

IC CARD SYSTEM

Function & Design Report

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Chapter 1

Simple Introduction for Whole System

1.1 Simple Introduction:

REALTECH IC Card AUTOMATION system has more stronger function for station's management of oil importing, retailing and stock, it can reduce the customer's cash occupation percent, get much deposit from the driver .the system security reach the bank's standard, archive the function of self-fueling. And also can increase the method of sales promotion, such as give a favourable price based on customer's level.The detail and manual can see the Technical Proposal. Current REALTECH IC Card System will have those advantages:

- 1 Uniform price ---- Once Head office install the IC card system, Head office can control all the unit price for product. And Station can not change the unit price.. base on the different region the product's price is different, also the Head office can set unit price by Region, City or Station.
- 2 Each Head office can receive all transactions from all station.and also included the Import oil information. By this way, the Head office can monitor complete sales of each stations. So in the daily sales report, it will should how many volume in tank, how many volume

import today and how many volume was sold. By this way, the head office will clear to calculate and Monitor the station status.

- 3 Tank System in station, right now not only station office Tank System will have alarm for the leakage, low product, high water or high product, it also will send those information to Head office. by this way, Head office can quickly save the produce and avoid the damage.
- 4 right now Customer can log on the IC Card website to query his transactions. The Group Manager can transfer the money to his driver's card. And the group company can ele-transfer the money to head office, Then Head office will deposit that Amount online. By this way, it will be more convenience for all customers.
- 5 In the station level, it has two level operation roles. The Normal staff only can do some query and shift close. And Only station Manager can do setting functions.
- 6 Functions of New IC Card:
 - Car Number limit--- e.g. the customer need enter the car number when issue the card. Then customer use this card in the station, once the card insert into card the reader, the keypad's display will show this car number. The employee need check this number with fueling car number. If it is match, we can allow it to fuel. If not, we can refuse it.
 - Limit Oil Type--- E.g. according the oil type limit when the card used into station, it will only allow to fill gasoline xx or gasoline xx or diesel.
 - Limit Quantity per Day---E.g it is limited 10 Liter per day when issue the card, this card only allow the owner fill 10 liter per day. Once exceed this quantity, it would not allow this card to fill again.

- **Limit Times per Day---** E.g it is limited 2 times per day when issue the card, this card only allow the owner fill 2 times per day. Once exceed this frequency, it would not allow this card to fill again.
- **Limit Amount Per Day---** E.g it is limited 10 usd per day when issue the card, this card only allow the owner fill 10 usd per day. Once exceed this amount, it would not allow this card to fill again.
- **Limit volume per Month---** E.g it is limited 50 Liter per month when issue the card, this card only allow the owner fill 50 liter per month. Once exceed this quantity, it would not allow this card to fill again.
- **Limit amount per Month ---** E.g it is limited 100 usd per Month when issue the card, this card only allow the owner fill 100 usd per Month. Once exceed this amount, it would not allow this card to fill again.
- **Limit Odometer---** it need enter 10liter (the 100 km fuel consumption) and Oil Quota Range (5%) when issue the card. First time the old odometer is 1000 km and fuel 20 liter. Second time he go to fuel again, the new odometer need during = $1000+20*100*(1\pm 5\%)$
- **Limit Region/City/Station ---** E.g it will only allow this card fuel in the limit Region/City/Station, other place will not allow to fuel.
- **Limit Non-Fuel Service---** E.g it allows this card to do car washing or change engine oil or not.

Base on ITB Project, REALTECH will develop the system as like:

- 1 Each Head office will be change to Sub-central System at Distribution Companies' Headquarters.
- 2 Develop the new Head office--- Central System at SPC Headquarter.
- 3 The Sub-Central will send Daily sales to Central System at SPC Headquarter.

- 4 Central System at SPC Headquarter can montior each sub-central's Sales and stock of oil
- 5 The new Depots system, which will change some information base on the station IC card system.
- 6 we need clear and definite this software only receive the report from sub-central companies. It do not receive every transaction from every station. Why we do this as following reasons:
 1. if SPC headquarter receive every transaction, which we need build very big server and Strong software to hold those datas. For example: CNPC and Sinopec company used 5 years to develop this system, and spend more than one hundred million just to develop this system.
 2. REALTECH system has Designed to prevent the some crimes:
 - REALTECH IC Card dispenser can not change the Eletronic Totalizer (Liter), and every transaction from dispenser will be sent to Station PC.
 - Even the dispenser has problem and the mainboard lost the electronic totalizer. But when it did the last transaction, the dispenser has writen the last totalizer in the station PC. Then the maintain employee change the new mainboard and need write the problem why change the mainboard. And in the shift report this dispenser's balance will be calculated like this. Total filling volume this nozzle =(the end reading of the old mainboard – the

beginning reading of old mainboard) + (the end reading of the new mainboard – the beginning reading of new mainboard).

- In the shift report it will calculate as above format. And the report also will calculate the tank's status, the format is like this: the Balance = the volume at the beginning of the shift + import oil during this shift – the volume at the end of the shift – Total filling volume this shift. This balance can be setting like do not exceed 100Liter. Otherwise will send the report to Headquater. (the volume of tank is read form tank system)
- Right now, we also build the system for the depots. And the depots system also communicate with flow meter and tanks. By this way, the headquater only need do calculation about the balance between the station sales and depots balance.

- 7 If any problem happens, the SPC has super account to log into every sub central system to monitor every transaction.

The whole system includes 6 software as following:

1.1.1 Secret Key Manage:

The main function of secret key manage is to build the secret key.

The system should be inputted 2 different password (the best to be controlled by 2 different person) to build the secret key. The secret cannot change once it is build. It is top important. So some time we

also call it mother card. And the entire IC card which will be issued by this system will be all based on this secret key.

1.1.2 Center Build Card system:

The main function of build card system is the initialization of empty card (supplied by card manufacturer) and the PSAM card. It will fill the sub-key which get from the secret key system into the empty card and the PSAM card, make them become the admissive card of my system. And also write the card type, expire date, card number into those card.

1.1.3 Data Center System:

The main function of data center is to receive and send the data from each gas station and issuing card site. Include the configuration of issuing cards site, gas stations, company information, system user, and employee management, oil product management, unit price management, black, white, grey list inquire, oil import inquire, sales record inquire, customer information inquire.

1.1.4 Issue card Manage:

The main function of issuing card system is to issue card to all different user. To setup the basic information of card user, and setup the card's function, and all the operation of card, include inquire and report for all the operation.

1.1.5 Gas Station Manage:

The main function of Gas station management system is to monitor the fuel dispenser and collects the data of the fuel dispenser and make analysis. Include configuration of fuel dispenser, level monitor system, tank, employee management, shift management, import, retail, stock of oil, check –out, data inquire, communication with the data center.

1.1.6 Center Accounting:

This Accounting system is running in the HO, which receives all the data from station, issue card center, transfer data from custom and etc. The system will account all data and summarize them to report, information for website, etc.

1.2 System configuration requirements HW & SW

1.2.1 HO level:

- CPU: 2.4GH
- RAM: 4GB
- Hard dick : 400G (10 STATION FOR TESTING)
- DISPLAY: 1024*768
- INTERNET: ADSL
- SYSTEM: , Windows Server 2003

- VPN: WE HAVE ONE IN YOUR SIDE, which can supply to 10 station test.

1.2.2 Station level:

- CPU: 2.4GH
- RAM: 2GB
- Hard dick : 100G (10 STATION FOR TESTING)
- DISPLAY: 1024*768
- INTERNET: ADSL
- SYSTEM: , Windows XP
- VPN: small model

Chapter 2

Procedure of System Initialization

2.1 Procedure of System Initialization

- ❖ Secret key Management System
 - Build secret key
- ❖ Build Card System
 - Build PSAM card
 - IC card initialization
 - Build IC card
- ❖ Data Center Management System
 - Center employees management
 - Gas stations management
 - Issuing cards sites management
 - Employees of issuing card sites management
 - Employees of gas station management
 - Oil product management
 - Non fuel product management
 - Oil unit price management
- ❖ Issuing Card System
 - Issue internal card [customer card]
 - Issue employee card

❖ Gas Station Management System

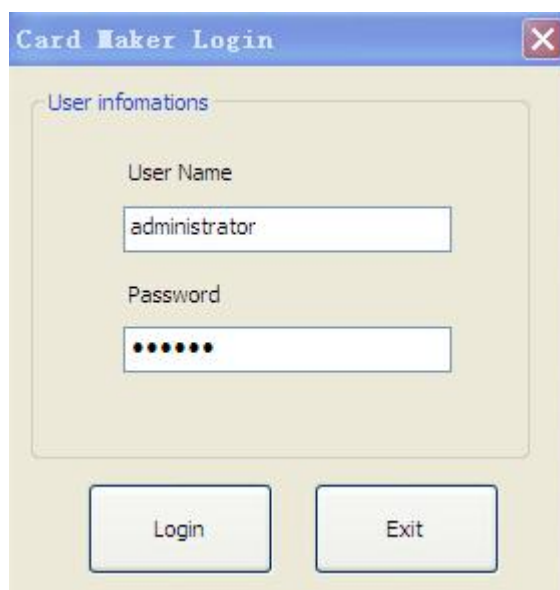
- Employee management
- Gas station basic information configuration
- Oil tank configuration
- Fuel dispenser configuration
- Shift management

Chapter 3

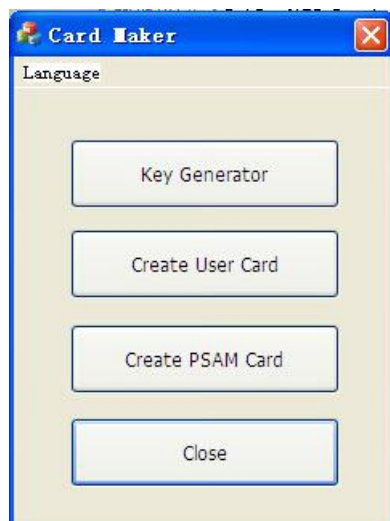
Secret Key Management System

3.1 Build Secret Key

- A. Start secret key management system and enter the name and password.

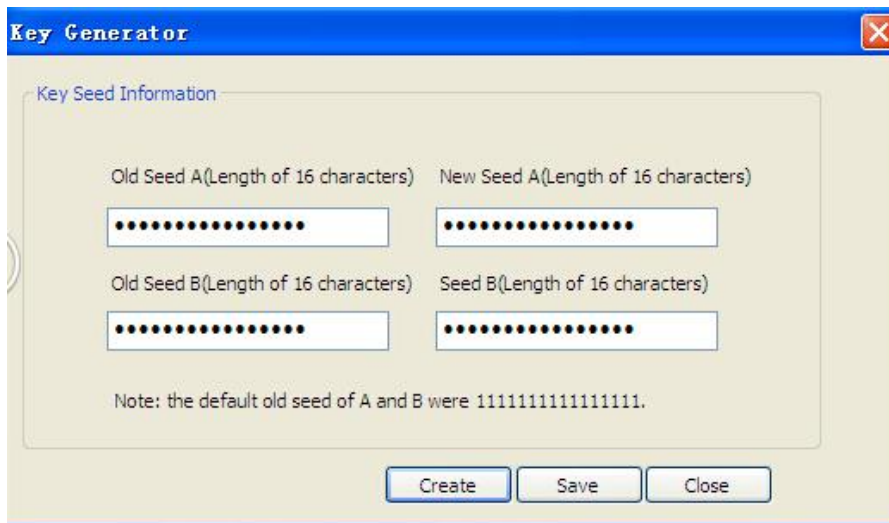


- B. Click “Generate key” button, come out the window as below.



