RB-F900

User Manual

Fingerprint System

Ring Bell ㈜링벨

Ver 1.1

User Guide

■ Thank you for Using RingBell F-900.
This manual can be change anytime without notice and also can be miss print or spelling error.

Copyright © Ring Bell Co., Ltd 2009
All rights reserved.
This manual have copy right.
Manual cannot be reproduction or copy without permission.

Section 1

Introduction

1-1 Confirm contents ---------- -4

1-2 Install place ---------- -5

1-3 Parts name ---------- -7

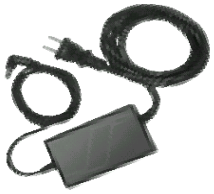
1-4 RB-F900 Sepcification ---------- -9

1-5 RB-F900 summary ----------10

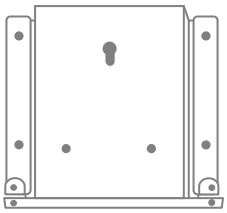
Introduction

1-1 Confirm contents

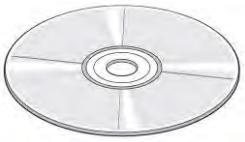
RB-F900



Adaptor



Holder/Screw



Software Program CD/ Manual

※ **Contents can be change without notice.**

1-2 Install place

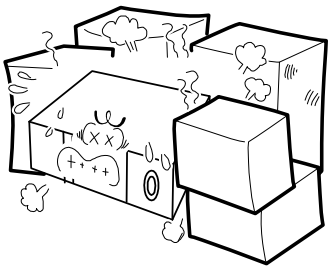
To get best specification for RB-F900, please install in safe place suggest below.

Warning

Careful when unpack RB-F900. LCD screen is on the surface.
Please Keep RB-F900 in package when you carrying long time trip..
Please check contents and call Ringbell if anything is not included.

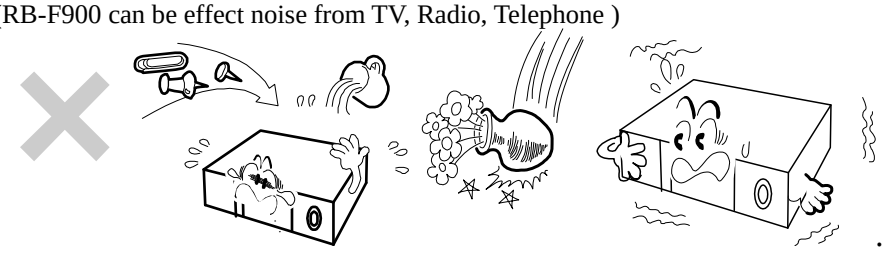
☐ Select install place

Please get enough place to install RB-F900.



☐ About Install place

Please select safety place to install to get the best specification for RB-F900.
(RB-F900 can be effect noise from TV, Radio, Telephone)

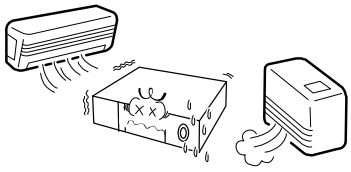


☐ Avoid high temperature & moisture

- ✓ Please advise install condition below..
- ✓ Please avoid stove, heater, air condition.

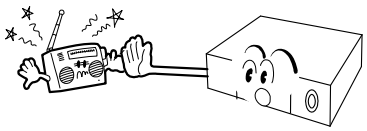
☐ Avoid radical temperature changes

Please avoid radical temperature change place.
Radical temperature change can make dew inside RB-F900.



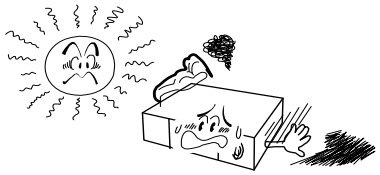
☐ Avoid electromagnetic (radio, TV, microwave).

Please avoid electromagnetic noise from RB-F900. Can be have trouble shooting with RF card and interphone.



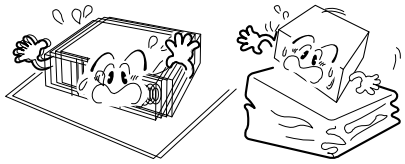
☐ Keep out of sun.

Please avoid sun, our solution is optical method, so sun can cause delay authorization.



☐ Vertical and steady

Install vertical way and steady place, not shaken.



1-3 Parts name

◆ Front side

◆ Back side

1. Slide Holder
2. MIC authorize sticker
3. Please see Pg.38 for terminal connection

1-4 RB-F900 Specification

■ **"**RB-F900" Specification is below.

Model Name	**RB-F900**
CPU	ARM9 2440, 32Bits, 400Mhz, (128+64)MB Memory
LCD	3.5 inch COLOR TFT LCD Graphic display
Key	0,1,2,3,4,5,6,7,8,9,</*,#/>,CANCEL,ENTER,SETUP,F1,F2,F3,F4
Communication	Host[com1] : comm.[RS-485], TCP/IP, WIEGEND
Fingerprint r/g	Max 10,000 person registration
Log data	Max 1,000,000 data
LAN Convertor	Built in TCP/IP LAN Convertor
RF-ID	Built in RF-ID Module – Temic 125Khz
Voice	Message : 2 language
Operating time	Card reading : 30ms [13.56Mhz] Verification : Less than 0.3 sec
Operating Temp	Fingerprint Module: -20˚ to +60˚ , LCD: -20˚ to +70˚ RF Reader: -35˚ to+65˚
Operating humidity	10% to 90% relative humidity non-condensing
Power	12V / 600 mA
Dimension	160 mm[W] * 140 mm[L] * 35 mm[H]

This specification can be upgrade without further notice.

1-5 RB-F900 Summary

1. Summary

Ringbell RB-F900 is link with Internet & Intranet Computing. Cannot be authorize by some else. All fingerprint and RF card data will convert to digital data and save in our database in RB-F900 and user PC. RB-F900 has three ways to authorize user (Fingerprint, RF card, Password) to link to security panel RB-3010, RB-3020 for security system.
RB-F900 can be use as employee time management system & payroll system.

2. Special feature
1) Smart authorize speed
Using 32bit ARM9 to speed up process and provide stable authorization.
0.3 sec. to authorize user fingerprint
2) Dimension System formation
Using RS485 communicate up to 1.2Km length data and link up to 32 units.
Also have TCP/IP communication to secure and steady data communication.
3) High volume of fingerprint and log data
Up to 100,000 fingerprint and 2million data can save in flash memory.
4) Smart authorize system
Basic 1:N authorization system can register up to 8000 people and search 3 deferent fingerprint in 1 second. Compare up to 45 deferent point of fingerprint. 0% of miss authorize.
5) DATA storage ability and expanse.
User register 10,000, Event Data 1,000,000 same time disposal.
Using FLASH MEMORY to protect losing data.
6) Remote operation ability
Using software to monitoring real time door status and search users status on / off line.
7) Multi user ability
3.5 inch COLOR TFT LCD Graphic display to show clear Message,
LCD Back-Light can be easy to use at night.
Using Key, Card + Password, Password user and RF-ID card user select.
8) Variety application range
RB-F900 has variety application like Time management & Access control.

Section 2

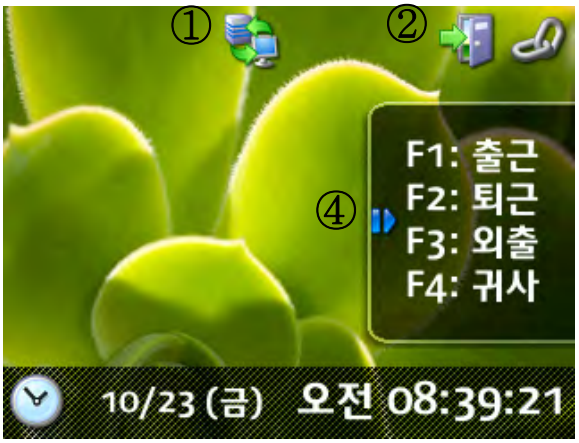
Technical guide

2-1 Employee time management ----------12
2-1-1 Function button guide ----------12
2-1-2 In/Out & Clock In/Out mode ----------13
2-2 System mode entry ----------13
2-3 System setup ----------14
2-3-1 General setting ----------14
2-3-2 Time & Date setting ----------15
2-3-3 Operation setting ----------15
2-3-4 Time manage setting ----------16
2-4 Network setup ----------17
2-4-1 TCP/IP Setting ----------18
2-4-2 RS-485 Setting ----------18
2-4-3 Network address & error confirm ----------19
2-5 Device setup ----------21
2-5-1 Fingerprint Authoize ----------22
2-5-2 Input setting ----------23
2-5-3 RF Card setting ----------23
2-5-4 Gate setting ----------24
2-6 User setup ----------24
2-6-1 User Register setting ----------24
2-6-2 User modify setting ----------26
2-6-3 Delete single user setting ----------27
2-6-4 Delete entire user setting ----------28
2-7 Screen & Sound setup ----------28
2-8 Log data management ----------29
2-9 Authoization explanation ----------30

Technical Guide

◆ Employ time manage mode. (Please refer below)

2-1 In/Out & Clock In/Out Mode



1) Icon will show when communicate with PC and RB-F900 (See capture image above)
2) Door delay activate icon (Close / Open)
3) LAN communication link icon (See capture image above)
   If icon show (**X mark**) LAN disconnected

4) Time management mode option screen (press button to change ability)
5) Month, date / time line (exclude by option)

