

Smart Parking Management System



User Guide

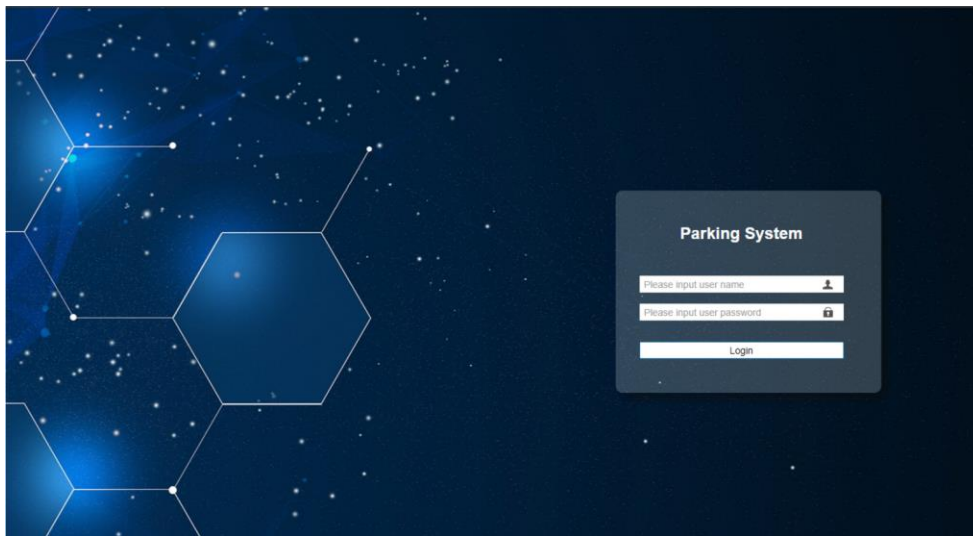
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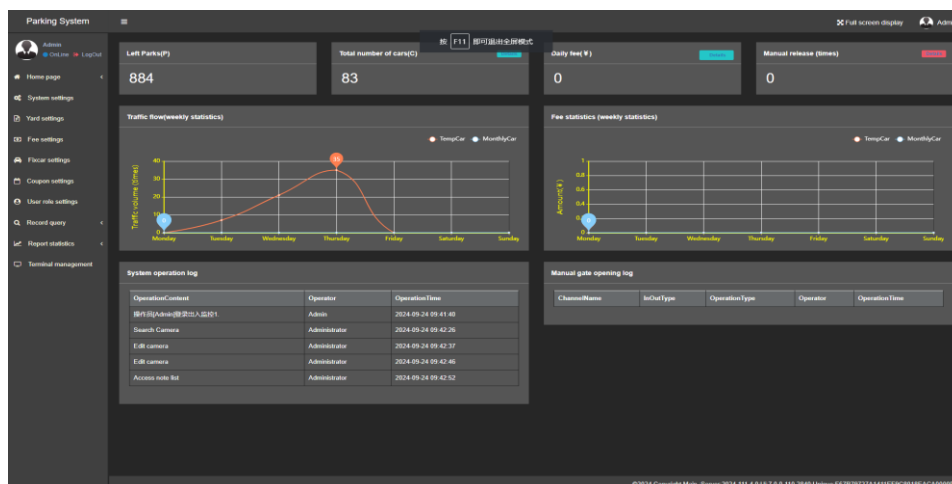
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1 IE login device

After powering on the fee collection management terminal and connecting to the Internet, open the computer browser (CHROME is recommended) and enter the device IP address in the address bar (the default terminal IP is 192.168.1.233. The computer IP and the terminal device must be in the same LAN. If you forget the device IP address, you can restore the default IP address by pressing and holding the device reset button for 10 seconds) and press Enter to access.

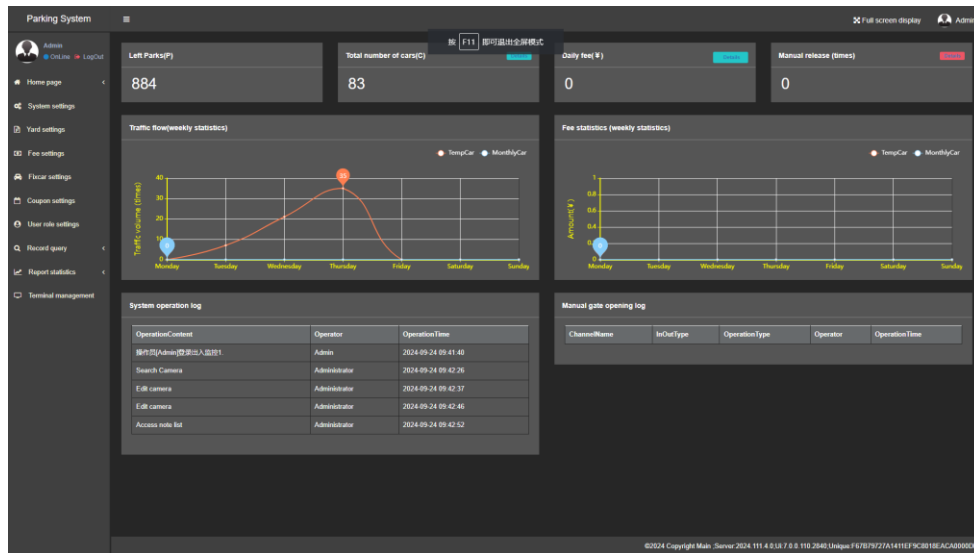


Enter the user name and password in the login box (the default user name is **admin** and the password is **123456**) and click the login button to log in. The IE loading page is as shown below.

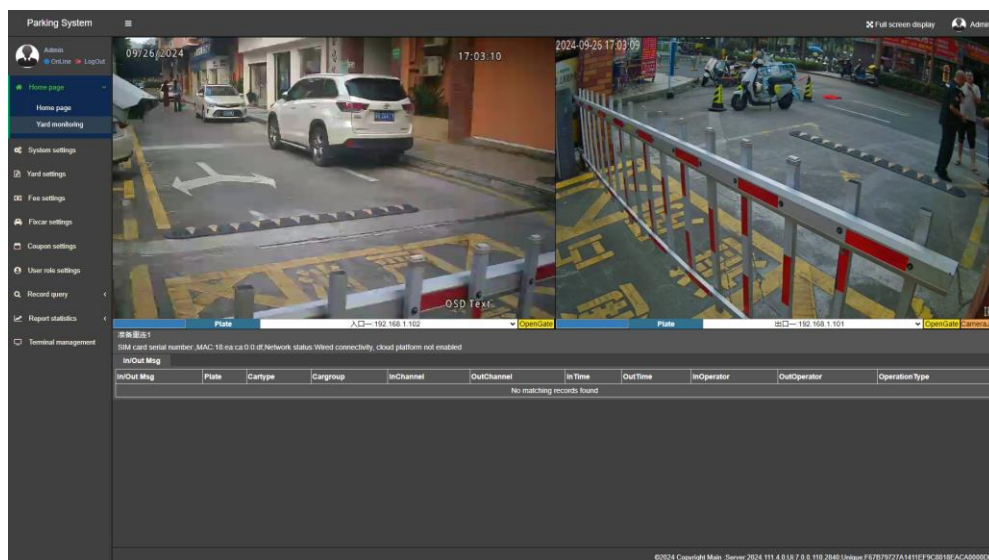


2Home

2.1 The home page provides statistics on the overall parking and operation conditions of the parking lot and displays them in a graphical form to facilitate parking lot management.



2.2 The online monitoring page can monitor the vehicles entering and leaving the parking lot in real time, and can remotely open the gate for abnormal vehicles.



3. System Configuration

After logging into the server terminal for the first time, you must first configure the system. The parking fee collection system can only work normally after completing the system configuration according to the actual situation of the parking lot. The system configuration includes the basic configuration of the parking lot operation. Click "System Settings" in the left menu bar to configure.

3.1 Basic Settings

Fill in the total parking space data and the number of fixed parking spaces according to the actual situation of the project. The fixed parking spaces are included in the remaining parking space statistics by default. Other parameters can use the default parameters or be modified according to the actual needs of the parking lot.

The screenshot displays a complex configuration interface with multiple tabs: Basic settings, Cloudplat settings, Cartype settings, System notes, Database settings, and Vehicle Model Management. The 'Basic settings' tab is active, showing fields for Park name (Main), Total parkspace (1000), and Remain parkspace (684). It includes numerous checkboxes for enabling features like 'Parkspace statistics for ficar', 'Enable shared cargroup', and 'Enable ETC middleware'. There are also input fields for various time and amount parameters, such as 'Ficar expiration advance' (10 days) and 'Default monthly rent amount' (200). A 'Save' button is visible at the bottom left, and a 'Synchronous configuration' button is at the bottom center.

3.2 Vehicle type settings

You can follow up the actual needs of the parking lot to add multiple vehicle types for easy management. By default, five vehicle types are enabled: temporary vehicle A, monthly rental vehicle A, free vehicle A, stored-value vehicle A, and VIP. The vehicle's entry and exit mode can also be configured to be one in and one out, multiple ins and one out, or multiple ins and multiple outs. At the same time, the alias of the vehicle type can also be customized.

Basic settings		Cloudplat settings		Cartype settings		System notes		Database settings		Vehicle Model Management	
Cartype name	Enabling status	Type of entry and exit		Remark	Cartype setting						
TemporaryA	<input checked="" type="checkbox"/>	More in and one out		System temporary vehicles	Configuration						
TemporaryB	<input type="checkbox"/>	More in and one out		System temporary vehicles	Configuration						
TemporaryC	<input type="checkbox"/>	More in and one out		System temporary vehicles	Configuration						
TemporaryD	<input type="checkbox"/>	More in and one out		System temporary vehicles	Configuration						
TemporaryE	<input type="checkbox"/>	More in and one out		System temporary vehicles	Configuration						
MonthlyA	<input checked="" type="checkbox"/>	Mimo		System monthly vehicles	Configuration						
MonthlyB	<input type="checkbox"/>	Mimo		System monthly vehicles	Configuration						
MonthlyC	<input type="checkbox"/>	Mimo		System monthly vehicles	Configuration						
MonthlyD	<input type="checkbox"/>	Mimo		System monthly vehicles	Configuration						
MonthlyE	<input type="checkbox"/>	Mimo		System monthly vehicles	Configuration						
FreeA	<input checked="" type="checkbox"/>	Mimo		System free vehicles	Configuration						
FreeB	<input type="checkbox"/>	Mimo		System free vehicles	Configuration						
FreeC	<input type="checkbox"/>	Mimo		System free vehicles	Configuration						
FreeD	<input type="checkbox"/>	Mimo		System free vehicles	Configuration						
FreeE	<input type="checkbox"/>	Mimo		System free vehicles	Configuration						
Official	<input checked="" type="checkbox"/>	Mimo		Official	Configuration						
VIP	<input type="checkbox"/>	Mimo		VIP	Configuration						
PrepaidA	<input checked="" type="checkbox"/>	More in and one out		System prepaid vehicles	Configuration						
PrepaidB	<input checked="" type="checkbox"/>	More in and one out		System prepaid vehicles	Configuration						

3.3. System notes settings

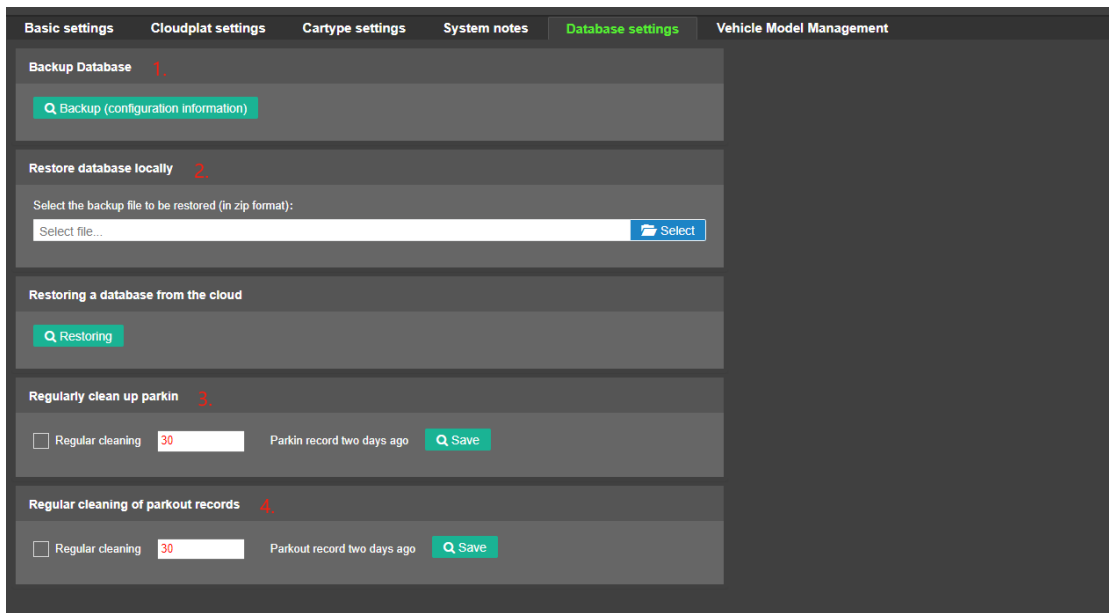
System notes can add reasons for abnormal situations such as "free release", "abnormal release", "abnormal entry" in advance, so that the booth personnel can choose to use them when judging the vehicle entering and leaving the site.

