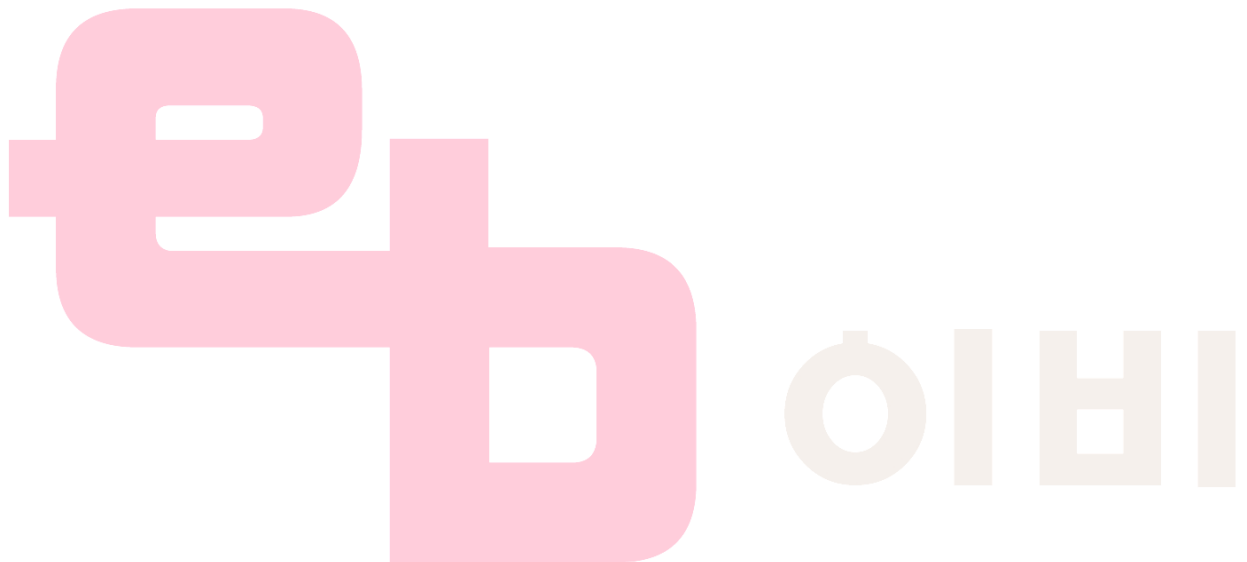Traffic Card System

Manual for Installer of Manned Charger (ECR-300E)

System Name: Manned Charge System
Stage Name: ECUADOR AFC
Version: Ver. 1.0

Revision History

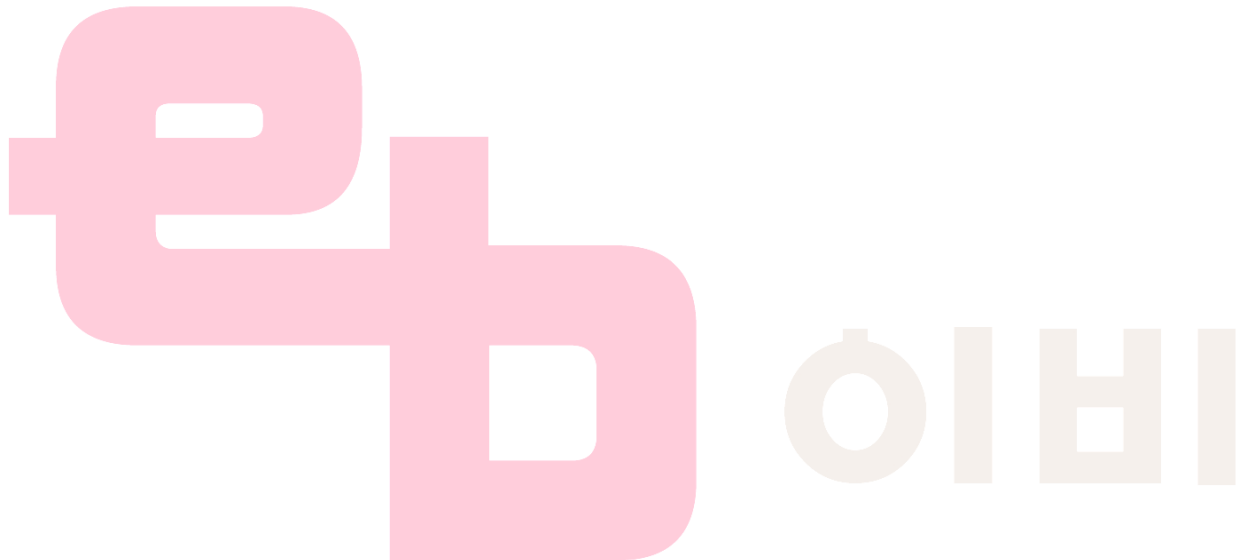| NO	Version	Revision Date	Change Reason[1]	Change Contents[2]	Prepared by	Approved by
1	1.0	01-Nov.-2006	New	Newly prepared	Dong-jin kim	

Contents

7. USER'S INFORMATION

1. Constitution Drawings of Charger System

KMS

HOST   Verifying data

Requesting the authentication of transactions (requesting the limit of a chargeable deposit, creating keys, updating parameters etc.)

HSM

Creating a key for issuing SAM
Creating a key for issuing card

Responding to requested data
Responding to the result of verifying transactions data

Result of transmitting transactions details
Response to charging a deposit
Response to limits
Parameter
Information of a charging place
Information of an issuing company

Transmitting transactions details
. Charging customer card
. Canceling the charge of customer card
Charging deposit card
Requesting the limit of deposit card

Charging card
Issuing receipt

The person

Requesting for charging a card
Requesting the cancellation of charged details

2. Function of Charger

2.1 Function of automatic diagnostics in power on

Charger checks the following in power on.
- Checking whether memory is normal or not
- Checking whether RTC is normal or not
- Checking whether RF Module(RC531) is normal or not
- Checking whether printer(status of paper) is normal or not
- Checking whether MODEM is normal or not
- Displaying the version of charger
- Displaying the number of charger

2.2 Function of testing production

Charger should be delivered from warehouse after you complete the test of the following items.

