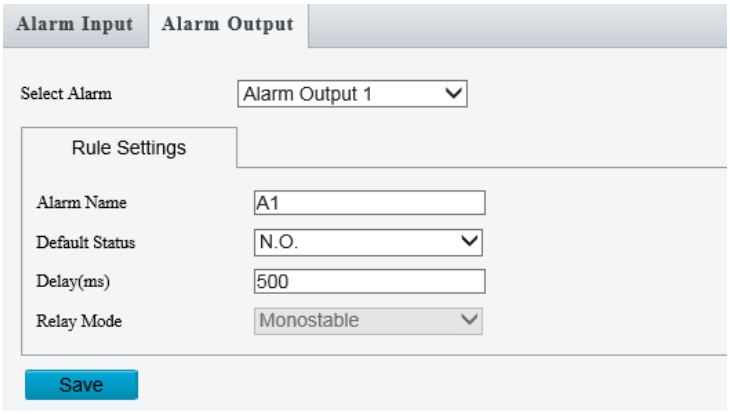
Step 1 Choose **Setup > Events > Alarm Input** to configure Alarm Input. Select from the **Select Alarm** drop-down list according to the actual wire connection. Take **Alarm Input 1** as an example. For **Alarm Name**, the default setting is **1**, and you can change it as you need. For **Alarm Type**, the default setting is **N.O.**. Set the alarm type correctly according to the status of the peripheral alarm device. Select **On** for **Alarm Input**. Click **Save**.



Step 2 The steps to configure **Alarm Input 2** are the same as the steps to configure **Alarm Input 1**. The configurations, enablement/disablement of **Alarm Input 1** and of **Alarm Input 2** are separated and do not affect each other.

5.2.2 Alarm Output

Step 1 Choose **Setup > Events > Alarm Output** to configure Alarm Output. Select **Alarm Output1** from the **Select Alarm** drop-down list. For **Alarm Name**, the default setting is **2** and you can change it as you need. The **Default Status** is **N.O.**. The default **Delay (ms)** is 500 and you can change it as appropriate. The **Default Status** shall be set to N.O. when you use it with the gate. Click **Save**.

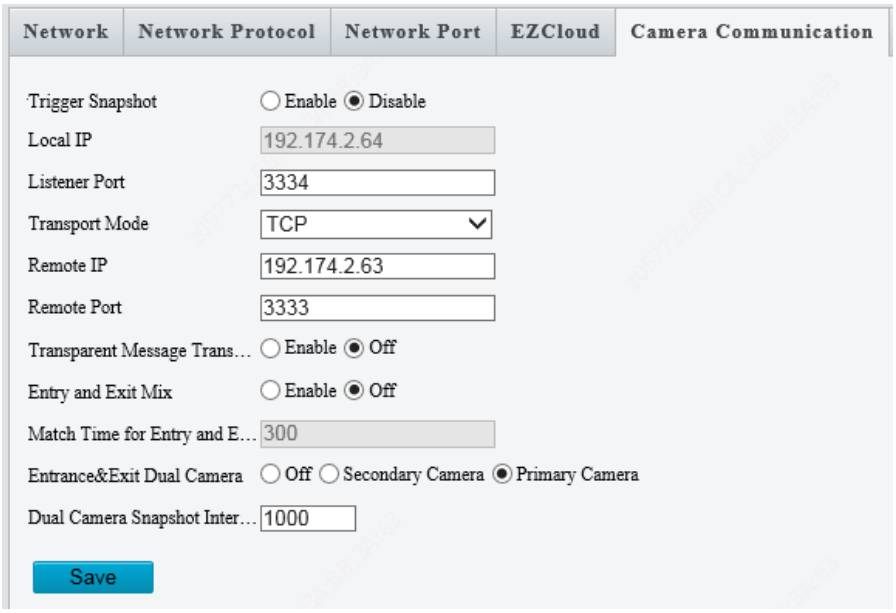


5.3 Primary and Secondary Cameras

Configure two LPR cameras: IPC1 and IPC2.

5.3.1 IPC1 Configuration

Step 1 Log in to IPC1's web interface, choose **Setup > Network > Camera Communication**. Select **Disable** for **Trigger Snapshot**.



