Hikvision Parking Management System

User Manual

TABLE OF CONTENTS

cChapter1 Product Introduction 6
1.1 Overview 6
1.2 User Login 6
Chapter 2 System Configuration 8
2.1 Parameter Configuration 8
2.1.1 Parameter Settings 9
2.1.2 Audio Prompt Settings 12
2.1.3 Database Backup 12
2.1.4 Main Window Linkage 13
2.1.5 Filtering Configuration 15
2.1.6 Camera Model Configuration 16
2.1.7 Vehicle Type Configuration 16
2.2 Device Management 17
2.2.1 Add Capture Unit 18
2.2.2 Add Barrier Gate 19
2.2.3 Add Display Screen 20
2.2.4 Add Entrance & Exit Station 24
2.2.5 Add Card Reader 25
2.2.6 Add Ticket Scanner 27
2.3 Entrance and Exit 28
2.3.1 Add Entrance and Exit 29
2.3.2 Configure Ticket Format ..... **错误!未定义书签。**
2.3.3 Configure Offline Pass Parameters ..... **错误!未定义书签。**
2.4 Parking Fee Configuration 30
2.4.1 Parking Fee Rule 31
2.4.2 Discount Rule 32
2.4.3 Vehicle and Card Category 33
2.4.4 Parking Pass Rule 34
2.4.5 Card Cost 34
2.4.6 Exceptional Entry & Exit Rule 35
2.4.7 Discount Management 36
2.5 User Management 37
2.5.1 User Management 37
2.5.2 Role Management 39
Chapter 3 Vehicle and Card Management 41
3.1 Add/Edit/Delete Vehicle and Card Information 42
3.1.1 Add Vehicle and Card Information 42
3.1.2 Edit Vehicle and Card Information 43
3.1.3 Delete Vehicle and Card Information 44

3.2 Top up/Reissue/Cancel Card 45
3.2.1 Top up Card 45
3.2.2 Reissue Card 48
3.2.3 Cancel Card 48
3.3 Import/Export Vehicle and Card Information 49
3.3.1 Import Information 49
3.3.2 Export Information 49
3.4 Batch Operation 50
3.5 Detect Card 52
3.6 Search Vehicle and Card Information 52
3.7 View Expired Card Information 52
Chapter 4 Arming Management 54
4.1 Add/Edit/Delete Arming Information 54
4.1.1 Add Arming 54
4.1.2 Edit Arming 55
4.1.3 Delete Arming 55
4.2 Batch Import/Export Arming Information 56
4.2.1 Batch Import 56
4.2.2 Batch Export 56
4.3 Search Arming Information 57
Chapter 5 Vehicle Monitoring 58
5.1 Interface Description 59
5.1.1 Entering Information Column 59
5.1.2 Exiting Information Column 60
5.1.3 Payment Information Column 61
5.1.4 Passing Information Details Column 61
5.2 Payment Process 62
Chapter 6 Search 64
6.1 Passing Information Search 64
6.2 Passing Vehicle Payment Information Search 65
6.3 Search of Vehicle in Parking Lot 65
6.4 Payment Information Search 67
6.5 Card Information Search 67
6.6 Duty Shift Search 68
6.7 Operation Record Search 68
6.8 Discount Search 68
Chapter 7 Reports 69
7.1 Traffic Flow Graph 69
7.2 Payment Graph 70
7.3 Passing Vehicle Payment Report 70
7.4 Top-up and Renewal Payment Report 71
Chapter 8 Other Functions 72
8.1 Lock System 72

8.2 Switch User 72
8.3 Change Password..... 73
8.4 Off Duty..... 73
8.5 About 74
8.6 Exit 75

User Manual

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About this Manual

This Manual is applicable to Parking Management System (PMS).

The Manual includes instructions for using and managing the product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version in the company website (http://overseas.hikvision.com/en/).

Please use this user manual under the guidance of professionals.

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Symbol Conventions

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

Symbol	Description
	Provides additional information to emphasize or supplement important points of the main text.
	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

cChapter1 Product Introduction

1.1 Overview

Parking Management System (PMS) is a software specially designed by Hikvision for the management of passing vehicle and parking fee information. It provides storage, forwarding, search, statistics, analysis, and live view services of passing vehicle information by connecting to smart traffic devices, such as traffic camera, entrance/exit station, and card reader. It also controls parking fee payments at entrance and exit by connecting to card reader, ticket box controller, barrier gate, and other exterior devices. Meanwhile, all parking fee details can be searched and calculated on the platform.

The product is applicable to communities, parking lots, and entrances & exits. It helps property administrators to better manage and control passing vehicle and parking fee information.

1.2 User Login

For initial login and use, you need to connect to database, set Bluetooth card password, activate and set login password at first.

Step 1 Double-click PMS desktop shortcut to enter **Database Configuration** interface.

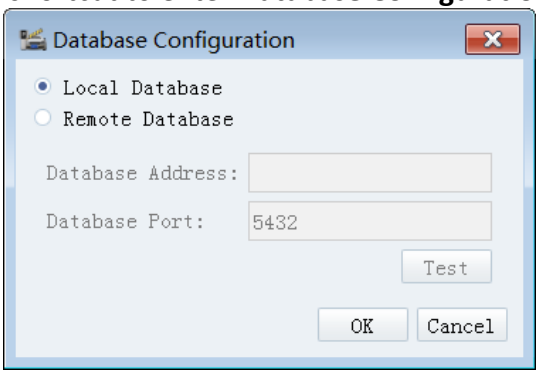


Figure 1-1 Select Database

Step 2 Select **Local Database** or **Remote Database** as needed (if the latter is selected, you need to further enter **Database Address** and **Database Port**), and click **OK.**

Step 3 Enter and confirm password in **Edit Super Administrator Password** interface, and click **OK**.

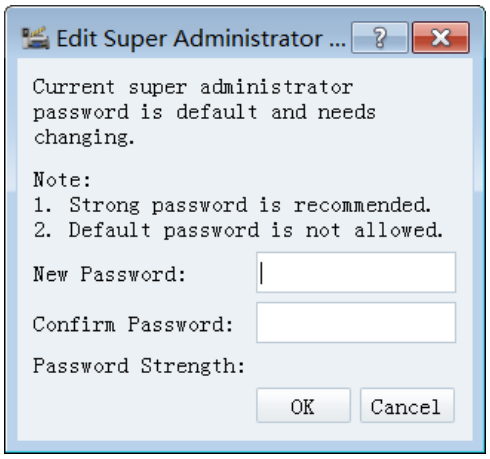


Figure 1-2 Edit Super Administrator Password

WARNING

STRONG PASSWORD RECOMMENDED– We highly recommend that you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. We also recommend that you reset your password regularly. Especially in the high security systems, resetting the password monthly or weekly can better protect your product.

Step 4 Enter **User name** and **Password**, select **Remember password** and **Auto login** as needed, and click **Login**.

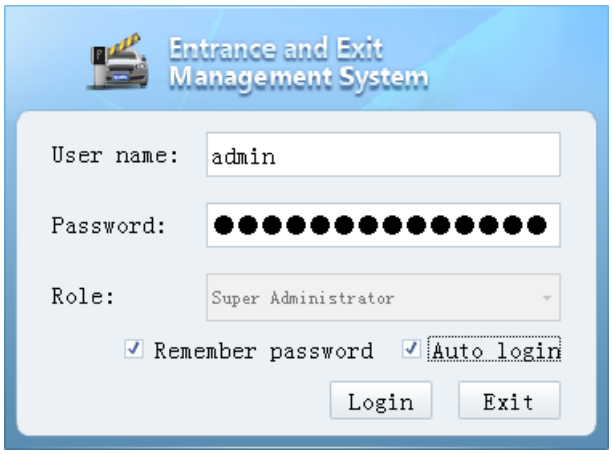


Figure 1-3 Login Interface

Chapter 2 System Configuration

You can click on upper right corner of the main interface to enter **System Configuration** interface. The interface contains 5 modules, including **Entrance and Exit**, **Device Management**, **User Management**, **Parking Fee Configuration**, and **Parameter Configuration**. This chapter will introduce the contents of each module in details.

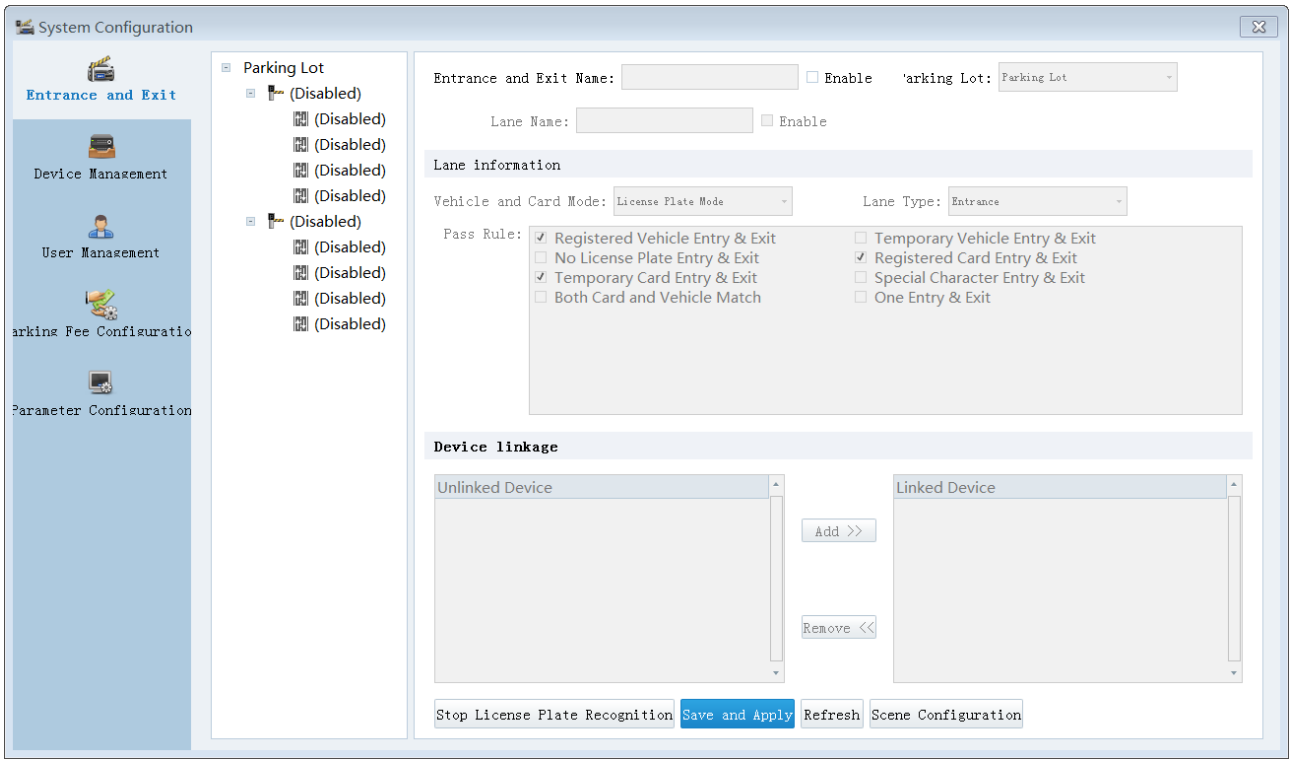


Figure 2-1 System Configuration Interface

2.1 Parameter Configuration

You can configure basic parameters, audio prompt, database backup, window linkage, data filter, camera model, vehicle type, hardware information, etc. in this module. It contains 8 parts, including **Parameter Settings, Audio Prompt Configuration, Database Backup**, **Main Window Linkage**, **Filtering Configuration**, **Camera Model Configuration**, **Vehicle Type Configuration**, and **Device Hardware Information**.

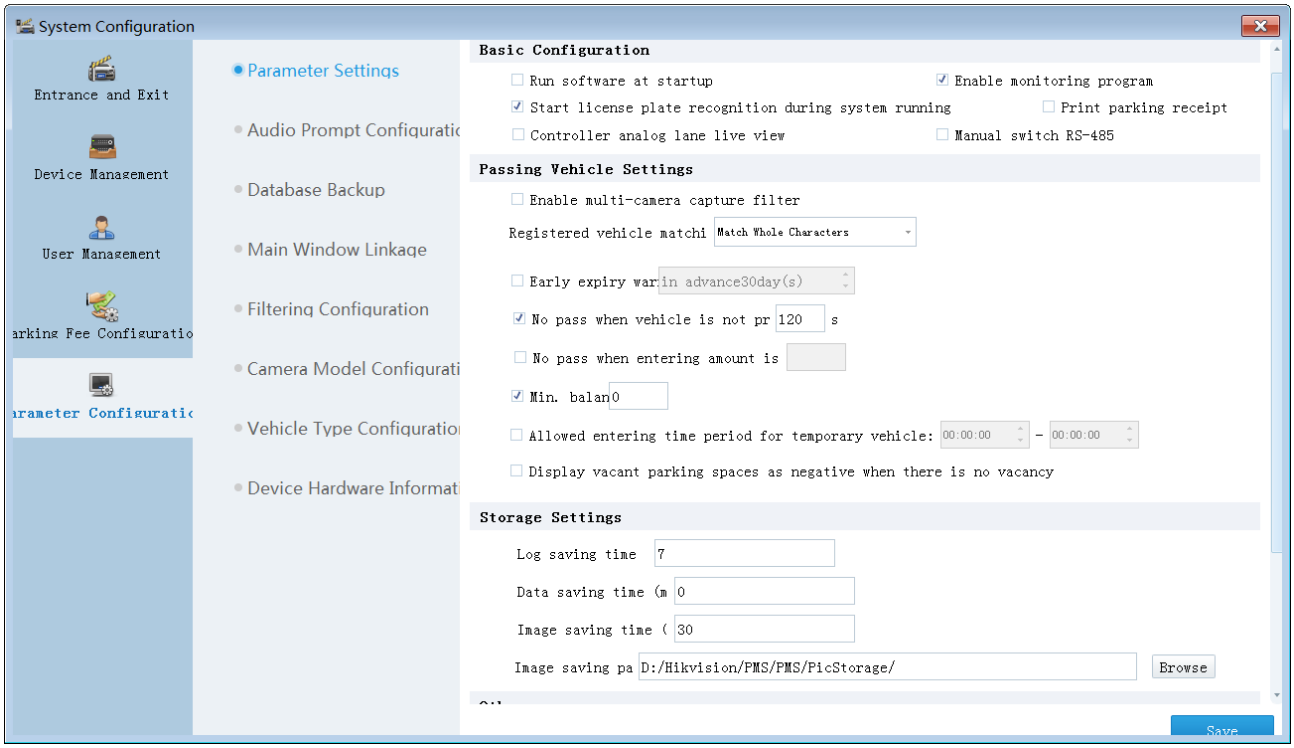


Figure 2-2 Parameter Configuration Interface

2.1.1 Parameter Settings

Basic Configuration

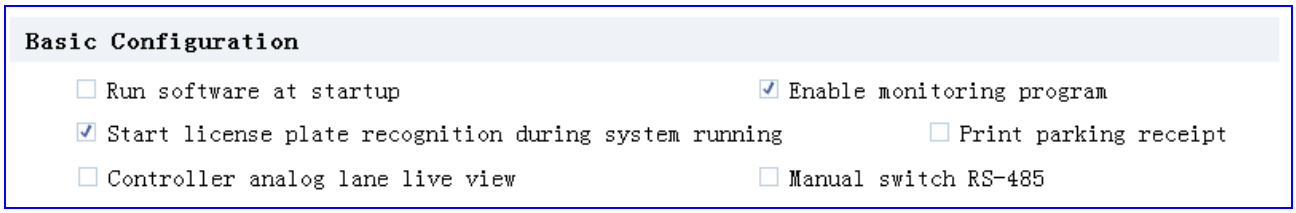


Figure 2-3 Basic Configuration

- **Run software at startup**: If the function is enabled, the software can run automatically when the terminal server starts.
- **Enable monitoring program**: If the function is enabled together with **Run software at startup**, when the software fails to respond due to exceptions, the computer can restart automatically and the software can run automatically after the restart.
- **Start license plate recognition during system running**: If the function is enabled, license plate recognition function can be enabled automatically when the software starts.
- **Print parking receipt**: If the function is enabled, the software can print parking receipt automatically after collecting parking fee (but you need to set the printer to the default one).

- **Enable live view of controller's analog lane**: If the function is enabled, you can view live video of network controller's analog channel at main interface.
- **Manual switch RS-485**: Compatible with Bluetooth card reader; both old and new hardware versions are supported.

Passing Vehicle Settings

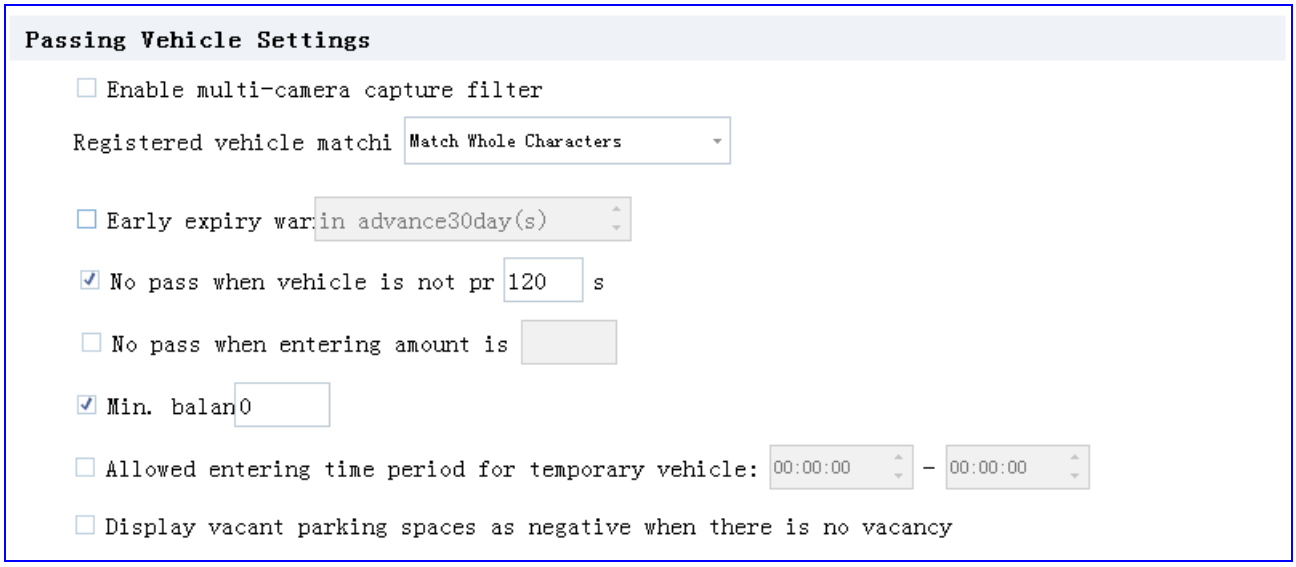


Figure 2-4 Passing Vehicle Settings

- **Enable multi-camera capture filter**: If the function is enabled and multiple cameras are linked to a lane, only the recognition result with the highest accuracy will be kept; if disabled, all recognition results will be kept. The function is not applicable to controller.
- **Registered vehicle matching rule**: Set rule for the system to tell registered vehicle based on characters on license plate. Matching by whole characters, five characters, four characters, and three characters are selectable.
- **Early expiry warning**: Set early warning for expiry of registered vehicle 0 to 365 days in advance can be set. The system will send the alarm through sound prompt, LED, or interface when a vehicle passes through.
- **No pass when vehicle is not processed in xxx s**: If the item is set, a vehicle will be forbidden to pass automatically when it is not processed in the set time.
- **No pass when entering amount is less than xxx**: If the item is set, a prepaid vehicle will be forbidden to enter when the balance in card is less that the set value at entrance.
- **Min. balance**: If the function is enabled, when the balance for a prepaid vehicle is less than the required amount at exit, prompt that payment failed will be broadcasted and the vehicle will be forbidden to pass.
- **Allowed entering time period for temporary vehicle**: Set the allowed entering time period for temporary vehicle to facilitate automatic management of temporary vehicles.

- **Display vacant parking spaces as negative when there is no vacancy**: If the function is enabled, the number of vacant parking spaces will be displayed as a negative figure when the parking lot is full.

Storage Settings

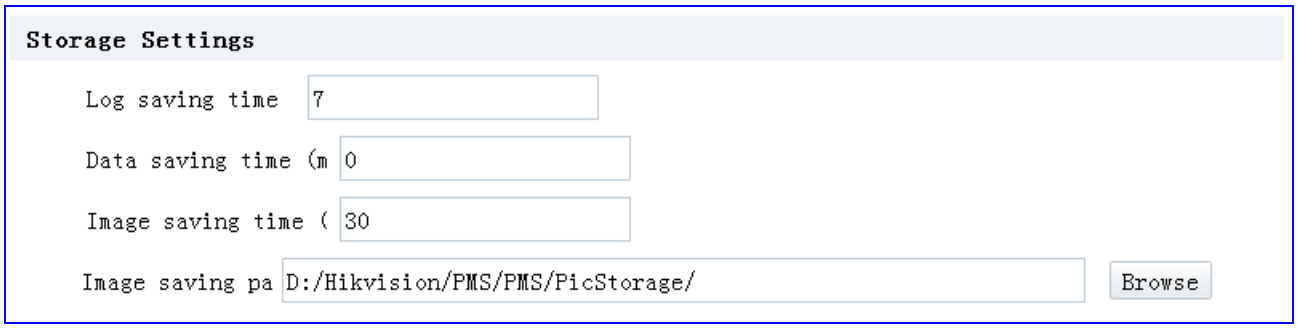


Figure 2-5 Storage Settings

- **Log saving time (day)**: Set the longest saving time of logs. The unit is day.
- **Data saving time (month)**: Set the longest saving time of data (including data of passing vehicle, passenger, duty shift, and parking fee). The unit is month.
- **Image saving time (day)**: Set the longest saving time of images. The unit is day.
- **Image saving path**: Set the saving path of image in local terminal server.

Others

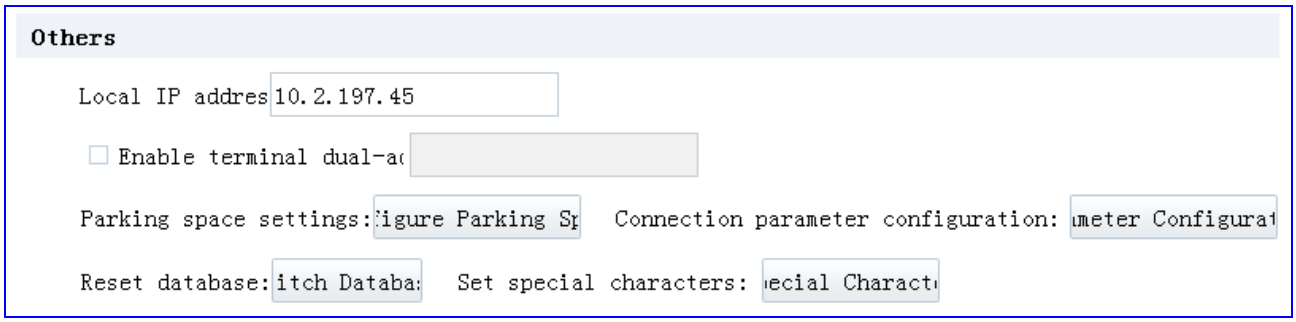


Figure 2-6 Other Configurations

- **Local IP address**: Enter the LAN NIC IP address of the PMS server.
- **Enable terminal dual-address**: Select and enter the external network NIC IP address of the PMS server if needed.
- **Parking space settings**: Click the button beside to set parking lot name, capacity, vacant parking spaces, and processing method when there is no vacancy in the main parking lot, enable subsidiary parking lot, and set the parameters for subsidiary parking lot.
- **Reset database**: Click the button beside to switch local database to remote database, or from remote database to local database.

- **Set special characters**: Click the button beside to add, edit, or delete special characters (for emergency vehicle, fire control vehicle, etc.). You can set entry & exit rules for vehicles with special characters at **Entrance and Exit** tab. When a vehicle has a special character in its license plate, and the corresponding passing rule is enabled, the vehicle can be passed automatically.

2.1.2 Audio Prompt Settings

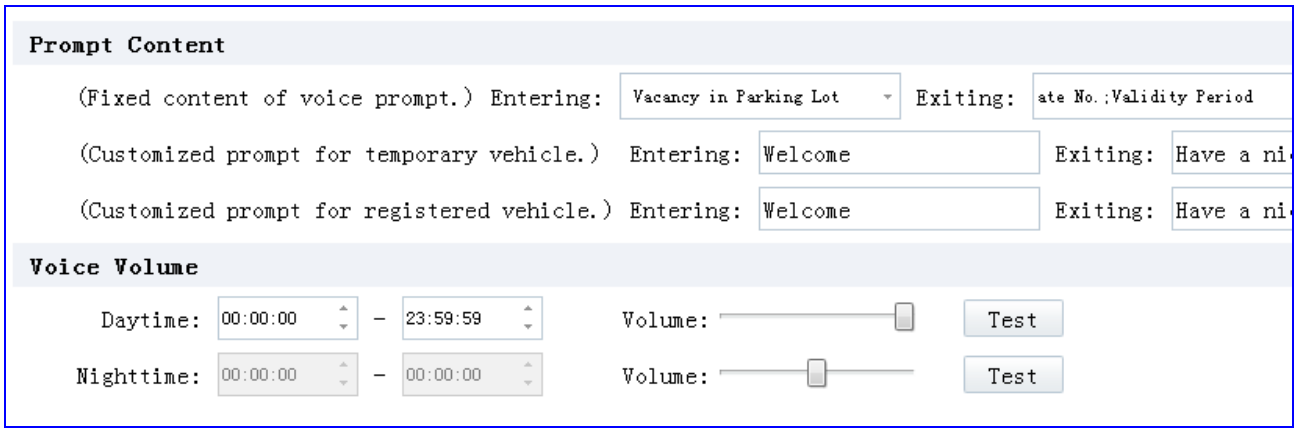


Figure 2-7 Audio Prompt Settings Interface

Prompt Content

- **Fixed content of voice prompt**: Configure fixed content for entrance and exit. License plate No. validity period, no vacancy for parking lot group, and no vacancy in parking lot are selectable. One or more items can be selected.
- **Customized prompt for temporary vehicle**: Customize voice prompt for temporary vehicles at entrance and exit. For example, you can set **Welcome** for entering and **Have a nice day** for exit.
- **Customized prompt for registered vehicle**: Customize voice prompt for registered vehicles at entrance and exit. For example, you can set **Welcome** for entering and **Have a nice day** for exit.

Voice Volume

Set volume of audio prompts at daytime and nighttime separately. Once set, the volume will be adjusted automatically in corresponding time periods. You can set the volume at nighttime lower to avoid disturbing residents.

2.1.3 Database Backup

To improve reliability of the PMS system, critical data can be backed up and restored according to the configured strategy. Critical data include whitelist and blacklist, payment configuration data, entrance & exit lanes, and device configuration data.

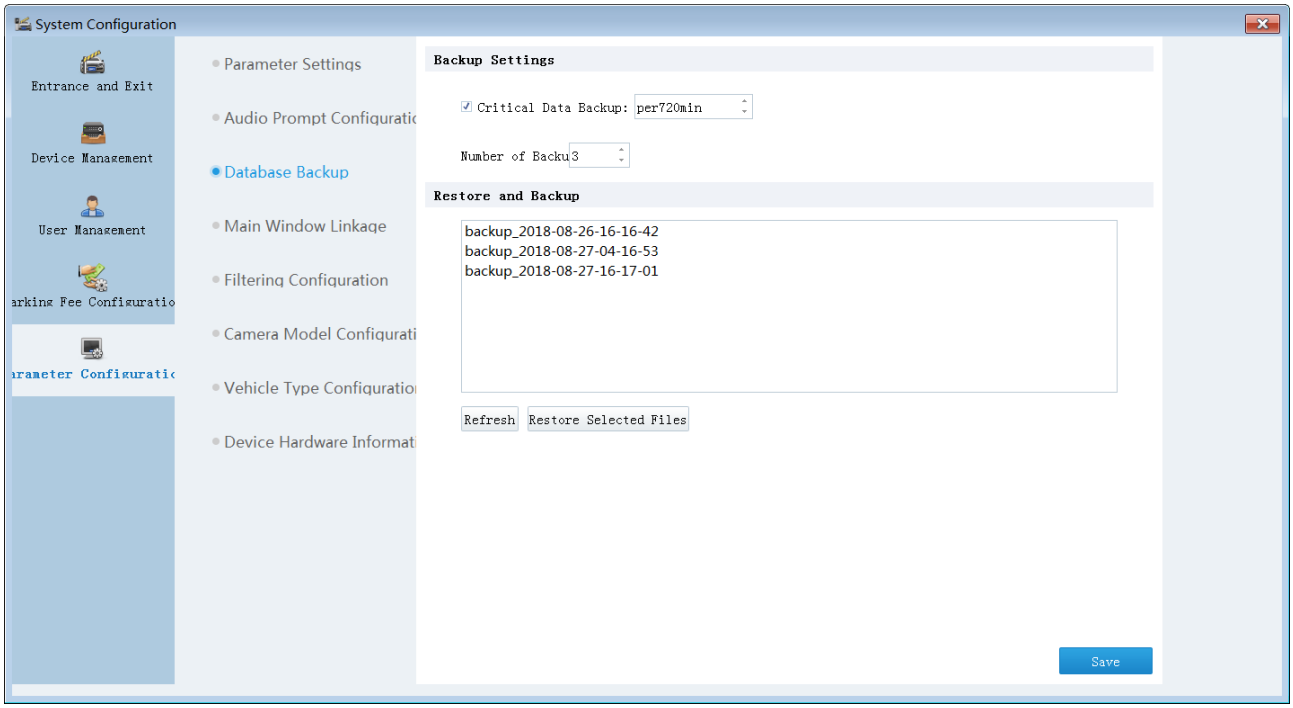


Figure 2-8 Database Backup Interface

Backup Settings

Set backup interval and number of backups, and the critical data will be backed up automatically according to the set strategies.

Restore and Backup

Select the required data in the list and click **Restore Selected Files** to restore.

2.1.4 Main Window Linkage

There are two windows at Vehicle Monitoring Interface. You can link specific lane to each window in this part.