Whether memory is normal or not
- Whether RTC is normal or not
- Whether RF Module(RC531) is normal or not
- Whether SAM is normal or not
- Whether printer is normal or not (trial printing)
- Whether MODEM is normal or not
- Whether communication ports are normal or not
    COM1: Indicator for customer
    COM2: Exclusive lines (RS-232C)
- Whether keypad is normal or not
- Whether LCD is normal
- Whether IC card slot is normal or not (6 ports)
- RF Card Test(Type A,B)

2.3 Function of handling traffic card

2.3.1 Inquiring the information of prepaid traffic card

Verifying whether there is such abnormality as damaging the data of prepaid traffic card, forging the card or not
Confirming the final use information of prepaid traffic card
- Object of use, distinction of getting on or off, date of use, time, used amount, card number etc.
The balance of prepaid traffic card is displayed to the screen of charger or indicator for customer.

2.3.2 Charging traffic card

Verify whether prepaid traffic card electric wallet is normal or not, deduct the amount whose charge is requested from SAM if the balance of SAM is enough, charge charged amount into prepaid traffic card, and store the transactions data.
Charge fee is downloaded when you charge the next deposit, being calculated in HOST.
You can charge prepaid traffic card within the balance range of electric wallet.
It is the principle to input charged amount by key.
Charge progress status is displayed to an indicator for customer.

You can issue charge receipt choosing the automatic or manual issue, and it is possible to issue it again.

Seoul Mifare card and EB CPU card is currently usable as chargeable card.

2.4 Function of handling SAM

2.4.1 Inquiring the information of SAM

Charger inquires SAM ID and current balance when it inquires the information of SAM.

2.4.2 Charging SAM

Charging place pays a deposit on the account of the bank of its managing corporation, and request for charging SAM to charge host.
Charging place requests for charging SAM to charge host.
Charge host verifies the payment of a deposit from bank, and sends the charge information of SAM to charger. Charger charges SAM embedded according to the information received from charge host.

When SAM is charged, the balance in, before, after charging is displayed.
A charged detail is printed out. (in case that printout of receipt is automatic)

2.4.3 DeductingSAM

In case that charge transactions of traffic card is normal, the amount requested for charge is deducted and transactions details is saved.

Because charged SAM is deducted from current balance, it is necessary to settle up the charged amount received from the user of prepaid traffic card with the administration corporation after the fact.

2.4.4 Approving payment transactions

In the payment transactions of traffic card, charger receives the approval information into SAM (electric wallet) and carries out the payment transactions of traffic card, and saves the transactions details.

2.5 Saving and managing transactions details

Charger stores transactions details in main and backup memory in order to prevent damage or loss.
Transactions details to be saved are as follows.
- Charge transactions details
- Charge cancellation transactions details
- Information details of a charging place
- Information details of issuing companies and keys

2.6 Totaling and inquiring transactions details

It is possible to total transactions details by printer and screen for the convenience of user.
It is possible to inquire total details by day and by period.
It should be possible to total by case in order to prevent the loss of data.
Total details are as follows.
- The number of charge details cases and the amount of money
- The number of cases transmitted/not transmitted and the amount of money
- The number of total use cases standardizing the date of totaling and the amount of money

2.7 Transmitting transactions data

If the status of charger matches with such conditions as the number of regular cases and the maximum transmitted amount of money, charger tries to transmit transactions data automatically.

It is supposed that transmission conditions can be changed in charge host.

When power is on, if there are data not transmitted, charger tries to transmitting them automatically.

Transmitted data are composed of charge data and charge cancellation data.

It is possible to charge SAM when transmitting data is completed.
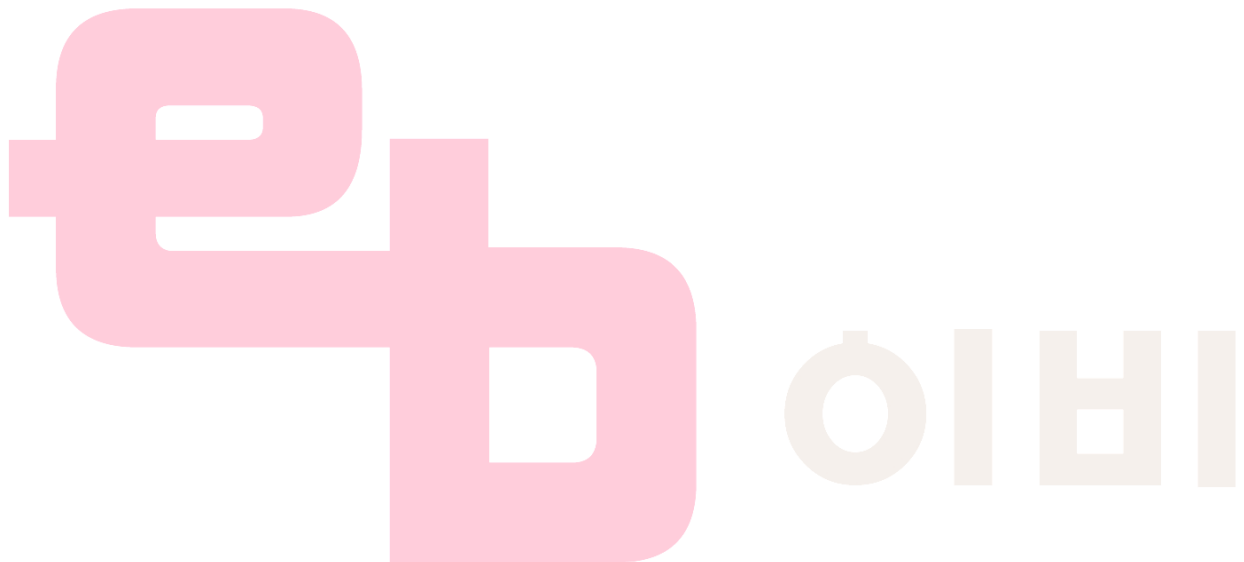
2.8 Managing charger

2.8.1 Installing charger

Charger receives various information and parameters necessary for operating charger by connection using charge host and public phone network(PSTN)

The installation of charger is done by installer and charger receives operation information changed during the use of charger automatically.