Step 2 For **Listener Port**, enter a port number of your choosing. The port number will be used when you configure IPC2.

Step 3 For **Transport Mode**, **TCP** is recommended.

Step 4 For **Remote IP,** set **IPC2**'s IP as the remote IP.

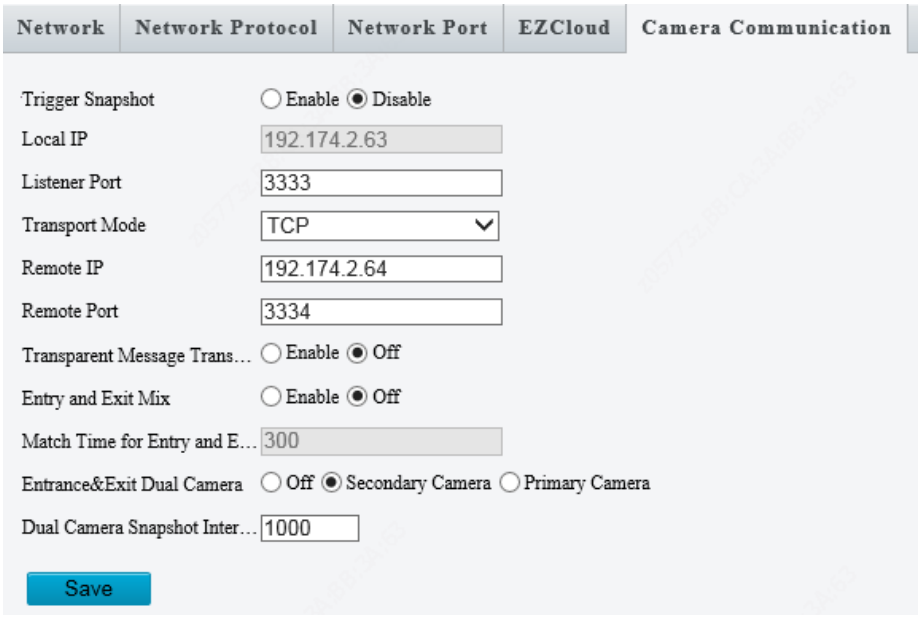
Step 5 For **Remote Port**, set IPC2's listener port as the remote port.

Step 6 For **Entrance&Exit Dual Camera**, select **Primary Camera.**

Step 7 Click **Save**.

5.3.2 IPC2 Configuration

Step 1 Log in to IPC2's web interface, choose **Setup > Network > Camera Communication**. Select **Disable** for **Trigger Snapshot**.



Step 2 Set **Listener Port** to the port number that has been used as **Remote Port** for IPC1.

Step 3 For **Transport Mode**, use the same setting as IPC1.

Step 4 For **Remote IP**, set IPC1's IP as the remote IP.

Step 5 For **Remote Port**, set IPC1's listener port as the remote port.

Step 6 For E**ntrance&Exit Dual Camera**, select **Secondary Camera.**

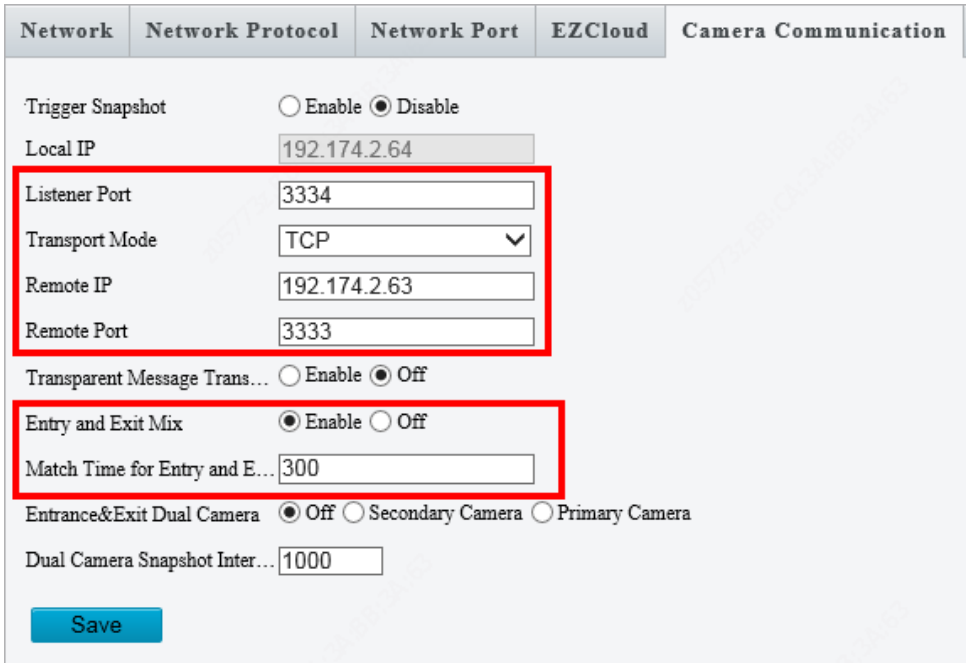
Step 7 Click **Save**.