Basic settings		Cloudplat settings		Cartype settings		System notes		Database settings		Vehicle Model Management	
Type	Content	Remark	Default	Operate							
Free/Abnormal Release	Wicycle		No	Configuration							
Manual open gate	Garbage truck		No	Configuration							
Free/Abnormal Release	Unable to find entry record		No	Configuration							

from 1 to 3 pages, total 3 records.

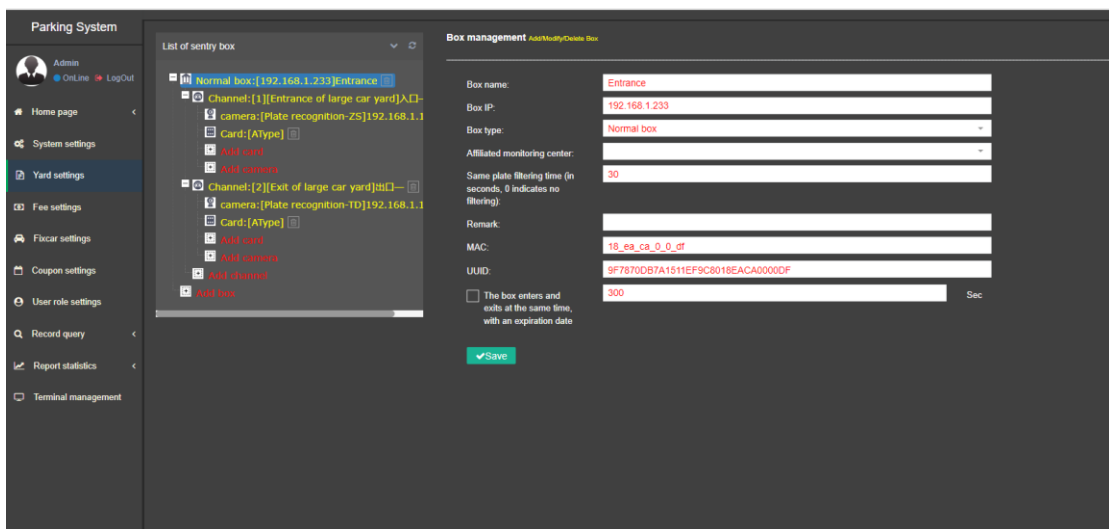
3.4 Database Settings

- ① Back up the current database (including basic configuration information).
- ② Restore the database and select a backed-up database to restore.
- ③ You can set a timer to clean up the entry information of vehicles that have been detained for too long.
- ④ You can set the time period for clearing exit records.



4. Parking lot settings

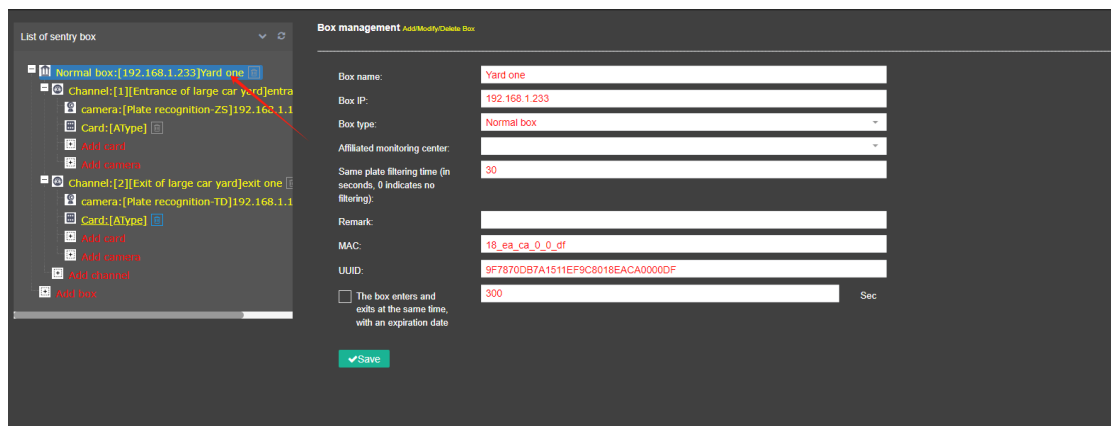
We use a tree structure to show the logical relationship between the hardware devices in a parking lot. There can be multiple booths under a parking lot (each booth corresponds to a super black box), and there can be multiple channels under the booths (usually one in and one out). Hardware devices such as license plate recognition cameras and control cards can be bound to the channels.



4.1 Booth Information Configuration

Click the corresponding booth node menu on the left, and the configuration information of the current booth will be displayed on

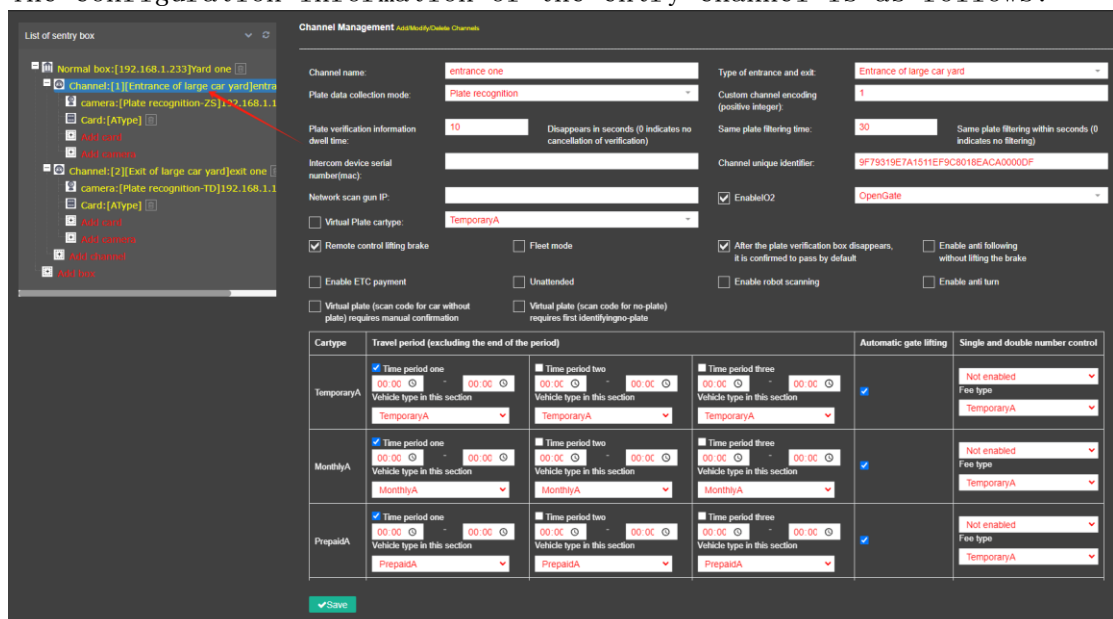
the right. You can also modify the current information. The booth information includes the booth name, black box IP address, same license plate filtering time, etc.



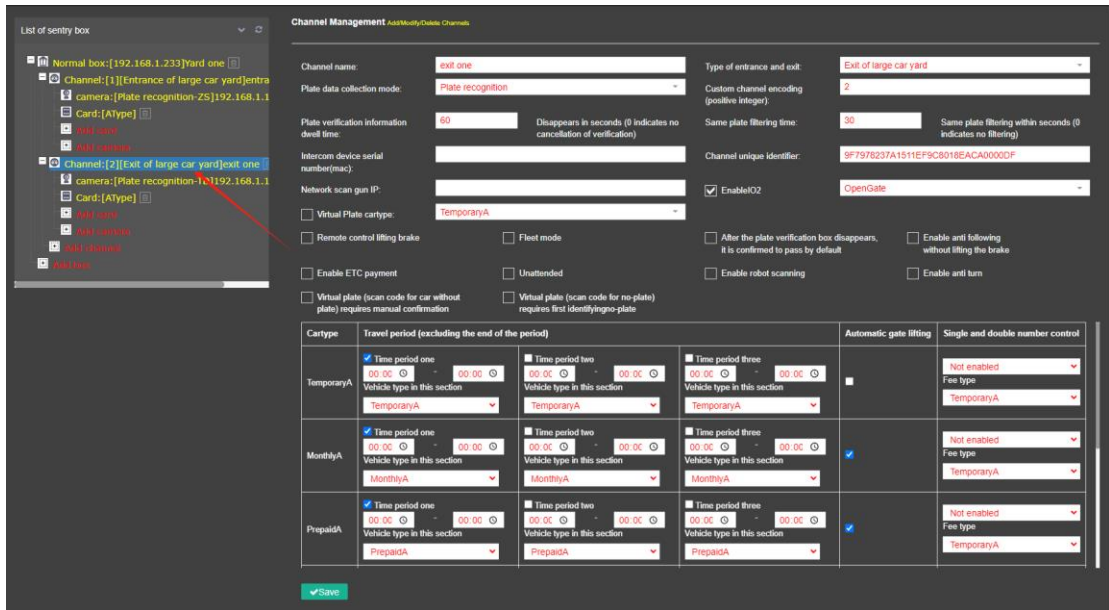
4.2 Channel Information Configuration

Click the corresponding channel node menu on the left, and the configuration information of the current channel will be displayed on the right. You can also modify the configuration information of the current channel. The parking lot channels are divided into entrance channels and exit channels. Each channel can be configured with access rights and access time periods for different license plates, whether to open the gate automatically or manually confirm the opening of the gate, and other configuration information.

The configuration information of the entry channel is as follows:

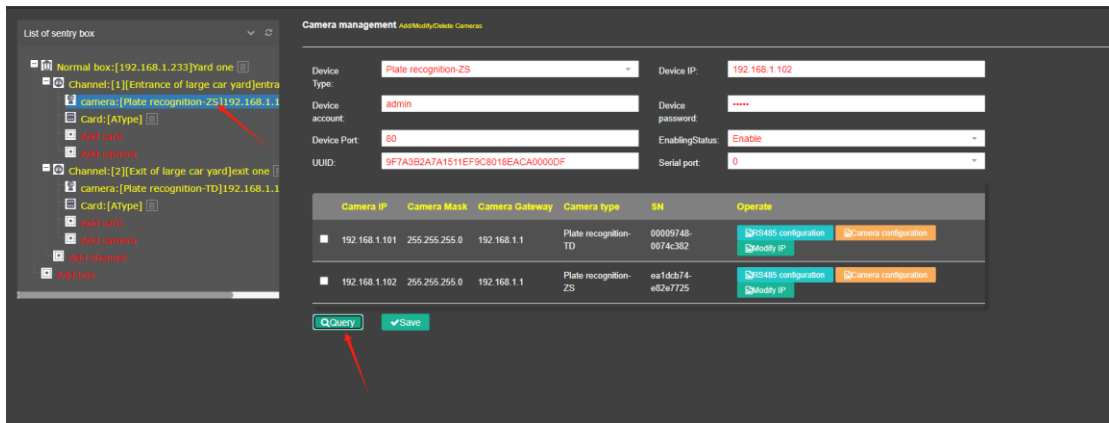


The configuration information of the export channel is as follows:



4.3 Camera Configuration

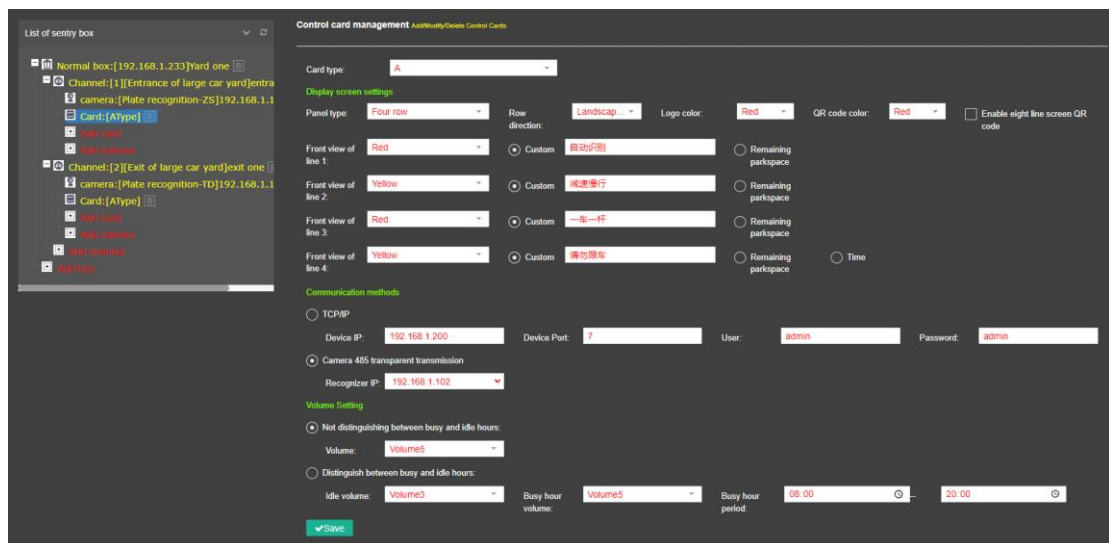
Click the corresponding camera node menu on the left, and the configuration information of the current license plate recognition camera will be displayed on the right. You can also click the query button to remotely search for online cameras across network segments, and remotely configure the camera, configure the camera's recognition area and other related configurations. Click the Save button to save the relationship between the camera and the channel.



