2MP STARLIGHT LICENSE PLATE RECOGNITION INTEGRATED MACHINE

User Manual

Contents

CONTENTS **1**

IMAGE CONTENTS **3**

VERSION HISTORY **5**

1 PRODUCT INTRODUCTION **6**

1.1 OVERVIEW 6

2 EQUIPMENT INSTALLATION **7**

2.1 INSTALLATION LOCATION AND HEIGHT 7
2.2 EQUIPMENT CONNECTION 8
2.3 WEB SIDE LOGIN 9
2.4 IMAGING AND DEBUGGING 9
2.5 INSTALL EXTERNAL REPLENISHMENT LAMP 10
2.6 ADJUST THE INTERNAL LIGHT-SUPPLEMENTING LAMP 10
2.7 INSTALLATION SCENARIO VERIFICATION 11

3 PREVIEW IMAGE **12**

3.1 CAMERA CONNECTION 12
3.2 VIRTUAL COIL AND RECOGNITION AREA ADJUSTMENT 14
3.3 MANUAL CAPTURE TRIGGER 14
3.4 CAPTURE EVENT RECORD 15
3.5 BASIC SETTINGS OF MAIN INTERFACE 15

4 ADVANCED SETTING **17**

4.1 IDENTIFICATION SETTINGS 17
4.2 AUDIO AND VIDEO 18
4.2.1 Image parameters 18
4.2.2 OSD parameter 19
4.2.3 Coding parameter 20
4.2.4 Voice intercom 21
4.3 BASIC NETWORK 22
4.3.1 Basic setting 22
4.3.2 4G configuration (4G module is required) 23
4.3.3 DDNS 23
4.3.4 UPNP 24
4.3.5 Network diagnosis 24
4.4 WHITE LIST 25
4.4.1 White list configuration 25
4.4.2 White list query 25
4.5 ADVANCED NETWORK 27
4.5.1 HTTP push 27

4.5.2 Push test *28*
4.5.3 FTP *29*
4.5.4 PDNS *30*
4.5.5 VPN *30*
4.6 PERIPHERALS MANAGEMENT 31
4.6.1 Output configuration *31*
4.6.2 Serial port configuration *31*
4.6.3 GPIO gate opening *32*
4.6.4 Special license plate *33*
4.6.5 LED configuration *33*
4.6.6 Peripheral detection *33*
4.7 SCREEN SPEECH 35
4.7.1 Screen display protocol *35*
4.7.2 Voice broadcast *36*
4.8 ENTRANCE AND EXIT CONFIGURATION 37
4.8.1 Parking lot configuration *37*
4.8.2 Phase auxiliary camera *37*

5 DATA QUERY 39

5.1 IMAGE QUERY 39
5.2 PICTURE PREVIEW / DOWNLOAD 40

6 EQUIPMENT MAINTENANCE 41

6.1 DEVICE INFORMATION 41
6.2 USER MANAGEMENT 42
6.3 TIME SETTING 43
6.4 STORAGE MANAGEMENT 43
6.5 LOG DETECTION 45
6.6 SYSTEM MAINTENANCE 46
6.7 LOGO MANAGEMENT 47

7 COMPANY INFORMATION ..... 错误!未定义书签。

image contents

2-1 INSTALLATION DIAGRAM OF ALL-IN-ONE MACHINE 7
2-2 SCHEMATIC DIAGRAM OF CAMERA TERMINAL 8
2-3 SCHEMATIC DIAGRAM OF CAMERA WIRING INTERFACE. 8
2-4 CONTROL INSTALLATION PROMPT BOX 9
2-5THE REFERENCE DIAGRAM WITH THE BEST AND SECOND BEST IDENTIFICATION EFFECT 9
2-6IDENTIFY THE STATUS OF CORRECT AND INCORRECT INSTALLATION OF THE AREA 9
2-7 STATUS OF CORRECT AND INCORRECT INSTALLATION OF VIRTUAL COIL 10
2-8INSTALLATION OF LED 10
2-9 IMAGING EFFECT OF THE CORRECT AND WRONG INSTALLATION OF LED 10
2-10CORRECT AND WRONG BRIGHTNESS OF LED LIGHT 11
2-11CAMERA ERROR INSTALLATION SCENARIO DEMONSTRATION 11
2-12 CAMERA CORRECT INSTALLATION SCENE DEMONSTRATION 11
3-1LOGIN PAGE 12
3-2 LANGUAGE SWITCHING MENU 12
3-3 INSTALLATION PLUG-IN TIPS 12
3-4 PLUG-IN SECURITY PROMPT 13
3-5 PLUG IN INSTALLATION INTERFACE 13
3-6 BROWSE MAIN PAGE DETAILS 13
3-7 BEST SIZE LICENSE PLATE AUXILIARY DISPLAY 14
3-8 VIRTUAL COIL AND RECOGNITION AREA 14
3-9 MANUAL CAPTURE TEST 15
3-10CAPTURE HISTORY 15
3-11BASIC SETTING INTERFACE 16
4-1ADVANCED SETTINGS MENU INTERFACE 17
4-2 IDENTIFICATION SETTING GUIDE 17
4-3 IDENTIFICATION SETTING INTERFACE 18
4-4 AUDIO AND VIDEO SETTING GUIDE 18
4-5 IMAGE PARAMETER INTERFACE 19
4-6 OSD PARAMETER INTERFACE 20
4-7 CODING PARAMETER INTERFACE 20
4-8 VOICE INTERCOM INTERFACE 21
4-9 BASIC NETWORK GUIDE 22
4-10 BASIC SETTING INTERFACE 22
4-11 BASIC SETTING INTERFACE 23
4-12 DDNS PAGE 23
4-13 UPNP INTERFACE 24
4-14 NETWORK DIAGNOSIS INTERFACE 24
4-15 WHITE LIST SETTING GUIDE 25
4-16 WHITE LIST CONFIGURATION INTERFACE 25
4-17 WHITE LIST QUERY INTERFACE 26
4-18 ADVANCED NETWORK GUIDE 27
4-19 HTTP PUSH CONFIGURATION INTERFACE 27

4-20 SSL CERTIFICATE UPLOAD INTERFACE 28
4-21 PUSH TEST INTERFACE 29
4-22 FTP CONFIGURATION INTERFACE 29
4-23 PDNS CONFIGURATION INTERFACE 30
4-24 VPN CONFIGURATION INTERFACE 30
4-25 PERIPHERAL MANAGEMENT GUIDELINES 31
4-26 OUTPUT CONFIGURATION INTERFACE 31
4-27 SERIAL PORT CONFIGURATION INTERFACE 32
4-28 GPIO OPENING INTERFACE 32
4-29 SPECIAL LICENSE PLATE INTERFACE 33
4-30 LED CONFIGURATION INTERFACE 33
4-31 PERIPHERAL DETECTION INTERFACE 34
4-32 VOICE CONFIGURATION GUIDE 35
4-33 SCREEN PROTOCOL CONFIGURATION INTERFACE 35
4-34 VOICE BROADCAST CONFIGURATION INTERFACE 36
4-35 GUIDELINES FOR THE CONFIGURATION OF ENTRANCES AND EXITS 37
4-36 PARKING LOT CONFIGURATION INTERFACE 37
4-37 AUXILIARY CAMERA CONFIGURATION INTERFACE 38
5-1 PICTURE PREVIEW INTERFACE 39
5-2 PICTURE SORTING INTERFACE 39
5-3 PICTURE PREVIEW / DOWNLOAD INTERFACE 40
6-1 EQUIPMENT MAINTENANCE MENU INTERFACE 41
6-2EQUIPMENT INFORMATION GUIDE 41
6-3EQUIPMENT INFORMATION INTERFACE 42
6-4USER MANAGEMENT GUIDE 42
6-5USER MANAGEMENT INTERFACE 42
6-6TIME SETTING GUIDE 43
6-7TIME SETTING INTERFACE 43
6-8 STORAGE MANAGEMENT GUIDELINES 44
6-9STORAGE DEVICE INTERFACE 45
6-10 LOG DETECTION GUIDELINES 45
6-11LOG DETECTION INTERFACE 46
6-12SYSTEM MAINTENANCE GUIDE 46
6-13SYSTEM MAINTENANCE INTERFACE 46
6-14 LOGO MANAGEMENT GUIDE 47
6-15 LOGO MANAGEMENT INTERFACE 47
6-16 LOGO DEMONSTRATION INTERFACE 47

Version History

version	date	information
v1.00	2019.08.15	Initial version

1 Product introduction

1.1 Overview

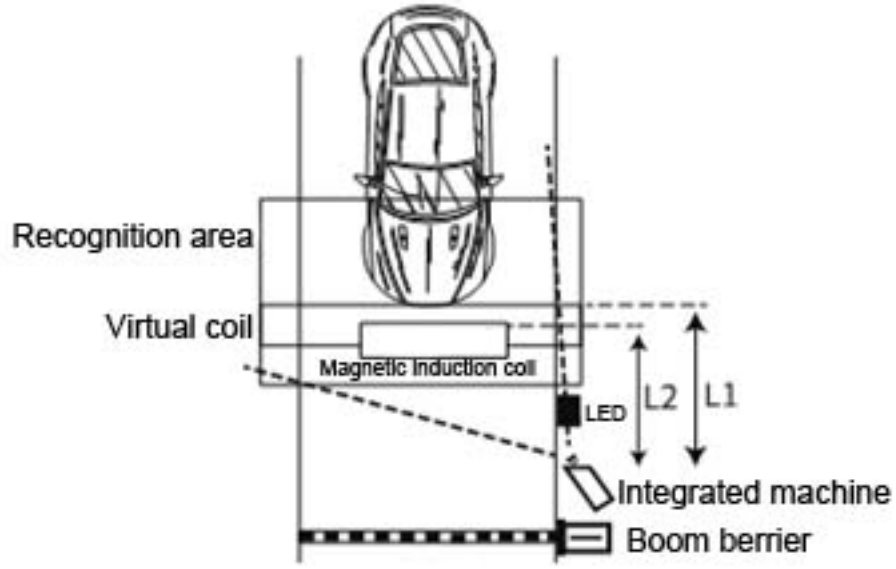
The continuous increase of urban traffic flow puts forward higher requirements for urban traffic management. In order to ensure the safety and convenience of people's travel, the urban traffic system urgently needs to provide structured and accurate data collection support for people's travel trend prediction, intelligent parking, traffic situation awareness and other intelligent traffic services through the large-scale deployment of intelligent data terminals.

The intelligent traffic camera obtains the edge computing ability through the deployment of advanced algorithms such as intelligent ISP, vehicle and personnel attribute detection, and faces the analysis conclusion and simple and efficient target characteristics of the structured transmission algorithm of the central cloud big data system, so as to assist the cloud big data system to carry out the intelligent traffic business such as road super, intelligent parking and intelligent travel more efficiently and accurately through the system linkage 。 intelligent camera of technology covers all kinds of scene platforms combined with intelligent transportation, which can realize intelligent perception, real-time recognition of vehicle license plate, vehicle logo, body color, vehicle type and other vehicle identity information, and provide accurate and effective data guarantee for urban traffic integrated management.

The license plate recognition integrated machine is an intelligent imaging device specially designed for high-end parking lot license plate recognition, etc auxiliary license plate recognition camera, highway toll station, urban road bayonet and other scenes. In order to meet the needs of "unattended" and "senseless payment" in the scene, The ANPR camera provides 2MP star level ultra-high definition imaging, over 2100 vehicle types recognition, monitoring video, intelligent light compensation, front-end storage and other features, and also supports the triggering of unlicensed vehicles, license plate anti-counterfeiting, 4G non wiring networking, cloud remote operation and maintenance, offline self networking, cloud voice intercom and other features to ensure unattended The business operates continuously for 7 * 24 hours, and greatly reduces the after-sales maintenance cost.

2 Equipment installation

2.1 Installation location and height



2-1 Installation diagram of all-in-one machine

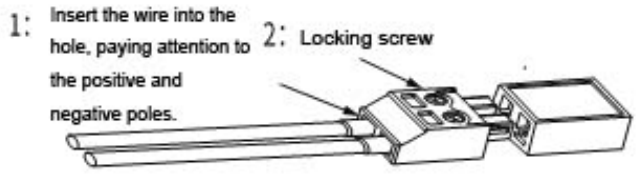
1.Firstly, according to the example of Fig. 2 / 1, the location of the reference license plate in the field is located, and the imaging pixels of the license plate in the real-time video picture are between the 160PX-220PX. Then according to the position of the reference license plate to determine the installation position of the integrated machine column.

2.In the process of installation of the integrated machine, the lens should try to face the license plate as far as possible.

Installation requirements		Height	
1、Install on the front of the road gate 2、About 3-6 meters from the virtual coil L1. 3、About 3-4 meters from the trigger sense		4、In the scene dominated by small cars, the height of the integrated machine is about 1.4 m above the ground. 5、In the scene dominated by large trucks, the integrated machine is about 1.6 m above the ground. 6、The angle of the integrated machine is recommended to be between 15 °and 40 °as far as possible.	
Serial No	Effective identification distance D (m)	Recommended installation height H (m)	Corresponding angle C (degree)
1	3	1.4	About 20
2	4	1.5	About 20
3	5	1.6	About 20
4	6	1.7	About 20

list 1 Installation requirements

2.2 Equipment connection



2-2 Schematic diagram of camera terminal

2-3 Schematic diagram of camera wiring interface.

1.As shown in figure 2 / 2, insert the male head of the power cord into the corresponding mother head on the interface board.

2.Connect the bare wire at the other end of the power cord with the 12V power adapter. During the connection, pay attention to the relationship between the power adapter and the positive and negative poles of the power cord.

Function	Remark	Instruction
Power	DV12V；GND	Support 9 ≤ 15V DC, standard 12V/2A
network interface	RJ45/LAN	Support 10/100Mbps Ethernet transmission
Serial port (RS485)	A1/B1	Connect the upper computer and output the identification results
Audio (AUDIO)	AIN\AOUT\GND	Audio input / output.
IO output (ALARM OUT)	OUT1/OUT2	can be used for the operation of a road gate lifting rod and the like
IO input(ALARM IN)	IN1/2/3/4 /GND	Ground-sensing coil for external signal-triggered grab
lamp interface	LED+/LED-	Used for power supply and control of lamp.
USB interface	USB	USB2.0interface
SD card slot	TF-CARD	SD, maximum 128G
Reset	RESET	Press for 5 to 10 seconds for a long time, and the equipment will fully restore the factory configuration.
Indicator light	SYS（green）	Flashing means the system is working properly Keep on or off means starting or abnormal

list 2 Interface description of integrated machine

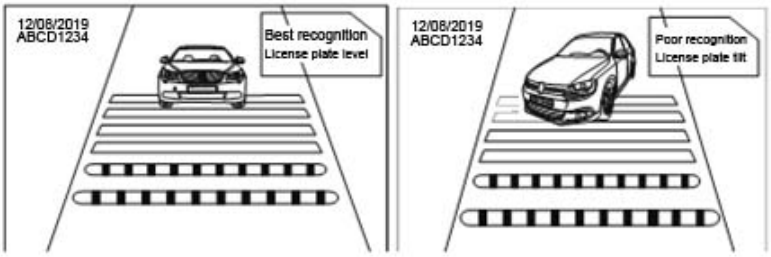
2.3 Web side login

1.Factory default configuration of all-in-one machine：IP：192.168.1.100，username：admin，password：admin
2.For the first time, it is necessary to use IE browser to log in the web configuration page of the all-in-one machine, and other browsers do not need to install controls.

2-4 Control installation prompt box

2.4 imaging and debugging

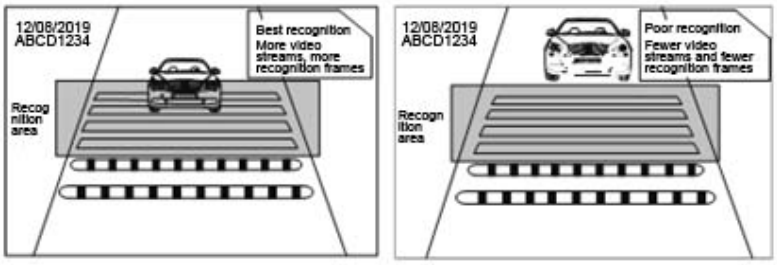
1.When debugging the real-time imaging level of the all-in-one machine, ensure that the reference license plate in the real-time video screen is kept level (it is recommended to install a three-dimensional universal joint to adjust the level of the all-in-one machine). The reference effect is as follows:
2.In order to ensure the best license plate recognition effect, please ensure that the horizontal side angle of the all-in-one machine is less than 30 degrees, and keep parallel with the lane.



