

The operation manual of terminal for the driver

2007. 01. 15



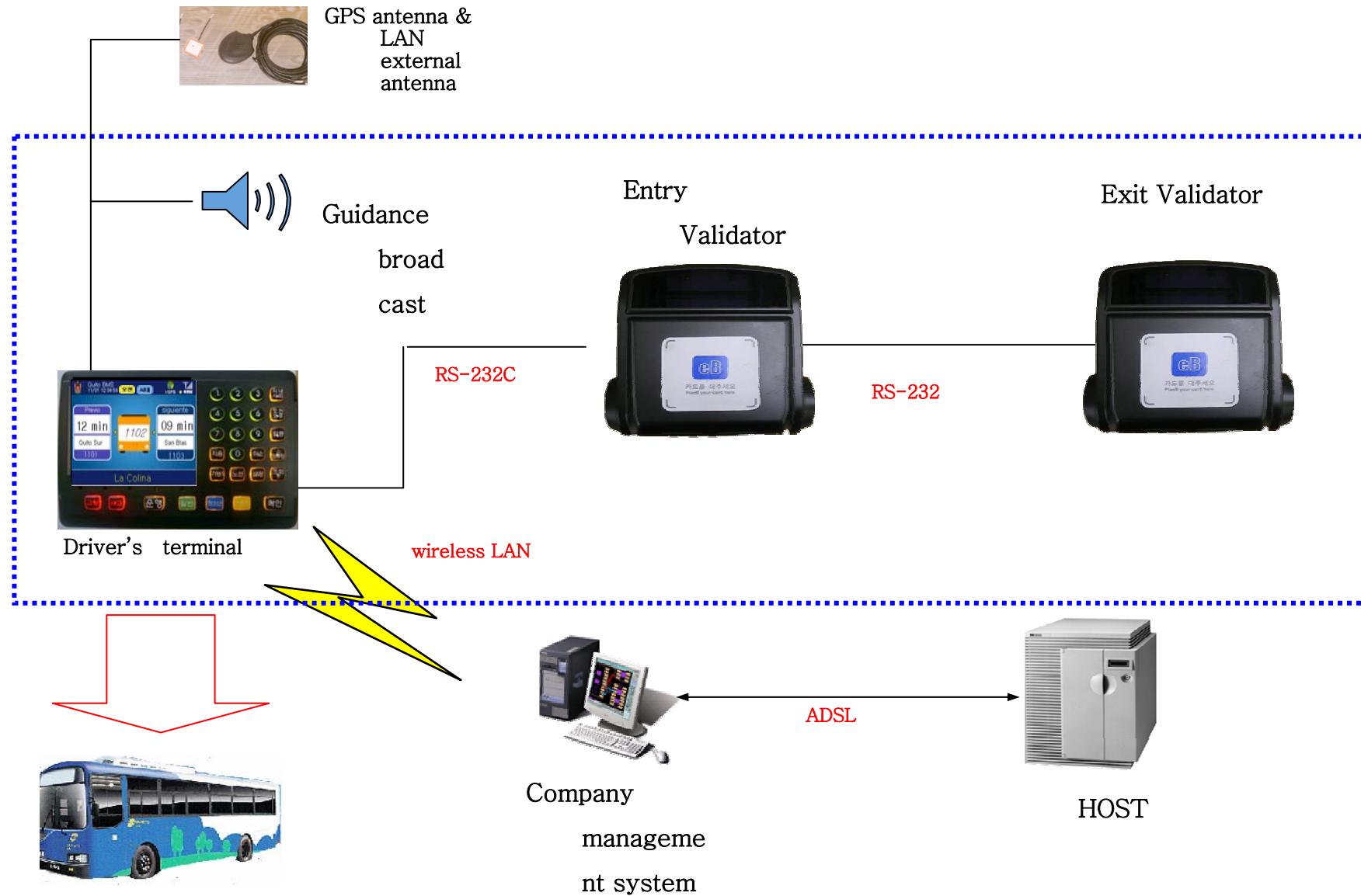
□ The manual of bus terminal



Type of LAMP	Status contents
Red	Entry Validator communication status indication
Yellow	Exit Validator communication status indication
Green	GSM communication status indication
Blue	Wireless LAN communication status indication
White	GPS Status indication
V2.28 A	Terminal version and GPS communication status (A: Normal ,V: Abnormal)

Operation key	Contents
Route	Choice of route ID
Service	Input driver's ID
Inquiry	Used in detail, number of undelivered details, operation information
Setting	Terminal installation & information inquiry
Bus stop ▲	Name of bus stop & volume control
Function ▼	Name of bus stop & volume control Time & volume control, GPS, CSM status check
Adult	Adult basic fare & adult HO
Teenager	Teenager basic fare & teenager HO
Child	Child basic fare & child HO
Erase	Erase one by one in case of inputting wrong numbers
Cancel	Cancel key
Accident	Transmitting to the center in case of car accident
Empty	Moving vehicle without charging fare
Check	Check key