5.4 Mixed Entrance/Exit

This solution is applicable when the lanes are not wide enough to provide an entrance and an exit separately. Configure two LPR cameras: IPC1 and IPC2.

5.4.1 IPC1 Configuration

Step 1 Log in to IPC1's web interface, choose **Setup > Network > Camera Communication**. Select **Disable** for **Trigger Snapshot.**



Step 2 For **Listener Port**, enter a port number of your choosing. The port number will be used when you configure IPC2.

Step 3 For **Transport Mode**, **TCP** is recommended.

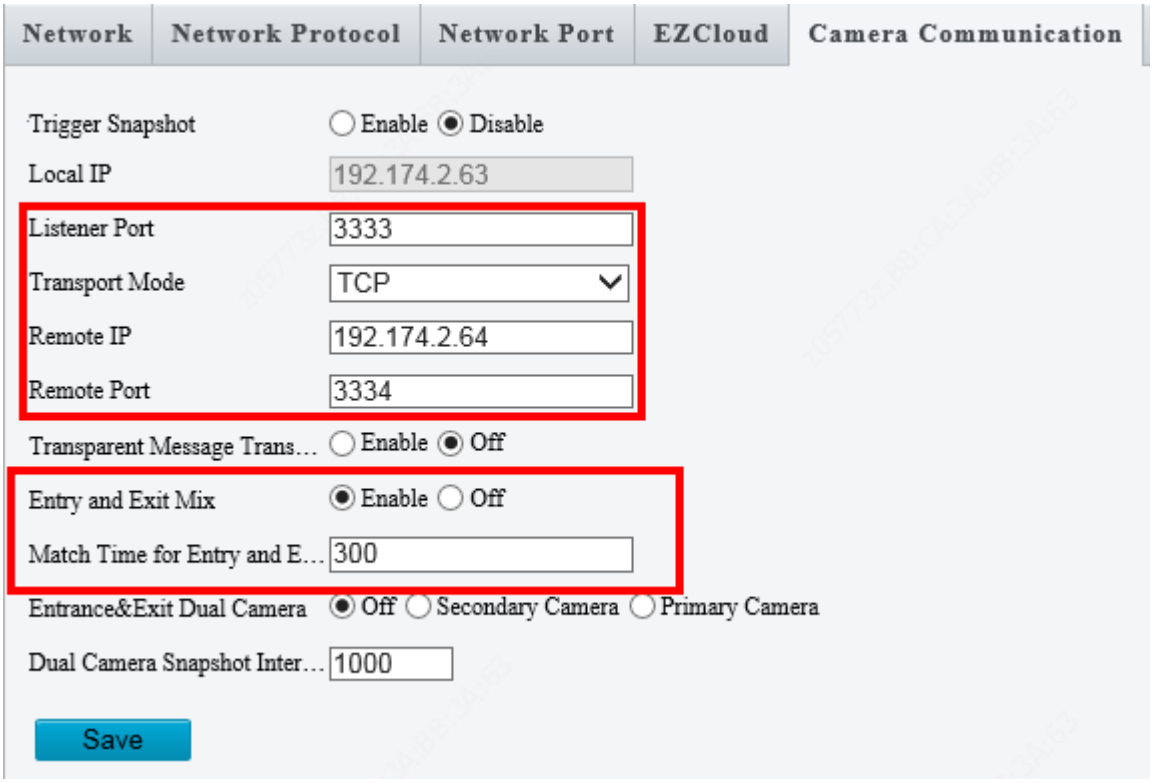
Step 4 For **Remote IP**, set IPC2's IP as the remote IP.

