

TVT

Automatic Number Plate Recognition (ANPR)



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Arrowhead
Alarm Products

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Solutions

Overview

Background

With the popularity of automotive applications in daily life, smart car management has become critical in many industries.

ANPR technology can detect and identify a vehicle's unique license plate number and is an important part of a complex vehicle management system.

Key Technology

With the popularity of automotive applications in daily life, smart car management has become critical in many industries.

ANPR technology can detect and identify a vehicle's unique license plate number and is an important part of a complex vehicle management system.



Application Scenarios



Gate Control



Vehicle Monitoring



Not Supported



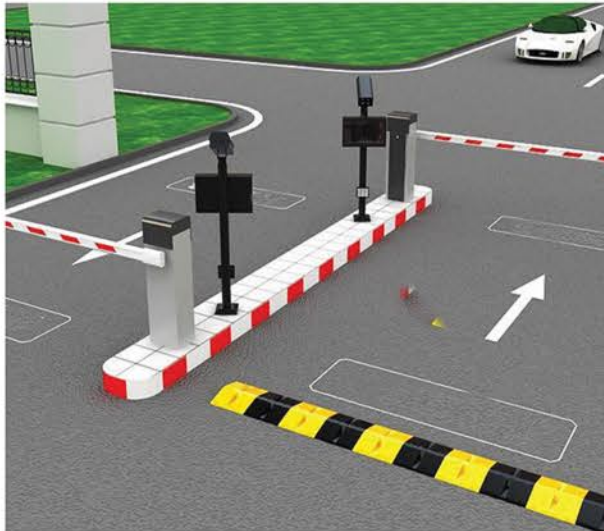
Highways



Application Scenarios



Gate Control



Access Control of Private Residence



Access Control of Community & Factory



Access Control of Parking Lot

Application Scenarios



Vehicle Monitoring



Vehicle Monitoring in Public Areas



Vehicle Monitoring in Special Areas

Available Models






TVT-B722-2POE-LP
(Stock Item)



2.8-12mm (Non-stock item)
Gate Control


7-22mm (Stock item *TVT-B722-2POE-LP*)
Vehicle Monitoring

5-50mm (Non-stock item)
Vehicle Monitoring


 70Km/h
 10,000
 2.8-12:6m
 7-22:25m
 5-50:120m
 30 + International Plates

 Built-in SD Card
 Artificial Intelligence and Deep Learning Algorithms









TD-9443A3BH-LR






TD-9843A3BH-LR

2.8-12mm (Non-stock item)
(Gate Control)

8-32mm (Non-stock item)
(Vehicle Monitoring)

 2.8-12:70Km/h
 8-32:120Km/h
 10,000
 2.8-12:8m
 8-32:30m
 30 + International Plates

 Built-in SD Card
 Artificial Intelligence and Deep Learning Algorithms
 Supports Wiegand input and output

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Available Models

Installation Requirements

ANPR relies on the quality of the image it captures. Therefore, the installation is a critical part and should be done properly.

Target Height:

- More than 10% of the scene
- Less than 50% of the scene

Overall Target Size:

- More than 6% of the scene
- Less than 50% of the scene

Actual
Height

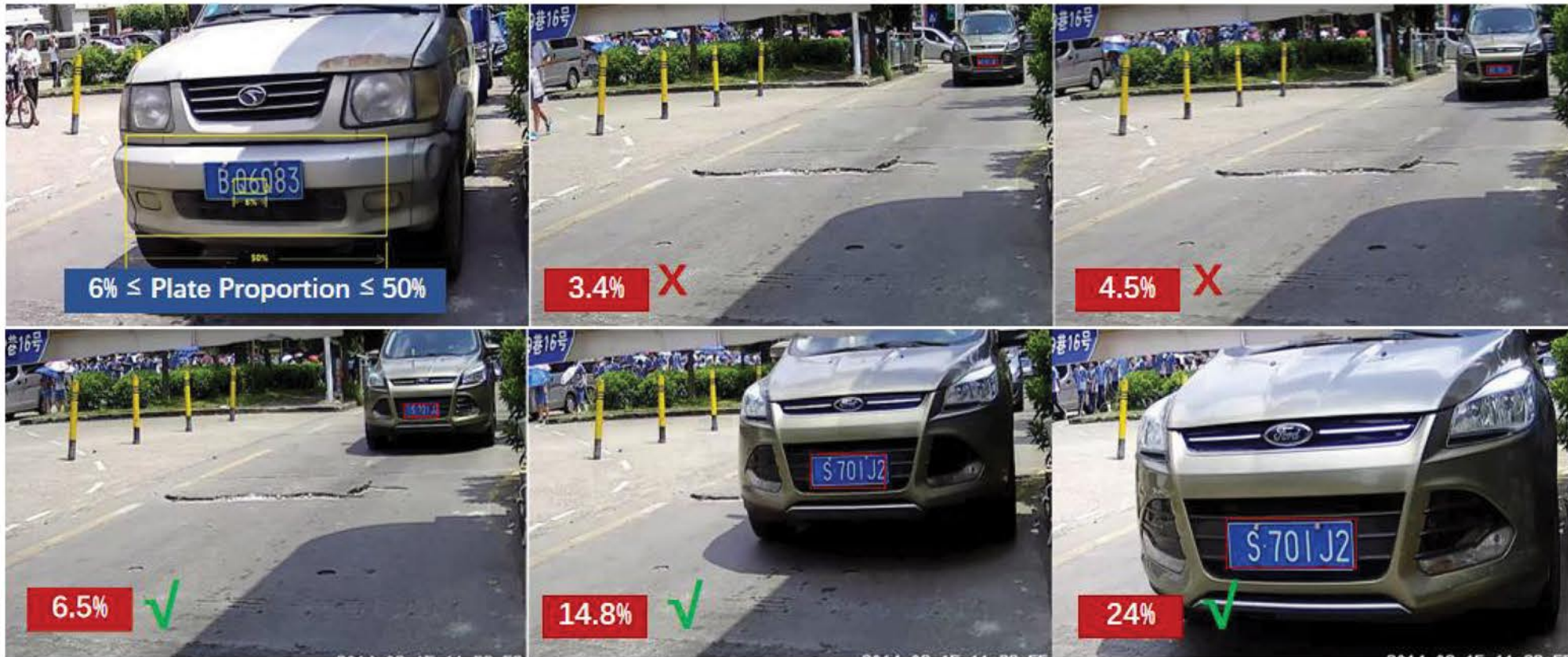


Target Height

Installation Requirements

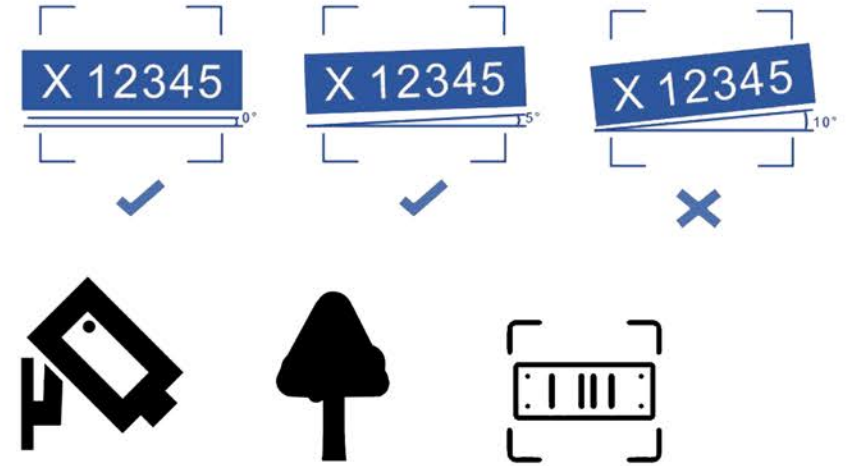
Target size with reference to the scene

The size of the license plate must be within the specified range



Installation Requirements

- License plate camera tilt angle: no more than $-5^{\circ} \sim 5^{\circ}$
- No obstruction between the camera and license plate
- Clear focus on the detection area



Installation Requirements

Gate entrance / exit

The height of installed camera is around 1.2m -1.5m(like in most parking lots)

License plates proportions

The width of the license plate should be between 6% to 50% of the screen width



Tilt Angle 15° ~ 25°



Pan Angle 15° ~ 25°



Installation Requirements

Gate entrance / exit

Percentage of license plate

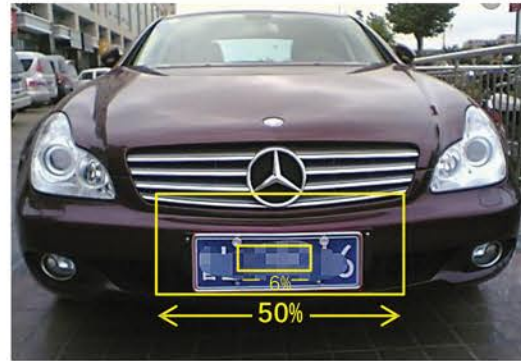
The width of the license plate accounts for 6%-50% of the whole image width.