□ Bus card system structure



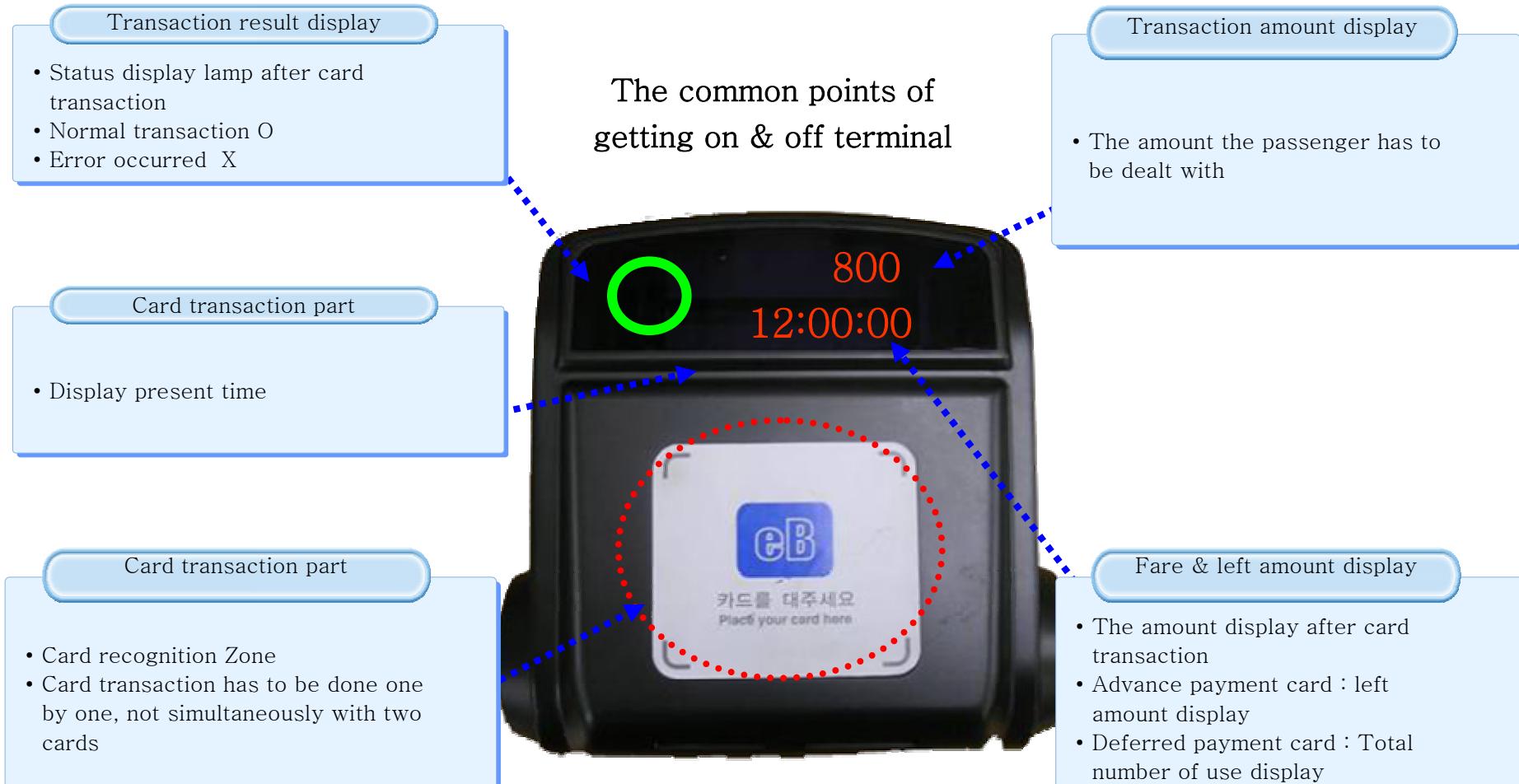
□ Bus terminal structure & explanation

□ Main function of terminal

Driver's terminal	Entry Validator	Exit Validator
		
<ul style="list-style-type: none">➤ Display the amount of card transaction➤ Control HO➤ Output various error messages➤ Provide information of distance between the bus➤ Provide bus stop information & guidance broadcast➤ Transmit transaction detail➤ Display time	<ul style="list-style-type: none">➤ Display the amount of card transaction (Passenger check)➤ Voice output [Refer voice index]➤ Input getting off information (1DOOR)	<ul style="list-style-type: none">➤ Display the amount of card transaction (Passenger check)➤ Voice output [Refer voice index]➤ Input getting off information (2DOOR)

□ Understanding of getting on & off terminal structure

- Bus terminal can deal with getting on and off simultaneously.



□ Service start & Route change method

1. Service start

Initial screen	Driver's ID input	Service standby screen
 <p>As terminal is turned on, bus company vehicle number & route registered already on the initial screen are displayed.</p> <p>* Caution vehicle number & route number</p> <p>Start driving after check those</p>	<p>ID input [_____]</p> <p>Driver ID : 000000</p> <p>Route name : 1234</p>	<p>Driving is pushed</p> <p>After service is started</p> <p>Card transaction can be done</p>

2. Route choosing method after inputting driver's ID

Driver's ID input	Route choosing method	Route input	Route choosing method
<p>ID input [777777]</p> <p>Driver ID : 777777</p> <p>Route name : 1234</p>	<p>Input driver's ID If Id is not received, input "0" or "1"</p> <p>After input ID Check</p>	<p>1. Kyungido 123 2. Kyungido 456 3. Kyungido 789 4. Kyungido 231 5. Kyungido 432</p>	<p>If the route is wrong Route is pushed</p> <p>Check is pushed</p> <p>* Maximum 5 route can be inputted</p>

☞ After service is started, various information messages can be displayed at the bottom of the screen.

□ Service ending method

1. Service ending method

Method	Driving end	Method
Driving is pushed	Would you like to end the driving?	Check is pushed If it is wrong Cancel is pushed caution) Fare is transmitted when the service is ended.



Quito BMS
11/01 12:34:56 오전 시내 GPS OSM

Previo 12 min 1102 siguiente 09 min 1103
Quito Sur 1101 San Blas 1103

La Colina

Would you like to end the driving?

Check is pushed
If it is wrong Cancel is pushed
caution) Fare is transmitted when the service is ended.

2. Initial screen, Service standby status

Initial screen	Service standby screen
<p>Safe Driving v03.70 GPS OSM</p> <p>Linea : 7777 Bus : 1234</p> <p>07/19 18:09:57</p> <p>TIME</p>	<p>Quito BMS 11/01 12:34:56 오전 시내 GPS OSM</p> <p>Previo 12 min 1102 siguiente 09 min 1103 Quito Sur 1101 San Blas 1103</p> <p>La Colina</p> <p>1. Present time 2. Route 3. The front vehicle number: Time 4. Rear vehicle number : time 5. Display Various messages</p>

□ Card transaction for single fare

1. Card transaction method after starting service

Tarjeta procesada	Screen explanation	Entry Validator normal card transaction screen	
<p>Passenger division : adult</p> <p>Fare : 800</p> 	<p>1. Passenger division</p> <p>1) Adult</p> <p>2) Teenager</p> <p>3) Child</p> <p>2. Fare: : the amount of fare</p>		<p>1. Transaction amount on the upper part</p> <p>2. The amount left on the lower part</p> <p>Adult : After "beep" card transaction</p> <p>Teenager: After "beep, beep" card transaction</p> <p>* For advance payment card, left amount is displayed on the lower part</p>

2. Entry Validator voice type

Type of voice	Contents	Type of voice	Contents
Thank you	Normal card transaction	It has been processed	In case of re-processing after card transaction
It is a teenager	Processed as teenager card holder	Please tell the destination	In case of choosing outside of city
It is a child	Processed as child card holder	It is HO	HO processing
It is transit	Card applied with transit	Please put one card only	In case of putting more than one card
The amount left is not enough	In case of not enough amount left in the card		
Please put the card again	Card transaction error, re-processing		

□Service area fare card processing 1

1. Service area fare choosing method

Fare input method selection	Service area fare selection screen	Short key using selection screen
1. Short cut key input 2. Fare input	Inner city Outer city is pushed and . choose 1 or 2	 Quito BMS 11/01 12:34:56 오전 시외단축 GPS GSM Previo 12 min 1102 siguiente 09 min Quito Sur 1101 San Blas 1103 La Colina

2. Card processing using short cut key

Short cut key input	Card processing selecting short cut key	Tarjeta procesada	Screen explanation
[1] 1050 Please put the card	Select the short cut number Check is pushed * Fare information in case of installing terminal It is selected on the number button	Tarjeta procesada Passenger division : adult Fare : 1050 	Processed after “beep”

□ Service area card processing 2

3. Fare input method card processing

Fare input	Fare input card processing	Tarjeta procesada	Screen explanation
[1200] 1150 Please put the card	<p>Input the amount using numbers and Check is pushed.</p> <p>Card transaction amount is displayed</p> <p>•For upper part, cash •For lower part, card discount fare</p>	<p>Passenger division : adult</p> <p>Fare : 1150</p> 	Processed after “beep”

☞ Caution for service area fare processing

1. When fare input method & short cut method are changed, it is changed with [inter city/outer city] mode.
2. When the service area fare is not selected wrongly, it has to be input using [erase].
3. Transit discount is processed once.