- C. Input 2 different passwords by 2 different senior managers, then

click “ok” the secret key is built. (*Remark: the password should be kept very carefully*).

A screenshot of a software window titled "Key Generator". Inside the window, there is a section labeled "Key Seed Information". This section contains four input fields arranged in a 2x2 grid. The top-left field is labeled "Old Seed A (Length of 16 characters)" and contains 16 dots. The top-right field is labeled "New Seed A (Length of 16 characters)" and also contains 16 dots. The bottom-left field is labeled "Old Seed B (Length of 16 characters)" and contains 16 dots. The bottom-right field is labeled "Seed B (Length of 16 characters)" and contains 16 dots. Below these fields, there is a note: "Note: the default old seed of A and B were 1111111111111111." At the bottom of the window, there are three buttons: "Create", "Save", and "Close".

D. Exit from the secret key management system.

- ✓ The generated key is build of 16 digits; it can be numeric or alphabetic.
- ✓ Once it has been built, it will be stored in the IC card system in the head office.
- ✓ It will be secured and protected as same as bank card system.

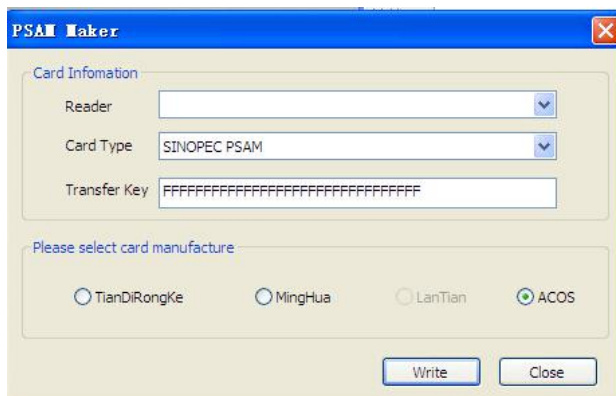
Chapter 4

Build Card System

4.1 Build PSAM Card

A. Start Build card system

B. Click “Build SAM Card”.



C. Insert the PSAM card into the card charger, then input the Transfer Secret Key, click “Build card”. [This key to be provided by REALTECH]

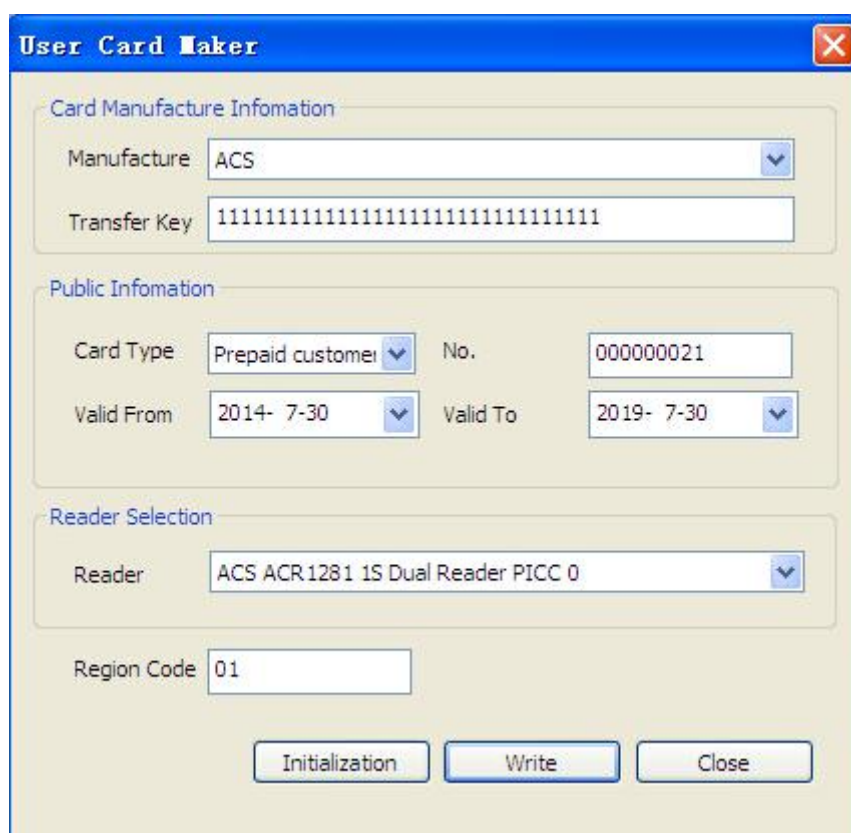
4.2 IC Card Initialization

A. Click “Build User Card”

B. Insert the empty IC card into the card charger, select the card supplier, input the transfer secret key (this secret key is from the card supplier), click “Init First”, means new card initialization.

4.3 Build IC Card

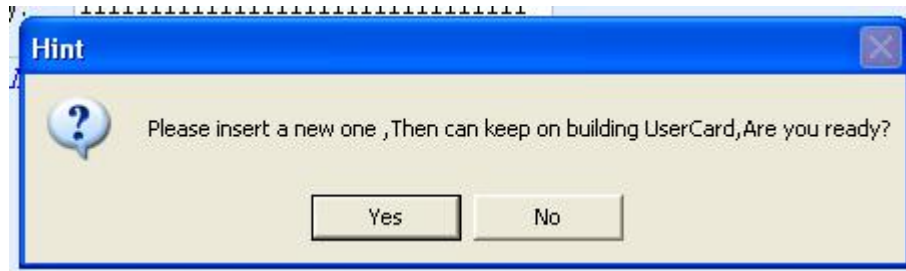
A. Click “Build User Card”



The screenshot shows the 'User Card Maker' application window. It is divided into three main sections: 'Card Manufacture Information', 'Public Information', and 'Reader Selection'. In the 'Card Manufacture Information' section, 'Manufacture' is set to 'ACS' and 'Transfer Key' is '11111111111111111111111111111111'. The 'Public Information' section includes 'Card Type' (Prepaid customer), 'No.' (000000021), 'Valid From' (2014- 7-30), and 'Valid To' (2019- 7-30). The 'Reader Selection' section has 'Reader' set to 'ACS ACR1281 1S Dual Reader PICC 0'. At the bottom, there is a 'Region Code' field with '01' and three buttons: 'Initialization', 'Write', and 'Close'.

B. Insert the initialized IC card into the card charger, select the card supplier, then select the card type, input the serial number(card number), then click “build”. [Is this serial number can be anything up to me or what?] It will be send by card supplier. So it will be from REALTECH.

C. After built successfully, it will come out a clue window, click “ok”, it will come out a window as below, if you want to build same type IC card, please insert another initialized IC card into the card charger, then click “ok”, the new card number will be added 1 automatically.



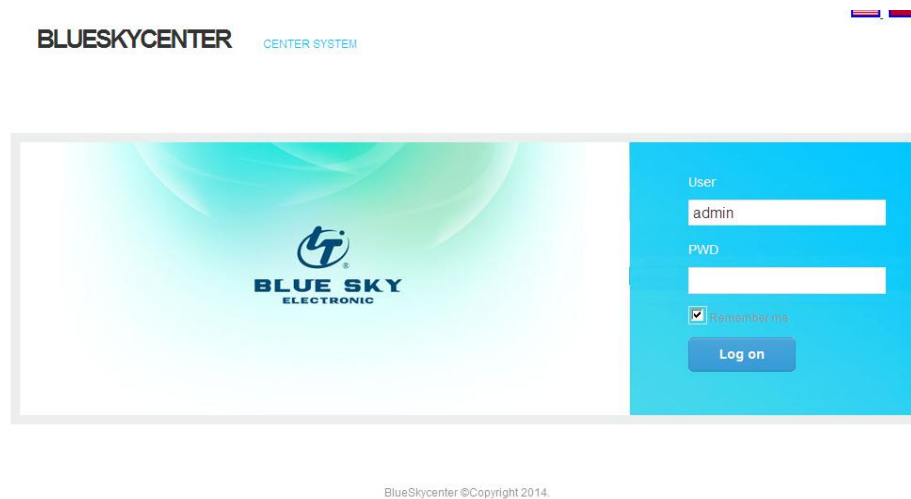
D. After build card, click “close” to exit from the “Build Card System”.

Chapter 5

Data Center Management System

5.1 System Registration

- a) Logon the REALTECH CENTER SYSTEM website, use the super account “Admin” password”456789” click “log in”.



- b) Then Click “Admin ” on the website. The password will 16digit and it can be numeral and character.



- c) Click the menu bar “system”---“registration”, input 16 digits code in the “registered code” item, click “register”. [This 16 digits code

will be used at HO and station, when you frist time logon the system. And this registered code will get from REALTECH].

5.2 System's Users Management

- Setup the Head office information. Click the menu bar "Adiministrator"---"Site Management" and write the information for Head office.
- Setup the Central Users: click the menu bar "Administrator"---"**Employee Management**", click "Create ", Select the Site name for the Head office's Name. input the user name and other information in the "add user" window, the last selection "Role name" please select Admin. then click "Create".

Station Attendant Code	Name	Login name	Inner code	Gender	Birthday	Address	Phone	Postal	Memo	Edit	De
221004	Sudairy Foreman	Sudairy Foreman	1	Male					StationEmployee		
221034	Ahram Foreman	Ahram Foreman	1	Male	6-5-2014 12:00:00 AM	11111111111111111111111111111111	111111111	111111	StationEmployee		
100006	Emad Elsemery1	Emad Elsemery1	2	Male					StationEmployee		
100005	admin	admin	3	Male					admin		
100009	Emad Elsemery	Emad Elsemery	2	Male					admin		
221003	Hakabany Foreman	Hakabany Foreman	1	Male					operator		

BLUE SKY ELECTRONIC Center System NAST 800-124-1246

Administrator Summary Data Station Service Data Analysis Card Service

Station Attendant Configuration

Site Name Name Station Attendant Code(6) Inner code(Scope 0-99)

Login name ID Type ID NO. Gender

Birthday Address Phone Postal

Memo Role Name

StationEmployee

+ Create

admin
StoreUser
CardUser
GroupUser
StoreAdmin
StationEmployee
operator
roy
SiteOperator

Back

c) The Admin account only can use one time. Once we finish update the new operator for the system, please log off Admin, use the new operator account to setting.