2-5The reference diagram with the best and second best identification effect

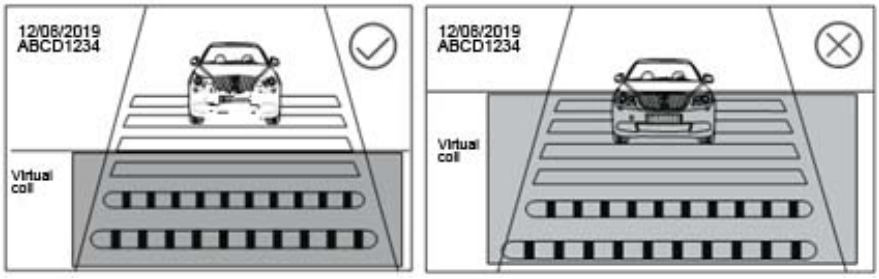
3.Log in the web configuration page of the all-in-one machine, and view the recognition area and virtual coil set by default in the real-time video screen. The range of recognition area and the position of virtual coil can be adjusted according to the scene.

1) Recognition area: drag the four corners of the recognition area to change the shape of the recognition area. Double click the recognition area border to increase the operation node.



2-6Identify the status of correct and incorrect installation of the area

2) Virtual coil: the position of the virtual coil shall be adjusted to one-third to one-half of the video area to ensure that the characters of the license plate are clearly displayed.



2-7 Status of correct and incorrect installation of virtual coil

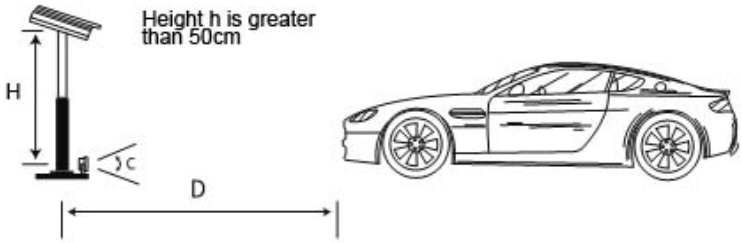
2.5 Install external replenishment lamp

1.All license plate recognition sites are recommended to be equipped with a light-sensitive external light-supplementing lamp.

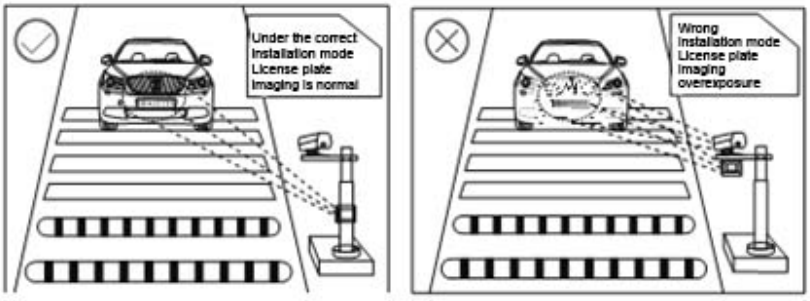
Hardware requirements: special LED just light for parking lot, power: 20w-30w, angle (angle c)：15°-45°。

Installation requirements: fixed on the column of the integrated machine, keeping a vertical distance of 0.5m-0.7m with the integrated machine.

Angle requirements: in the recognition area, the external fill light illuminates the license plate, and the license plate is not exposed. It is recommended that the distance d between the fill light and the license plate is more than 2m and less than 6m.



2-8Installation of LED

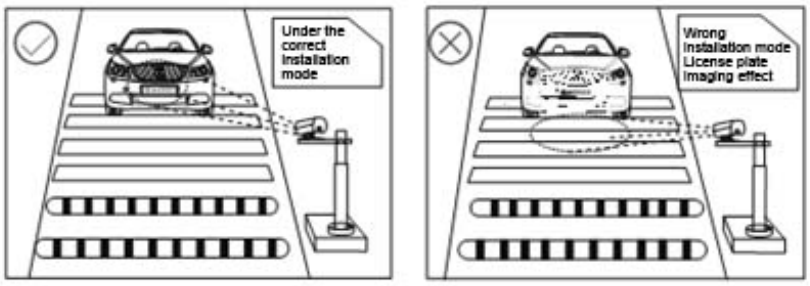


2-9 Imaging effect of the correct and wrong installation of LED

2.6 Adjust the internal light-supplementing lamp

1.On real-time video pages, the brightness of LED lights can be adjusted

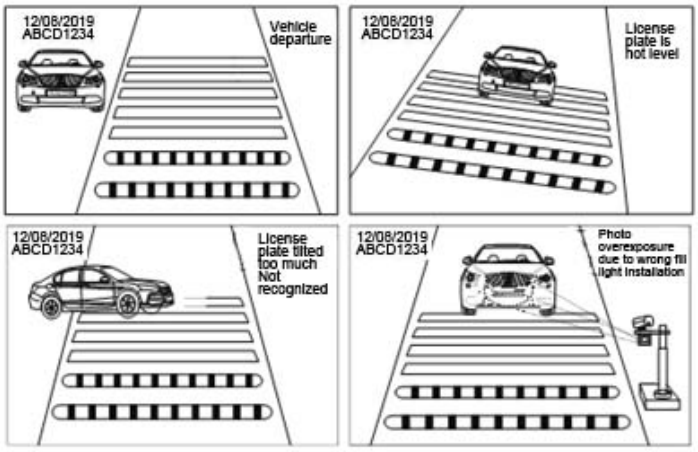
2.According to the recognition distance, the built-in fill light is divided into four levels: 2m, 4m, 6m and 8m. By default, it is set to 4m between pm6:00 - am9:00. The brightness level of LED can be adjusted according to the actual scene.



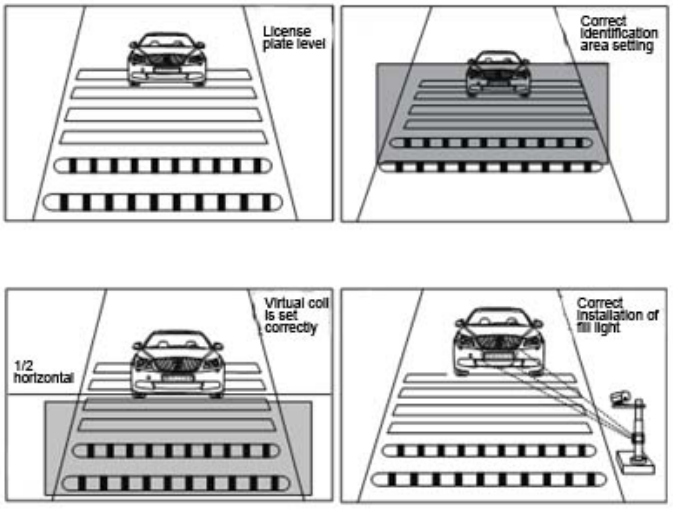
2-10Correct and wrong brightness of LED light

3.When the external fill light is installed, the brightness of the internal fill light can be properly reduced to avoid overexposure of the license plate.

2.7 Installation scenario verification



2-11Camera error installation scenario demonstration

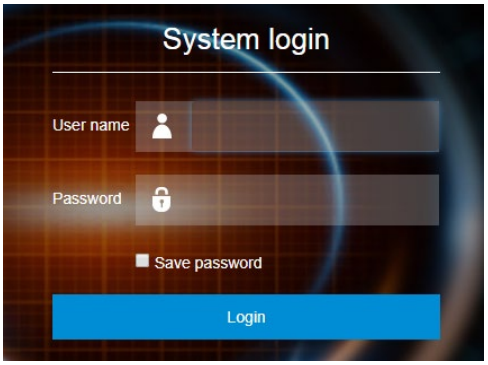


2-12 Camera correct installation scene demonstration

3 Preview Image

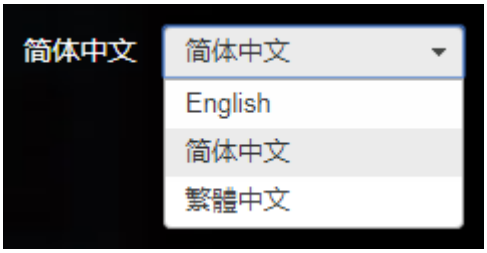
3.1 Camera connection

1. The factory default IP address of the license plate recognition all-in-one machine is 192.168.1.100. Before connecting to the camera, confirm whether the IP address of the current computer and the camera IP address are in the same network segment. After powering up the camera, open the browser (it is recommended to use non IE core browsers such as Google, Firefox, etc., which can be used without installing controls) and input the IP address http://192.168.1.100 /. When using IE browser (including IE kernel browser), it is recommended to use Internet Explorer version 8.0 or above for compatibility. The login interface is as follows:



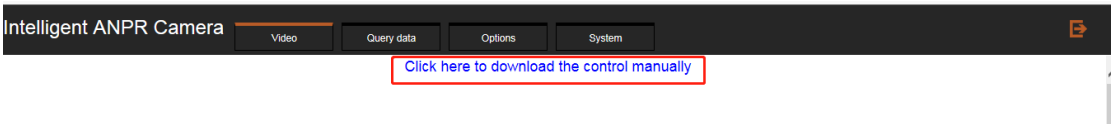
3-1Login Page

2. At the top right of the interface, you can switch the client language. At present, you can switch between simplified Chinese, traditional Chinese and English.



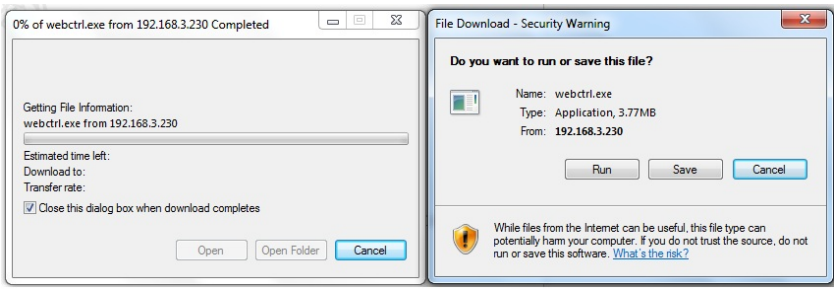
3-2 Language switching menu

3. Enter the default user name: admin, the default password admin, and click the login button to log in.
4. If you open the camera for the first time using IE browser (including browser using IE kernel, Google and other browsers can skip 3-6 steps), the browser will prompt you to install the plug-in. As shown in the figure below:



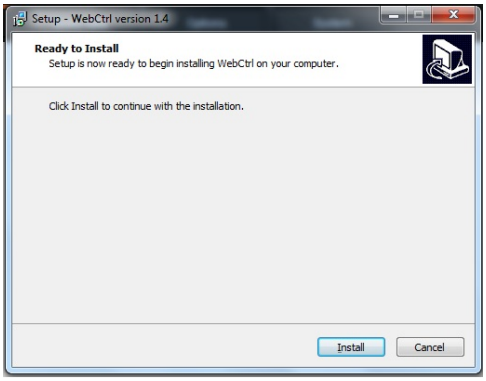
3-3 Installation plug-in Tips

5. Click OK, Download webctrl.exe and run it. If the following interface pops up, click Run.



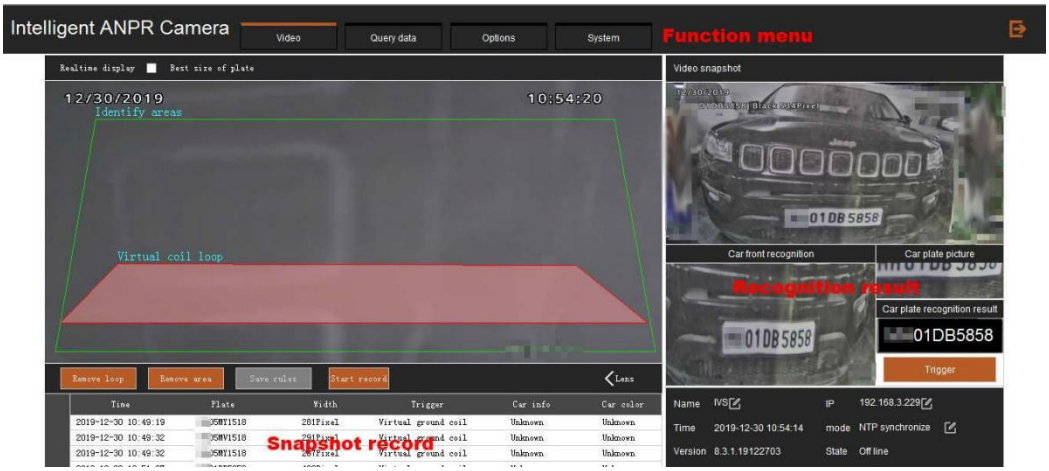
3-4 Plug-in security prompt

6. After running webctrl.exe, the following interface will pop up. Click Install to install the plug-in.



3-5 Plug in installation interface

7. After installation, click the finish button to finish the installation.
8. After refreshing the webpage, you can see the output screen and auxiliary wireframe of the camera on the following interface. When the license plate appears in the screen, the license plate number information recognized by the system will be displayed on the right side of the screen, and the capture history will be displayed below. At the same time, the system provides basic settings at the bottom right of the main interface to complete common settings. Click the button at the top right corner of the interface to exit System to login interface



3-6 Browse main page details

9. Click the best license plate size option to display the virtual license plate for auxiliary equipment installation / adjustment, and click again when not needed to cancel the display of the virtual license plate.

3-7 Best size license plate auxiliary display

10. Double click the video real-time display interface to display the video image in full screen.

3.2 Virtual coil and recognition area adjustment

In the real-time display interface, the recognition area and virtual coil are marked by default. You can use the mouse to drag the vertex on the wire frame (indicated by the red arrow in the figure on the next page) to adjust the recognition area / virtual coil, or double-click the mouse on the recognition area wire frame to create a new mark point for adjustment. When the wire frame state is adjusted, you can click the save Rule button at the bottom left to adjust the wire frame state Preservation. At the same time, there are virtual coil and recognition area delete / create buttons on the lower left side of the real-time display interface, which can delete the virtual coil / recognition area in the real-time screen, or create the corresponding wire frame when there is no virtual coil / recognition area in the real-time screen (default state).

3-8 Virtual coil and recognition area

3.3 Manual capture trigger

Click the manual trigger button (in the red box) on the right side of the homepage to manually capture a test image. The captured image will automatically display the close-up of the car head and license plate as well as the identification license plate number on the right side, as shown in the picture on the following page.

3-9 Manual capture test

3.4 Capture event record

Under the real-time display interface, there is a snapshot history, as shown in the picture on the following page:

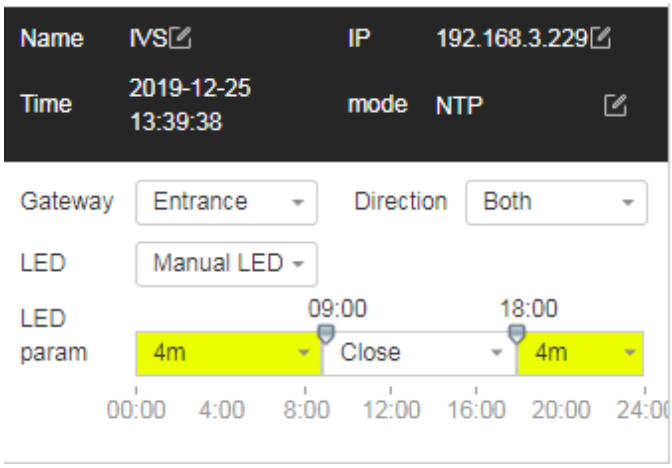
Time	Plate	Width	Trigger	Car info	Car color
2019-12-30 10:49:19	05MY1518	281Pixel	Virtual ground coil	Unknown	Unknown
2019-12-30 10:49:32	05MV1518	291Pixel	Virtual ground coil	Unknown	Unknown
2019-12-30 10:49:32	05MY1518	287Pixel	Virtual ground coil	Unknown	Unknown
2019-12-30 10:51:27	01DB5858	483Pixel	Virtual ground coil	Unknown	Unknown
2019-12-30 10:51:54	01DB5858	600Pixel	Virtual ground coil	Unknown	Unknown
2019-12-30 10:52:43	01DB5858	534Pixel	Virtual ground coil	Unknown	Unknown

3-10Capture history

The capture history includes: recognition time, license plate number, license plate type, license plate color, license plate width, trigger type information.

