

F110 Series

Facial Recognition System

User Manual

March 2013

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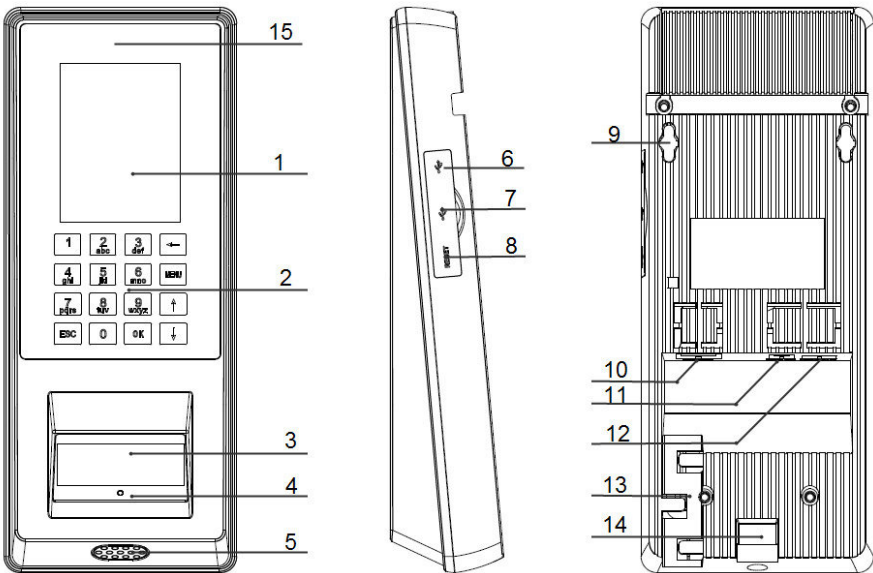
PART 1 Overview

Chapter 1 Introduction

Face ID is industry first embedded facial recognition system with leading facial recognition algorithm, FAR<0.001% which makes recognition more faster and accurate. Source-light technology enable the system works well under different environment for access control and time attendance application.

Chapter 2 Features & Installation Guide



Device Features




① **LCD Display**



② **Keypad**

- Digital Key

-  /  Key: Move cursor to previous or next field

-  Key: Confirm button

-  Key: Cancel button

-  Key: Backspace and delete button
-  Key: Enter to the main function menu

③ **Camera / Mirror / RFID Sensor**

During face recognition, look at the mirror and position your eyes in the mirror.

④ **Indicator LED**

Indicate the statues of system

⑤ **Speaker**

⑥ **Mini USB Port**

For factory maintaining use only

⑦ **USB Port**

⑧ **Reset Button**

⑨ **Mounting Port**

To place mounting plate

⑩ **Network Cable Port**

⑪ **Power Adaptor Port**

⑫ **Connection Port**

⑬ **Cable Slot**

Place cables and wires

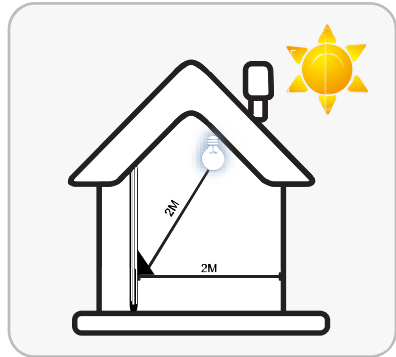
⑭ **Mounting Port**

To place mounting plate

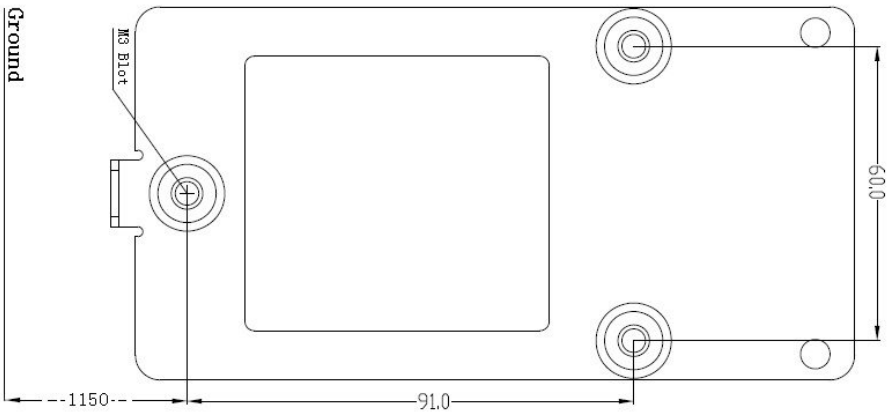
⑮ **LED Lights**

Installation Guide

- Indoor use only
 - Do not exposure to sunshine
 - Keep 2 meters away from a window.