All information necessary for operating charger are downloaded in charge host.

Operation information changed during a use is automatically updated from charge host.

It is possible to verify password when inputting power.

The date and time of charger should be matched with those of charge host.

2.8.2 Receiving a deposit

There is a charging place in the account of the bank of the administration corporation so that prepaid traffic card is quickly charged and it is convenient to handle the settlement of the revenue between a charging place and the administration corporation.

Charging fee is automatically paid to a charging place each time a deposit is charged.

2.8.3 Reporting the receipt of a deposit

Bank reports the receipt data of a deposit to charge host in online in order that the deposit paid on the account of the administration corporation is quickly charged into the electric wallet in a charging place.

2.8.4 Setting up charger

You can set up and change the following functions by operating keys in order to manage and use charger.
- Changing date
- Changing time
- Setting up the use of password (when power is on)
- Changing password (when power is on)
- Inquiring the information of a charging place
- Printing out details set up
- Setting up an indicator for customer
- Setting up the automatic printout of a receipt
- Totaling sales
- Changing phone number

2.8.5 Upgrading program

When it is necessary to change program during the operation of charge, it is possible to change it easily by using USB.

2.8.6 Function of dumping saved data

When troubles occur in terminal, you can save all contents saved in memory into computer or other terminal by using USB.

2.8.7 Changing charger

When faults except the fault of memory board and SAM occur, it is possible to reuse by changing memory board and SAM inside charger.

2.9 Function of printing out

Charger can print out the data of all transactions details.
The contents of receipt which can be printed out are as follows.
  -   A receipt of charging traffic card
  -   A receipt of charging SAM
  -   A receipt of canceling just prior transactions
All receipt should be reprinted out.
Sales total can be printed out.
The information of a charging place can be printed out.

2.10 Function of displaying a fare for customer

The balance of prepaid traffic card and the amount requested for charging and the balance after charging are displayed on an indicator for customer with a lighting LED lamp.

2.11 Function of indicating troubles

When the following serious troubles occur, alarm sounds and charger displays the screen requesting A/S and the contents of troubles and codes on LCD screen.

  -   RTC error
  -   SAM error
  -   Error in RF module
  -   Not possible to save memory