2-1-1 Function button guide

CANCEL **Operation cancel / Preview menu**

ENTER **Enter, Ok, Save**

SETUP **System set up / Security mode**

F1 **Clock In / Reregister fingerprint**

F2 **Clock out / Reregister card**

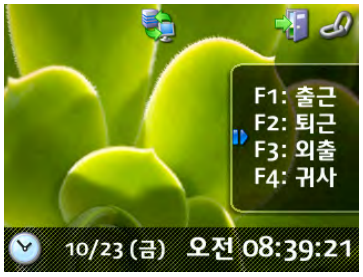
F3 **Going Out / Upper Key / Reset**

F4 **Return / Down Key / Initialize / User picture modify**

</ * **Left Key / Delete # / Security system input mode**

#/> **Right Key / Security system input mode**

2-1-2 In/Out & Time management



< In/Out mode >

< Clock In mode>

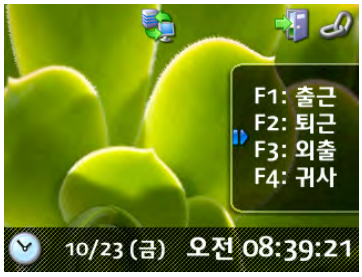
< Clock Out mode >

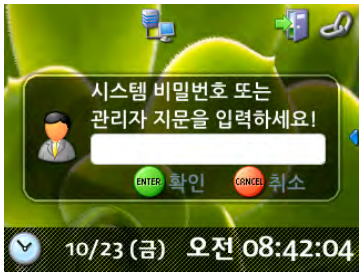
< Going out >

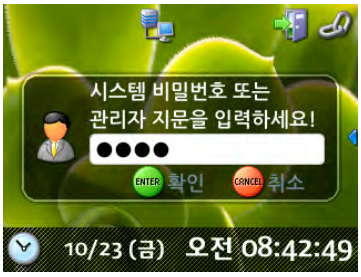
< Return >

◎ Press menu you want to use F1~F4.
◎ Press CANCEL to change In/Out mode from Time manage mode
◎ You can also set the system to automatically change to In/Out mode from Time manage mode.

2-2 System mode entry







Press Setup Button SETUP → Initialize password **"0000"** → Input PasswordEN Then press TER

◆ Admin have to have a password to approach system setup to modify settings.
If password is failure then RB-F900 will say massage that you cannot access.

2-3 System setup

2-3-1 General setting

Register System ID and Password
Multi reader have ID number for multi RB-F900 to use in one place.
Password is access to system setting mode so please be aware not to forget.

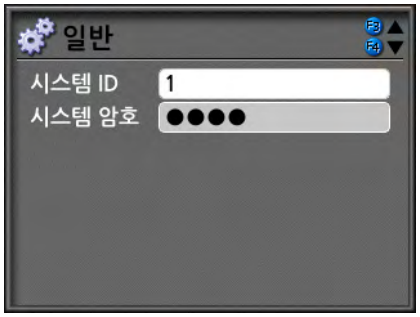
①

Select system icon in setting mode then press ENTER 도움말

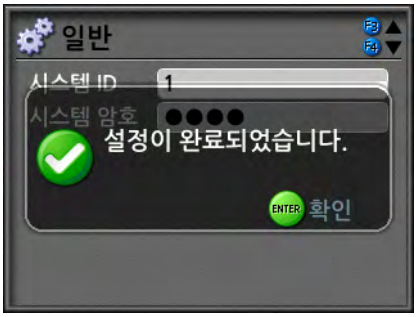
②

Press ENTER at general.

③



④



After setting is done, return to main menu

◆ **Help**

Direction menu (F3 : up / F4 :down)

System ID : “1” / password : “0000”
When you change ID/PW press

2-3-2 Time & Date Set up

Setup system Time & Date.
In/Out and Time manage system need exact time and date.
EX> Date : 2009 yr 10 mo 23 day (20091023) / Time: PM 04:57:37 (165737)

Select Date/Time then press ENTER

Input exact Time & Date then press ENTER

2-3-3 Operation setting

Entire device authorize setting

1) 1:1 Operation -> Multi way to authorize setting

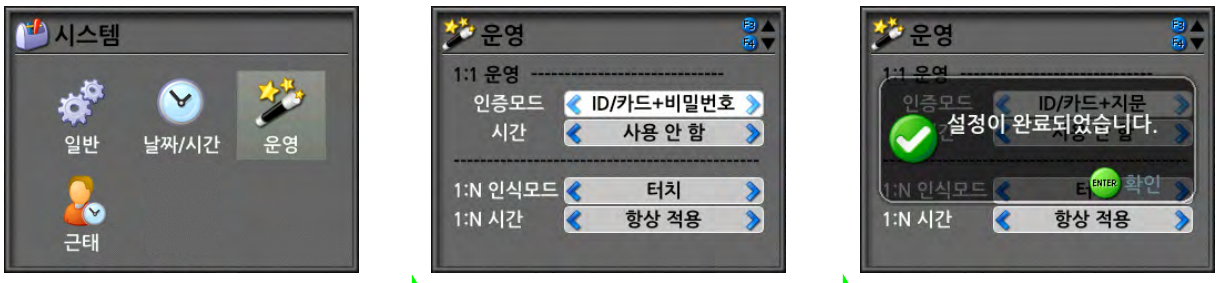
Sort : (Card) , (ID/Card+Fingerprint) , (ID/Card+PW) , (ID/Card+Fingerprint/PW) , (ID/Card+Fingerprint+PW)

Description : EX) (ID/Card+Fingerprint) = Input ID and scan RF card then scan fingerprint.

2) 1:N Operation -> Only Operate with Fingerprint

Sort : (Touch) , (Function Key) , (Touch/ Function Key) , (Not use)

Description : EX) (Touch) = Using touch sensor behind fingerprint scanner
(Function Key) = Press F1~F4 Key then fingerprint
(Not use) = Not using fingerprint



Select Operation menu then press ENTER

Using F3 & F4 to up and down to change setting then press ENTER

Return to Main menu after setting.

2-3-4 Time manage setting

◆ Multi Time manage mode setting.

1. Mode description

A) Manual mode : Time manage mode will be stay until press 'Cancel' button to return to In/Out mode.

B) Time manage mode : To manage employee time track, use Time manage function key.
(Clock In/Clock Out/Going Out/ Return)

C) Automatically : Set the time to change functions automatically Clock In / Clock Out / Going Out / Return.

D) Fix mode : Set the function fixed in Clock In / Clock Out/ Going Out / Return

E) Not use : Not using Time manage mode just using In/Out mode

2. Event Description

A) Sort : Clock In / Clock Out / Going Out / Return

B) Time : Always apply/Not use (Using software to set the specify time)

C) Door Open : Use/Not use (Analysis event to open door or not)

3. Fix description

RB-F900 exclusive when its fix mode (apply to Clock In/Clock Out/Going Out/Return mode)

Select Time manage then press ENTER

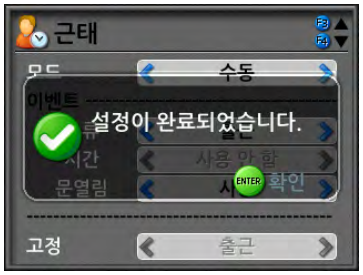
< **Manual** >

< **Time manage** >

< **Automatically** >

< **Fix** >

< **Not Use** >



Return to Main menu after setting.

2-4 Network setup

◆ RB-F900 has 2 ways to communicate with PC software.

1) **TCP/IP Method**: Ethernet 802.3 protocol to using TCP/IP address
2) **RS485 Method**: Connect parallel between RB-F900 and Computer

* Using TCP/IP communication is more steady and safe communication method.

2-4-1 TCP/IP setting

1) **Port** : To connect PC software, set the peculiar port (device have to have a peculiar port when there are many IP address sharing in one network. Be careful not to put duplicate port in router for outside remote connection.)
2) **Maximum connect** : (1 / 4 / 6 / 8 / 16 / Unlimited) -> same time connection with PC software setting.
3) **DHCP** : (use / not use) -> IP automatic assign setting
   Set the peculiar IP for RB-F900. (When manually input IP, set the IP out of auto assign IP from router / cause IP crash in hence)
4) **IP address** : Input IP address (Regularly router have 192.168.0 or 192.168.10 duty IP). Please be ware not to input other PC or device's IP address.
5) **Gateway** : Input GATWAY address
   If it's in the same network, Gateway have to be same as PC's Gateway.
   Router IP or Network IP is Gateway.
6) **Subnet Mask** : Input SUBNET MASK IP
   If it's in the same network, Subnet Mask IP have to be same as PC's Subnet Mask IP.
7) **MAC address** : Mac address is Network communication in OSI 2LAYER.
   It has own Mac address, but if devices have duplicate Mac address, then network will be crash between devices.

*** Warning.**

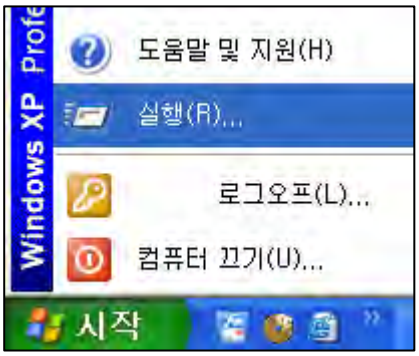
When input IP address in new device, use 'left' key " **</*** " to delete, and tuse 'right' key "**#/>**" to input next IP address number.