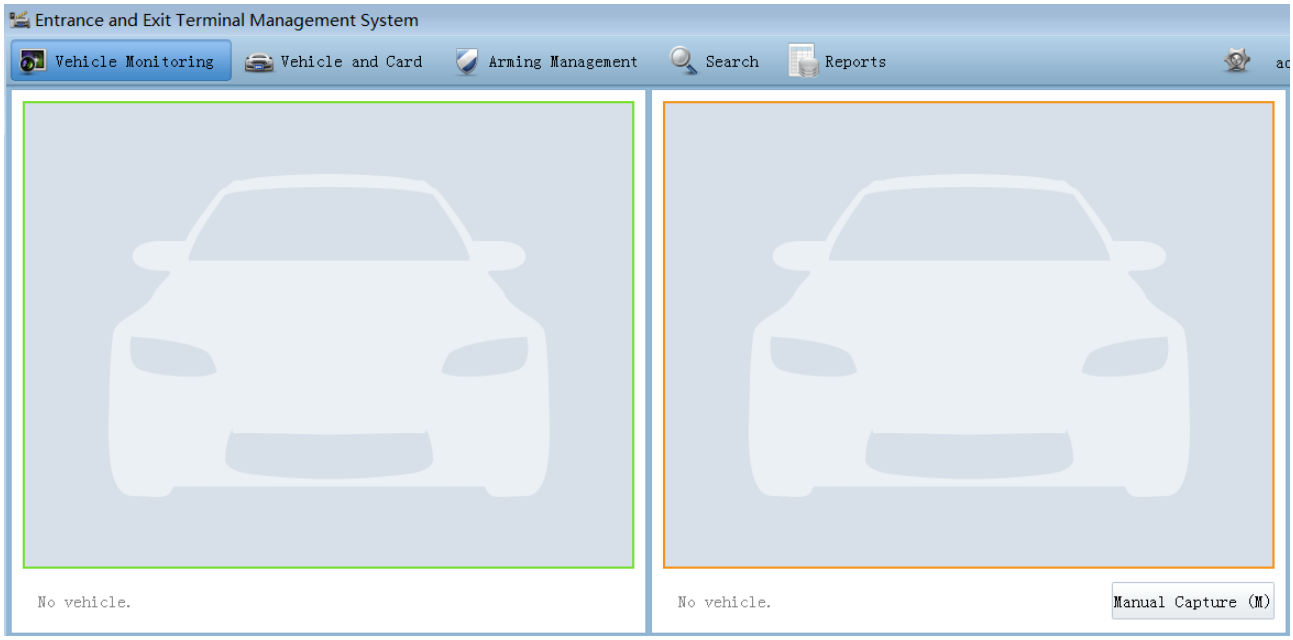


Figure 2-9 Main Window

Follow steps below to link lane to window.

Step 1 Check to select **Enable Window Linkage**.
Step 2 Select lane among the list below.
Step 3 Select **Display on Left Window** or **Display on Right Window** as needed.
Step 4 Click **Save** to complete linkage.

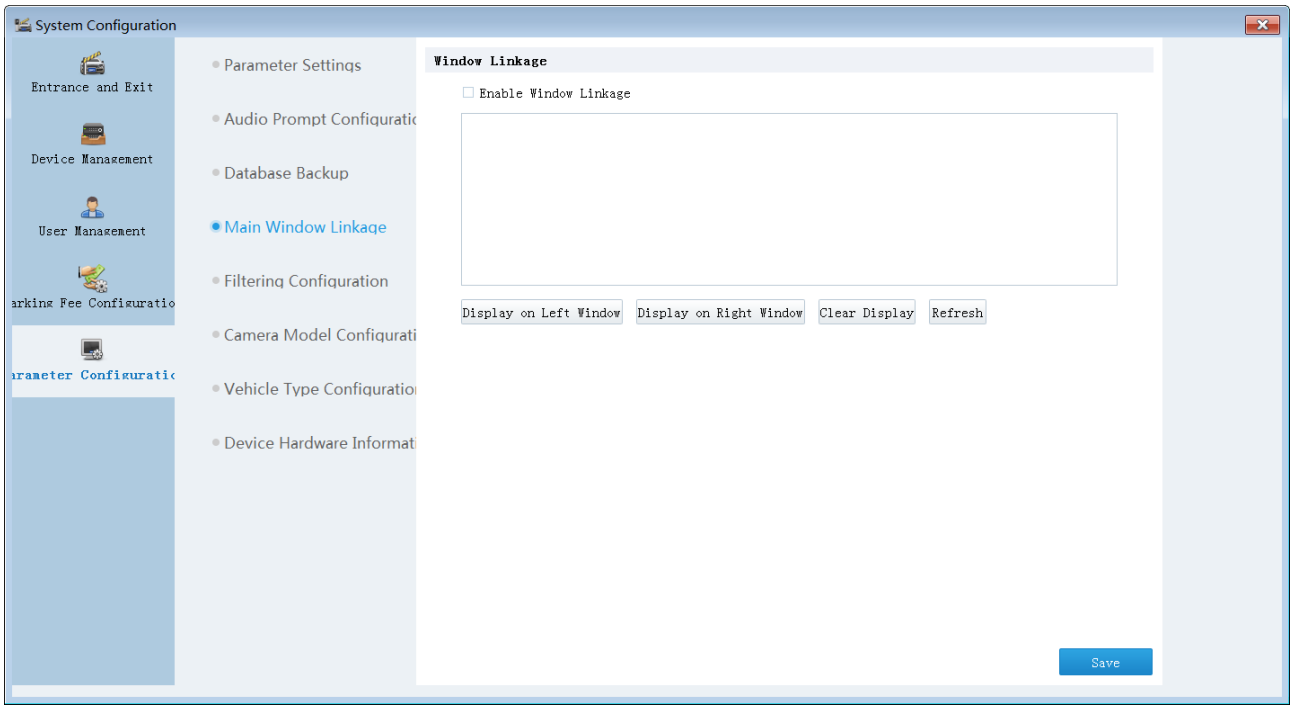


Figure 2-10 Main Window Linkage Interface

2.1.5 Filtering Configuration

You can set card mode filter and license plate filter in this part.

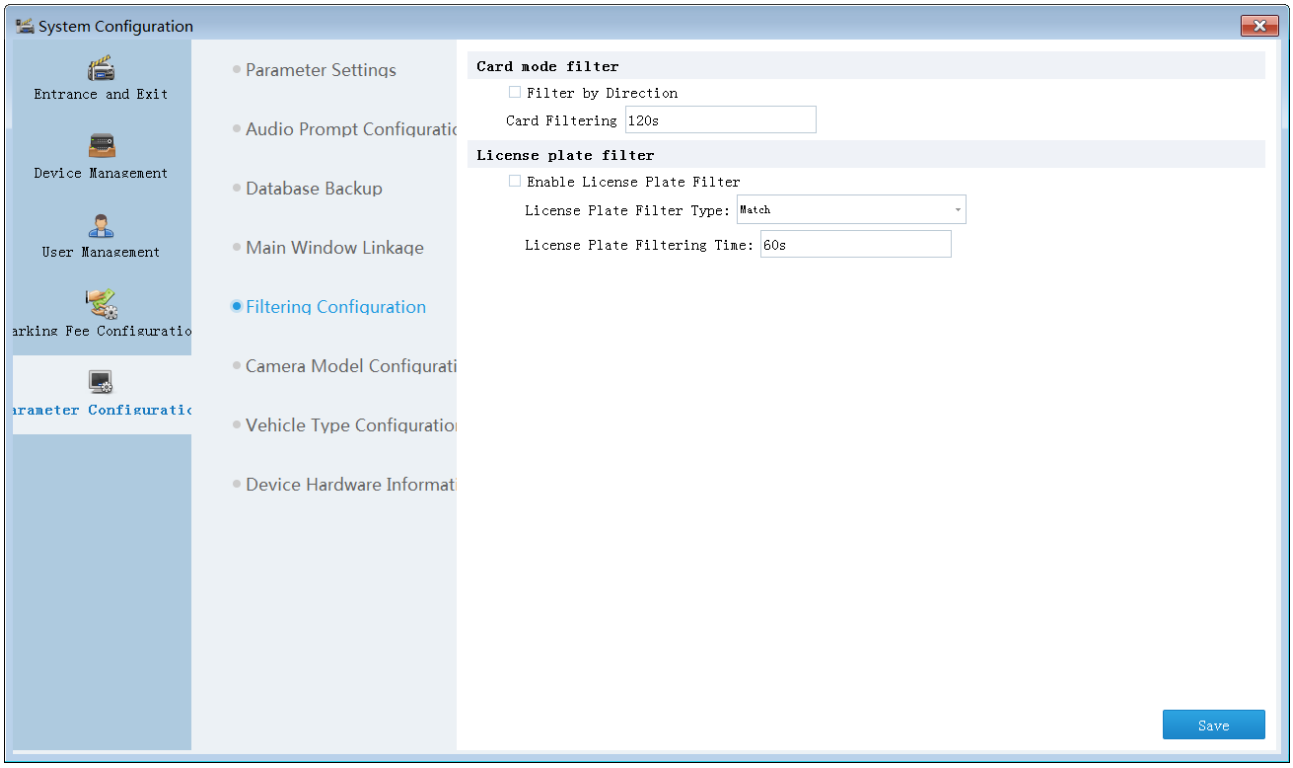


Figure 2-11 Filtering Configuration Interface

Card Mode Filter

This function is used to filter repeated card swiping information.

- **Filter by Direction**: If the function is enabled, only entering card swiping information will be filtered if the vehicle is entering, and only exiting card swiping information will be filtered if the vehicle is exiting.
- **Card Filtering Time**: If a card is swiped more than once during the set time period, only one record will be remained, and the repeated ones will be filtered automatically by the system.

License Plate Filter

This function is mainly applicable to the scenario when entrance and exit are the same and the two capture cameras are triggered by video. In this case, when a vehicle enters or exits a parking lot, both two cameras will be triggered to upload data. Therefore, filtering data of the same license plate is needed.

- **Enable License Plate Filter**: If the function is enabled, the repeated license plate data uploaded during the set filtering time period will be filtered automatically by the system. Only the first data will be stored in the database and displayed on the passing vehicle interface of the PMS.

- **License Plate Filter Type**: Set matching rule for license plate No. **Match** (full match), **1-Character Difference and Below**, **2-Character Difference and Below**, and 3-**Character Difference and Below** are selectable.
- **License Plate Filtering Time**: Set filtering time period of repeated license plate data.

2.1.6 Camera Model Configuration

You can manage light supplement capture unit model in this part. Click **Add** to enter camera model name in the pop-up window, click **Save**, and restart the system to save the configuration. It helps the system to automatically determine if the device can control barrier gate. You can also click **Delete** to delete the selected model.

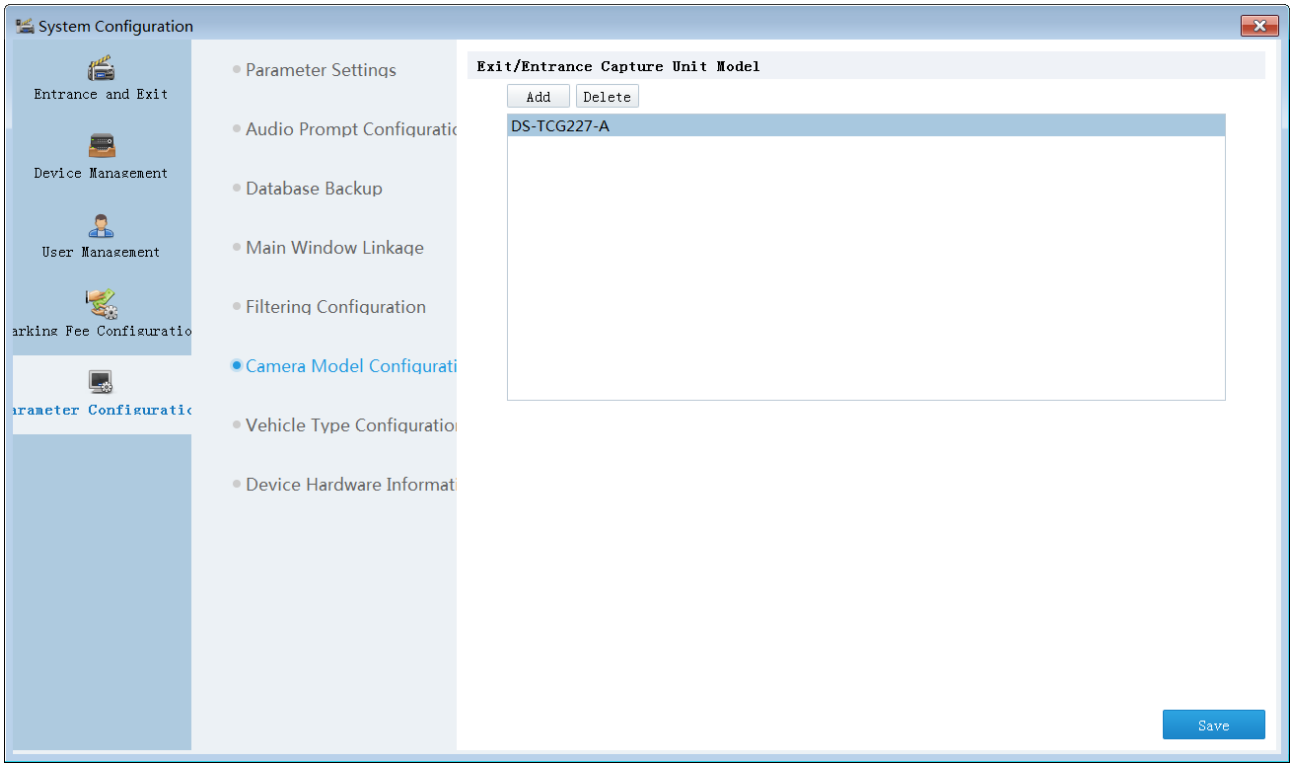


Figure 2-12 Camera Model Configuration Interface

2.1.7 Vehicle Type Configuration

You can manage vehicle type and parking type in this part. Click **Add** to enter vehicle/ parking type name in the pop-up window, click **Save**, and restart the system to save the configuration. You can also click **Delete** to delete the selected vehicle/parking type.

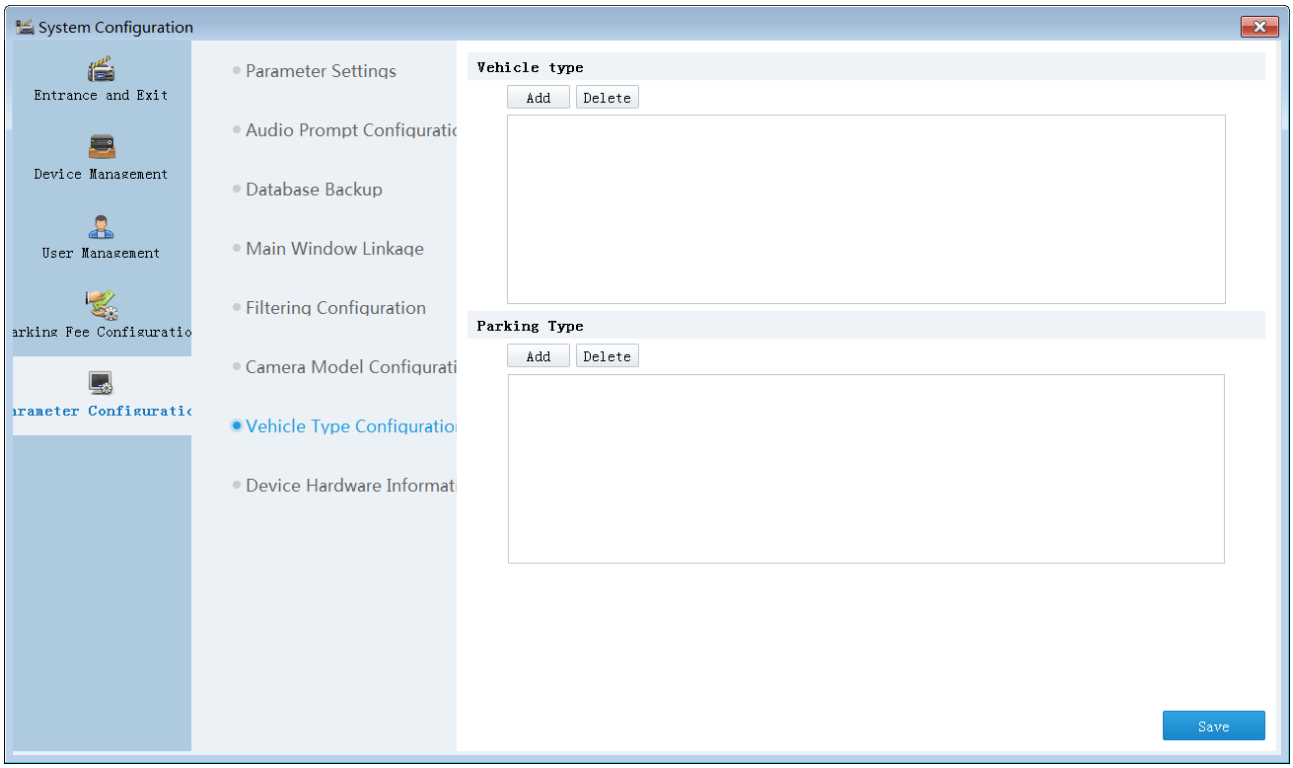


Figure 2-13 Vehicle Type Configuration Interface

2.2 Device Management

This module is mainly responsible for management of device information, including capture unit, barrier gate, display screen, entrance & exit station, card reader, and ticket scanner. You can click the buttons at the top of the interface to add, edit, delete, or apply corresponding device

information.

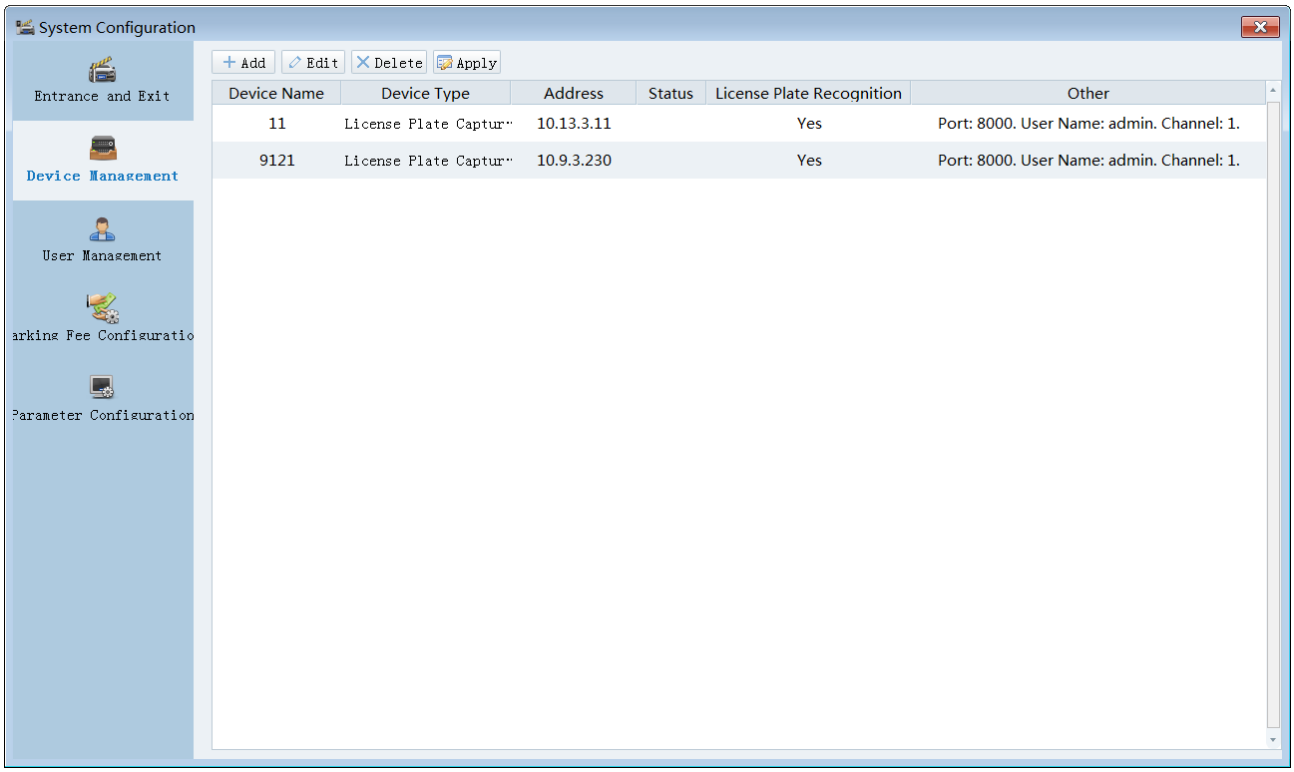


Figure 2-14 Device Management Interface

2.2.1 Add Capture Unit

Step 1 Click **Add** in **Device Management** interface, and select **Capture Unit** tab in the pop-up window.

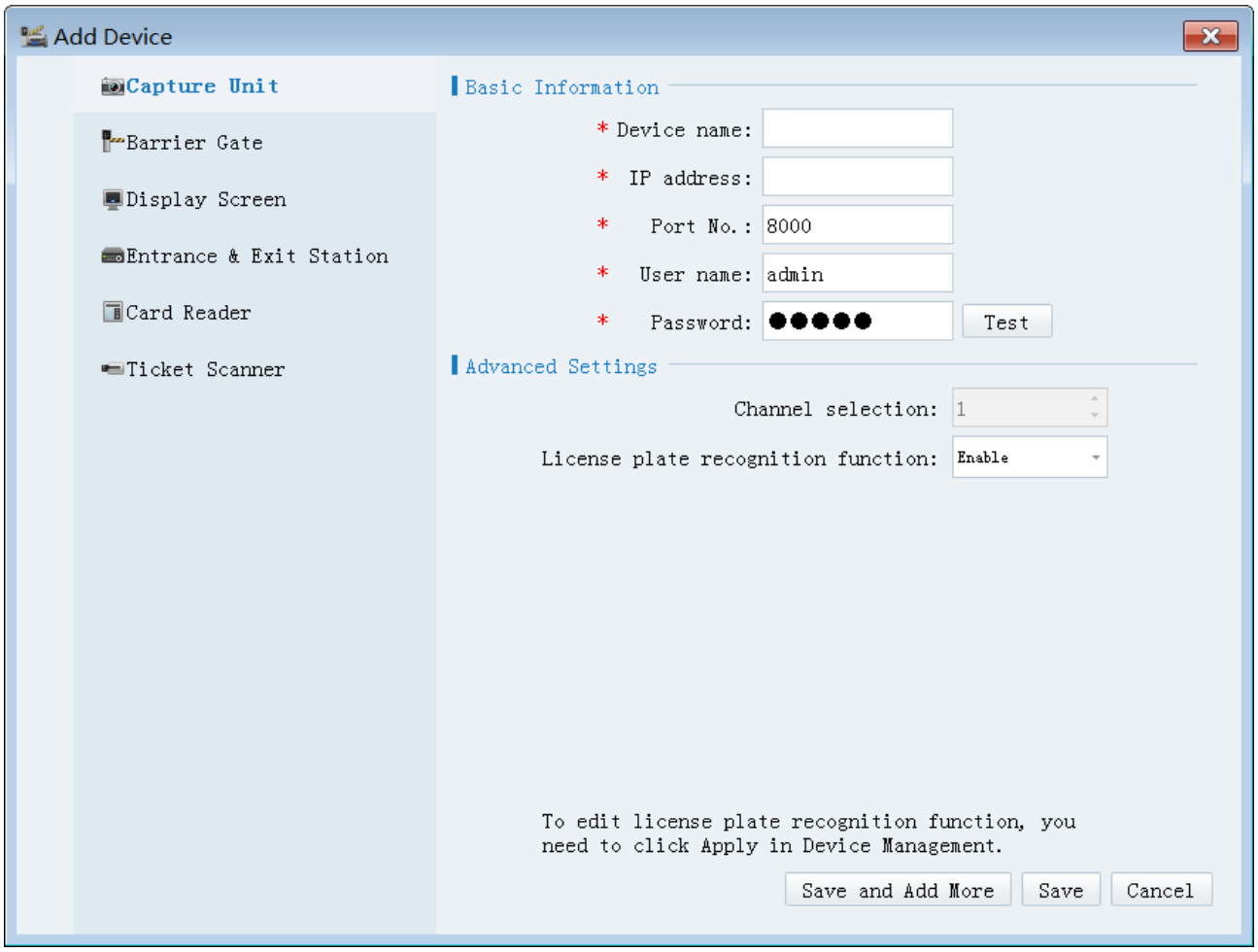


Figure 2-15 Capture Unit Tab

Step 2 Enter **Device name**, **IP address**, **Port No.**, **User name**, and **Password**. **License plate recognition function** is enabled by default.

Step 3 Click **Test**. The system will automatically detect camera type and edit channel selection parameter. If the system detects that the camera can control barrier gate, you can further select barrier control option (barrier gate can be controlled by PMS or by camera).

Step 4 Click **Save**.

2.2.2 Add Barrier Gate

Step 1 Click **Add** in **Device Management** interface, and select **Barrier Gate** tab in the pop-up window.

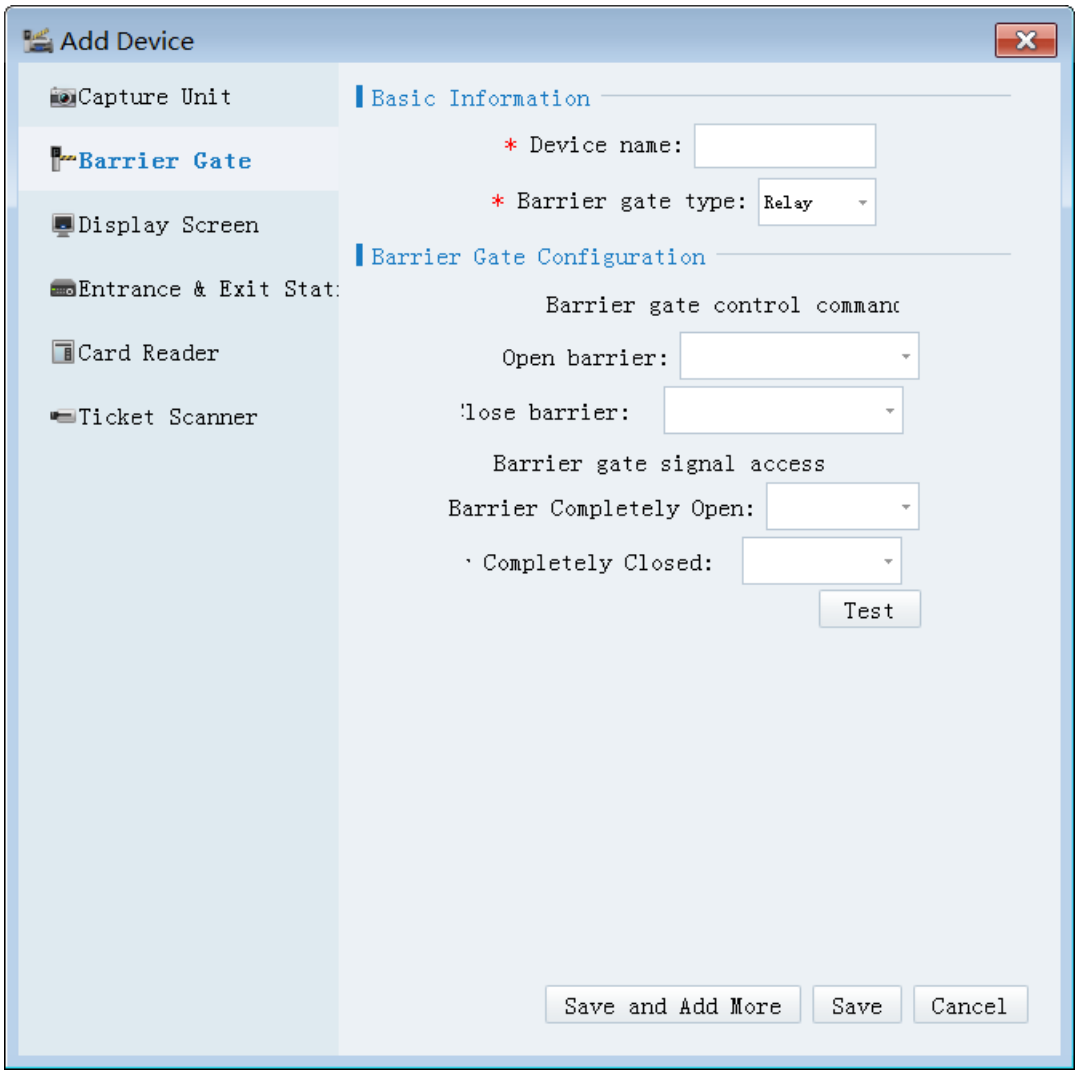


Figure 2-16 Capture Unit Tab

Step 2 Enter **Device name**. **Barrier gate type** is **Relay** by default.

Step 3 Select barrier gate control commands to open barrier and close barrier, which correspond to alarm outputs of terminal server. An alarm output supports max. 4 relay numbers for opening barrier, or 2 relay numbers for opening barrier and closing barrier respectively.

Step 4 Click **Test** to see if the device can be connected.

Step 5 Click **Save**.

2.2.3 Add Display Screen

Step 1 Click **Add** in **Device Management** interface, and select **Display Screen** tab in the pop-up window.

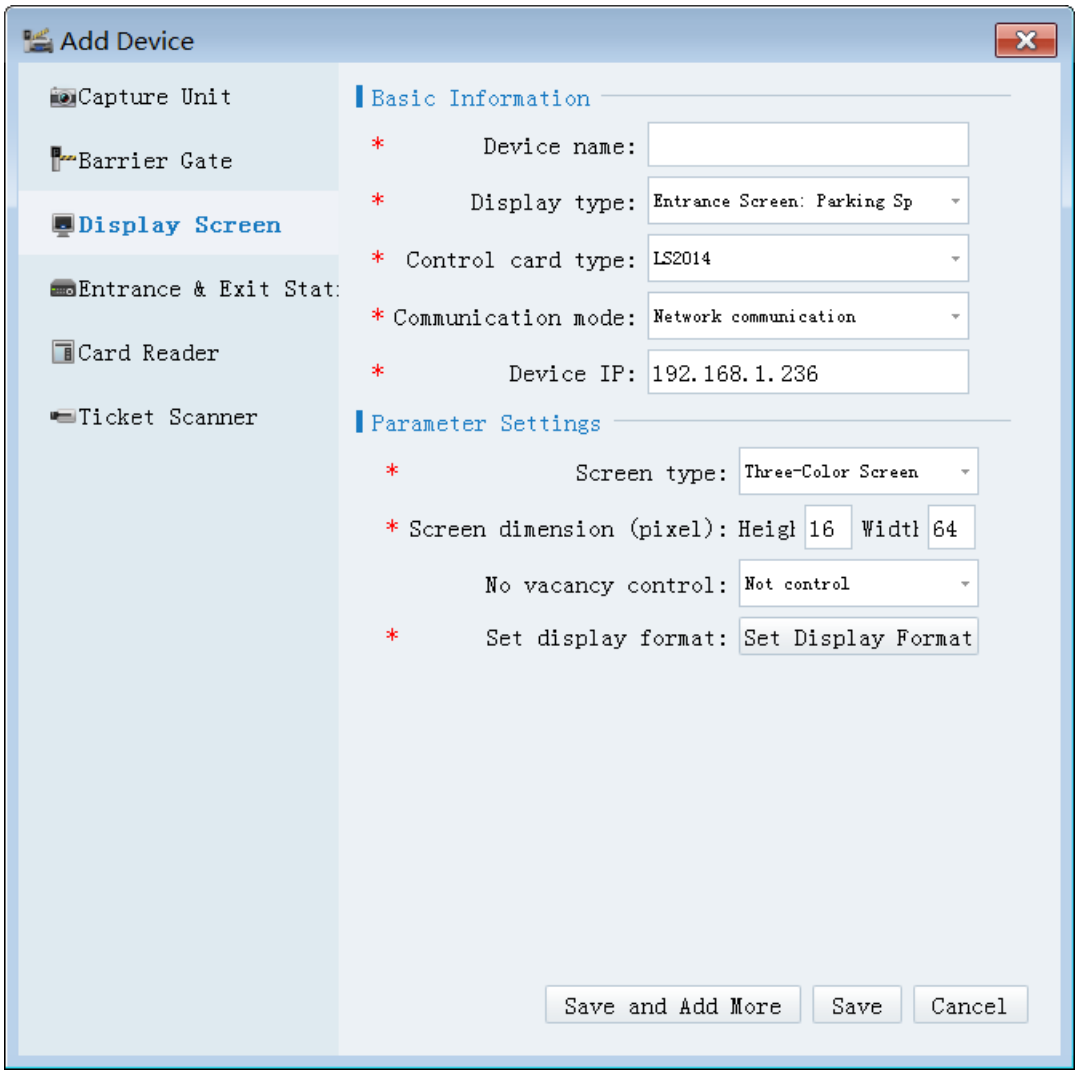


Figure 2-17 Display Screen Tab

Step 2 Enter the required parameters in **Basic Information**.