3.5 Basic settings of main interface

There is a basic setting interface at the bottom of the real-time display interface, as shown in the picture on the following pag

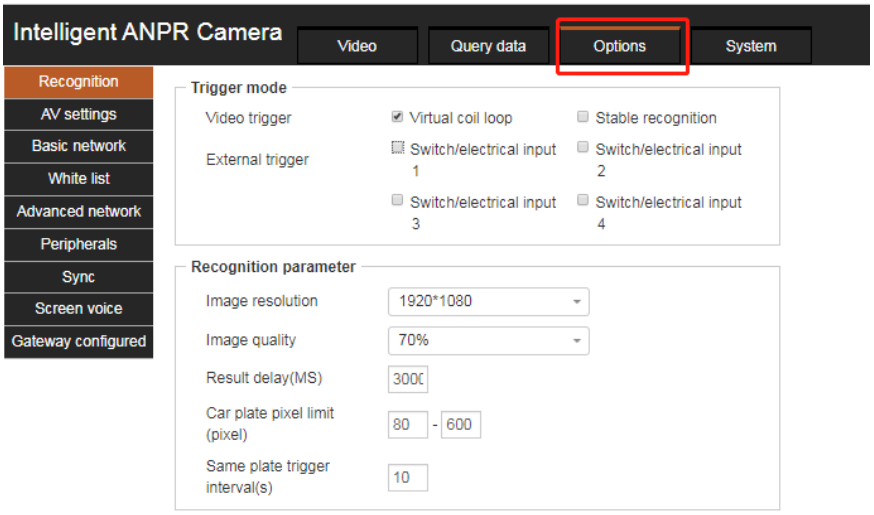


3-11Basic setting interface

- Equipment name. Click the Edit button to change the equipment name.
- IP address, which can be configured accordingly.
- In the timing mode, click the Edit button to jump to the time configuration page.
- Set the installation position of the current camera at the entrance and exit.
- Direction: set the traffic direction of equipment installation lane.
- Light supplement mode, set the working state of light supplement lamp of the equipment.
- Preset provinces and set license plate identification marks that are mainly recognized by equipment to improve recognition efficiency.
- Light compensation parameters, set the time period when the equipment starts light compensation.

4 Advanced setting

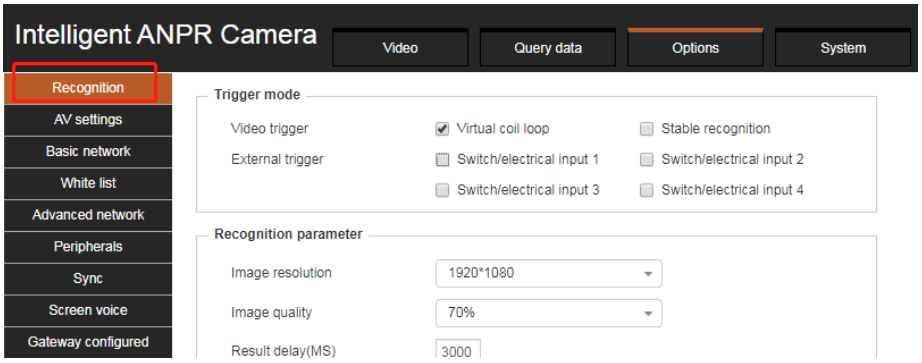
Click the advanced setting button at the top of the interface to enter the advanced setting menu interface, as shown in the following figure:



4-1Advanced settings menu interface

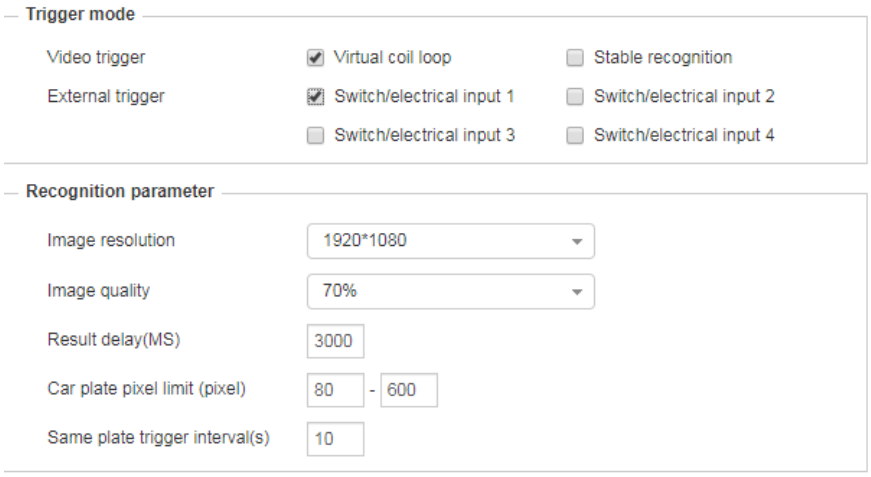
4.1 Identification settings

Click the identification setting in Figure 4-1 to enter the identification setting interface, as shown in Figure 4-2 below.



4-2 Identification setting guide

The recognition setting interface is shown in the picture on the following page:

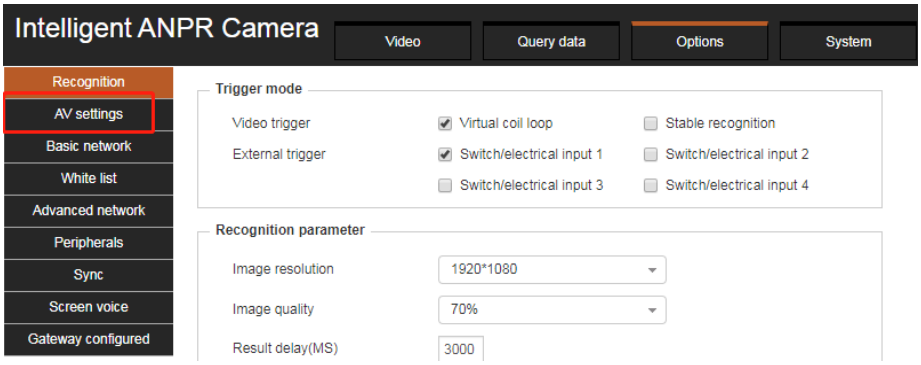


4-3 Identification setting interface

- Trigger mode, which can check the type of trigger identification.
- Recognition parameters can be used for image quality, image resolution, trigger interval of the same license plate, traffic direction, license plate width limit, trigger interval of the same license plate, trigger of unlicensed vehicle and anti-counterfeiting of license plate (anti-counterfeiting matching degree can be set according to demand). Note that too high matching degree may increase recognition time and false alarm probability), output vehicle information for setting, and assist the system to accurately identify vehicle information.
- To recognize the license plate, the license plate type that needs to be recognized can be checked.

4.2 Audio and video

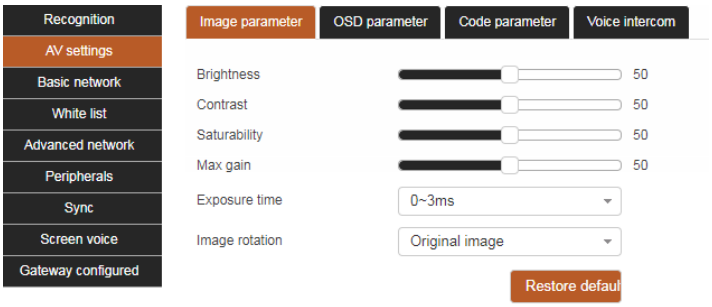
Click the audio and video in Figure 4-1 to enter the audio and video interface, as shown in the figure below.



4-4 Audio and video setting guide

4.2.1 Image parameters

Click the image parameters tab to enter the image parameters page.

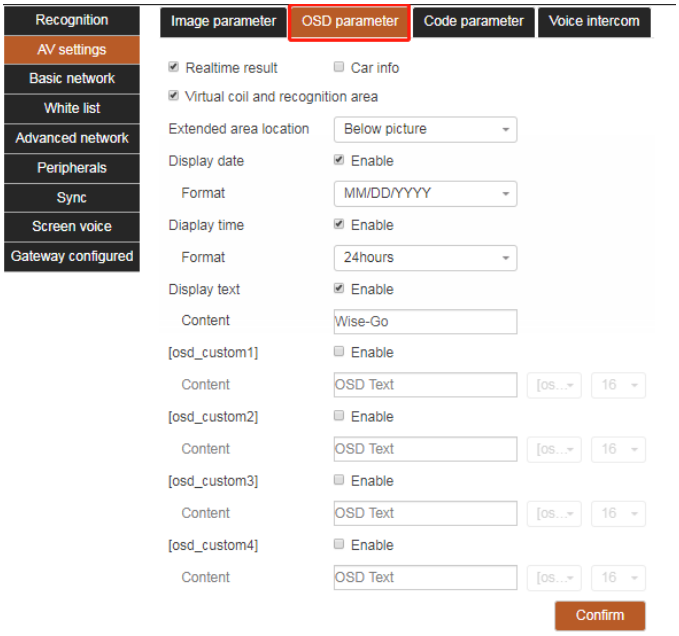


4-5 Image parameter interface

- The video parameter setting can be displayed in real time on the right side of the setting interface, which is convenient for adjustment and comparison.
- Brightness: drag the brightness progress bar to configure the brightness of the image.
- Contrast. Drag the contrast progress bar to configure the contrast of the image.
- Saturation. Drag the saturation progress bar to configure the color saturation of the image. When the value is set to 0, the image is configured as a black-and-white image.
- Maximum gain, drag the maximum gain progress bar to configure the maximum gain value that the camera automatically adjusts the exposure parameter. The user determines the maximum gain value according to the actual application scenario.
- The exposure time, in MS, is the opening time of the electronic shutter of the CMOS image sensor. Different exposure time can be configured according to different application scenarios. The time set here is the maximum exposure time. The camera will automatically adjust the exposure time according to the brightness of the scene.
- Image flipping, users can choose the flipping angle of the image according to the actual installation direction of the camera.
- Click the restore button to set all image parameters as default parameters.

4.2.2 OSD parameter

Click the OSD parameter tab to enter the OSD parameter interface.

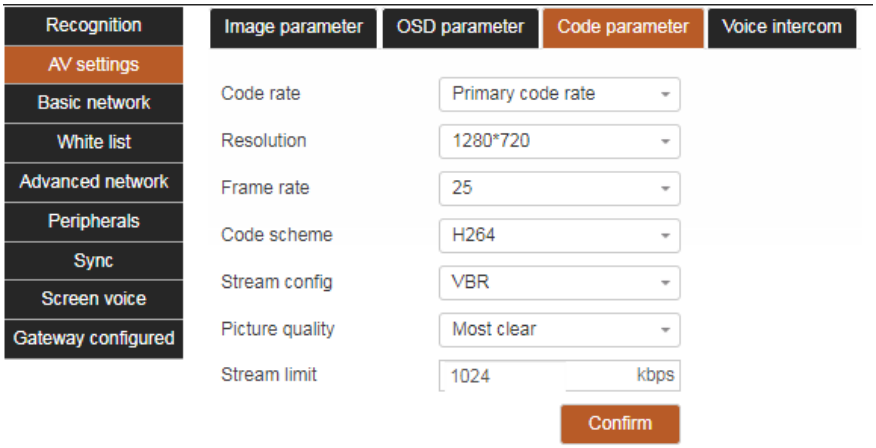


4-6 OSD parameter interface

- The real-time results show the real-time license plate recognition results in the form of words on the top left of the real-time screen.
- Vehicle information: display the real-time identified vehicle logo and other information on the top left of the real-time screen.
- Virtual coil and identification area, turn on / off virtual coil and identification area.
- Expand the location of the area. When enabled, you can choose to display the capture information at the corresponding location.
- Display the date. After enabling, you can configure the date format. In the real-time screen, you can drag the text to change the position.
- Display time. After enabling, the time format can be configured, and the text can be dragged to change the position in the real-time screen.
- Display the text. After enabling, you can configure the text content, support the configuration of multiple custom text, and drag the text to change the position in the real-time screen.

4.2.3 Coding parameter

Click the coding parameter tab to enter the coding parameter page.

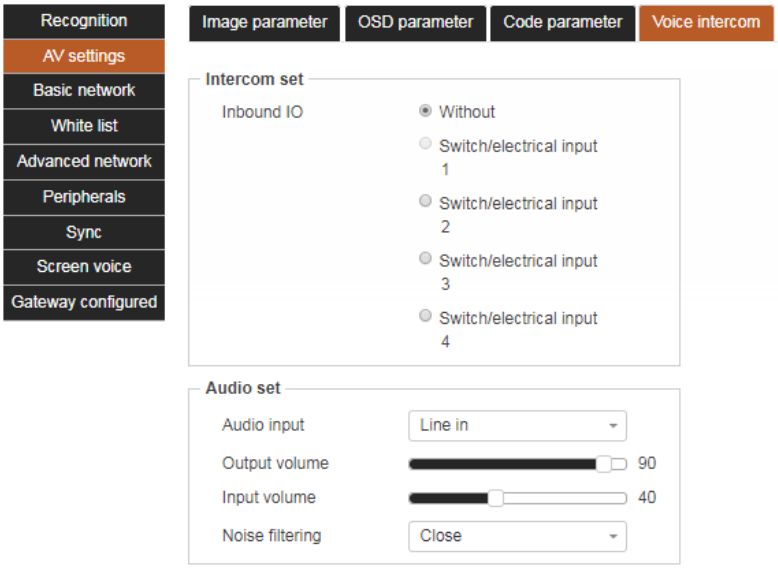


4-7 Coding parameter interface

- Bitstream: the camera can output two bitstreams. This option is used to switch whether the configuration of the following configuration items is the main bitstream or the sub bitstream.
- Resolution, configure the video stream resolution.
- Frame rate, configure the frame rate of video stream, 1-25 frames per second can be configured.
- Encoding mode, video stream encoding mode, optional H.264, h.265 (mobile terminal supports MJPEG).
- Stream control, switching rate control mode of video stream, constant stream is static rate control (CBR), variable stream is dynamic rate control (VBR).
- Image quality, configure the image quality of the video stream, the clearer the video stream consumes more network bandwidth.
- Upper limit of code stream, upper limit of dynamic code stream. Range 1-5000kbps.

4.2.4 Voice intercom

Click the voice intercom tab to enter the voice intercom interface.

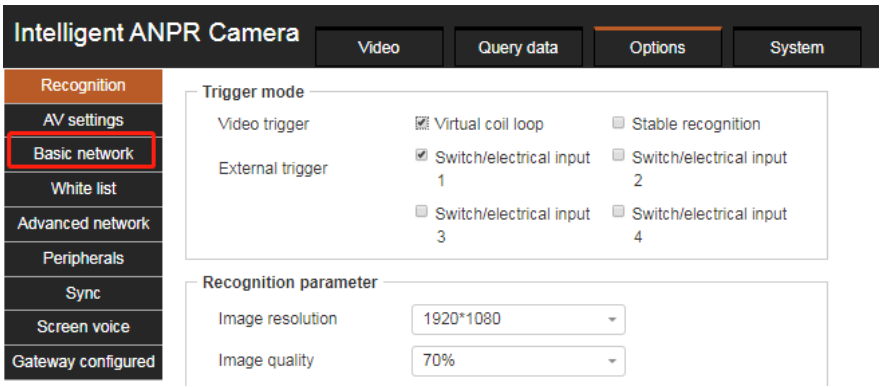


4-8 Voice intercom interface

- Intercom setting: set intercom IO access / no access system, if access, select access port.
- Audio input, set the audio input source.
- Output volume, set the audio volume output by the device.
- Input volume to set the audio volume of the input device.
- The noise filter can be turned on to reduce the noise of the pickup of the equipment.