4.4 Control Card Configuration

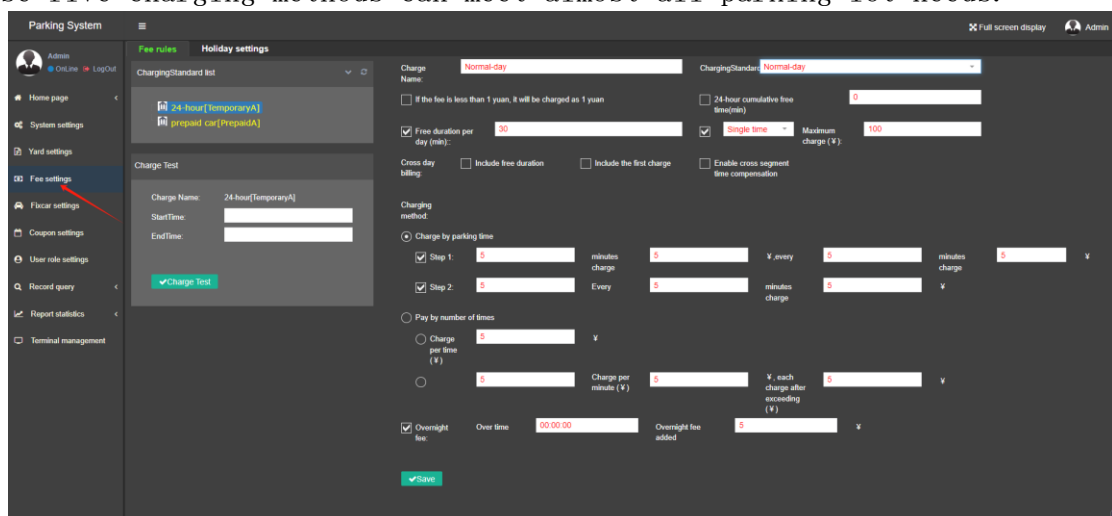
Click the corresponding control card node menu on the left, and the configuration information of the current control card will be

displayed on the right. By changing the configuration, you can customize the content displayed when the LED is restored to default and the volume of voice playback.



5 Charging rules configuration

Click the charging rules menu on the left to set parking fee rules for different types of vehicles in the parking lot. It can support 5 charging methods (general natural day, day and night, 24 hours, segmented charging, weekdays and non-working days). Each charging method can independently set whether to charge on a per-time basis. These five charging methods can meet almost all parking lot needs.



5.1 General natural day charges

The general natural day charging mode is the normal charging method

- ① Set the free time for a single day.
- ② Set a maximum charge for a single day. When the charge for a single day exceeds the maximum charge, the maximum charge will prevail.
- ③ Set whether the multi-day billing includes the single-day free time and the first segment charge.
- ④ Set tiered charges based on parking duration
- ⑤ Set up pay-per-use parking
- ⑥ Configure whether to add overnight fees, and the time for adding overnight fees can be set.

The screenshot shows the configuration for a 'Normal-day' charging rule. The 'Charge Name' is 'Normal-day' and the 'ChargingStandard' is 'Normal-day'. The 'Free duration per day (min)' is set to 30. The 'Maximum charge (¥)' is set to 100. The 'Charging method' is 'Charge by parking time', with 'Step 1' set to 5 minutes charge every 5 minutes, and 'Step 2' set to 5 minutes charge every 5 minutes. The 'Overnight fee' is set to 5 ¥. The 'Charge Test' button is visible.

5.2 Day and night charges

The settings of the daytime and nighttime charging mode are roughly the same as the general natural day mode, except that different charging standards are distinguished between daytime and nighttime.

The screenshot shows the configuration for a 'Day-night' charging rule. The 'Charge Name' is 'Day-night' and the 'ChargingStandard' is 'Day-night'. The 'Free duration per day (min)' is set to 30. The 'Maximum charge (¥)' is set to 100. The 'Charging method' is 'Charge by parking time', with 'Step 1' set to 60 minutes charge every 1 minutes, and 'Step 2' set to 1 minutes charge every 1 minutes. The 'Daytime period' is set to 08:00:00 to 22:00:00. The 'Charge Test' button is visible.

5.3 24-hour charging

The 24-hour charging mode can accurately set different charging amounts for each time period, and can be refined to charge different charging standards for each hour or half hour.

Charge Name: Day-night

ChargingStandard: 24-hour

Free duration per day (min): 120

Maximum charge (¥): 30

24-hour cumulative free time(min): 0

Time division method (min): 60

Charging timing unit: Min

Grid of hourly rates:

1Hour	5	¥	2Hour	6	¥
3Hour	7	¥	4Hour	8	¥
5Hour	9	¥	6Hour	10	¥
7Hour	5	¥	8Hour	5	¥
9Hour	5	¥	10Hour	5	¥
11Hour	5	¥	12Hour	5	¥
13Hour	5	¥	14Hour	5	¥
15Hour	5	¥	16Hour	5	¥
17Hour	5	¥	18Hour	5	¥
19Hour	5	¥	20Hour	5	¥
21Hour	5	¥	22Hour	5	¥
23Hour	5	¥	24Hour	5	¥

Enable this charge after crossing days, every 1 hour: 1

Save

5.4 Sectional Charging

The segmented charging mode can divide a day into multiple time periods to set different charging rules, and different charges can be set for multiple time periods at will.

Charge Name: Segmented

ChargingStandard: Segmented

Free duration: 30 min

Toll ladder: 30 minutes charge: 5 ¥

Every: 30 minutes charge: 5 ¥

Current ladder duration: 1440 min

Current ladder capping (¥): 20

Save

Step charge details (please click Save after adding or deleting the charge details!)

Staircase content	Effective time period	First minute	First time amount	Next minutes	Afterwards, the amount	Step duration	Staircase capping	Operate
First30mins ¥ ,Every30mins ¥ ,Step duration1440min,Staircase capping20 ¥	00:00-23:59:59	30	5	30	5	1440	20	Delete
First30mins ¥ ,Every30mins ¥ ,Step duration1440min,Staircase capping20 ¥	00:00-23:59:59	30	5	30	5	1440	20	Delete
First30mins ¥ ,Every30mins ¥ ,Step duration1440min,Staircase capping20 ¥	00:00-23:59:59	30	5	30	5	1440	20	Delete

Save

5.5 Working day and non-working day charges

The working day and non-working day modes can distinguish different charging methods for working day time and non-working day time, and different charging rules for peak time and non-peak time can be set for working day.

The screenshot shows the 'Fee rules' configuration interface for 'WorkingDay-NonWorkingDay'. The interface is divided into several sections:

- ChargingStandard list:** Shows '24-hour[TemporaryA]' and 'prepaid car[PrepaidA]'.
- Charge Test:** Includes fields for 'Charge Name: 24-hour[TemporaryA]', 'StartTime', and 'EndTime', with a 'Charge test' button.
- Charge Name:** Set to 'WorkingDay-NonWorkingDay'.
- ChargingStandard:** Set to 'WorkingDay-NonWorkingDay'.
- Free duration per day (min):** Set to 30.
- Cross day billing:** Includes options for 'Include free duration', 'Include the first charge', and 'Enable cross segment time compensation'.
- Non working days:** Includes a 'Maximum charge per day (¥)' set to 30 and a 'Differentiate peak' checkbox.
- Peak hours:** Set from 08:00:00 to 20:00:00.
- Charging method:** Includes a 'Peak Limit' set to 30 ¥.
- Charge by parking time:** Includes two steps: Step 1 (60 minutes charge, 5 ¥ every 30 minutes charge, 3 ¥) and Step 2 (120 minutes charge, 60 minutes charge, 5 ¥).
- Pay by number of times:** Includes options for 'Charge per time (¥)' (5 ¥) and 'Charge per minute (¥)' (30 ¥, 5 ¥, 8 ¥).

5.6 Holiday Settings

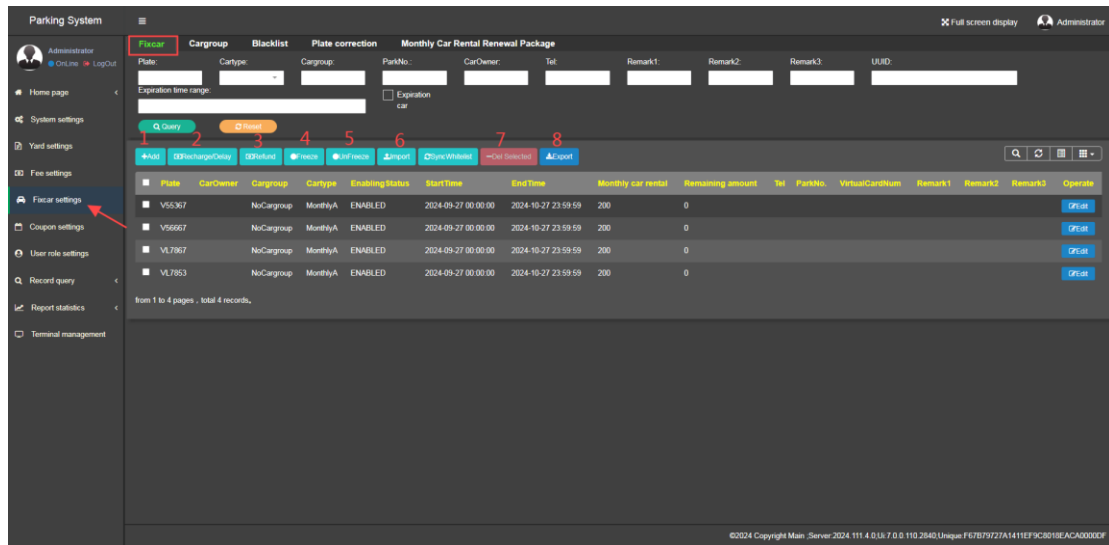
You can set the time for holidays. If you set another day as a holiday, the day will be charged as a non-working day.

The screenshot shows the 'Holiday settings' configuration interface. It includes a search bar, 'Query' and 'Reset' buttons, and a table of holiday settings.

Date	Date pattern	Remark
2024-09-25 00:00:00		Working day to non working day

from 1 to 1 pages, total 1 records.