- **Device name**: Custom.
- **Display type**: **Entrance Screen: Parking Space**, **Entrance Screen: Prompt**, **Exit Screen: Parking Fee** are selectable.
- **Control card type**: Select the actual controlling card type.
- **Communication mode**: **Serial port communication** and **Network communication** are selectable. If the former is selected, you still need to set **Serial port No**. and **Control code**; if the latter is selected, you still need to set **Device IP**.

Step 3 Configure **Parameter Settings**.

- **Screen type**: Three-color screen by default.
- **Screen dimension**: Set height and width of the screen.
- **Display vacant parking spaces**: (This item does not appear when **Display type** is set to **Entrance Screen: Parking Space**.) Select **Yes** or **No** as needed.
- **No vacancy control**: (This item does not appear if **Display vacant parking spaces** is set to **No**.) **No control** and **Display no vacancy** are selectable. If the latter is selected, the screen will show that there is no vacancy no matter how many parking spaces are left.

- **Fixed content display**: (This item does not appear when **Display type** is set to **Entrance Screen: Parking Space**.) Select to enable the function, and click the button beside to set fixed content and display format in the pop-up window. You can click **Add** to set display content and click **OK** to save the settings. Selectable fixed information (multiple choice) include **System Date**, **System Week**, and **System Time**; selectable font colors include **Red**, **Yellow**, and **Green**; selectable font sizes include **16*16** and **32*32**.

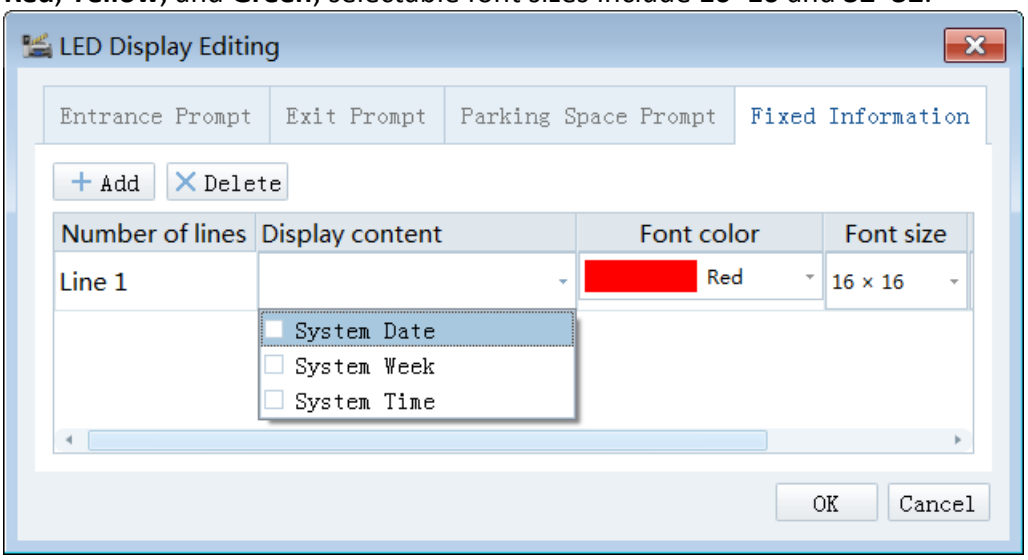


Figure 2-18 Fixed Information Tab

- **Set display format**: Click the button beside to set display contents and format in the pop-up window.
  If **Display type** is set to **Entrance Screen: Parking Space**, **Parking Space Prompt** tab will be effective. Selectable display contents in this tab include **Capacity**, **Current Parking Space** and **Standard Parking Space**.

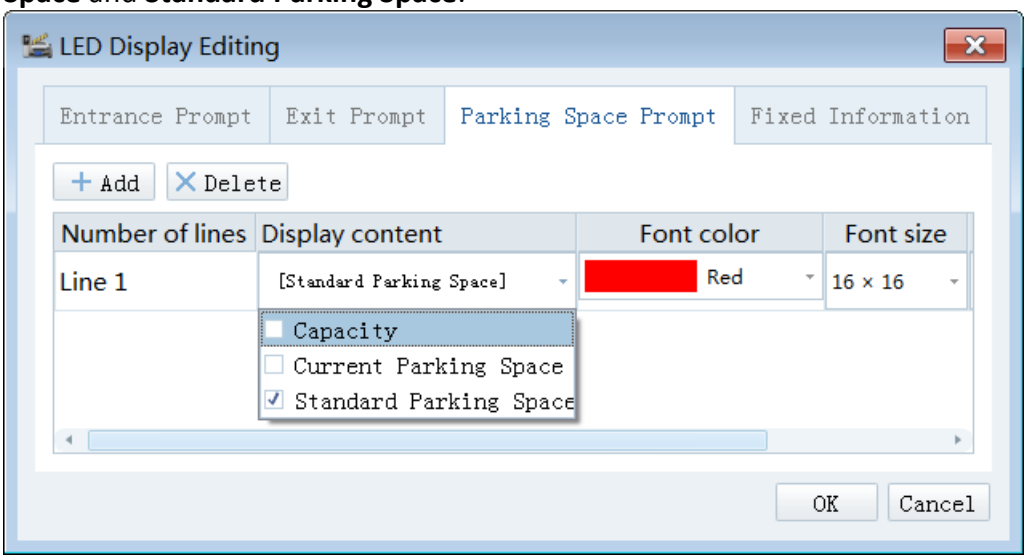


Figure 2-19 Parking Space Prompt Tab

If **Display type** is **Entrance Screen: Prompt**, **Entrance Prompt** tab will be effective. Selectable display contents at this tab include **License Plate No.**, **Card No.**, **Vehicle Type**,

Parking Type, **Entry Date**, **Entry Time**, **Validity Period**, **Vacant Parking Spaces**, **Group Full Prompt**, and **Custom Prompt**.

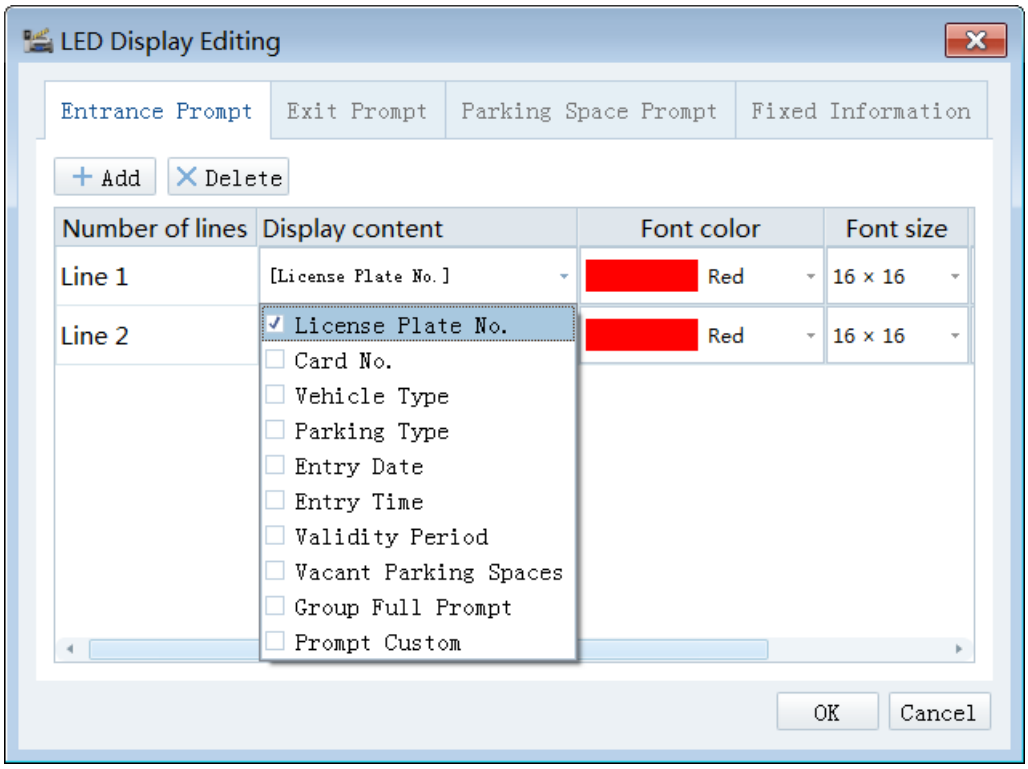


Figure 2-20 Entrance Prompt Tab

If **Display type** is **Exit Screen: Parking Fee**, Exit Prompt tab will be effective. Selectable display contents at this tab include **License Plate No.**, **Card No.**, **Amount**, **Parking Duration**, **Vehicle Type**, **Parking Type**, **Exit Date**, **Exit Time**, **Entry Date**, **Entry Time**, **Validity Period**, and **Custom Prompt**.

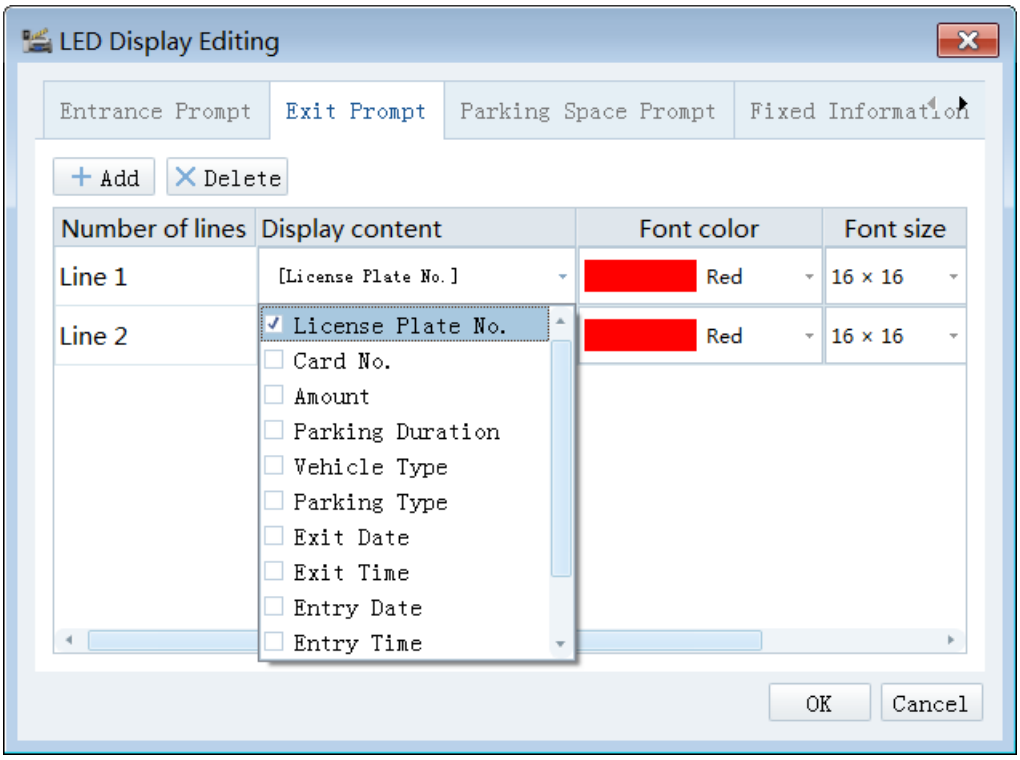


Figure 2-21 Exit Prompt Tab

Step 4 Click **Save**. The added LED screen information will be displayed in device management list.

NOTE

Before adding a LED, you need to connect to the device through LED demo and configure the LED parameters. Otherwise, communication between the software and the LED will fail.

2.2.4 Add Entrance & Exit Station

Step 1 Click **Add** in **Device Management** interface, and select **Entrance & Exit Station** tab in the pop-up window.

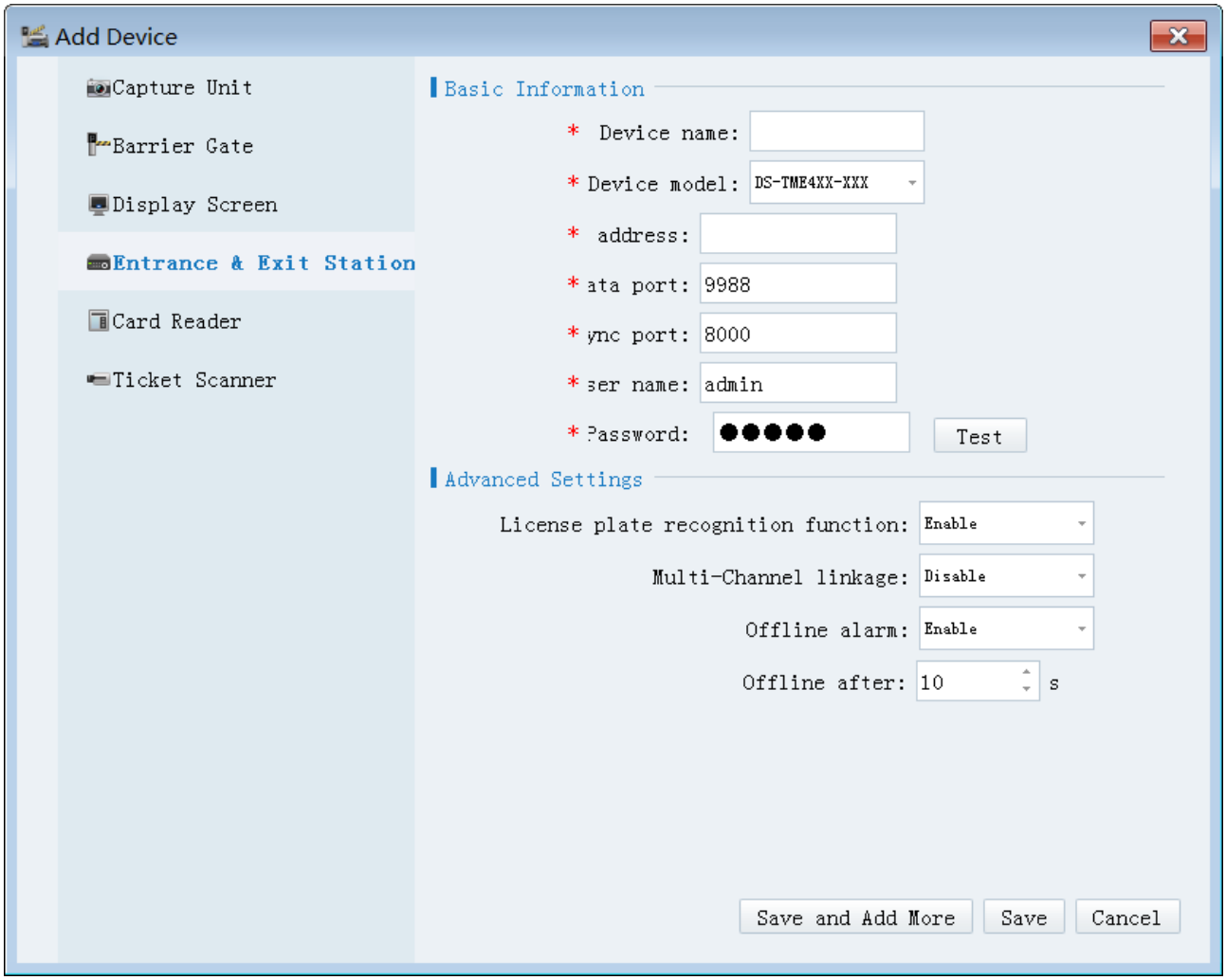


Figure 2-22 Entrance & Exit Station Tab

Step 2 Enter the required parameters in **Basic Information**, including **Device name**, **IP address**, **Data port**, **Sync port**, **User name** and **Password**. **Device model** is **DS-TME4XX-XXX** by default.

Step 3 Keep the default settings of **Advanced Settings**.

Step 4 Click **Test** to see if the controller is connected to the system. If the test succeeds, it means that the device is connected.

Step 5 Click **Save**.

2.2.5 Add Card Reader

Option 1 (Add close range card reader):

Step 1 Click **Add** in **Device Management** interface, and select **Card Reader** tab in the pop-up window.

Step 2 Enter **Device name**, set **Card reader type** to **Close range card reader (D8E)**, and enter **User name** and **Password**.

Step 3 Check to select **Enable card issuing** as needed. If enabled, the card reader will be used for card issuing.

Step 4 Click **Test** to see if the card reader is connected with the system. If the test succeeds, it means that the device is connected.

Step 5 Click **Save**.

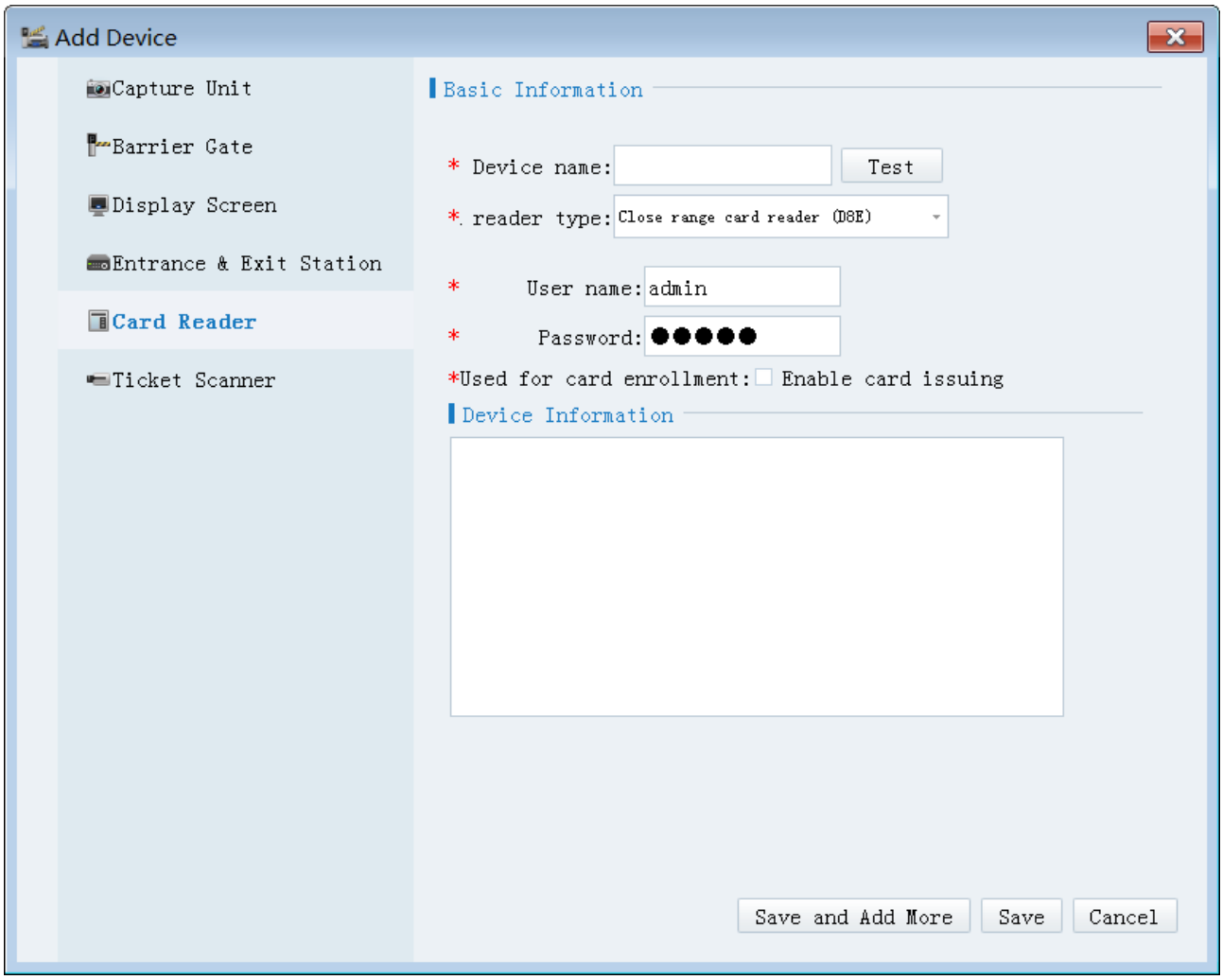


Figure 2-23 Add Close Range Card Reader

Option 2 (Add Bluetooth card reader):

Step 1 Click **Add** in **Device Management** interface, and select **Card Reader** tab in the pop-up window.

Step 2 Enter **Device name**, set **Card reader type** to **Bluetooth card reader**, and enter **Serial port No.** and **Device address code**.

Serial port No.: Enter 4 if the Bluetooth card reader is connected to the interface RS485_1 of the hardware TPE104; enter 5 if connected to RS485_2.

Device address code.: Enter the dial-up ID value of the Bluetooth card reader. If the TPE104 is connected to multiple Bluetooth card readers, all IDs should be entered.

Step 3 Click **Test** to see if the card reader is connected with the system. If the test succeeds, it means that the device is connected.

Step 4 Click **Save**.

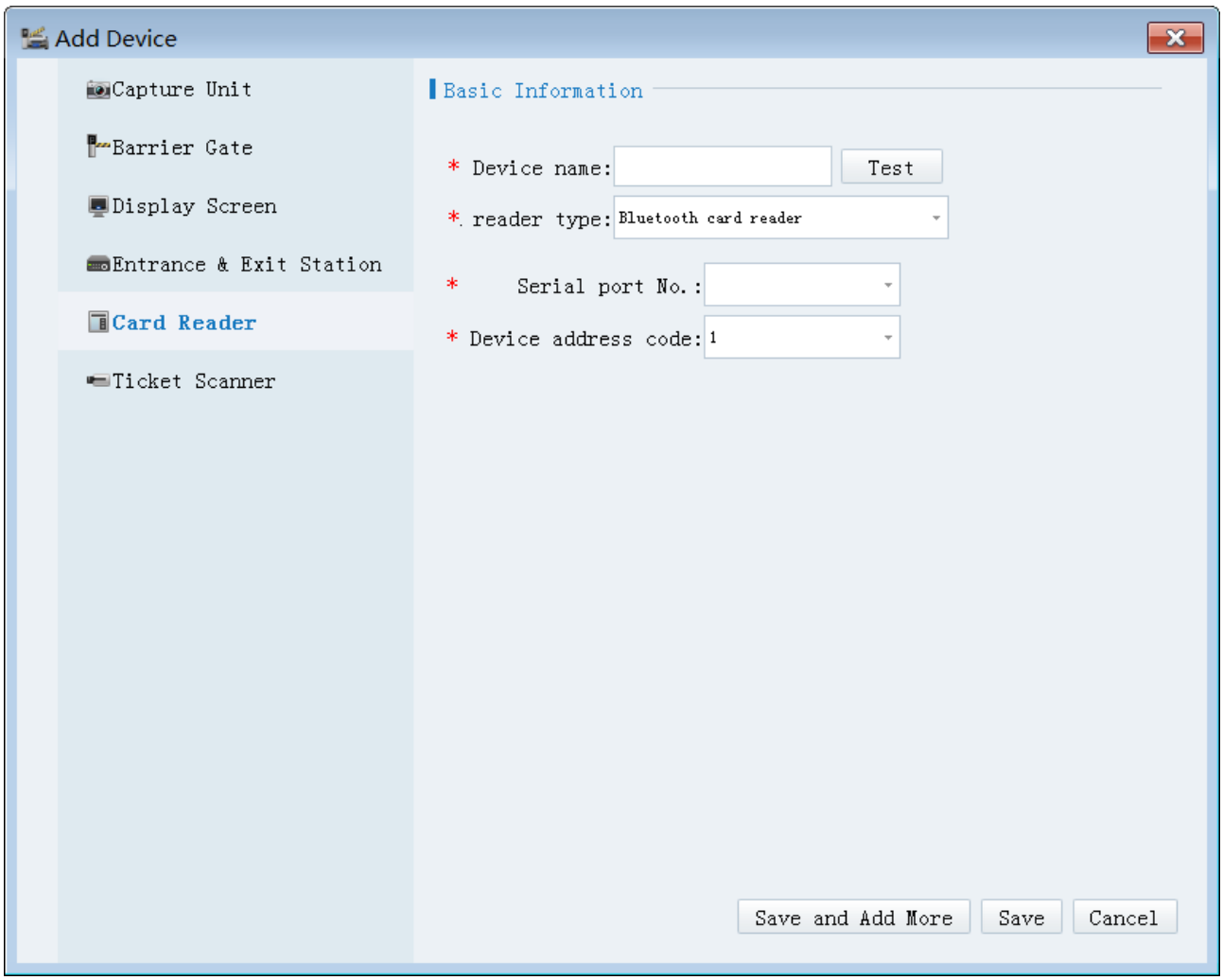


Figure 2-24 Add Bluetooth Card Reader

2.2.6 Add Ticket Scanner

Step 1 Click **Add** in **Device Management** interface, and select **Ticket Scanner** tab in the pop-up window.

Step 2 Enter **Device name**, select **Device type**, enter **Baud rate**, and enter **Serial port No.** Selectable device types include **Admission Ticket Barcode Scanner** and **QR Code Scanner**.

Step 3 Click **Test** to see if the ticket scanner is connected with the system. If the test succeeds, it means that the device is connected.

Step 4 Click **Save**.

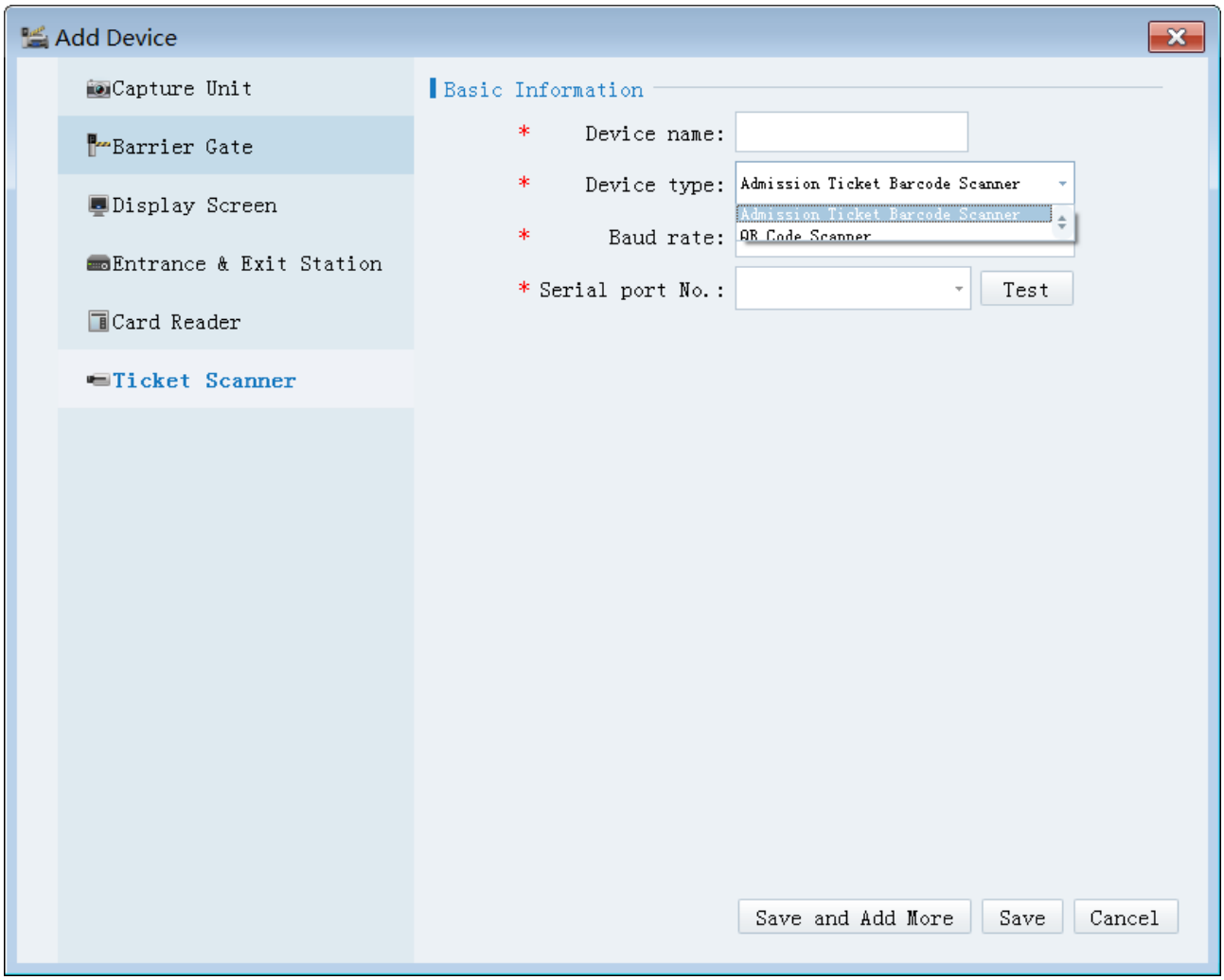


Figure 2-25 Ticket Scanner Tab

2.3 Entrance and Exit

You can configure entrance and exit parameters at **System Configuration** > **Entrance and Exit**. This module allows you to set entrance & exit name, configure vehicle entry & exit rules, and link devices to specific entrance & exit.