3. HARDWARE Specification

3.1 Drawings of external form

MAIN LCD screen   Printer

LED lamp

KEYPAD

Place where you place
your card

RS-232C
for
monitori
ng

RS-232C   Indicator for   RS-485   Power
               customer

Ethernet   Power
                                      switch
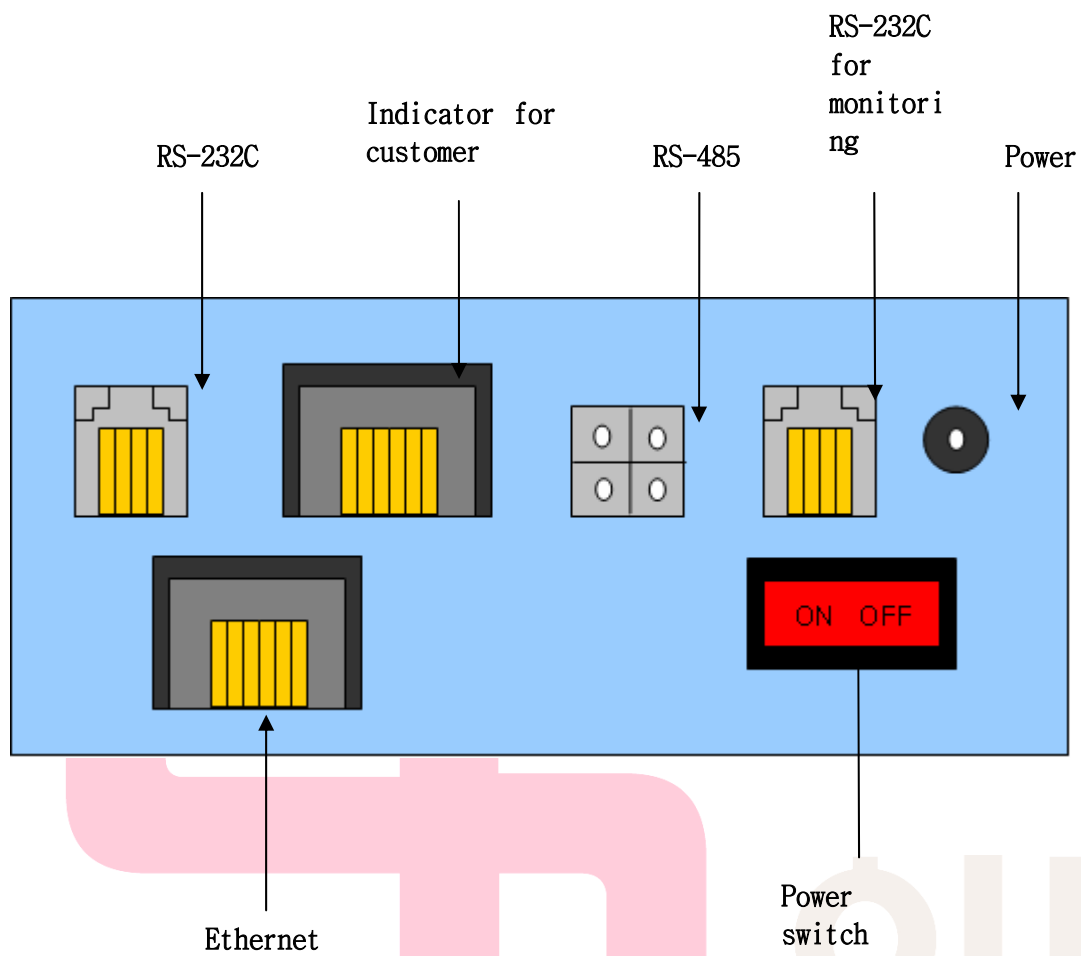
3.2 BLOCK DIAGRAM
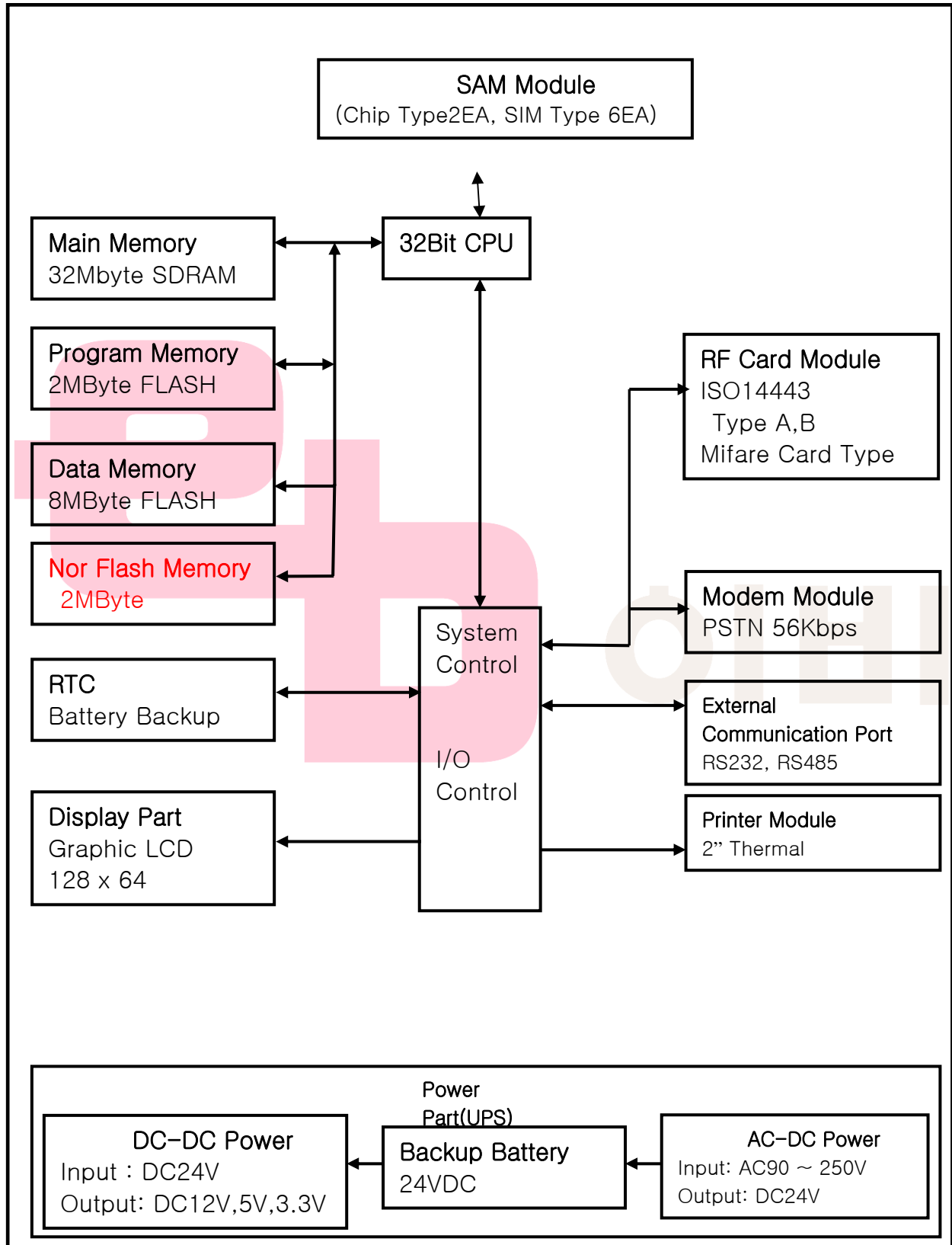
3.3 Standards
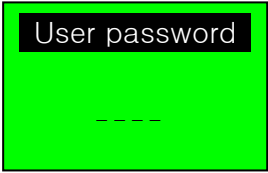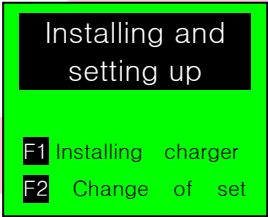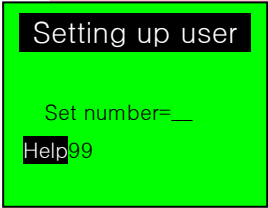
Division	Contents
CPU	32Bit, PLL embedded, 3.3Volt Operation
Memory	32Mbyte(SDRAM) – Main Memory 2MBytes(Flash) – Program Memory 8MByte – data Flash Memory(NAND) 2Mbyte – Data Backup Nor Flash Memory
RF Card Module (Contactless)	RF Type Mifare–1, ISO14443 Type–A,B Module Sensing distance – within 5 cm, Security algorithm – Des, 3–Des
Printer	2" Thermal Printer English 32 letters/row, Korean 16 letters/row
Multi–SAM Module	Micro Chip Type SAM – 2EA, SIM CARD Slot – 6 EA
RTC	RTC(Backup Battery) with CPU embedded
Communication Port 1	2 internal RS–232C (prepaid, Ministry of Information and Communication, 6SIM) 4 External [RS–485(subway),MODEM(PSTN) port, Console port]
Communication Port 2	USB Master ,USB Slave Port
Key PAD	Number 11key,Function Key 13
Display (Customer)	7 digit 7 Segment LED 1 Line (Dual Display) LED lamp for displaying the balance before and after charge and the charged amount
Display (Main)	128 x 64 Graphic LCD , LED Backlight
Power Part	Input – DC 24Volts Output – DC 3.3Volts, 5Volts, 12Volts