Full Light

Keep a certain distance from IPC, to avoid plate overexposure.

Installation Angel

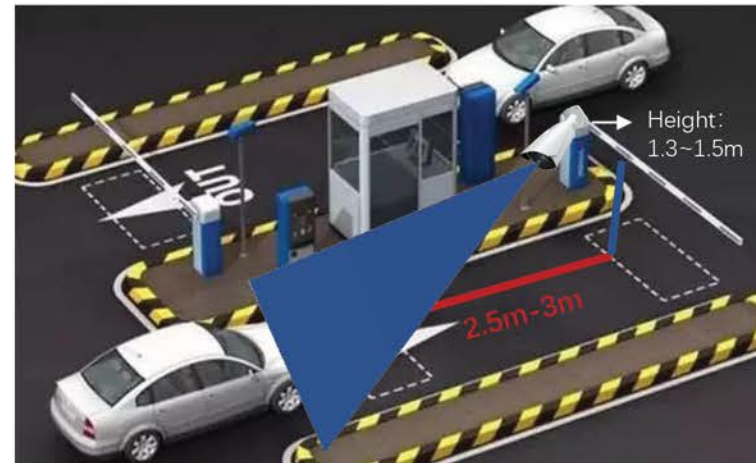
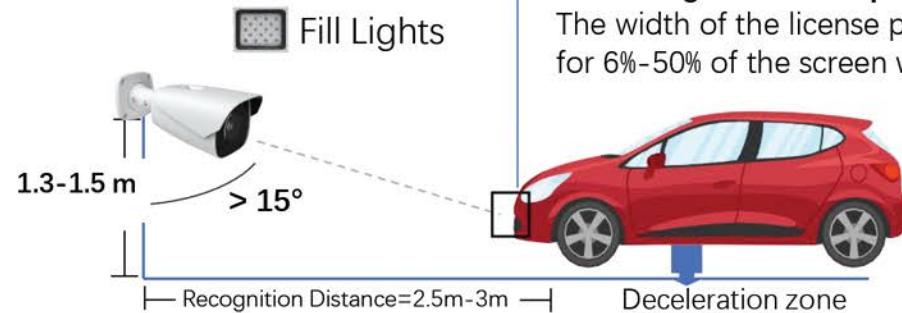
Depression Angel $\geq 15^\circ$ Note: avoid the influence of car lights.



Percentage of license plates:
The width of the license plate accounts for 6%-50% of the screen width

Installation

1. Entrance Control

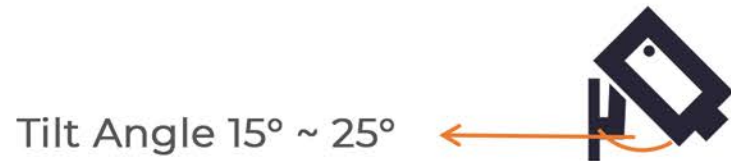


Installation Requirements

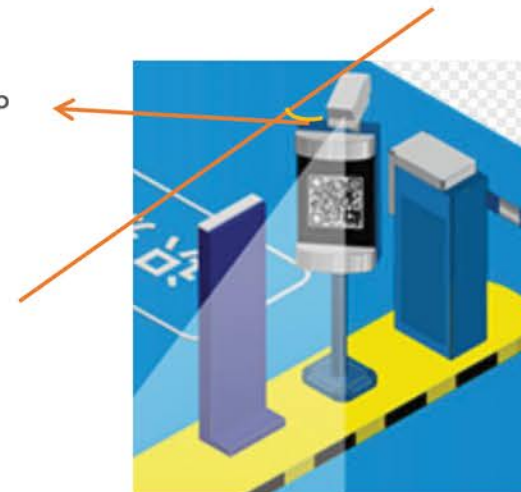
Street monitoring

The height of installed camera is around 4m - 6m (like in junctions or roads) License plates proportions.

The width of the license plate should be between 6% to 50% of the screen width.