□ HO processing method 1

1. Single fare HO processing method

HO input	Screen explanation	Tarjeta procesada	Screen explanation
adult 02 teenager 01 child 01 total : 4 person 2500	Number of [adult, teenager, child] is pushed and Check is pushed ex) adult 2, teenager 1 and, child 1 are selected	Passenger division : adult Fare : 2500	If HO is pushed, it will be discounted automatically as HO.

2. Service area short cut key HO processing

Short cut key input	Screen explanation	Tarjeta procesada	Screen explanation
1] adult 02 teenager 01 child 01 Total : 4 person 2500	Select short cut key and number of [adult, teenager, child] is input and Check is pushed ex) adult 2, teenager 1 and, child 1 are selected	Passenger division : adult Fare : 2500	Processed fare is displayed

□ HO processing method 2

2. Service area fare input HO processing method

Fare input	Screen explanation	Tarjeta procesada	Screen explanation
[850] adult 02 teenager 01 child 01 total : 4 person 2500	After inputting fare with numbers, Number of adult, teenager and child will pushed and Check is pushed ex) adult 2, teenager and child are selected	Passenger division :adult Fare : 2500 	Processed fare is displayed

☞ Caution when Ho is processed

1. Before card processing, number of people and the amount to process will be checked.
2. In case of error occurs in HO, it is started again with [cancel].
3. Transit discount is processed once for the adult.
4. When HO is processed, HO voice will come out..

□ Inquiry function

1. Inquiry method at the initial screen

Safe Driving v03.70	Inquiry function	DATA inquiry	Inquiry function
Linea : 7777 Bus : 1234 TIME 07/19 18:09:57	<p>Inquiry function is possible in the standby status.</p> <p>In driving status, [Cancel] is pushed, standby will be done.</p>	<p>1. Installation status inquiry 2. Transmit data 3. Profit inquiry 4. Card used in detail inquiry</p>	<p>In standby status, [Inquiry] is selected.</p>

☞ Inquiry function is only operated in the standby status. (It can not be used at the present)

2. Installation status, undelivered inquiry method

Installation status inquiry	Inquiry items	Undelivered data inquiry	Screen explanation
Name of transportation businessman Kyungjin transportation Route ID 410082 ▼next	<p>Information installed in the bus is displayed</p>	<p>Undelivered file : 00 Check</p>	<p>Used in detail which is not delivered is displayed</p>

☞ When re-selecting inquiry or moving to the previous menu, cancel has to be used.

□Bus stop change method

1. Bus stop correction method

	Bus stop correction method Bus stop   are used to correct the bus stop	Manual bus stop selection ▲ Suwon station, Ekyung departmentstore Dongnam Apt ▼ Pyong dong	Bus stop change selection Check is pushed after certain bus stop is selected
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☞ Bus stop change contents

1. When temporarily bus stop is not recognized, bus stop is changed manually. When it is recognized normally, automatically bus stop will be changed.
2. When either certain bus stop is not recognized or periodically bus stop is not recognized, please ask for A/S

□ Function 1 KEY explanation

1. Time setting

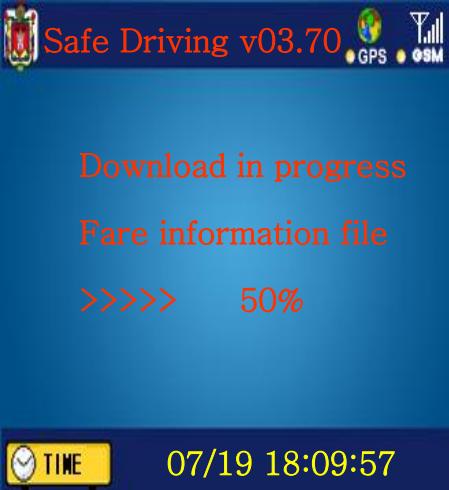
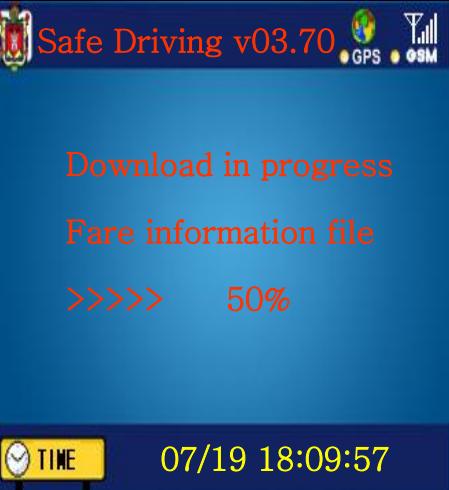
Terminal management	Screen explanation	Time setting	Screen explanation
1. Time setting 2. Volume control 3. GPS , GSM status	<p>Function is used to check and change function in the screen.</p>	<p>11/01 23 : 00 : 00 <u>2005</u> Nov <u>1</u> <u>11</u> : <u>05</u> : <u>00</u></p>	<p>Year, month and day are inputted and Check is pushed</p>

2. Volume control

Volume control	Screen explanation	GPS , GSM status	Screen explanation
 ▲ ▼	<p>Bus stop Function ▲ ▼</p> <p>Are use to control.</p>	<p>latitude : longitude : Satellite calculation : NO : reception :</p>	<p>GPS , GSM receiving status is shown.</p> <p>* Refer these when error occurs during the driving</p>

□ Operation information transmission screen

1. Operation information transmission screen

Screen explanation	Screen setting
 <p>Safe Driving v03.70</p> <p>Download in progress</p> <p>Fare information file</p> <p>>>>> 50%</p> <p>TIME 07/19 18:09:57</p>	 <p>Safe Driving v03.70</p> <p>Download in progress</p> <p>Fare information file</p> <p>>>>> 50%</p> <p>TIME 07/19 18:09:57</p> <p>Various deferred card information</p> <ul style="list-style-type: none">The transmission of initial operation information will take roughly 7~ 10 minutes.