BLUE SKY ELECTRONIC Center System NAST 800-124-1246

Administrator Summary Data Station Service Data Analysis Card Service

Home

Hello, Timzheng! Log Off

Dear Timzheng:

1 welcome login in issuing Center System
Center management system is the database arrangement and gathering center of all gas stations, to realizes all the function of configuration, inquiry, statistics and so on for whole system.

2 Technology and services
for more information, you can call our technical service center or visit our website.
Phone: +86-(577)-88616098-8007center
Email: BlueSkycenter@solu.com
Website: BlueSkycenter...

d) Setup the user authority: select the user in the user bar of the “Role Management” window; setup the user function authority in the right menu bar, after setup, click “setting” button to save. (Mark: the employee ID number will be 6 digit)

Center System

Administrator Summary Data Station Service Data Analysis Card Service

Roles Configuration

Create

Role Name	Memo	Edit	Delete	Role Management
admin	administrator			
StoreUser	Storeemployee			
CardUser	CardUser			
GroupUser	GroupUser			
StoreAdmin	StoreAdmin			
StationEmployee	StationEmployee			
operator	operator			
roy	12			

Showing 1 to 8 of 8 entries

First Previous 1 Next Last

5.3 Gas Station Management

- a) Before Setup the gas station number: click the menu bar “Administrator” --- “Region Management”, click “Create”, and input the information.

Center System

Administrator Summary Data Station Service Data Analysis Card Service

Region Management
City Management
Station Management
Roles Management
DataVersion Management
Employee Management
Oil Management
Price Management
Vendors Management
Coupon Management
DB Backup
DB Restore

Configuration

Create

Role Name	Memo	Edit	Delete	Role Management
admin	adminstrator			
StoreUser	Storeemployee			
CardUser	CardUser			
GroupUser	GroupUser			
StoreAdmin	StoreAdmin			
StationEmployee	StationEmployee			
operator	operator			
roy	12			

Showing 1 to 8 of 8 entries

First Previous 1 Next Last

- b) click the menu bar “Administrator” --- “City Management”, click “Create”, and input the information.

BLUE SKY ELECTRONIC

Administrator Summary Data Station Service Data Analysis Card Service

City Configuration

City Code (3) City Name Region Inner code (4)

Create

Code description
City Code: three digits or characters, unique.
Code inner: four digit, two regional internal code, automatic generation of selected area, two for the city internal code, manual input, 0199 range.

[Back](#)

- c) Then click the menu bar “Administrator” --- “Station Management”, click “Create”, and input the information to those items “stations Name”, “station code”, “station manager”, then click “Save”. (Mark: it will Select the station belong to which Region, the item city. Because we can set up the Unit price of Oil base on Region, City and Station)

BLUE SKY ELECTRONIC

Administrator Summary Data Station Service Data Analysis Card Service

Station Configuration

Station Code(7) Station Name Station Type City


Postal Address Phone Fax

Station Manager Contacts 1 Phone 1 Email 1

Contacts 2 Phone 2 Email 2 Contacts 3

Phone 3 Email 3 Memo

Create

- d) Modify the gas station information: in the gas station list there is “Edit” can click , make the gas station information displayed on the top content area, after modify the information, and then click “modify”.

BLUE SKY ELECTRONIC Center System

Administrator Summary Data Station Service Data Analysis Card Service

Station Configuration

selecting conditions

Region: all City: all Query

Create

Station Code	Station Name	Station Type	City Name	Postal	Address	Phone	Fax	Station Manager	Edit	Details	Delete
0000001	公司总部	公司总部	wenzhou								
1000001	温州1#加油站	加油站	wenzhou								
2000001	杭州发卡点1#	发卡点	hangzhou								
2000002	杭州发卡点2#	发卡点	hangzhou								
1000007	温州三号加油站	加油站	wenzhou	132	123	123	123	123			
2000003	温州发卡点1#	发卡点	wenzhou								
1000009	L	加油站	Z1		LL			L			
1000002	杭州 1 # 加油站	加油站	hangzhou								
1000012	chibizhan	加油站	chibi	0573	hubeichibi	880608068					

Showing 1 to 9 of 9 entries

First Previous 1 Next Last

5.4 Issuing Card Sites Management

- Right now IC Card system use Internet to issue the card. So we only need set the station manager's Role management, let them can issue the card when they use the PC in station.
- Increase the issuing card sites : click the menu bar "Administrator"---"Role Management ", input the information to those items "site name", " site number", "site manager", "contact telephone", "address", click "add". (Remark: The issuing card site number is make up of 8 digits, the former 4 digits is 0, the fifth digit is 2, and the last 3 digits is the actual code for card-issuing point).
- Modify the issuing card site information: Double-click the issuing card site record in the list, make the site information displayed on the top content area, after modify the information, and then click

“modify” to confirm.

5.5 Issuing Card Sites & Gas Stations Staff Management

- a) increase employee : click the menu bar “Data Center configuration ”--- “employee manage”, input the employee name in the “ employee name” item, select the certificate type, input the certificate number, then choose the affiliated gas station and issuing card site, click “ADD”. (Mark: the Employee Number will be 6 digits).
- b) Modify employee information: Double-click the employee record in the list, make the employee information displayed on the top content area, after modify the information, then click “modify”.

Name	<input type="text" value="bluesky1"/>	Status	<input type="text" value="Hired"/>
ID Type	<input type="text" value="ID Card"/>	ID No	<input type="text" value="1"/>
Station Name	<input type="text" value="BLUESKY STATION"/>	Memo	<input type="text" value="1"/>

Station ID	Employee Cod	Employee Name	ID Type	ID No.	Status	Memo
00001001	1	bluesky1	1	1	0	1
00001001	2	bluesky2	1	1	0	1
00001001	3	bluesky3	1	1	0	1
00002001	1	bluesky1	1	1	0	1
00002001	2	bluesky2	1	1	0	1
00002001	3	bluesky3	1	1	0	1

5.6 Oil Products Management

- a) Increase oil product: click the menu bar “Administrator”---“Oil Management”, then click “Create”, after input the Name, oil name, Aliase , click “Create”to save.



The screenshot shows the 'Center System' interface for 'BLUE SKY ELECTRONIC'. The top navigation bar includes 'Administrator', 'Summary Data', 'Station Service', 'Data Analysis', and 'Card Service'. Below this, the 'Oil Configuration' section is active. It features three input fields labeled 'No.', 'Name', and 'Alias'. To the right of these fields is a blue button with a plus icon and the text 'Create'. At the bottom left of the form area, there is a 'Back' link.

5.7 Oil Price Management

- a) The gas station management system cannot modify the oil unit price;
- b) The oil price should be modified in the Center system and download to carry out.
- c) Click the menu bar “Administrator” ----“Prices management”, choose the gas station site and oil product, input the new unit price in the “new oil price”, choose the new oil price validate time in the “validate time” item, (If you want the unit price become validate immediately, as long as set the validate time earlier than the current time). Then click “update”, “exit”.
- d) After modify the unit price in the Data Center Management system, the unit price information have not issued to all the gas stations, so need to click “download data center” in the Gas Station

Management system, click the menu bar “fuel dispenser communication” ----“update the oil prices information”. (Mark: the head office can change the price by Region or city)

The screenshot displays the 'Price Configuration' interface. At the top, there is a navigation bar with 'Administrator', 'Summary Data', 'Station Service', 'Data Analysis', and 'Card Service'. Below this, the 'Price Configuration' section includes a 'selecting conditions' area with dropdown menus for 'Region' (set to 'all'), 'City' (set to 'all'), and 'Station Name' (set to 'all'), along with a 'Query' button. A 'Create' button is also present. The main area contains a table with 11 columns: Station Name, Region, City Name, Oil specification, The current price, The new price, The current density, The new density, The effective time, Edit, and Delete. The table lists 9 entries for various gas stations in Wenzhou and Hangzhou. At the bottom of the table, it says 'Showing 1 to 9 of 9 entries' and includes pagination controls: 'First', 'Previous', '1', 'Next', 'Last'.

Station Name	Region	City Name	Oil specification	The current price	The new price	The current density	The new density	The effective time	Edit	Delete
温州1#加油站	zhejiang	wenzhou	#93	5.7	5.7	0.8	0.8	5/24/2014 12:00:00 AM		
温州1#加油站	zhejiang	wenzhou	#97	6.58	26.58	0.5	0.5	3/25/2014 12:00:00 AM		
温州1#加油站	zhejiang	wenzhou	#95	3.58	13.58	0.5	0.5	3/25/2014 12:00:00 AM		
温州三号加油站	zhejiang	wenzhou	#93	5.7	5.7	0.8	0.8	5/24/2014 12:00:00 AM		
温州三号加油站	zhejiang	wenzhou	#97	6.58	6.58	0.5	0.5	3/25/2014 12:00:00 AM		
温州三号加油站	zhejiang	wenzhou	#95	3.58	3.58	0.5	0.5	3/25/2014 12:00:00 AM		
杭州1#加油站	zhejiang	hangzhou	#93	5.3	5.3	0.8	0.8	5/1/2014 12:00:00 AM		
杭州1#加油站	zhejiang	hangzhou	#97	6.58	6.58	0.5	0.5	3/25/2014 12:00:00 AM		
杭州1#加油站	zhejiang	hangzhou	#95	3.58	3.58	0.5	0.5	3/25/2014 12:00:00 AM		

Showing 1 to 9 of 9 entries

First Previous 1 Next Last

Back

The second screenshot shows the 'Price Configuration' form. It includes dropdown menus for 'Station Name', 'Oil specification', and 'The new price', and a text input for 'The new density'. Below these is a date picker for 'The effective time' (set to 7/16/2014 00:00:00). There are three radio buttons: 'Same station all', 'Same in the region', and 'Same in the city'. A 'Create' button is at the bottom.

5.8 Data Version Management

After click the menu bar “Administrator”---“Data Version management”, it will displayed the data version manage window, in the window it record the version number of white list, blacklist, gray list and so on. If these data information changed, then the corresponding version number will add 1 automatically, when the Gas Station Management system download

the data from the data center, if found the version number is different, it will update the information data for different version number automatically.

Center System

Administrator Summary Data Station Service Data Analysis Card Service

Data Version Configuration-Edit

fuel pump config. 22 Update Time 5/16/2014 8:31:00 AM	Oil price 91 Update Time 5/24/2014 2:05:25 PM	Oil specification 19 Update Time 5/29/2014 3:24:36 PM	Basic black list 32 Update Time 5/31/2014 4:29:17 PM
new appended black list 27 Update Time 5/28/2014 8:30:57 PM	New delete blacklist 15 Update Time 5/16/2014 8:31:00 AM	White list 120 Update Time 6/3/2014 2:21:04 PM	Grey list 15 Update Time 5/16/2014 8:31:00 AM
Employee information 106 Update Time 5/30/2014 11:38:46 AM	Coupons Information 28 Update Time 6/3/2014 11:02:49 AM		

All changes Save

5.9 Add the Vendors and Distribution Management

- a) After click the menu bar “Administrator”---“Vendors management”, it will displayed the data version manage window, in the window you can creat “Vendor”. Those information will send to Station, when importing the Oil, we can select the Oil belong to which Vendor.