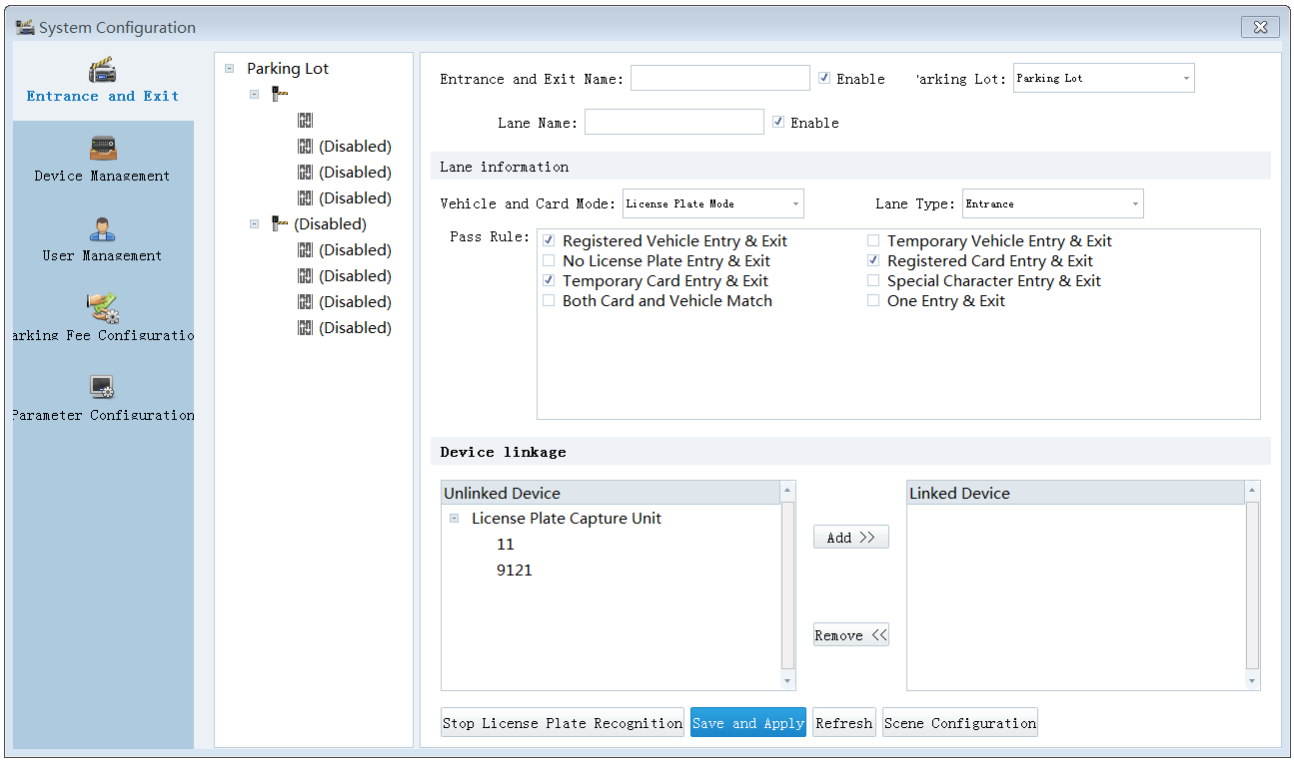


Figure 2-26 Entrance and Exit Configuration Interface

2.3.1 Add Entrance and Exit

Step 1 Select a barrier gate icon in the parking lot tree on the left side of the interface.
Step 2 Check to select **Enable** at the top of the interface to enable the entrance and exit.
Step 3 Enter **Entrance and Exit Name**, and select **Parking Lot** to which the entrance and exit belongs.
Step 4 Check to select **Enable** below to enter **Lane Name**.
Step 5 Select **Vehicle and Card Model** (**License Plate Mode** and **Card Mode** are selectable), **Lane Type** (**Entry**, **Exit-Free**, **Exit-Pay** are selectable), and **Entry & Exit Rule** (multiple choice).
Step 6 Select device in **Unlinked Device** list as needed, and click **Add >>** to link the device.
Step 7 Click **Stop License Plate Recognition**, click **Save and Apply**, and click **Start License Plate Recognition** to complete the configuration.

Settings for typical application scenarios are described below.

License Plate Mode

Settings for typical scenes in license plate mode include:

- Free parking; one entry & exit: Select **One Entry & Exit** and other rules (such as such as **Registered Vehicle Entry & Exit** and **Temporary Vehicle Entry & Exit**) as needed. In this case, vehicles meeting the set rules cannot enter/exit more than once.
- Free parking; vehicle and card match: Select **Both Vehicle and Card Match**. In this case, if a driver has obtained or swiped a card at entrance, the license plate No. and the No. on the card must be the same for the vehicle to exit.

- Free parking; registered card entry & exit: Select **Registered Vehicle Entry & Exit** or **Registered Card Entry & Exit**. In this case, only vehicles with registered card or license plate No. can exit.
- Free parking; entry & exit for all vehicles: Select **Registered Vehicle Entry & Exit**, **Temporary Vehicle Entry & Exit**, and **No License Plate Entry & Exit**. In this case, all vehicles can entry and exit the parking lot.
- Free parking; auto entry & exit for vehicles with special characters: (To enable this function, you need to set special characters at **System Configuration > Parameter Settings > Others** first) Select **Special Character Entry & Exit**, and **Free Entry & Exit for Vehicle with Special Characters** (shown in the pass rules when **Lane Type** is set to **Exit-Free**). In this case, if a set special character is detected in the license plate, the vehicle can exit free.
- Parking fee required: Set Lane Type to Exit-Pay, and select the auto entry & exit rules, such as Auto Entry & Exit for Free Registered Vehicle, Auto Entry & Exit for Free Temporary Vehicle, Prepaid Card Auto-Deduction, etc. When the selected auto entry & exit rules are met, the vehicles can exit free. Otherwise, manual confirmation and parking fee collection are required.

Card Mode

Settings for typical scenes in card mode include:

- One entry & exit: select **One Entry & Exit** and other rules as needed (such as **Registered Card Entry & Exit** and **Temporary Card Entry & Exit**). In this case, vehicles meeting the set rules cannot enter/exit more than once.
- Vehicle and card match: Select **Both Vehicle and Card Match**. In this case, if a driver has obtained or swiped a card at entrance, the license plate No. and the No. on entry card must be the same for the vehicle to exit.
- Registered card entry & exit: Select **Registered Card Entry & Exit**. In this case, only vehicles with registered card can exit.
- Entry & exit for all vehicles: Select **Registered Card Entry & Exit**, **Temporary Card Entry & Exit**, and **Other Card Entry & Exit**. In this case, all vehicles can entry and exit the parking lot.
- Entry record is needed for exiting: Set **Lane Type** to **Exit-Free**, and select **Exiting Allowed Only When Entry Record Found**. In this case, a vehicle cannot exit if there is no entry record of the vehicle in the system.
- Parking fee required: Set Lane Type to Exit-Pay, and select the auto entry & exit rules, such as Auto Entry & Exit for Free Registered Vehicle, Auto Entry & Exit for Free Temporary Vehicle, Prepaid Card Auto-Deduction, etc. When the selected auto entry & exit rules are met, the vehicles can exit free. Otherwise, manual confirmation and parking fee collection are required.

2.4 Parking Fee Configuration

You can configure parking fee rule, discount rule, vehicle and card category, parking pass rule, card cost and exceptional entry & exit rule, and manage discount in this module.

2.4.1 Parking Fee Rule

Step 1 Select **System Configuration** > **Parking Fee Configuration > Parking Fee Rule** to enter the interface.

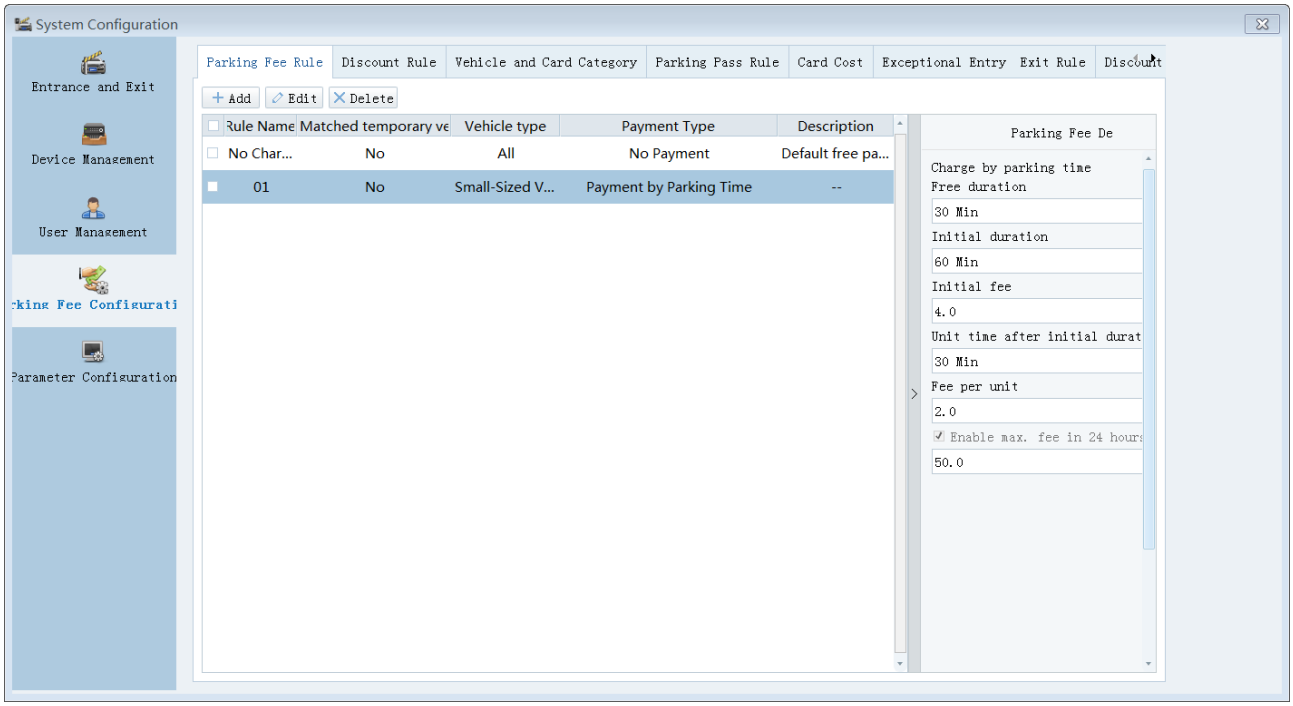


Figure 2-27 Parking Fee Rule Tab

Step 2 Click **Add** to enter the configuration interface.

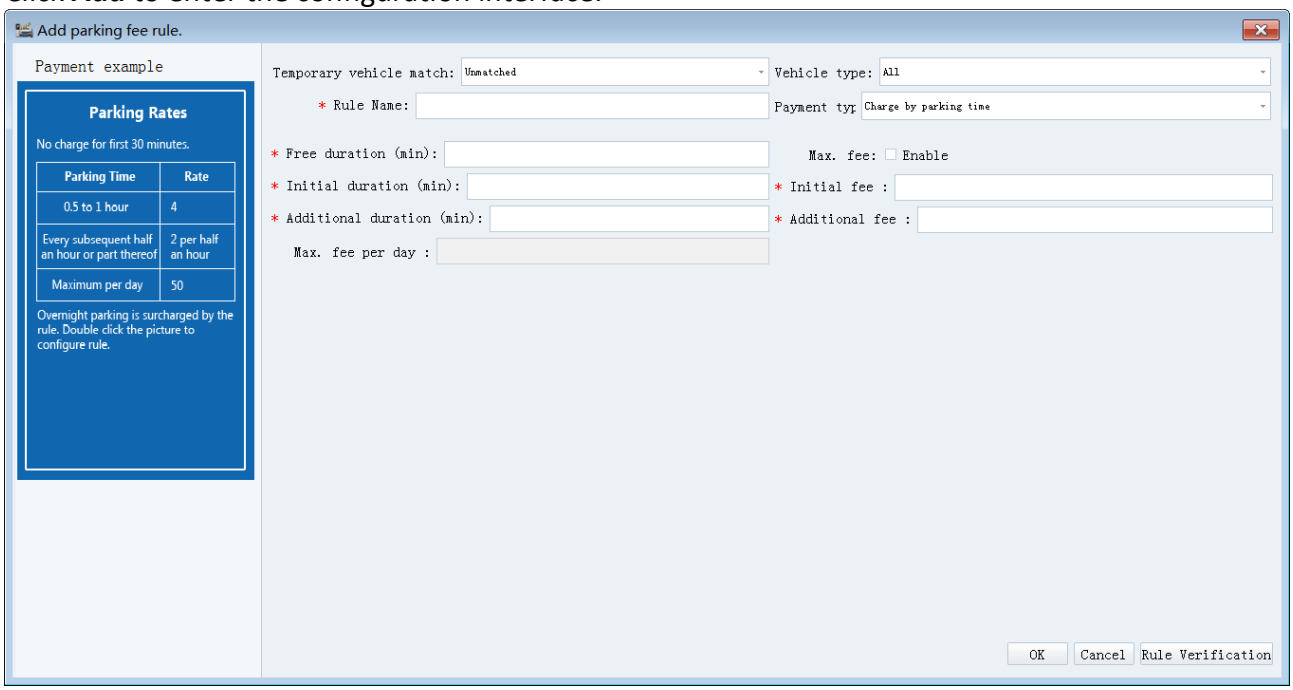


Figure 2-28 Add Parking Fee Rule

Step 3 Set the required parameters.

- **Temporary vehicle match**: Select whether to apply the rule to temporary vehicle.
- **Vehicle type**: **All**, **Large-sized Vehicle**, **Small-Sized Vehicle**, and **Other** are selectable.
- **Rule name**: Custom.
- **Payment type**: **No payment**, **Charge by parking time**, **Charge by parking sessions**, **Charge by parking time periods**, **Charge by time periods**, **Charge by time and sessions in daytime and night time**, and **Charge by unit time** are selectable (refer to the payment example on the left side of the interface for details).

Step 4 Refer to the payment example shown on the left side of the interface to set parking fee rules, or double-click the figure to set the rule automatically.

Step 5 Click **Rule Verification** to test if the rule is correct.

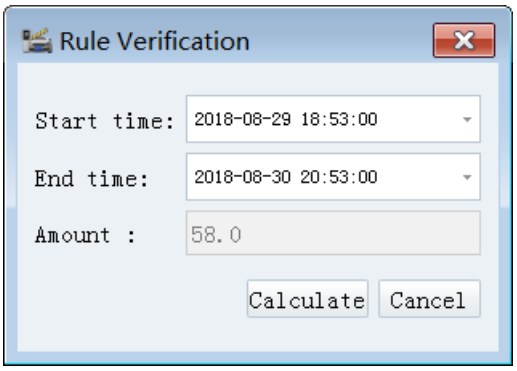


Figure 2-29 Rule Verification

Step 6 Click **OK** to save the configuration. The added rule will be displayed in **Parking Fee Rule** tab.

2.4.2 Discount Rule

Step 1 Select **System Configuration** > **Parking Fee Configuration > Discount Rule** to enter the interface.

Step 2 Click **Add** to enter the configuration interface.

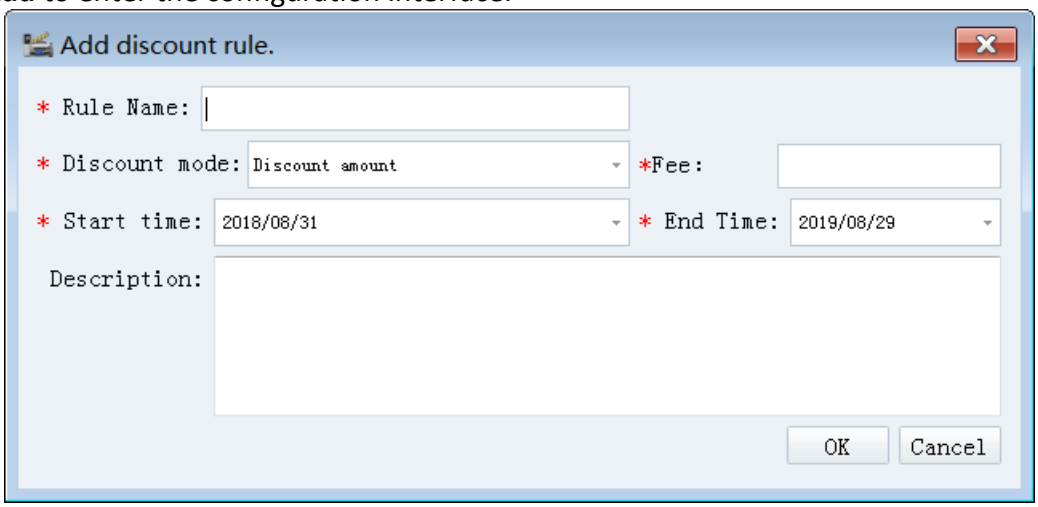


Figure 2-30 Add Discount Rule

Step 3 Set the required parameters.

- **Rule name**: Custom.

- **Discount mode**: **Discount amount** (a certain amount of parking fee can be reduced), **Discount rate** (the parking fee can be reduced at certain rate), **Free** (no parking fee is needed), **Count discount from entering time** (a certain period counted from the entering time can be free of charge), and **Count discount from exiting time** (a certain period counted form the exiting time can be free of charge) are selectable.
- **Start time/End time**: Set time period to apply the rule.
- **Description**: (Optional) enter remarks for the rule.

Step 4 Click **OK** to save the configuration. The added rule will be displayed in **Discount Rule** tab.

2.4.3 Vehicle and Card Category

You can configure different parking fee rules for specific vehicle and card categories.

Step 1 Select **System Configuration** > **Parking Fee Configuration > Vehicle and Card Category** to enter the interface.

Step 2 Click **Add** to enter the configuration interface.

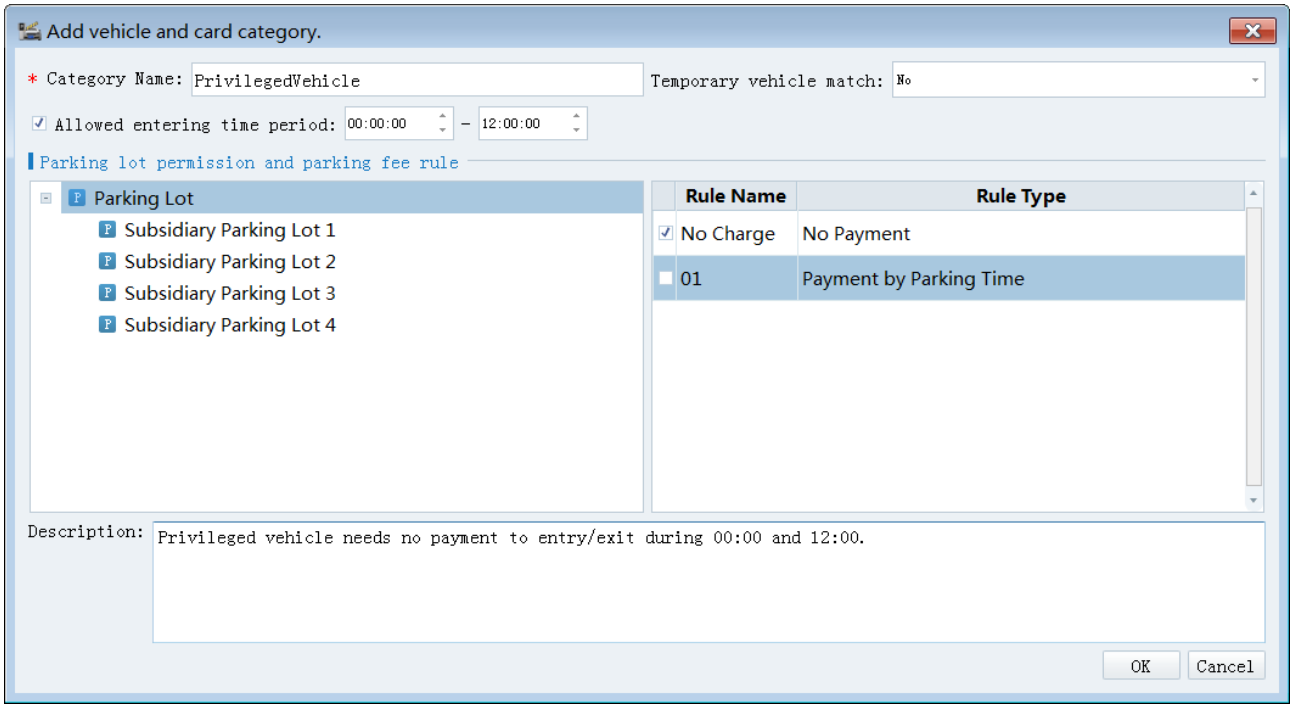


Figure 2-31 Add Vehicle and Card Category

Step 3 Enter **Category Name**, select **Temporary vehicle match** as needed, and set **Allowed entering time period**.

Step 4 Select parking lot and corresponding parking fee rule.

Step 5 (Optional) Enter description if needed.

Step 6 Click **OK**. The added category will show in **Vehicle and Card Category** interface.

NOTE

You can select the configured card category when adding vehicle and card information at Vehicle and Card interface to realize corresponding rule.

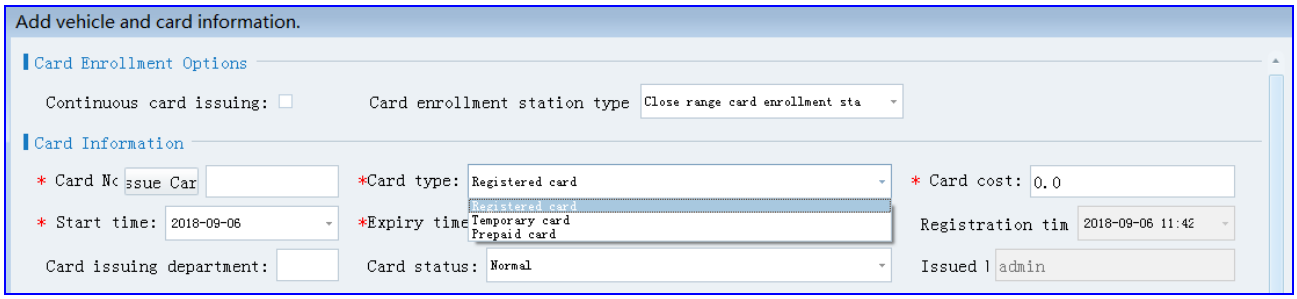


Figure 2-32 Select Card Type

2.4.4 Parking Pass Rule

You can configure name, validity period, and amount for parking pass in this part.

Step 1 Select **System Configuration** > **Parking Fee Configuration > Parking Pass Rule** to enter the interface.

Step 2 Click **Add** to enter the configuration interface.

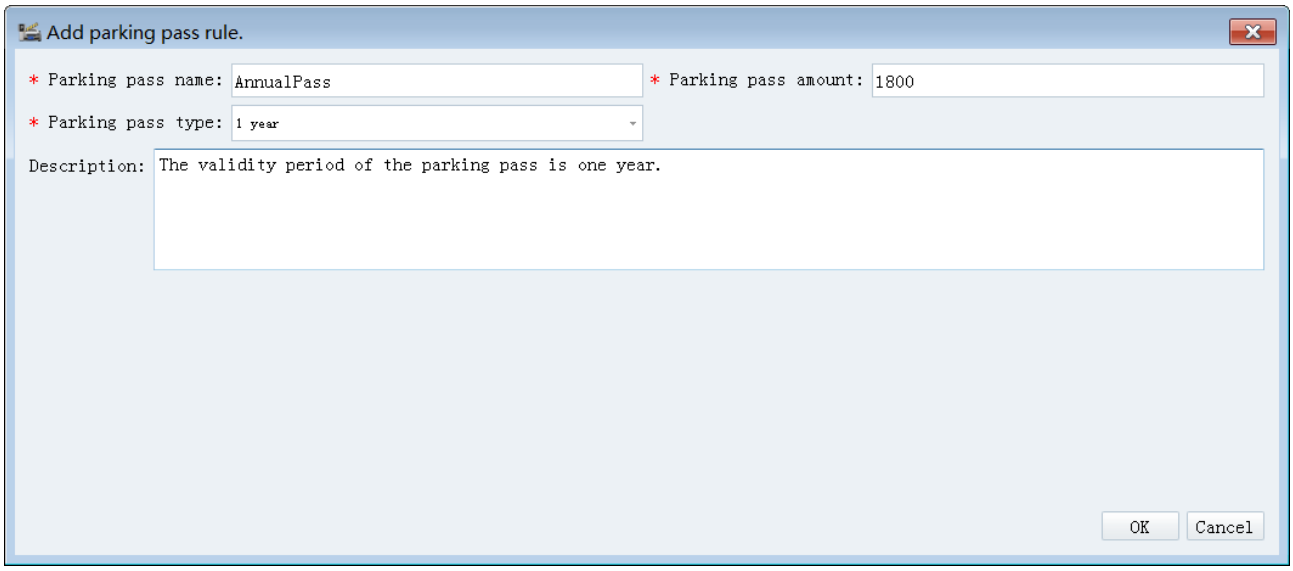


Figure 2-33 Add Parking Pass Rule

Step 3 Enter **Parking pass name** and **Parking pass amount**.
Select **Parking pass type**. **6 months**, **1 year**, **Custom months**, and **Custom days** are selectable.
You can enter description if needed.

Step 4 Click **OK**. The added rule will show in **Parking Pass Rule** interface.

2.4.5 Card Cost

You can configure cost for registered card, temporary card, and prepaid card in this part

Step 1 Select **System Configuration** > **Parking Fee Configuration > Card Cost** to enter the interface.

Step 2 Select **Registered Card**, **Prepaid Card**, or **Temporary Card** as needed.

Step 3 Click **Edit** and enter **Card Fee** in the pop-up window. You can also enter description if needed.

Step 4 Click **OK**.

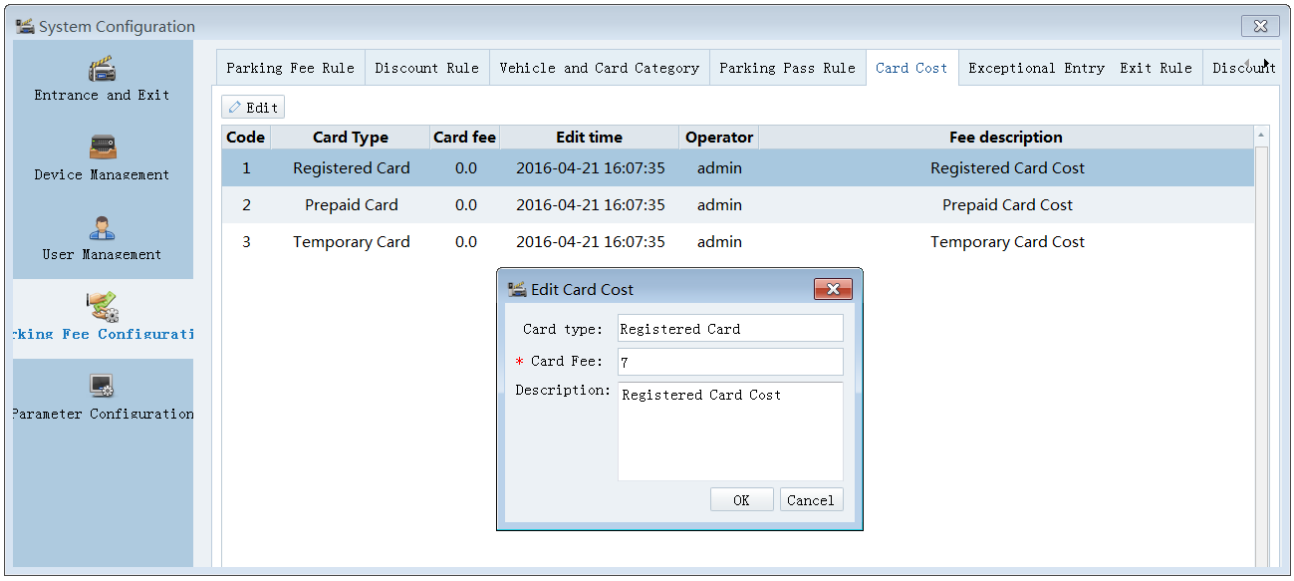


Figure 2-34 Edit Card Cost

2.4.6 Exceptional Entry & Exit Rule

You can configure entry & exit rule for exceptional cases in this part. For example, when entry record is needed for exiting but the entry record cannot be found, the vehicle can be charged by the set exceptional entry & exit rule to exit.

Step 1 Select **System Configuration** > **Parking Fee Configuration > Exceptional Entry & Exit Rule** to enter the interface.

Step 2 Click **Add** to pop up the configuration interface.

Step 3 Enter **Rule Name**, **Passing Amount**, **Start Time**, and **End Time**. You can also enter description if needed.

Step 4 Click **OK**. The added rule will show in **Exceptional Entry & Exit Rule** tab.

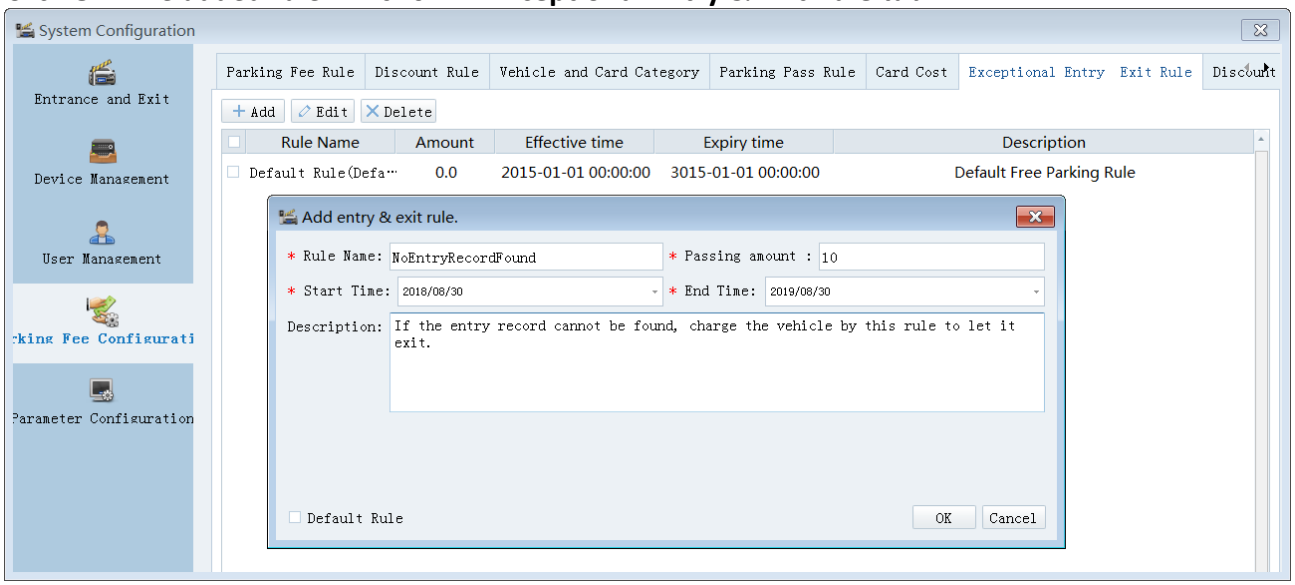


Figure 2-35 Add Exceptional Entry & Exit Rule

2.4.7 Discount Management

You can manage coupons issued by the system according to the set discount rule in this part. A vehicle owner can show a coupon at exit, and the system can scan the QR code on the ticket to apply corresponding discount rule. You need to configure discount rule first to enable this function (see 2.4.2 Discount Rule for details).