☞ After the transmission to the computer, automatically operation status will be returned to standby.

2. Main operation information

Type of operation information	Transmission contents	Errors following by undelivered
Kookmin BL	Suspended card information among Kookmin card	Profit loss break out using un calculated Kookmin card
Old advance card PL	Information about renewal of student card	Civil appeal occurs when discount of adult fare is done in the student card
Bus stop information	Name of bus stop & distance information	Vehicle operation information is not provided
Voice information file	Terminal voice output information received	Voice output is provided in case of processing card
Program receiving	New altered program received	Altered program is not applied.

☞ Forceful transmission has to be input [0] twice.

□ Setting KEY explanation

1. Setting information menu

Mode selection	Screen explanation	Operator menu	Screen explanation
1. Operator mode 2. Manager mode 3. Vehicle installation registration	There are three different modes and engineers and person in charge use 1 or 3. After selection is done, check is pushed	1. Setting detail check 2. Operation information check 3. Version information 4. BL . PL information 5. Terminal check	Until 1~5 with numbers

☞ Setting information menu explanation

1. operator mode: programs and version in the terminal can be checked.
2. manager mode: A/S staffs can be used and number of use can be limited with password as re-modification and deletion of terminal basic setting is done.
3. vehicle installation registration: re-setting operation due to replacement of terminal can be done.

□ Operator menu explanation

❖ Operator menu selection display screen

1. Setting in detail	2. Operation information check	3. Version information	4. BL/PL check	5. Terminal check
Driver terminal ID	Transportation Businessman ID	Kernel version	Fix B/L version	1. Memory check
Entry Validator ID	Name of transportation businessman	Driver terminal version	Fixed capacity	2. Key pad check
Exit Validator	Route ID	Entry Validator version	Changed B/L version	3. RTC check
Exit Validator 3 ID	Name of route	Exit Validator version	Changed B/L capacity	4. Communication TEST
Vehicle ID	Transportation method code	Route information version	Fixed advance P/L version	5. AMP TEST
SS ID	Vehicle number	Bus stop information version	Fixed advance P/L capacity	6. LCD TEST
Server IP	Getting on SAM ID	Fare information version	Changed advance P/L version	7. POWER TEST
Terminal IP	Getting off1 SAM ID	Discount, surcharge Information version	Changed advance P/L Capacity	8. Auto test
Driver terminal ID_8	Getting off2 SAM ID Getting off3 SAM ID	Transit application version Driver voice version Getting on Voice version Getting off Voice version PG LOADER version	Fixed deferred P/L version Fixed deferred P/L capacity Changed deferred P/L version Changed deferred P/L capacity	▼ continued

☞ For all menu selection,



is used to select and check

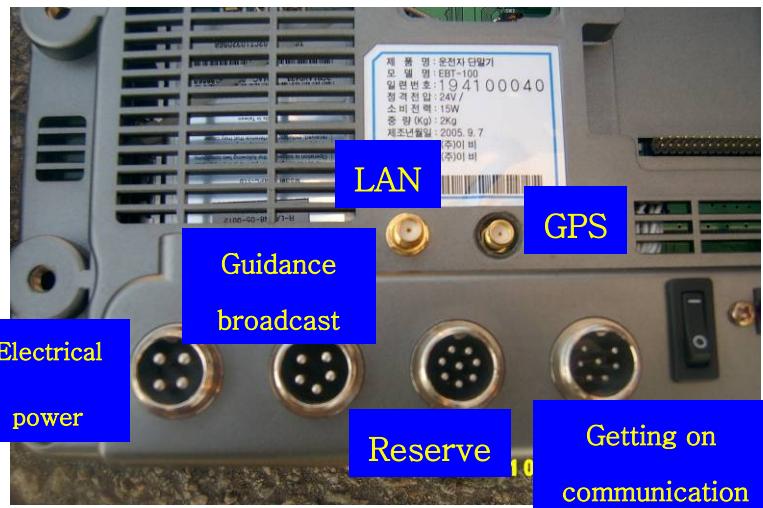
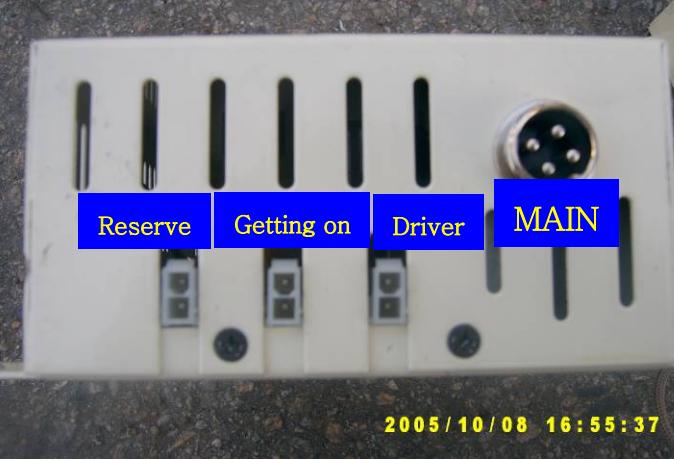
□ Caution for the driver

- ❖ Checking method & matters to be attended

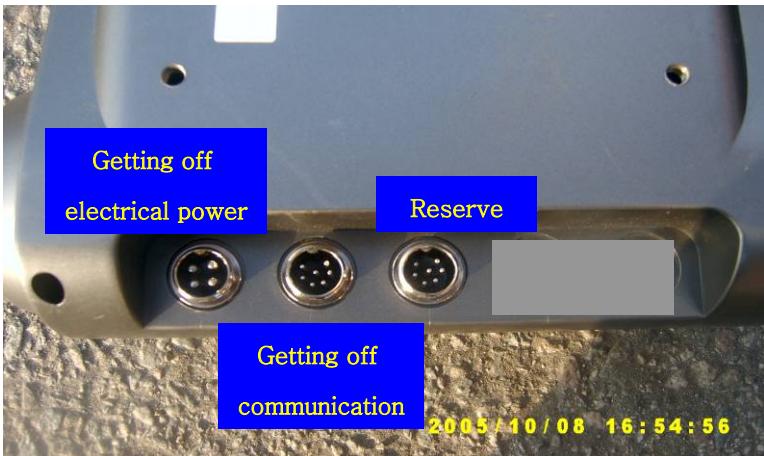
Status	Checking items	Measure
Before starting service	1. Check route number and vehicle number on the driver's terminal screen	Route number re-input
	2. Check present time comparing with year, month and day on the lower part of driver's terminal	If time is not correct, service will begin after notifying to the person in charge
	3. Check whether light is on driver, getting on and Exit Validator	
	4. Check communication error on the driver's terminal screen	If the communication error is displayed, service will begin after notifying to the person in charge
During service	1. When guidance broadcast and information about the front and rear are wrong during long time	Driver's terminal is Off/ON
	2. Card transaction error	Card will be re-processed and if it continues, notify to the person in charge
	3. Please put one card only	Process one card only at a time
After service	1. When [0] is pushed twice fare for one day will be transmitted	
	2. Display undelivered file on the driver's terminal screen	In case of existing undelivered file, notify to the person in charge
	3. Display error status on the driver's terminal screen	Error message will be informed to the person in charge