Center System

Administrator Summary Data Station Service Data Analysis Card Service

Transport Management

Create

Vendor Code	Name	Vendor Category	Edit	Delete
000001	中国石化浙江分公司	Vendor		
000002	中国石化浙江分公司	Transporter		
000003	活动中心	Vendor		

Showing 1 to 3 of 3 entries

First Previous 1 Next Last

- b) Then click the menu bar “Administrator”---“Distribution management”, it will displayed the data version manage window, in the window you can creat “Distribution”. Those information will send to Station, when importing the Oil, we can select the Oil from which Distribution.

5.10 Inquire of Black, White, Grey List

- a) Klist: It means the card list of report loss; it cannot refuel anymore if the card is in the black list. Query the black list: click the menu bar “Summary Data”----“Blacklist query”, input the card number in the “card No.”, then click “query”.

BLUE SKY ELECTRONIC

Administrator Summary Data Station Service Data Analysis Card Service

Black list query

selecting conditions

ASN: Date From: 7/15/2014 Date To: 7/15/2014 Query Print

ASN	Lost time
No data available in table	

Showing 0 to 0 of 0 entries

First Previous Next Last

- b) White list: it is gas station internal card list (employee card, maintain card, checking pump card), these gas station internal card just can be used when it in the white list. Query the white list: click the menu bar “data center query”---“white list query”, select the

gas station, input the card number in the “card No.”, and then click “query”.

ASN	The effective time	Station Name
No data available in table		

Showing 0 to 0 of 0 entries

c) Grey list: the grey card means already consumed but the money still not deducted from the card, it should make ungrey deduction before use. Query grey list: click the menu bar “data center query”---“grey list query”, input the card number in the “card No.”, then click “query”.

ASN	Balance	The amount of the transaction	CTC	Charge source	Transaction time	GMAC	PSAMTID	PSAMITC
No data available in table								

Showing 0 to 0 of 0 entries

5.11 Data Inquire for Each Gas Station

It can inquire the each gas station’s transaction details, tank measuring inquire, tank monitor inquire, daily report inquire, and monthly report inquire in the menu bar “ station Service”.

The screenshot shows the 'Blue Sky Electronic Center System' interface. The top navigation bar includes 'Administrator', 'Summary Data', 'Station Service', 'Data Analysis', and 'Card Service'. The 'Station Service' menu is open, showing options: 'Dealing Query', 'Import Query', 'Import Total', 'Oil gun daily report', 'Oil gun monthly report', 'Tank Query', and 'Real data of tank'. Below the menu, there are input fields for 'selecting conditions': 'Date From' (7/15/2014), 'Date To' (7/15/2014), 'Region' (all), 'Station Name' (all), 'Oil specification' (all), and 'ASN'. A 'Print' button is visible. Below the form is a table with columns: ID, Station Name, Nozzle ID, ASN, Transaction Type CN, Datetime, Oil specification, Unit price, Discount, Preferential Price, Volume, Amount, and Pa A. The table shows a 'Subtotal' row with values 0.00 for Volume and Amount. At the bottom, there are 'First Page', '1', and 'Last Page' buttons.

5.12 Data Collection Inquire for Each Gas Station

In the menu bar “Retail statistic” it can make each gas station’s daily report inquire, monthly report inquire, buy-stock-sell daily and monthly report inquire, oil product daily and monthly report inquire, fuel card daily and monthly report inquire.

5.13 Operation Inquire for Issuing Card Site

- a) Query the group company customer information: click the menu bar “card Service”----The operator can select to inquire all types of IC Card.

The screenshot shows the 'Blue Sky Electronic Center System' interface. The top navigation bar includes 'Administrator', 'Summary Data', 'Station Service', 'Data Analysis', and 'Card Service'. The 'Card Service' menu is open, showing options: 'Prepaid Individual Transaction Query', 'Prepaid Individual Information Query', 'Card Service Log', 'Group Card Report', 'Card Service Logs', 'Card Station Daily Report', 'Customer credit card', and 'Group credit card'. Below the menu, there is a 'Home' button and a 'Dear admin:' message. The message includes two numbered items: 1. 'welcome login in issuing Center System' and 2. 'Technology and services'. The message also includes contact information: 'Phone: +86-(577)-88616098-8007/center', 'Email: BlueSkycenter@sohu.com', and 'Website: BlueSkycenter...'.

- b) Inquire individual customer information: click the menu bar ““card Service” --- “customer info Query” --- “individual customer”, this window can inquire the information for the entire individual customer.



- c) Inquire the card operation process: click the menu bar “business inquires of issuing card site”---“Inquire the card operation process” this window can inquire the detail information for all the card operation.

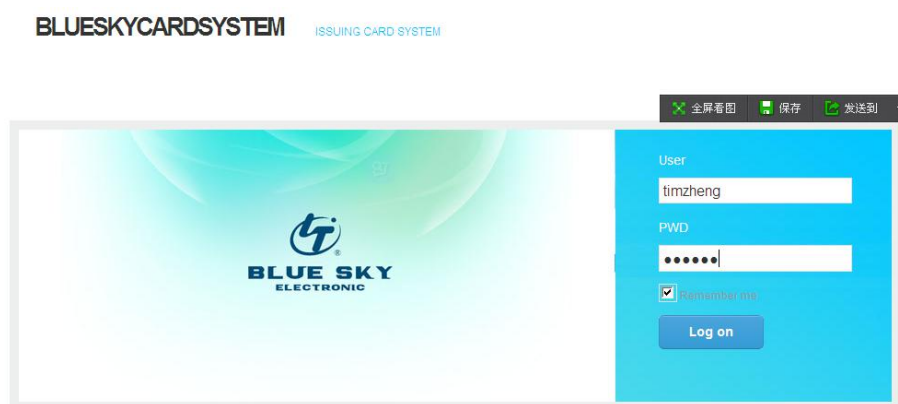


Chapter 6

Issue Card System

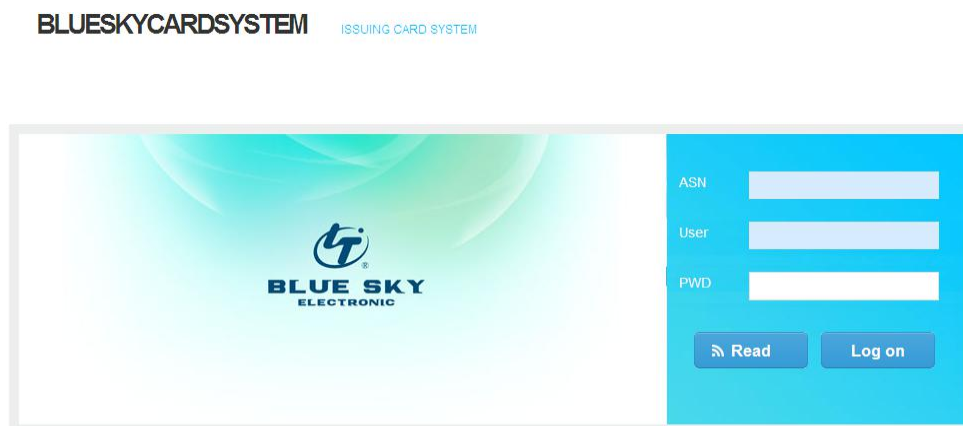
6.1 System Registration:

- a) LINK TO ISSUE CARD SYSTEM’S WEBSITE. AND USE THE CREATED OPERATOR ACCOUNT AND PASSWORD . CLICK “LOG”



6.2 System Management

- a) In the website, the operator also can use the card to logo into the system.



- b) Increase operator in issuing card System: click menu bar “Open Account”----“Useroperator ”, select operator information form “employee Management”, click “Read” then Cleck Ok

Employee information

Site Name: Jed-Sudairy

Station Attendant's Name:

Card Infos

Card No.:

Card Valid Date:

Read OK

6.3 Open Account

- a) Open account for internal card: internal card include Station Attendant, Maintennace Team, Individual Prepaid. Prepaid group Master, Credit Group card, Credit Group Master, Prepaid Group Card. Insert the employee card which is issued “by build card system” into the IC card charger, click menu bar “open account”----“Employee Account”, click “read card” to read the card information into the window, select gas station site, then select the item “employee card”, select the employee, and also setup the password if you think it is necessary (if not, the default password is “9999”), then click “ok” to confirm.

The screenshot shows a web form titled "Open Account-Station Attendant". It is divided into two main sections: "Employee information" and "Card Infos". The "Employee information" section contains two dropdown menus: "Site Name" and "Station Attendant's Name". The "Card Infos" section contains four input fields: "Card No.", "Card Valid Date", "PWD", and "Password Confirm". At the bottom right of the form, there are two buttons: "Read" and "OK".

- b) And the operation of opening account for maintaining card, is the same method like opening account for employee card. After finish opening account, before use this account. The different between employee card and maintaining card: the Employee card only can use into one station. But the maintaining card can use to all station.

The screenshot shows the "issuing card system" interface. At the top, there is a header with the "BLUE SKY ELECTRONIC" logo, the text "issuing card system", and contact information "NAST 800-124-1246". On the right, there is a user greeting "Hello, Timzhong!" and a "Log Off" link. Below the header is a navigation bar with links: "Open Account", "Deposit", "Change", "Amendment", "Report Loss", "Close Account", "Report", "Query", and "Management". The main section is titled "Open Account-Maintenance Team". It contains the same "Card Infos" form as seen in the previous screenshot, with "Site Name" set to "Jeddah Office". The "Read" and "OK" buttons are at the bottom right.

- c) Open account for individual Prepaid card: Insert the user card which is issued "by build card system" into the IC card charger, click menu bar "opening account"----"Individual Prepaid", click "read card" to read the card information into the window, then input the user name, ID number, then select the each card function, click "ok" to confirm then click the "save"

Open Account Deposit Change Amendment Report Loss Close Account Report Query Management

Open Account-Prepaid customer

Card Info

Card No.* Card Valid Date* Account* PWD

Customer Information

User* NAFT customer A C/D* ID Type* ID NO.* Phone Vehicle No

Postal Address Email Job title Company Birthday

PROMO-1 PROMO-2

Note: If the user already exists, you can press the 'user name' 'No.' 'ID Type' 'ID No.' to read user information.

Limit Fuel

Limit Car Number Limit Fuel Type Limit Volume Each Time (L) Limit Selling time per day Limit Amount Per Day(\$ R.) Price Apply %

Limit volume per month(L) Limit amount per month(\$ R.) The 100 km fuel consumption(L) Oil Quota Range % Limit Type Limit Stations

Limit non Fuel

Limit Amount per day(\$ R.) Limit Amount per month(\$ R.) Limit times per day Limit merchandise category Limit station for non fuel

- d) Open account for Prepaid group Master: one group manager card is corresponding to one big company. click menu bar “opening account”----“Prepaid group Master”, click “read card” to read the card information into the window then input the user name, ID number, then select the each card function, click “ok” to confirm then click the “save”. (Mark: for Group Company Master card, only applying one function---“Discount”, other fuction will be applying in the Prepaid Group Card.)