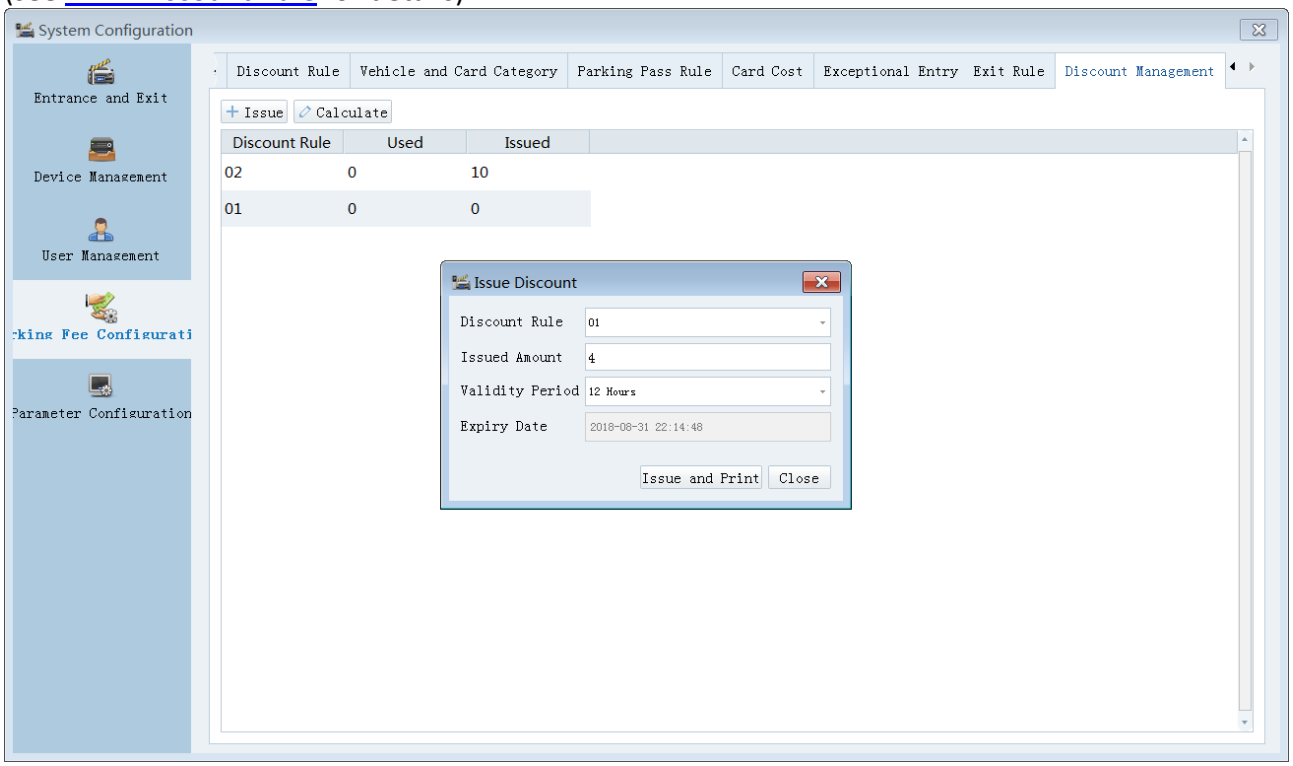


Figure 2-36 Discount Management Tab

Step 1 Select **System Configuration** > **Parking Fee Configuration > Discount Management** to enter the interface.

Step 2 Click **Issue** to pop up the configuration interface.

Step 3 Select **Discount Rule**, enter the amount of coupons to be issued at **Issued Amount**, and select **Validity Period**.

Step 4 Click **Issue and Print**. The set discount ticket information can be shown at **Discount Management** tab, and the ticket can be printed.

Step 5

Figure 2-37 Parking Lot Coupon

Step 6 (Optional) Click **Calculate** to see the issued and used coupon information.

2.5 User Management

You can manage user and role permission in this module.

2.5.1 User Management

Add User

Step 1 Select **System Configuration** > **User Management > User Management** to enter the interface.

Step 2 Click **Add** to pop up the configuration interface.

Step 3 Enter **User Name**, **Password**, select to enable or disable the user at **Whether to Enable**, and select the role linked to the user at **Linked Role**. Linking the user to any role configured in the system is allowed.

WARNING

STRONG PASSWORD RECOMMENDED– We highly recommend that you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. We also recommend that you reset your password regularly. Especially in the high security systems, resetting the password monthly or weekly can better protect your product.

Step 4 Click **Save**. The added user information will be shown at **User Management** tab.

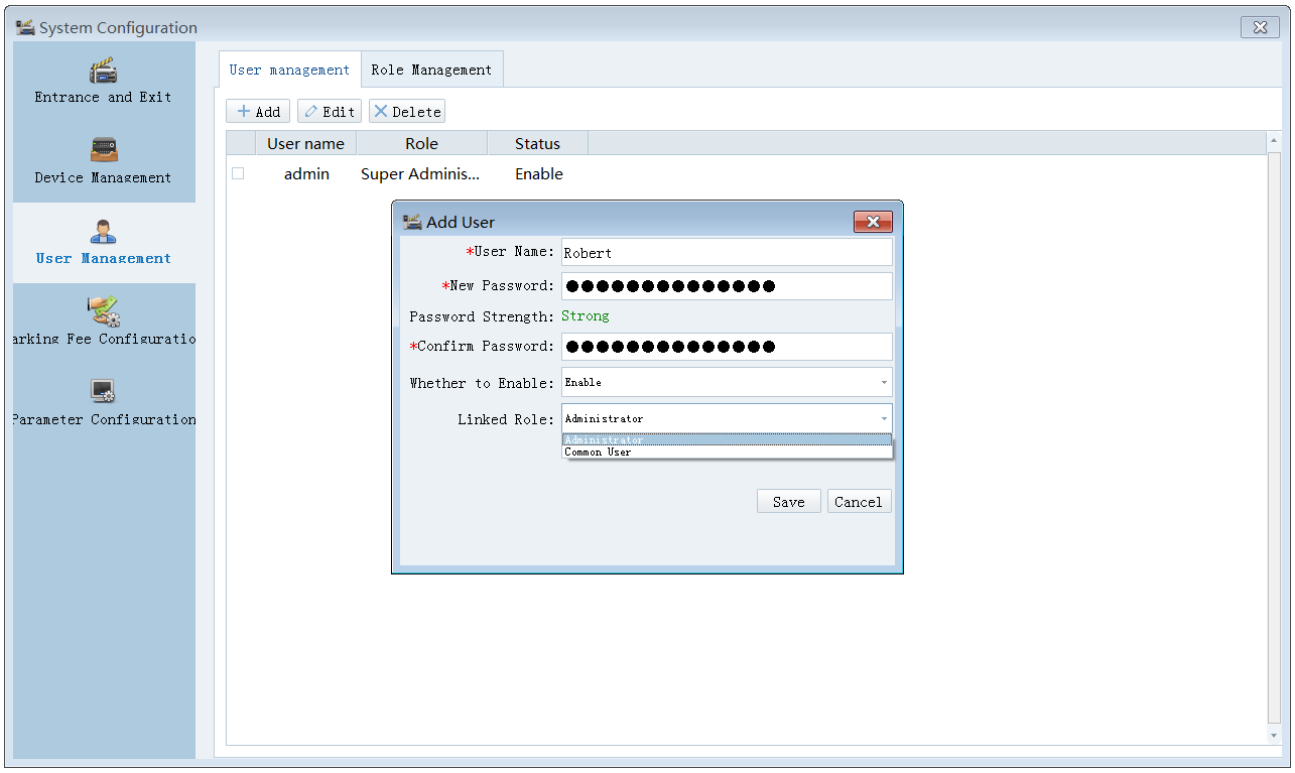


Figure 2-38 Add User

Edit User

Step 1 Check to select the required user at **User Management** tab.
Step 2 Click **Edit** to pop up **Edit User** window.
Step 3 Edit user name, password, or linked role as needed.

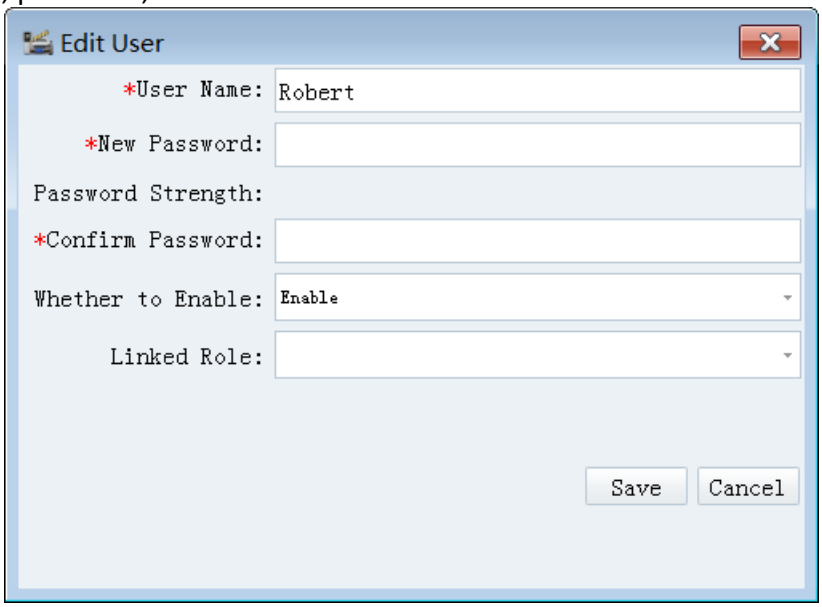


Figure 2-39 Edit User

Step 4 Click **Save**.

NOTE

You can only edit password for Super Administrator.

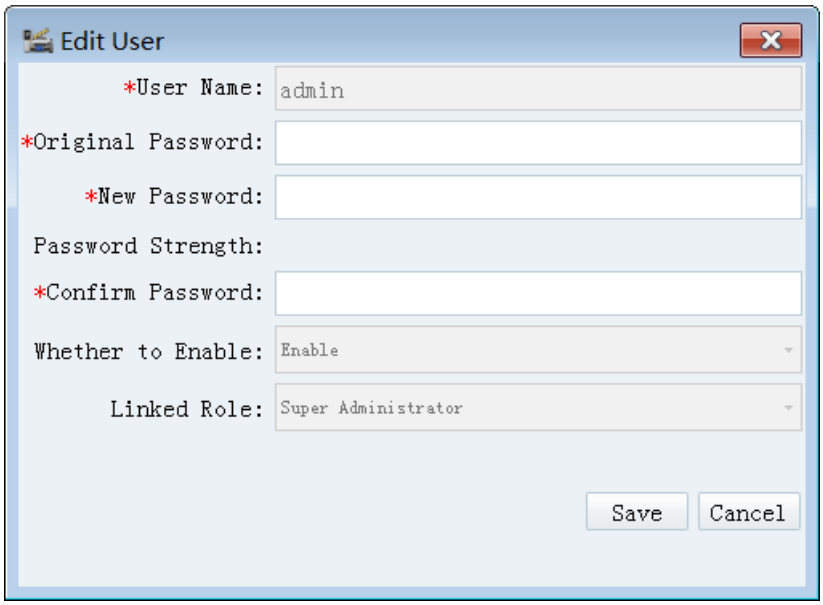


Figure 2-40 Edit Super Administrator Information

Delete User

Step 1 Check to select the required user at **User Management** Tab.
Step 2 Click **Delete**.
Step 3 Click **Yes** in the pop-up window, and the user will be deleted.

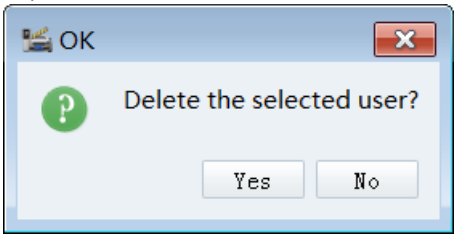


Figure 2-41 Confirmation Window

2.5.2 Role Management

Step 1 Select **System Configuration** > **User Management > Role Management** to enter the interface.
Step 2 Click **Add** to pop up the configuration interface.
Step 3 Enter **Role Name**, select **Role Type**, and enter **Role Description** (optional).
Step 4 Check to select permissions as needed.
Step 5 Click **Save**.

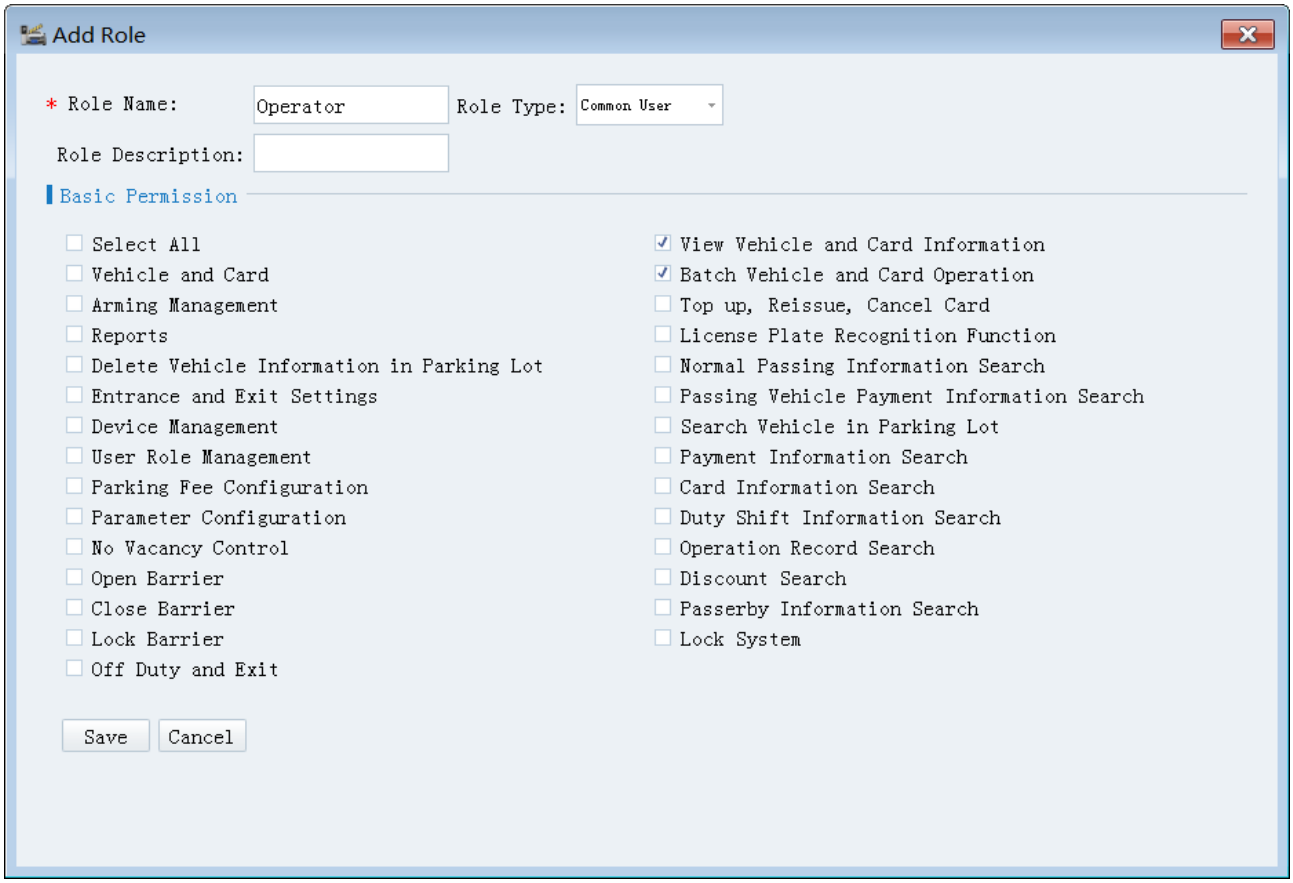


Figure 2-42 Add Role

Chapter 3 Vehicle and Card Management

You can add, edit, delete, import, export, and search vehicle and card information in **Vehicle and Card** module.

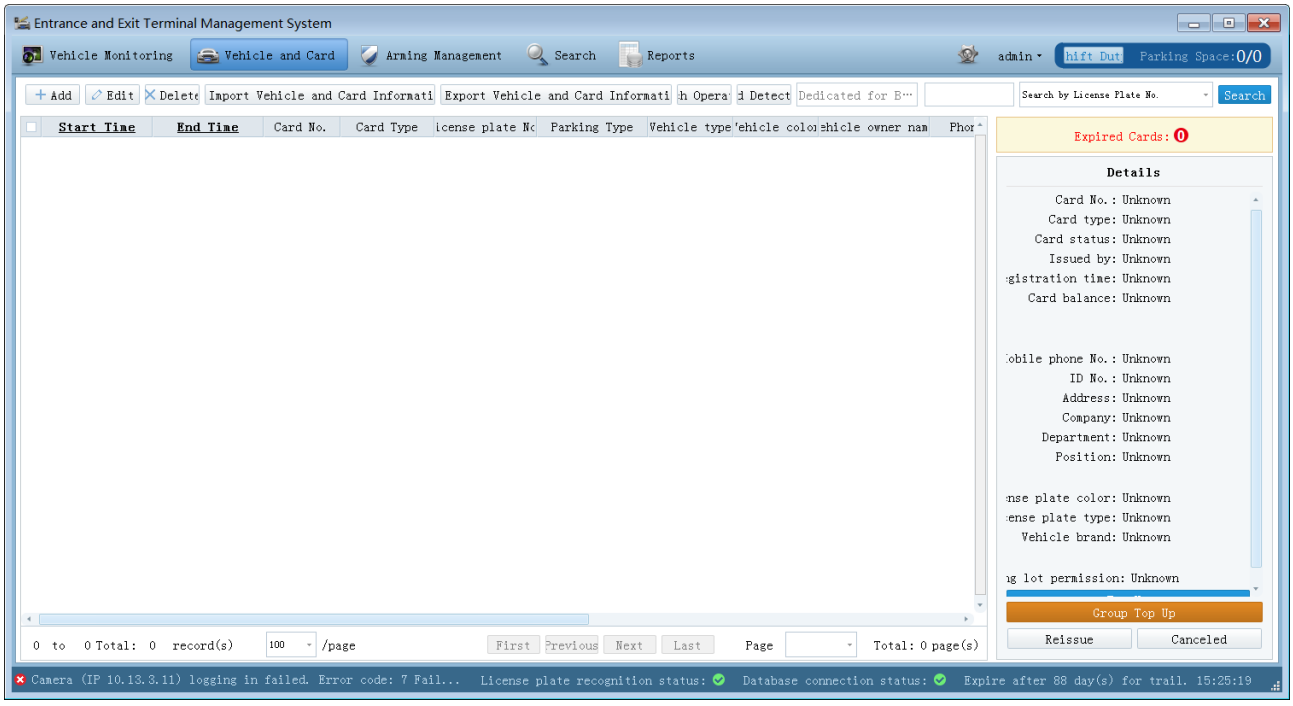


Figure 3-1 Vehicle and Card Management Interface

3.1 Add/Edit/Delete Vehicle and Card Information

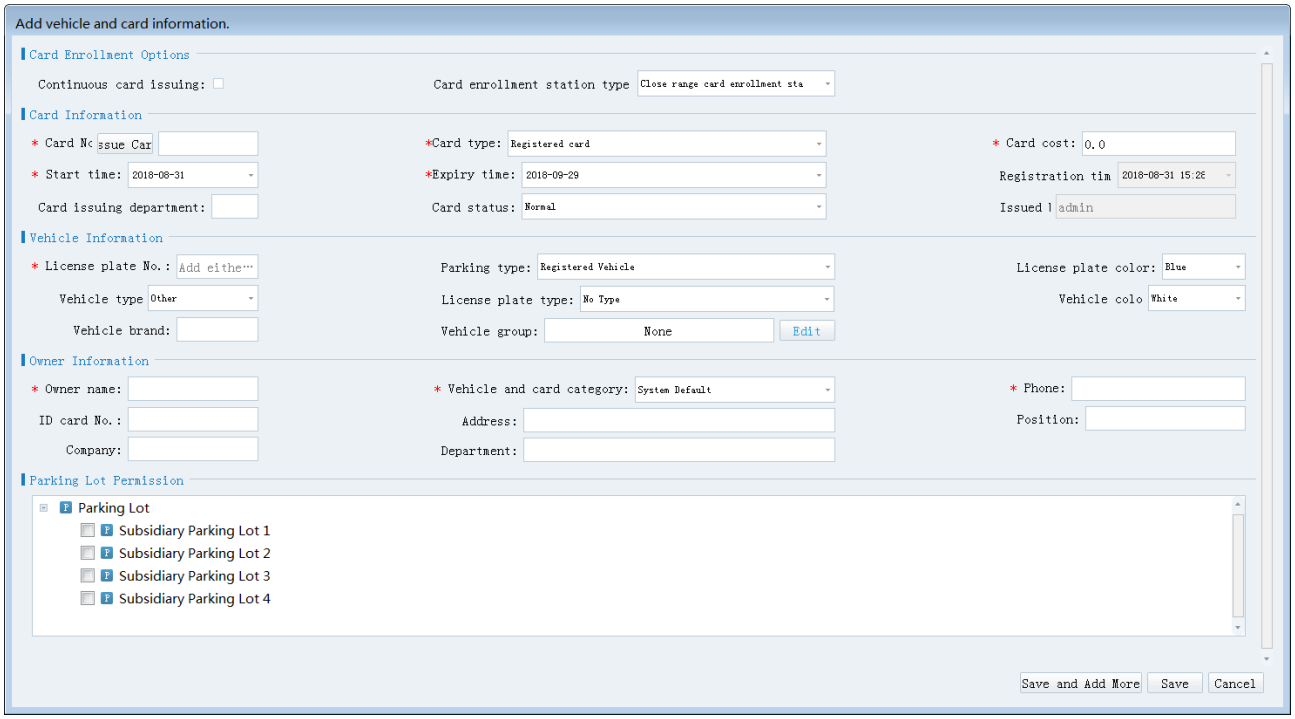


Figure 3-2 Add Vehicle and Card Information

3.1.1 Add Vehicle and Card Information

Step 1 Click **Add** at **Vehicle and Card** interface.

Step 2 Set the required parameters in the pop-up window.

- **Continuous card issuing**: Check to select as needed.
- **Card enrollment station type**: **Bluetooth card enrollment station** and **Close range card enrollment station** are selectable
- **Card No.**: Put the card in the sensing area of the card enrollment station, click **Issue Card**, and the system can get the card No. automatically.
- **Card type**: All card types configured in **Vehicle and Card Category** tab can be found here.
- **Card cost**: The same as that set in **System Configuration > Card Cost**.
- **Start time/Expiry time**: Set the validity period of the card.
- **Card status**: (Optional) **Normal**, **Reported as lost or stolen**, and **Canceled** are selectable.
- **License plate No.**: Enter either license plat No. or card No.
- **Parking type**: **Registered Vehicle** and **Authorized Vehicle** are selectable. If **Authorized Vehicle** is selected, the vehicle's entering/exiting will not influence the number of vacant parking spaces. And the vehicle can still enter the parking lot even when no vacant parking space is left.
- **Vehicle group**: A registered card can correspond to more than one parking spaces. You can click **Edit**, enter group name and number of parking spaces of the group in the pop-up window, and click **Save** to create a parking space group. Then, you can select the created vehicle group and click **Save** to link the group to the card. In this case, for each

entry & exit, the registered card owner needs to pay for the whole parking space group, instead of only one vehicle.

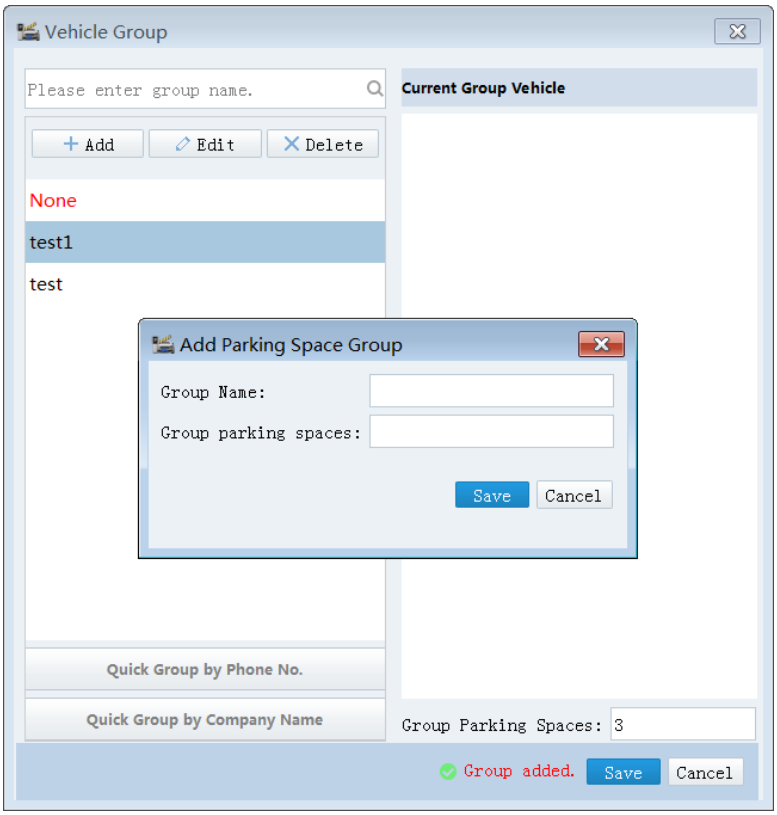


Figure 3-3 Add Vehicle Group

Step 3 Select **Parking Lot Permission**, which means the parking lots that the vehicle is allowed to enter & exit.

Step 4 Click **Save** or **Save and Add More**.

3.1.2 Edit Vehicle and Card Information

Step 1 Check to select the required vehicle and card information.

Step 2 Click **Edit** to pop up the configuration window.

Step 3 Edit parameters as needed.

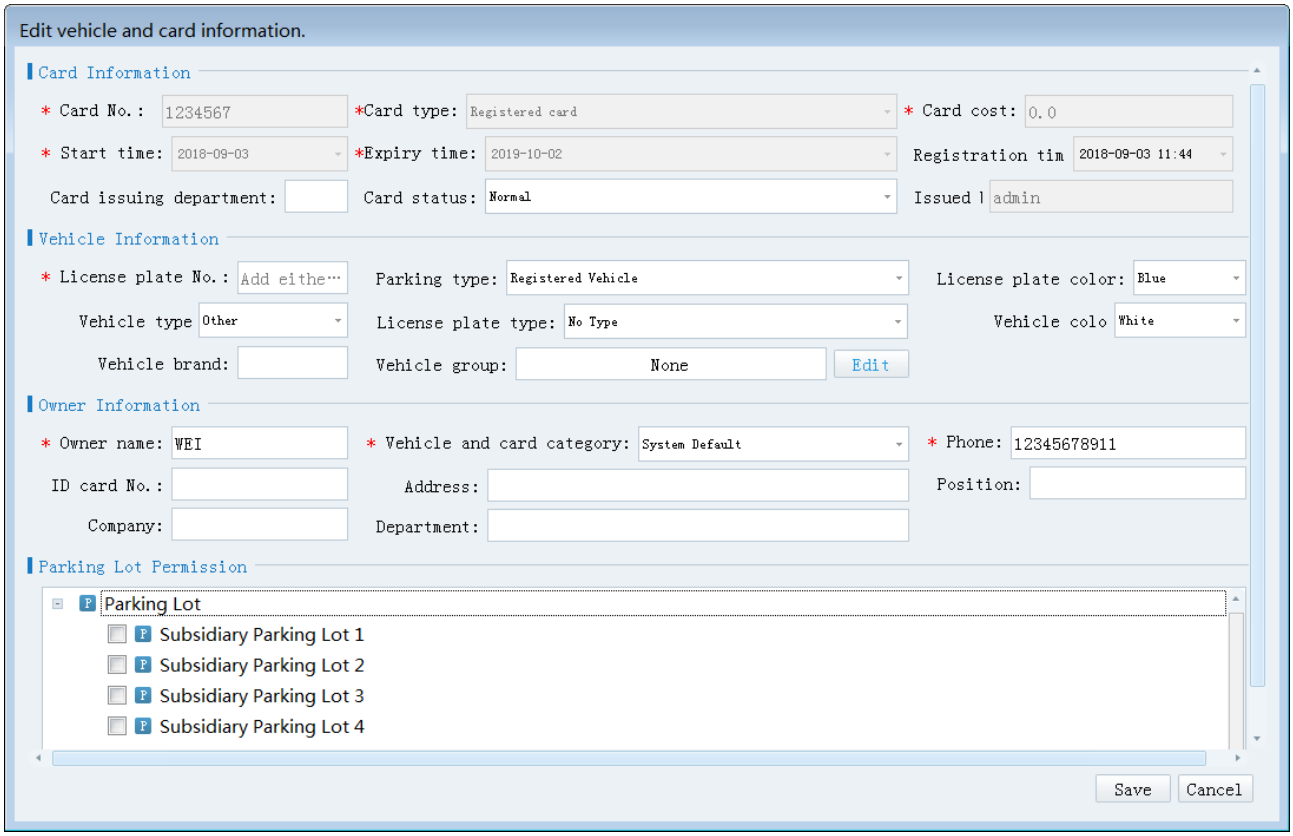


Figure 3-4 Edit Vehicle and Card Information

Step 4 Click **Save**.

3.1.3 Delete Vehicle and Card Information

Step 1 Check to select the required vehicle and card information.
Step 2 Click **Delete**.
Step 3 Click **Yes** in the pop-up window to confirm deletion.

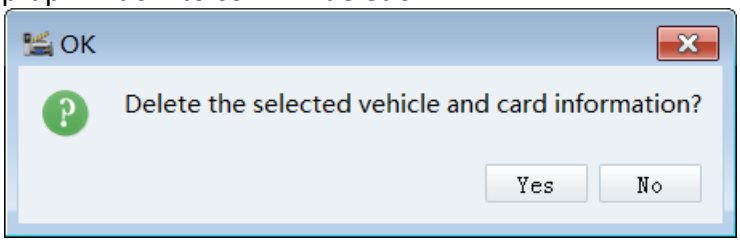


Figure 3-5 Edit Arming Information

3.2 Top up/Reissue/Cancel Card

3.2.1 Top up Card

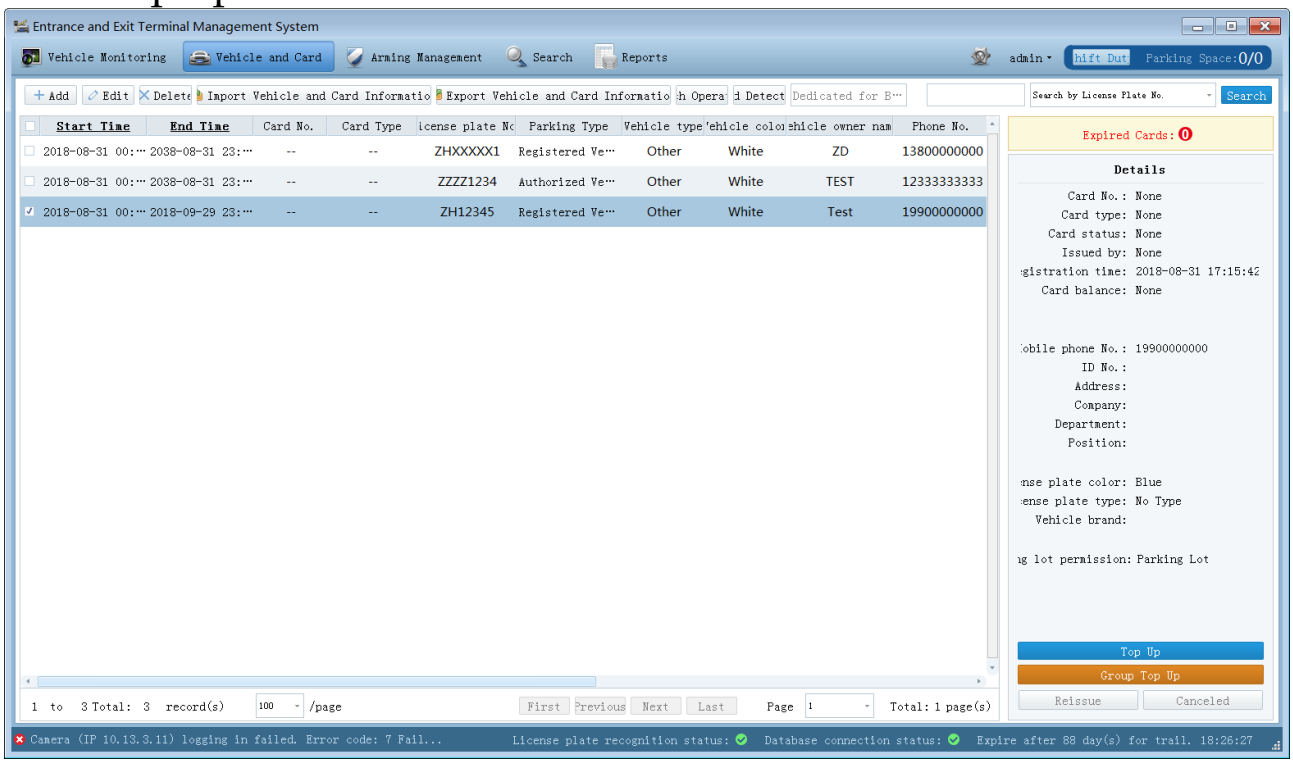


Figure 3-6 Top Up

Step 1 Check to select the required vehicle and card information at **Vehicle and Card** tab.