4. SOFTWARE Specification
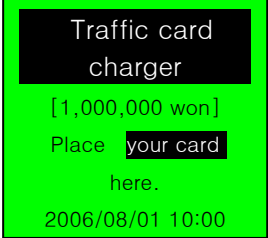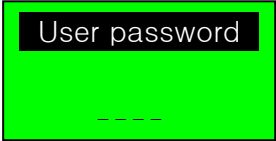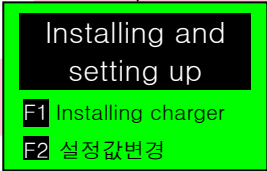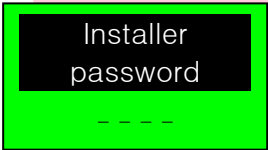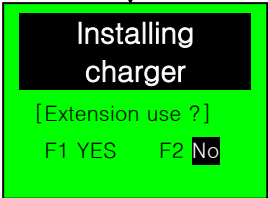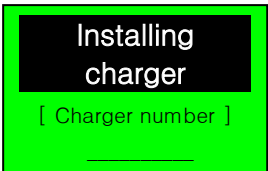
4.1 Drawings of function structure

MAIN

- Test of production
- Installation of test
- Specific function

- Inquiring the balance of
- Charging traffic card
- Canceling charge
- Inquiring card
- Charging SAM (charging
- Inquiring SAM
- Transmitting transactions
- Totaling transaction data
- Charger number /
- Reprinting receipt out
- Installing and setting up

- Installing charger (F1)
- Changing set value (F2)
  - Changing date (50)
  - Changing time (51)
  - Setting up use of
  - Changing password
  - Inquiring the
  - Outputting the
  - Setting up indicator for
  - Printing receipt out
  - Setting up detailed total
  - Setting up use of
  - Changing phone
  - Totaling sales (61)
  - Totaling backup data
  - Transmitting backup
  - Adjusting the
  - Choosing used

5. Installation and Set up

Screen	Handled contents

Traffic card charger
[1,000,000 won]
Place your card here.
2006/08/01 10:00
 	
User password
_ _ _ _
 	
Installing and setting up
F1 Installing charger
F2 Change of set
 	
Setting up user
Set number=__
Help99
	– If Specific function key is inputted in initial screen, the function of installing charger and changing set value operates.
	
	– Four ciphers of user password (1764) is verified.
	
	– Job is chosen.
	  If F1 key is inputted, installation of charger is done.
	    If F2 key is inputted, job of setting up is done according to the set number inputted next.
	
	– If F2 key is inputted, environment variables of terminal use is set up or changed.
	– It is demanded to input set number.
	
	< Set number >
	50 : Changing date
	51 : Changing time
	52 : Using password
	53 : Changing password
	54 : Inquiring the information of a charging place
	55 : Outputting the the information of a charging place
	56 : Whether you use an indicator for customer or not(default: use)
	57 : Automatic or manual printout of receipt (default: manual)
	58 : Setting up detailed total
	59 : Setting up the use of exchanger (default: not use)
	60 : Changing phone number
	61 : Totaling sales
	62 : Totaling backup data
	63 : Transmitting backup data
	64 : Adjusting the brightness of screen
	65 : Choosing used language
	99 : Help
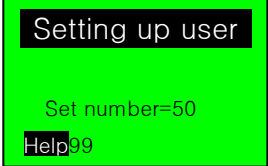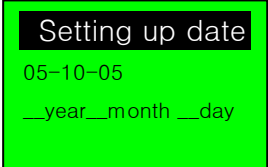
5.1 Installing charger

Screen	Handled contents
Traffic card charger [1,000,000 won] Place your card here. 2006/08/01 10:00	− If Specific function key is inputted in initial screen, Installation and setting up of charger is done.
User password _ _ _ _	− Four ciphers of user password (1764) is verified.
Installing and setting up F1 Installing charger F2 설정값변경	− If F1 key is inputted, installation job of charger is done.
Installer password _ _ _ _	− Four ciphers of user password (3587) is verified.
Installing charger [Extension use ?] F1 YES F2 No	− When charger is installed, communication line is PSTN(phone line). Whether exchanger is used or not is chosen. F1: Using exchanger F2: Not using exchanger
Installing charger [Inputting phone number] _____	− It is demanded to input phone number for connecting a charge host. (ex.:15440120)
Installing charger [Charger number] _____	− It is demanded to input ten ciphers of charger number.

Installing charger [SAM number] 1234567890123456 Press 확인 key.	☞ Verify SAM ID displayed on screen and press OK button.
Installing charger Making a call	☞ Making a call is on progress in order to connect a charge server.
Installing charger <Information of a charging place >	☞ Operation information is being received from a charge server. The type of data received is displayed on screen.
Completion of installing charger Printing out is on	☞ If installation job of charger is completed, the details of user setting is printed out.