Open Account-Prepaid group Account

Info. of Group User's

Card No.*

Card Valid Date*
1/1/0001 12:00:00 AM

Account*

PWD

Group Informations

Full Name*

Short Name*

NAFT Group A/C(S)*

Certificate No*

Contact

Phone

Fax

Postal

Address

Email

Bank

Account of Bank

Note: If the user already exists, you can press the "Long name" "Short name" "No." or "Certificate No." to read the group user information.

Limit Fuel
Price Apply %

Limit non Fuel

Limit merchandise category

Limit stations for non fuel

ID	Category	Price Apply %	ID	Category	Price Apply %	ID	Category	Price Apply %	ID	Category	Price Apply %
1	机油	<input type="text" value="100"/>	4	水	<input type="text" value="100"/>	11	咖啡饮品	<input type="text" value="100"/>	13	饼干	<input type="text" value="100"/>
2	添加剂	<input type="text" value="100"/>	5	牛奶	<input type="text" value="100"/>	12	车上用品	<input type="text" value="100"/>	14	方便面	<input type="text" value="100"/>
3	防冻冷却液	<input type="text" value="100"/>	6	罐装饮料	<input type="text" value="100"/>						

- e) Open account for Prepaid group Card For Group driver card. click menu bar “opening account”----“Prepaid group Card”, click “read card” to read the card information into the window then Select the this card to belong to which Group Company. Then input the user name, ID number, then select the each card function, click “ok” to confirm then click the “save”.

Open Account-Prepaid Driver

Group Informations

all

Card Info

Card No.*

Card Valid Date*

Account*

PWD

Customer Information

User*

NAFT customer A/C(S)*

ID Type*

ID NO.*

Phone

Vehicle No

Postal

Address

Email

Job title

Company

Birthday

PROJNO-1

PROJNO-2

Note: If the user already exists, you can press the "user name" "No." "ID Type" "ID No." to read user information.

Limit Fuel

Limit Car Number

Limit Fuel Type

Limit Volume Each Time (L)

Limit Station time per day

Limit Amount Per Day(\$ R.)

Price Apply %

Limit volume per month(L)

Limit amount per month(\$ R.)

The 100 km fuel consumption(L)

Oil Quota Range %

Limit Type

Limit Stations

Limit non Fuel

Limit Amount per day(\$ R.)

Limit Amount per month(\$ R.)

Limit times per day

Limit merchandise category

Limit stations for non fuel

- f) Open account for Credit Group Master one group manager card is corresponding to one big company. click menu bar “opening

account”----“Credit Group Master”, click “read card” to read the card information into the window then write into the “Credit of line”--credit limit amount.. Then input the Company name, ID number, then select the each card function, click “ok” to confirm then click the “save”. (Mark Credit customer: the office will give this customer a credit amount (such as 5000usd), and customer do not need deposit money. Then the customer can transfer the money (5000usd) to sub-driver’s cards. And the total amount can not exceed than 5000usd. Every month the system will have a report and send to customer. Let the customer pay the bill. (the credit amount set by Head Office) the credit customer do any change to sub-driver, the driver not need update the card in the station office. and for the credit customer, we need keep the station system on line, otherwise we can not serve them.)

Open Account-Credit group Account

Credit Card Information

Line of credit:
0

Check our Day:

A debit card payment date:

Have used amount:
0

Info. of Group User's

Card No.*

Card Valid Date*
1/1/0001 12:00:00 AM

Account*

PWD:

Read

Group Information

Full Name*

Short Name*

NAFT Group A/CID*

Certificate No*

Contact:

Phone:

Fax:

Postal:

Address:

Email:

Bank:

Account of Bank:

Read Info.

Note: If the user already exists, you can press the "Long name" "Short name" "No." or "Certificate No." to read the group user information.

Limit Fuel

Price Apply %
100

limit non Fuel

Limit merchandise category
Select options

Limit variation for non fuel
Select options

ID	Category	Price Apply %	ID	Category	Price Apply %	ID	Category	Price Apply %	ID	Category	Price Apply %
1	机油	100	4	水	100	11	咖啡饮品	100	13	饼干	100
2	添加剂	100	5	牛奶	100	12	车上用品	100	14	方便面	100
3	防冻冷却液	100	6	碳酸饮料	100						

OK

Print

Marks: In New IC card system will add new limit functions:

- a) Monthly value limit**
- b) City limit**
- c) Odometer limit (we will add the information about “last time odometer” and “last time fueling quantity”, it can change in fuel dispenser. When customer build card, it need write into the hundred kilometers per liter. The fuel dispenser will calculate this time hundred kilometers per liter, if it less this setting one, it will allow to fuel, otherwise, it cannot allow to fuel.**
- d) Product limit**
- e) Monthly volume limit**
- f) Every transaction limit(L/S)**
- g) Time limit per day**
- h) Station limit**

6.4 Deposit

- a) Deposit for i Station Attendant:** Insert the Station Attendant which is issued “by build card system” into the IC card charger, click menu bar “deposit”----“Station Attendant”, click “read card” to read the card information into the window, input the deposit

amount, then click “ok” to confirm. **[Cash Receipt reference] OK,**

It can print the receipt.

The screenshot shows the 'issuing card system' web interface. At the top, there is a header with the 'BLUE SKY ELECTRONIC' logo, the text 'issuing card system', and the phone number '800-124-1246'. On the right, it says 'Hello, admin!' and 'Log Off'. Below the header is a menu bar with options: 'Open Account', 'Deposit', 'Change', 'Amendment', 'Report Loss', 'Close Account', 'Report', 'Query', and 'Management'. The main content area is titled 'Deposit-Station Attendant'. It contains a form with three input fields: 'ASN', 'Balance', and 'Amount'. At the bottom right of the form are two buttons: 'Read' and 'OK'.

- b) Deposit for Prepaid group Master: Insert the Group manager card which is issued “by build card system” into the IC card charger, click menu bar “Deposit”----“Prepaid group Master”, click “read card” to read the card information into the window, input the deposit amount, then click “ok” to confirm. **[after issuing the cards, they will be under the customer control, so we need to do the deposit in two steps, first on account level which should be done by Head office, second on card level which can be done by customer through the WEB application]**

The screenshot shows the 'issuing card system' web interface. At the top, there is a header with the 'BLUE SKY ELECTRONIC' logo, the text 'issuing card system', and the phone number '800-124-1246'. On the right, it says 'Hello, admin!' and 'Log Off'. Below the header is a menu bar with options: 'Open Account', 'Deposit', 'Change', 'Amendment', 'Report Loss', 'Close Account', 'Report', 'Query', and 'Management'. The main content area is titled 'Deposit-Prepaid group Account'. It contains a form with five input fields: 'ASN', 'Balance', 'Amount', 'Payment' (a dropdown menu with 'Cash' selected), and 'Check No.'. At the bottom right of the form are two buttons: 'Read' and 'OK'.

- c) Prepaid group Master Out: this operation means transfer the amount from the group manager card to his Drivers’s card which

the user belong to this company. This Operation can be done by Head office or Group Manager. First insert the manager card with the deposit inside into the IC card charger, click menu bar “deposit”----“manager card transfer”, click “read card” to read the manager card information into the window, then pull out the manager card. Then input the underling use card in the item “driver card”, input the transfer amount in the item “transaction money”, then click “add”, then it will display a transfer record for this card(if have many cards need be transferred, the operation is same). If need to change the transfer money for one card, can double click the card’s transfer record, then modify the amount in the item “transaction money”, then click “change”. After input all the underling user card information, click “manager card transfer out”, then insert the user card into the card charger, click “read card for transfer in”, click “user card transfer in”, then click “ok” to confirm. So the deposit transfer for user card is finished. [ONCE THE TRANSFER BE DONE, THE STATION CAN DOWNLOAD THE INFORMATION, SO THE DRIVER CAN UPDATA THE CARD IN THE STATION OFFICE]

The screenshot shows the 'issuing card system' interface. At the top, there is a header with the 'BLUE SKY ELECTRONIC' logo, the text 'issuing card system', and contact information 'NAST 800-124-1246'. A navigation bar includes links: 'Open Account', 'Deposit', 'Change', 'Amendment', 'Report Loss', 'Close Account', 'Report', 'Query', and 'Management'. The main section is titled 'Deposit Prepaid Group Card Out'. It contains a form for 'Info. of Group User's' with fields for 'ASN', 'Full Name', and 'Balance' (displaying '0'). A 'Read' button is present. Below this is a table for 'Info. of Transfer' with columns 'ASN', 'User', 'Vehicle No', and 'Amount'. The table is empty, showing 'No data available in table'. Navigation buttons 'First', 'Previous', 'Next', and 'Last' are at the bottom right of the table. A 'Create' button is at the bottom left.

- d) Deposit for Individual Prepaid: insert the user card into the card charger, click menu bar “deposit”----“Individual Prepaid”, click “read card” to read the card information into the window, input the deposit amount, click “ok” to confirm.

The screenshot shows the 'issuing card system' interface. At the top, there is a header with the 'BLUE SKY ELECTRONIC' logo, the text 'issuing card system', and contact information 'NAST 800-124-1246'. A navigation bar includes links: 'Open Account', 'Deposit', 'Change', 'Amendment', 'Report Loss', 'Close Account', 'Report', 'Query', and 'Management'. The main section is titled 'Deposit-Prepaid customer'. It contains a form for 'Deposit-Prepaid customer' with fields for 'ASN', 'Balance', 'Amount', 'Payment' (a dropdown menu showing 'Cash'), and 'Check No.'. 'Read' and 'OK' buttons are at the bottom right.

- e) Deposit Credit Group Master Repayment: every month we will send the credit company monthly bill, they need pay this amount by cash or transfer. Once the balance is received, we need do this repayment to clear that month bill and allow them to use the card at the next month.

ASN	Date From	Date To	Due	The date of repayment	Repayment	Payment	Closing Status	Memo
No data available in table								

- f) Charge the deficit for user card: when deposit with wrong deposit, you can use this function to take back the wrong amount. Insert the card with wrong amount into the card charger, click “deposit”----“Prepaid customer Unload”, click “read card” to read the card information into the window, input the deficit amount, then click “enter” to confirm.

ASN	Balance	Amount

6.5 Modify the Information

- a) Modify the information for user card: Insert the user card which is issued “by build card system” into the IC card charger, click menu bar “Change”----“Individual Prepaid”, click “read card” to read the card information into the window, after modify the information, click “ok” to confirm.**[Remote update should be available] OK**

- b) Modify the information for group manager card: Insert the manager card which is issued “by build card system” into the IC card charger, click menu bar “Change”----“Change manager card.”, click “read card” to read the card information into the window, after modify the information, click “ok” to confirm.