2-4-2 RS-485 setting

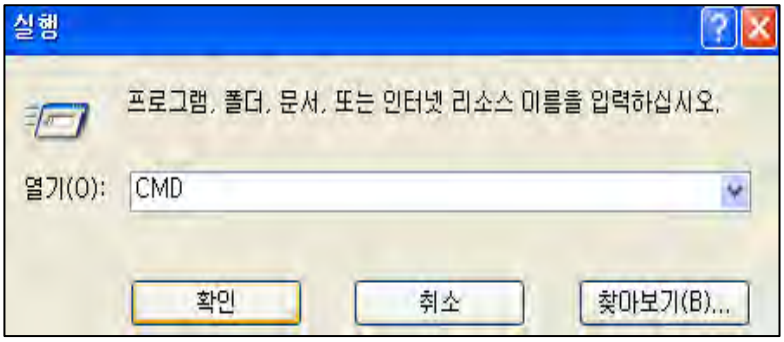
1) **PC** : Set the same communication speed as PC communication speed.
   (4800 / 9600/ 19200/ 38400/ 57600/ 115200/ not use)

2-4-3 Network address & Error

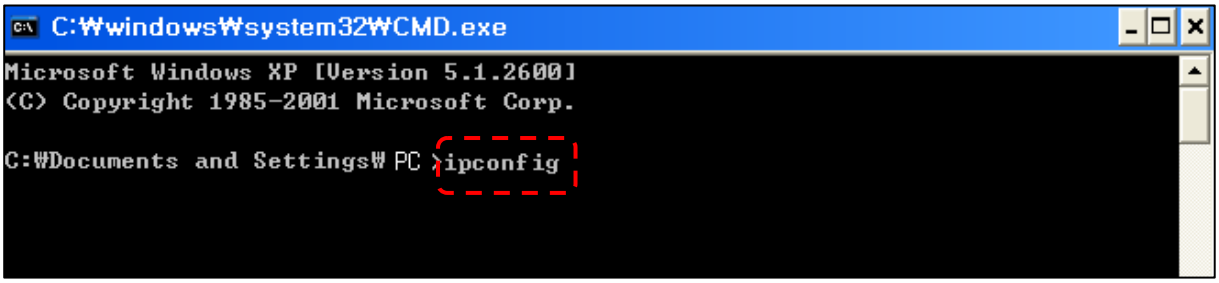
1) To find out what IP address PC are using
2) To Install Time management PC software, use same IP address range in same network
3) Start->Run (Type CMD then ENTER)-> DOS prompt screen (type 'ipconfig' then ENTER)



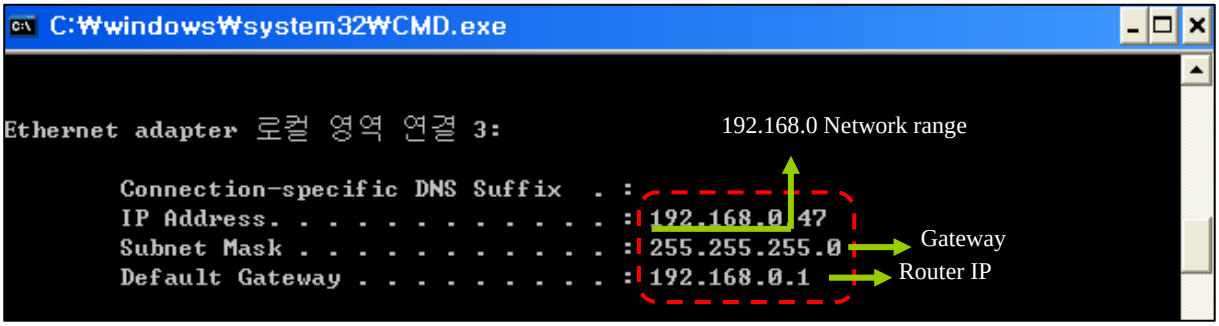
Window -> Run ->CMD



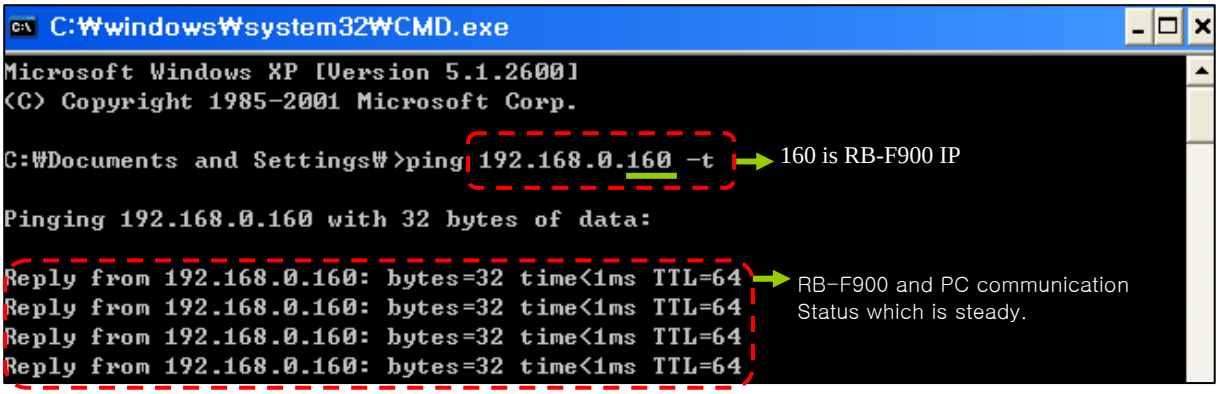
Run : Type "CMD" then ENTER



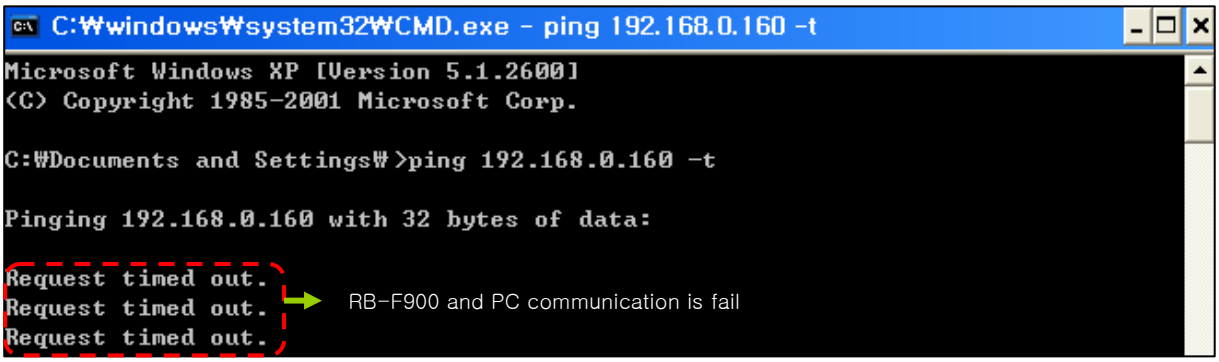
When Dos Prompt screen shows above, type " ipconfig " then ENTER
*** ipconfig : Verification of PC IP, Gateway, Subnet Mask**



Orderly IP / Subnet Mask / Gateway will show.
If you install device in same network, input subnet mask and gateway then setup automatically or manually input RB-F900 IP address.

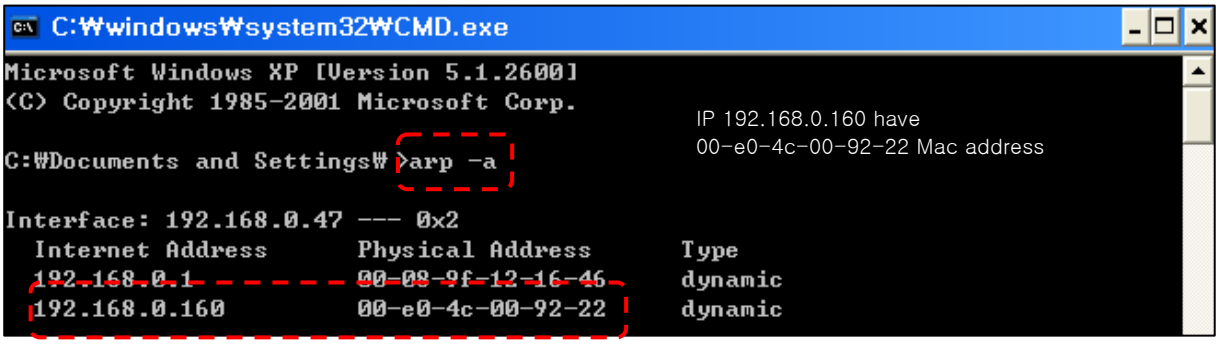


Input RB-F900 IP, SUBNETMASK, GATEWAY, Input TCP/IP Port and check the status
Start->Run(Type CMD then ENTER)-> Dos prompt screen
ping 192.168.0.(RB-F900 IP) –t <EX : ping 192.168.0.160 –t Enter >
Orderly IP / Subnet Mask / Gateway confirm.
If you install device in same network, input subnet mask and gateway then setup automatically or manually input RB-F900 IP address.



If CMD shows " Request timed out", please check the list below.
1) RB-F900 IP , Gateway, Subnet Mask
2) Duplicate IP
3) LAN Cable check (Most router accept cross cable but basic specification is 1:1)
4) Check the Link LED on router or hub
5) RB-F900 LAN port check

*** ping description : To check steady communication IP in TCP/IP**



To mapping RB-F900 IP & MAC ADDRES.
Start->Run(Type CMD then ENTER)-> Dos Prompt screen
Type arp –a ->

*** arp description : Most network device have Mac address, check IP and Mac address status.**

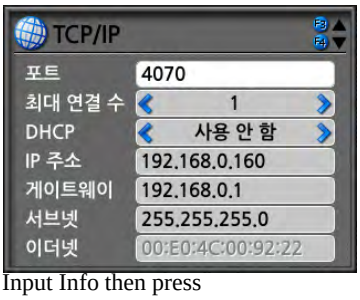
◆ TCP/IP

Select Network then press

ENTER

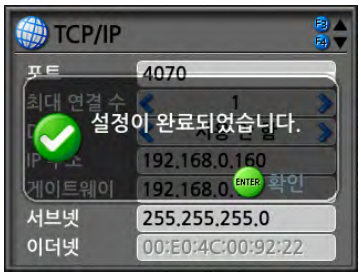
Select TCP/IP then press

ENTER



Input Info then press

ENTER



Return to main menu after setting.