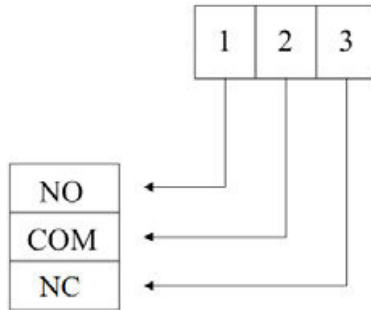
- Drill 3 holes on the wall.



- Plug wires and network cable to jacks through the mounting plate. Place

and fix the plate on the wall. Install the terminal on the plate.

- Connection port:



- NC/NO/COM: relay output for access power supplies
 - ◇ Normal Close (NC): the standard status is CLOSE.
 - ◇ Normal Open (NO): the standard status is OPEN.
 - ◇ COM: common port

- Power up terminal






Select proper language for a terminal when the first boot. The terminal provides 4 languages:

- English
- Portuguese
- Spanish
- Turkish

PART 2 Administrator Operating

Chapter 3 Admin Setting

Enter to Menu

- If no admin in a system, then press  to enter the main menu.
- If there has enrolled admin in a system, then press  to enter admin verifying process. While the verification is correct, then the system enter to the main menu.
- Press  /  to move selection to Set Admin, and press  to enter into admin. menu.



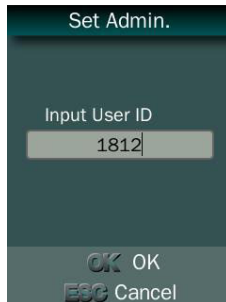
Press 1-7 digital buttons on the keypad to enter the corresponding functions directly.

Set Admin.

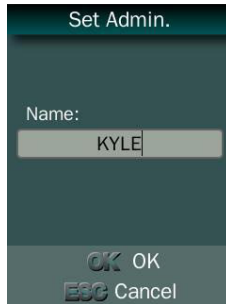
- There are total 8 admin accounts. An “Unset” sign will display for unset admin accounts.



- Choose an “Unset” account to register an admin.
- Input user ID: Input an ID for admin. If the ID is in the database, then the device displays user’s name.



- User ID uses natural sequence numbers. User ID cannot start with 0 and cannot be duplicated.
- Input user name: Press MENU to switch character inputting mode between “Upper Case”, “Lower Case” and “Digital”.



- Verification modes:
 - **ID and Pin:** Use ID and password sequentially as a verification method.
 - **ID and Face:** Use ID and face templates sequentially as a verification method.
 - **Card and Face:** Use card and face templates sequentially as a verification method.
 - **Card:** Use card as a verification method.

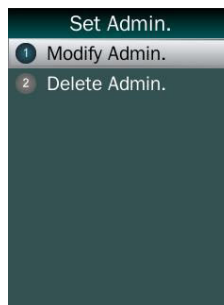


Admin Verification

- After set an admin account for the device, then press MENU to activate admin verification process.

- Input admin ID (or using registered RFID card)
- Input corresponding password or using face verification, according to the mode during admin registration, after verification is successful, then the system enter to the main menu.

Modify & Delete Admin account



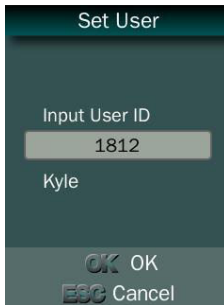
- Select a registered admin account to modify or delete this account.
- Modify admin name;
- Change verification mode;
 - Modify password
 - Re-enroll face template
 - Re-register RFID card
- Delete the certain admin account: If only one registered admin account within the system, then it will be banned to erase.

User Management



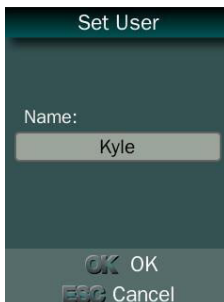
Register User

- Enter user ID



- The range of user ID is from 1-99,999,999,999,999.