The details of setting up user

<The information of a charging place >

Charging place Firm name : Olympic park

　Charging place

Business ID number: 12345-6789

Representative Name   : Gil-dong Hong

　Charging place Address: Nam 1 mun Olympic

　park 176-2 Bangi-dong Songpa-gu Seoul

　<The information of a charging place>

Charger number: 9999999999

SAM number   : 3038303030303031

S/W version   : V1.00

Registration date and time: 2005/10/05 16:30:40

Number of transmitted cases: 99 cases

Transmission amount   : 1,000,000 won

Transmission cycle   :   0 second

　Lowest balance of SAM: 10,000 won

　Student card: possible to charge

*** The companies which issues
　chargeable card ***

3072001   Administration corporation

3101000   Card corporation

1000800   Korea Smart Card

1000700   EB T-money Card

1000100   Seoul Bus Association

1000200   Gyeonggi-do Bus Association

=====================================

Issue Company Charge Purchase Refund

　ID   Fee Rate Fee Rate   Fee

=====================================

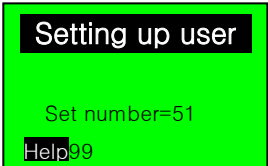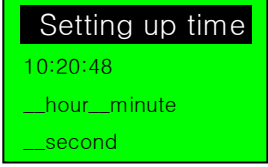| ID	Charge Fee Rate	Purchase Fee Rate	Refund Fee
3072001	01.00%	01.00%	100 won
3101000	01.00%	01.00%	100 won
1000800	01.00%	01.00%	100 won
1000700	01.00%	01.00%	100 won
1000100	01.00%	01.00%	100 won
1000200	01.00%	01.00%	100 won

 * The above printout can be different from the fact.
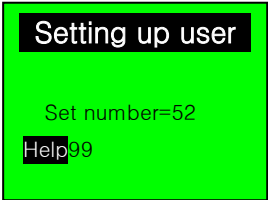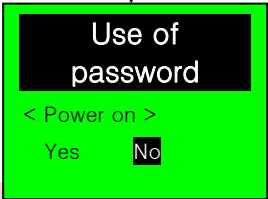
5.2 Setting up date

Screen	Handled contents

Setting up user
 	
Set number=50
Help 99
 	
↓
 	
Setting up date
05-10-05
__year__month __day
	☞ If you input set number " 50 ", you can change current date.
	
	☞ Current date is displayed on screen.
	   Input new date and push OK button.
	   If you push Cancel button, current screen return to the screen inputting set number.

5.3 Setting up time

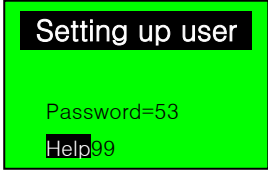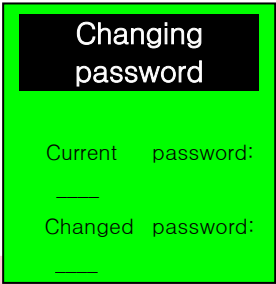| Screen	Handled contents

Setting up user
 	
Set number=51
Help 99
 	
↓
 	
Setting up time
10:20:48
__hour__minute
__second
	☞ If you input set number " 51 ", you can change current time.
	
	☞ Current time is displayed on screen.
	   Input new time and push OK button.
	   If you push Cancel button,
	   current screen can returns to the screen inputting set number.

5.4 Setting up the use of password

Screen	Handled contents

Setting up user
 	
Set number=52
Help99
 	
↓
 	
Use of password
< Power on >
Yes   No
 	
↓
 	
Inputting password
 	
___
	☞ If you input set number " 52", you can use the function of verifying password when charger power is on.
	
	☞ In case of using password,
	    Only user who knows the password he or she is using can change the password or cancel the use of password.
	
	☞ Choose whether you use password or not, and push OK button.
	5,000 won: Yes (Using password)
	30,000 won: No (Not using password)
	
	☞ This screen is displayed only when you use password.
	☞ Input the password you will use.
	    It is supposed that password should be inputted twice for verification.
	
	☞ If you push Cancel button,
	    Current screen returns to the screen inputting set number.

5.5 Changing password
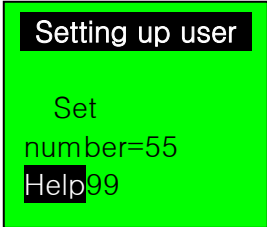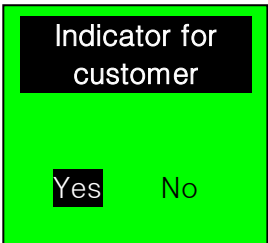
Screen	Handled contents
Setting up user Password=53 Help99 ↓ **Changing password** Current password: ___ Changed password: ___	☞ If you input set number " 53 ", you can change password. ☞ Input the password you are using. Only use who knows the password he or she is using can change it. ☞ Input new password you will change twice. ☞ If you push Cancel button, current screen returns to the screen inputting set number.

5.6 Inquiring the information of a charging place

Screen	Handled contents
Setting up user Set number=54 Help99	☞ If input set number "54", you can inquire the information of a charging place received from charge server. ☞ If you push Cancel button during inquiry, 　 Current screen return to the screen inputting set number.
Inquiring the information of a charging place Charging place Name: Gyeonggi-do charging	☞ The name of a charging place is displayed on screen. 　 If you push OK button, next screen is displayed.
Inquiring the information of a charging place Representative Name: Kil-dong Hong	☞ The representative name of a charging place is displayed on screen. 　 If you push OK button, next screen is displayed, 　 and if you push F4 button, previous screen is displayed.
Inquiring the information of a charging place Charging　　　　place Address:　　　　123 .	☞ The address of a charging place is displayed on screen. 　If you push OK button, next screen is displayed, 　and if you push F4 button, previous screen is displayed.
Inquiring the information of a charging place Business ID numver: 1234567890	☞ Business ID number is displayed on screen. 　If you push OK button, next screen is displayed, 　and if you push F4 button, previous screen is displayed.
Inquiring the information of a charging place Terminal number: 9999999999	☞ The number of terminal is displayed on screen. 　 If you push OK button, next screen is displayed, 　 and if you push F4 button, previous screen is displayed.
Inquiring the information of a charging place Firm name of charging place: Test	☞ The firm name of a charging place is displayed on screen. 　 If you push OK button, next screen is displayed, 　 and if you push F4 button, previous screen is displayed.