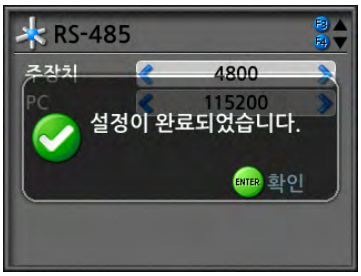
◆ **RS-485**

Select RS-485 then press

ENTER

Input speed correctly then

ENTER



Return to the Main menu after setting.

2-5 Device setup

◆ Setup hardware device / Setup device reboot and initialize

2-5-1 Fingerprint authoize

1) Security level : set the security level for fingerprint authorization.
(low / middle / high) 3 kind of level and initialize setting is “middle”.

* Low : High authorization, but that can cause duplicate fingerprint authorize
Middle : When register fingerprint level is middle
High : High secure and elaborate to authorize fingerprint

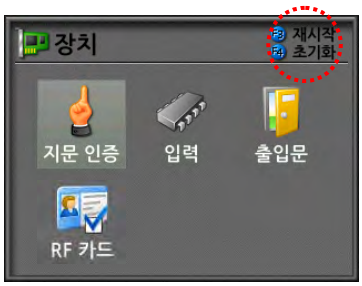
2) Display Fingerprint : Display Fingerprint on the screen
* Display : Display fingerprint when scan finger
Hide : Hide fingerprint when scan finger

3) Fingerprint Delay Time : Setup Delay time when scan fingerprint(1~20 sec.)
* After delay time voice message will comes out “ **Please scan fingerprint correctly**. “

Display

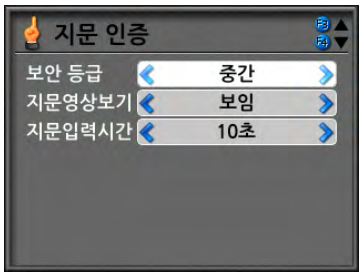
Select Device then press

ENTER



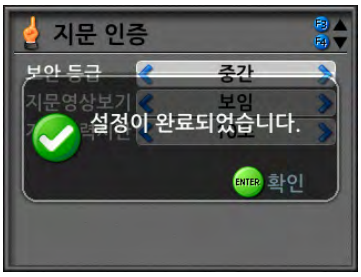
Select Fingerprint Authorize then press

ENTER



Setup system the press

ENTER



Return to Main menu after setting.

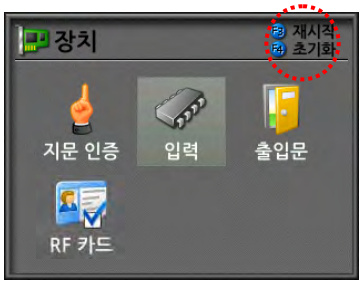
2-5-2 Input setting

1) When case open : Alarm will activate when the device case open enforce.

* Alarm : Case open signal apperance

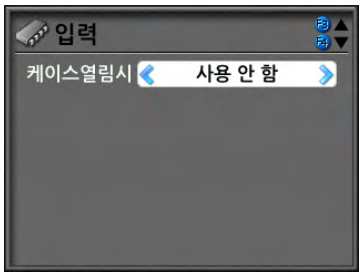
Device Lock : Lock the all the system

Not Use : Not use



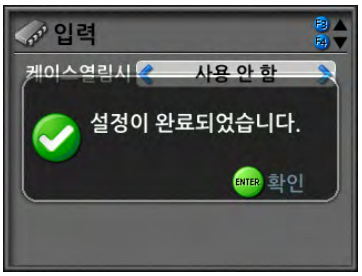
Select Input then press

ENTER



Input information then press

ENTER

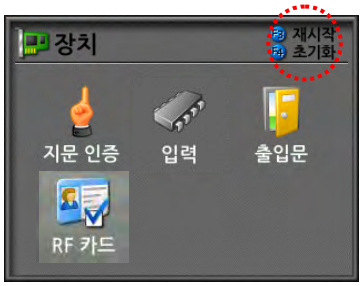


Return to Main Menu after setting.

2-5-3 RF Card setting

1) Kind : Select RF Card type

* 125Khz : Temic / EM Card

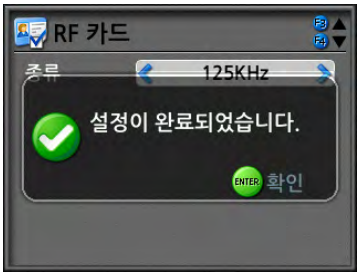


Select RF card then press

ENTER

System setup then press

ENTER



Return to main menu after setting.

2-5-4 Gate setting

1) Door Open event : Decide In/Out or Time manage event

* Authorize : In/Out data

Time manage : Clock In/Clock Out/Going Out/Return 신호 중 문열림이 사용으로 설정된 신호

Authorize + Time manage : In & Out/Clock In/Clock Out/Going Out/Return data open door

Every event : Clock In/Clock Out/Going Out/Return Data

Not use : Door keep close when authorize.

2) Door Close Time : Setup door close time in PC software

* Always use : Apply door time

Not use : Not use

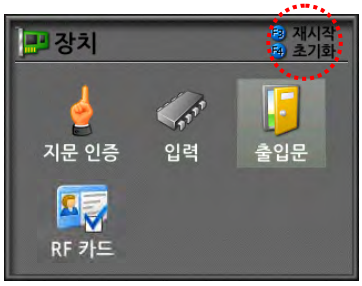
3) Door Open Time : Setup door open time in PC software

* Always use : Apply door time

Not use : Not use

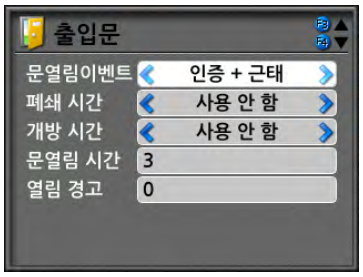
4) Setup Door Lock Time : Setup door lock time (When system setup EX : "3" Lock will activate in 3 sec.)

A) Door Open Alarm : After setup time alarm will activate



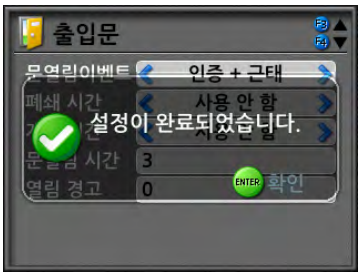
Select door then press

ENTER



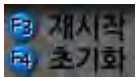
Setup system then press

ENTER



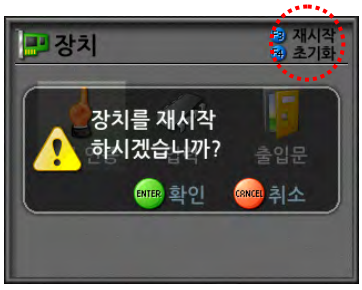
Return to main menu after setting.

◆ Help

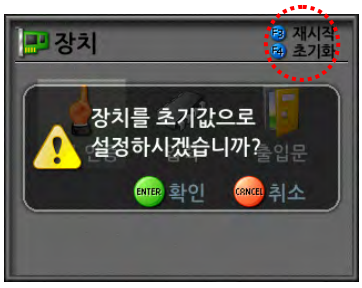


F3 : Restart system

F4 : Initialize system



Press F3 then ENTER to Restart



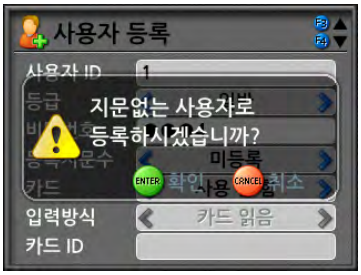
Press F4 then ENTER to Initialize

2-6 User setup

◆ Setup User Fingerprint, Card, Password Register/Modify/Delete/Entire Delete.

2-6-1 User register setting

1) User ID : Use direction key to input User ID , automatically register no.1 then no.2 method.
2) Level : Admin and User level setup
* User : Cannot access initialize mode and cannot delete data
Admin : Can access to any of system
3) Password : User password input / (Don't need password to register)
4) Number of scan fingerprint : Setup how many times to scan fingerprint when register.
* 1~5 / Not use (User do not have to have a fingerprint to register)
After setup you can also change setting at **Modify**. Then Reregister user fingerprint.
"**Not use"** screen below

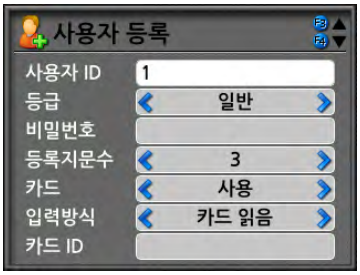


5) Card : Setup card type when register
* Use : RF Card use setup
Not use : Not use RF Card
(When use fingerprint and card, **" Card Register first "**.)
6) Input Mode : Card auto Input / Manual Input / Input User ID.
* Read card : Automatically read card
Manual Input : Input card data without instead of reading card
User ID : Use card ID instead of User ID
7) Card ID : Show register User card data **(4Byte = 10 digit)**

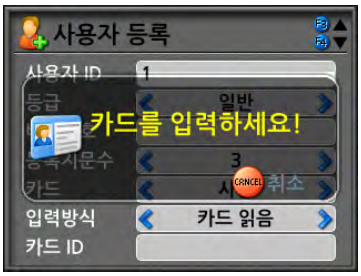
◆ User ID(1) / Not use password / Fingerprint scan (3) / Card use / Auto Reader

Select User then press ENTER

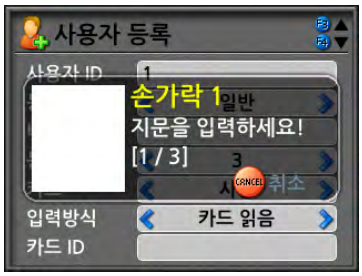
Select register press ENTER



Input information then press ENTER



Scan RF Card on the scanner on the RB-F900.