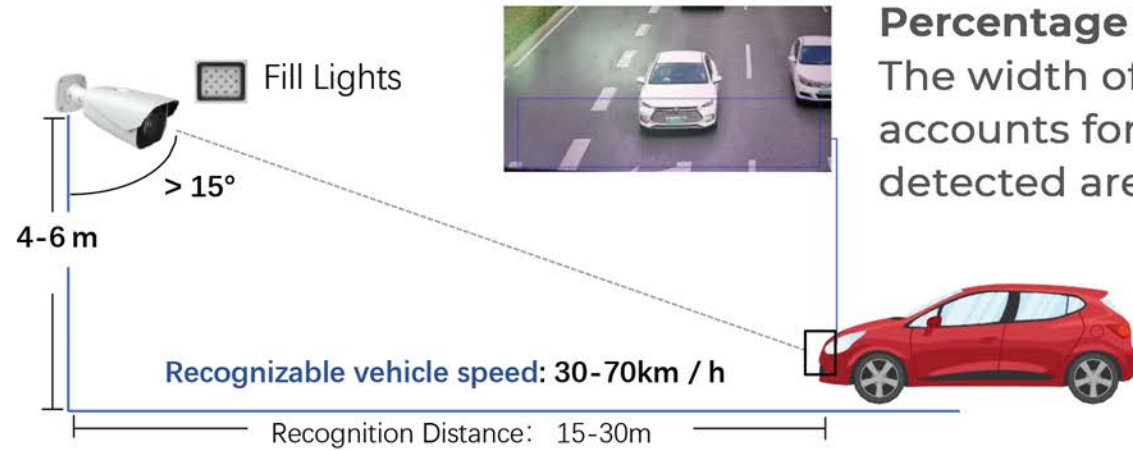


Pan Angle 0° ~ 25°



Installation Requirements

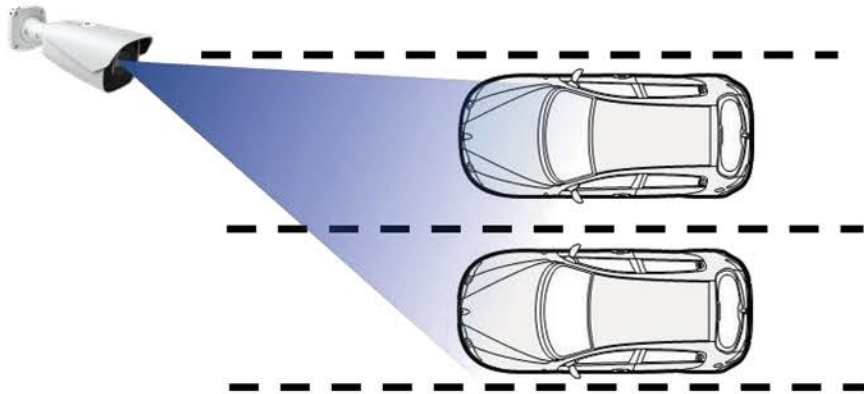
Street monitoring



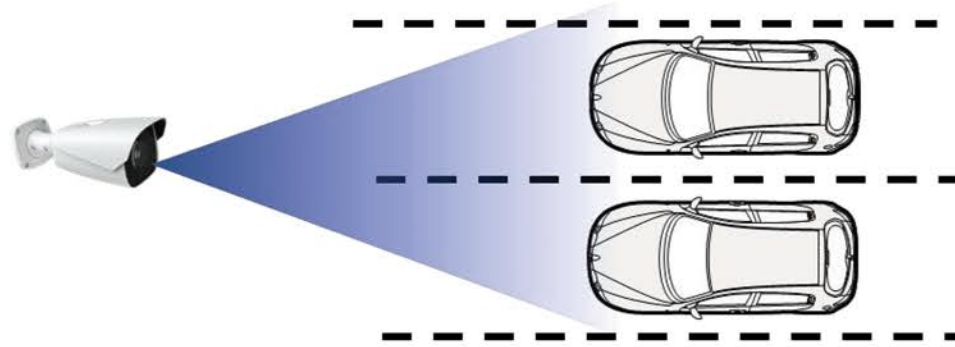
Percentage of license plates
 The width of the license plate accounts for 6% - 50% of the detected area width.

Note

1. Not applicable for Highways
2. The highest recognizable speed is 70km/h
3. It can be used to cover two lanes



Camera on the roadside



Camera in the middle road

Installation Requirements

Detection Area

Gate Control

We would draw the detection area where the car slows down. For example near a speed bump, gate entrance, shop sign, as per the below example.

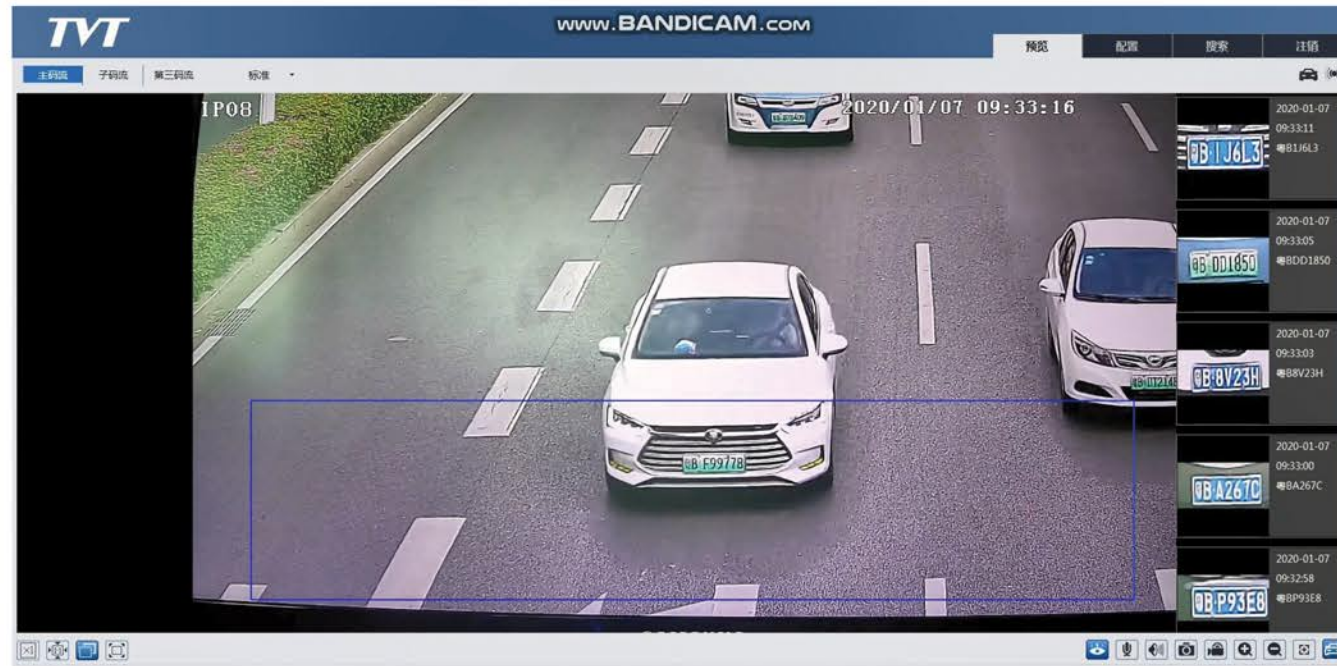


Installation Requirements

Detection Area

Street Monitoring - Front

Draw the detection area only in the closer lane, and at the bottom of the screen in order to capture a clear picture and give the camera enough time to recognize the plate. We recommend the detection area covers about one third of the whole area.



Installation Requirements

Detection Area

Street Monitoring - Back

Draw the detection area only in the closer lane and in the middle of the screen in order to capture a clear picture and give the camera enough time to recognize the plate. We recommend the detection area covers about one third of the whole area.



Plate Size

Every Country has it's own plates and the plate's width is not always the same. Therefore it is important to choose a lens that will fit your plate's size. A rule of thumb will be, if you can read the plate so to can the camera. Use the table below to ensure you select the correct lens for your install.

License Plate			Max.	Min.	Max.	Min.
Width	Lens	H.FoV	Detected	Detected	Recognition	Recognition
(cm)			Width(cm)	Width(cm)	Distance(cm)	Distance(cm)
30.48	50mm	5.5	488	61	5076	635
30.48	22mm	17.6	488	61	1575	197
30.48	12mm	32.4	488	61	839	105
52	50mm	5.5	832	104	8661	1083
52	22mm	17.6	832	104	2687	336
52	12mm	32.4	832	104	1432	179
44	50mm	5.5	704	88	7328	916
44	22mm	17.6	704	88	2274	284
44	12mm	32.4	704	88	1212	151

Street Monitoring

Draw the detection area only in the closer lane, and at the bottom of the screen, covering about one third of the area.

Detection

The key points that affect the snapping effect

- **Definition**
Recognisable by the human eye
- **Duration**
License plate appears on the screen for more than 1 second
- **Size**
Meet the set size range
- **Area**
Snapshot area is drawn at the position with the best license plate quality

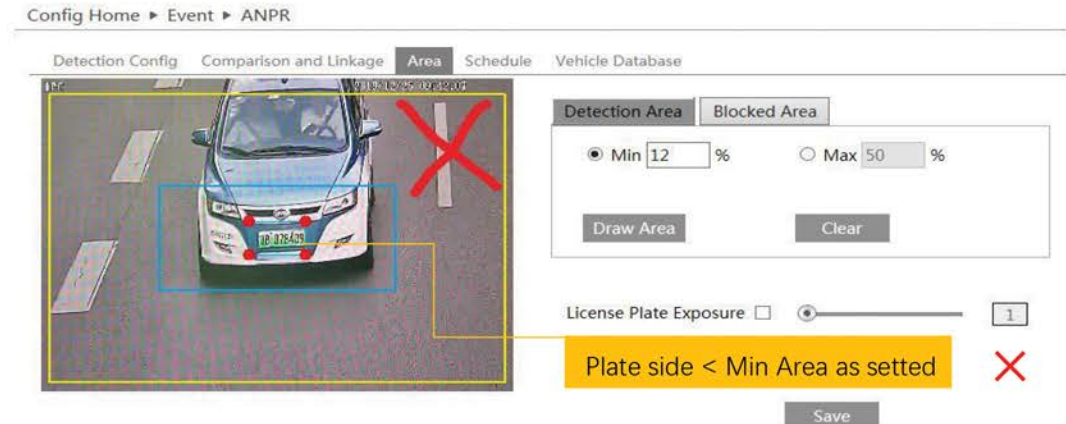
Recommended Settings

1. Adjust the camera angle and height to ensure that the license plate stays in the picture for more than 1 second.
2. Adjust the maximum and minimum settings.
3. Draw snapshot area, the position depends on the actual scene



Application capture suggestions

- **Entrance Control**
Draw the snapshot area in a slower area, such as near the speed bump. Makes the license plate more positive in the area.
- **Road Surveillance**
Draw the snapshot area only in the closer lane, and at the bottom of the screen, occupying one third of the area.