Screen	Handled contents
Inquiring of the information of a charging place HOST Phone number: 8620943 8620943	☞ The phone number for connecting charge server is displayed on screen. 　　If you push OK button, next screen is displayed, 　　and if you push F4 button, previous screen is displayed.
Inquiring of the information of a charging place Registration Date and time: 2005/10/05 10:00	☞ The date when the operation information of charge is received most lately is displayed on screen. 　　If you push OK button, next screen is displayed, 　　and if you push F4 button, previous screen is displayed.
Inquiring of the information of a charging place The number of transmitted cases : 35 cases **Transmitted amount of money 100000 원**	☞ The conditions where transactions data are automatically transmitted on screen. 　　If you push OK button, next screen is displayed, 　　and if you F4 button, previous screen is displayed.
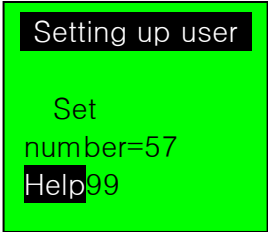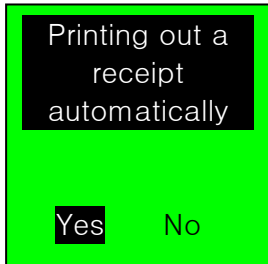
5.7 Setting up the use of an indicator for customer

Screen	Handled contents
Setting up user Set number=55 Help99 ↓ **Indicator for customer** Yes No	☞ If you input set number " 55 ", you can set up the function of using an indicator for customer. ☞ Choose whether you use an indicator for customer or not, push OK button. 5,000 won: Yes (Using an indicator for customer) 30,000 won: No (Not using an indicator for customer)

5.8 Printing out the information of a charging place

Screen	Handled contents
Setting up user Set number=56 Help99 ↓ **User setup details** Charger is printing out, wait for a minute	☞ If you input set number " 56 ", Current details of setup is printed out.

User setup details

<The information of a charging place>

Charging place Firm name: Olympic park
   Charging place
Business ID number: 12345-6789
Representative name   : Gil-dong Hong
Charging place address: South 1 gate Olympic
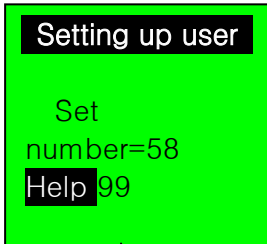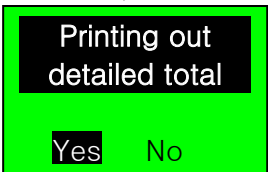 park 176-2 Bangi-dong Songpa-gu Seoul
 <The information of charger>
Charger number: 9999999999
SAM number   : 3038303030303031
S/W version   : V1.00
Registration date and time: 2005/10/05 16:30:40
Number of transmission cases: 99 cases
Transmission amount   : 1,000,000 won
Transmission cycle   :   0 second
SAM lowest balance: 10,000 won
Student card   : Chargeable

*** The companies which issue chargea card ***

Issue Company ID	Administration corporation
3072001	Administration corporation
3101000	Card corporation
1000800	Korea Smart Card
1000700	EB T-money Card
1000100	Seoul Bus Association
1000200	Gyeonggi-do Bus Association

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Issue Company ID	Charge Fee rate	Purchase Fee rate	Refund Fee
3072001	01.00%	01.00%	100 won
3101000	01.00%	01.00%	100 won
1000800	01.00%	01.00%	100 won
1000700	01.00%	01.00%	100 won
1000100	01.00%	01.00%	100 won

5.9 Automatically printing out a receipt

Screen	Handled contents
Setting up user Set number=57 Help99 ↓ **Printing out a receipt automatically** Yes No	☞ If you input set number " 57 ", you can set up the function of printing out a receipt automatically. ☞ Choose whether you print out a receipt automatically, push OK button. 5,000 won: Yes (Printing out a receipt automatically) 30,000 won : No (Printing out a receipt manually)
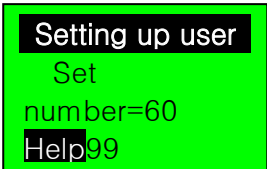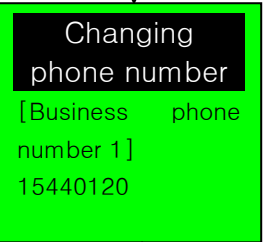
5.10 Setting up detailed total

Screen	Handled contents
Setting up user Set number=58 Help 99 ↓ **Printing out detailed total** Yes No	☞ If you input set number " 58 ", you can set up the function of printing out detailed total table. This function is applied only to totaling by printer ☞ Choose whether you print out detailed total table, push OK button. 5,000 won: Yes (Printing out detailed total table) 30,000 won: No (Not printing out detailed total table)

5.11 Setting up the use of an exchanger

Screen	Handled contents
Setting up user Set number=59 Help99 Setting up the use of an exchanger Yes No Setting up the use of an exchanger [Extension number] 9 -> ___	☞ If you input set number " 59 ", you can set up the function of using an exchanger. ☞ The charger which is installed in the place where an interphone is used should be set up as Yes. ☞ Choose whether you use an exchanger or not, push OK button. 5,000 won: Yes (Using an exchanger) 30,000 won: No (Not using an exchanger) ☞ This screen is displayed only in case of using an exchanger. ☞ Input an exchange number, push OK button.

5.12 Changing phone number

Screen	Handled contents
Setting up user Set number=60 Help99 Changing phone number [Business phone number 1] 15440120 Changing phone number [Business phone number 2] 15440120	☞ If you input set number " 60 ", you can change a phone number for connecting charge server. ☞ Input a phone number, push OK button. ☞ If you push Cancel button, current screen returns to the screen inputting set number.

5.13 Totaling transactions data

Screen	Handled contents
Setting up user Set number=61 Help99 **Totaling transactions data** F1 Totaling printer data F2 Totaling screen data F3 Deleting sales data F2 → **Totaling screen data** [Totaled period] __year__month__day− __year__month__day F1 → **Totaling sales details** [Totaled period] __year__month__day− __year__month__dav **Totaling sales details** It is printing out, wait for a minute. **Sales total** 10 case 100,000 won Push OK key. **Sales total** Transmitted: 10 cases 100,000 won Push OK key. **Sales total** Not transmitted: 0 case 0 won Push OK key. **Charge transactions** 10 cases 100,000 won Push OK key.	☞ If you input set number " 61 ", you can total transactions data. ☞ Choose the equipment printing out total details. If you push Cancel button, current screen returns to the screen inputting set number. ☞ Input the period when you want to total. If you push OK button without inputting the period to total, Transactions data issued for the day is totaled. ☞ If the printout of totaled data is completed, current screen returns to the screen choosing the printout equipment of total details. ☞ If you push Cancel button during inquiring screen or inquiry is completed, current screen returns to the screen choosing the printout equipment of total details.