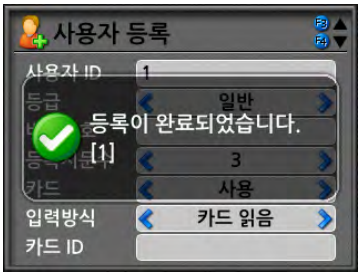


Scan fingerprint when screen show above.

Automatically save 3 fingerprint When scan first fingerprint.

Automatically save 3 fingerprint When scan second fingerprint.

Automatically save 3 fingerprint when scan third fingerprint.

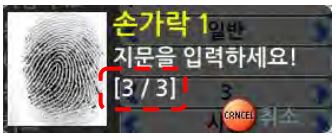


After register fingerprint, system automatically return to user register menu for next register
Press 'Cancel' button to return to main menu

◆ **Help**

1) When register fingerprint and card at same time, **" Card register first "**

2)



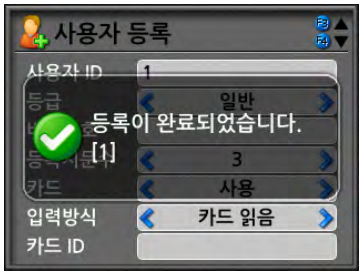
When register fingerprint, [1/3] , [2/3], [3/3] save fingerprint. While scan fingerprint, please avoid movement of fingerprint that can cause failure of fingerprint.

3)

[0] None registered User

First User register, menu is only activate for Register.

[1] 1 Registered User



After User registered, the menu will activate.

2-6-2 User modify setting

◆ Modify every User Fingerprint , Card , Password , Card Use or Not Use , Card number.

1) User ID : Input User ID , use direction key to input manually (type ID then ENTER)

2) Level : User and Admin modify setting

* User : Register as user level

Admin : Register as Admin, access to all level

3) Password : User authorize password input / (Register User without password)

4) Number of Fingerprint : Setup how many times scan fingerprint when register.

Modify User fingerprint, rescan from first fingerprint.

When reregister fingerprint, press **<F1> Button** to reregister.

5) Card : Setup Card Use/Not use

* Use : Use RF Card

Not Use : Not use RF Card

Press <F2> Button to Reregister Card.

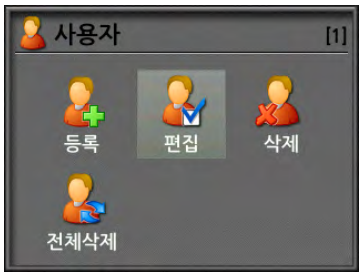
6) Input method : Setup Auto Card Input / Manual Input / Modify User ID Input.

* Read Card : Automatically read card to register

Manual Input : Manually input card data to register

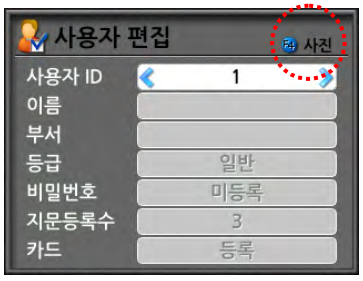
User ID : Set User ID to Card ID

7) Card ID : Show Card data **(4Byte = 10 digits)**



Select Modify then press

ENTER



Select ID then press
F4: Check register Picture

ENTER

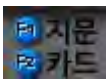
Re registration:
F1 (fingerprint), ,F2 (ID)

Press F2 button to add card or Reregister.

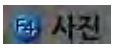
Press F1 button to add fingerprint or reregister.

After register, return to next register menu. Register next user or press CANCEL button to end register menu.

◆ **Help**



F1 : Modify Fingerprint
F2 : Modify Card



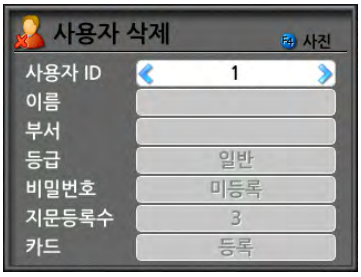
F4 : Check register Picture.
If Picture hasn't been register message will show.

2-6-3 Delete single user setting

◆ Delete User ID

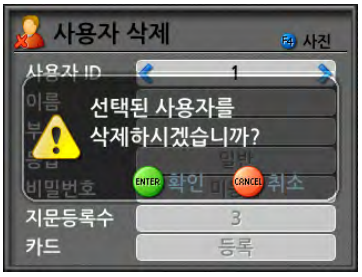
Select delete menu then press

ENTER



Select ID then press

ENTER

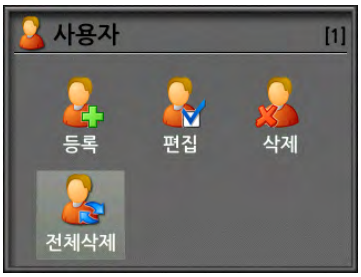


Confirm delete then press

ENTER

2-6-4 Delete entire user setting

◆ Entire User ID delete



Select Entire delete then press

ENTER

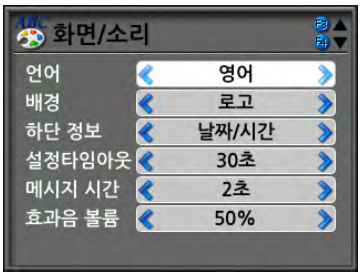
Confirm delete then press

ENTER

2-7 Screen & Sound setup

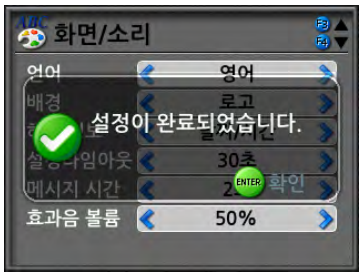
◆ Select Language / Main screen information / Input wait time / Message wait time / Volume

1) Language : Korean / English (System will reboot after change language)

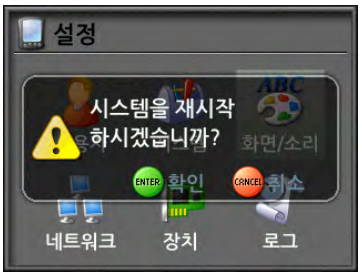


Change to English then press

ENTER



Setting Confirm message



System Reboot confirm, press ENTER to reboot system.

2) Screen : Multimedia / Logo / Slide Show / Notice

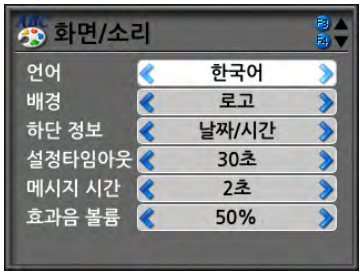
3) Information Below : Date/Time, Not use (Show Date/Time Main screen below.)

Date/Time Not use

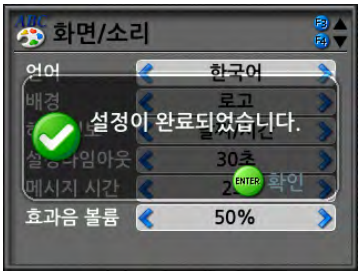
Date/Time Use

4) Input time out : <10~30 sec. , Unlimited> Return to Main menu after delay time is over.
5) Message Time : <1~5 sec.> Set message time (Authorize time , Failure)
6) Volume : <10~100% , Mute>

Select Screen/Sound then press ENTER



Input information the press ENTER

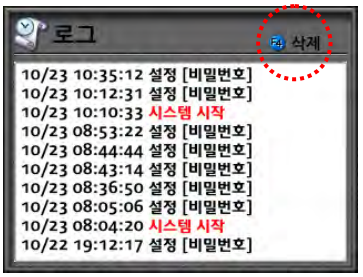


Return to main menu after setting.

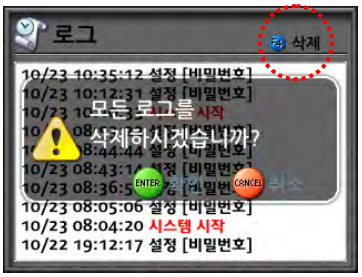
2-8 Log data management

◆ Show System Log (System Start , Authorize record, register and delete log data)

Select Log menu then press ENTER

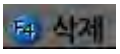


System log confirm and delete Log data. Press F4 button to erase.



Confirm Delete the press ENTER

◆ **Help**



Press F4 button to delete log data

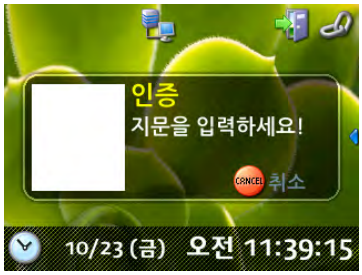
2-9 Authorization explanation

◆ Fingerprint , ID & Password , RF Card method to authorize User.

F1 Clock In, F2 Clock Out, F3 Going Out,
F4 Return
Use F1~F4 button to change to Time manage.
CANCEL button to In/Out mode

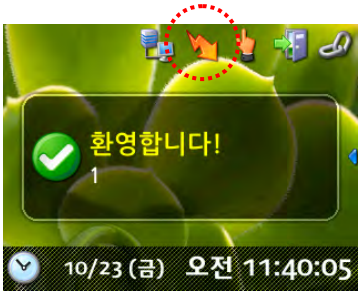
2-9-1 Fingerprint authorization

1) In/Out Fingerprint authorize



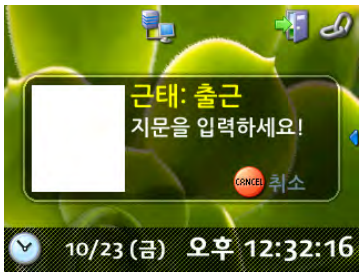
Press CANCEL button to change In/Out mode then scan Fingerprint.