Recognition

Vehicle Database

Detection Config Comparison and Linkage Area Schedule **Vehicle Database**

Add Bulk Entry *add multiple vehicles*

Add

License plate number: List Type:

Start Time: End Time:

Owner: License plate type:

License plate number: List Type:

Index	License plate	Owner	License plate	List Type	Start Time	End Time	Operate
1	AB123	xxx		Unknown ve...	2019-10-08...	2019-10-08...	<input type="button" value="Delete"/> <input type="button" value="Mg"/>

1. License plate number is compulsory, a maximum of 12 characters supported.
2. Owner name is optional, a maximum of 12 characters supported.
3. The effective start time is optional; format: YYYY/MM/dd hh:mm:ss; time range is from 1970 to 2037.
4. The effective end time is optional; format: YYYY/MM/dd hh:mm:ss; time range is from 1970 to 2037.
5. Vehicle type is optional, a maximum of 12 characters supported.
6. List Type is compulsory. 1 stands for block list; 2 stands for allow list; 3 stands for unknown vehicle

Example [Download](#)

Comparison & Linkage

Detection Config **Comparison and Linkage** Area Schedule Vehicle Database

Allow fault character(s) of the plate number:

Alarm List:

Trigger Alarm Out *If the camera recognizes the detected vehicle, it will trigger Alarm.*

Alarm Out



Comparison Result

Time: 07:28:15
 Plate No.: B72FB9
 Alarm List

Summary

- **General Logic:**
License plate can be read by the human eye.
- **Size:**
Meets the size configuration range.
- **Detection Area:**
Draw the area where can capture the best quality image of license plate.
- **Duration:**
Visible for at least 1 second in detection area.

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Image Settings

Image Setting Points

Brightness



25



5



Setting the brightness in the daytime profile to a smaller value will cause the overall screen to be darker, but it will be more effective for reflective license plates



Insufficient brightness will affect image brightness

Gain



Gain 1



Gain 2

Shutter Speed



1/25



1/100



1/750

Simulate the brightness of the evening scene: the shorter the shutter upper limit time setting, the larger the image noise



Image Settings

Effect by brightness settings

Reflective license plate



Non-reflective license plate



Image Settings

Set schedule (Day/Night mode switching)

The best night results will be achieved when the camera in the night mode with IR on.

- Headlights directly from the Vehicle will cause the image to switch from B/W mode to color mode
- Under a scene around nightfall, the image quality is poor, with infrared light enabled, can get much better performance
- It may cause camera keep color mode all night when with street lights

It is recommended to adopt the schedule setting for day/night mode.



Note: 4 and 180 mean brightness value unit is Lux

Image Settings

Image Settings under Day/Night Mode

After the tests, we have the recommended values for Day/Night mode:

For Day Mode

- Brightness = 25;
- Shutter Max= 1/500
- Shutter Min = 1/1000000
- Gain = 10

Config File	Day
Brightness	25
Infra-red Mode	Auto
Shutter Mode	Auto
Max.	1/500
Min.	1/1000000
Gain Mode	Auto
Gain Limit	10

For Night Mode

- Brightness = 5;
- Shutter Max= 1/500
- Shutter Min = 1/1000000
- Gain = 10

Config File	Night
Brightness	5
Infra-red Mode	Auto
Shutter Mode	Auto
Max.	1/500
Min.	1/1000000
Gain Mode	Auto
Gain Limit	10

Image Settings

Backlighting scene configuration

License plate exposure settings

1. Set Detection Area
2. Enable Plate Exposure, set value



Caution on using the license plate exposure function

If after following the above steps you find the license plate is still very black, it means that the scene has a large dynamic range, and the license plate exposure cannot be used to improve the license plate capture. You will need to set up license plate detection area reasonably.

Image Settings

Summary



Back-light scene

Turn on license plate exposure



Different Speed

Set different shutter upper limit values according to different vehicle speeds



Reflective scene

Adjust the brightness and gain according to the actual scene

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Solutions

Applications (Villa)



This is one of the more common scenario's and can be done with only one camera. This can be implemented to control which vehicles are allowed to enter the villa and also those that are not.

ANPR Camera-Detection Config

Config Home ▶ Event ▶ ANPR

Enable
 Save Panoramic Picture To SD Card
 Save Target Cutout To SD Card
 License Plate Detection Area: Asia 中国大陆
 Capture Plate Absence Vehicle
 Alarm Holding Time: 3 Seconds
 Trigger SD Snap
 Trigger SD Recording
 Trigger Email
 Email Recipient(s): Attach Picture
 111 Attach Picture
 ni**@***.***.cn Attach Picture
 Email Subject:
 Email Content:
 Trigger FTP
 Server Address: 192.168.54.23 Attach Picture

(1) 中国大陆 China

(2) 美国 USA
 California, Colorado, Florida, Georgia, Iowa, Illinois, Kentucky, Louisiana, Massachusetts, Michigan, Minnesota, North Carolina, New Jersey, New Mexico, Nevada, New York, Ohio, Oregon, Pennsylvania, Texas, Virginia, Washington, Wisconsin, Arizona, Connecticut, Indiana, Maryland, Tennessee, Mississippi, Montana

(3) 欧洲 Europe
 Belgium, Bulgaria, Croatia, Germany, Great Britain, Greece, Hungary, Italy, Poland, Romania, Russia, Ukraine, Spain, Serbia, French

(4) 其他 Others
 Israel, Hong Kong, Taiwan, Indonesia, Australia, South Africa, Turkey, India, UAE, Vietnam, Canada, Uzbekistan, Brazil, Thailand, Iran, Iraq, Egypt, South Korea, Mongolia, Palestinian National Authority

ANPR Camera-Detection Config

Config Home ▶ Event ▶ ANPR

Detection Config Comparison and Linkage Area Advanced Schedule Vehicle Database

Enable

Save Panoramic Picture To SD Card

Save Target Cutout To SD Card

License Plate Detection Area Asia 中国大陆

Capture Plate Absence Vehicle

Alarm Holding Time 3 Seconds

Trigger SD Snap

Trigger SD Recording

Trigger Email

Email Recipient(s) Attach Picture

111 Attach Picture

ni**@***.cn Attach Picture

Email Subject Car snapshot

Email Content this is test email

Trigger FTP

Server Address Attach Picture

192.168.54.23

Save

Car snapshot

496908924@qq.com
发给 nick@tvt.net.cn

发件人: 496908924@qq.com<496908924@qq.com>
收件人: nick@tvt.net.cn<nick@tvt.net.cn>
时间: 2023年2月5日 (周日) 11:21
大小: 238 KB

VEHICLE_PLATE_苏BH2222.jpg (5 KB) VEHICLE_SRC_353.jpg (167 KB)

this is test email

device name: IP通道11111_1_2 mac: 00-18-ae-00-80-41 ip: 10.214.166.98 2023-02-05 11:21:25 vehicle.
Plate number: 苏BH2222 Owner: Unknown Plate Type: Unknown