5.14 Totaling backup data

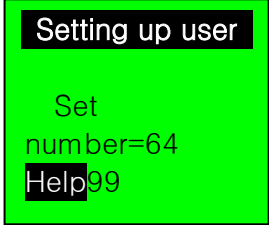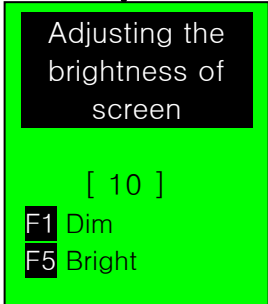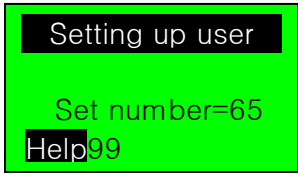| Screen	Handled contents
Setting up user Set number=62 Help 99 ↓ **Totaling backup sales** F1.Totaling by printer F2.Totaling by screen F1 ↓ F2 ↓ **Totaling backup sales details** [Totaled period] __year__month__day− __year__month__day **Totaling backup screen** [Totaled period] __year__month__day− __year__month__day ↓ **Totaling backup sales details** Total 10 cases are outputted Wait for a minute **Sales total** 10 cases 100,000 won Push OK key ↓ **Sales total** Transmitted: 0 case 0 won Push OK key. ↓ **Sales total** Not transmitted: 10 case 100,000 won Push OK key. ↓ **Charge transactions** 10 cases 100,000 won Push OK key.	☞ If you input set number " 62 ", you can total backup transactions data. ☞ Choose equipment outputting total details. ☞ Input period to total If you push OK button without inputting period to total, charger totals transactions date issued for the day. ☞ If you push Cancel button while you inquire screen, Current screen returns to the screen printing out total details. **Total table by cases** Charger Number: 9999999999 Charging place Name: Olympic park charging place SAM number : 3038303030303031 S/W version : V0.01 Total date and time: 2005/02/24 10:04:09 Totaled period: 05/02/24 − 05/02/24 SAM balance: 1,000,000 won == Card number Balance before transactions Transactions date and time Transactions amount SA number Balance after transactions Approval number SAM balance Authentication code Authentication date and time Transactions type Transmission division SAM transactions serial number == 10005001000001413501 2100 won 05/02/04 08:30:10 20000 won 3038303030303031 22100 won 23979701470013 2129000 won XXXXXXXXXXXXXXX 05:02:24 15:30:25 ChargeTransmission XXXXXXXXX1 -- Total : X cases XXX won Transmitted : X cases XXX won Not transmitted : X cases XXX won -- Charge : X cases XXX won Purchase : X cases XXX won Refund : X cases XXX won Charge cancellation : X cases XXX won

5.15 Transmitting backup data

Screen	Handled contents
Setting up user Set number=63 Help99	☞ If you input set number " 63 " , you can transmit backup transactions data into charge server.
Transmitting backup data [transmission period] 　__year__month__day – 　__year__month__day	☞ Input the transactions period of backup data transmitted. If you push OK button without inputting the transactions period, transactions data issued for the day is transmitted into charge server.
Transmitting backup data System is making a call.	☞ System is making a call to charge server.
Transmitting backup data Transmission: 10/100	☞ The number of total case to transmit and number of transmitted case is displayed on screen.
Transmitting backup data Transmission is completed.	☞ If transmission is completed, current screen returns to the screen inputting set number.

5.16 Adjusting the brightness of screen

Screen	Handled contents
Setting up user Set number=64 Help99 **Adjusting the brightness of screen** [10] F1 Dim F5 Bright	☞ If you input set number " 64 ", you can adjust the brightness of LCD screen of charger. ☞ Choose the brightness of screen, push OK button. F1 : Dim F5 : Bright

5.17 Choosing used language

Screen	Handled contents
Setting up user Set number=65 Help99 **Choosing used language** F1 Ecuadorian F2 Korean F3 English	‐ If you input set number " 65 ", the screen choosing used language is shown. ‐ F1 : Displaying LCD font in Ecuadorian ‐ F2 : Displaying LCD font in Korean ‐ F3 : Displaying LCD font in English

6. Measure plan for potential troubles

6.1 Handling transactions data not transmitted when terminal fails

1) How to use USB
     If you back up all data of failed charger using USB and transplant them into changed charger, you can transmit transactions data not transmitted into charge server.

2) When memory is normal
   If you change charger and equip the memory board of failed charger into changed charger, you can transmit transactions data not transmitted into charge server.

3) In case that memory is damaged
   You input transactions details into charge server collecting stored receipts.

4) When main memory is damaged, you can recover it from backup memory and transmit backup transactions data by date.

6.2 In the case that SAM(electric wallet) is damaged

1) If A/S personnel hear the fact that SAM is damaged, he visits to a charging place with a new SAM and transmits transactions details into charge server with highest priority. He prints out sales total table (detailed total) if necessary.

2) A/S personnel collects damaged SAM, inserts a new SAM into charger, and installs charger.
   After charging SAM is completed, he verifies balance.

6.3 When a receipt is not automatically printed out

In case that a receipt is jammed or damaged, charger prints out again by the function of reprinting out a receipt

7. User's Information

Cautions

Modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC compliance Information

This device complies with part 15 of FCC Rules. Operation is subject to the following two conditions: 1. This device may not cause harmful interference, and 2. This device must accept any interference received. Including interference that may cause undesired operation.

Information to User

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.