4.3 Basic network

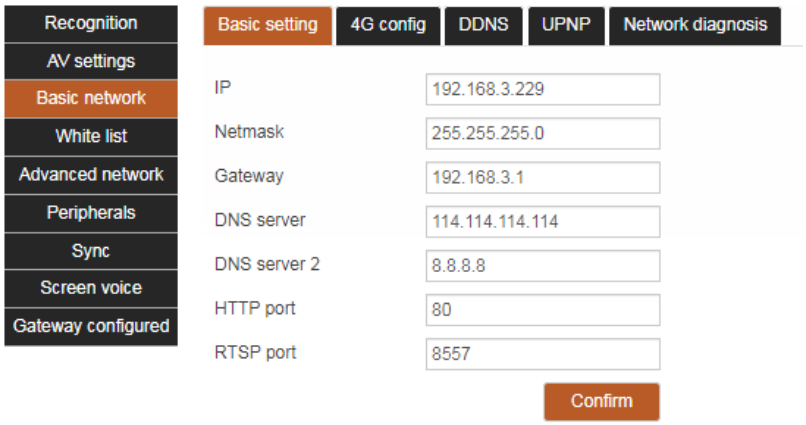
Click the basic network in Figure 4-1 to enter the white list setting interface, as shown in the figure below.



4-9 Basic network Guide

4.3.1 Basic setting

Click the basic settings tab to enter the basic settings page.

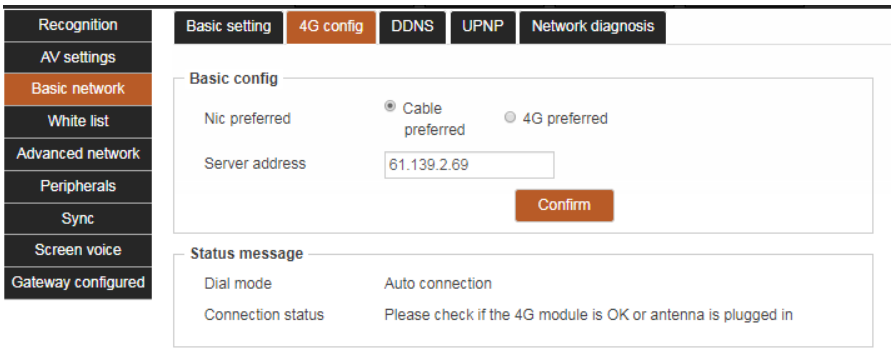


4-10 Basic setting interface

- IP address, configure the network IP address.
- Subnet mask, configure the subnet mask of the network.
- Default gateway. Configure the network default gateway. It should be in the same network segment as the IP address
- DNS server, configure the DNS server of the network. After configuring the network parameters, click OK to take effect.
- DNS server 2, configure the standby DNS server, and automatically switch to the default DNS server when the connection error occurs.
- HTTP port. Configure the port number of HTTP protocol. The default is 80. Click OK to take effect.
- RTSP port. Configure the port number of RTSP video stream. The default is 8557. Click OK to take effect.

4.3.2 4G configuration (4G module is required)

Click the 4G configuration tab to enter the 4G configuration page.

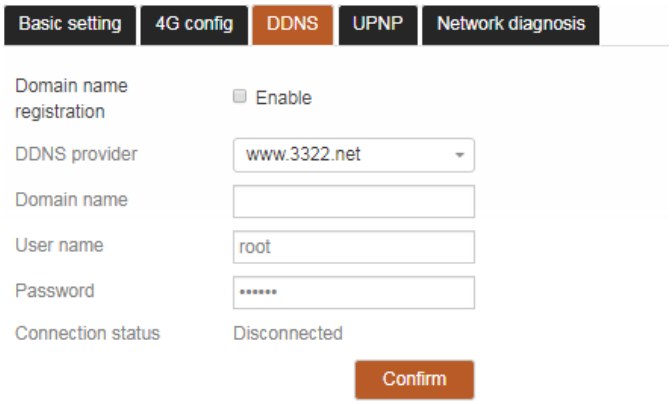


4-11 Basic setting interface

- Network card is preferred, and the preferred networking mode is selected.
- Server address, set the server address of 4G connection.
- Status information, view the current 4G working status, and conduct network troubleshooting through prompts.

4.3.3 DDNS

DDNS (dynamic domain name) maps the user's dynamic IP address to a fixed domain name resolution service. Each time the user connects to the network, the client program will transmit the dynamic IP address of the host computer to the server program located on the server's host computer through information transmission. The server program is responsible for providing DNS service and realizing dynamic domain name resolution. In this way, you can directly access the device through the domain name without recording the IP address that will change. Click the dynamic domain name tab to configure parameters related to the dynamic domain name, as shown in the following figure:

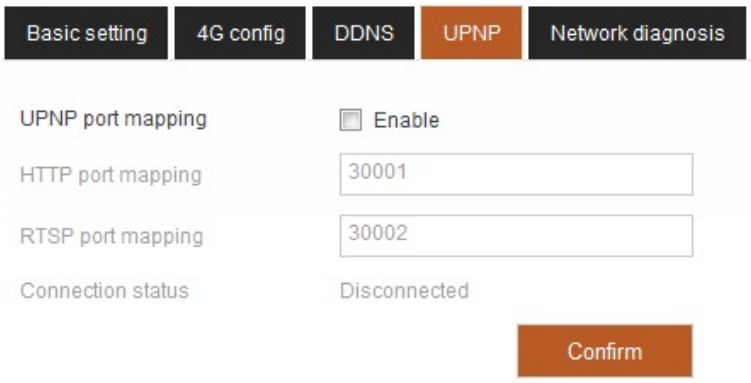


4-12 DDNS page

- Enable automatic domain name registration. Check this box to start DDNS function.
- DDNS provider, the name of the DDNS server provider.
- Domain name, the domain name registered by the user with the DDNS service provider.
- User name, the user name when the user registers with the DDNS service provider.
- Password, the password when the user registers with the DDNS service provider. After configuration, click OK to take effect.

4.3.4 UPNP

UPNP (universal plug and play) protocol can establish port mapping relationship between router intranet and external network, so that external network users can directly access the devices in the intranet through the IP address of external network. Select the UPNP port tab to configure the UPNP function, as shown in the picture on the following page

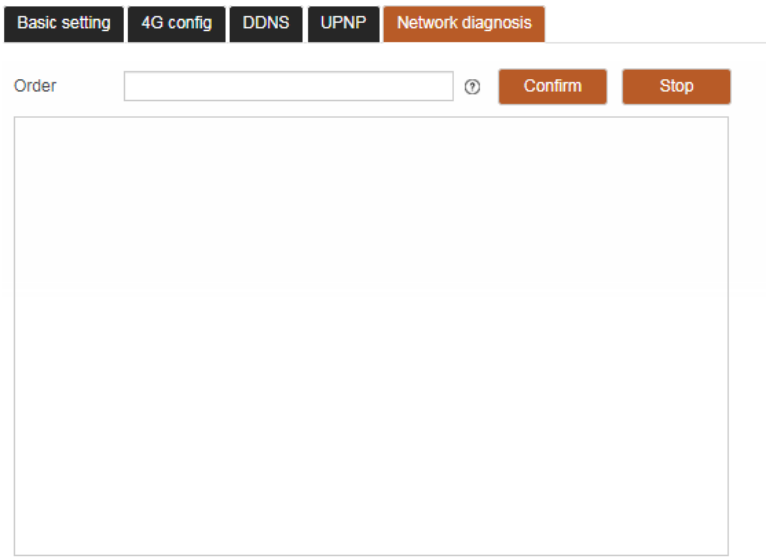


4-13 UPNP interface

- Enable UPNP port mapping. Check this box to enable the UPNP port mapping function.
- The HTTP mapping port is configured with the external port number of the HTTP protocol.
- RTSP mapping port, configure the external port number of RTSP protocol video streaming. After modification, click OK to take effect.

4.3.5 Network diagnosis

Click the network diagnosis tab to enter the network diagnosis page.

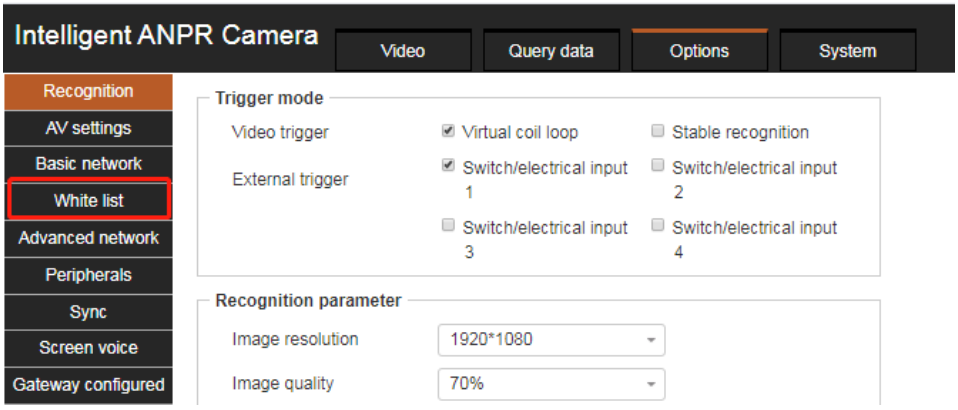


4-14 Network diagnosis interface

In the input box, you can input the corresponding network test command. Click OK to start the execution. The execution status will be displayed in the blank area below. Click stop to terminate the execution of the current command.

4.4 White list

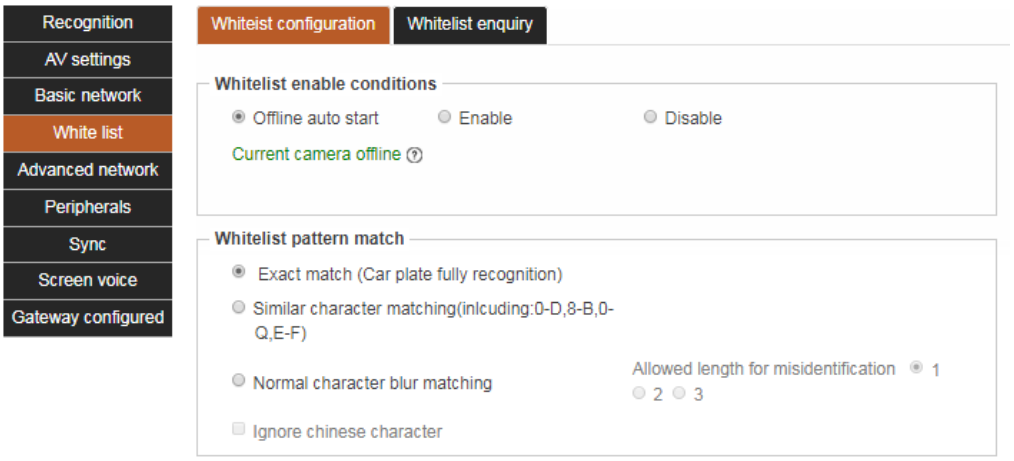
Click the white list setting in Figure 4-1 to enter the white list setting interface, as shown in the following figure.



4-15 White list setting guide

4.4.1 White list configuration

Click the white list configuration tab to enter the white list configuration page.

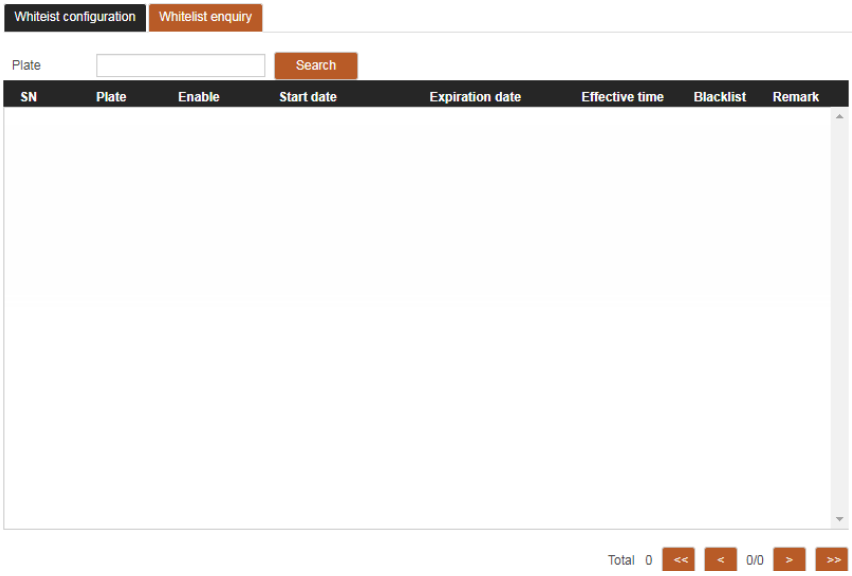


4-16 White list configuration interface

- Enabling conditions of white list, enabling status / triggering conditions of white list can be set.
- White list fuzzy matching can set the query method of white list fuzzy matching. The user can select the appropriate fuzzy query method according to the actual scene demand and the corresponding allowable error recognition length according to the scene fault tolerance rate.

4.4.2 White list query

Click the white list query tab to enter the white list query page.

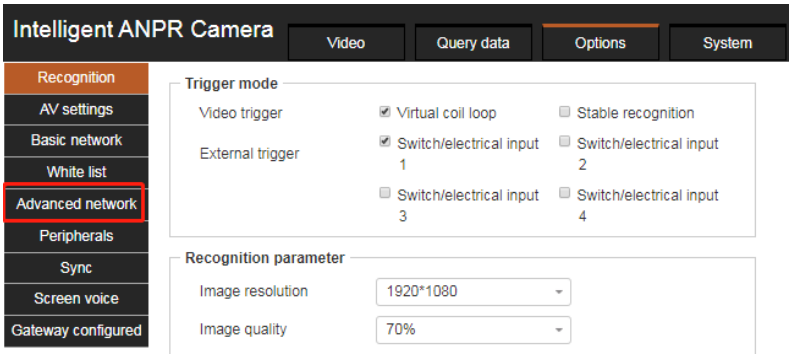


4-17 White list query interface

You can query the details of the license plate in the white list by entering the license plate number.

4.5 Advanced network

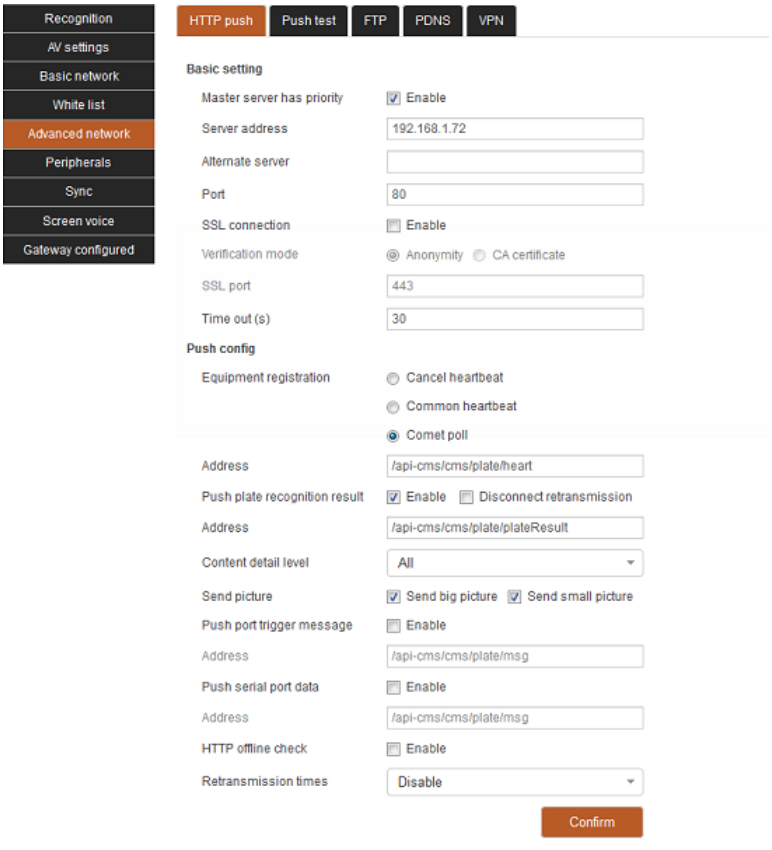
Click the advanced network in Figure 4-1 to enter the advanced network interface, as shown in the figure below.