- Enter name





Press **MENU** to switch character inputting mode between “Upper Case”, “Lower Case” and “Digital”.



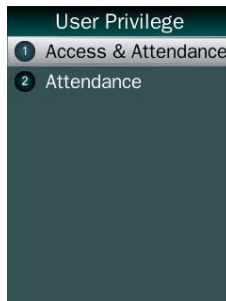
User name can contain 18-bit characters totally.

- Select a verification mode



- **Face:** Use face templates as a verification method.
- **Card and Face:** Use card and face templates sequentially as a verification method.
- **Card or Face:** Use card or face templates separately as a verification method.
- **Card:** Use card as a verification method.
- **ID and Pin:** Use ID and password sequentially as a verification method.

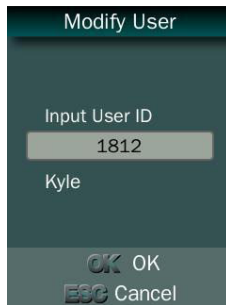
- Select a privilege



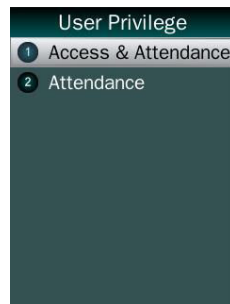
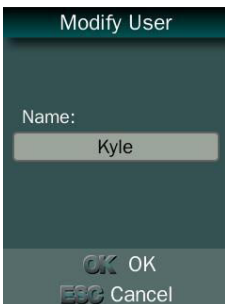
- **Access & Attendance:** The terminal is used for access control and time attendance with relay signals.
 - **Attendance:** The terminal is only used for time attendance without relay signals.
- User registering finished.

Modify User

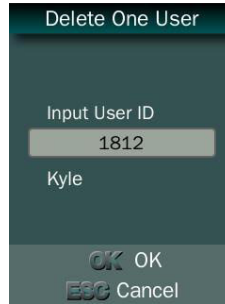
- Enter user ID



- Following the procedure to change **user name, verification mode** and **privilege**.

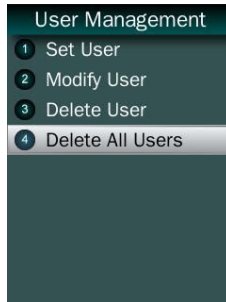


Delete User




- Enter a user ID
- Press (or) to confirm (or cancel) this process

Delete All Users

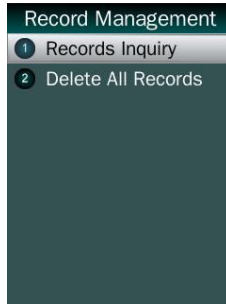


- Press (or) to confirm (or cancel) this process

- ⚠ All user's ID, name and templates will be erased.
- ⚠ This step is irreversible.
- ⚠ Not affect Admin data and records.

 Backup all user data before doing this function.

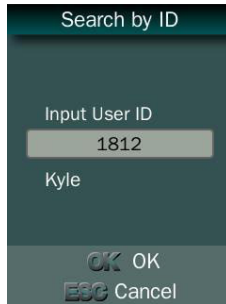
Record Management



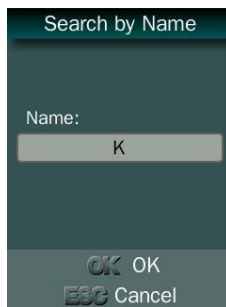
Record Inquiry



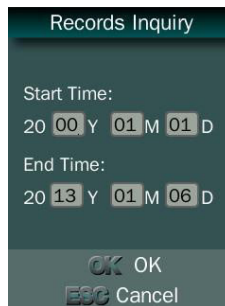
- Search by ID



- Search by name






- Select duration:
 - 1 day records
 - 7 days records
 - 30 days records
 - All records
 - From start date to end date




Records Inquiry
2013-03-25 14:31:18
2013-03-25 14:31:20
2013-03-25 14:31:23
2013-03-25 14:31:26
2013-03-25 14:31:27
2013-03-25 14:31:29
2013-03-25 14:34:37


ID:1812
Name:Kyle


 Press  /  to browse records.

Delete All Records

Record Management
1 Records Inquiry
2 Delete All Records


 All records will be erased.