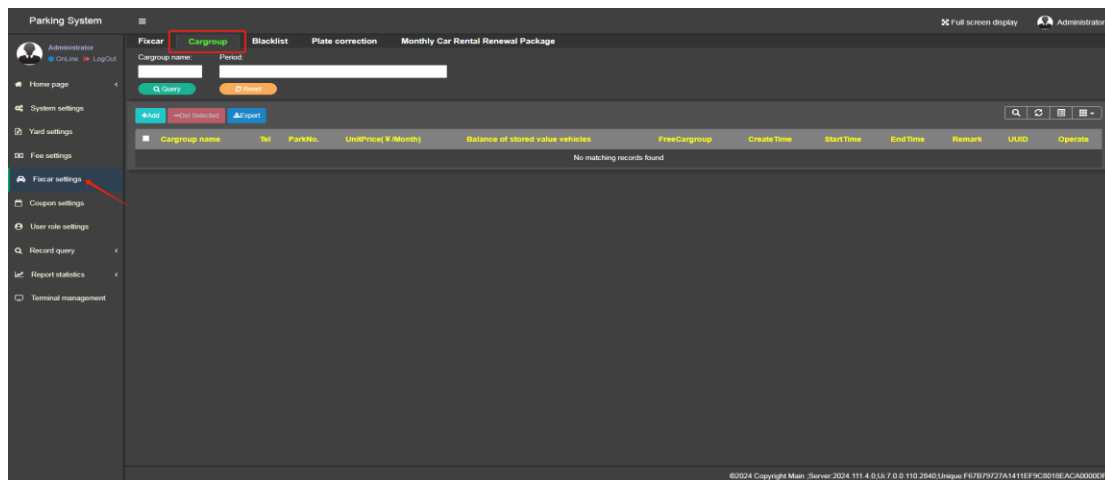
6. Vehicle Management



6.1 Vehicle Management - Fixed Vehicle Management

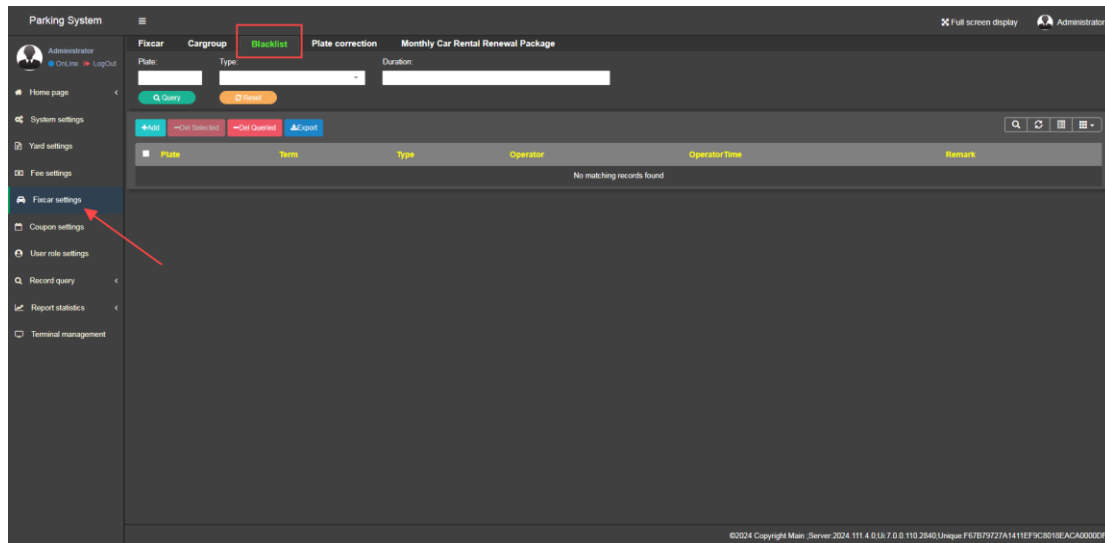
Manage fixed vehicles entering and exiting the parking lot. The license plate number is an identity certificate for the user, with which relevant information about entering and exiting the parking lot can be retrieved, and user information can be registered, recharged, cancelled, and frozen.

- ① Added fixed car
- ② Recharge extension for fixed vehicles
- ③ Operation Refund
- ④ Freeze the fixed vehicle (not allowing entry or exit)
- ⑤ Thawing fixed car
- ⑥ Import fixed vehicles in batches
- ⑦ Select the fixed car to delete
- ⑧ Export current record



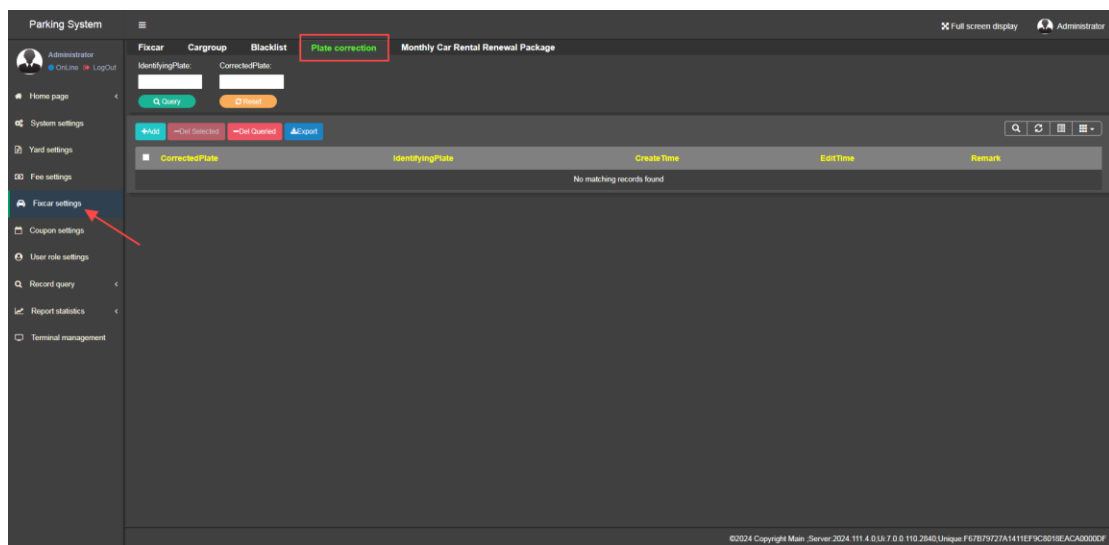
6.2 Vehicle Management–Parking Group Settings

When there are multiple cars in one parking lot or multiple cars in multiple parking lots, parking space groups need to be set up.



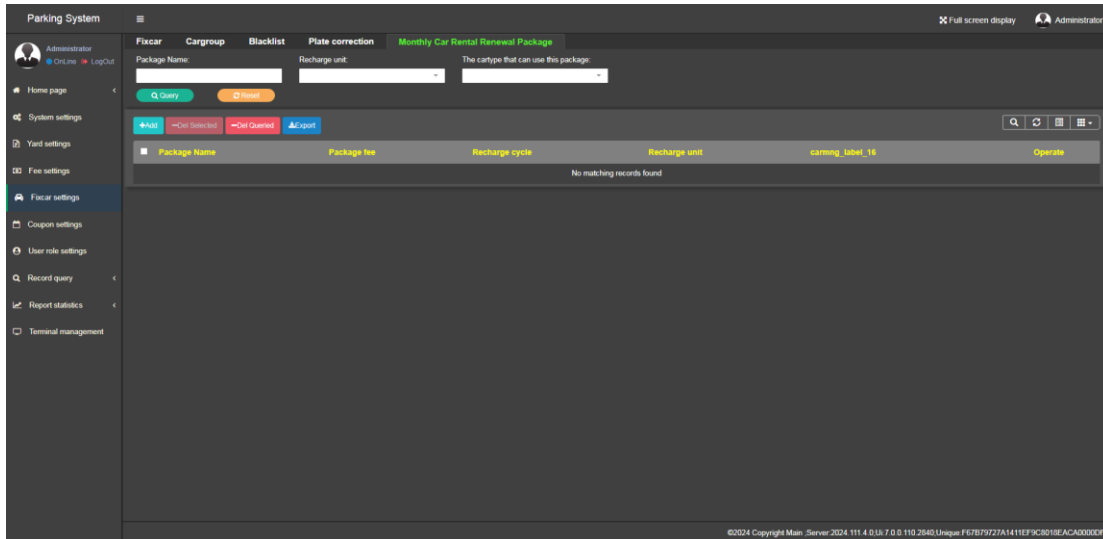
6.3 Vehicle Management–Blacklist

If you don't want a car to enter or leave the parking lot during a certain time period, add it to the blacklist.



6.4 Vehicle Management – License Plate Correction

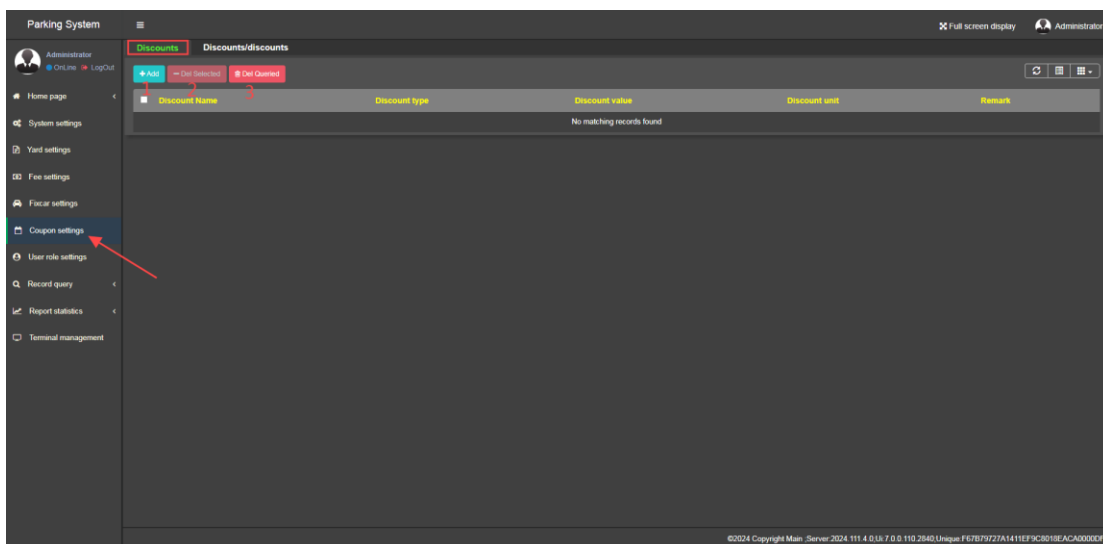
License plate correction can correct license plates that are easily misidentified so that they can be corrected to the correct license plate next time they are misidentified. If the license plate has been manually modified when the vehicle enters or leaves the site, the misidentified license plate and the modified license plate will be automatically added to the license plate correction column.



6.5 Vehicle Management-Monthly Car Rental Renewal Package

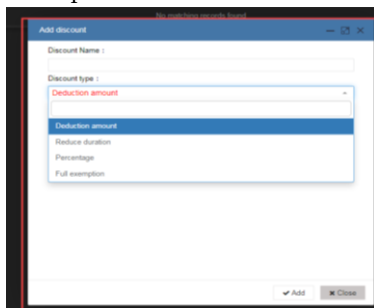
Different renewal packages can be set for different types of monthly rental cars

7. Coupon Management

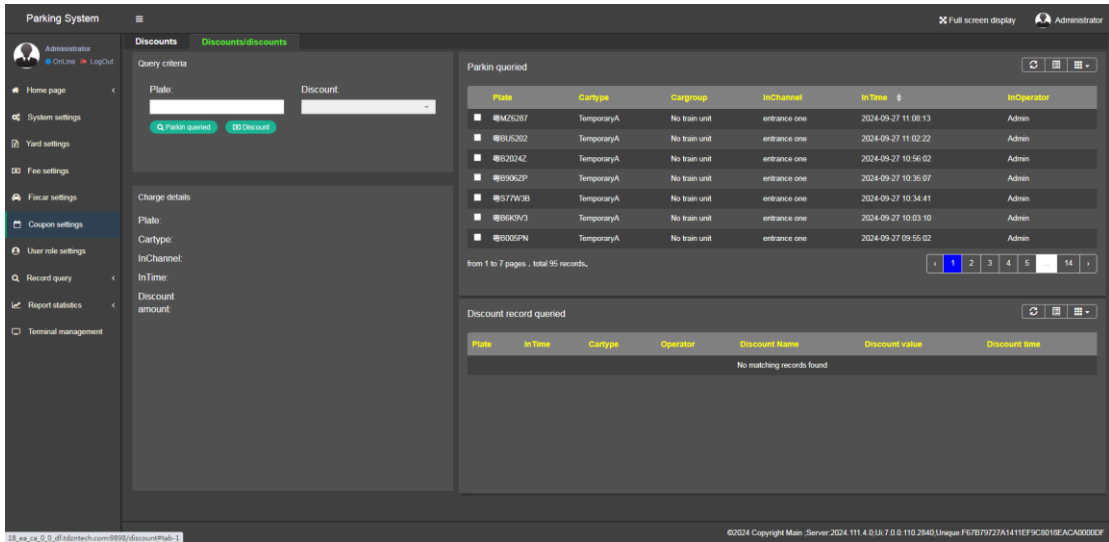


7.1 Coupon Management-Discounts

① Added new coupon types so that you can choose the corresponding coupons for discounts when the vehicle leaves the store. The discount types include amount reduction, time reduction, percentage, and full exemption.