- c) Modify the information for Credit Group Master: Insert the manager card which is issued “by build card system” into the IC card charger, click menu bar “Change”----“Change manager

Credit.”, click “read card” to read the card information into the window, after modify the information, click “ok” to confirm.

The screenshot shows a web application window titled "Change Manager Credit". It contains several sections for data entry:

- Credit Card Information:** Includes fields for "Line of credit", "Check out Day", "A debit card payment date", and "Have used amount".
- Old Card Informations:** Includes "Card No.*", "Card Valid Date*", "Account*" (pre-filled with "admin"), and "PWD" (pre-filled with "*****").
- Group Informations:** Includes "Long Name*", "Short Name*", "User ID*", "Certificate No*", "Contact*", "Phone*", "Fax", "Postal*", "Address*", "Email", "Bank*", and "Account of Bank*".
- Limit oil:** Includes "Limit Car Number", "Limit Oil Type" (dropdown), "Limit Quantity (L)", "Limit Times Per Day", "Limit Amount Per Day", "Preferential Price", "Discount", "Limit volume per month", "Limit amount per month", "The 100 km fuel consumption", "Oil Quota Range", "Limit Type" (dropdown, set to "No Limit"), and "Limit Stations" (dropdown).
- Limit in store:** Includes "Limit Amount per day", "Limit Amount per month", "Limit times per day", "Limit Category" (dropdown), and "Limit station in Store" (dropdown).
- New Card Informations:** Includes "New Card ASN" and "New Card Valid Date".

At the bottom right, there are three buttons: "Read Old", "Read New", and "OK".

d) Modify the information for Credit Group card: Insert the manager card which is issued “by build card system” into the IC card charger, click menu bar “Change”----“Pesonal Credit.”, click “read card” to read the card information into the window, after modify the information, click “ok” to confirm.

This screenshot shows a similar web application window, but with a different layout for the "Customer Information" section:

- Old Card Informations:** Same as the previous screenshot.
- Customer Information:** Includes "User*", "User ID*", "ID Type*" (dropdown, set to "ID"), "ID NO.*", "Phone*", "Vehicle No", "Postal", "Address*", and "Email".
- Limit oil:** Includes "Limit Car Number", "Limit Times Per Day", "Limit volume per month", "Limit Oil Type" (dropdown), "Limit Amount Per Day", "Limit amount per month", "Limit Quantity (L)", "Preferential Price", "Discount", "The 100 km fuel consumption", "Oil Quota Range", "Limit Type" (dropdown, set to "No Limit"), and "Limit Stations" (dropdown).
- Limit in store:** Includes "Limit Amount per day", "Limit times per day", "Limit Amount per month", "Limit Category" (dropdown), and "Limit station in Store" (dropdown).
- New Card Informations:** Includes "New Card ASN" and "New Card Valid Date".

At the bottom right, there are three buttons: "Read Old", "Read New", and "OK".

6.6 Un-grey When Online:

Un-grey when online: it means the grey card can be ungrey in the issuing card system when online, and then it will be useful again. The grey card is bringing out by many suddenness statuses, like in fueling process, the card is taken out. Click “read card” to read the grey card information into the window, then click “ok”. (remark: the ungrey process just can be down after this grey record be upload to the data center and been accounted by center accounting system). **[Grey and ungrey concept is on group account level and to affect all card belong to the same group account]**

6.7 Report Loss for Card Password

Report loss for card password: insert the card which the password is forgotten into the IC card charger, click menu bar “info. Amendment”----“lost password”, click “read card” to read the card information into the window, then click “ok”.

The screenshot shows a software window titled "Lost Password". It contains two main sections: "Card Infos" and "Lost Password".

Card Infos

ASN	Card Valid Date	User	Account	ID Type ID
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Address	ID NO.	Phone	Postal	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

Lost Password

Fee 0	Payment Cash	New Password *****	Password Confirm <input type="text"/>
----------	-----------------	-----------------------	--

At the bottom right, there are two buttons: "Read" and "OK".

6.8 Card Report Loss

- a) After the operation “Card report loss”, in gas station management system, need click “download data center” to update the information. [REALTECH WILL SET THE STATION DOWNLOAD THE INFORMATION FROM Head office AUTOMATIC, THIS INFORMATION ALSO WILL BE DOWNLOAD]
- b) Report loss for user card: click menu bar “report loss”----“personal card”, select the ID type, input the certificate number, click “query card”, select the card number for reporting loss, then click “report loss”.

Personal Card

Query

ID Type ID NO. User ID To query the user name

ID

Query

Please enter "ID No.", "User No." or "To query the user name ", then click "Query" button to query the user card information.

Personal Card

User ASN Payment Fee Account

0 Cash 0

Balance of Account Time of Create Card Account site

0 1900-01-01

Account Loss

Report loss for manager card: click menu bar “report loss”----“manager card”, select the company short name, input the company license number, click “query card”, select the card number for reporting loss, then click “report loss”.

The screenshot shows a web interface titled "Manager Card". It has a "Query" section with four input fields: "To query the user name", "Short Name", "No.", and "Certificate No.", followed by a "Query" button. Below this is a note: "Please enter 'User name', 'Short name', 'No.' or 'Certificate No.', then click 'Query' button to query the manager card information." The "Manager Card" section contains several input fields: "Long Name", "Lost card No." (with a dropdown), "Fee" (with a value of 0), "Payment" (with a dropdown set to "Cash"), "Account", "Balance" (with a value of 0), "Account site", and "Time of Create Card". An "Account Loss" button is located at the bottom right.

- c) Report loss for Station Attendant: click menu bar “report loss”----“employee card”, select the gas station, select the internal card type, select the employee name, select certificate type, input the certificate number, click “query card ”, select the card number for reporting loss, then click “report loss”.

The screenshot shows a web interface titled "System" with a sub-header "Employee Card". The "Employee Card" section contains several input fields: "Station Name" (dropdown), "Employee's Name" (dropdown), "Card No." (dropdown), "ID Type" (dropdown set to "ID"), "ID NO.", "Card Valid Date", and "Account site". An "Account Loss" button is located at the bottom right.

- d) Report loss for Maintaining Card : click menu bar “report loss”----“Other Card”, select the gas station, select the internal card type, select the employee name, select certificate type, input the certificate number, click “query card ”, select the card number for reporting loss, then click “report loss”.

The screenshot shows a web interface titled "Others Card Loss". The "Others Card Loss" section contains several input fields: "Card Type" (dropdown set to "[05] Pump Card"), "Station Name" (dropdown), "Card No." (dropdown), "Card Valid Date", and "Account site". An "Account Loss" button is located at the bottom right.

6.9 Reissue/Change Card

- a) When lose card or the card is damaged, need make operation “reissue/change card”. Before this operation, in gas station management system should click “upload data center” and should make accounting in center accounting system . If the former card lose or cannot be read, then should report loss before reissue/change card.
- b) Reissue/change user card: insert the card which is issued by “build card system” into IC card charger, click menu bar “change card”----“change personal card”, input former card number, click “read card”, click “ok” to confirm.

The screenshot shows a web form titled "Change Personal Card" with a light blue header. The form is divided into several sections with expandable/collapsible headers:

- Old Card Informations**: Contains fields for Card No.* (text), Card Valid Date* (text), Account* (text, value: admin), and PWD (password field, value: 6 dots).
- Customer Information**: Contains fields for User* (text), User ID* (text), ID Type* (dropdown menu, value: ID), ID NO.* (text), Phone* (text), Vehicle No (text), Postal (text), Address* (text), and Email (text).
- Limit oil**: Contains fields for Limit Car Number (text), Limit Times Per Day (text), Limit volume per month (text), Limit Oil Type (dropdown menu, value: [unlabeled]), Limit Amount Per Day (text), Limit amount per month (text), Limit Quantity (L) (text), Preferential Price (text), Discount (text), The 100 km fuel consumption (text), Oil Quota Range (text), Limit Type (dropdown menu, value: No Limit), and Limit Stations (text, value: Select options).
- Limit in store**: Contains fields for Limit times per day (text), Limit Amount per month (text), Limit Category (text, value: Select options), and Limit station In Store (text, value: Select options).
- New Card Informations**: Contains fields for New Card ASN (text) and New Card Valid Date (text).

- c) Reissue/change manager card: insert the card which is issued by “build card system” into IC card charger, click menu bar “change

card”----“change manager card”, input former card number, click “read card”, click “ok” to confirm.

6.10 Close Account

Close account for user card: click menu bar “close account”----“personal card”. Select ID type, input certificate number, click “query card”, select user card number, click “clear account”. To close and delete the account.

6.11 Statistical Query

a) Details inquire: click “query”----“All Details”, click “Query”.

BLUE SKY ELECTRONIC

Open Account Deposit Change Info. Amendment Report Loss Close Account Report Query

System

All Details

Filter

Date From: 7/15/2014 Date To: 7/15/2014 Region: all City: all Station Name: all

Transaction Type CN: all Card Type: all

QQuery Print

ASN	Datetime	Transaction Type CN	Amount	Station Name	Operator
No data available in table					

Showing 0 to 0 of 0 entries

First Previous Next Last

Total of Opened Account: 0 Total of Reported Loss: 0 Total of Closed Account: 0

b) Accounts inquire, deposit inquires, and consumer inquires for user card.

BLUE SKY ELECTRONIC

Open Account Deposit Change Info. Amendment Report Loss Close Account Report Query

System

Personal Account

Personal Account

Card No. Balance User Balance of Account Curr

Confine of Card ID Type Account ID NO. Phot

Postal Address

- All Details
- Personal Account
- Personal Deposit
- Personal Consume
- Personal Transfer
- Manager Account
- Manager Deposit
- Manager Transfer
- Accounted bill query
- Not accounted query
- Query System Logs
- Employees card query

c) Accounts inquire, deposit inquires, and consumer inquires for manager card.

BLUE SKY ELECTRONIC

Open Account Deposit Change Info. Amendment Report Loss Close Account Report Query

System

Personal Account

Personal Account

Card No. Balance User Balance of Account Curr

Confine of Card ID Type Account ID NO. Phot

Postal Address

- All Details
- Personal Account
- Personal Deposit
- Personal Consume
- Personal Transfer
- Manager Account
- Manager Deposit
- Manager Transfer
- Accounted bill query
- Not accounted query
- Query System Logs
- Employees card query

6.12 Report Forms

- a) If want to inquire the up-to-date report forms data, need click “upload data center” in gas station management system, then make accounting in center accounting system.
- b) Business daily report: click menu bar “report”----“Daily Sales”, click “query”.

System

Daily Sales

Filter

Date From: 7/15/2014 Date To: 7/15/2014 Region: all City: all Station Name: all

Query Print

Report Daily

Print

Station No.	ASN	Account Datetime	Transaction Type CN	Amount	Payment	Check No.	Fee	Operator
No data available in table								

Showing 0 to 0 of 0 entries

First Previous Next Last

Total of Cash	Total of Fee	Total of Check	Total others	Total of Transfer	Total for Load of Employee Card
0.00 \$	0.00 \$	0.00 \$	0 \$	0.00 \$	0.00 \$

Record of unload or account close.