Nick Ip: 00-18-ae-00-80-41 | VEHICLE | 2023-02-05 | 11

Vehicle ID	Time	Plate	Owner	Plate Type
VEHICLE_2023-0	2-05-11			
VEHICLE_2023-0	2-05-11-27-56	246_src		
VEHICLE_2023-0	2-05-11-28-02	382_plate_苏BH2222		
VEHICLE_2023-0	2-05-11-28-02	390_plate_苏BH2222		
VEHICLE_2023-0	2-05-11-28-40	664_plate_Unknown		
VEHICLE_2023-0	2-05-11-28-57	678_src		
VEHICLE_2023-0	2-05-11-28-58	907_src		
VEHICLE_2023-0	2-05-11-28-58	134_plate_苏BH2222		
VEHICLE_2023-0	2-05-11-28-58	101_src		
VEHICLE_2023-0	2-05-11-29-04	140_src		
VEHICLE_2023-0	2-05-11-29-10	245_plate_苏BH2222		
VEHICLE_2023-0	2-05-11-29-10	245_src		
VEHICLE_2023-0	2-05-11-29-16	918_plate_4526		
VEHICLE_2023-0	2-05-11-29-16	915_src		
VEHICLE_2023-0	2-05-11-29-40	539_plate_苏BH2222		
VEHICLE_2023-0	2-05-11-29-40	539_src		
VEHICLE_2023-0	2-05-11-29-40	672_plate_苏BH2222		
VEHICLE_2023-0	2-05-11-29-40	672_src		
VEHICLE_2023-0	2-05-11-30-04	960_plate_苏BH2222		
VEHICLE_2023-0	2-05-11-30-10	960_src		
VEHICLE_2023-0	2-05-11-30-10	960_src		
VEHICLE_2023-0	2-05-11-30-54	671_plate_苏BH2222		
VEHICLE_2023-0	2-05-11-30-54	671_src		
VEHICLE_2023-0	2-05-11-30-29	182_plate_苏BH2222		
VEHICLE_2023-0	2-05-11-30-29	182_src		
VEHICLE_2023-0	2-05-11-30-53	537_plate_苏BH2222		
VEHICLE_2023-0	2-05-11-30-53	537_src		
VEHICLE_2023-0	2-05-11-30-54	671_plate_苏BH2222		
VEHICLE_2023-0	2-05-11-30-54	671_src		

ANPR Camera - Comparison and linkage

Config Home ▶ Event ▶ ANPR

Detection Config **Comparison and Linkage** Area Advanced Schedule Vehicle Database

Allow fault character(s) of the plate number

Deduplication Period

Alarm Trigger Mode

Allow list Block list Temporary vehicle Unknown vehicle

Alarm Out

Save

ANPR Camera - Area

Config Home ▶ Event ▶ ANPR

Detection Config Comparison and Linkage **Area** Advanced Schedule Vehicle Database

Detection Area Blocked Area

Min %
 Max %

Draw Area
 Clear

License Plate Exposure

Select the number of the undetected area. Then click “Draw Area” to draw a closed area. Up to 4 areas can be set up. After you set the blocked area, this area will not be detected.

- Click “Draw Area” and drag the border lines of the rectangle to modify its size.
- Click “Stop Draw” to stop drawing the area.
- Click “Clear” to clear the area.
- Then set the detectable size by defining the maximum value and the minimum value (the default size range of a single number plate image occupies from 1% to 50% of the entire image).

ANPR Camera - Advanced

Config Home ▶ Event ▶ ANPR

Detection Config Comparison and Linkage Area **Advanced** Schedule Vehicle Database

Recognition Mode

Tolerant Digits

Overall Recognition
 Recognizing when approaching
 Recognizing when driving away

↔

Please set the tolerant character pair as needed. For example: 1 and L, supposing that the plate number "ABCL" has been added to the vehicle database, when the plate number "ABC1" is detected by the camera, then these two plate numbers will be matched successfully, and vice versa. Multiple tolerant digital pairs can be set as needed.

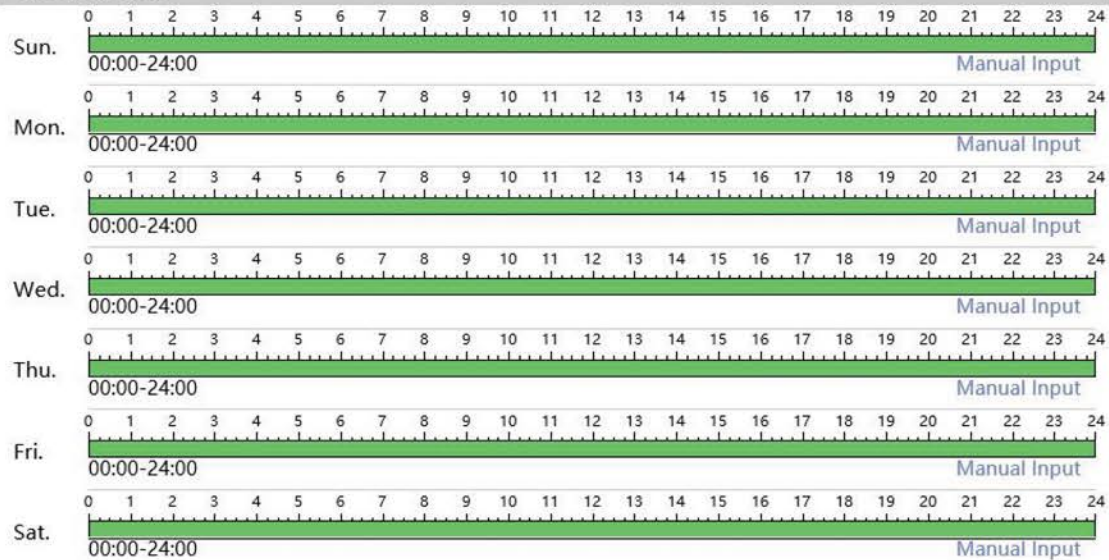
ANPR Camera - Schedule

Config Home ▶ Event ▶ ANPR

Detection Config Comparison and Linkage Area Advanced **Schedule** Vehicle Database

Erase Add

Week Schedule



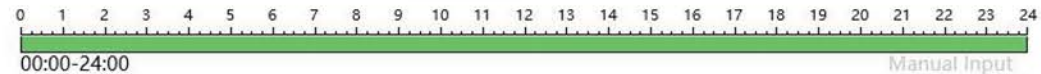
Holiday Schedule

Date

02-05

+

-



Save

ANPR Camera - Vehicle Database

Config Home ▶ Event ▶ ANPR

Detection Config Comparison and Linkage Area Advanced Schedule **Vehicle Database**

Add **Task List**

Task List

Path **Browse** **Upload**

1. License plate number is compulsory, a maximum of 12 characters supported.
2. Phone Number is compulsory, a maximum of 14 characters supported.
3. Owner name is compulsory, a maximum of 12 characters supported.
4. The effective start time is optional; format: YYYY/MM/dd hh:mm:ss; time range is from 1970 to 2037.
5. The effective end time is optional; format: YYYY/MM/dd hh:mm:ss; time range is from 1970 to 2037.
6. License plate type is optional, a maximum of 12 characters supported.
7. List Type is optional. 1 stands for block list; 2 stands for allow list; 3 stands for temporary vehicle
8. Card Number is optional, a maximum of 9 numbers supported.

Example [Download](#)

License plate number List Type **Search** **Export** **Delete** **Batch Delete**

Index	<input type="checkbox"/>	License plate number	Owner	Phone Number	Parking Card	List Type	Start Time	End Time	Operate

Supports manual add & batch imports

Application - Road Monitoring



ANPR Camera



Monitoring Camera



The license plate recognition camera is combined with the ordinary camera, with NVR, the license plate recognition camera is used to identify the license plate, the ordinary camera is used for panoramic video, and the video can be quickly viewed when disputes occur.



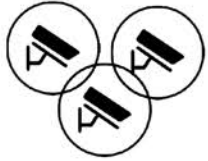
Application - Community & Factory



The license plate recognition camera and NVR are used together to easily realize the entrance and exit control of small factories.