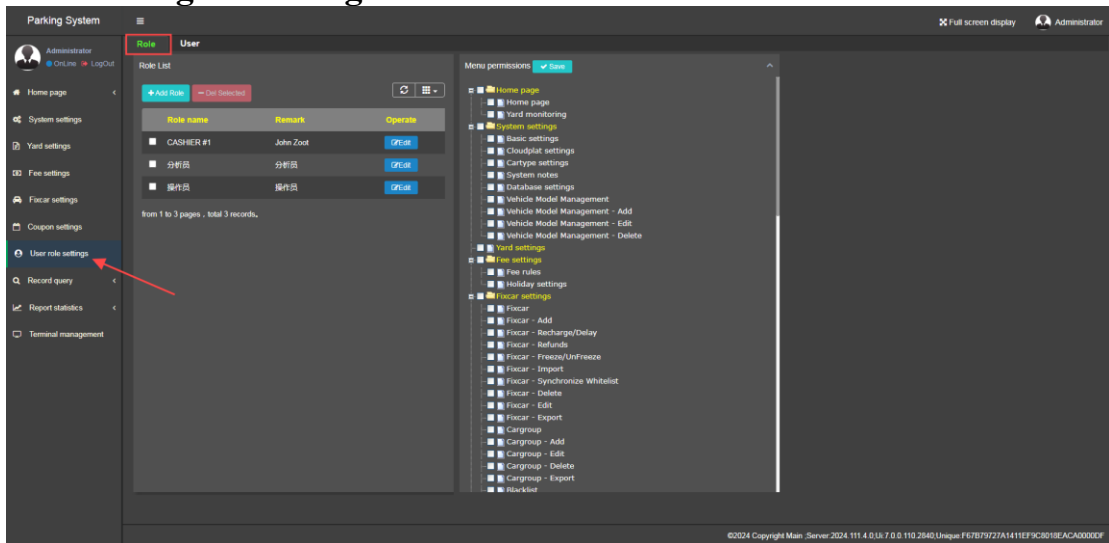
- ② Delete the selected coupon
- ③ Delete all coupons found



7.2 Coupon Management-Discounts

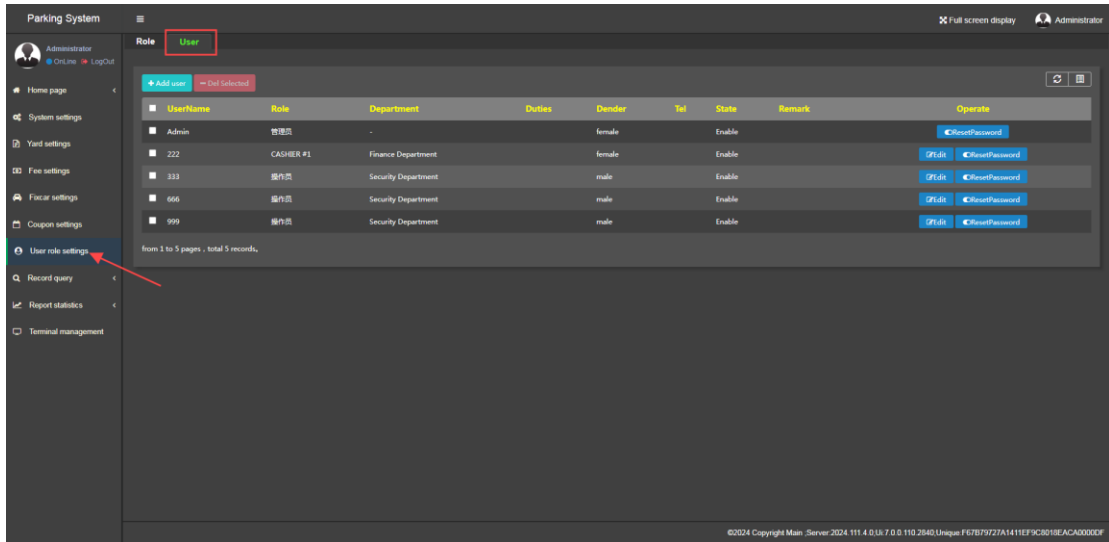
You can check the vehicles on site and actively distribute coupons to them, and you can check the coupon collection records.

8. User Rights Management



8.1 User Rights Management - Role Management

You can add or delete roles, and configure different permissions for different roles to facilitate permission management. The system pre-assigns permissions for three different roles: "Administrator ", " Analyst " and " Operator " .



8.2 User Rights Management - User Management

Add and delete software users, and assign roles to users when adding them

Add user
✖

UserName :

Password :

Department:

User role:

Dender:

Duties :

Tel :

Remark :

Enable

9 Record query

The screenshot displays the 'Parking System' interface. At the top, there is a search bar with fields for 'InPlate', 'InChannel', 'Cartype', 'Type of parking lot', 'Cargroup', and 'InTime'. Below this is a table with columns: 'InPlate', 'Cartype', 'CarOwner', 'Cargroup', 'InChannel', 'Channel Type', 'InTime', 'InOperator', 'Operator Time', 'Operation Type', 'Manual remarks', 'InVisualCondition', and 'Operate'. The table contains several rows of data, including license plates like '鄂B1951M', '鄂B19E71', '鄂B425M', etc. A sidebar on the left lists various query options, with 'Record query' highlighted. At the bottom right, there is a pagination control showing 'from 1 to 10 pages, total 99 records, 10 records per page'.

9.1 Record Query - On-site Record Query

① The entry records of vehicles can be queried based on the vehicle's entry license plate, entry channel, vehicle type, and entry time.

② You can add vehicle entry information

The 'Add parkin' form contains the following fields:

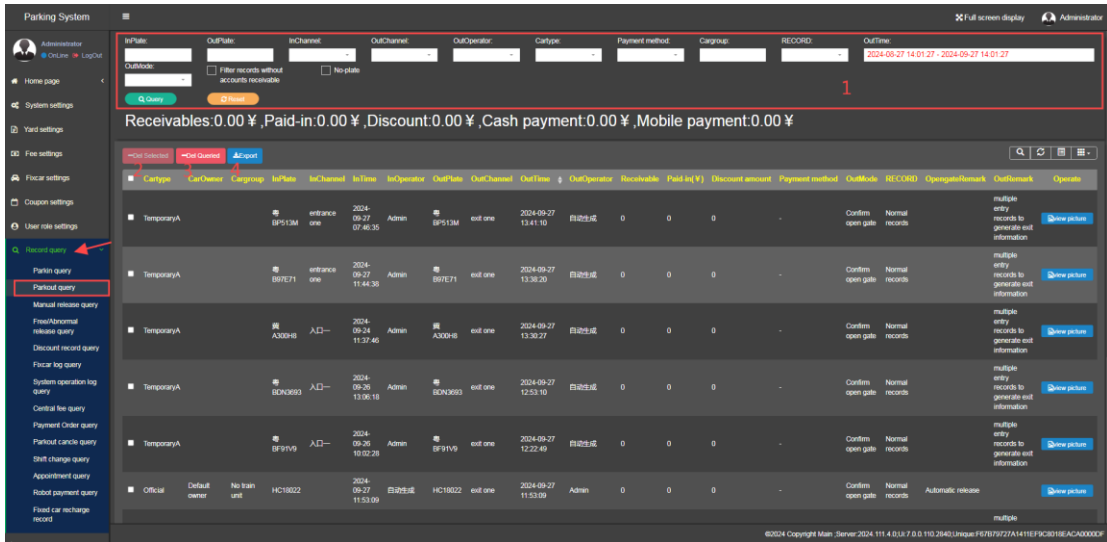
- Plate :
- InTime:
- Cartype :
- InChannel:
- Remark :

At the bottom of the form, there are two buttons: 'Add' and 'Close'.

③ You can select the vehicles present to delete them.

④ Vehicle entry records can be imported in batches

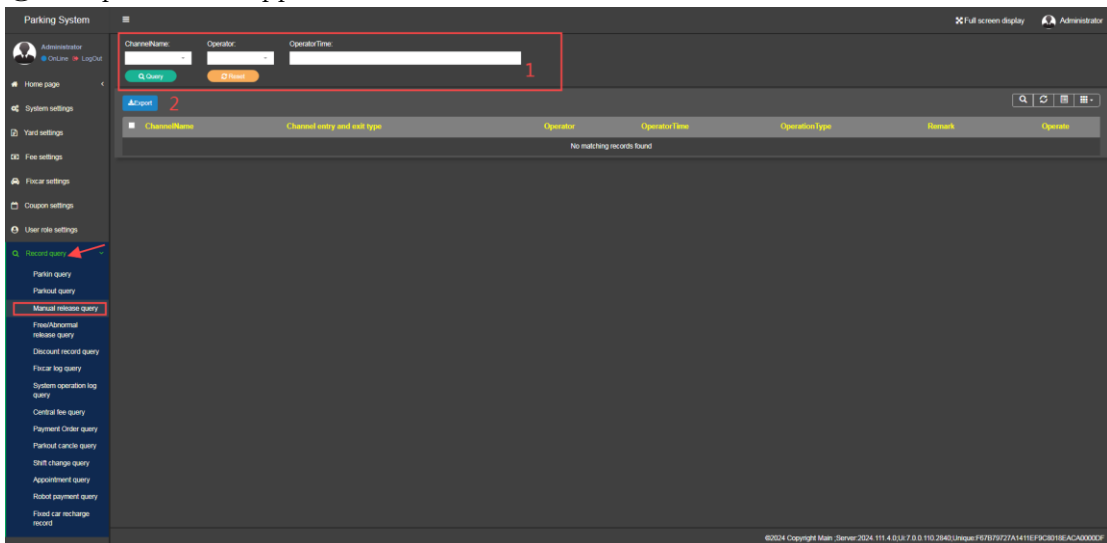
⑤ The current vehicle presence records can be exported in batches



9.2 Record Query-Exit Charge Query

① You only need to provide one piece of information about the vehicle to accurately query all relevant information about the vehicle's entry and exit.

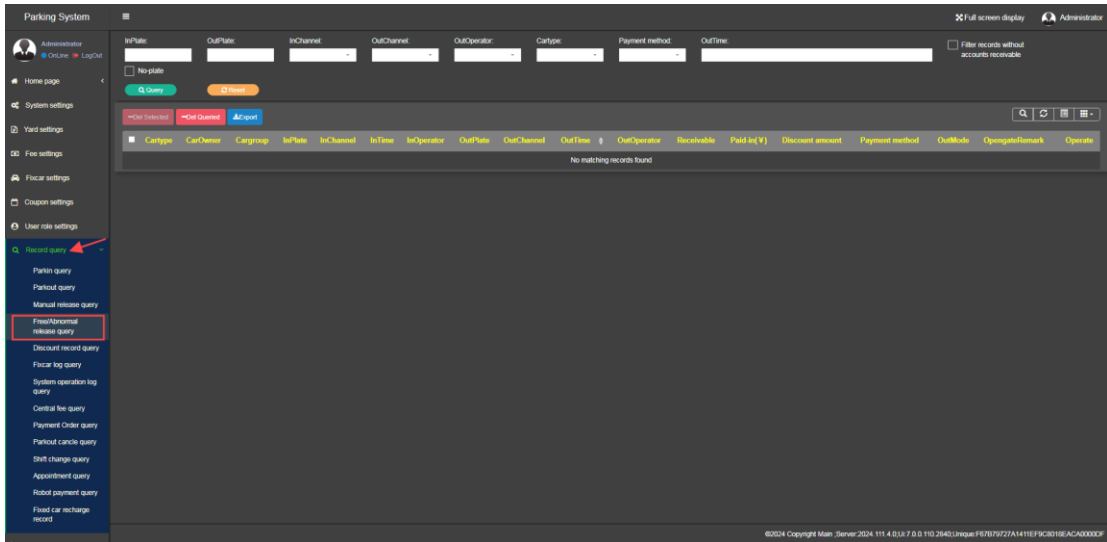
- ② Delete the selected appearance record
- ③ Delete all the appearance records found
- ④ Export all appearance records



9.3 Record Query-Manual Release Query

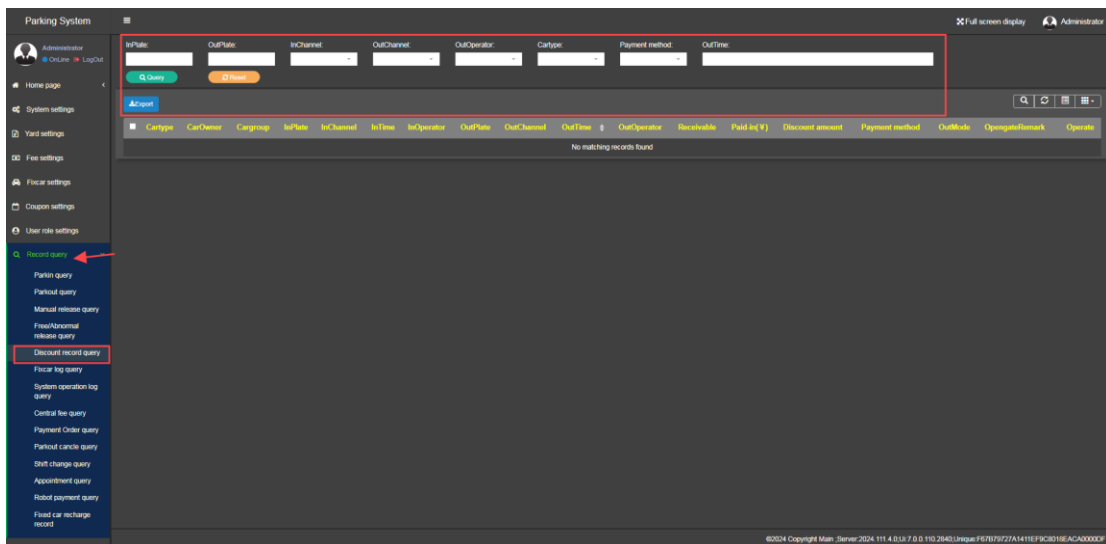
① Manual release records can be queried by channel name, operator, time, etc.