- If the operation is not satisfactory, notify to the person in charge before service begins

□ Terminal circuit connection method 1

Driver's terminal	Electric power AMP BOX
 <p>LAN : LAN antenna connection GPS : GPS antenna connection Electrical power : electrical power (connect between AMP and driver) Guidance broadcast: guidance broadcast (connect between AMP and driver) Reserve : reserve port Getting on communication: communication port (connect between driver and getting on)</p>	 <p>Reserve : reserve port Getting on: getting on electrical power (connect between driver and getting on) Driver : driver connection (connect between AMP and driver) 4 : MAIN electrical power (connect old terminal electrical power)</p>

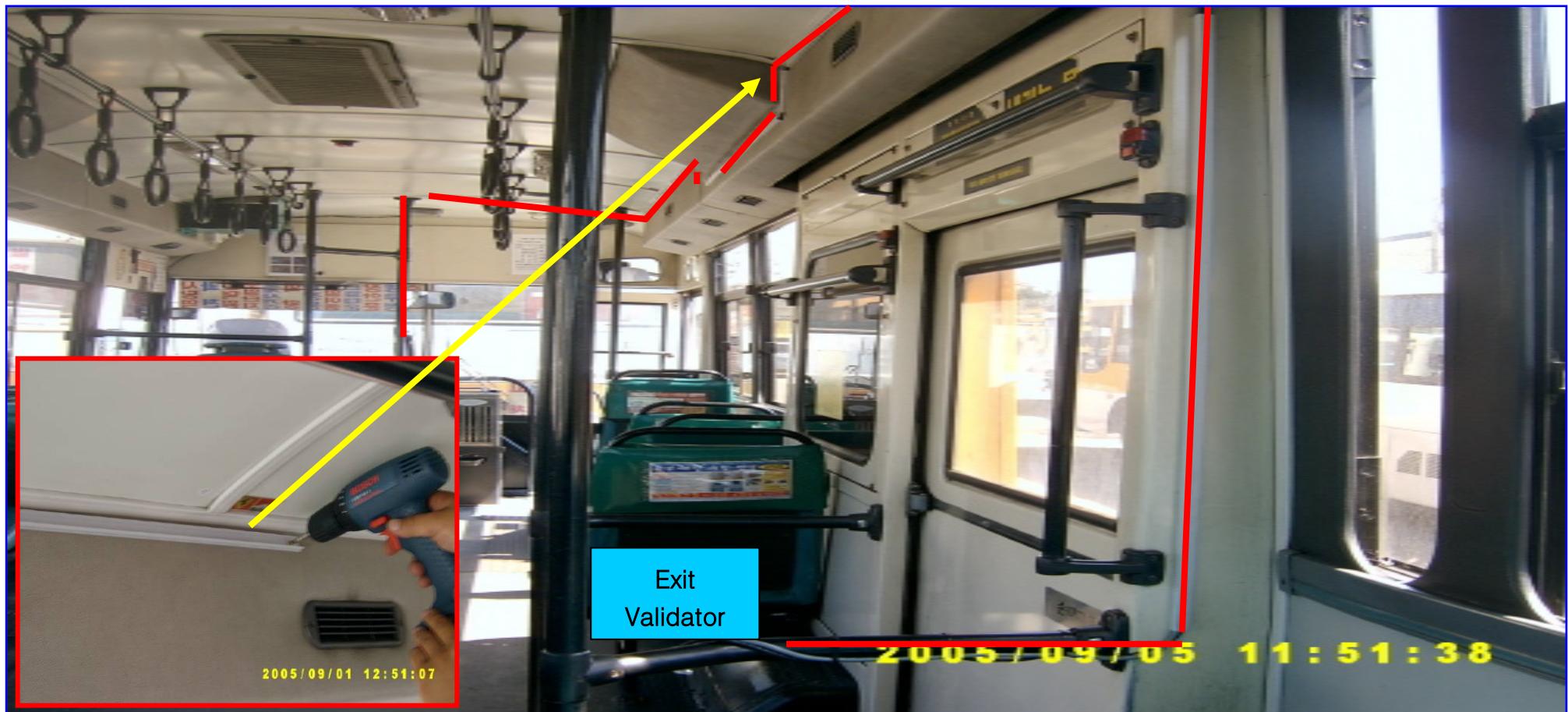
□ Terminal circuit connection method 2

Entry Validator	Exit Validator
 <p>Getting on S/W : Getting on electrical power switch Getting on FUSE : Getting on electrical power fuse Getting off S/W : Getting off electrical power switch Getting off FUSE : Getting off electrical power fuse Getting on electrical power : connect with AMP BOX Getting on communication: Getting on communication (connect between driver and getting on) Reserve : reserve port Getting off communication : Getting off communication (connect with Getting on and getting off) Getting off electrical power : Getting off electrical power (connect with Getting on and getting off)</p>	 <p>Getting off electrical power : Getting off electrical power (connect with Getting on and getting off) Getting off communication : Getting off communication (connect with Getting on and getting off) Reserve : reserve port</p>

□GPS antenna and LAN antenna installing method

Installing method	Working contents
	<ol style="list-style-type: none">1. Make a hole after removing getting on or driver's lamp2. Insert GPS and LAN antenna line.3. Do silicon process distancing 30cm from current GPS and LAN antenna.4. Do silicon process in the hole.
	<ol style="list-style-type: none">5. Re-assemble getting on or driver's lamp after tidying up lines. <p>❖ Caution) Do silicon process in the hole not getting in the water</p>
	<div data-bbox="898 968 1212 1237"><p>2005/09/05 14:10:58</p></div> <p data-bbox="954 1277 1156 1309">GPS antenna</p> <div data-bbox="1437 968 1751 1237"><p>2005/09/05 14:10:29</p></div> <p data-bbox="1448 1277 1785 1309">LAN external antenna</p>

□ Getting on & off electrical power and communication cable installing method



From getting on to getting off, electrical power and communication cable is exposed internally and it has to be molded to complete (red line)

Mold board is fixed before molding cover is put on. (yellow line)

Electrical power : 11M(black line) / communication : 11M(grey line)

□ Caution 1

1. Old terminal removal

- Write vehicle number on the terminal removed.
- Piece has to be tidied up .(flat tire)
- Do not remove old circuit for using new terminal.