NVR



Manage multiple ANPR cameras and features



Supports Smart Query and Playback



Supports Smart View



Supports Event Linkage



Supports Simple Parking Lot Management

NVR - Manage multiple ANPR cameras and features

Function Panel ▶ People/Vehicle Detection

Camera Name

People/Vehicle Detection	Face Recognition		LPR		More			
Line Crossing	Detection	Recognition	Detection	Recognition	Fire Detection	Video Metadata	Target Counting	Crowd Density
Intrusion	Face Database →		Plate Database →		Temperature Detection	Object Abandoned/Missing	Exception Detection	

Enable Successful Recognition Strange Plate

[Successful Recognition](#)

[Strange Plate](#)

+ -

Plate Group All list;3;White list;

Schedule

Text Prompt

Voice Prompt

Enable alarm output pulse(Access Control)

Trigger General	Record <input type="button" value="Configure"/>	Alarm-out <input type="button" value="Configure"/>	Snapshot <input type="button" value="Configure"/>	Trigger Preset	
<input checked="" type="checkbox"/> Push	IPC			Camera Name	Preset Name
<input type="checkbox"/> Buzzer	Elite thermal came			Pre-sales9442C2-PA	None ▼
<input type="checkbox"/> Pop-up Video	IP Camera 01			IP Camera 01	None ▼
<input type="checkbox"/> E-mail				8843	None ▼
<input type="checkbox"/> Pop-up Message Box					

NVR - Smart Query & Playback



admin | Logout | Modify Password | Local Settings

Live Display Playback Search and Backup **Intelligent Analytics** Function Panel

Search Statistics Sample Database Parking Lot Management Face Attendance Face Check In

By Event

By Entry/Exit

Today 2023/02/05

Camera(All)

Event(All)

Target(All)

Attribution(Motor Vehicle: All; Non-motor Vehicle: All)

Plate 718

Search

Picture List

Snap Original Image

Time Camera

14:40:51 IP Camera 01 闽J19718	14:40:27 IP Camera 01 闽J19718	14:38:54 IP Camera 01 闽J19718	14:38:30 IP Camera 01 闽J19718	14:36:58 IP Camera 01 闽J19718	14:36:34 IP Camera 01 闽J19718	14:35:01 IP Camera 01 闽J19718	14:34:37 IP Camera 01 闽J19718	14:33:05 IP Camera 01 闽J19718	14:32:40 IP Camera 01 闽J19718

WEB CLIENT

Live Display Playback Search and Backup **Intelligent Analytics** Function Panel

Search Statistics Sample Database Parking Lot Management Face Attendance Face Check In

Day Week Month Quarter Customization Today 2023/02/05

People

Vehicle

Combine

Camera(All)

Plate Detection

- Intrusion
- Line Crossing
- Target Counting
- Plate Detection
- Plate Recognition-Successful Recognition
- Plate Recognition-Strange Plate

Statistics Chart

Time	Count
12:30	51
13:30	29

Remove duplicate license plate numbers

Export

admin | Logout | Modify Password | Local Settings

NVR - Support Smart View

Camera (4/6) < IP Camera 01 > Operation

05/02/2023 14:45:36

4360:49
535

豫B ZH166

豫R 7H166

豫N A1234

Strange Plate(豫BZH166)

Strange Plate(陕R7H16A)

Search Camera

- Elite thermal came
- Elite thermal came
- Pre-sales9442C2-PA
- IPC
- IP Camera 01
- 8843

IP Camera 01 14:46:10

IP Camera 01 14:46:10

IP Camera 01 14:46:04

NVR - Supports Event Linkage

Text Prompt

Voice Prompt

Enable alarm output pulse(Access Control)

<input type="checkbox"/> Trigger General	Record <input type="button" value="Configure"/>	Alarm-out <input type="button" value="Configure"/>	Snapshot <input type="button" value="Configure"/>	Trigger Preset	
<input checked="" type="checkbox"/> Push	IPC			Camera Name	Preset Name
<input type="checkbox"/> Buzzer	Elite thermal came			Pre-sales9442C2-PA	None ▼
<input type="checkbox"/> Pop-up Video	IP Camera 01			IP Camera 01	None ▼
<input type="checkbox"/> E-mail				8843	None ▼
<input type="checkbox"/> Pop-up Message Box					

NVR-Supports Simple Parking Lot Management



Configuration

This system only supports 1 parking lot management.

Parking Lot Name

Name

Parking Space Please make sure to edit under the premise that there are no vehicles passing through the entrance and exit to ensure the accuracy of the parking space

Total Parking Space

Remaining Parking S...

Parking

Entrance & Exit

Parking Lot

NVR - Support Simple Parking Lot Management

HIVIEW PARK1
07/03/2023 15:07:17

9999 / 9999
Remaining Parking Space/Total Parking Space

2
Vehicle Entry Today

515
Vehicle Exit Today


The vehicle entry information is not matched.

Vehicle Exiting SRLR70
07/03/2023 16:02:45

n9873

Correct

Gate Opening



Direction: **Exit**

Entering Time: --

Exiting Time: 07/03/2023 16:02:45

Parking Duration: --

Entry/Exit Results: Vehicle Entry Unmatched-Dri...

More Entry/Exit Records

Plate	Parking Duration	Entry/Exit Results	Entrance	Entering Time	Entrance Gate-opening	Exit	Exiting Time	Exit Gate-opening Way	Detail
n9873	--	Vehicle Entry Unmatched-Driven A...	--	--	--	SRLR70	07/03/2023 16:02:45	Automatic Release	View
5n8533	--	Vehicle Entry Unmatched-Driven A...	--	--	--	SRLR70	07/03/2023 16:00:43	Automatic Release	View
5n8533	--	Not Enter	LRSR120	--	--	--	--	--	View
3n8325	--	Vehicle Entry Unmatched-Driven A...	--	--	--	SRLR70	07/03/2023 15:59:02	Automatic Release	View
n5400	--	Not Enter	LRSR120	--	--	--	--	--	View

Application - Parking Lot



TD-A510-MTSC-E

Note: Non-stock item

The combination of license plate recognition camera and NVMS can be used to manage a comprehensive large parking lot with multiple entrances or multiple sub-parking lots. Rich reports make parking management more efficient.



NVMS - System Settings

Supports multiple parking lots.

One parking lot can add multiple entrances and exits.

One entrance/exit can add multiple lanes.

One lane can bind multiple ANPR cameras.

The screenshot shows the 'System Settings' page in NVMS 2.0. The 'Parking Lot Configuration' section is active, showing a list of parking lots (P1, P2, P3) on the left. The main area displays configuration for 'P3', including 'Total Parking Space' (100), 'Barrier Gate Opening Duration(s)' (15), and 'Repeated license plate waiting time' (5). Below this, the 'Entrance/Exit Settings' section shows two entrances: 'Entrance1' and 'Entrance2'. Each entrance has a 'Lane Management' button and a table of lanes. The table for 'Entrance1' has the following data:

Lane Name	Lane Type	Temporary car opening method	Linked ANPR Camera	Linked LED Screen
Lane1	Entrance	Manual release	ANPR_66.98	
Lane2	Entrance	Manual release		
Lane3	Entrance	Manual release		
Lane4	Entrance	Manual release		

Red lines connect the text on the left to the corresponding UI elements: the first line points to the 'Parking Lot' list, the second to the 'Entrance1' and 'Entrance2' sections, the third to the 'Lane' table, and the fourth to the 'ANPR Camera' column in the table.

NVMS - System Settings

Supports set barrier open duration, barrier will close automatically when the set time is reached.

Supports the same license plate recognition interval, the same license plate will be identified once within the set waiting time.

Set alarm for overtime parking of temporary cars. Once the temporary vehicles that stay in the parking lot exceed the set timeout threshold, an email will be sent according to the set time.

Set up the number of parking spaces and whether temporary cars are allowed to enter when all spaces are full.