- ② Export the searched manual release records



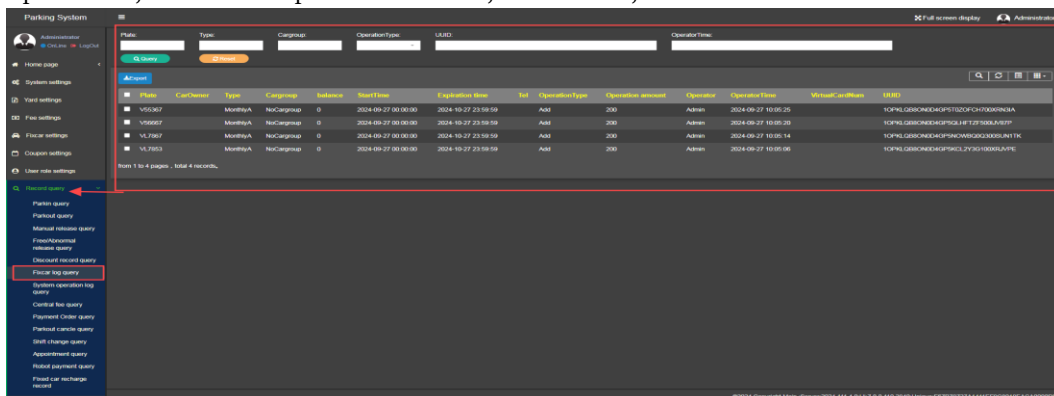
9.4 Record Query-Free Abnormal Release Query

/Free release records can be queried, exported, and printed by vehicle type, time, operator, license plate number, channel, etc.



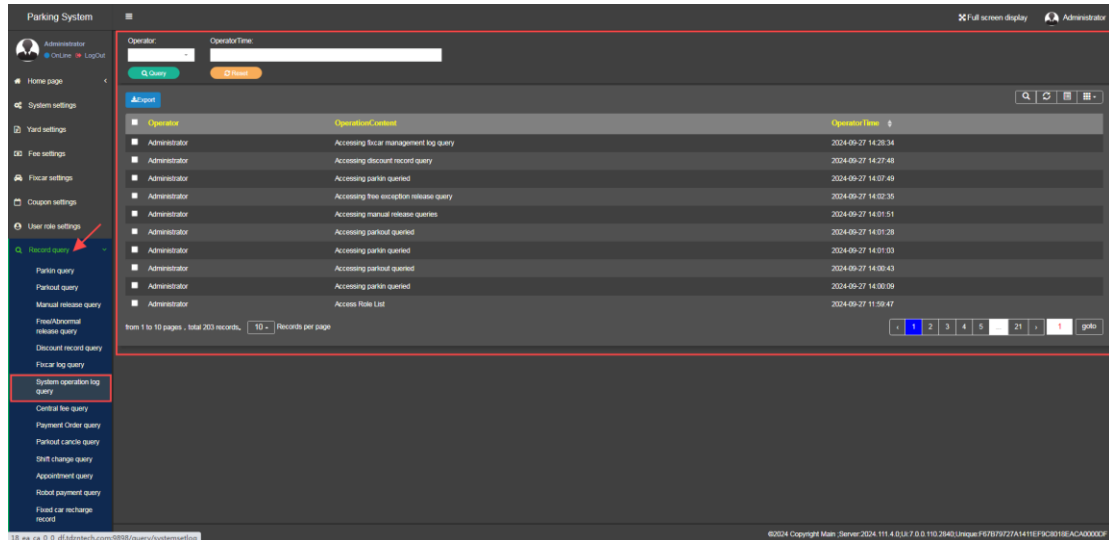
9.5 Record Query-Discount Record Query

Discount records can be queried and exported by vehicle type, time, operator, license plate number, channel, etc.



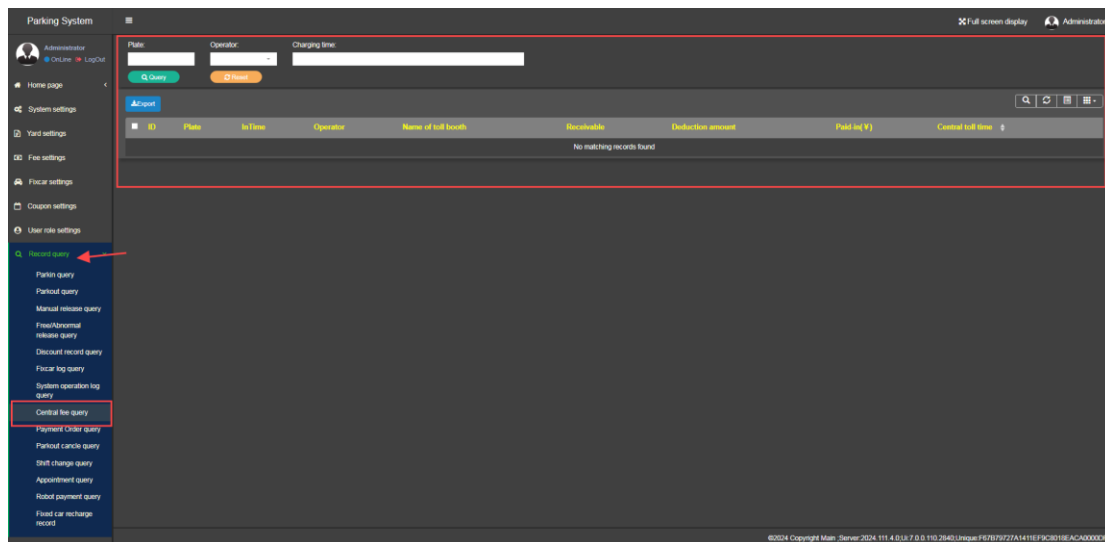
9.6 Record Query-Vehicle Management Log Query

The vehicle management operation log can be queried, exported, and printed by vehicle type, operation type, operator, time, etc., and fuzzy query of license plate numbers is supported.



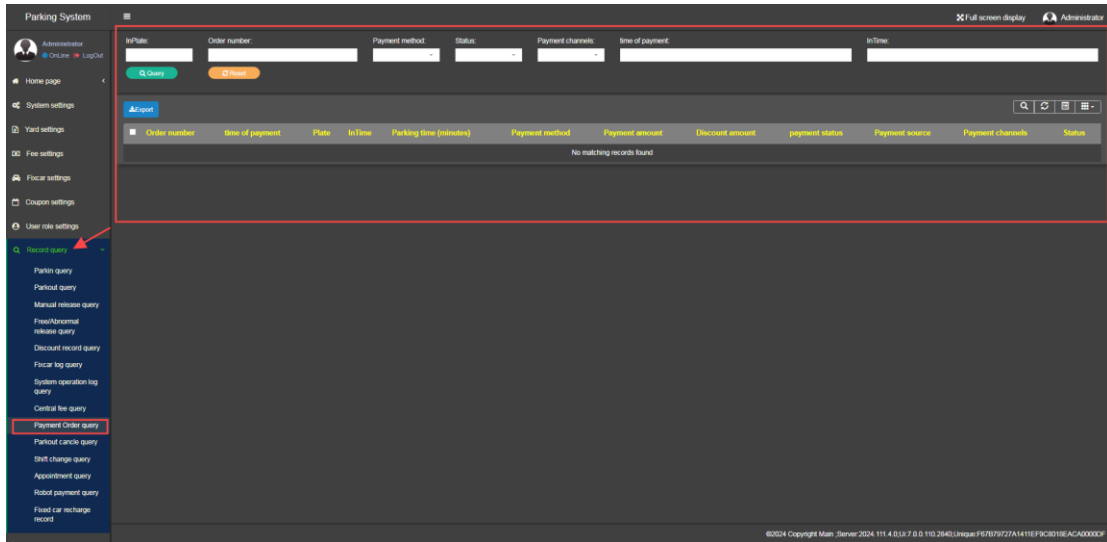
9.7 Record Query-System Operation Log Query

The system operation records can be queried and exported by time and operator.



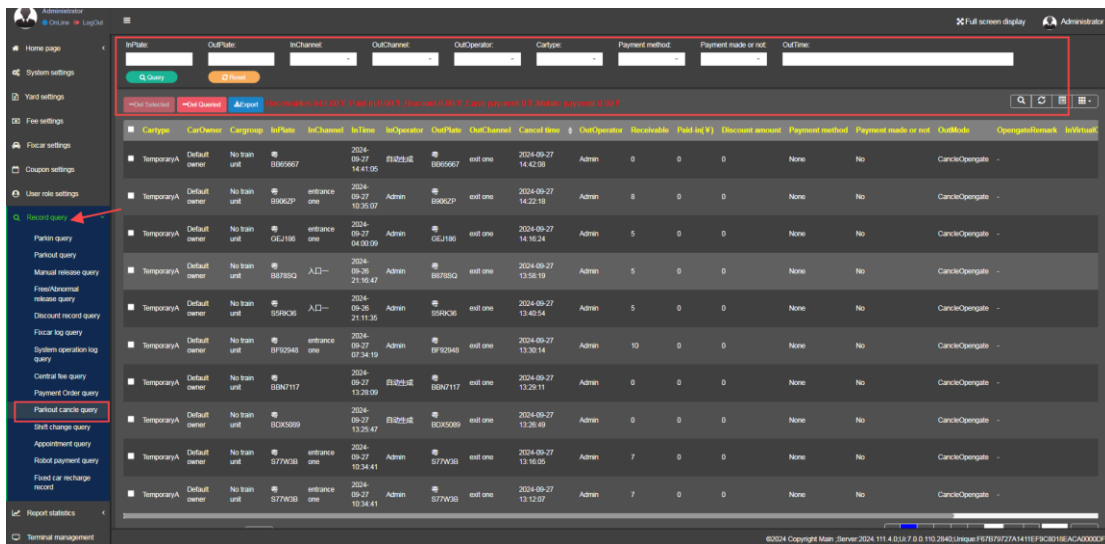
9.8 Record Query-Central Charge Query

The central charging details can be queried, exported, and printed by operator, time, and license plate, and license plates support fuzzy queries.



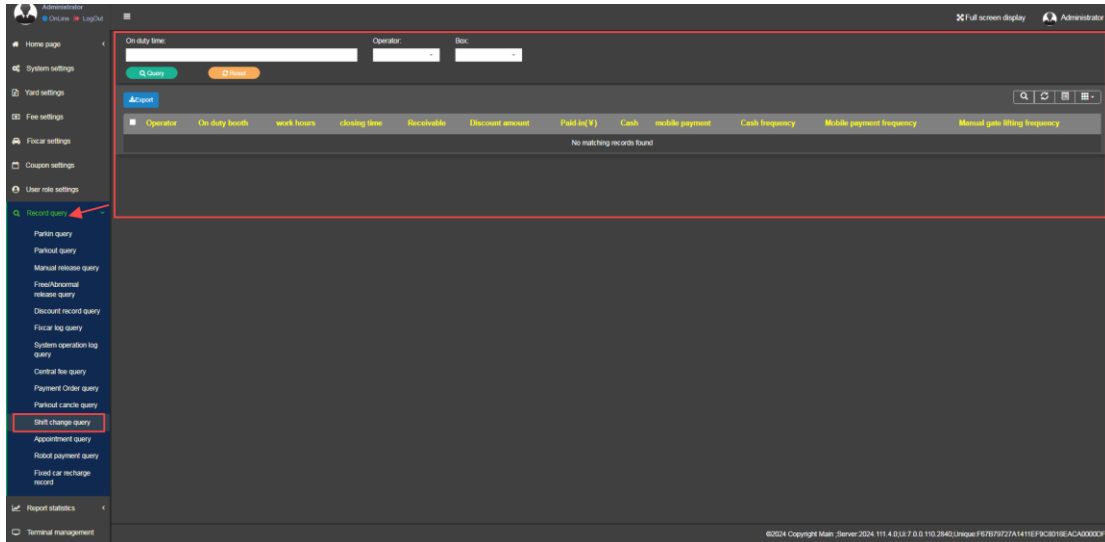
9.9 Record Query-Payment Order Query

Query the payment order of the vehicle by operator, time, and license plate, and export the records



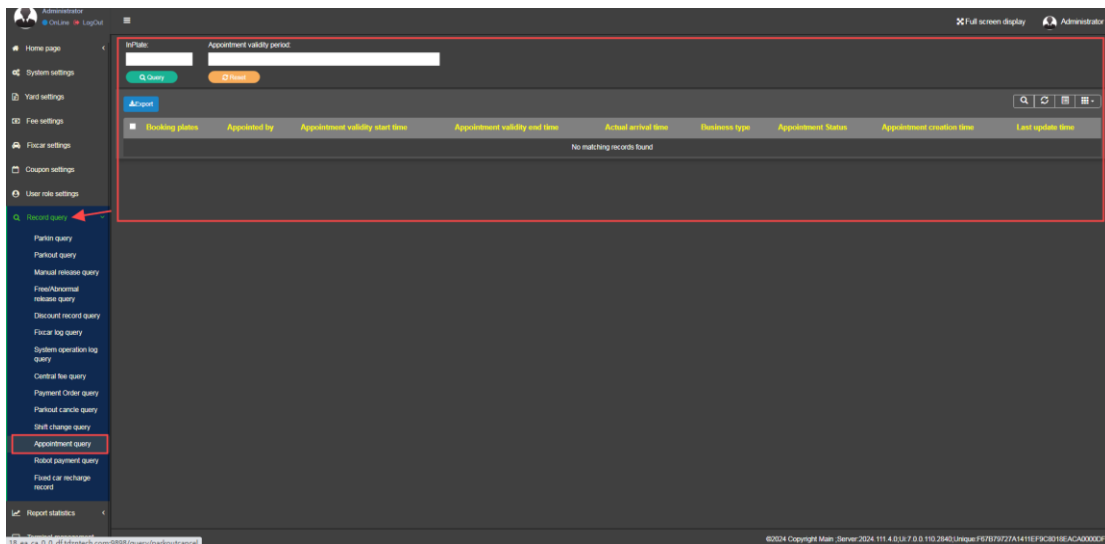
9.10 Record Query-Exit Cancellation Query