Wait until Fingerprint show on the screen.



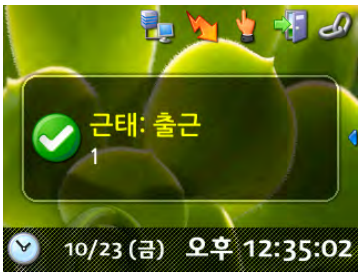
Authorization success.

2) Clock In fingerprint authorize



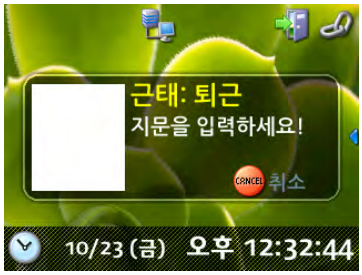
Press F1 button to change Clock In mode then scan fingerprint.

Wait until screen show Fingerprint on the screen.



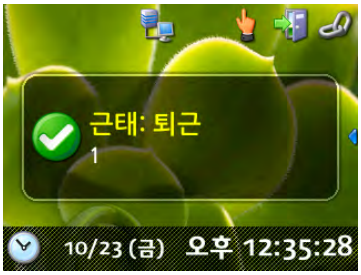
Clock In authorize Success.

3) Clock Out authorize



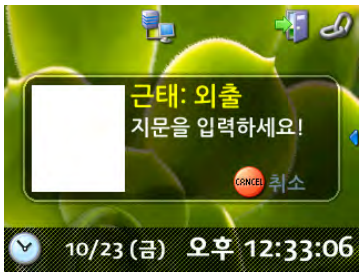
Press F2 button to change to Clock out mode then scan Fingerprint.

Wait until fingerprint show on the screen.



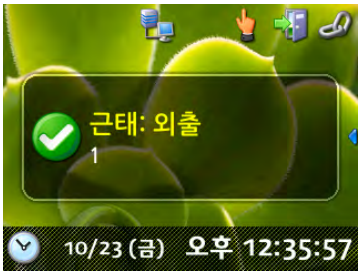
Clock Out authorize success.

4) Going Out authorize



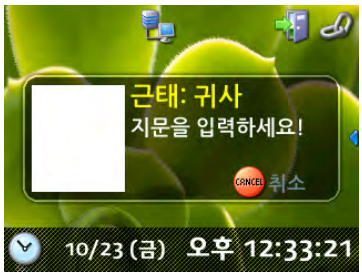
Press F3 button to change to Going Out mode then scan Fingerprint.

Wait until fingerprint show on the screen.

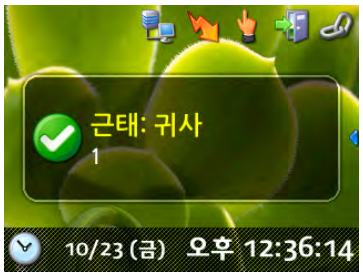


Going Out authorize success.

5) Return authorize



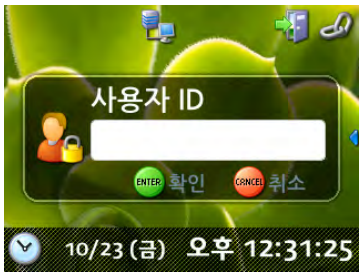
Press F4 button to change to Return mode the scan Fingerprint.



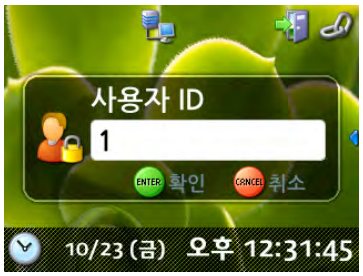
Wait until fingerprint show on the screen.

Return authorize success.

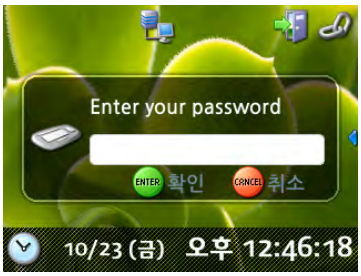
6) ID & Password authorize



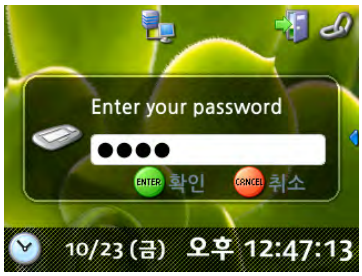
Use numeric key to Input ID number



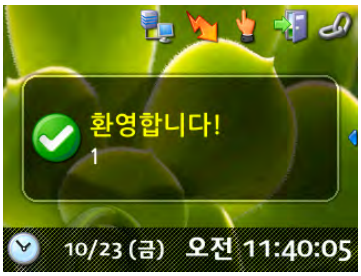
Input ID use numeric key.
(Press ENTER after Input ID)



Input ID, then press ENTER
(Before input password)



Input ID then press ENTER
(Input password then press ENTER)



Authorization success.

7) RF Card authorize

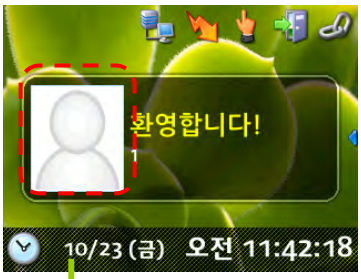
◆ Scan RF Card close to machine. Use F1~F4 button to change mode.

Employee Name Card TYPE

Key tag Type

8) User Info Screen

- User ID and picture will show when authorize.
- Modify User Information in PC software then transfer to RB-F900.

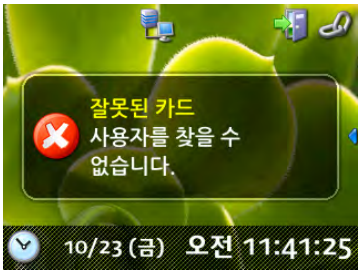


User Picture

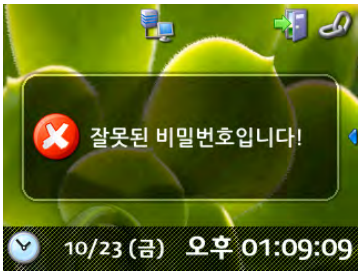
9) Failure screen when authorize

Fingerprint authorize failure

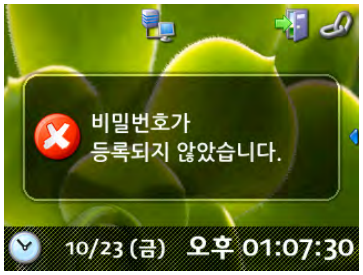
Fingerprint scan wait time over.



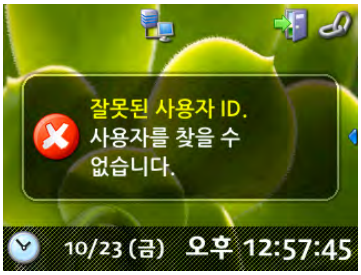
Not register card screen



Password failure



User do not have password



Not register ID

Section 3

System Analysis and Install

3-1 System Analysis----------35

3-1-1 Network connection----------35

3-1-2 RS-485 1:N connection----------35

3-1-3 RS-485 1:1 connection----------36

3-1-4 Single connection----------36

3-2 System Install ----------37

3-2-1 Installation advice----------37

3-2-2 Holder Install ----------37

3-2-3 Terminal connection----------38

3-2-4 Hold RB-F900----------39

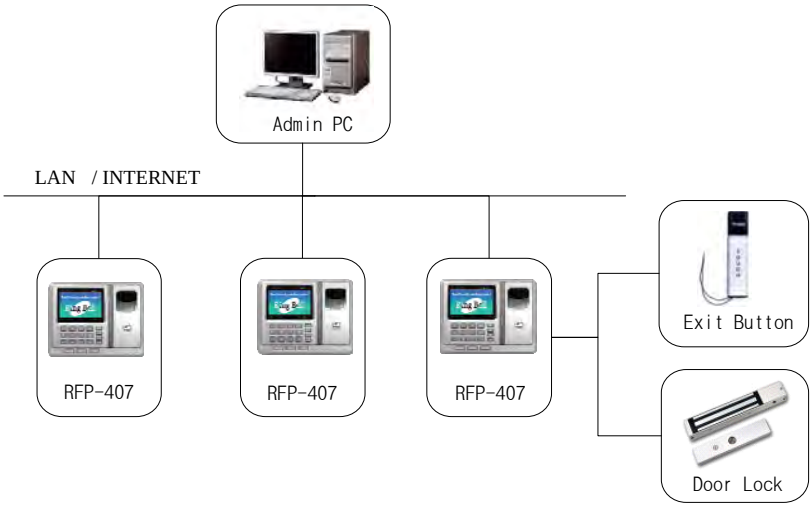
3-2-5 Ehernet connection (cable)----------40