Step 5 For **Remote Port**, set IPC2's listener port as the remote port.

Step 6 For **Entry and Exit Mix**, select **Enable**. The default setting for **Match Time for Entry and Exit Mix(s)** is 300, and you can modify the value as needed.

5.4.2 IPC2 Configuration

Step 1 Log in to IPC2's web interface, choose **Setup > Network > Camera Communication**. Select **Disable** for **Trigger Snapshot**.



Step 2 Set **Listener Port** to the port number that has been used as **Remote Port** for IPC1.

Step 3 For **Transport Mode**, keep it the same as that for IPC1.

Step 4 For **Remote IP**, set IPC1's IP as the remote IP.

Step 5 For **Remote Port,** set IPC1's listener port as the remote port.

Step 6 For **Entry and Exit Mix**, select **Enable**. The default setting for **Match Time for Entry and Exit Mix(s)** shall be kept the same as that of IPC1.

6 Maintenance

6.1 Software Upgrade

In this pane, you can upgrade or roll back the camera firmware version. The operation steps are as follows:

Step 1 Store the upgrade package to a local path, such as D:\update.

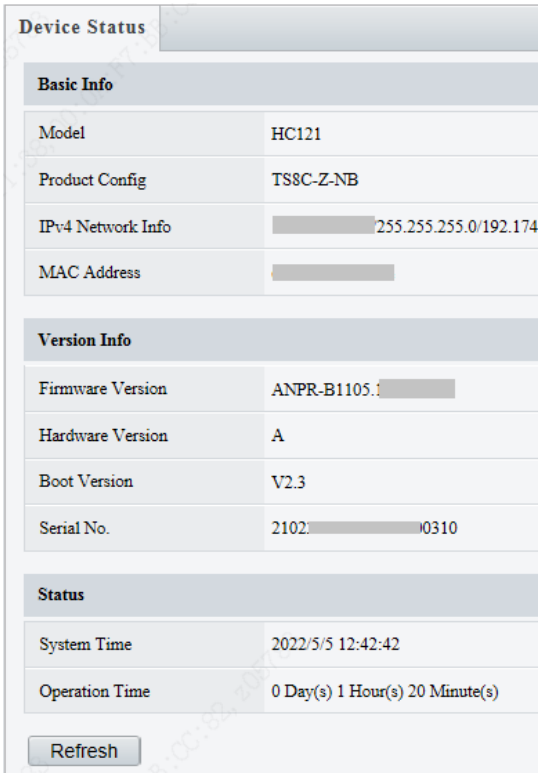
Step 2 Choose **Maintenance > Maintenance > Maintenance**

Step 3 Click **Browse...** and select the upgrade package so that the text box shows the path, such as D:\update*Upgrade package name*.

Step 4 Click **Upgrade**. Then, a progress bar is displayed during the upgrade.

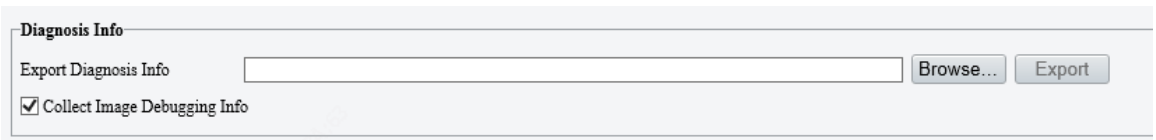
Step 5 After the upgrade, log in to the camera again.

Step 6 Choose **Maintenance > Maintenance >Device Status,** check the version information



6.2 Diagnosis Info

You can export camera diagnosis information to a specific directory or directly open the camera diagnosis information file to locate problems. The operations are as follows:

Step 1 Choose **Maintenance > Maintenance > Maintenance**

Step 2 Click **Browse...**, select a local path, and click **Export** to export the camera diagnosis information for problem locating.