2. AMP installation

- Choose location not to get water in.
- Do not change circuit location.

3. Driver terminal installation

- Select location not to cover with getting on passengers, cash box, and back mirror.
- Do not change the location of LAN antenna and GPS.
- Fix it properly not lose GPS antenna
- Check lamp whether it is operated after installation

4. Entry Validator installation

- Choose location not to cover sight.
(Passenger getting on)
- Choose location when coins are paid.
- Do not change location of getting on and getting off communication line.
- Do not change location of getting on and getting off electrical power.

5. Exit Validator installation

- Installing the bending part properly

6. Molding process

- Do piece process not to lose molding part.
- Do molding process not to expose circuit.
- Be careful not to open molding cover

□ Caution 2

1. Circuit arrangement

- Arrange circuit not to expose.
- Cut the sharp sedge after cable is tied. (safety accident)

2. GPS/ LAN antenna installation

- Do silicon process not to get the water in after inserting circuits.
- Install other antennas distance from 30 cm. (Disturbing signal)
- Do silicon process not get the water in the LAN antenna bracket piece processing part.

3. Tidying up

- After installation clean up the wastes and internal materials left.
- Do not leave the piece outside of the vehicle.

4. Registration

- Input vehicle number correctly.
- After registration. Check whether vehicle number and route number is matched.
- With test card, check whether card processing is operated normally.

□ Terminal installation registration method 1

1. Terminal installation registration

Mode selection	Screen explanation	Screen explanation
1. Operator mode 2. Manager mode 3. Vehicle installation registration	After selecting [3] Check is pushed	Input password [1472]

2. Terminal installation registration

Vehicle installation registration	Screen explanation	Vehicle ID setting	Screen explanation
1. Wireless registration 2. Number of getting off terminal 3. Reserve vehicle registration 4. Reserve vehicle cancel	[number of Exit Validator] will be selected for vehicle with one door. After selecting [1] Check Is pushed	Present : 141761234 Setting input [_____]	Input vehicle number Check Is pushed * Input 6 digits vehicle number 141XXXXXX (The first 141 is common)

☞ The number of Exit Validator is one at first.

For vehicle with one door , number of Exit Validator has to be selected

□ Terminal installation registration method 2

3. Vehicle number registration

Vehicle ID check	Screen explanation	Safe Driving v03.70	Screen explanation
Bus ID : 141XXXXXX Yes No	After check vehicle number Is selected Check Is pushed	Downloading Fare information file >>>> 50% TIME 07/19 18:09:57	After receiving 30 operation information files related with vehicle registration is done Initial registration will take 7~10 minutes

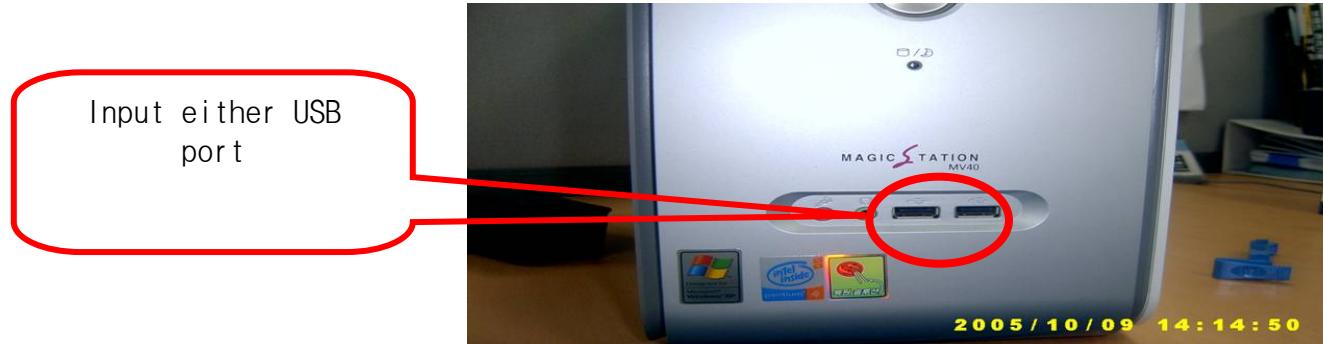
☞ Caution in case of registering terminal installation

1. After checking whether vehicle number is correctly inputted, re-register if it is wrong.
2. Installation registration is done where main computer is.
3. All vehicle number is registered in the company. If it is not, contact Eb staffs.

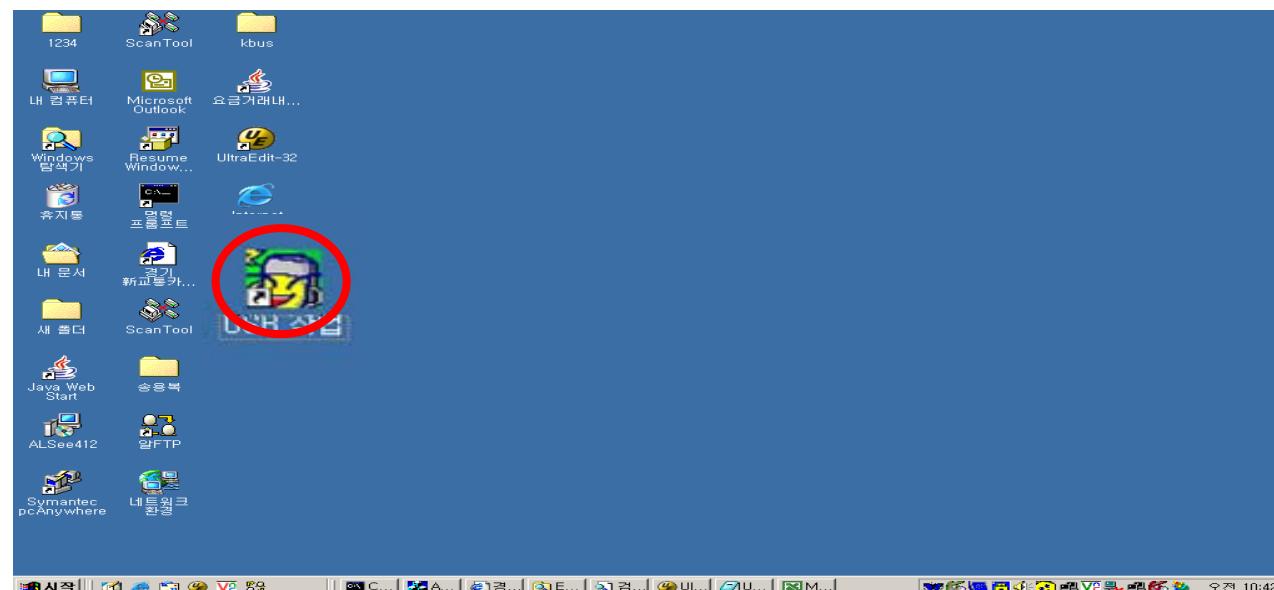
Contact number : 1644 – 1472

□ Terminal installation registration method with USB1

- ❖ Copy the program with USB to main computer
 - Input USB device into USB port in the main computer