4-18 Advanced network Guide

4.5.1 HTTP push

Click the HTTP push tab to enter the HTTP push configuration page. Push configuration is used to configure the back end to receive the image data captured by the license plate.



4-19 HTTP Push configuration interface

- The primary server takes priority. When enabled, the primary server can be pushed first.
- Server address, configure the main server address to receive the uploaded image.
- Alternative server: configure the alternative server address to receive the uploaded image, which can be multiple

addresses separated by ';'.

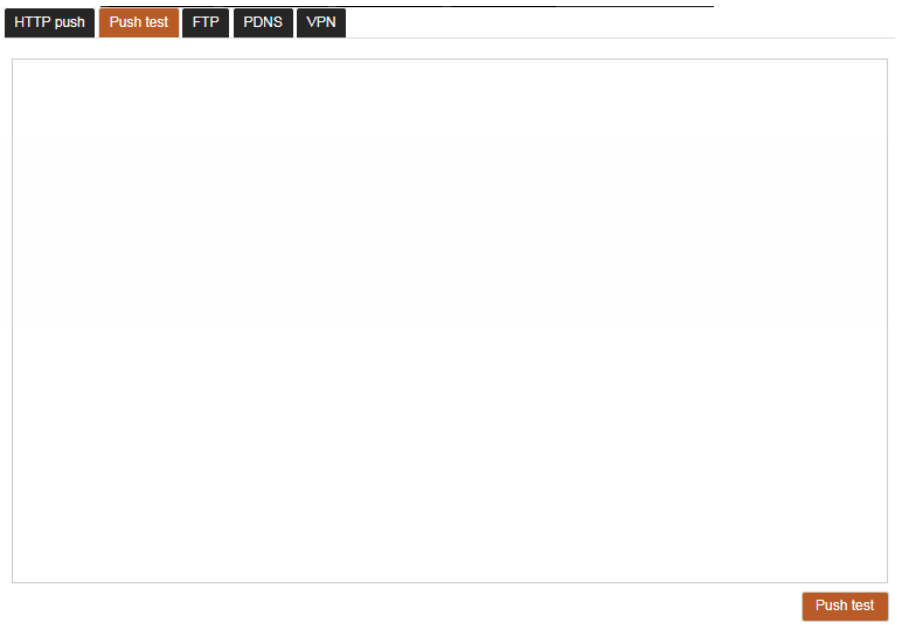
- Port, the port number uploaded by HTTP / HTTPS, 80 by default.
- SSL connection, check this box to enable SSL during data transmission.
- Authentication mode, SSL authentication mode
- Anonymous, using anonymous SSL authentication.
- CA certificate, use CA certificate for SSL verification, check this option, and the following interface will pop up to upload CA certificate:

4-20 SSL certificate upload interface

- SSL port, configure the port number of SSL authentication.
- Timeout, configure the connection timeout of data push.
- Device registration, how to determine the connection between the device and the server.
- Cancel the heartbeat, do not judge the connection, and send the data directly.
- Normal heartbeat: the client sends heartbeat messages to the server every other period of time, and judges the connection between the device and the server by whether the server returns messages within the specified time.
- Comet polling is based on HTTP long connection. The client sends an inquiry request to the server. When there is no data, the server does not respond immediately, but waits for the data. When new data is generated, it responds to the browser and an HTTP connection ends.
- The primary server is preferred. If this option is checked, the primary server is preferred.
- Push license plate recognition results, check this box, and push face capture results through HTTP protocol.
- Address, the push URL address of the face capture result. Utf8 is encoded before Base64.
- Content level of detail, select the content pushed by the result of face capture.
- Push port trigger information, check this box to enable port trigger push content.
- Address, the push URL address triggered by the port. Utf8 is encoded before Base64.
- Push serial data. Check this box to enable serial data push.
- Address, push URL address triggered by serial port, and Base64 encoding after utf8 encoding.
- HTTP offline check, whether to enable HTTP offline check.
- The number of retransmissions. Configure the number of HTTP push retransmissions.
- Click OK to save the changes.

4.5.2 Push test

Click the push test tab to enter the push test page.

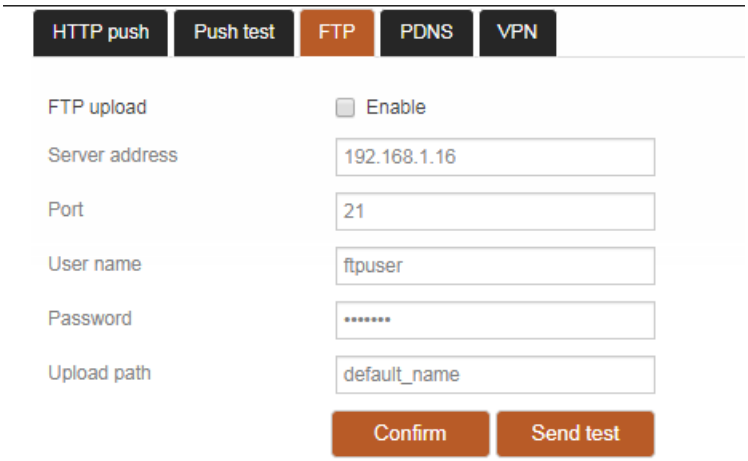


4-21 Push test interface

Click the push test button in the lower right corner to conduct push test, and the test details will be displayed in the blank area of the interface.

4.5.3 FTP

Click the FTP tab to enter the FTP configuration page.

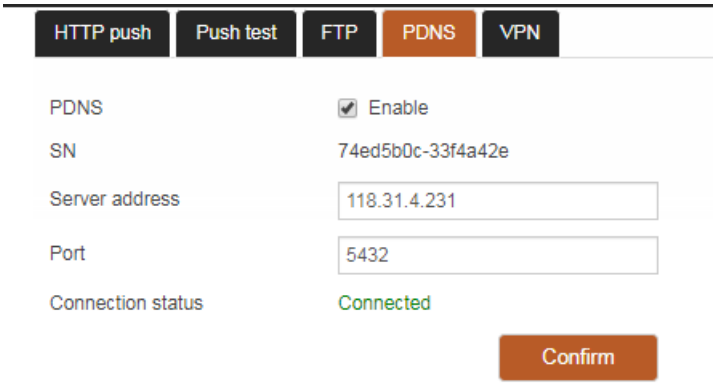


4-22 FTP Configuration interface

- Enable FTP upload, check this option to enable FTP upload function.
- Address, configure the FTP server address to upload.
- Port, configure the port number of FTP upload service.
- User name, configure the user name used to log in to the FTP server.
- Password, configure the password used to log in to the FTP server.
- Upload path: configure the data path of the FTP server.

4.5.4 PDNS

Click the PDNS tab to enter the PDNS configuration page.

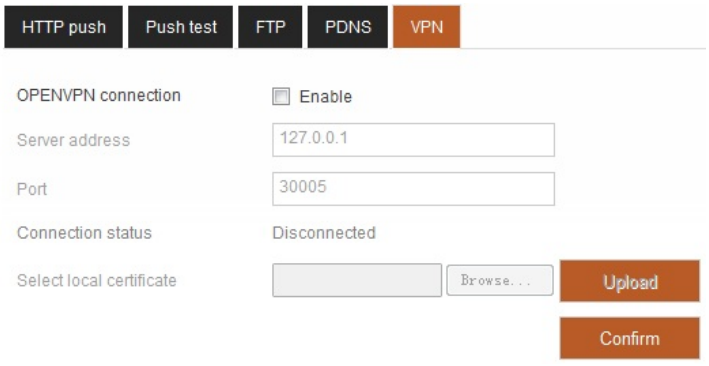


4-23 PDNS configuration interface

- Start the PDNS connection. Check this box to start the PDNS connection function.
- Server address, PDNS address can be configured.
- Port, configure the port number of PDNS service.
- Click the confirm button to save the configuration.

4.5.5 VPN

VPN is a virtual transmission channel, which can provide a safe and reliable network transmission channel for remote access of equipment. Click VPN configuration tab to configure VPN function.

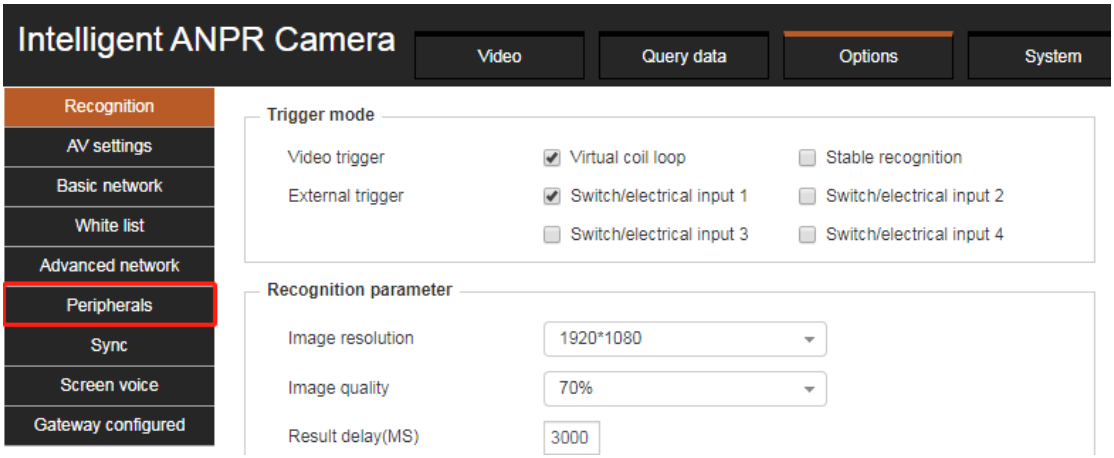


4-24 VPN configuration interface

- Open VPN connection, check this box to start the open VPN function.
- VPN server address. You can configure VPN server address.
- Port, configure the port number of VPN service.
- Select local certificate, open VPN Security certificate, and click upload. Click OK after all configurations are completed to take effect.

4.6 Peripherals management

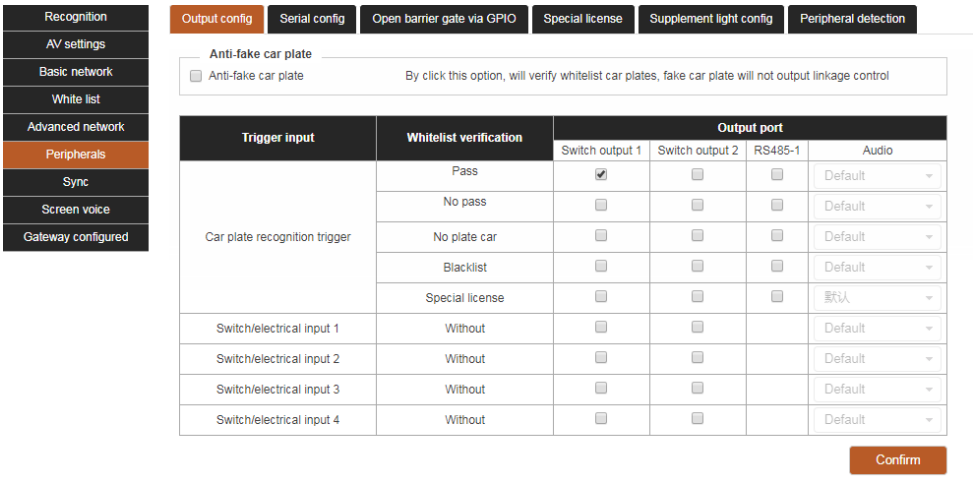
Click peripheral management in Figure 4-1 to enter the peripheral management interface, as shown in the figure below.



4-25 Peripheral management guidelines

4.6.1 Output configuration

Click the output configuration tab to enter the output configuration page.

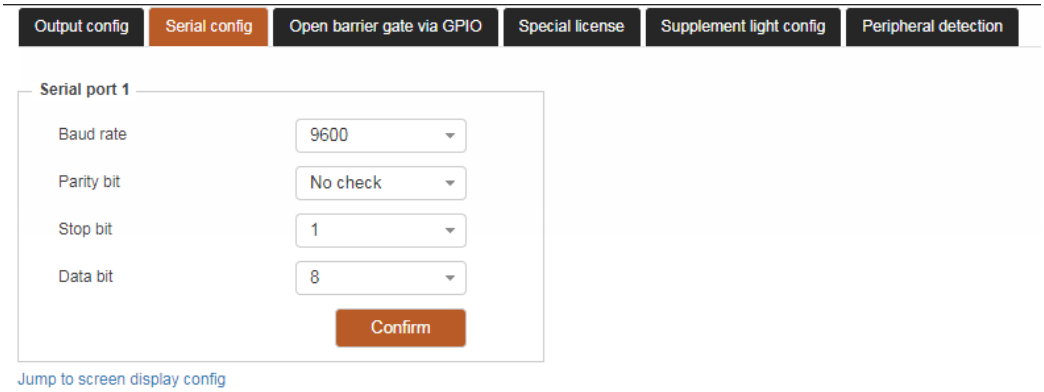


4-26 Output configuration interface

- Anti fake license plate. When the opening function is enabled, the fake license plate will not trigger the output linkage control.
- When the license plate recognition is triggered, the user can configure the system to output signals at various ports according to the white list verification.
- Users can configure the system to trigger multiple (only partial output ports) output port signals when obtaining input port signals.

4.6.2 Serial port configuration

Click the serial port configuration tab to enter the serial port configuration page.

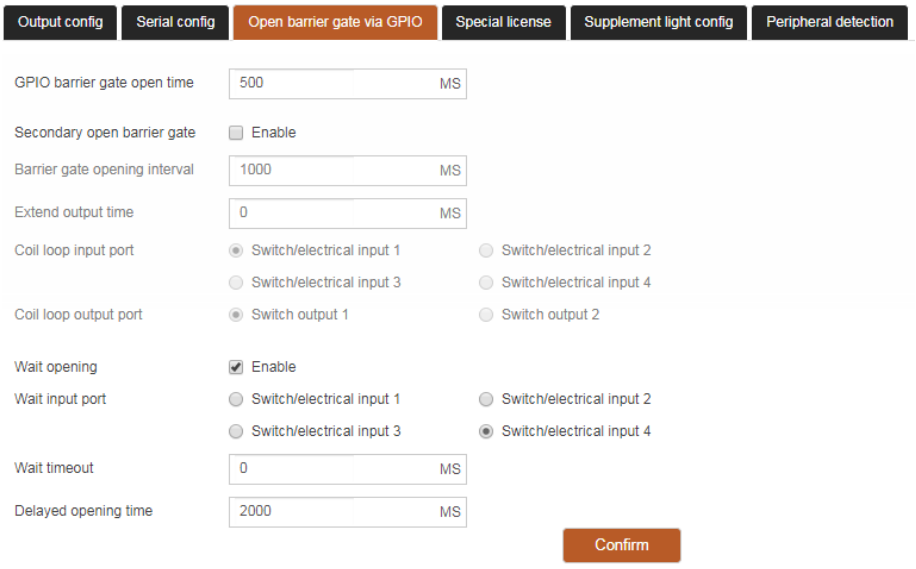


4-27 Serial port configuration interface

- Baud rate, configure serial port baud rate.
- Check bit, configure serial port check bit.
- Stop bit, configure the serial port stop bit.
- Data bit, configure serial data bit.

4.6.3 GPIO gate opening

Click the GPIO opening tab to enter the GPIO opening page.