Step 2 Click **Top Up** at the bottom right corner of the interface.

Step 3 Set the required parameters in the pop-up window.

Option 1:

For registered card, the parking pass attributes are automatically set according to the configured parking pass rule. You only need to enter **Top-up multiplier**, and the system will calculate the total amount.

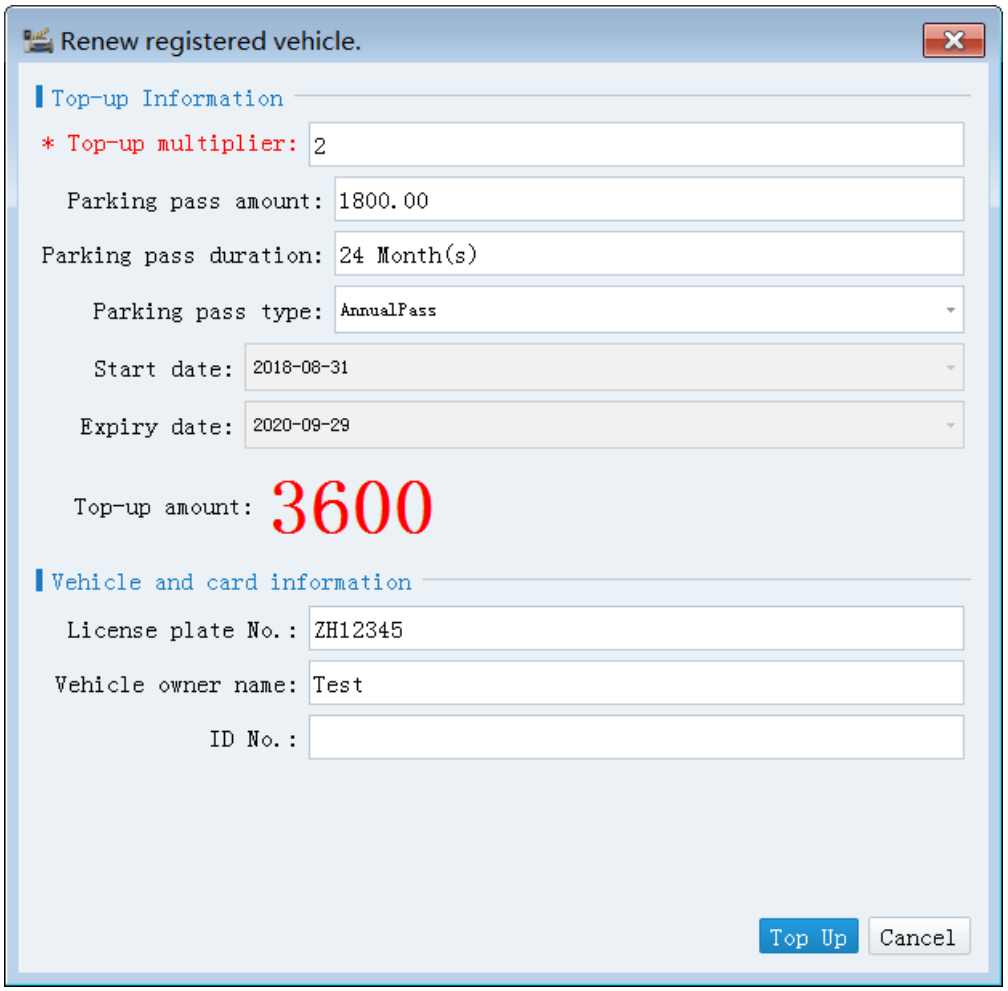


Figure 3-7 Renew Registered Card

Option 2:

For prepaid card, you need to enter **Top-up amount** directly.

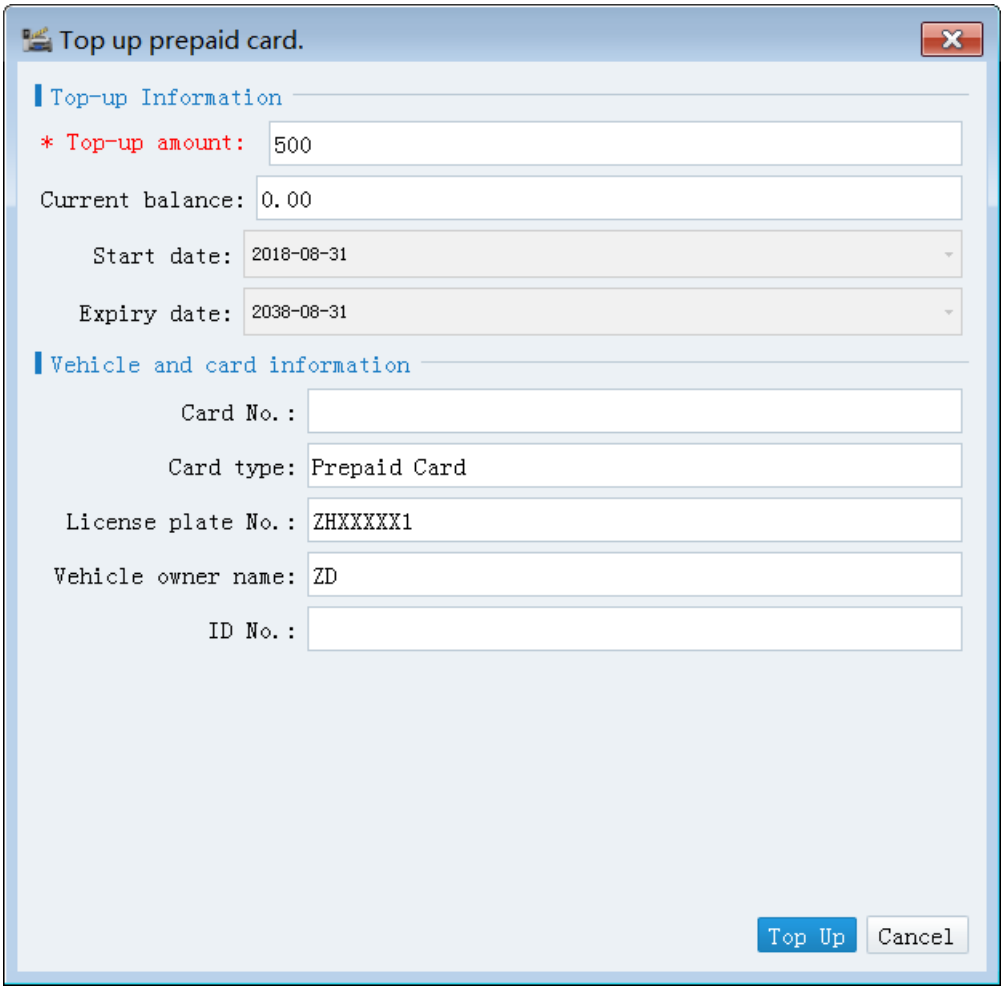


Figure 3-8 Top Up Prepaid Card

Step 4 Click **Top Up**.

NOTE

- License plate No. can be used as prepaid card for parking fee top-up and deduction.
- If the card is configured with vehicle group, you can click **Group Top Up** to top up for all vehicles in the group. Just enter **Parking pass multiplier**, and the system can calculate the total amount automatically.

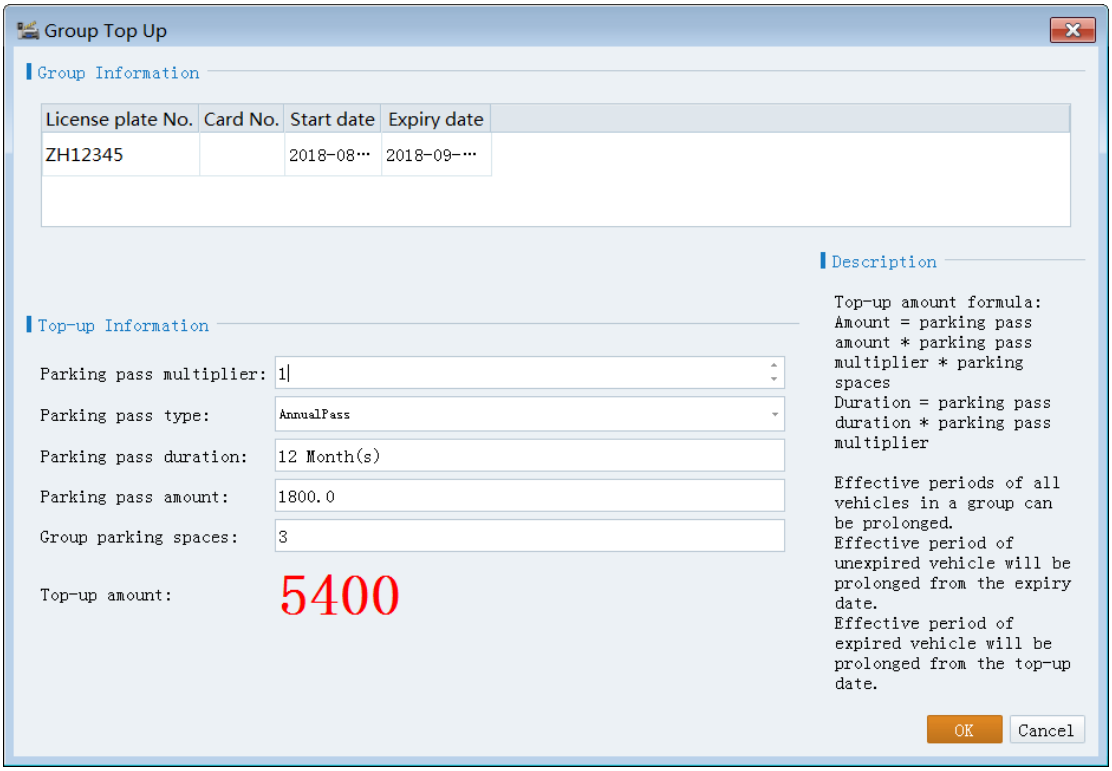


Figure 3-9 Group Top Up

3.2.2 Reissue Card

If a card is lost or damaged, you can reissue a card for a vehicle.

Step 1 Check to select the required vehicle and card information at **Vehicle and Card** tab.

Step 2 Click **Reissue** at the bottom right corner of the interface.

Step 3 Enter required parameters in the pop-up **Edit Vehicle and Card Information** window.

Step 4 Click **Save**.

3.2.3 Cancel Card

When a card is no longer used, you can cancel it.

Step 1 Check to select the required vehicle and card information at **Vehicle and Card** tab.

Step 2 Click **Cancel** at the bottom right corner of the interface.

Step 3 Click Yes in the confirmation window.

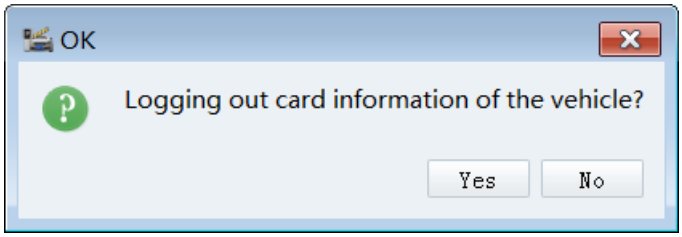


Figure 3-10 Cancel Card

3.3 Import/Export Vehicle and Card Information

3.3.1 Import Information

Step 1 Click **Import Vehicle and Card Information** at **Vehicle and Card** tab.
Step 2 Select the file to be imported. A window will pop up, showing the progress and result.

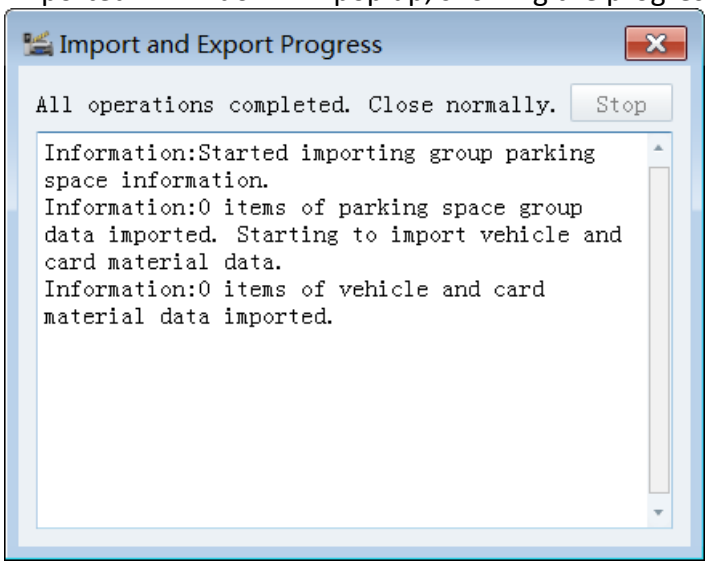


Figure 3-11 Import Progress

NOTE

You can export a vehicle and card record first to get the template.

3.3.2 Export Information

Step 1 Check to select the required vehicle and card information at **Vehicle and Card** tab. If no entries are selected, all will be exported.
Step 2 Click **Export Vehicle and Card Information**.
Step 3 Select saving path.
Step 4 Click **Save**. A window will pop up, showing the progress and result.

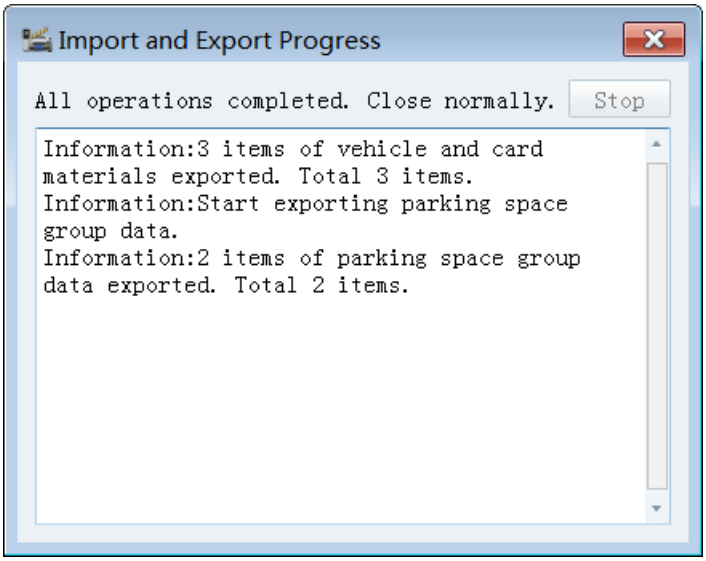


Figure 3-12 Export Progress

3.4 Batch Operation

Step 1 Check to select the required vehicle and card information at **Vehicle and Card** tab.

Step 2 Click **Batch Operation**.

Step 3 Select the required tab and enter the required parameters.

Option 1

Click **Renewal and Top-up**, and select **Operation type** (**Renewal** and **Top Up** are selectable). If **Top Up** is selected, you still need to enter **Top-up amount**.

Option 2

Click **Edit Vehicle and Card Information**, and select **Vehicle and card category**. **System Default** and other configured categories are selectable.

Option 3

Click **Parking Lot Permission**, and select the required parking lot.

Step 4 Click **OK**.

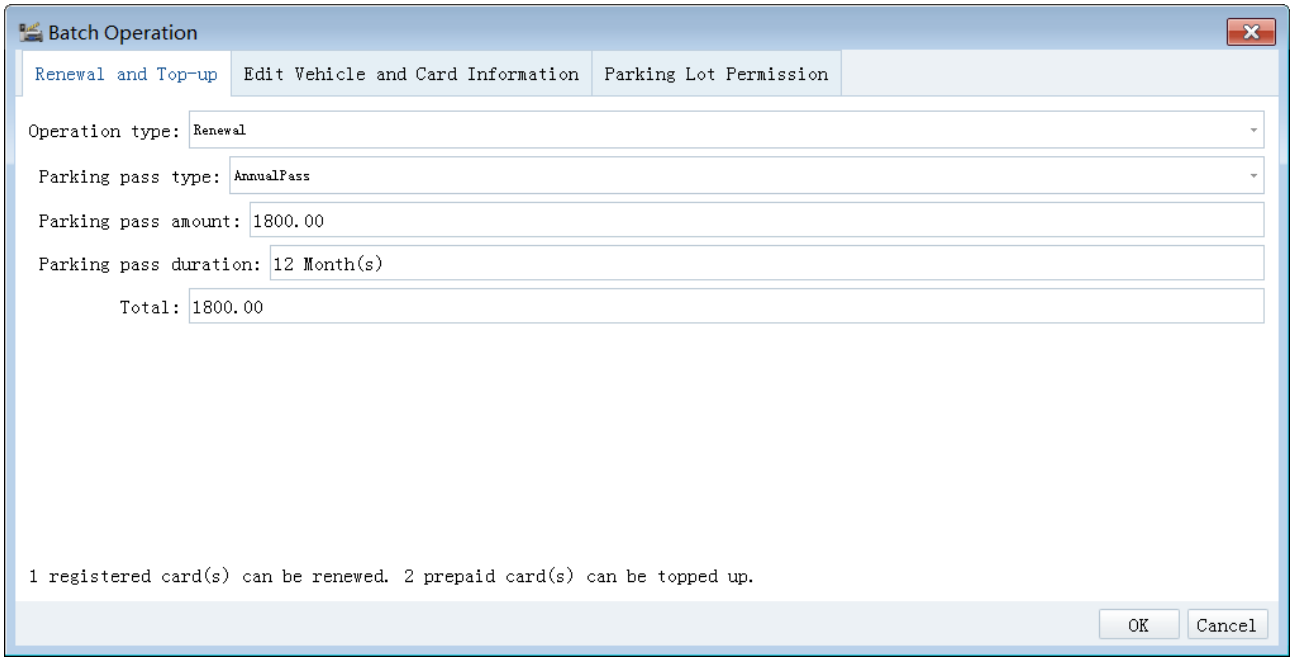


Figure 3-13 Batch Operation

NOTE

Number of the cards available for the batch operation is shown at the bottom of the window. If **OK** is clicked, the result can be displayed and the button will turn to grey, which means that no more batch operation is allowed.

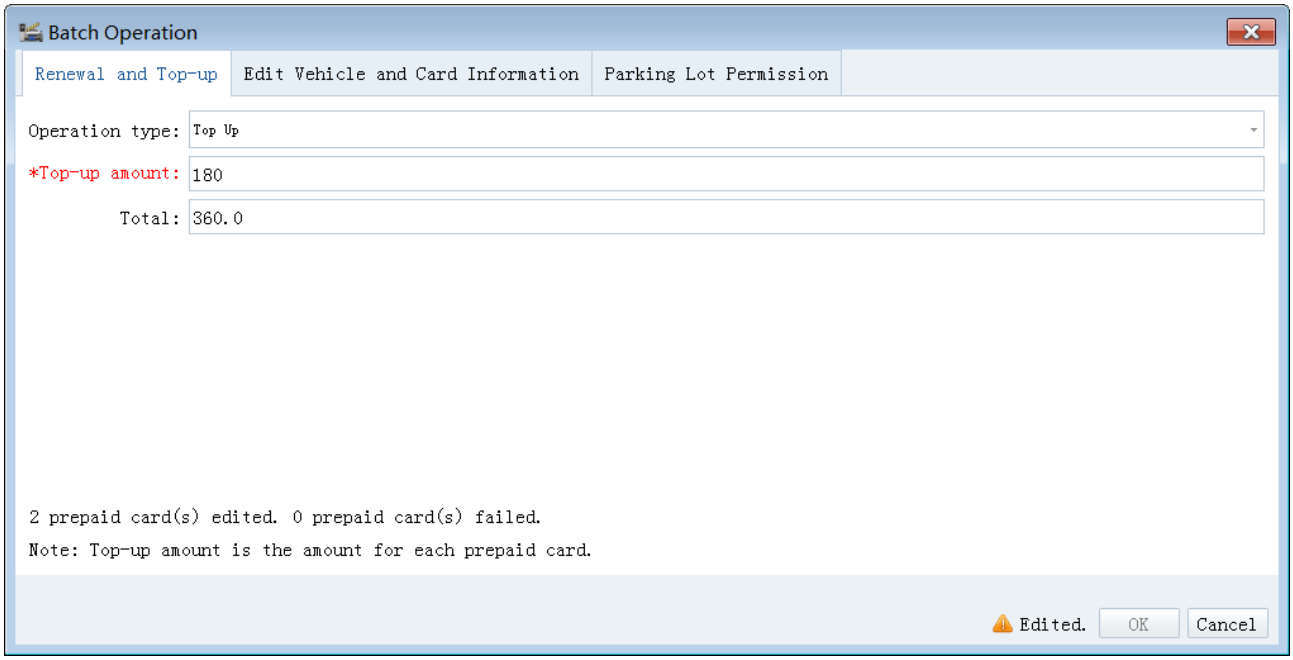


Figure 3-14 Editing Result

3.5 Detect Card

Step 1 Check to select the required vehicle and card information at **Vehicle and Card** tab.
Step 2 Click **Card Detection**.
Step 3 Check the pop-up window to find the issuing status of the card.

3.6 Search Vehicle and Card Information

Step 1 Select search type at upper right corner of **Vehicle and Card** interface. Searching by license plate No., card No., vehicle type, vehicle color, parking type, vehicle owner name, card type, company or department name, or group name are available.
Step 2 Enter key words in the box beside.
Step 3 Click **Search**. Results will be displayed in the list.

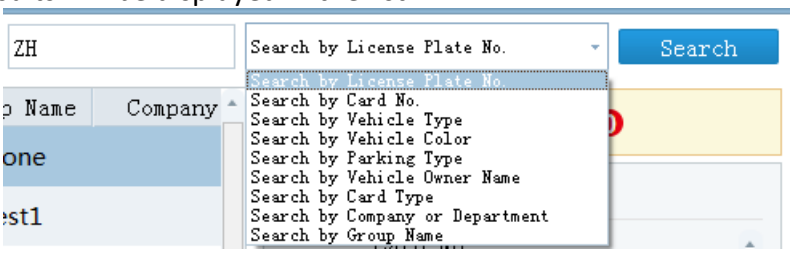


Figure 3-15 Search Vehicle and Card Information

3.7 View Expired Card Information

The system can alarm users of the number of expired cards. You can click **Expired Cards** on the right side of the interface to view details of the expired cards.

Figure 3-16 Expired Cards

Chapter 4 Arming Management

You can manage vehicle arming information in this module. Vehicles recorded in the arming list are forbidden to enter/exit the armed parking lot during a certain time period. When an armed vehicle enters the capture area, PMS can detect blacklisted vehicle by its license plate No. and notify administrator by UI, LED, or sound prompt.

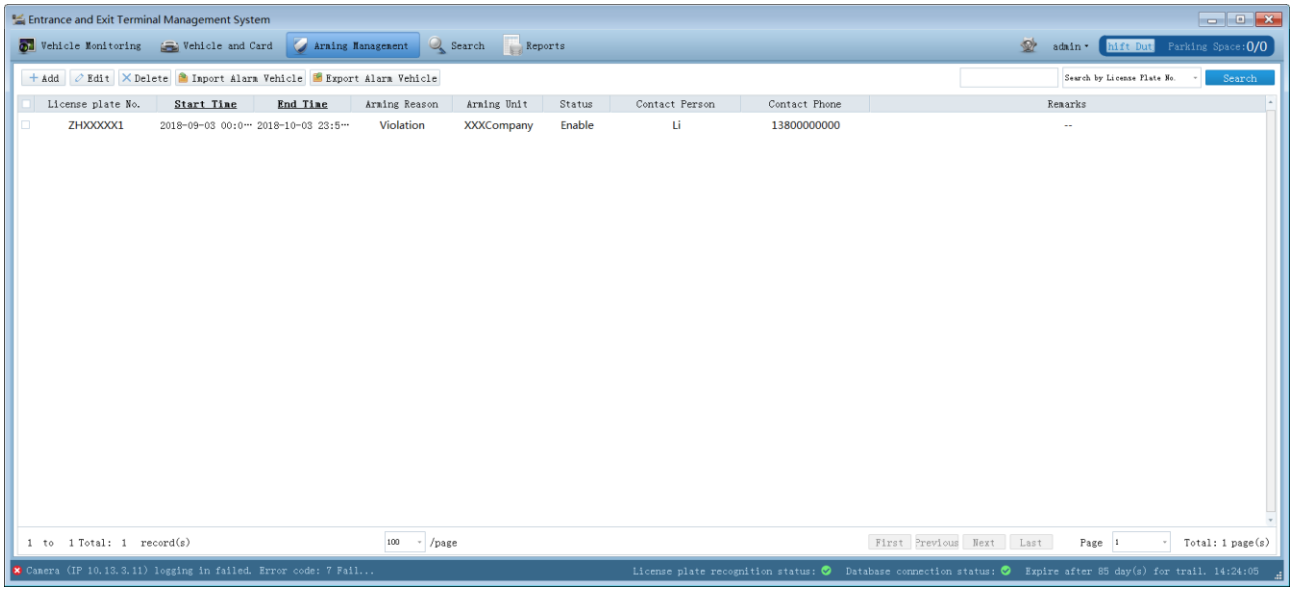


Figure 4-1 Arming Management Interface

4.1 Add/Edit/Delete Arming Information

4.1.1 Add Arming

Step 1 Click **Add** to pop up the configuration window.

Step 2 Enter parameters, including license plate No., arming reason, start time, end time, arming unit (company), arming status, contact person, contact phone, and remarks. License plate No. is required, while other parameters are optional.

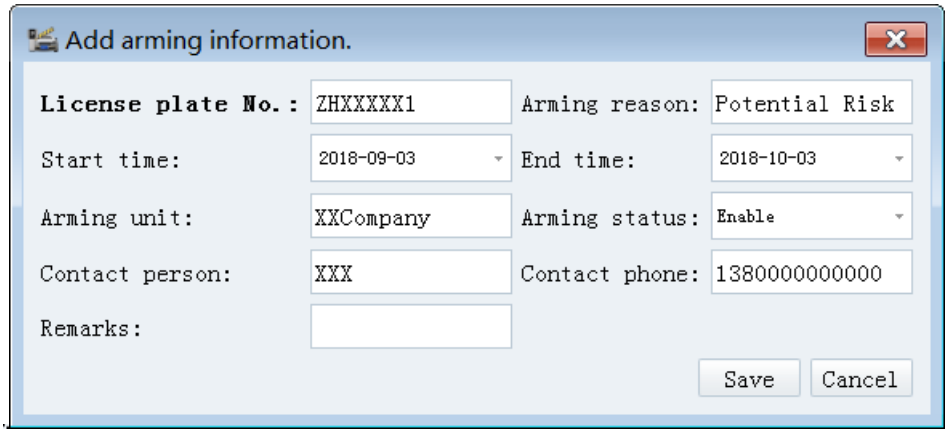


Figure 4-2 Add Arming Information

Step 3 Click **Save**. The added arming information will be shown in **Arming Management** interface.

4.1.2 Edit Arming

Step 1 Check to select the required arming information.
Step 2 Click **Edit** to pop up the configuration window.
Step 3 Edit parameters as needed.

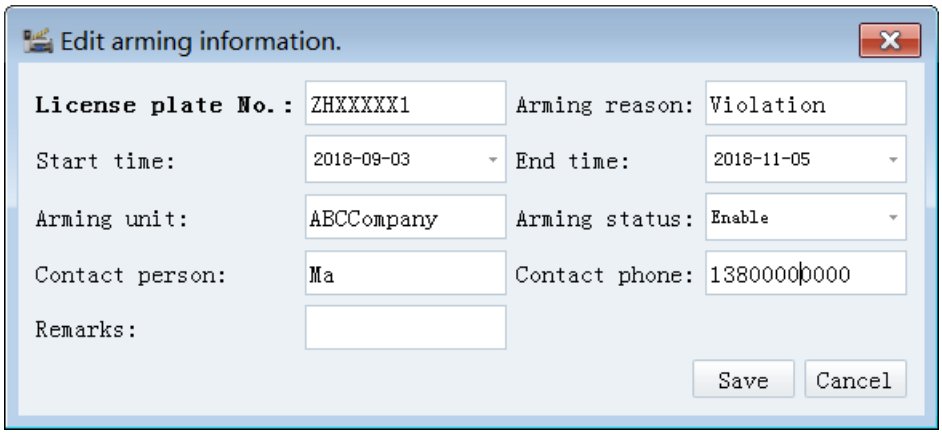


Figure 4-3 Edit Arming Information

Step 4 Click **Save**.

4.1.3 Delete Arming

Step 1 Check to select the required arming information.
Step 2 Click **Delete**.
Step 3 Click **Yes** in the pop-up window to confirm deletion.

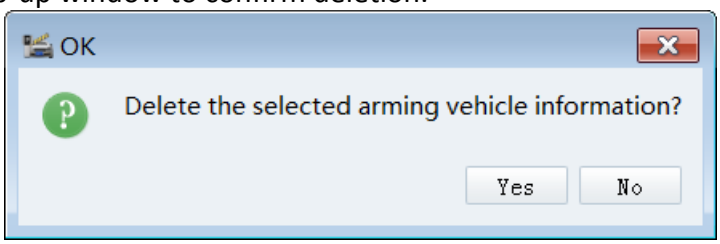


Figure 4-4 Edit Arming Information

4.2 Batch Import/Export Arming Information

4.2.1 Batch Import

Step 1 Click **Import Alarm Vehicle**.
Step 2 Select the file to be imported. A window will pop up, showing the progress and result.

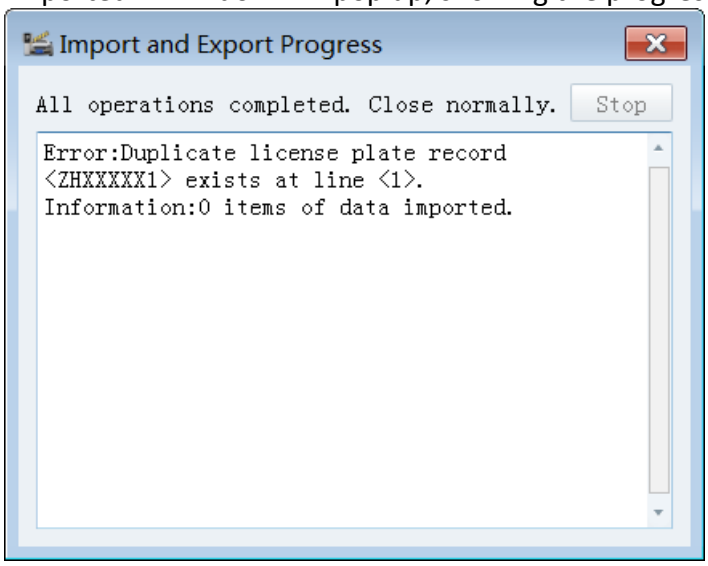


Figure 4-5 Import Progress

NOTE

- You can export an arming record first to get the template.
- If importing failed, you can find relating error message in the pop-up window.

4.2.2 Batch Export

Step 1 Check to select the required arming information. If no entries are selected, all will be exported.
Step 2 Click **Export Alarm Vehicle**.
Step 3 Select saving path.
Step 4 Click **Save**. A window will pop up, showing the progress and result.