The screenshot displays the 'System Settings' for 'Parking Lot Management' in NVMS 2.0. The 'Basic Configuration' section includes:

- Parking Lot*: P3
- Total Parking Space*: 100
- Barrier Gate Opening Duration(s)*: 15
- Repeated license plate waiting time*: 5
- Temporary vehicle timeout configuration:
 - Enable overtime parking of temporary vehicles:
 - Temporary vehicle timeout threshold (hours)*: 720
 - Daily alarm email sending time: 15:00

The 'Entrance/Exit Setting' section shows two entrances:

- Entrance1:

Lane Name	Lane Type	Temporary car opening method	Linked ANPR Camera	Linked LED Screen
Lane1	Entrance	Manual release	ANPR_66.98	
Lane2	Entrance	Manual release		
Lane3	Entrance	Manual release		
Lane4	Entrance	Manual release		
- Entrance2: (Table structure is visible but content is partially obscured)

NVMS - System Settings

Set the type of access: entrance or exit.

Set temporary car opening method: Automatic release or manual release.

Supports LED display for license plate information.

Bind vehicle group, after binding, all vehicles in the group will have access to this lane.

The screenshot displays the NVMS 2.0 System Settings interface. A 'Lane Management' dialog box is open, showing configuration options for four lanes (Lane1 to Lane4). The dialog includes fields for Lane Name, Lane Type (Entrance/Exit), Temporary car opening method (Manual Release/Automatic release), Linked ANPR Camera, and Linked LED Screen. A 'Bind Vehicle Group' dropdown is set to 'All'. The background shows the main system settings page with a table of lane configurations.

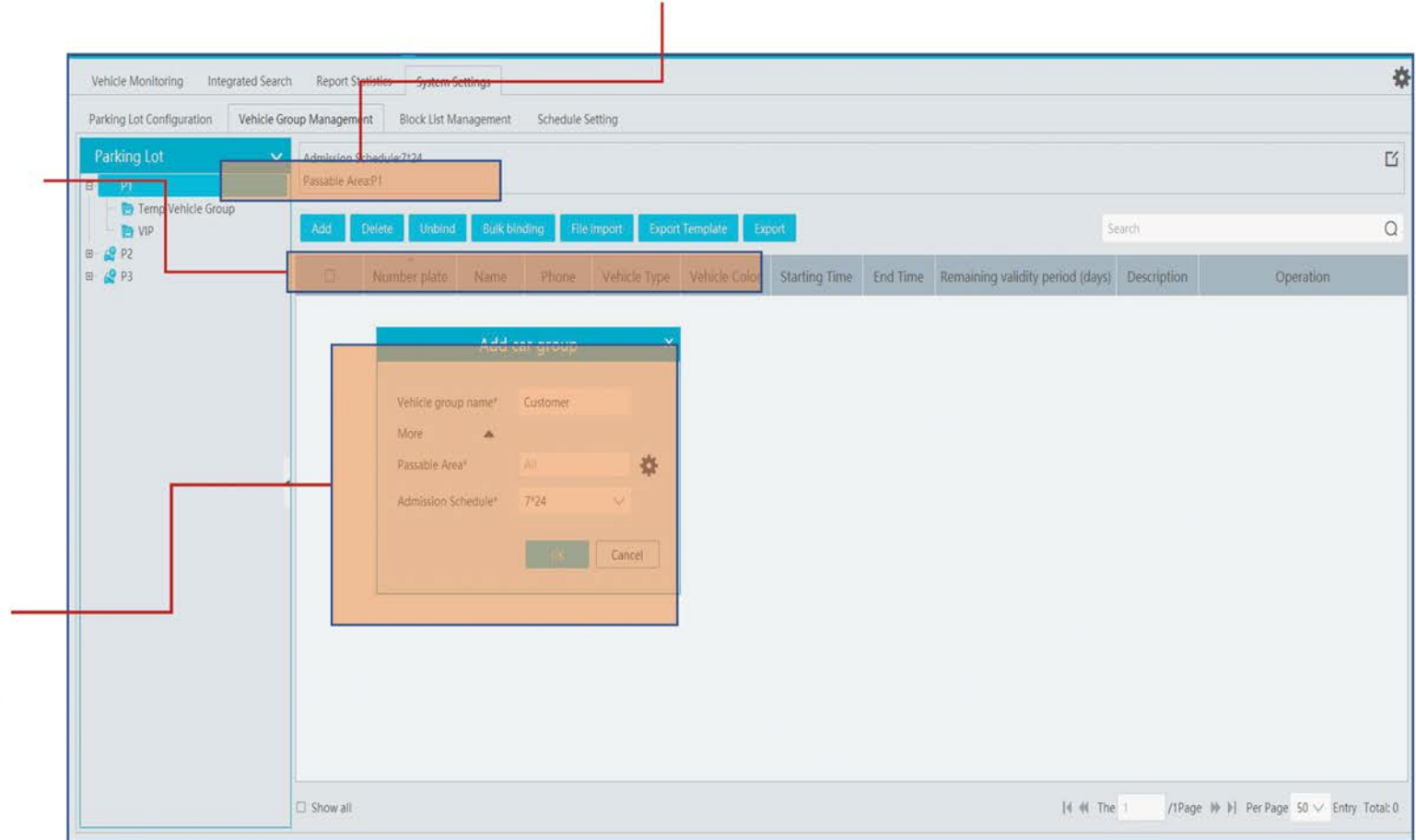
Lane Name	Lane Type	Temporary car opening method	Linked ANPR Camera	Linked LED Screen
Lane1	Entrance	Manual release		
Lane2	Entrance	Manual release		
Lane3	Entrance	Manual release		
Lane4	Entrance	Manual release		

NVMS - Vehicle Group Management

Supports vehicle white-list, block-list, detection of white-list or block-list vehicles can trigger linkage alarm.

Add license plates by manual or batch import, unbind and export number plates, and set number plate expiry date for each number plate.

Supports binding of vehicle groups to lanes, after binding all vehicles in the vehicle group you will be given all access to the corresponding lane, and the valid time for access can be set.



NVMS - Vehicle Monitoring

Display current vehicle information: license plate, parking type, vehicle type etc and captured photos.

Maximum 16-split preview.

Real-time display of comparison information and support for display based on filter conditions.

Display the remaining parking spaces.

The screenshot displays the NVMS Vehicle Monitoring interface. It features a multi-camera view showing a vehicle at a toll booth and a street scene. A sidebar on the left lists monitoring points (P1, P2, P3) and entrance lanes. A 'Vehicle Pass Information' panel on the right shows details for a vehicle with license plate 粤B1C1046. Below the camera view is a table of pass records.

Pass Time	License Plate	Pass Type	Parking Type	Vehicle Type	Parking Lot	Entrance	Lane	Lane Type
2022-07-27 11:44:48	粤B1C1046	Not released	Temporary Car	Small Car	P3	Entrance1	Lane1	Entrance
2022-07-27 11:44:45	粤B338G7	Not released	Temporary Car	Small Car	P3	Entrance1	Lane1	Entrance
2022-07-27 11:44:23	粤B11880	Not released	Temporary Car	Small Car	P3	Entrance1	Lane1	Entrance
2022-07-27 11:43:42	粤Q5BA71	Not released	Temporary Car	Small Car	P3	Entrance1	Lane1	Entrance

Additional interface elements include a 'Vehicle Pass Information' panel with fields for License Plate (粤B1C1046), Parking Type (Temporary Car), Vehicle Type (Small Car), Pass Time (2022-07-27 11:44:48), Lane (P3_Entrance1_Lane1), Lane Type (Entrance), and Term of Validity (Null). A 'Remaining Parking' indicator shows 100 spaces.

NVMS - Integrated Search

Supports zoom in the captured license plate photos and download to local.

Supports search by setting filters such as start time, end time, license plate, vehicle type etc.

Supports playback when the license plate was captured.