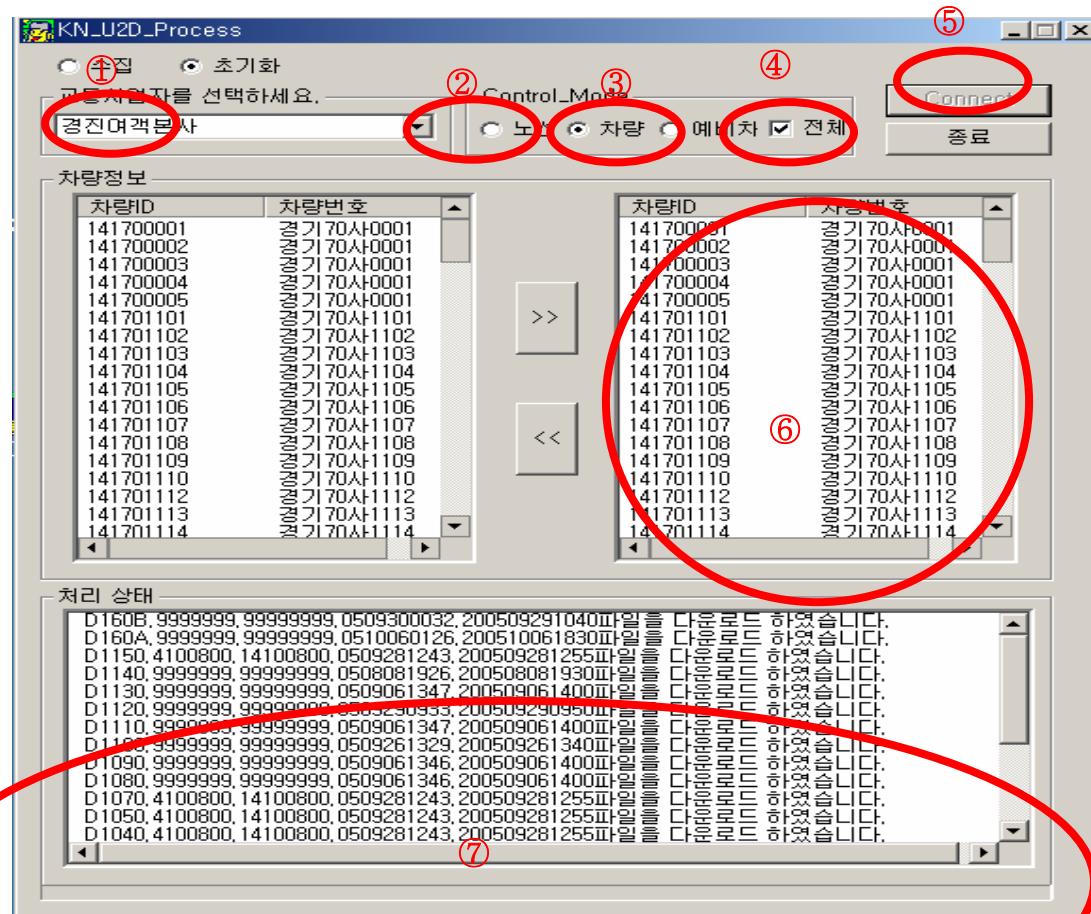
- “KN_U2D initializing” program is executed. (Face shape on the desktop)



Terminal installation registration method with USB2

Copy the program with USB to main computer

Select below “0” menu

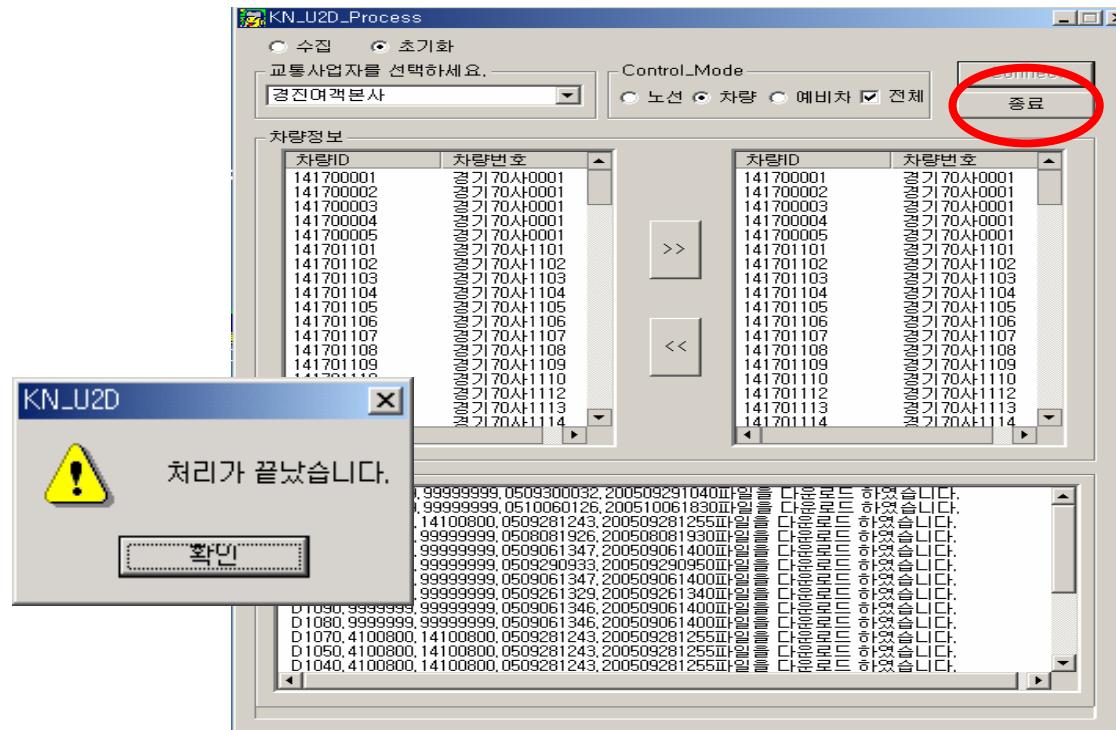


Operation sequence

1. Select initializing.
2. Select transportation businessman.
3. Select vehicle.
4. Select all.
5. Select CONNECT.
6. When all above is selected in the sequence, all vehicle number will be moved to the right.
7. When all thing is done, it will be done like the left side