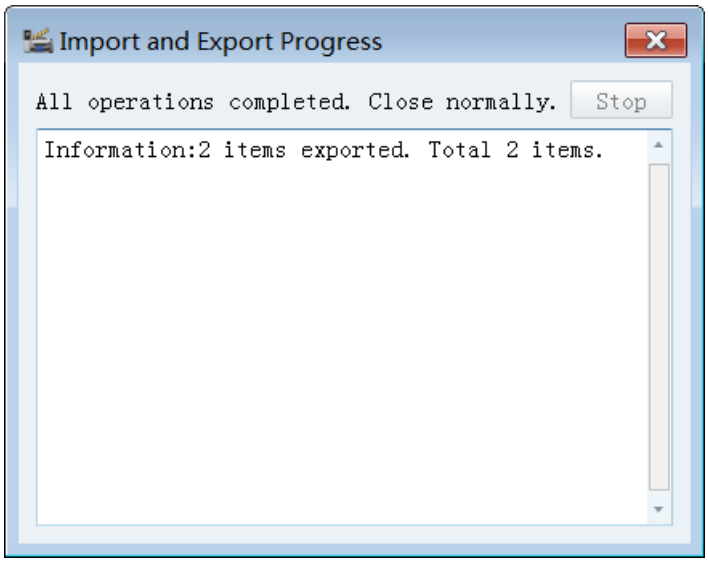


Figure 4-6 Export Progress

4.3 Search Arming Information

Step 1 Select search type at upper right corner. Searching by license plate No., contact person, arming unit (company), arming reason, and arming status are available.

Step 2 Enter key words in the box beside.

Step 3 Click **Search**. Results will be displayed in the list.

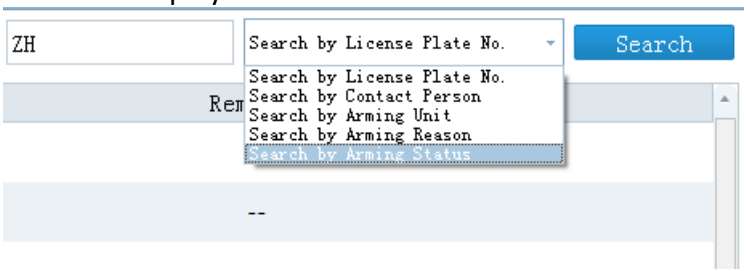


Figure 4-7 Search Vehicle and Card Information

Chapter 5 Vehicle Monitoring

In free parking mode (exit type is **Exit-Free**), the interface of **Vehicle Monitoring** is as below.

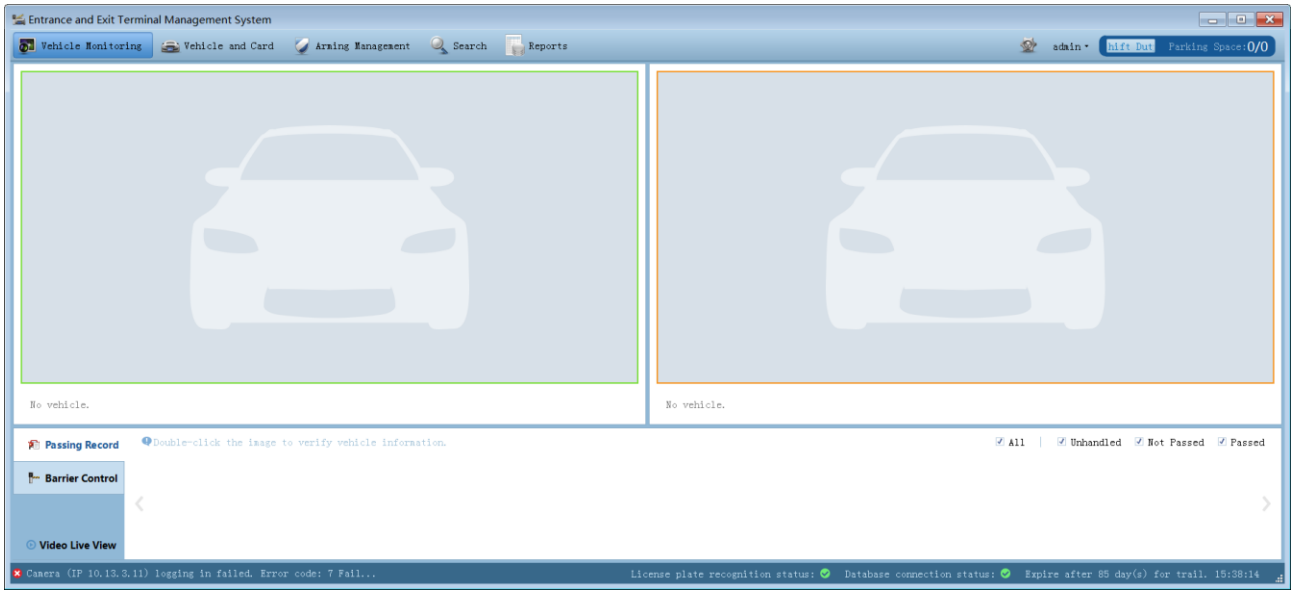


Figure 5-1 Vehicle Monitoring Interface (in Free Parking Mode)

In payment mode (exit type is **Exit-Pay**), the interface of **Vehicle Monitoring** is as below. (After you set **Lane Type** to **Exit-Pay** at **System Configuration > Entrance and Exit > Lan Information**, the interface will turn to the payment mode automatically.) The only difference lies in payment information module on the right side of the interface.

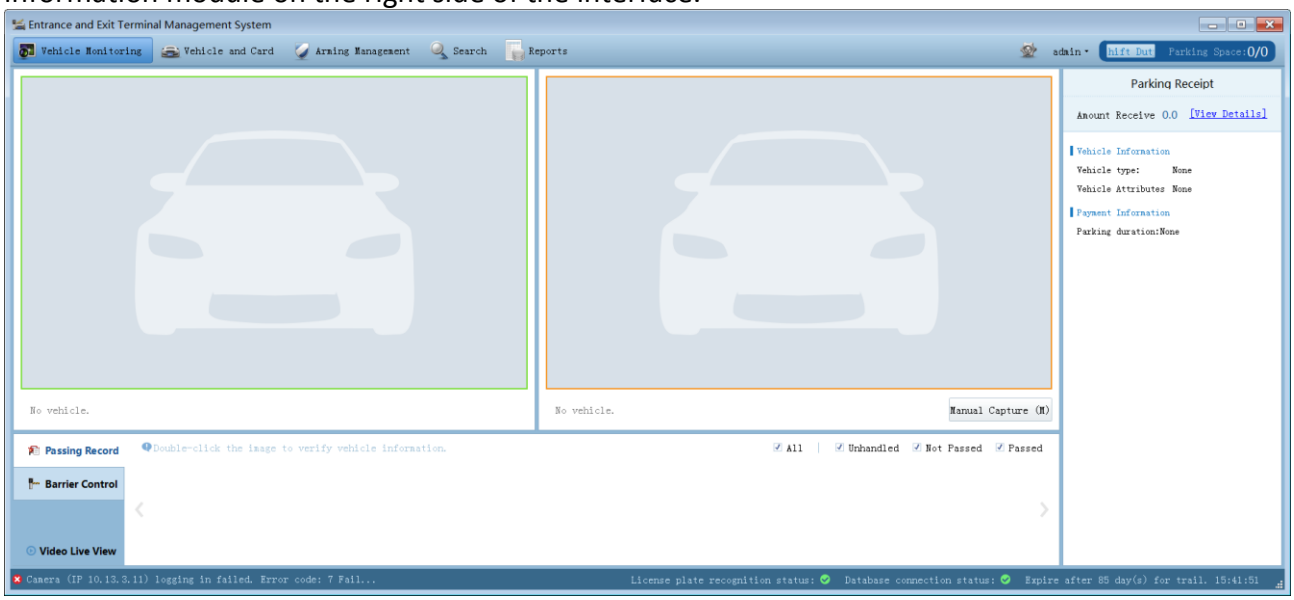


Figure 5-2 Vehicle Monitoring (in Payment Mode)

5.1 Interface Description

Take the interface in payment mode for example. The interface can be mainly divided into five parts.

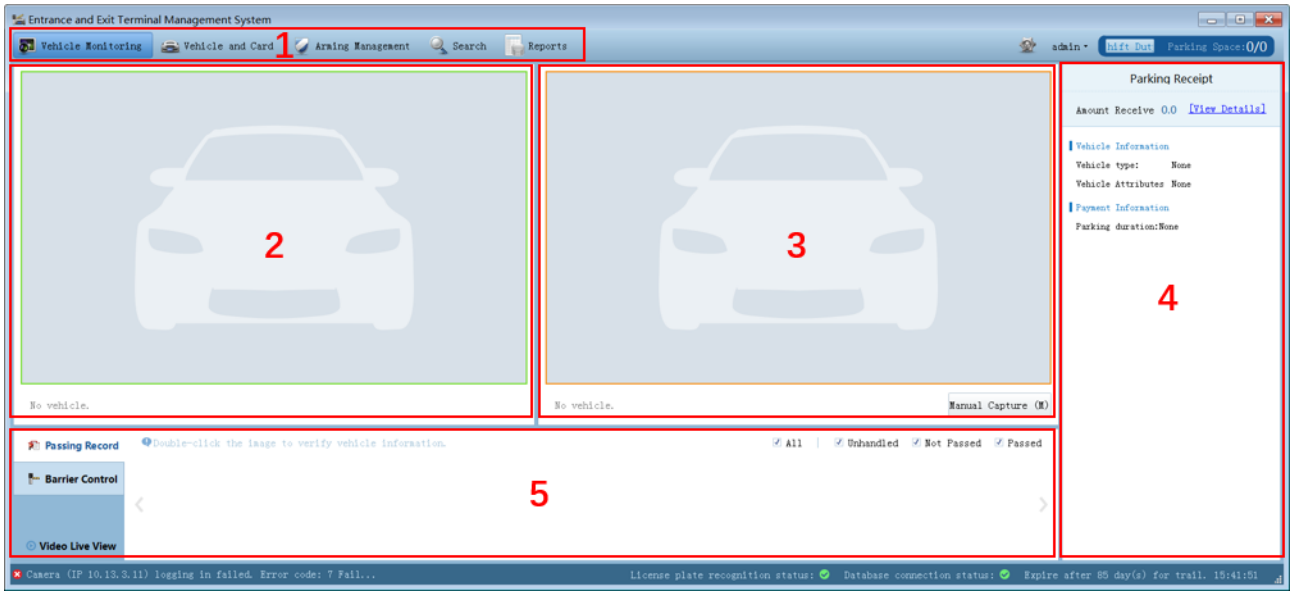


Figure 5-3 Vehicle Monitoring Interface

Table 5-1 Interface Description

No.	Column	Description
1	System function	Click **Vehicle Monitoring** to enter the interface.
2	Entry information	Vehicle picture at entrance, together with license plate No., entering time, and many other information.
3	Exiting information	Vehicle picture at exit, together with license plate No., exiting time, and many other information
4	Payment information	Show detailed information of parking vehicle and parking fee.
5	Passing information details	Include three tabs, namely, **Passing Record**, **Barrier Control**, and **Video Live View**.

5.1.1 Entering Information Column

- When a vehicle passes the entrance, its vehicle picture (with clear license plate No.) will be shown in this part, with information such as entering time, lane No., license plate No., card No., passing type, vehicle type, operator, and default processing method displayed at the bottom of the picture.

- You can click the license plate No. to edit it, or click **Passing Record** below and double-click a passing vehicle picture to edit vehicle information in the pop-up window.
- You can click **Pass** to let a vehicle enter manually.

5.1.2 Exiting Information Column

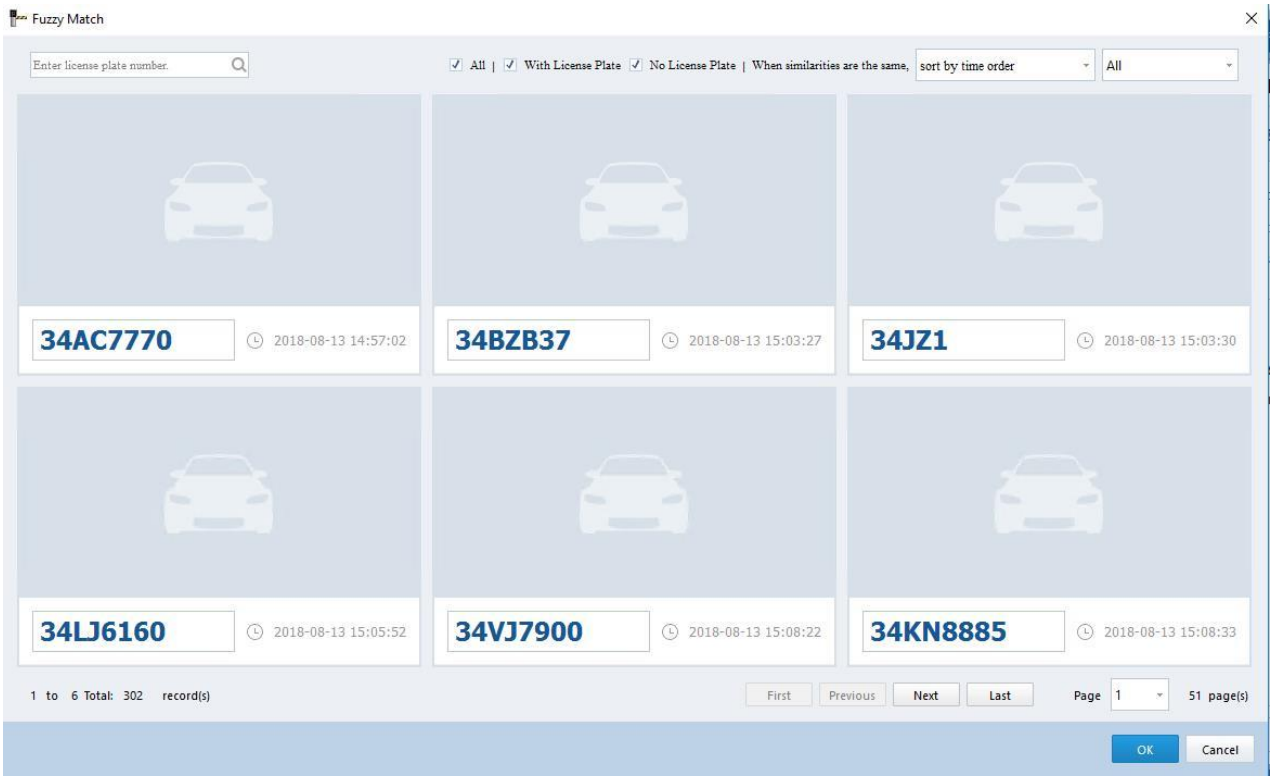
- When a vehicle arrives at the exit, its vehicle picture (with clear license plate No.) will be shown in this part, with information such as entering time, lane No., license plate No., card No., passing type, vehicle type, operator, and default processing method displayed at the bottom of the picture.
- You can click the license plate No. to edit it, or click **Passing Record** below and double-click a passing vehicle picture to edit vehicle information in the pop-up window.
- When no entry record is matched, **Fuzzy Match** and **Rematch** will appear at the bottom right corner of this part. You can click **Rematch** to match entering records again. If the problem still persists, you can click **Fuzzy Match** to find more similar pictures listed in the pop-up window; you can also enter license plate No., select whether the vehicle has license plate or not, or set time period to quick search the entry record.
- 

Figure 5-4 Fuzzy Match of Entry Record

5.1.3 Payment Information Column

- When a vehicle arrives at the exit and its entry record is matched, information such as vehicle type, vehicle attribute, parking duration, payment rule, payment amount, and discount rule of the vehicle will be shown at this part.
- You can click **Pass for Cash Payment (Space)** to let the vehicle exit. For privileged vehicle, you can select corresponding exceptional entry & exit rule to let the vehicle pass.
- When the payment amount too large, a prompt will pop up. You need to manually confirm the amount for the system to show it on LED or broadcast it.

5.1.4 Passing Information Details Column

Passing Record

- You can check to select **All**, **Unhandled**, **Not Passed**, and/or **Passed** to view corresponding vehicle pictures in this part.
- You can double-click a picture to verify vehicle information in the pop-up window.

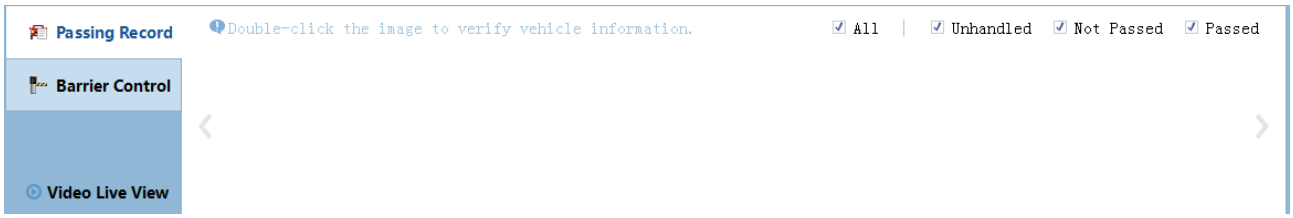


Figure 5-5 Passing Record

Barrier Control

- Click **Barrier Control**, and you can find corresponding lane and camera information. Click **Open Barrier**, **Close Barrier**, or **Lock Barrier** to control the barrier gate.
- You can click **Capture** to capture vehicle pictures manually.
- For **Camera Status**, green means the camera is in first-level arming status; red means the camera is not in arming status; orange means the camera is in second-level arming status

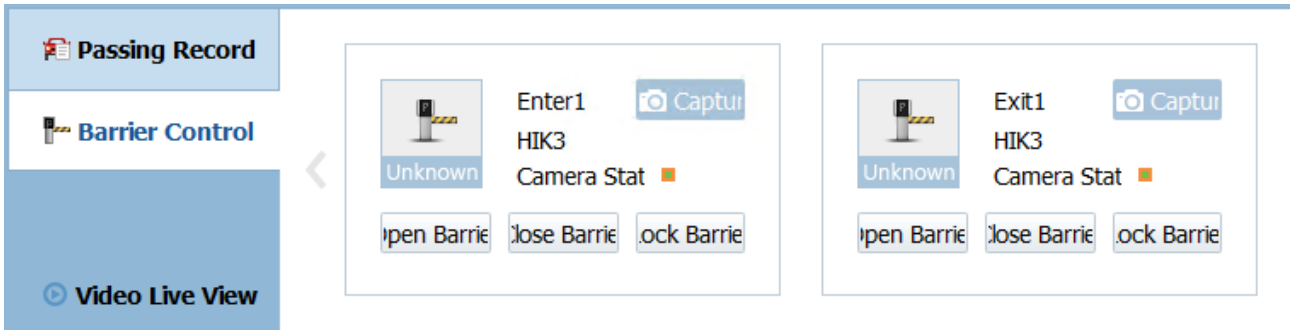


Figure 5-6 Barrier Control

Video Live View

- Click **Video Live View** and double-click the required camera on the left side of the pop-up window to view live video of the camera.
- You can click on upper right corner of the pop-up window to set corresponding live view parameters.

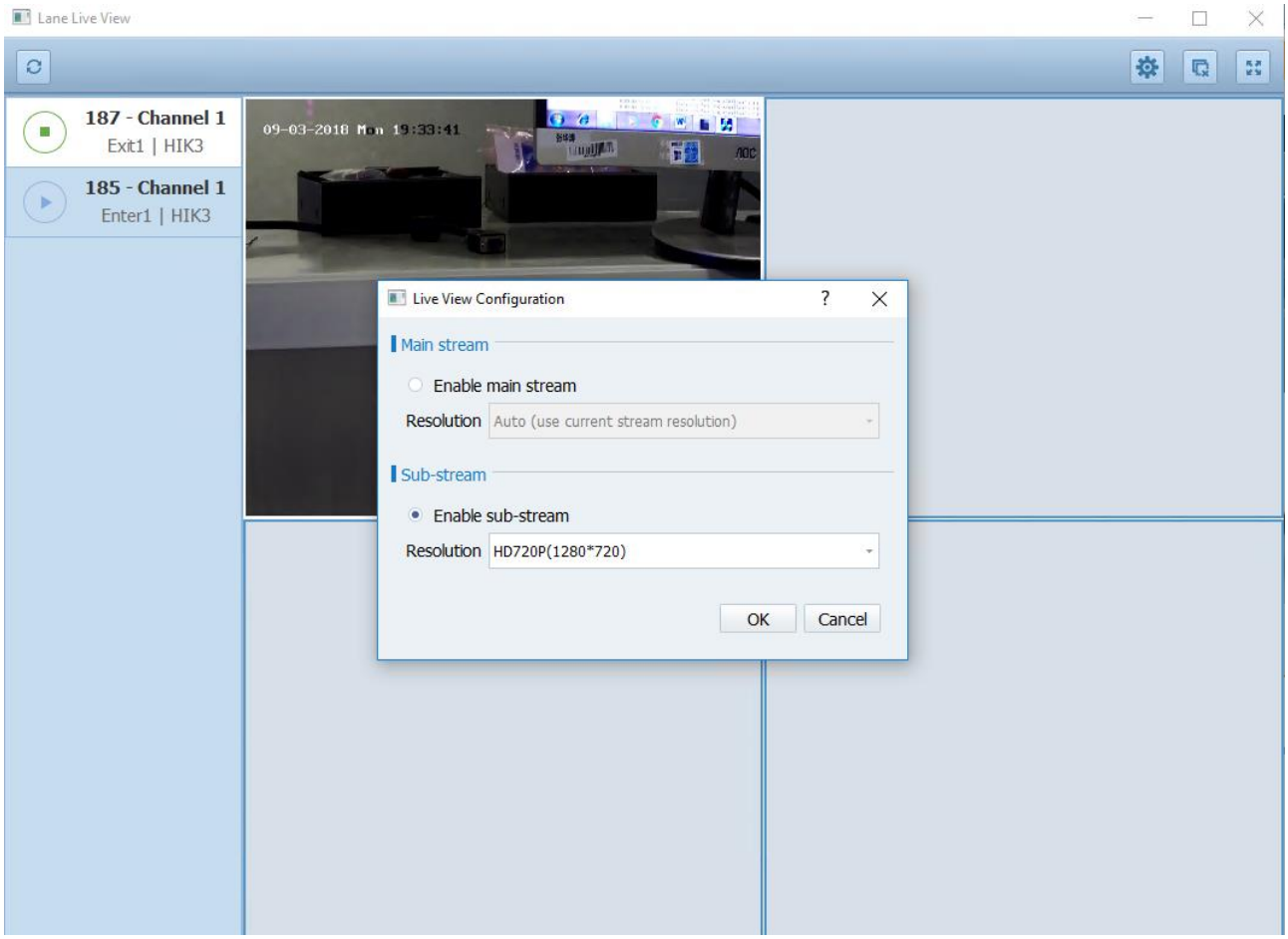


Figure 5-7 Video Live View

5.2 Payment Process

Step 1 Verify vehicle's entering information. You can click the license plate No. or double-click picture in **Passing Record** to edit information.

Step 2 Verify vehicle's exiting information. You can click the license plate No. to edit it if the No. is incorrect.

Step 3 Find the entry record of the vehicle and let the system to calculate the parking fee. Click **Fuzzy Match** if the system fails to find the correct entry record.

Step 4 Set discount rule as needed (not needed in most cases), and click **Pass for Cash Payment (Space)** to let the vehicle exit.

NOTE

In the event that a vehicle cannot exit due to exceptions, you can select **No Entry Record** beside **Manual Entry & Exit**, and then Click **Manual Entry & Exit**. **Pass for Cash Payment (Space)** will turn to green then. Click the button, and the system will broadcast the specific parking fee with the vehicle exiting status will turn to **Passed**.

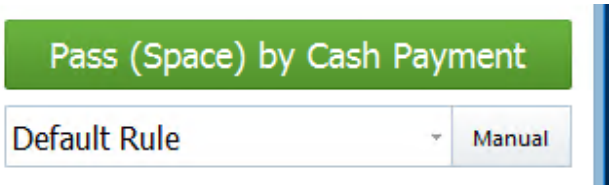


Figure 5-8 Manual Entry & Exit

Chapter 6 Search

You can search information of passing vehicle, parking fee, vehicle in parking lot, payment, card, duty shift, operation, and discount in this module.

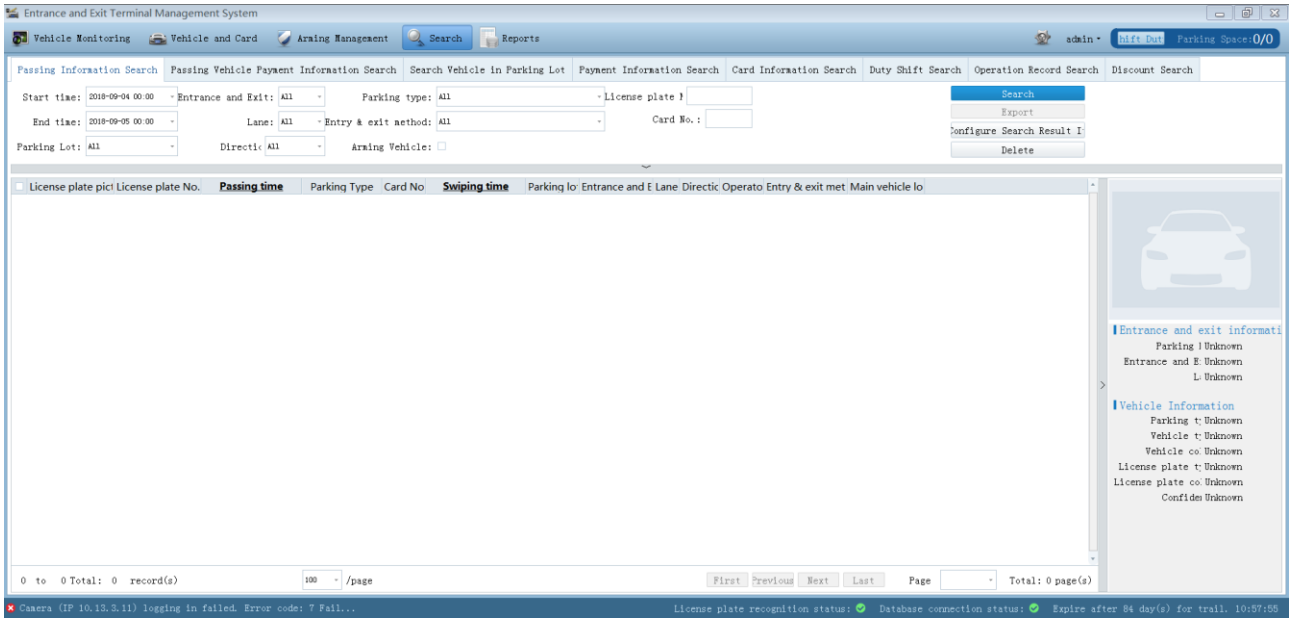


Figure 6-1 Search Interface

6.1 Passing Information Search

Step 1 Click **Search > Passing Information Search**.

Step 2 Enter the required parameters, including **Start time**, **End time**, **Parking lot**, **Entrance and Exit**, etc.

Step 3 Click **Configure Search Result Items**.

Step 4 Check to select the items you want to display in the result sheet.

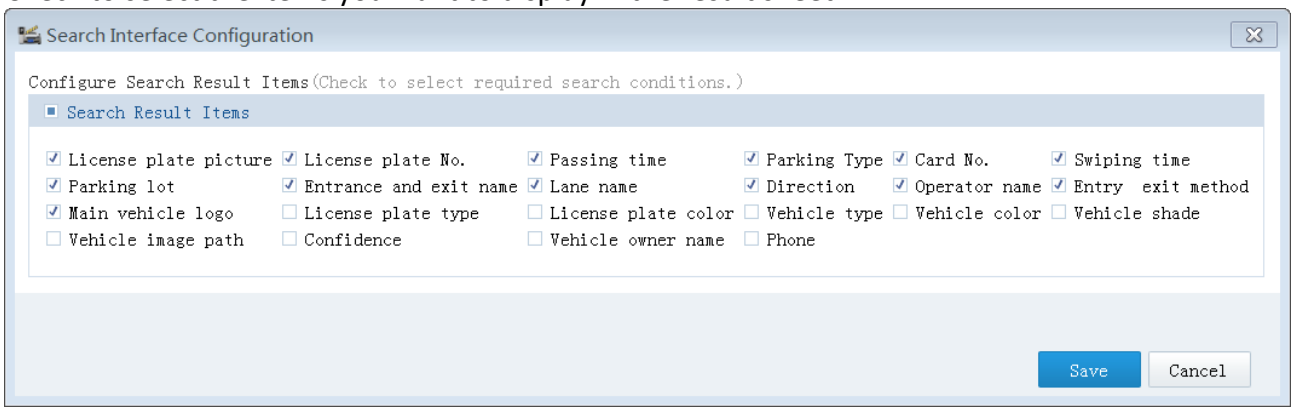


Figure 6-2 Select Search Result Items

Step 5 Click **Search**. All passing vehicle information meeting the requirements will be shown in the tab.

NOTE

- You can select a result entry, and its picture, entrance & exit information and vehicle information will be shown on the right side of the interface.
- You can also select the required results and click **Export** to export the selected information in excel.

6.2 Passing Vehicle Payment Information Search

- You can search payment information of passing vehicles in this tab.
- Search conditions include time period, parking lot name, entrance & exit name, payment method, operator name, exceptional entry & exit rule, vehicle type, parking fee rule, license plate NO., card No., and discount rule.
- You can check to select the required results, and click **Export** to export the selected results in excel.

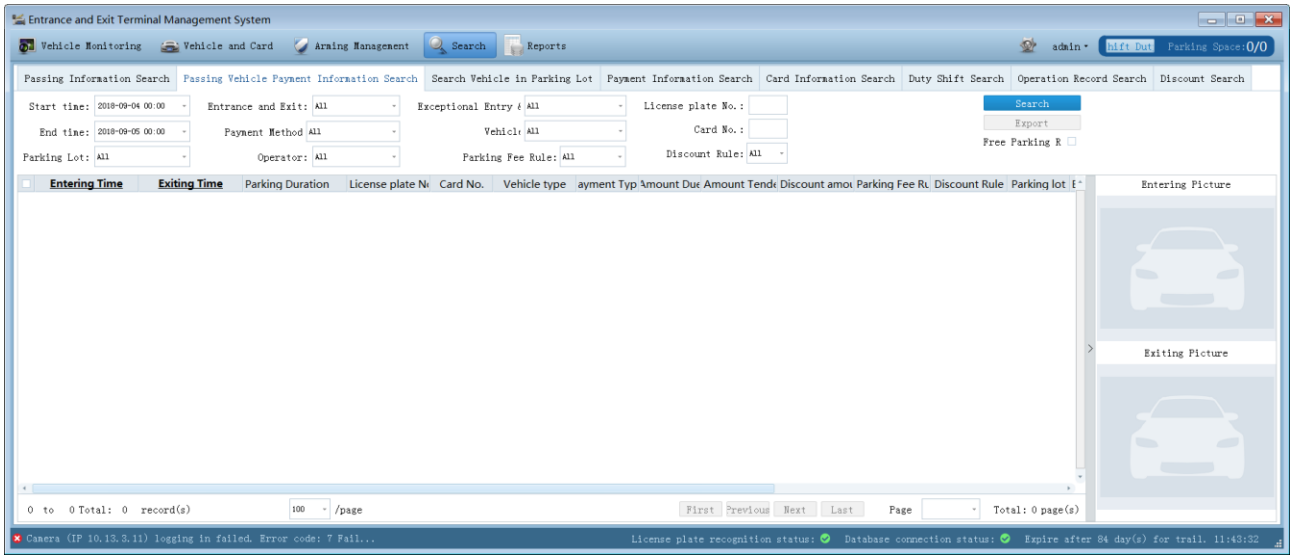


Figure 6-3 Passing Vehicle Payment Information Search

6.3 Search of Vehicle in Parking Lot

- You can search vehicle information that has entry records but no exit records in a certain parking lot in this tab.
- Search conditions include time period, parking lot name, entrance & exit name, parking type, vehicle color, license plate No., and card No.