Print

Station No.	ASN	Account Datetime	Amount	Payment	Check No.	Fee	Operator
No data available in table							

Showing 0 to 0 of 0 entries

First Previous Next Last

Total of Unload	Total of Closed Account	Total of Output	Total of Income	Total of Hand IN
0.00 \$	0.00 \$	0.00 \$	0.00 \$	0.00 \$

- c) Individual user statement: click menu bar “report form”----“individual user statement”, input the card number, click “inquire”.

Personal Account Stated

Filter

User: User ID: ASN: Date From: 7/15/2014 Date To: 7/15/2014

Query ASN Read Query Print

Query ASN means query all ASN by the username or user code

Personal Account Stated

User	Transaction Type CN	Datetime	Amount	Balance of Account	Station Name	Operator
No data available in table						

Showing 0 to 0 of 0 entries

First Previous Next Last

Total of Load	Total of Consume	Total of Unload	Total of Transfer	Balance of Account
0.00 \$	0.00 \$	0.00 \$	0.00 \$	0 \$

- d) Group manager statement: click menu bar “report forms”----“group manager statement”, input the card number, click “inquire”

Manager Account Stated

Filter

User

User ID

ASN

Date From

Date To

7/15/2014

7/15/2014

Query

Query ASN means query all ASN by the username or user code

Bill infomations for group card

Print

Short Name	Transaction Type CN	Datetime	Amount	Balance of Account	Station Name	Operator
No data available in table						
Showing 0 to 0 of 0 entries						
<div>FirstPreviousNextLast</div>						
Total of Load		Total of Transfer		Balance of Account		
0.00 \$		0.00 \$		0.00 \$		

Bill infomations for driver card

Print

ASN	User	Vehicle No	Transaction Type CN	Datetime	Amount	Balance of Account	Station Name	Operator
No data available in table								
Showing 0 to 0 of 0 entries								
<div>FirstPreviousNextLast</div>								
Total of Load		Total for balance of driver card.		Total of Unload		Total of Transfer		Total of Consume
0.00 \$		0.00 \$		0.00 \$		0.00 \$		0.00 \$

Chapter 7

Gas Station Management System

7.1 System registration

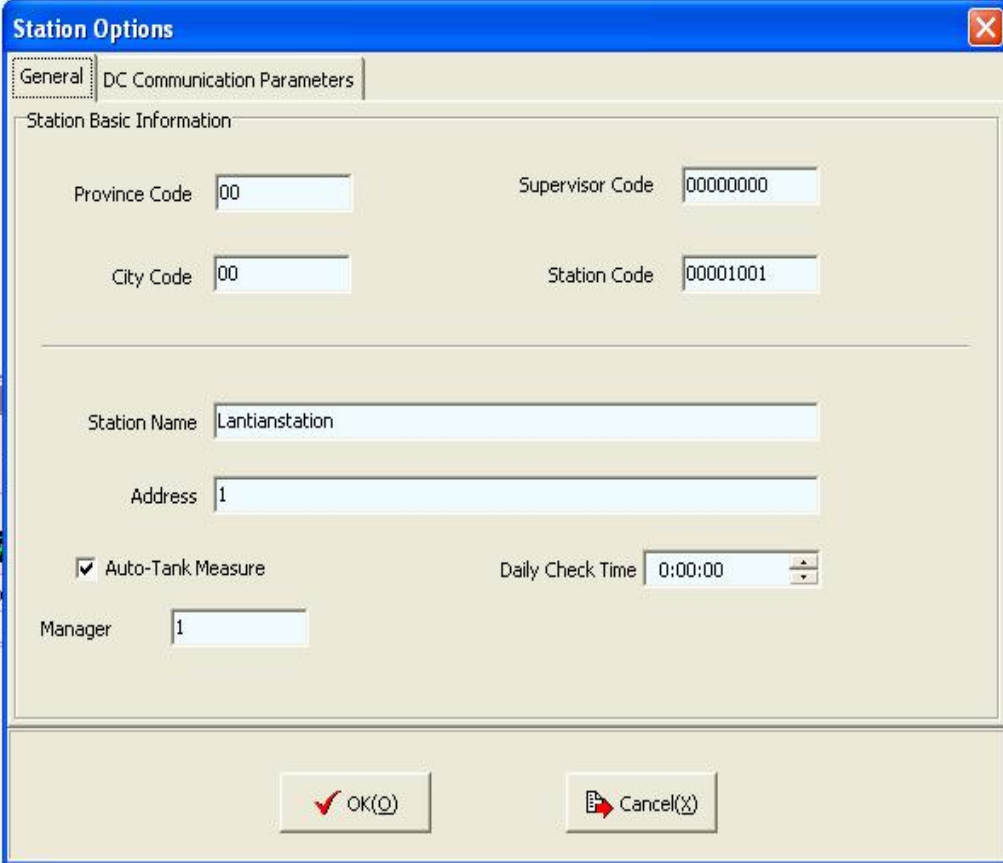
- a) Double-click “gas station management system”, user name “admin”, and initial password “123456”, click “login in”.
- b) Click menu bar “system management”----“registration”, input 16-digit registration code in the item “registration code”. Then Click “download center data” in toolbar.



7.2 Station Configuration

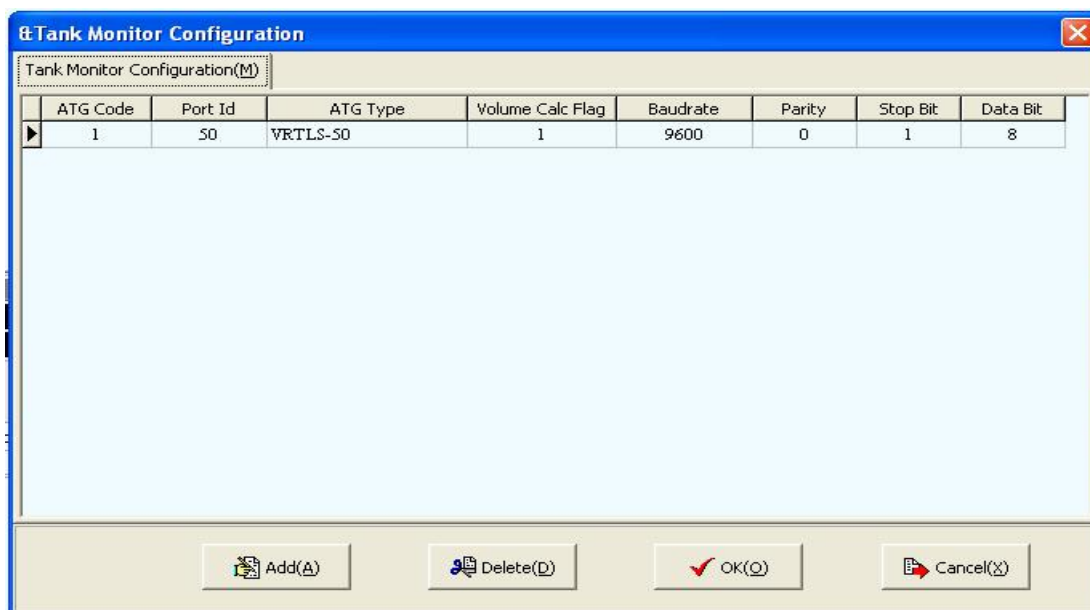
- a) Please re-startup the gas station management system after finished all configuration.
- b) The basic information configuration for gas station: click menu bar “system Configuration” —“ station options”, “ a. b .c” in “**area code**” and “city code”, input 000, and input 000000 in “station code”, Input gas station name, address and the name of station

manager. [000 for city and 000000 for station code, mean 3 digits and 5 digits]



The image shows a software window titled "Station Options" with a blue title bar and a close button (X) in the top right corner. Inside the window, there are two tabs: "General" (selected) and "DC Communication Parameters". The "General" tab contains a section titled "Station Basic Information". This section includes several input fields: "Province Code" (00), "City Code" (00), "Supervisor Code" (00000000), and "Station Code" (00001001). Below these is a "Station Name" field containing "Lantianstation" and an "Address" field containing "1". There is a checkbox labeled "Auto-Tank Measure" which is checked, and a "Daily Check Time" field set to "0:00:00". At the bottom left of the form is a "Manager" field containing "1". At the bottom of the window are two buttons: "OK(O)" with a red checkmark icon and "Cancel(X)" with a red X icon.

- c) Tank monitor configuration: if without tank monitor, skip this operation. Click menu bar “system Configuration”—“tank monitor configuration” , click “add”, input tank monitor port number, select “tank monitor type”, click “ok” to confirm.



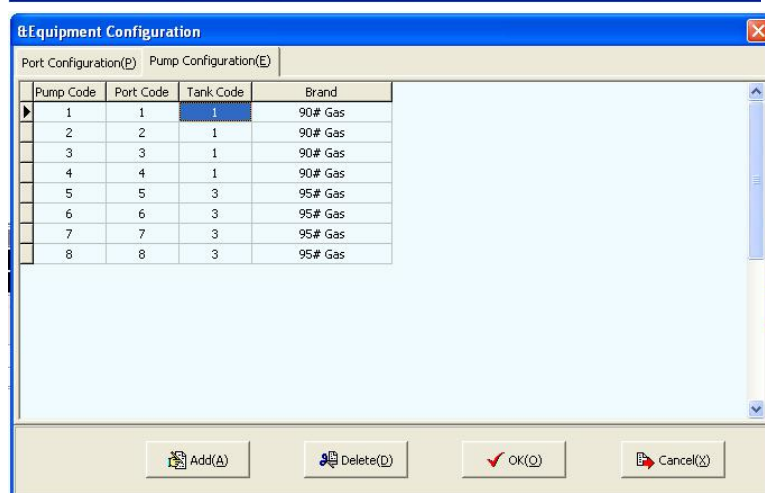
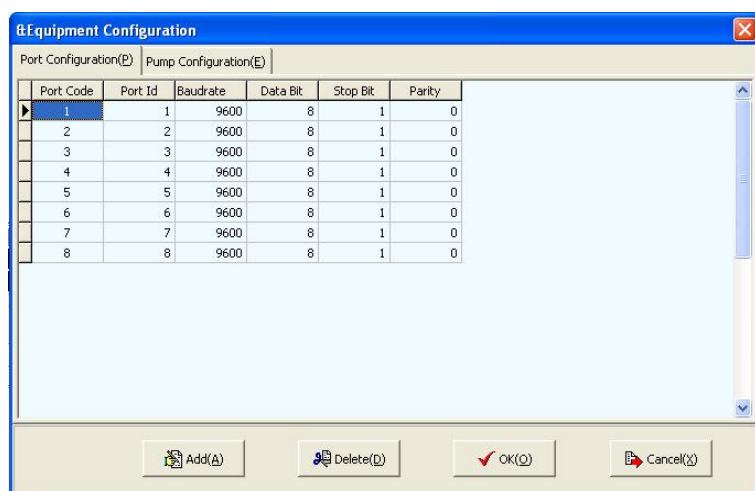
d) Tank configuration: click menu bar “system Configuration”—“tank configuration”, click “add”, click “grade name”, select oil product, input the data like tank height, volume, high oil level, low oil level, high water level, oil spill, low temperature ,input the number of tank monitor and the number of probe. (Mark: Tank ID 00)

Tank Code	Grade Name	Height	Volume	ber Oil Lim	er Oil Lin	Water Li	verflow Lil	Temp L	TG Cod	G Narr
1	93# Gasoline	3000	3000	2700	200	100	2800	14	1	1
2	93# Gasoline	3000	3000	0	0	0	0	0	1	1
3	93# Gasoline	3000	3000	0	0	0	0	0	1	1

- e) Tank volume table configuration: if without tank monitor, please skip this operation. Click menu bar “system Configuration”—“ tank volume table configuration”, click “import data”, select tank number, click “import”, select the document of volume table, click “open”, after operation, click “save”, you can also setup the document of volume table manually through the button of “add”, “delete” and “rebuild”.