Terminal installation registration method with USB3

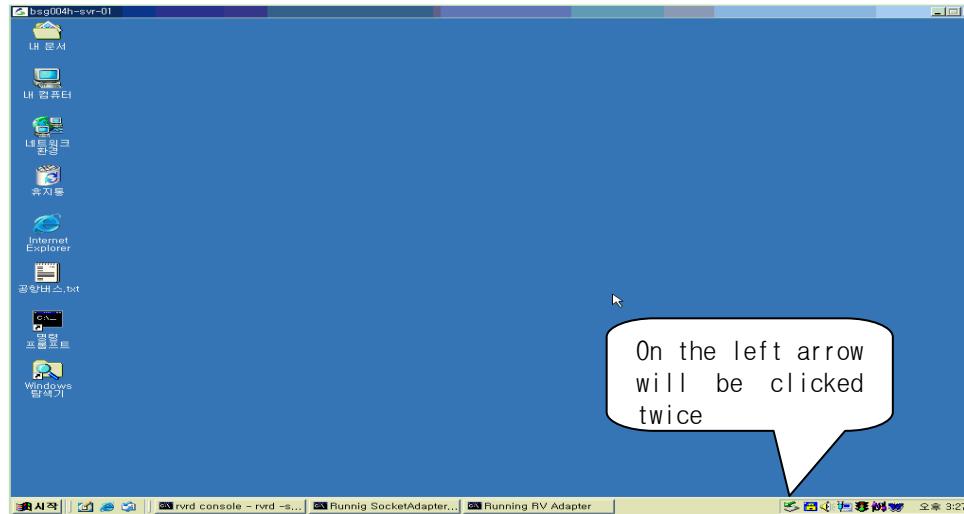
□ USB copy completed



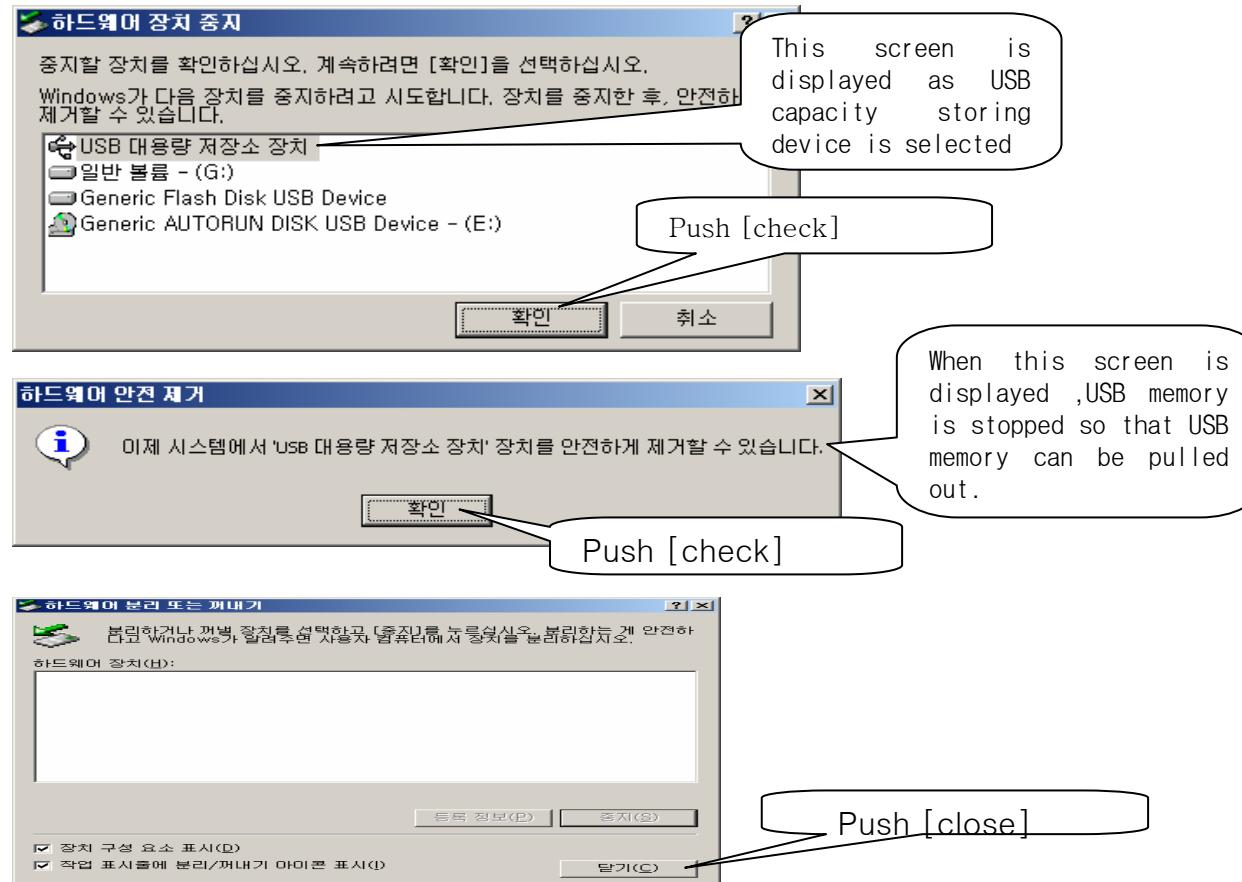
- when above message is shown, check will be clicked.
- when “Close” is clicked, program is closed

Terminal installation registration method with USB4

- To remove USB device from main computer safely, “reject” or “hardware separation” is executed



Terminal installation registration method with USB5



- When above screen is displayed, USB will be removed and terminal registration will be done

□Terminal installation registration method with USB6

1. USB installation selection

USB operation	V002	Screen explanation	USB installation	Screen explanation
1. USB installation 2. USB UP,DOWN 3. USB reserve vehicle registration 4. USB reserve vehicle cancel		<p>It is the screen installation</p> <p>USB is inserted on the top of driver's terminal</p> <p>Select[1] and Check is pushed</p>	<p>Do you want to start USB installation ?</p> <p>Yes No</p>	<p>[1] is selected and Check is pushed</p>

2. Vehicle ID input executed

USB installation	Screen explanation	USB command executed	Screen explanation
Vehicle ID input []	<p>Vehicle no. : 141XXXXXX is selected</p> <p>Check is pushed</p>	<p>USB installation</p> <p>Processing time : 00M 00S</p> <p>DB60 : 000 K</p>	<p>Terminal installation completion displayed</p> <p>It will take 3~4 minutes.</p>

User's Information

1. Cautions

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

2. 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.

3. 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.

□ Thank you!!

Thank you