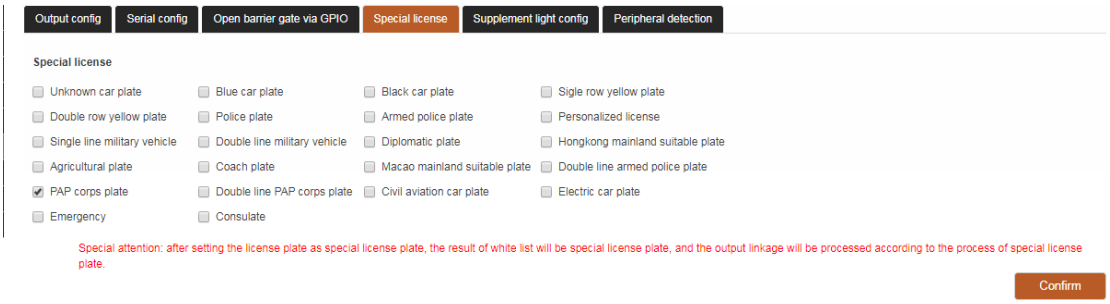


4-28 GPIO opening interface

- By default, the opening time of GPIO is set, and the duration of single gate opening is set.
- Enable the secondary opening. After enabling, the vehicle unrecognized by the camera can be triggered to open through the ground induction coil.
- Gate interval time: set the minimum interval time of opening the gate twice. Only when the front car passes and the gate falls, the gate can be opened for the rear car after the interval time.
- Extend the output time, and set the extension time of the ground induction coil to the output signal after the vehicle induction disappears.
- The ground induction input port is provided with an interface for receiving the ground induction coil signal.
- The ground induction output port is provided with a signal interface for outputting the ground induction coil.

4.6.4 Special license plate

Click the special license plate tab to enter the special license plate page.

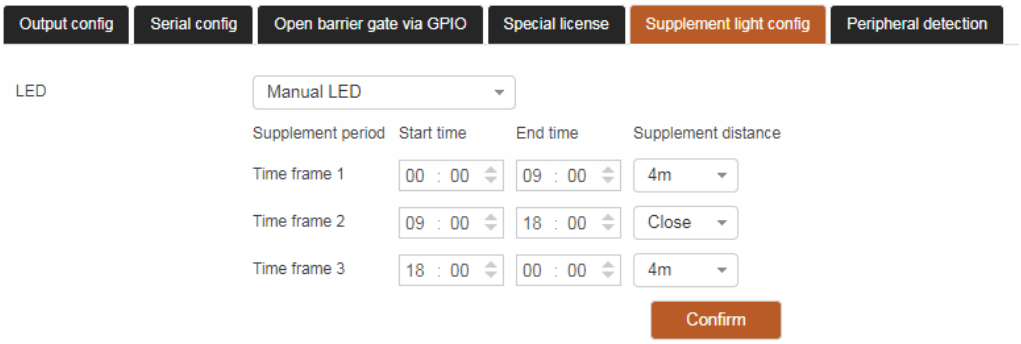


4-29 Special license plate interface

The user can set the license plate type as a special license plate for corresponding special processing, and click the confirm button to save the settings.

4.6.5 LED configuration

Click the LED configuration tab to enter the fill light configuration page.

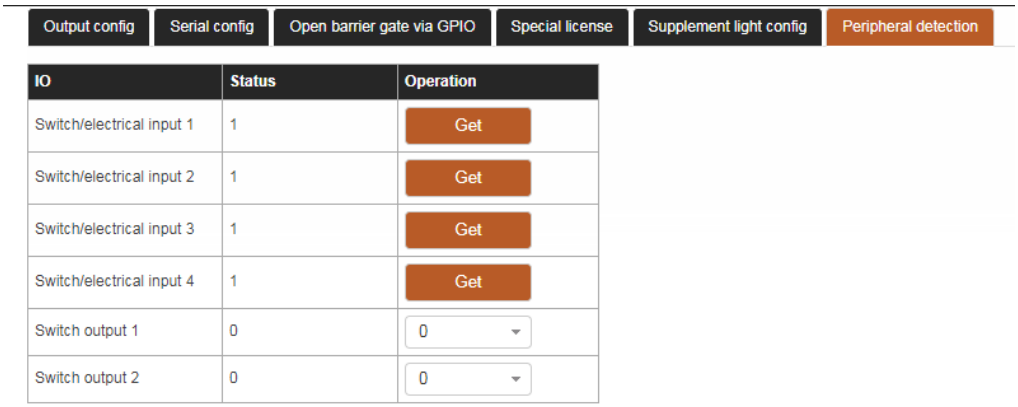


4-30 LED configuration interface

- Fill light mode, select the working state of fill light.
- You can set the fill light configuration in different time periods by distinguishing time periods.

4.6.6 Peripheral detection

Click the peripheral detection tab to enter the peripheral detection page.

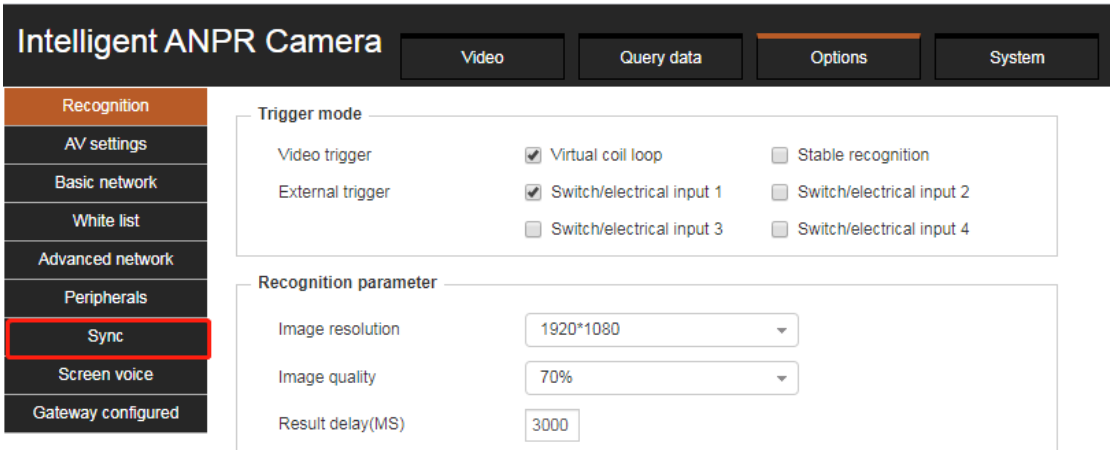


4-31 Peripheral detection interface

- In the input port line, click the get button to get the current port connectivity status.
- In the output port line, select the path / open option to set the current port status to on / off.

4.7 Screen speech

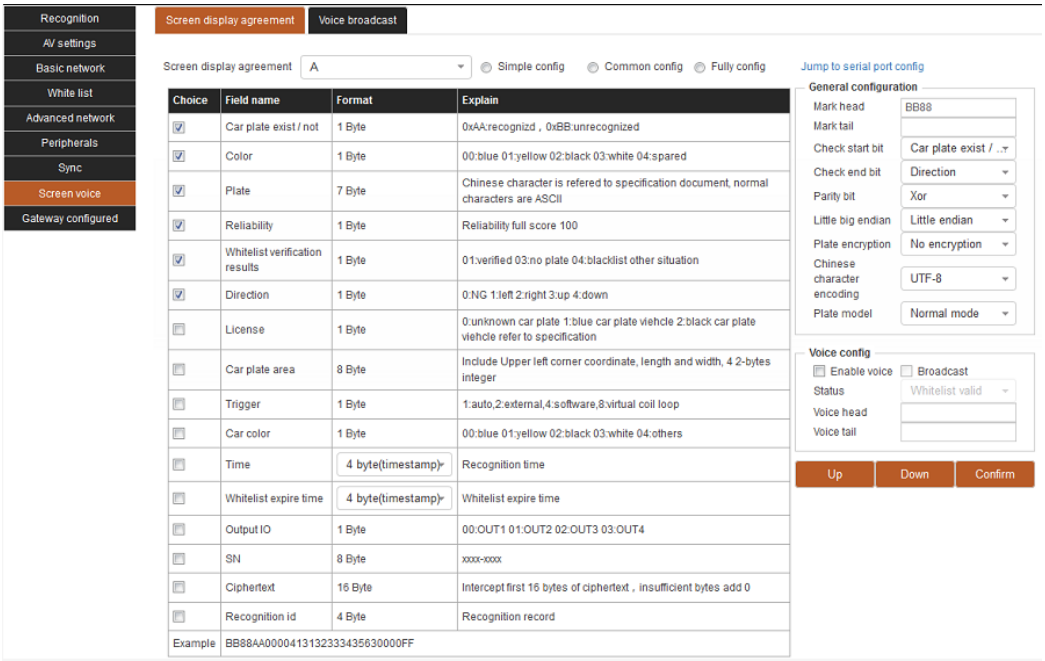
Click the screen voice in Figure 4-1 to enter the screen voice configuration interface, as shown in the figure below.



4-32 Voice Configuration Guide

4.7.1 Screen display protocol

Click the screen protocol tab to enter the screen protocol configuration page.



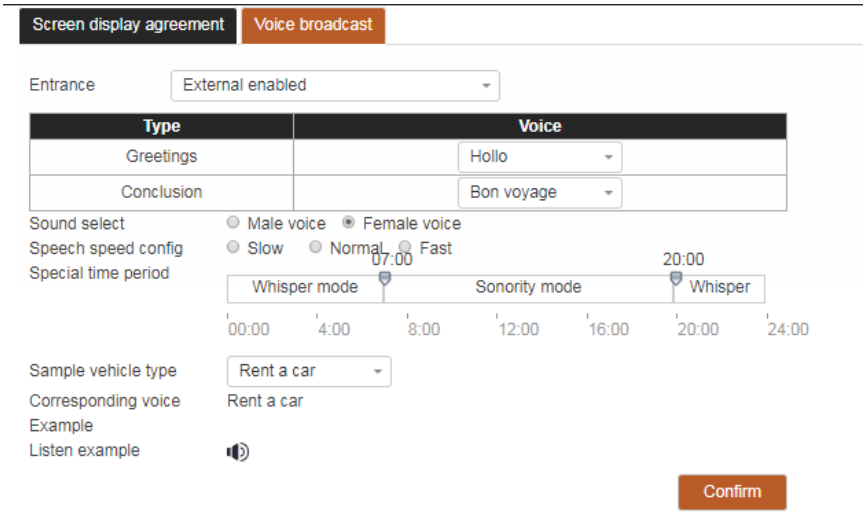
4-33 Screen protocol configuration interface

- According to the screen display agreement, select the corresponding agreement (see LED screen test help for the corresponding relationship).
- Quick configuration, you can quickly configure the screen output by selecting the corresponding configuration options.
- You can select the fields displayed on the output screen, and attach the output format and description. At the same time, you can view the field output examples on a regular basis at the bottom of the table.
- General configuration, which can be used for integrity verification and encryption of output field information. In addition to normal mode, new energy compatibility mode can also be selected in license plate mode.

- Voice configuration can enable / disable voice or license plate broadcasting. After enabling voice, different voice head / tail can be set by identifying the inclusion status of license plate in the white list.
- Adjust the field position, select the field and click the move up / move down button to adjust the field position.
- Click the confirm button to save the configuration.

4.7.2 Voice broadcast

Click on the Voice broadcast tab to enter the Voice broadcast configuration page.

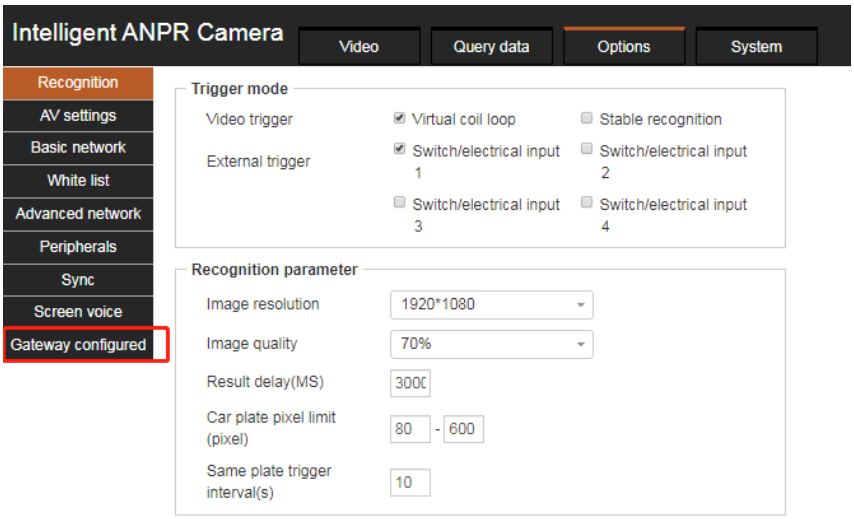


4-34 Voice broadcast configuration interface

- Entry, select the voice broadcast mode of the current entry device, and set greetings and concluding remarks.
- Sound selection, according to the needs of the scene to select the appropriate gender characteristics of the voice.
- Language speed configuration, according to the requirements of the scene to select the appropriate language speed configuration.
- In special period, reasonable loud mode opening time is selected by dragging time bar to reduce noise pollution in special period.
- Sample vehicle type, select vehicle type to view the voice content and listen to the corresponding voice.
- Click the confirm button to save the voice configuration.

4.8 Entrance and exit configuration

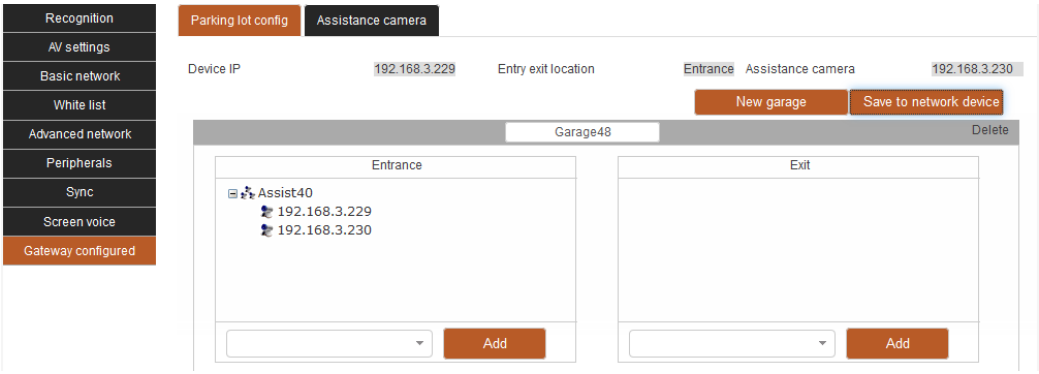
Click on the entrance and exit configuration in figure 4-1, you can enter the entrance and exit configuration interface, as shown in the following figure.



4-35 Guidelines for the configuration of entrances and exits

4.8.1 Parking lot configuration

Click on the parking lot configuration tab to enter the parking lot configuration page.

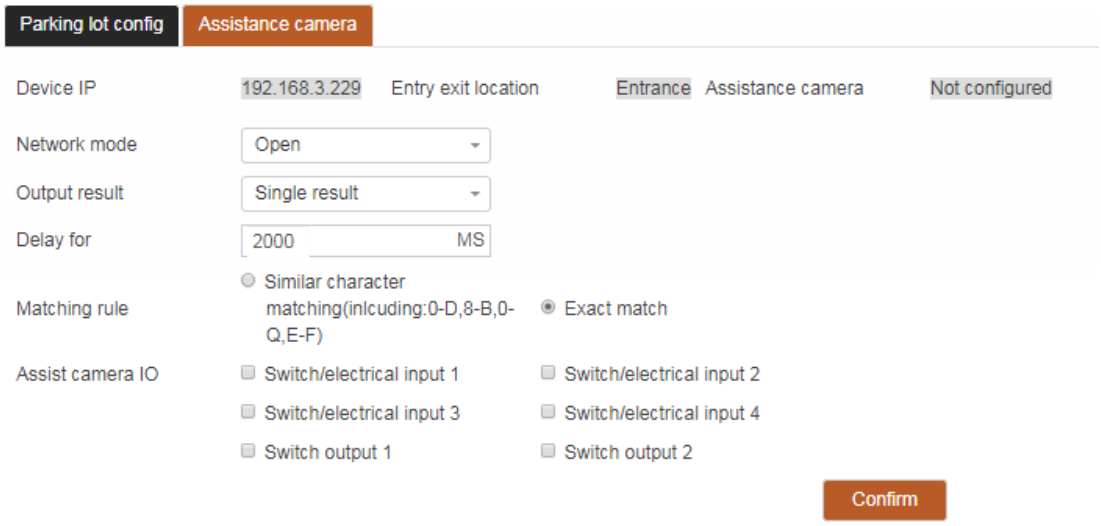


4-36 Parking lot configuration interface

A new garage (click on the garage name can be modified), at the same time for the garage exit / entrance according to IP to add one or more camera equipment, after the addition is completed, click to save to the networking device to complete the configuration.