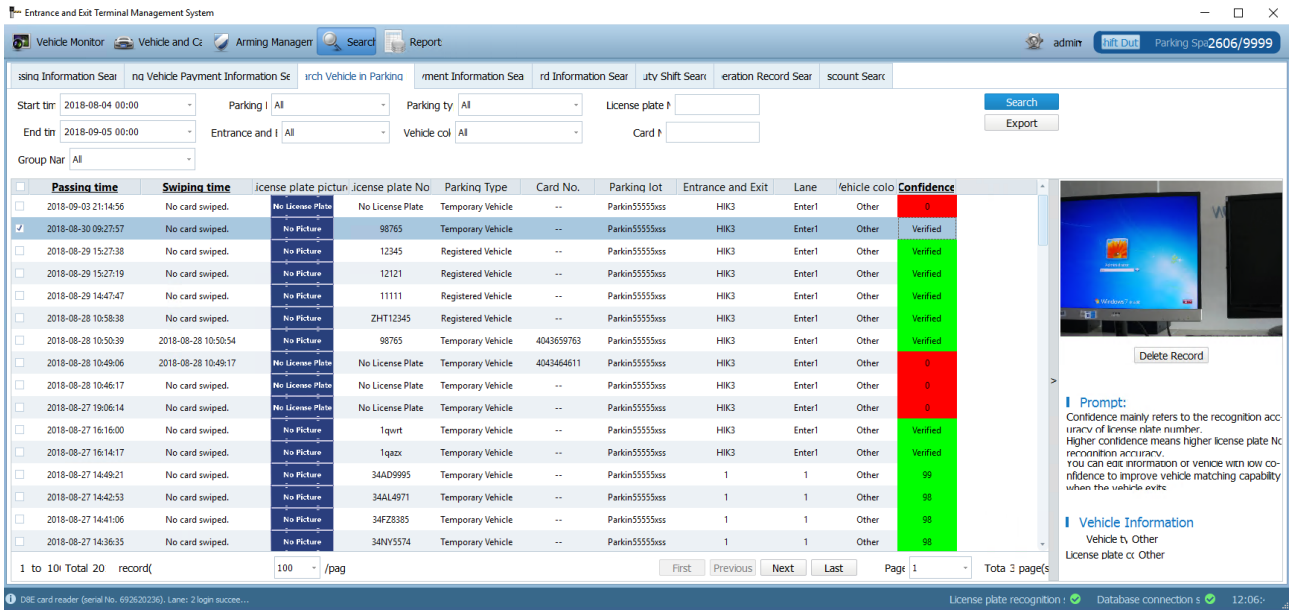


Figure 6-4 Search Vehicle in Parking Lot

- **Confidence** refers to the recognition accuracy of license plate No., and higher confidence value means higher license plate recognition accuracy. If the confidence value is too low, you can double-click the value to edit license plate No. manually in the pop-up window.

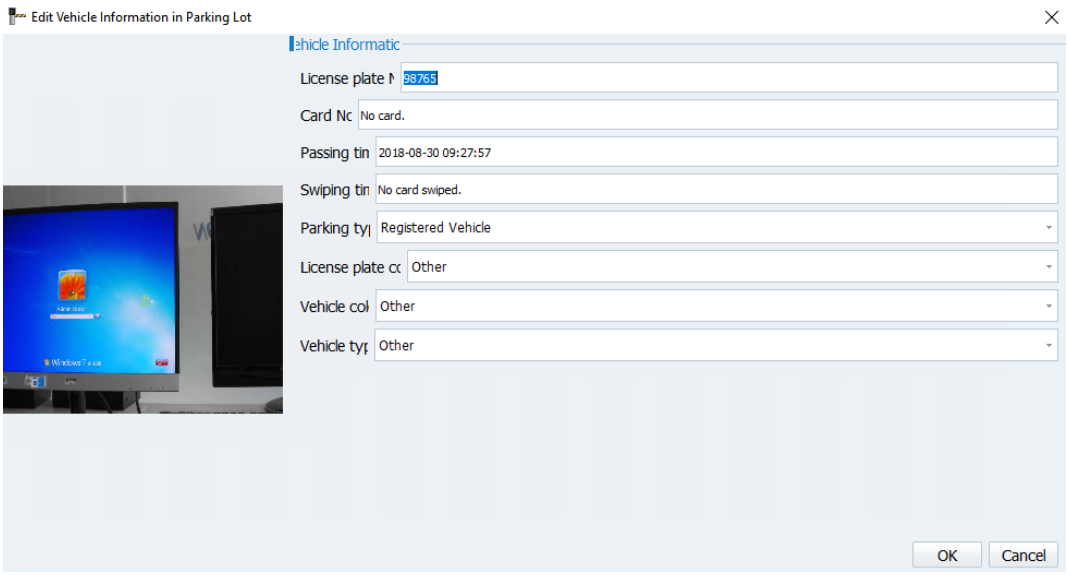


Figure 6-5 Edit License Plate No. Manually

- A vehicle may have entry record but no exit record if it exited in other method and the system did not record. In this case, the vehicle is actually no longer in the parking lot. To delete the record, you can select the entry, click **Delete Record** on the right side of the interface, and click **Yes** in the pop-up window to confirm deletion.

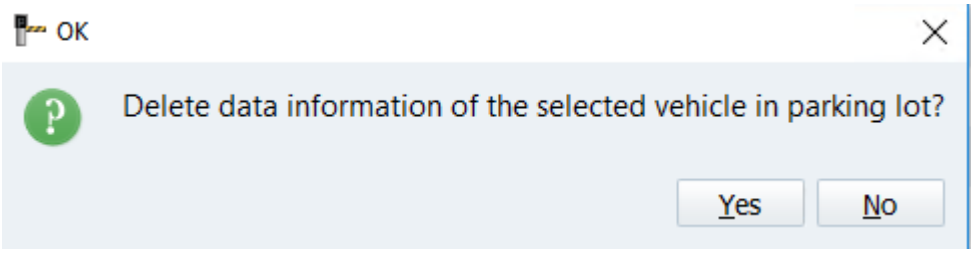


Figure 6-6 Confirm to Delete

- You can check to select the required results, and click **Export** to export the selected results in excel.

6.4 Payment Information Search

- You can search payment information based on time period, payment type, operator name, license plate No. and card No. at **Payment Information Search** tab.
- Payment types include top-up, card cost, renewal, and discount.
- You can check to select the required results, and click **Export** to export the selected results in excel.

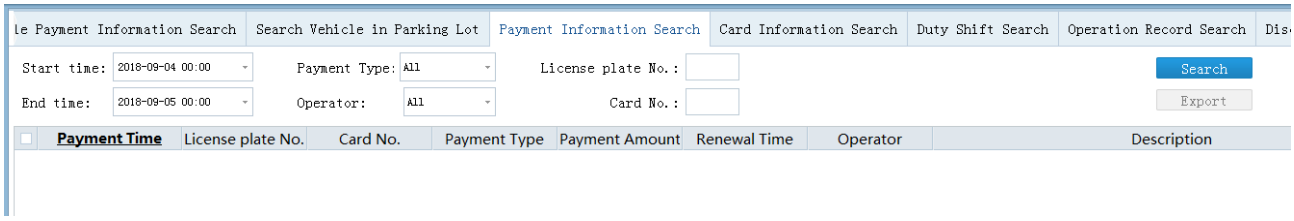


Figure 6-7 Payment Information Search

6.5 Card Information Search

- You can search card information based on card type, card status, operator name, department name issuing the card, card NO., and license plate No. at **Card Information Search** tab.
- You can check to select the required results, and click **Export** to export the selected results in excel.

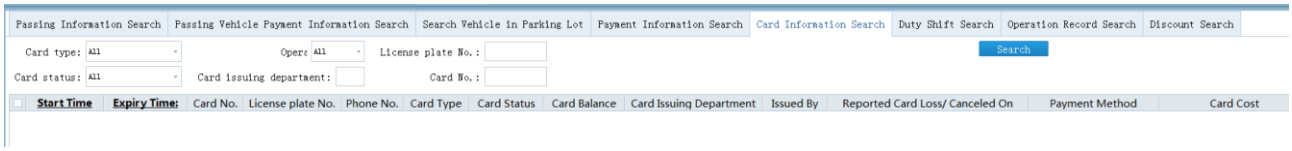


Figure 6-8 Card Information Search

6.6 Duty Shift Search

- You can search duty shift information of operators based on time period and operator name at **Duty Shift Search** tab.
- You can check to select the required results, and click **Export** to export the selected results in excel.

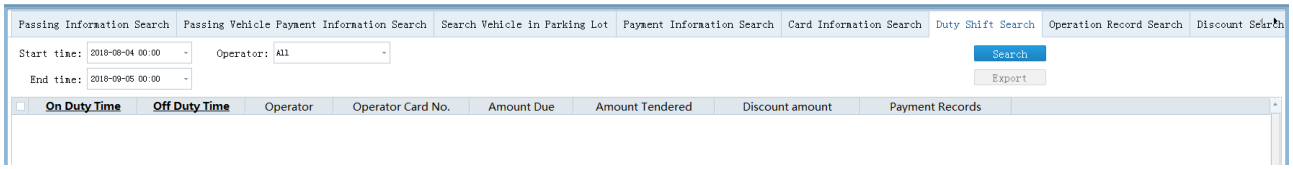


Figure 6-9 Card Information Search

6.7 Operation Record Search

- You can search operation records based on time period, operator name, operation type, license plate No., and card No at **Operation Record Search** tab.
- Operation types include login, exiting system, adding, deleting, editing, searching, and exporting.
- You can check to select the required results, and click **Export** to export the selected results in excel.

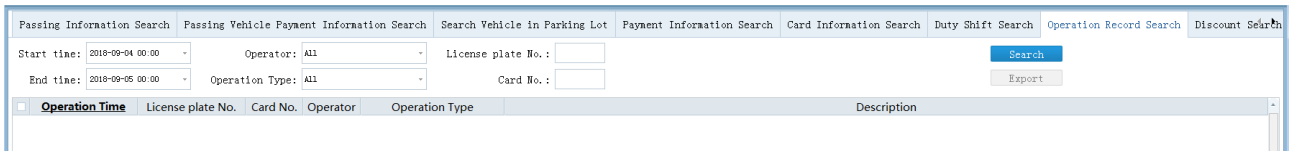


Figure 6-10 Card Information Search

6.8 Discount Search

- You can search discount information based on time period, person issuing the coupon, coupon status (issued or used) and discount rule at **Discount Search** tab.
- You can check to select the required results, and click **Export** to export the selected results in excel.

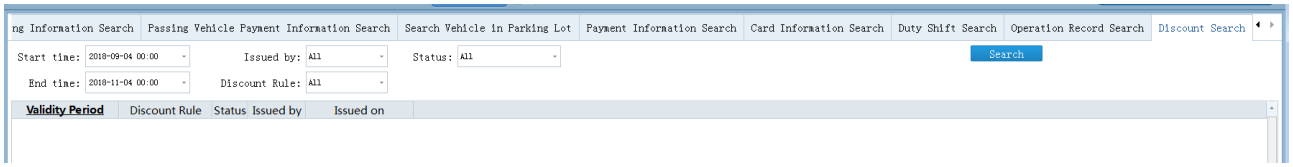


Figure 6-11 Discount Search

Chapter 7 Reports

Statistics of traffic flow and payment information are available in this module.

7.1 Traffic Flow Graph

Step 1 Go to **Reports > Traffic Flow Graph**.

Step 2 Select **Object of Statics**. **Parking Lot** and **Entrance and Exit** are selectable, and select the required parking lot/entrance & exit.

Step 3 Set report options at the bottom left corner.

- **Vehicle type**: Select as needed**.**
- **Parking type**: Select as needed.
- **Report type**: Daily, monthly, and annual report are selectable
- **License plate No.**: Set as needed.
- **Card No.**: Set ad needed.
- **Report time**: Set as needed.

Step 4 Click **Calculate**. The graph will appear with specific figures shown on the top of the interface.

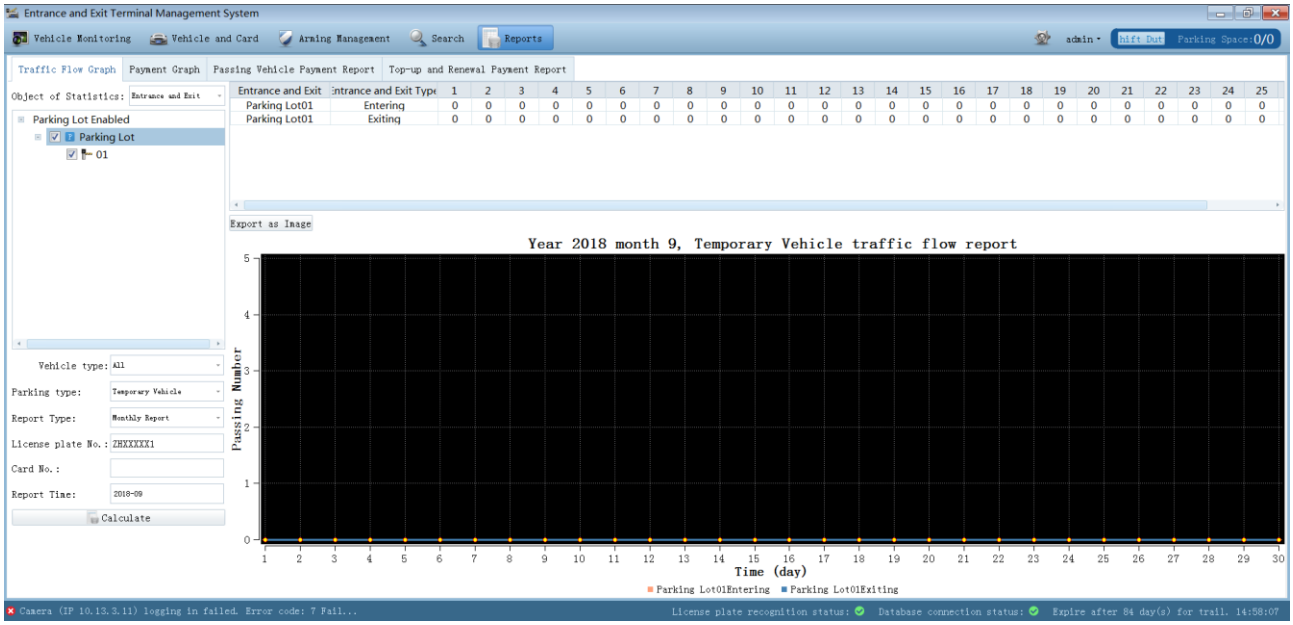


Figure 7-1 Traffic Flow Graph

NOTE

You can click **Export as Image** to export the graph as an image.

7.2 Payment Graph

- You can view graph of payments at **Reports > Payment Graph**.
- Basic operations are similar to that introduced in 7.1 Traffic Flow Graph.
- Selectable **Payment Record** (payment type) includes **All**, **Payment of passing vehicle**, and **Payment of issuing card, renewal and top-up**.

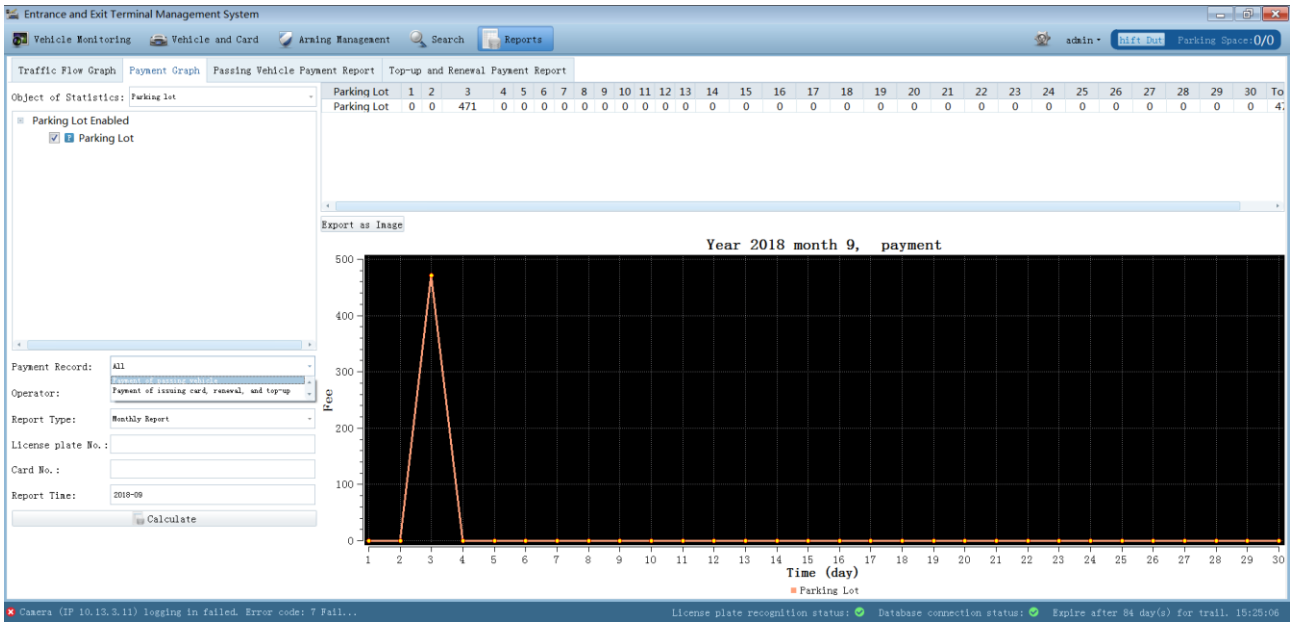


Figure 7-2 Payment Graph

7.3 Passing Vehicle Payment Report

- You can view and generate detailed report of passing vehicle payments at **Reports > Passing Vehicle Payment Report**.
- Set the required report options, including operator name, report type, and repot time, and click **Calculate** to generate corresponding report.
- Click **Export as Excel** or **Export as PDF** to export the report in corresponding format.

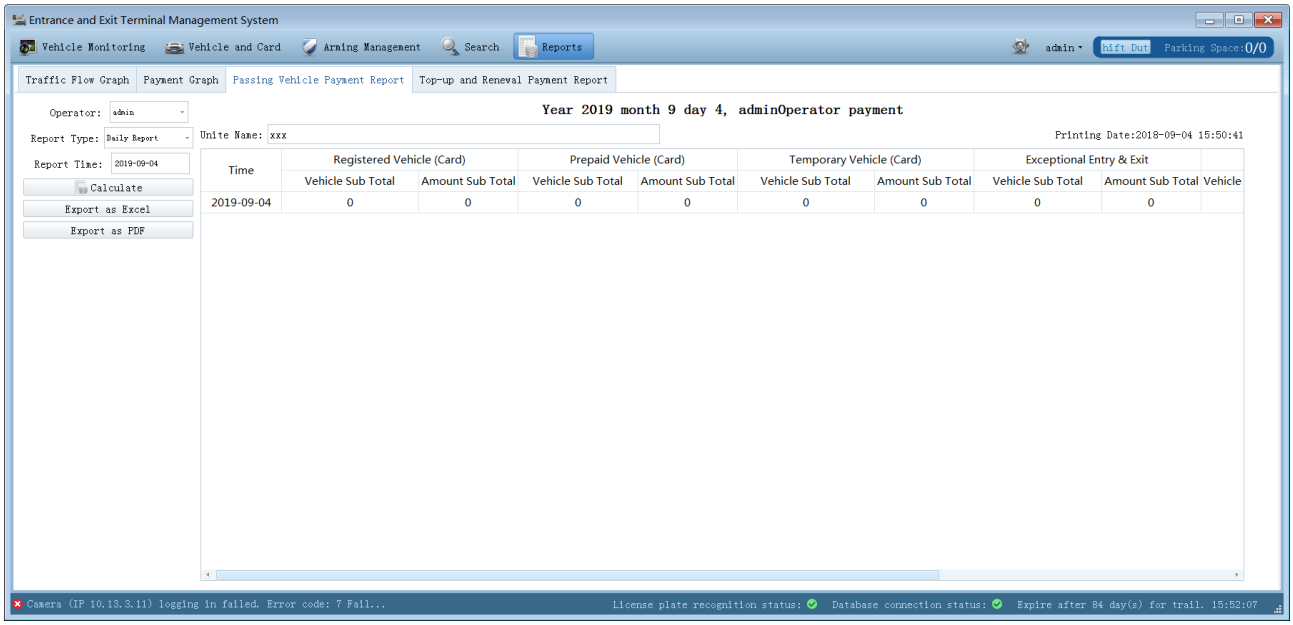


Figure 7-3 Passing Vehicle Payment Report

7.4 Top-up and Renewal Payment Report

- You can view and generate detailed report of card cost, top-up, and renewal payment at **Reports > Top-up and Renewal Payment Report**.
- Basic operations are similar to that introduced in 7.3 Passing Vehicle Payment Report.

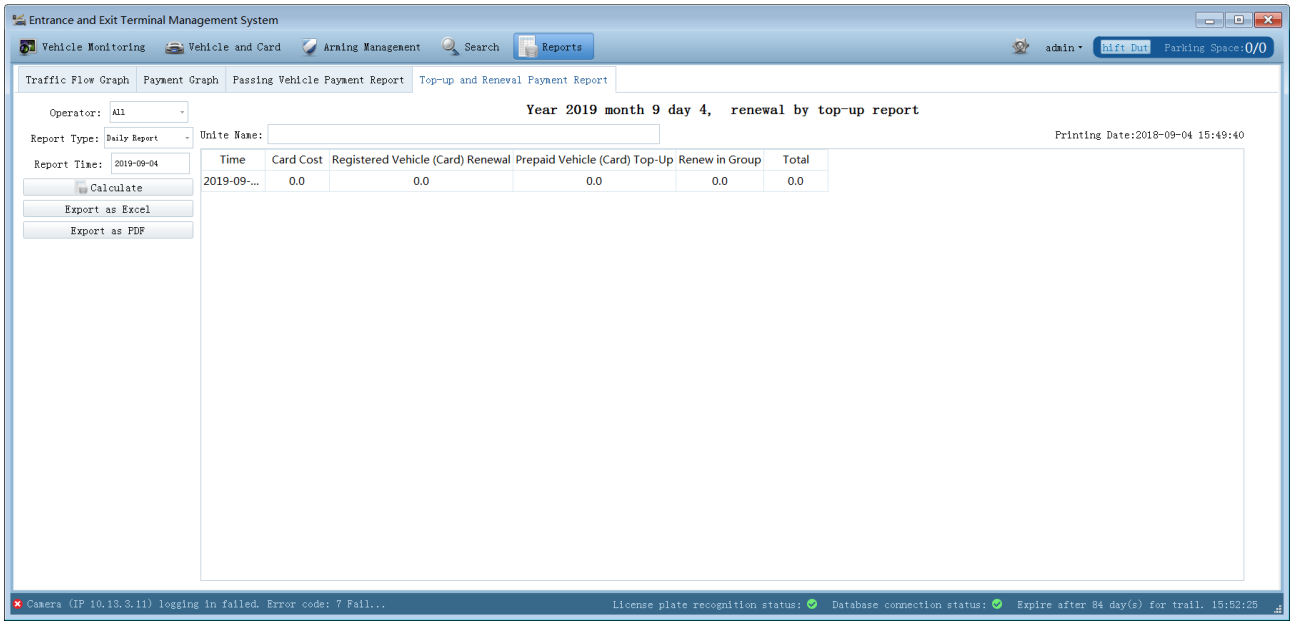


Figure 7-4 Top-up and Renewal Payment Report

Chapter 8 Other Functions

You can click the user name (i.e. admin) at the upper right corner of the main interface to lock system, switch user, change password, off duty, check software version information, and exit the system.

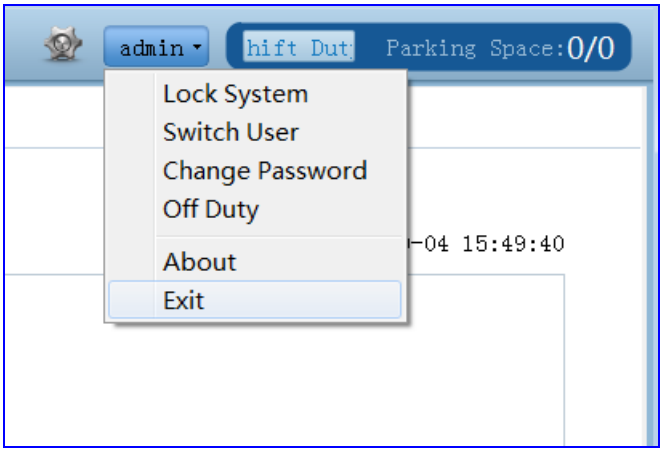


Figure 8-1 Admin

8.1 Lock System

You can lock the system to prevent it from being operated by other person.

Step 1 Click **Lock System** to lock the system.

Step 2 Enter **Password**, and click **Unlock** to unlock the system.

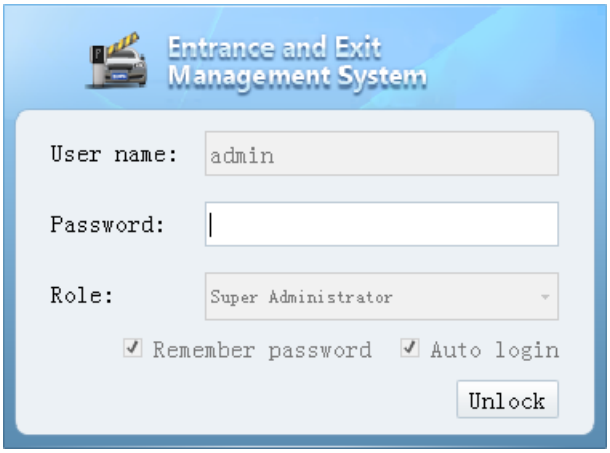


Figure 8-2 Lock System

8.2 Switch User

Step 1 Click **Switch User**.

Step 2 Enter **User name** and **Password** in the pop-up window.

Step 3 Click **Login** to log in to the system.

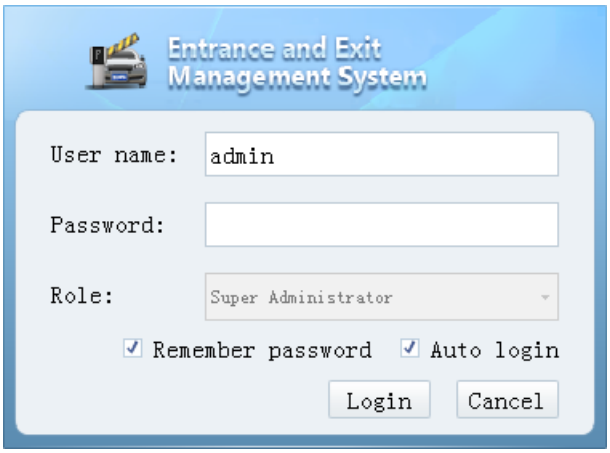


Figure 8-3 Switch User

8.3 Change Password

Step 1 Click **Change Password**.
Step 2 Enter **Original Password** and **New Password**, and enter the new password again.
Step 3 Click **OK**.

WARNING

STRONG PASSWORD RECOMMENDED– We highly recommend that you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. We also recommend that you reset your password regularly. Especially in the high security systems, resetting the password monthly or weekly can better protect your product.

Figure 8-4 Change Password

8.4 Off Duty

You can check payment information in this part when shifting duty.
Step 1 Click **Off Duty**.

Step 2 Check payment and discount details in the pop-up window.
Step 3 (Optional) Click **Print** to print the information if needed.
Step 4 Click **Close**, and a window will pop up, asking if you want to exit the system.
Step 5 Click **Yes** or **No** as needed.

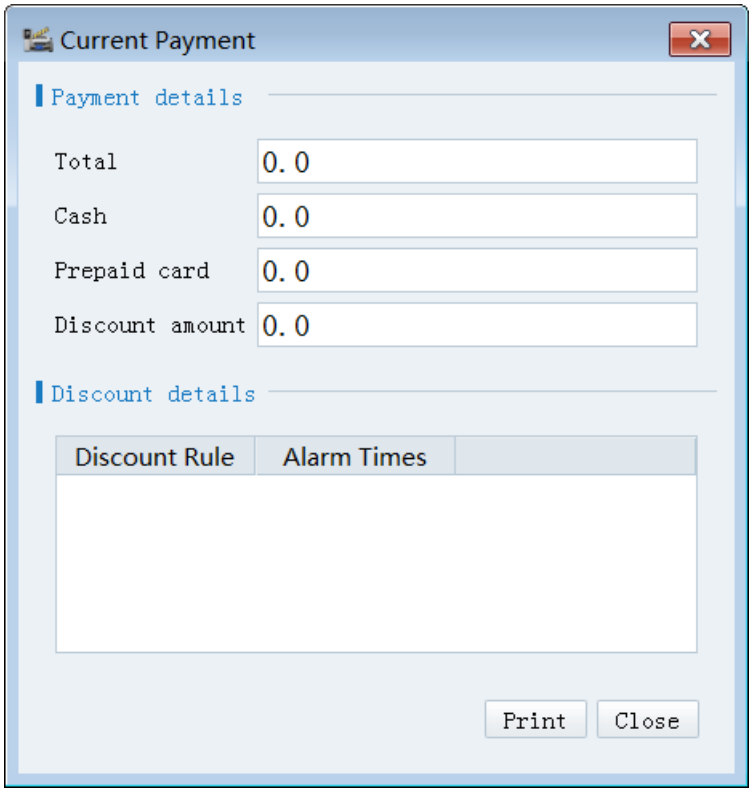


Figure 8-5 Off Duty

NOTE

You can click **Shift Duty** beside **admin** to enter Current Payment dialog as well.

Figure 8-6 Shift Duty

8.5 About

Click **About** to view the software version information.

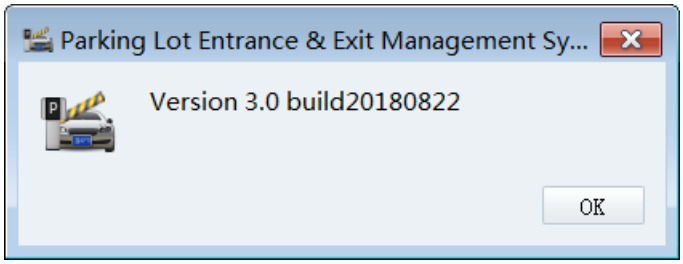


Figure 8-7 About

8.6 Exit

Click **Exit** and **Yes** in the pop-up window to exit the software.

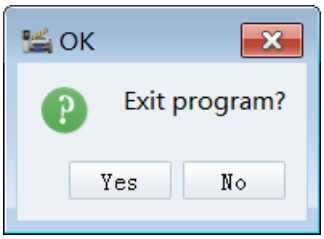


Figure 8-8 Exit

See Far, Go Further