3-3 Correct Authorization----------41

3-1 System Analysis

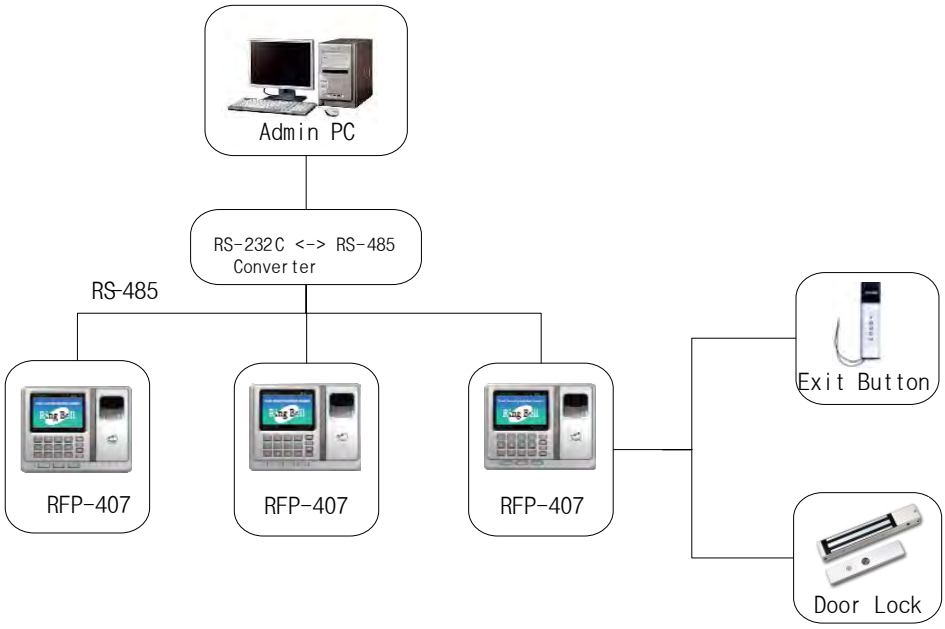
3-1-1 Network connection

Network connection is connect multi RB-F900 thru Internet (TCP/IP Internet).



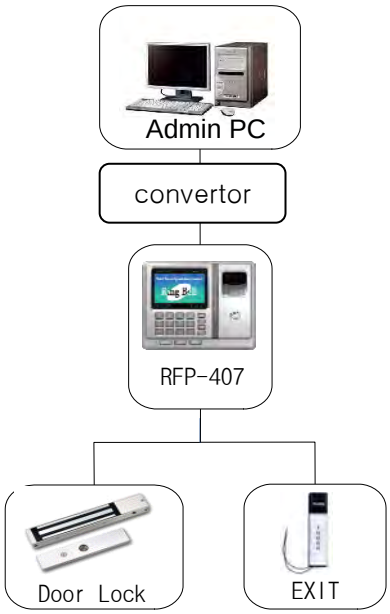
3-1-2 RS-485 1:N Connection

1:N connection is use RS-485 interface to connect multi RB-F900 to PC.
Specification communication length is 1.2Km and maximum connect is 16.
PC do not have RS-485 terminal so use RS-232C convertor.



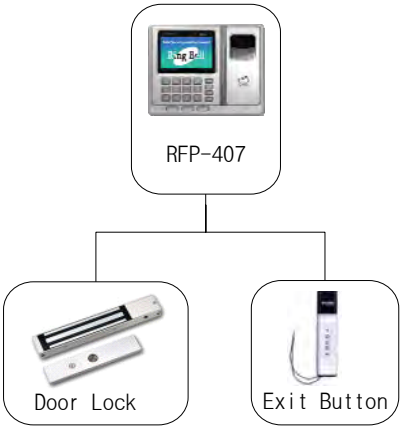
3-1-3 RS-485 1:1 Connection

1:1 connection is using RS-485 interface to connect admin PC and RB-F900. Communication maximum length is 1.2Km.



3-1-4 Single connection

Stand alone RB-F900 without admin PC.



3-2 System Install

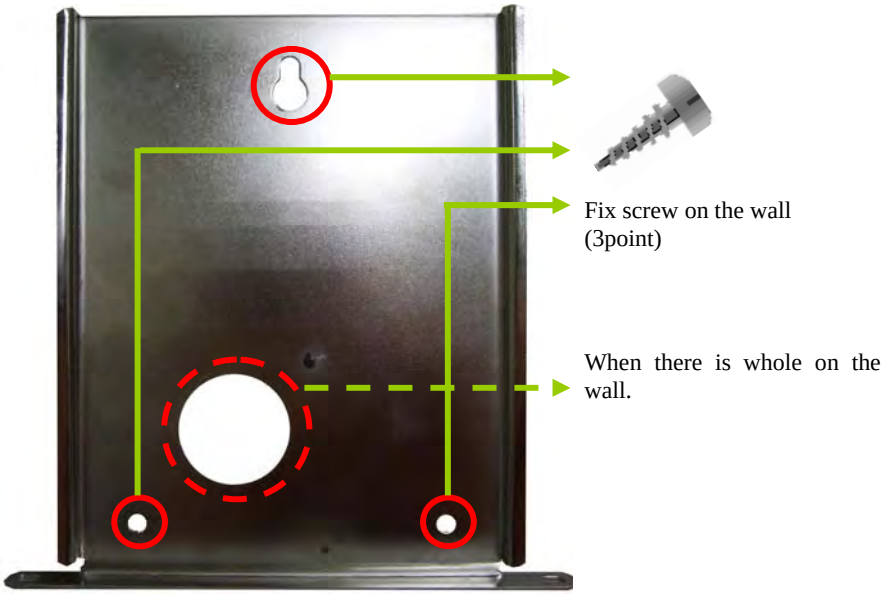
3-2-1 Installation advice

Please advice RB-F900 installation guide below. RB-F900.

1) Please avoid direct sun. Sun can cause problem with scan fingerprint.
2) High temperature, water, and dust also can cause scanner of fingerprint.
3) Please beware of install holder of RB-F900, it have to be open in any ways.
4) Avoid noise from other device. Please keep away from radio, microwave and TV.

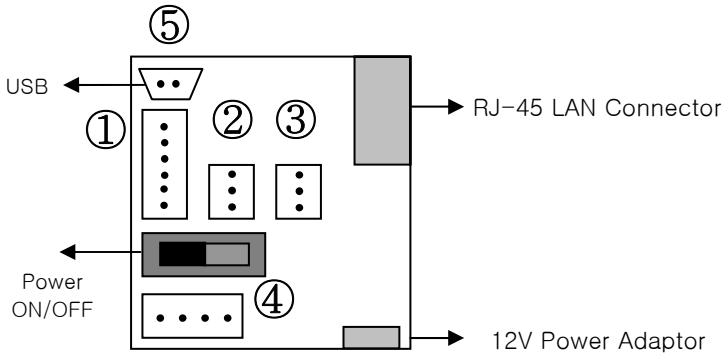
3-2-2 Holder Install

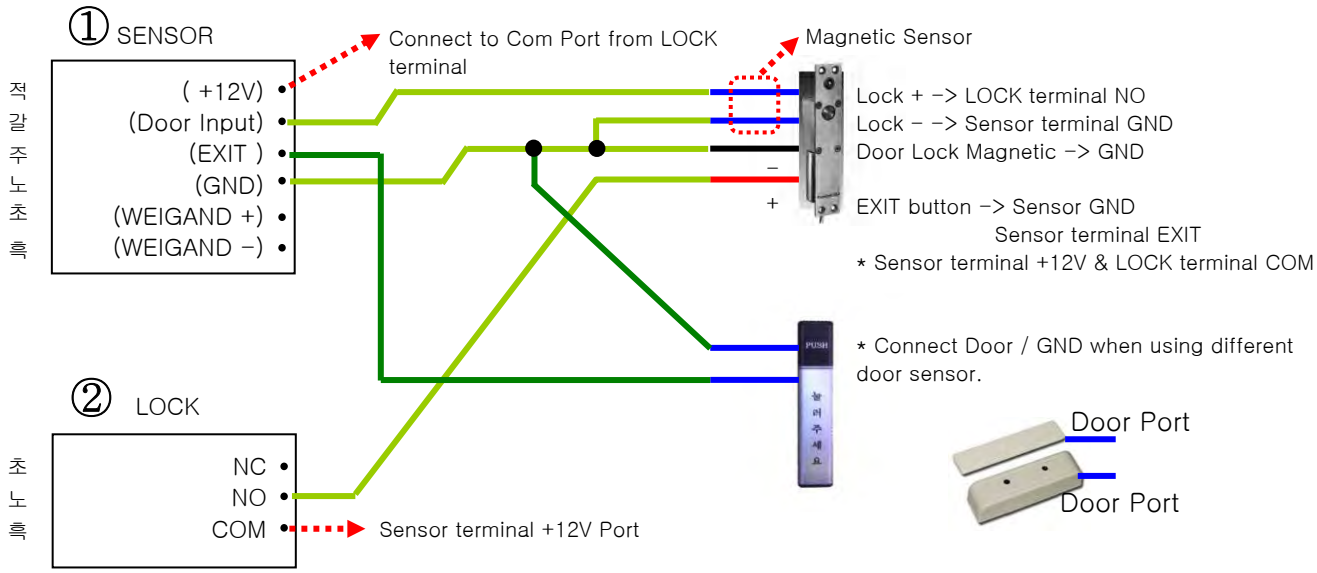
Install holder against RB-F900 to the wall. See picture below.

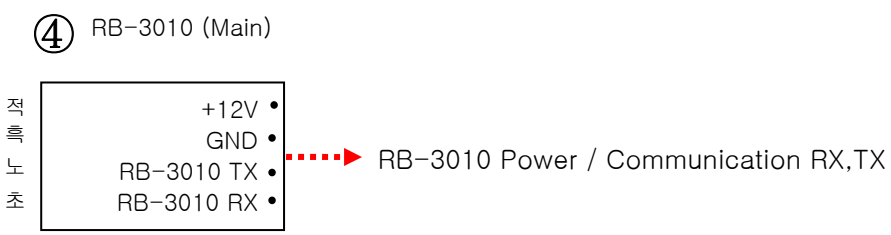


3-2-3 Terminal connection

◆ There is cable with RB-F900 when delivery from factory, connect correct cable to terminal referral below.