You can find out the details of unpaid orders based on the entry and exit license plate, time, operator, and vehicle type. You can delete and export records



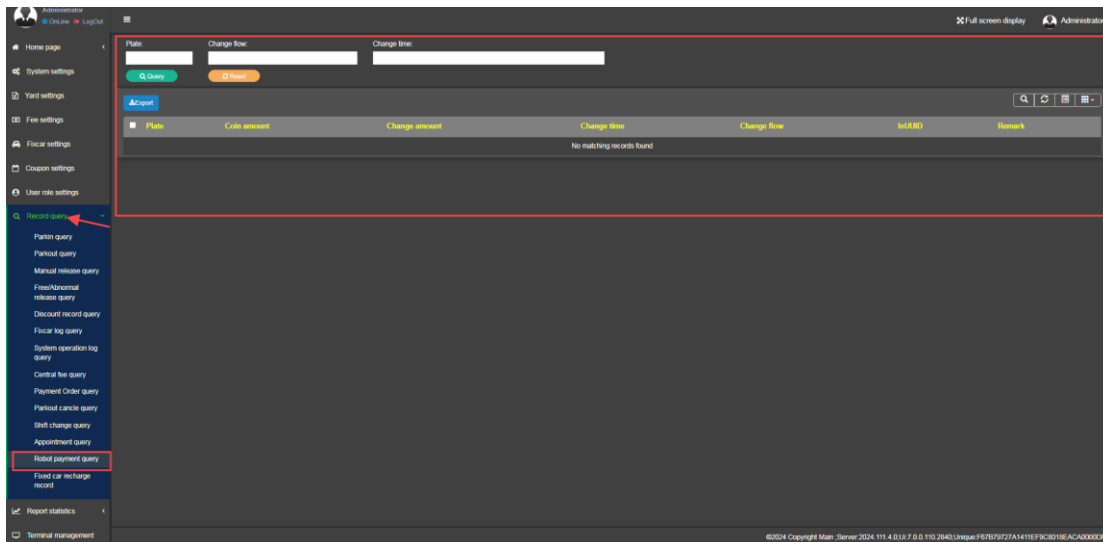
9.11 Record Query-Shift Query

You can find the toll collection information of the toll collector on duty and export it according to time, operator, and booth.

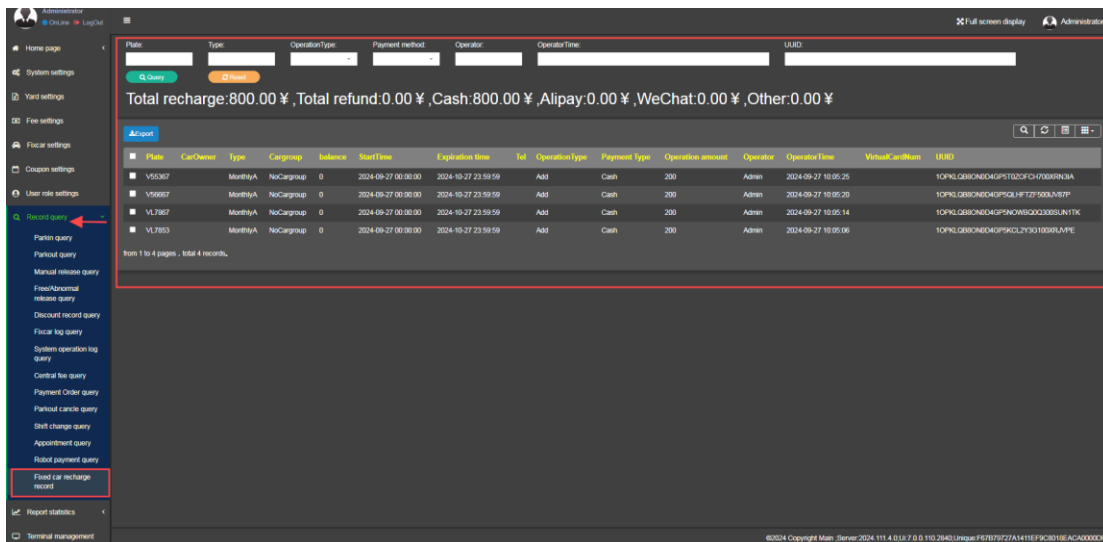


9.12 Record Query-Appointment Query

You can check the vehicle reservation status and search the license plate to check the detailed vehicle reservation time.



9.13 Record Query-Robot Payment Query

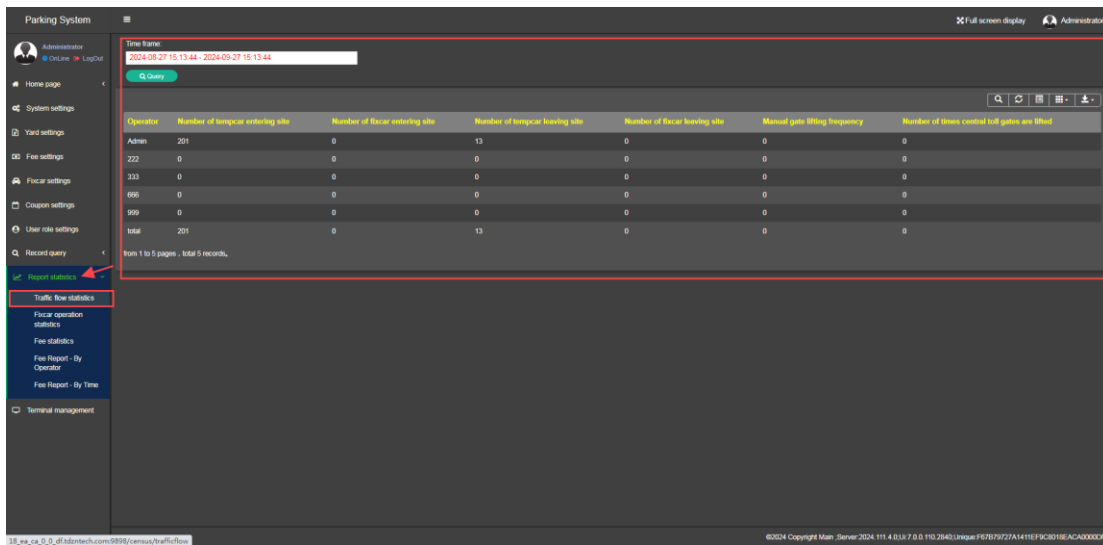


9.14 Record Query-Fixed Vehicle Recharge Record

Display all fixed vehicle recharge refund information

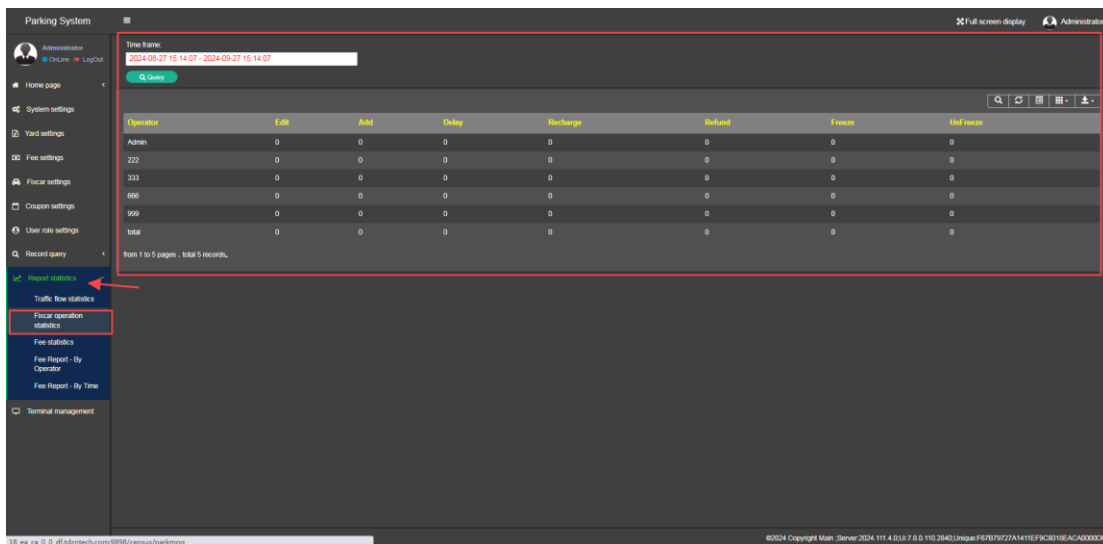
You can check the specific vehicle recharge and refund status based on the license plate number, vehicle type, and operation time.

10. Report Statistics



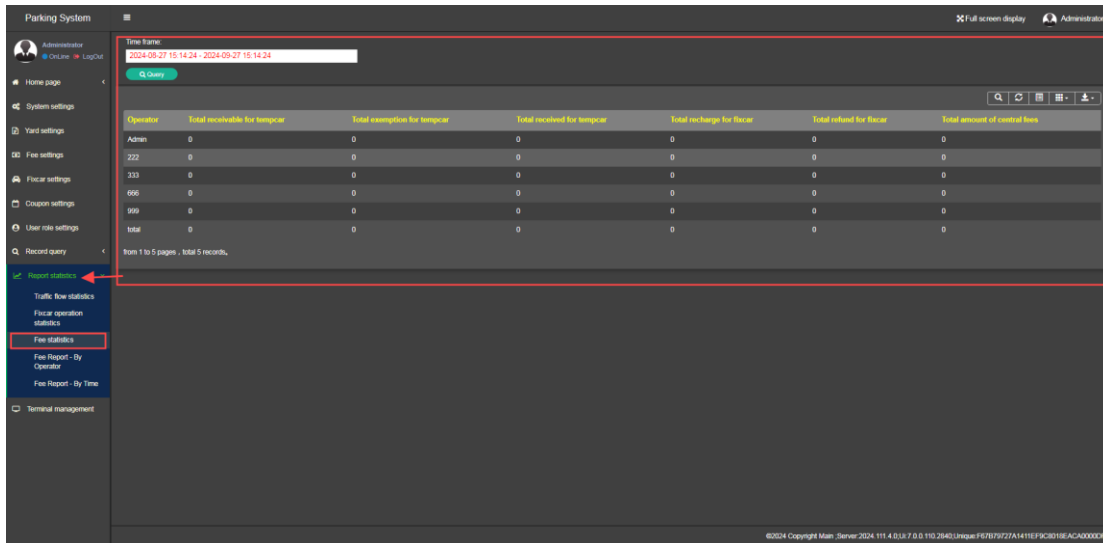
10.1 Report Statistics - Traffic Flow Statistics

The traffic flow can be reported and counted according to time. The statistics include the number of temporary vehicles entering the site, the number of fixed vehicles entering the site, the number of temporary vehicles leaving the site, the number of fixed vehicles leaving the site, the number of manual gate lifting times and the number of central toll collection vehicles. The statistics can also be exported and printed.



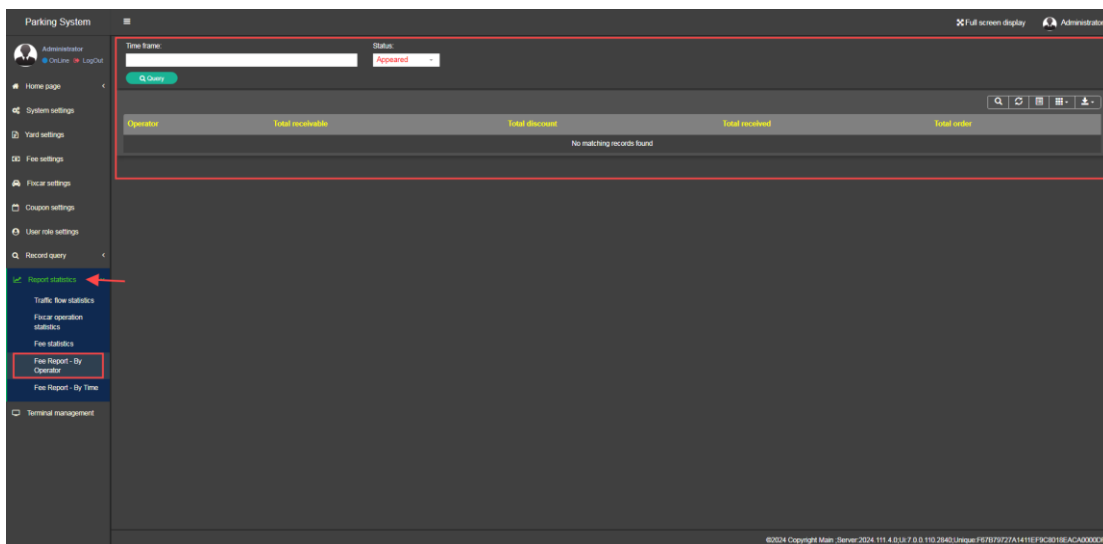
10.2 Report Statistics - Vehicle Management Operation Statistics

Vehicle management operations can be queried and counted according to time, and can be exported and printed.