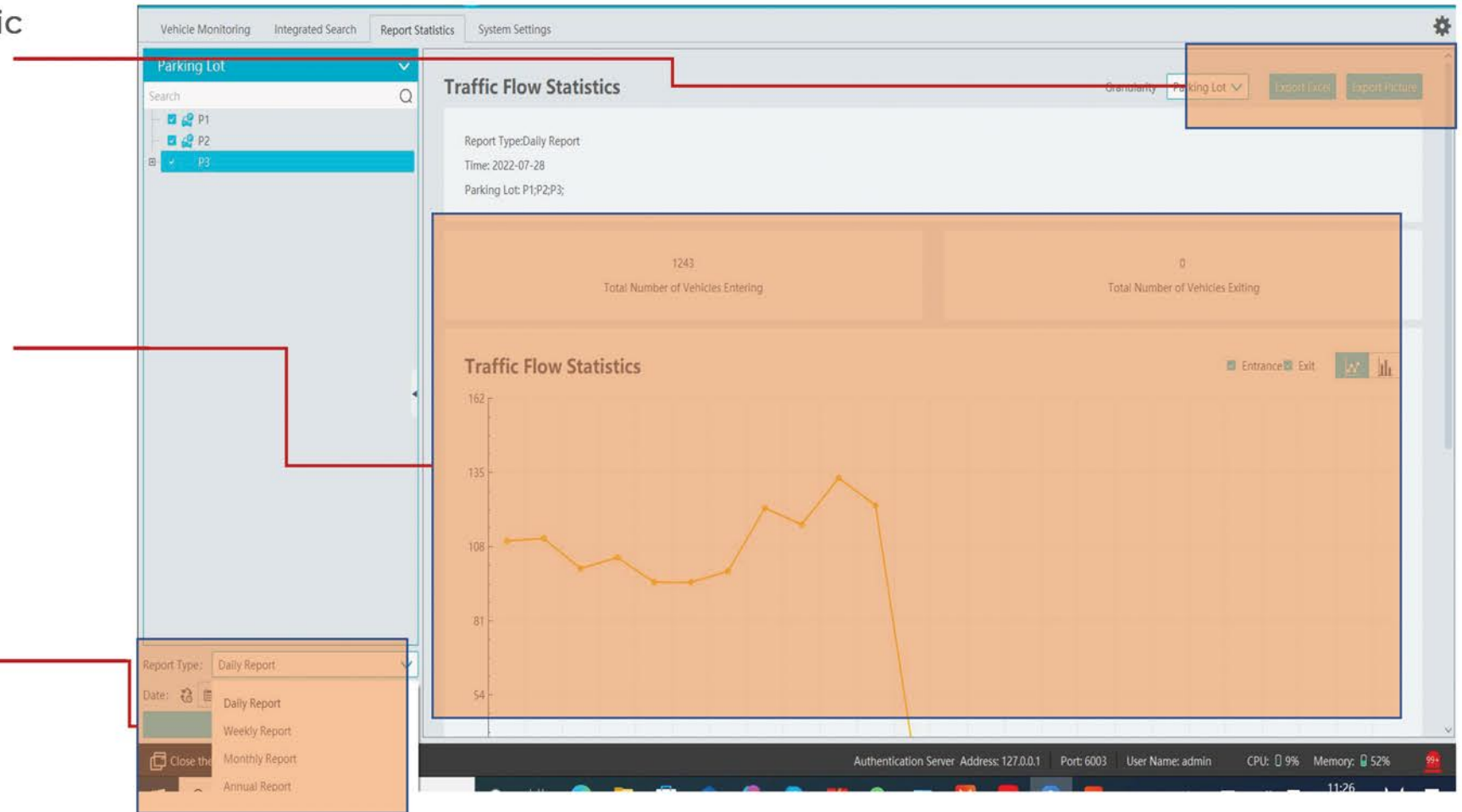
The screenshot displays the 'Integrated Search' interface. At the top, there are navigation tabs: 'Vehicle Monitoring', 'Integrated Search', 'Report Statistics', and 'System Settings'. The 'Integrated Search' tab is active, showing search filters for 'Start Time' (2022-07-27 00:00:00), 'End Time' (2022-07-27 23:59:59), and 'License Plate'. Below these are dropdown menus for 'Vehicle Type', 'Type of Parking', 'Pass Type', and 'Parking Area'. A 'Search' button is visible. The main area contains a table with columns: 'License Plate', 'Passing Parking Lot', 'Entrance', 'Lane', 'Direction', 'Vehicle Type', 'Type of Parking', 'Operator', 'Pass Type', 'Record Playback', and 'Stay Time'. A row with license plate '京Q58A11' is highlighted. To the right, a 'Pass Picture' section shows a zoomed-in image of the license plate '京Q58A11' with 'Zoom In' and 'Download' buttons. A 'Playback' window is overlaid on the table, showing a video of the license plate '京E05E18' at 2022/01/21 14:57:40. The bottom of the interface shows pagination: '1 / 11 Page', 'Per Page 50', and 'Entry 1-50 Total: 544'.

NVMS - Report Statistics

Supports export report statistic in excel or image form.

Vehicle flow statistics of all parking lots can be searched and viewed via line chart, bar graph and pie chart.

Statistics can be generated on a daily, weekly, monthly or custom time basis.



NVMS - Search

NVMS 2.0

[Home](#)
[Resource Management](#)
[Video Preview1*](#)
[Storage Playback](#)
[Record Setting](#)
[Search](#)
[Parking Lot Management](#)
2023-02-05 14:58:2


Image Search by Face
Face Comparison Retrieval
License Plate Comparison Retrieval
Smart Snapshot Retrieval
Visitor Record

Monitoring Point

Search


- default area (Online/Total n...
- Device Name1_8843
- Device Name1_Elite ther...
- Device Name1_Elite ther...
- Device Name1_IP Camer...
- Device Name1_IPC
- Device Name1_Pre-sales...

Channel 8843/Elite thermal came/Elite thermal came/IP Camera 01/IPC/Pre-sales9442C2-PA
Time Period 2023-02-05 00:00:00 ~ 2023-02-05 23:59:59
Export
Export CurPage




Temporary Car

Channel Name: IP Camera 01
Time: 2023-02-05 13:44:32
license plate: 闽J19718
Name:
Phone:
Vehicle Type:
License Plate Color: Blue




Temporary Car

Channel Name: IP Camera 01
Time: 2023-02-05 13:44:07
license plate: 闽J19718
Name:
Phone:
Vehicle Type:
License Plate Color: Blue




Temporary Car

Channel Name: IP Camera 01
Time: 2023-02-05 13:42:35
license plate: 闽J19718
Name:
Phone:
Vehicle Type:
License Plate Color: Blue




Temporary Car

Channel Name: IP Camera 01
Time: 2023-02-05 13:42:11
license plate: 闽J19718
Name:
Phone:
Vehicle Type:
License Plate Color: Blue




Temporary Car

Channel Name: IP Camera 01
Time: 2023-02-05 13:40:39
license plate: 闽J19718
Name:
Phone:
Vehicle Type:
License Plate Color: Blue




Temporary Car

Channel Name: IP Camera 01
Time: 2023-02-05 13:40:14
license plate: 闽J19718
Name:
Phone:
Vehicle Type:
License Plate Color: Blue




Temporary Car

Channel Name: IP Camera 01
Time: 2023-02-05 13:38:42
license plate: 闽J19718
Name:
Phone:
Vehicle Type:
License Plate Color: Blue




Temporary Car

Channel Name: IP Camera 01
Time: 2023-02-05 13:38:18
license plate: 闽J19718
Name:
Phone:
Vehicle Type:
License Plate Color: Blue



Temporary Car

Channel Name: IP Camera 01
Time: 2023-02-05 13:36:46
license plate: 闽J19718
Name:
Phone:
Vehicle Type:
License Plate Color: Blue



Temporary Car

Channel Name: IP Camera 01
Time: 2023-02-05 13:36:21
license plate: 闽J19718
Name:
Phone:
Vehicle Type:
License Plate Color: Blue

License plate:

Match Type: All

Start Time:

End Time:

Search

Total 10 entries Per page 60 entry

<<
<
1/1
>
>>
OK

NVMS - Alarm Linkage