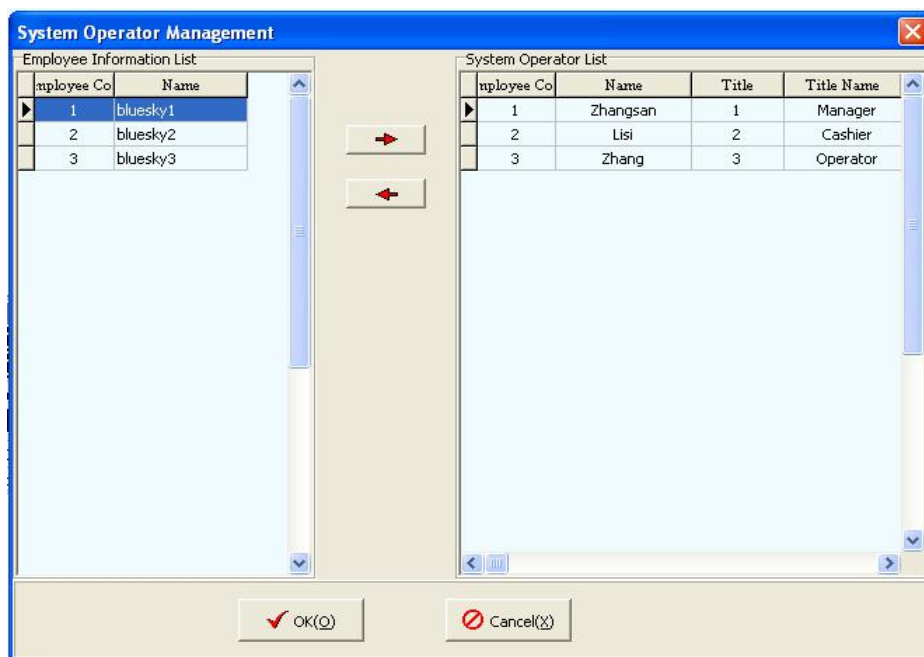
Height	Volume
--------	--------

f) Pump configuration: click menu bar “system Configuration”----“equipment configuration”, click “Port Configuration”, click “add”, input the port number which serial port is 1(according the beginning port of MOXA card), then click “add” to add the corresponding serial port number according to the nozzle number. Click “pump setup”, click “add” to add corresponding nozzle number according the nozzle number. At last modify the tank number that connect with every nozzle according to the actually connection status. Click “confirm” after modification.



7.3 Operator Management

- a) Operator management: click “system Configuration”—“System Operator Management” of menu, select the operator in left side, click “→” to move it to right side, click “position” ,then, input the number what you want (1-station manager, 2-cashier, 3-operator),click “ok” .The initial password is 123456, please modify it in password management menu after logging in.



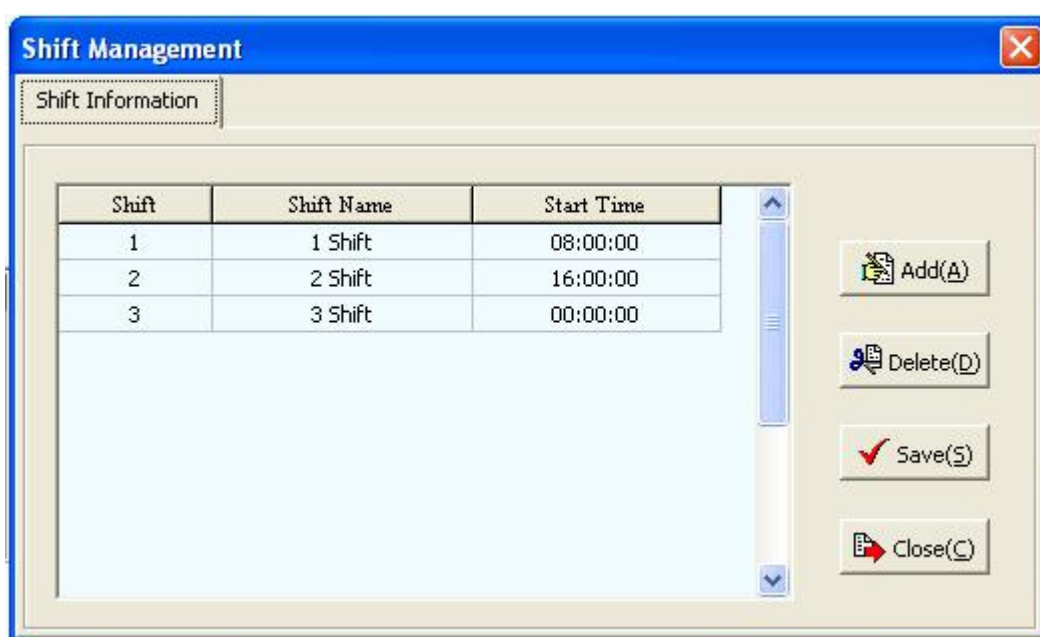
- b) Logging password management: click menu bar “system Configuration”—“Change Operator Password”, input old password, then input new password twice, click “ok”.



7.4 Shift Management

- a) Click menu bar “system Configuration”—“shift Configuration” , click “add” to add the shift time according what you want, input the begin and finish schedule, this do not influent the system, just make a note, after setup, click “save”. (Mark: Replacing the

totalizer board – in case of damage - during the shift has to be considered as separate transaction on the site server by maintenance staff including Station, Nozzle, Date, time, shift, old board reading and new board reading, while the shift closing such transaction has to be considered while calculating the nozzle shift sales。)



7.5 Stock Management

- a) Begin loading oil: when it begin loading oil to tank, click menu bar “Inventory Management----“Start Import Oil”, select the tank that need imported ,then click “import”.

Start Import Oil

Select Tank to Start Import Oil

Tank	Oil Height	Oil Volume	Oil Temperature	Water Height	Water Volume
1	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00

☒ Start Import Oil(I) ☐ Close(X)

- b) Finish loading: when loading is over, click menu bar “storage management”----“Finish Importing”, select corresponding tank, then click “Finish Importing”.

End Import Oil

Select Tank to End Import Oil

Tank	Oil Height	Oil Volume	Oil Temperature	Water Height	Water Volume
1	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00

☒ End Import Oil(E) ☐ Close(X)

- c) Importing Confirmation: click menu bar “Inventory Management”—“Import oil Check”, there are importing record in the confirmation window. After confirm, select importing shift and measuring person, click “confirm”. Select the tank already finish importing, click “finish importing”. The system can also support

importing manually, click “manual importing”, click “information”, fill in all data in the information window, click “save” and “return”, then “confirm”, this importing process is finished manually.

d) Tank Measure: click menu bar “Inventory Management”—“Tank Measure”, select measure shift and person, click “Update”, then click “record”. [THIS FUNCTION IS FOR THOSE WITHOUT TANK SYSTEM STATION]

e) The stock calculation way

i. Based on the last shift closing balance the system will calculate the stock variance per tank as following:

- Stock variance = tank dipping balance – tank book balance
- Tank book balance = last shift balance + receiving quantity (form tank system) – total sales of all nozzles linked to that tank.

i i. Both actual and book balance should not exceed full capacity of the tank.

f) Warning function: when tank has leakage, high water level, low oil stock, it can send the message or email to someone.

7.6 Communication With Data Center

a) Download center data: click menu bar “DC Data Exchange”—“Download from Data Center”, and then the gas

station management system will download the information such as employee information, price information and blacklist information from the data center. It's Automatic upload and download.

- b)** Upload to data center: click menu bar “DC Data Exchange”—“upload to Data Center”, the station will upload the data such as transaction record, daily report, monthly report to the data center management system. It's Automatic upload and download.

7.7 Fueling Management

- a) Make shift and check-out: when handing over to next shift, click menu bar “Delivery Management”—“shift check”, check the “check-out” screen if nozzle data and amount is correct, then select current shift , click “make shift and check out” it will display the shift report, then click the printer icon to print it.
- b) Gas station daily check out: the daily check out is made from shift check out, it will bring daily report after daily check out. Click “check out” and “confirm”, after checking out. You can read and print the daily report.
- c) Gas station monthly check out: the monthly check out is made from daily check out; it will bring monthly report after monthly check out. Click “check out” and “confirm”, after checking out. You can read and print the monthly report.

7.8 Data Query

- a) Transaction flow query: click menu bar “Delivery Management”-----“Query Transaction Details”.
- b) Group transaction flow query: click menu bar “Delivery Management”—“Query User Transaction Detail”.
- c) Shift information query: click menu bar “Delivery Management”-----“Query shift check”.
- d) Oil product price query: click menu bar “data query”—“Query oil Unit Price”.
- e) Employee information query: click menu bar “data query”—“query employee information”.
- f) Importing query: click menu bar “data query”—“Query Import Oil Detail”.
- g) Tank measuring data query: click menu bar “data query”—“Query Tank Measure Information”.
- h) Tank alarm query: click menu bar “data query”—“Query Tank Alarm Information”.
- i) Shift report query: click menu bar “data query”—“query shift report”.
- j) Monthly report query: click menu bar “data query”—“query monthly report”, click “print”, you can read and print the report.

k) Note: Please click menu bar “download center data” and “upload data to center” in every day’s making shift and checking-out.

7.9 Customer Payment Model:

In new system, we will increase the scanner on the fuel dispenser and office. So the system will accept the payment by scanner:

- Customer IC card
- Cash
- Credit Card
- Advanced paid coupon (option)
- Main PO (option)
- Sub PO (option)
- Credit coupon (option)

The method of application:

- Customer pay by cash, the employee inserts the employee card and service.
- If pay by main PO 、 Sub PO 、 advanced paid coupon or credit coupon, the employee insert the employee card, **service** and press the “enter” on keypad, and select the payment in keypad, then scan the ticket.