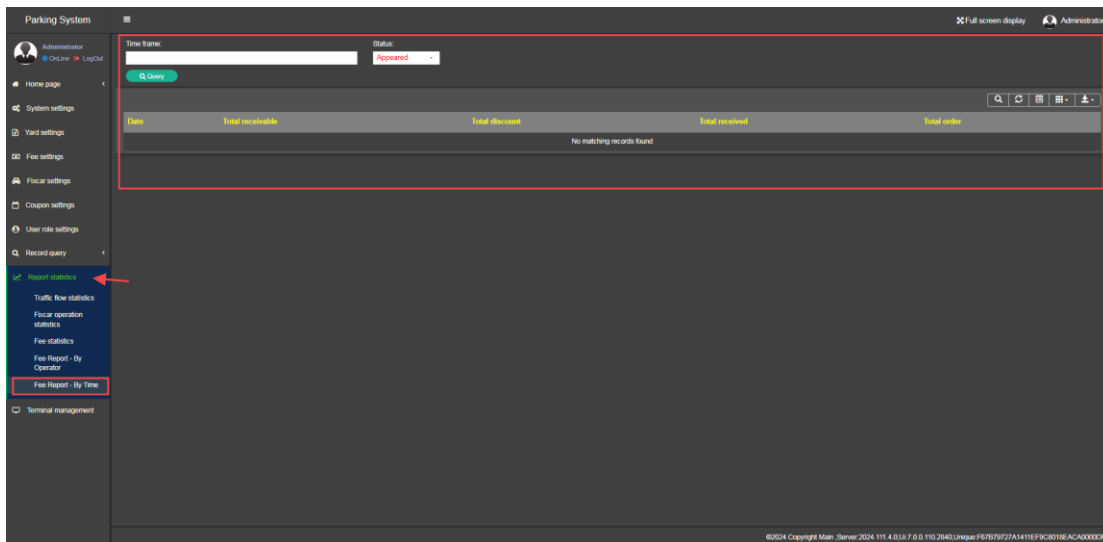
10.3 Report Statistics-Charge Statistics

The charges within a time period can be reported and counted according to time. The statistics include the total amount to be receivable for temporary vehicles, the total amount of exemption for temporary vehicles, the total amount actually collected for temporary vehicles, the total amount of recharge for fixed vehicles, and the total amount of central charges. These reports can also be exported and printed.



10.4 Report Statistics - Charge Report by Operator

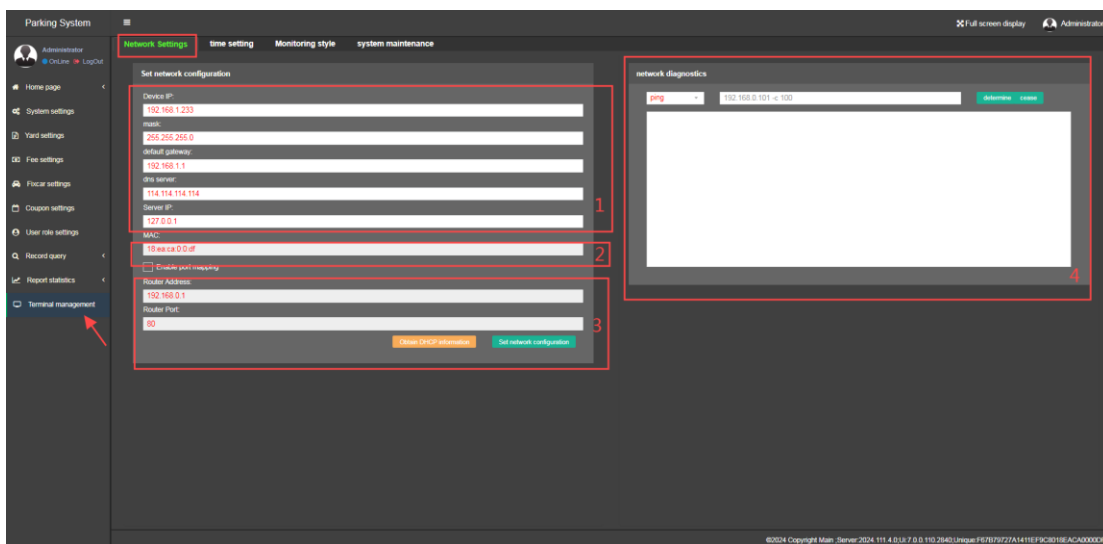
You can search by time, and make reports on the overall situation of parking lot operators in a certain period of time, including the operator's total amount collected, total discount, total actual amount collected, total order amount, which can be exported and printed.



10.5 Report Statistics-Charge Report by Time

Based on time search, you can make reports and statistics on the overall daily situation, including the total amount receivable, total discount, total amount received, and total order amount for the day, which can be exported and printed.

11. Terminal Management

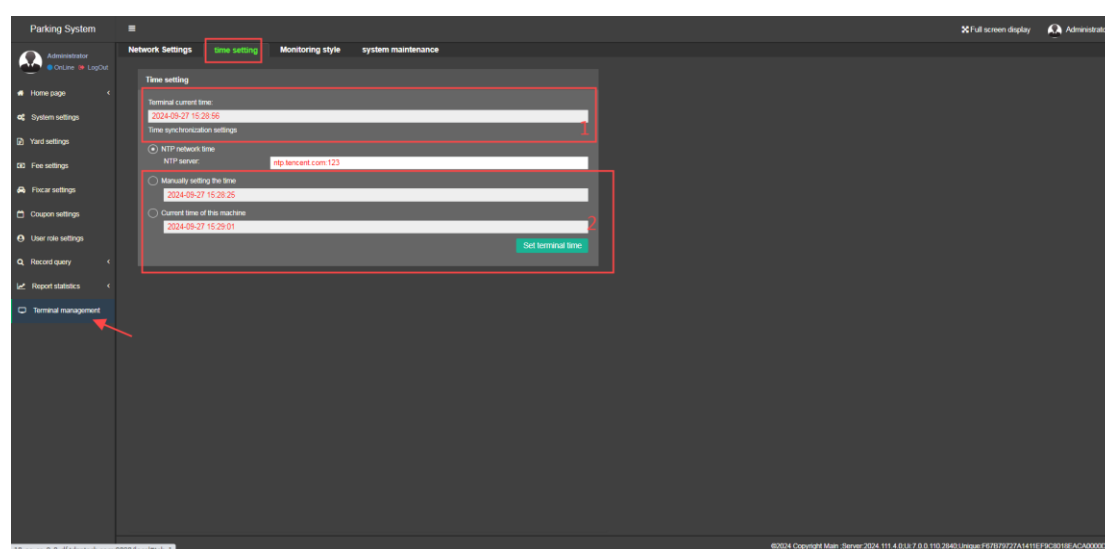


11.1 Terminal Management-Network Settings

Network settings are the configuration of the basic network parameters of the terminal device itself. This menu can modify the basic network information of the terminal device. After the device is

started, the IP address of the terminal should generally be modified first according to the system situation.

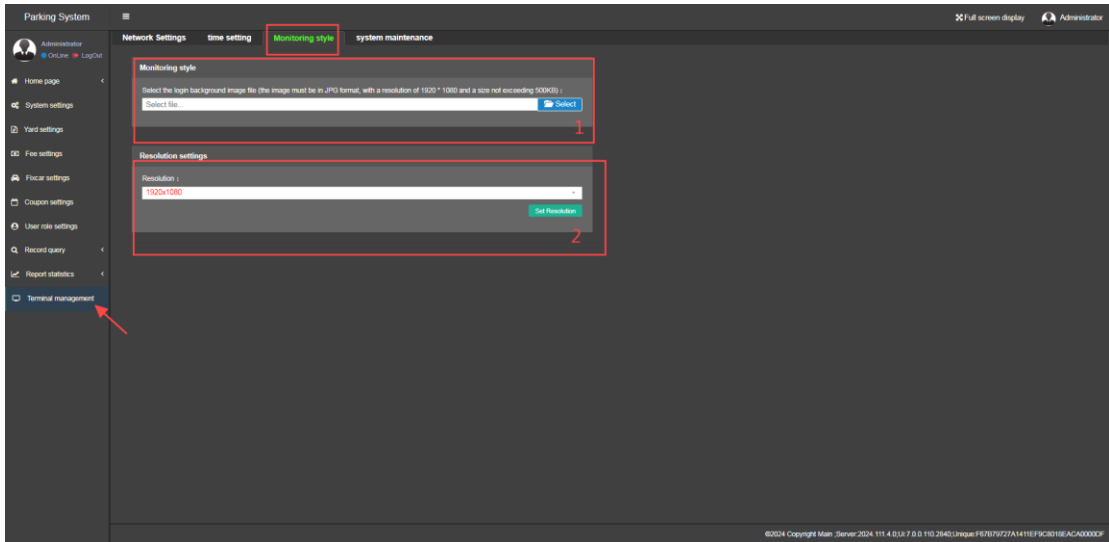
- ① Set the terminal device's IP, subnet mask, default gateway, etc.
- ② The MAC address is the unique identification number of the terminal device.
- ③ Router address and port settings
- ④ You can ping the license plate recognition camera on the same LAN to determine the network connection status



11.2 Terminal Management-Time Settings

This menu can modify the time information of the terminal device. Before the system runs, you need to set the time of the server version terminal device. When the server version terminal device is started again, it will synchronize the time of all devices in the system to keep the system time consistent.

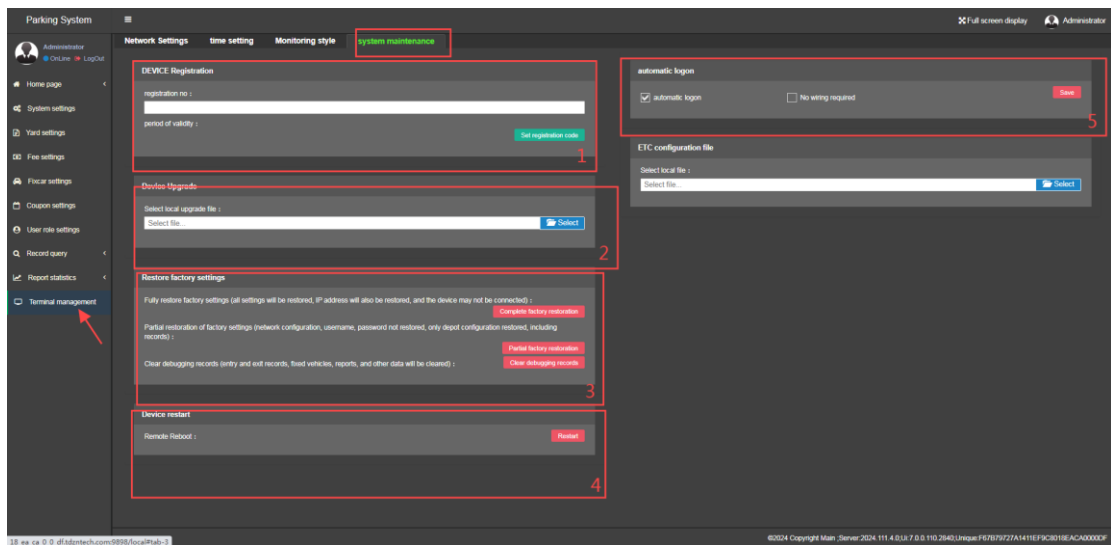
- ① Current local time
- ② You can modify the time manually or obtain the time from the Internet



11.3 Terminal Management-Monitoring Style

This menu can modify the display resolution of the terminal output. When some displays cannot support higher resolutions, you can configure a lower resolution output (the default resolution is 1920*1080).

- ① You can upload a picture with a resolution of 1920*1080 as the main page picture for the device login
- ② You can set the device output resolution to fit the current screen



11.4 Terminal Management-System Maintenance

This menu can be used to maintain and upgrade the terminal

① If you want to set a usage period for the device, you can generate a registration code for it.

② System upgrades can be performed on terminal devices

③ The default parameters of the terminal device can be restored. If the terminal is a server version, the factory settings can be fully restored or partially restored. Complete factory settings will restore all configurations of the device, while partial factory settings will only restore the parking lot configuration, and the network and login configuration of the device will remain unchanged.

④ You can restart the terminal device

⑤ You can check the option to log in automatically, and the system will automatically log in when the device restarts.

------(THE END)-----