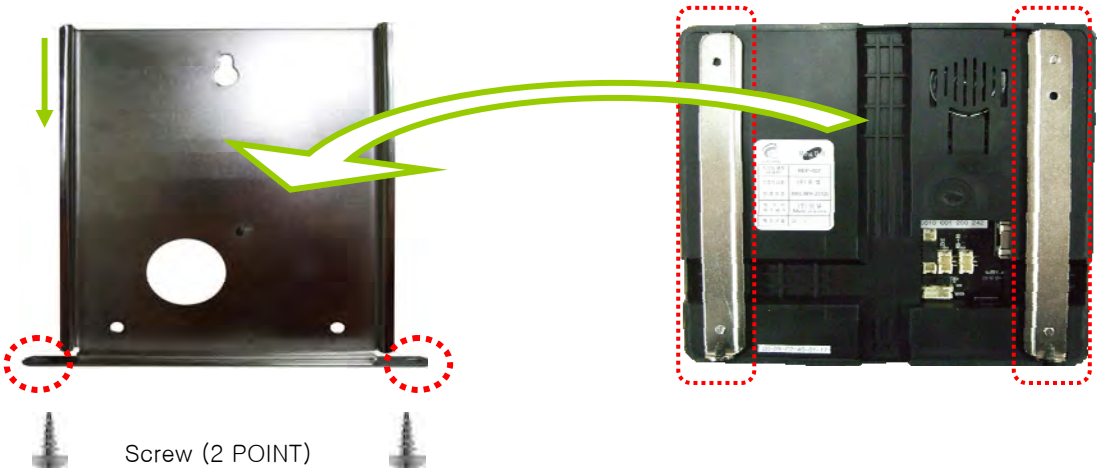


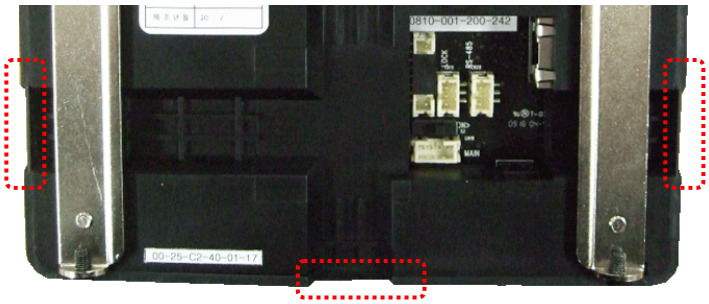




3-2-4 Hold RB-F900

◆ After all the wire connection is complete, please slide RB-F900 to the Holder carefully. Please beware of disconnect wire when slide in.
After fit in to the holder, use two screw to lock the RB-F900 and holder together.





◆ When wire going thru left, right, below, please cut red dot above the picture.

3-2-5 Ethernet connection (LAN)

Communication connection can be different by communication method, so please advise correct communication method.

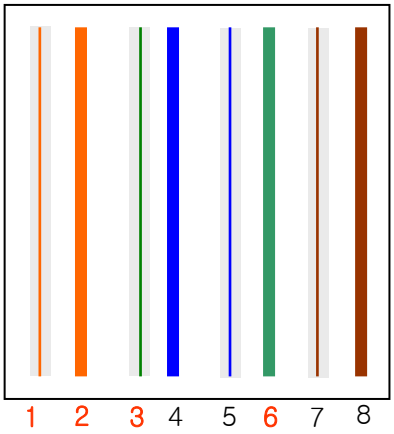
System analysis	Interface (Max. Length)	Connector
Network connection	TCP/IP (100M)	RJ45
1:N Connection	RS-485(1.2KM)	
Single connection	None	

◆ **TCP/IP 연결**

Connect RJ45 Plug to UTP cable to Main socket terminal (J5).
Cable example below is referral to EIA/TIA-568B (Standard).

RJ-45 Connection

Cable	Pin Number	Pin Name	Description
1 W/Orange	1	Tx+	Transmit+
2 Orange	2	Tx-	Transmit1
3 W/Green	3	Rx+	Receive+
4 Blue	4		Not Used
5 W/Blue	5		Not Used
6 Green	6	Rx-	Receive-
7 W/Brown	7		Not Used
8 Brown	8		Not Used



Cable Specification
1. 2 different group solid and strip in 8 lines.
2. 1,2,3,6 line is for LAN communication.

Orange, Green, Blue, Brown Sequence but change solid line 4, 6.
Communicate line is orange and green.

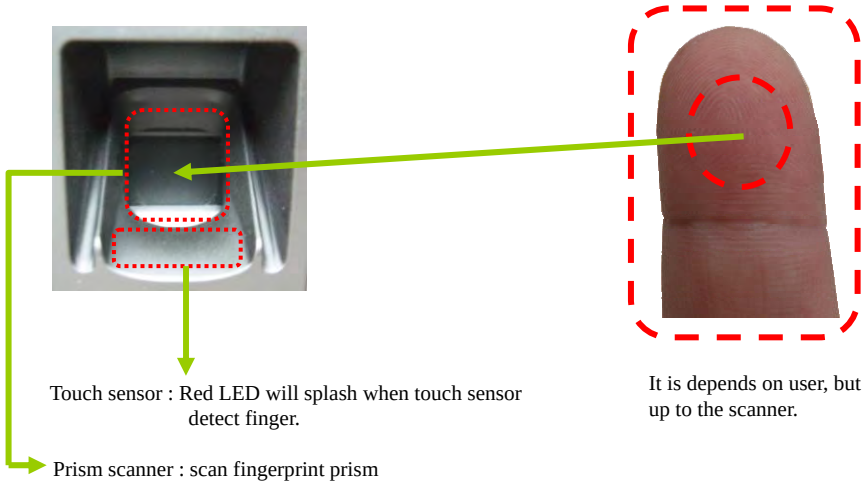
◆ **Installation Notice for UTP cable**

Most network problem is UTP cable, so please beware of wire UTP cable.

a) Please follow EIA/TIA-568 method.
It can cause disconnection if connection method is wrong.
EIA/TIA-568B : PC(NIC) - HUB (Direct Cable)
EIA/TIA-568A : HUB - HUB, PC - PC (Crossover Cable)
568A connection : Change 1&3 and 2&6 in 568B method.

b) Use CAT 5(Category 5) or above level of UTP cable.
c) Minimum let the cable length 13mm, so cable is not twist (CAT 5).
d) Please keep cable length under 100M.
<Router or hub from RB-F900>.
e) Do not twist cable over 90 degree.
f) Please avoid power(motor) or power cable, EMI noise can cause wire problem.

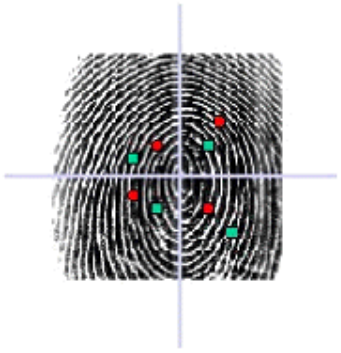
3-3 Correct Authorization



Touch sensor : Red LED will splash when touch sensor detect finger.

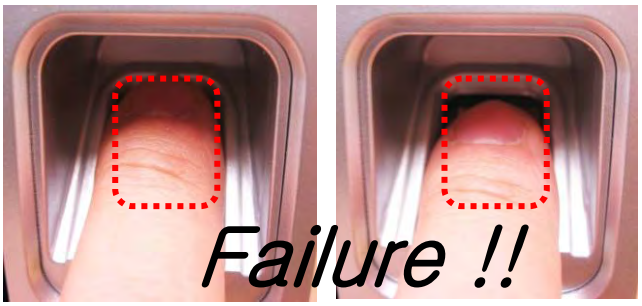
Prism scanner : scan fingerprint prism

It is depends on user, but usually put finger all the way up to the scanner.



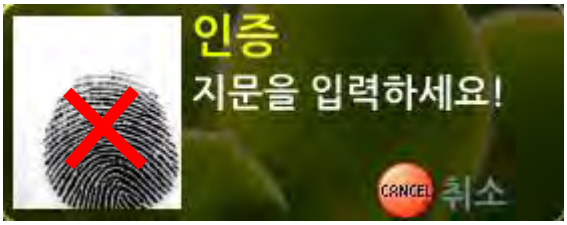
Calculate Fingerprint core from middle fingerprint.

Please put finger all the way up to the scanner.



When finger is not the property place.

Keep middle core in the center



Can not scan middle core

Manufacture Warranty

We have factory warranty for RB-F900 detail below.

1. Warranty Period
Warranty period is 1 year from delivery.
2. Fixture
Fixture is not cover by warranty, Fixture have to be paid by customer.
3. Intimacy
Please use Intimacy fixture we supply, other fixture can cause trouble.
So please contact RingBell to buy Intimacy fixture.
4. A/S Parts
We offer period time to A/S if delivered product is castrate.
5. A/S
Every products under a warranty period, after service is no charge.
6. Responsibility
Not cover under warranty list below.
① Not using intimacy fixture.
② Rebuild, repair, manufacture from other factory except RingBell
③ Fire, lightning damage, earthquake, flood or nature disaster
④ Intentional mistake from user
7. Out Of Warranty
Out of warranty RingBell invoice after service charge by situation.

FCC approved

“ Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generated, uses instructions, may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures. Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/TV technician for help

Caution!
The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user authority to operate the equipment.

RingBell co,.Ltd.
239-7 Seukchondong, Songpagu, Seoul
Customer Service
☎ (02) 2202-6180 / Fax (02) 2202-6184
http://www.ringbell.co.kr