4.8.2 Phase auxiliary camera

Click on the camera tab to enter the camera configuration page.

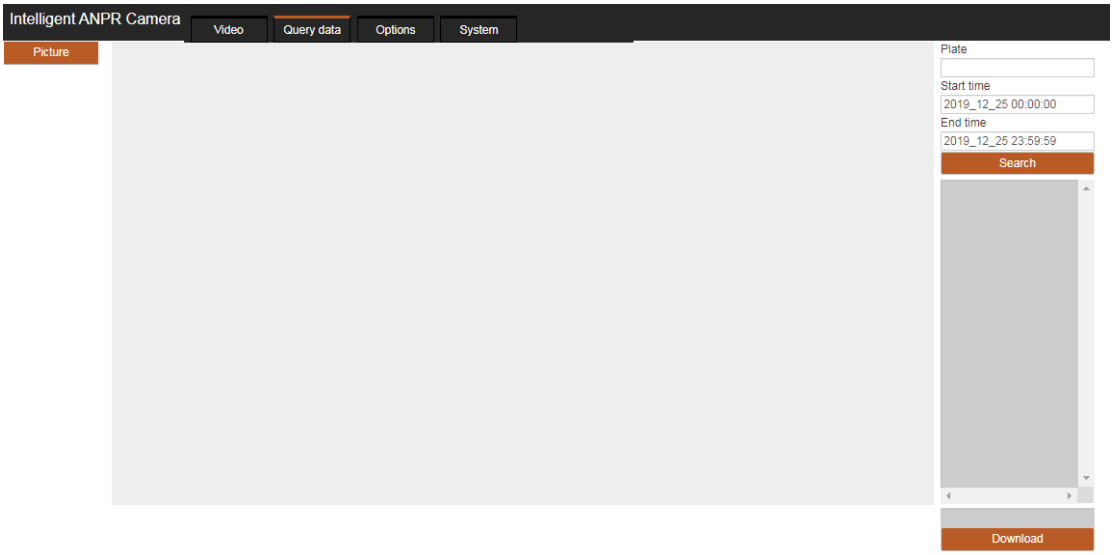


4-37 Auxiliary camera configuration interface

- Networking mode, you can choose to turn on / off the phase unit network.
- Output result: you can choose to output multiple / single results. If you select single result, only the optimal result will be output. If you select multiple results, all the results will be output.
- Delay waiting, set the maximum time for the first output result to wait for the second output result, when the waiting time exceeds this time, the first result will be output automatically.
- Matching rules, select appropriate recognition matching rules according to the use scenario
- Set IO port for sharing information between cameras.
- Click the OK button to save the changes.

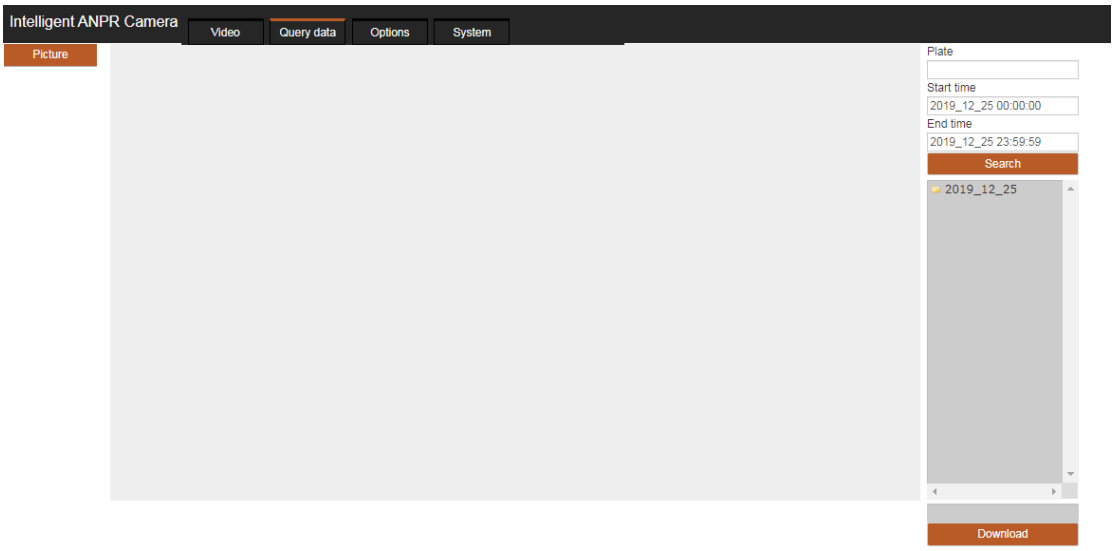
5 Data query

Click the data query button at the top of the interface to enter the data query interface (currently only image data query is supported), as shown in the following figure.



5-1 Picture preview interface

5.1 Image query



5-2 Picture sorting interface

You can enter the license plate number / time period in the upper right of the interface and click the query button. The photos that meet the query conditions will be displayed in the query results column in days (classified as folders).

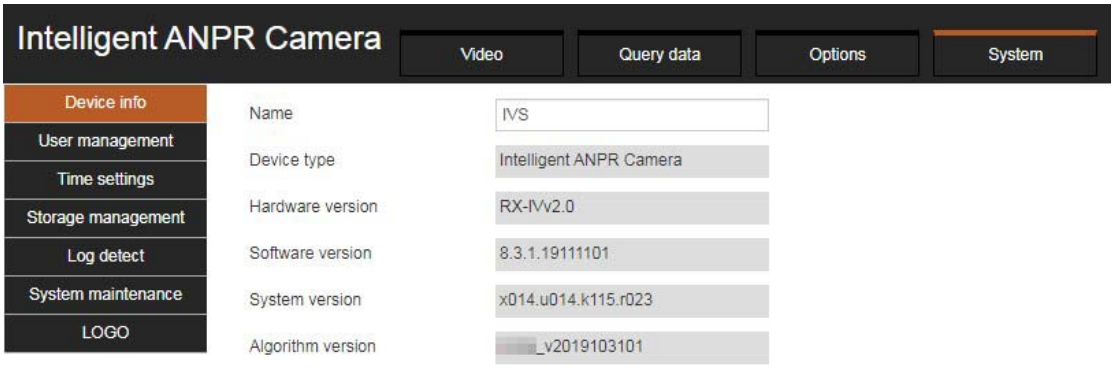
5.2 Picture preview / download

5-3 Picture preview / Download Interface

- Select the picture on the right side of the interface to preview the picture.
- Click the download button in the lower right corner of the interface to compress and download the current preview picture. ·

6 Equipment maintenance

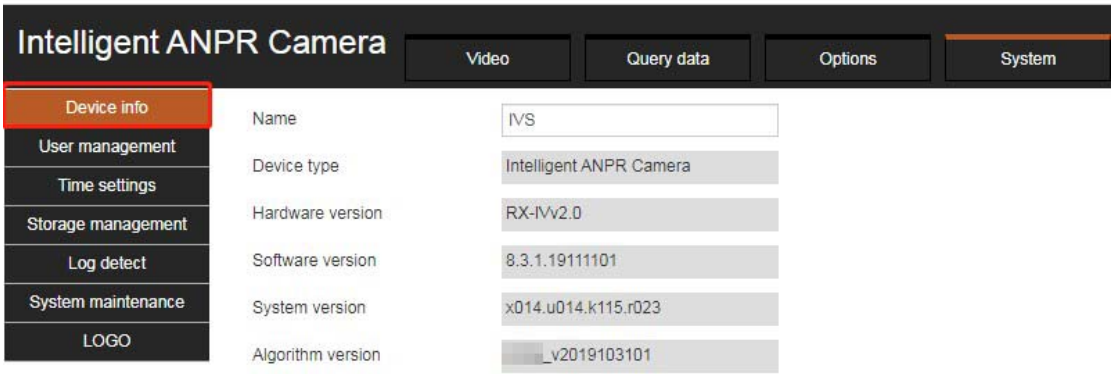
Click the device maintenance button at the top of the interface to enter the device maintenance menu interface, as shown in the following figure.



6-1 Equipment maintenance menu interface

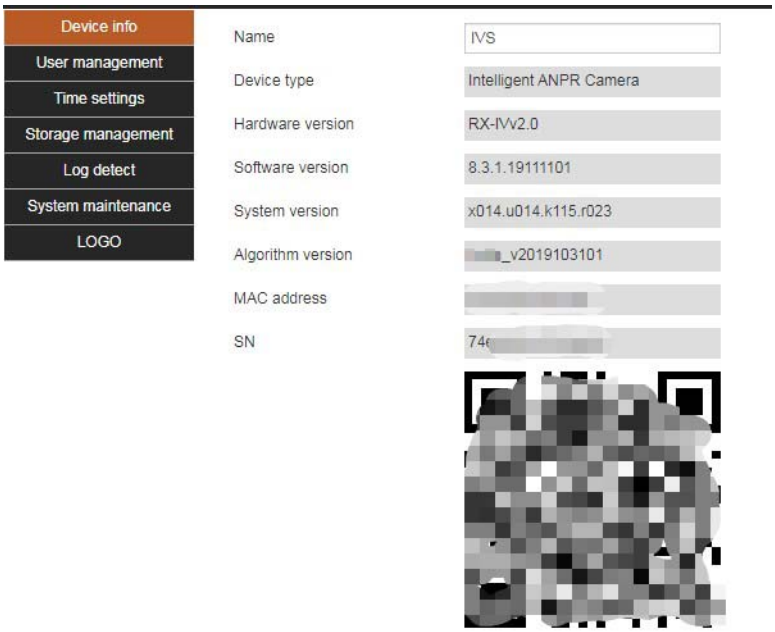
6.1 Device information

Select the equipment information in Figure 6-1 to enter the equipment information interface, as shown in the figure below.



6-2Equipment information guide

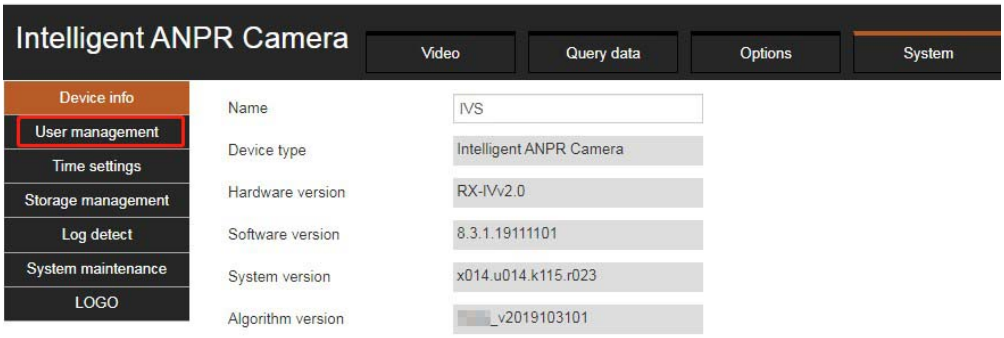
The picture on the next page is the display interface of device information.



6-3Equipment information interface

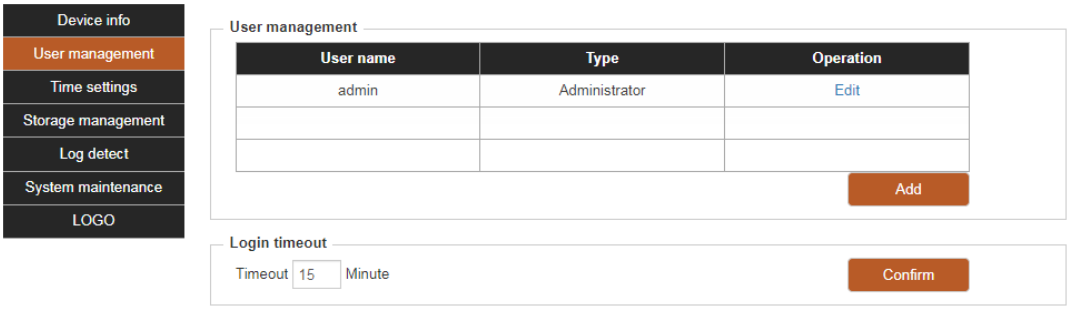
6.2 User management

Select figure 6-1 user management to enter the user management interface, as shown in the figure below.



6-4User management guide

The user management interface is shown in the figure below.



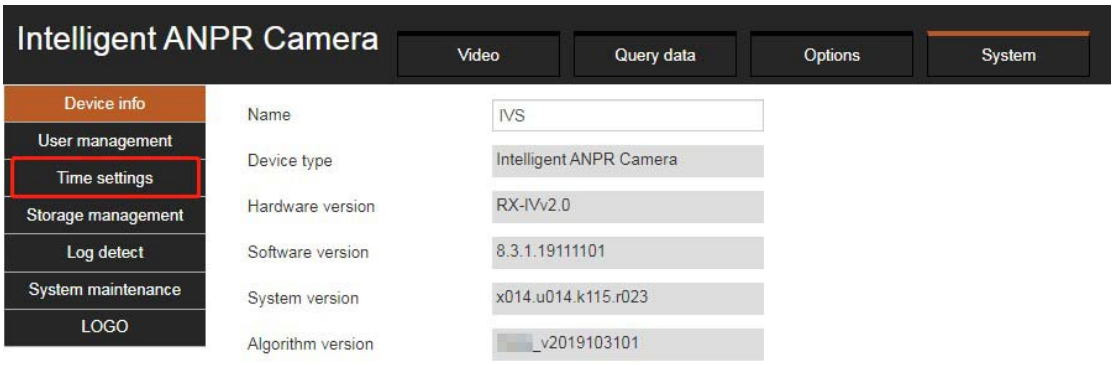
6-5User management interface

- Add user, input user name, password, confirm password, select type (permission setting), click confirm button to add user.
- Click Edit in the list of specified user name, enter the password, confirm the password and click OK to modify the user password.

- Login timeout, no operation can be set, and the time of automatic exit from the system can be set.

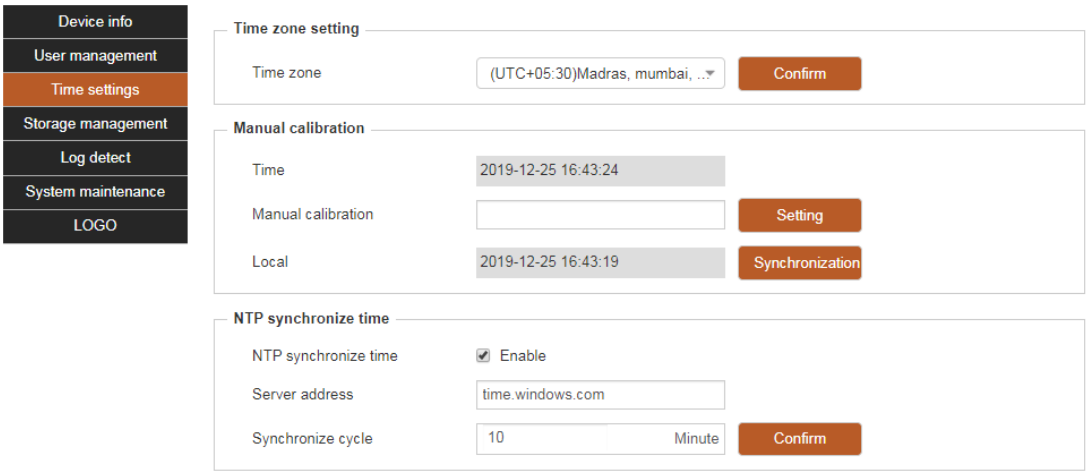
6.3 Time setting

Click the time setting in Figure 6-1 to enter the time setting interface, as shown in the figure below.



6-6Time setting guide

The time setting interface is shown in the picture on the following page:

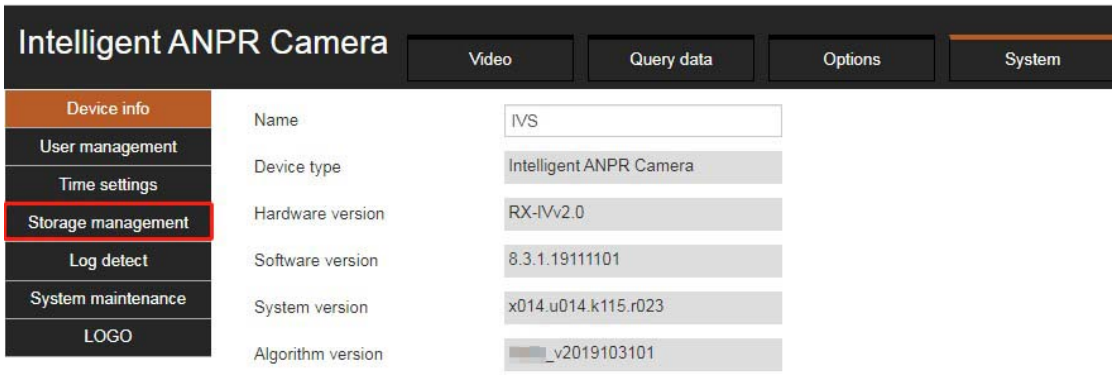


6-7Time setting interface

- Time zone settings to configure the time zone where the current device is located.
- Manual calibration time
  - Device time, this text box shows the current date and time.
  - Manual time, you can enter the current date and time directly.
  - Local time, choose to obtain local time to synchronize the device.
- NTP correction time
  - Enable, check the check box to enable the NTP time synchronization service.
  - Server address, configure the address of the NTP server.
  - Synchronization cycle, configure the frequency of synchronization time from NTP server.

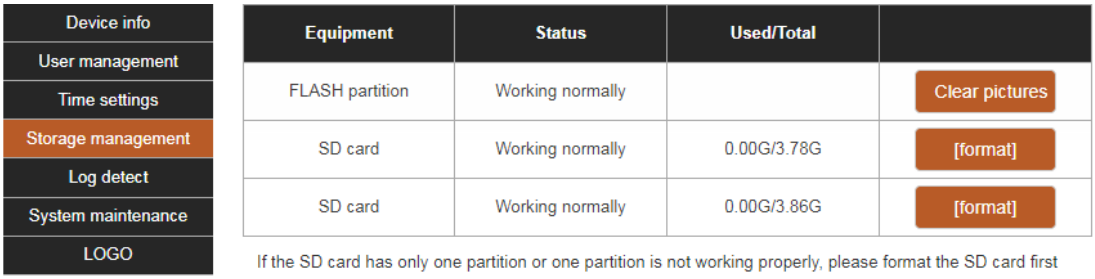
6.4 Storage management

Click storage management in Figure 6-1 to enter the storage management interface, as shown in the figure below.



6-8 Storage management guidelines

The storage management interface is shown in the picture on the following page:

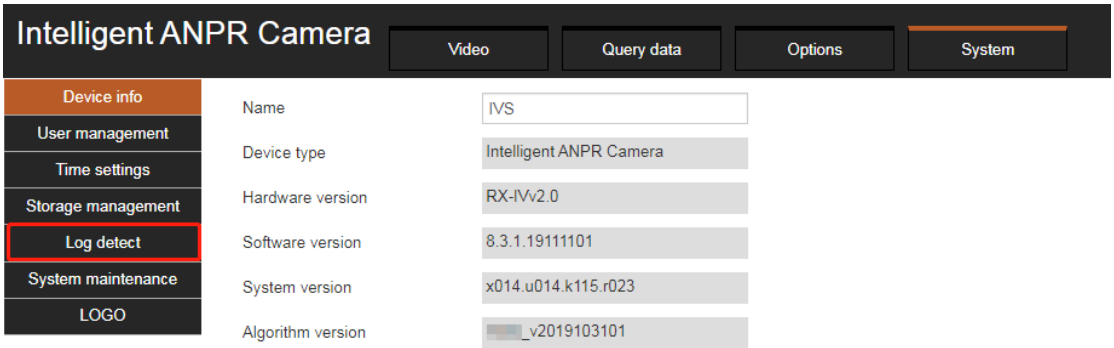


6-9Storage device interface

- If there are storage devices, the status and capacity information of each storage device will be displayed in the figure above.
- Click the format button on the right to format the SD card.
- After unplugging the SD card, click the clear flash picture button on the right to clear the saved flash picture in the device.

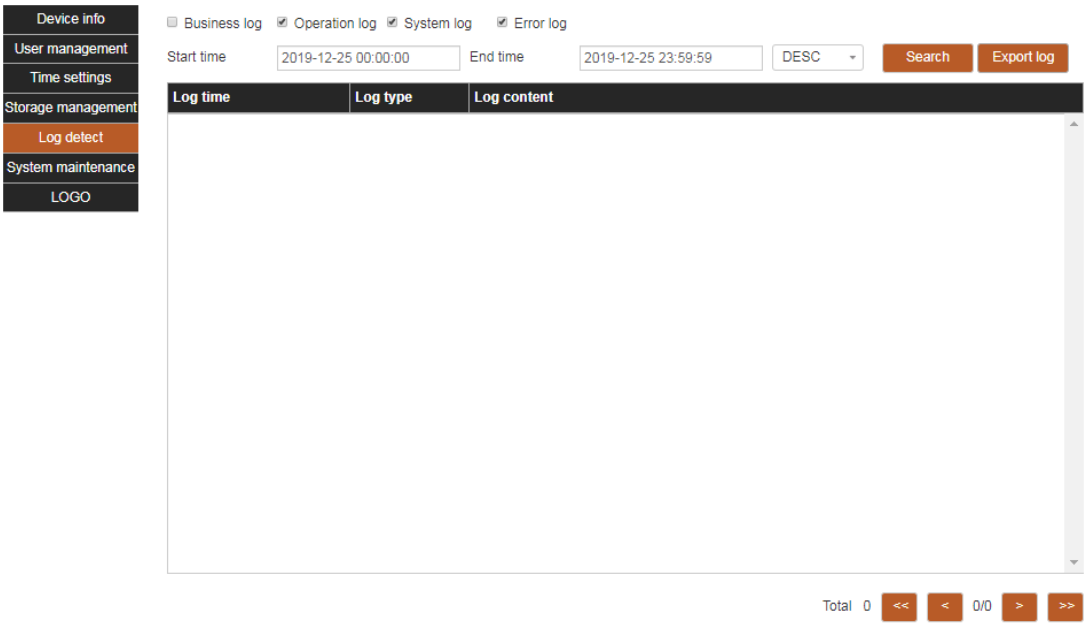
6.5 Log detection

Click log detection in Figure 6-1 to enter the log detection interface, as shown in the figure below.



6-10 Log detection guidelines

The log detection page is as follows,

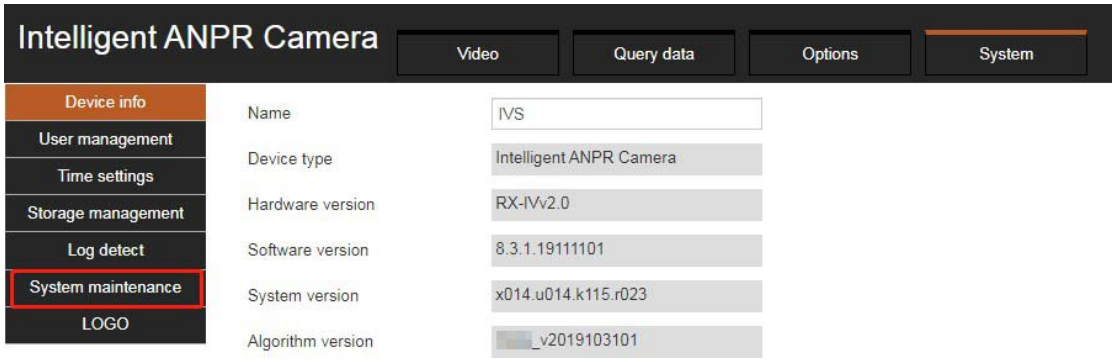


6-11Log detection interface

- Turn on the log and check the corresponding log type to turn on the corresponding log service.
- Log query and export, enter the start and end time of the log to be queried, carry on the log query, and export the log content of the query at the same time.

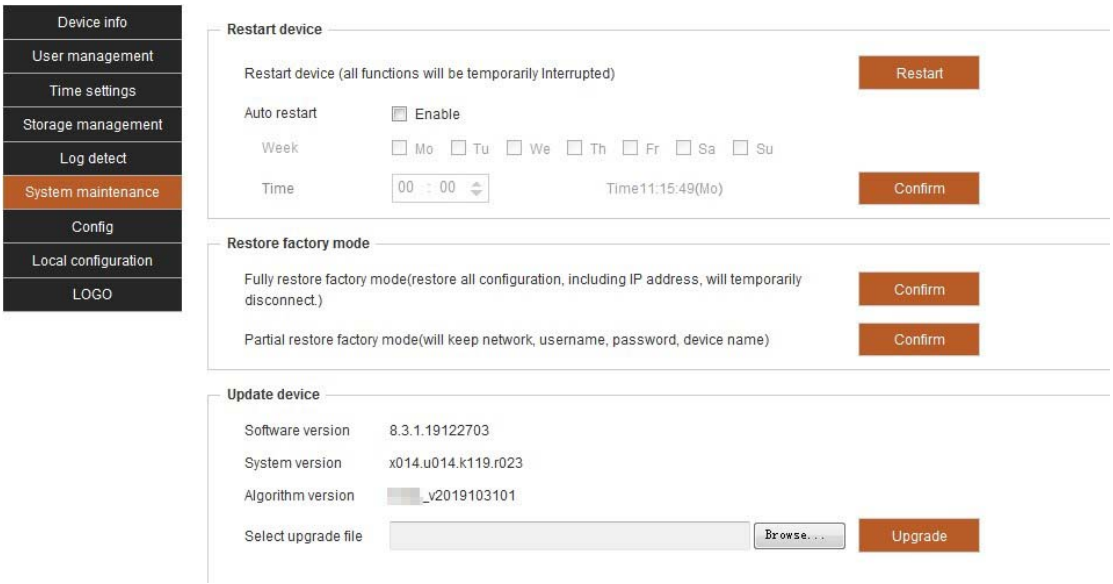
6.6 System maintenance

Select the system maintenance in figure 6 / 1 and enter the system maintenance interface, as shown in the following figure.



6-12System maintenance guide

The system maintenance interface is as follows:

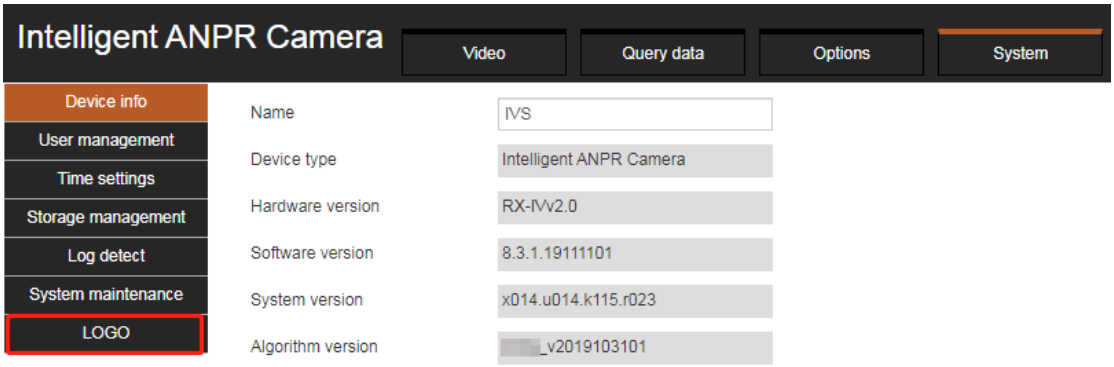


6-13System maintenance interface

- Restart the device, the immediate restart button can restart the device immediately, or automatic restart can be enabled to restart the device at a specific time.
- Restore factory settings
  - Fully restore the factory settings, restore all settings, and click OK to restore.
  - Part of the factory settings will be restored. Except the settings in the prompt are not restored, all other settings will be restored. Click OK to restore.
- To upgrade the device, select the upgrade file (. Bin) and click upgrade to update the device system remotely.

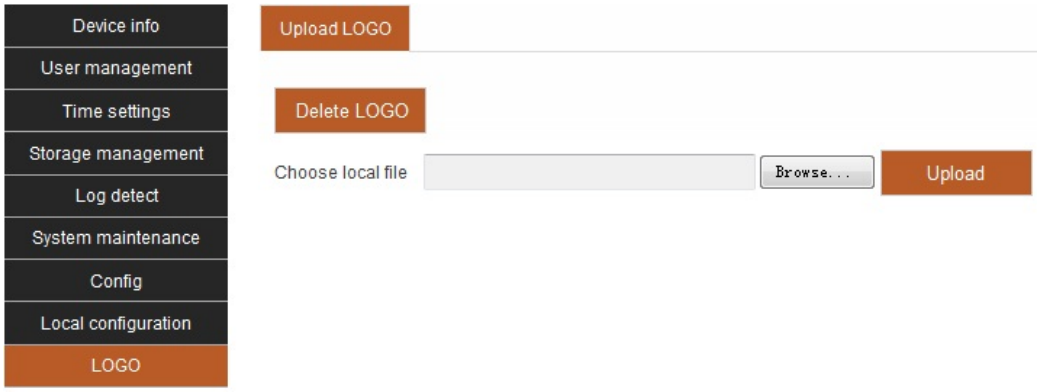
6.7 LOGO management

Select the logo in Figure 6-1 to enter the logo management interface, as shown in the figure below.



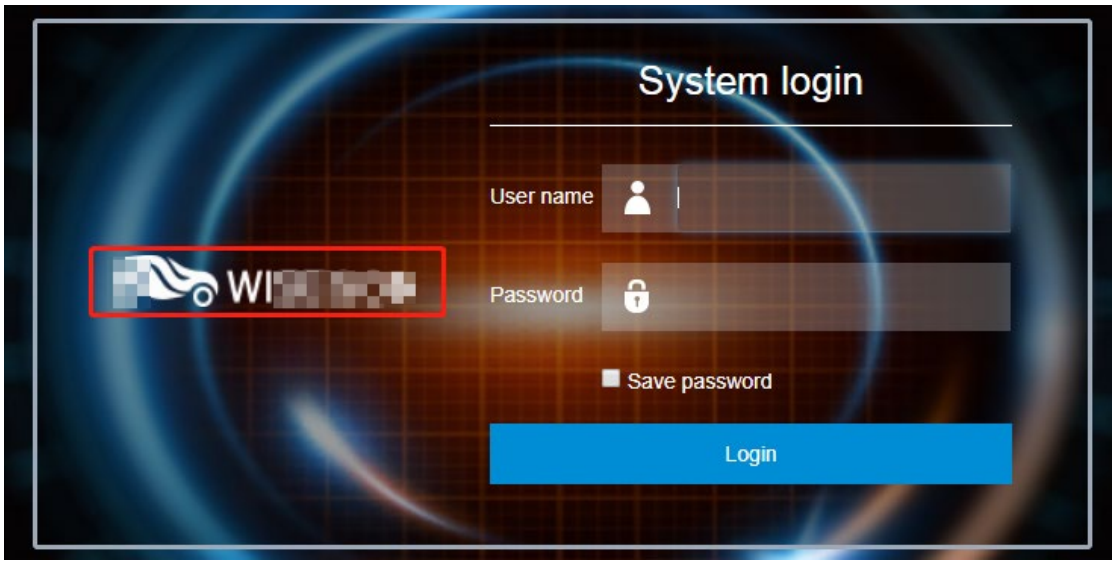
6-14 Logo management guide

The logo management interface is as follows:



6-15 Logo management interface

Upload logo. After selecting and uploading the logo in the corresponding image format locally, you can add the corresponding logo in the login interface, as shown in the figure below.



6-16 Logo demonstration interface

To delete the logo, click the delete button to clear the logo display on the login page.