 This step is irreversible.

 Backup all user data before doing this function.

USB Management



 Do not remove USB drive pen while data transferring.



Try other USB drive pen, if the terminal does not recognize it.

Export Management




- Export records
 - Export all user records into a file, which named as "TIME+SN".TXT.



For example, TIME063.TXT, "063" is the last 3 bits of SN of the terminal.

- Export record details


- Enter user ID and date.
- Press  to export details report of selected individual person.



The file is named as <dutydetails_ID_Date_.csv>.

ID	Name	Date	Week	Time
1812	KYLE	2013-1-1	Tuesday	--:--:--
1812	KYLE	2013-1-2	Wednesday	--:--:--
1812	KYLE	2013-1-3	Thursday	--:--:--
1812	KYLE	2013-1-4	Friday	--:--:--
1812	KYLE	2013-1-5	Saturday	--:--:--
1812	KYLE	2013-1-6	Sunday	--:--:--
1812	KYLE	2013-1-7	Monday	--:--:--
1812	KYLE	2013-1-8	Tuesday	--:--:--
1812	KYLE	2013-1-9	Wednesday	--:--:--
1812	KYLE	2013-1-10	Thursday	--:--:--
1812	KYLE	2013-1-11	Friday	--:--:--
1812	KYLE	2013-1-12	Saturday	--:--:--
1812	KYLE	2013-1-13	Sunday	--:--:--
1812	KYLE	2013-1-14	Monday	--:--:--
1812	KYLE	2013-1-15	Tuesday	16:43:21 16:43:34 16:43:
1812	KYLE	2013-1-16	Wednesday	--:--:--
1812	KYLE	2013-1-17	Thursday	--:--:--
1812	KYLE	2013-1-18	Friday	--:--:--
1812	KYLE	2013-1-19	Saturday	--:--:--
1812	KYLE	2013-1-20	Sunday	--:--:--
1812	KYLE	2013-1-21	Monday	--:--:--
1812	KYLE	2013-1-22	Tuesday	--:--:--
1812	KYLE	2013-1-23	Wednesday	--:--:--
1812	KYLE	2013-1-24	Thursday	--:--:--
1812	KYLE	2013-1-25	Friday	--:--:--
1812	KYLE	2013-1-26	Saturday	--:--:--
1812	KYLE	2013-1-27	Sunday	--:--:--
1812	KYLE	2013-1-28	Monday	--:--:--
1812	KYLE	2013-1-29	Tuesday	--:--:--
1812	KYLE	2013-1-30	Wednesday	--:--:--
1812	KYLE	2013-1-31	Thursday	--:--:--
1812	KYLE	2013-2-1	Friday	--:--:--

- Export record statistics

- Enter user ID and date.
- Press  to export statistics report of selected individual person.



The file is named as <dutystatus_ID_Date_.csv> and <dutystatistics_ID_Date_.csv>.



<dutystatus_ID_Date_.csv>

ID	Name	Date	Week	IN Time	IN Status	OUT Time	OUT Status	Total Hours (H)
1812	KYLE	2013-1-1	Tuesday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-2	Wednesday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-3	Thursday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-4	Friday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-7	Monday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-8	Tuesday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-9	Wednesday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-10	Thursday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-11	Friday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-14	Monday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-15	Tuesday	--:--:--	ABSENCE	2013-1-15 16:47	LEA. EARLY	3.3
1812	KYLE	2013-1-16	Wednesday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-17	Thursday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-18	Friday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-21	Monday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-22	Tuesday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-23	Wednesday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-24	Thursday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-25	Friday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-28	Monday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-29	Tuesday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-30	Wednesday	--:--:--	ABSENCE	--:--:--	ABSENCE	0
1812	KYLE	2013-1-31	Thursday	--:--:--	ABSENCE	--:--:--	ABSENCE	0

<dutystatistics_ID_Date_.csv>

Name	Total Hours (Hour)	ARR.	LATE	LATE Hours (Hour)	LEA.	EARLY	EARLY Hours (Hour)	ABSENCE
KYLE		3.3	0		0	1	1.2	22.5

- Export part users

- Enter user ID. Press  to continue inputing the next ID.
- Press  to start exporting listed user data and templates.
- Date is stored into a USER.TXT file.

- Export all users

- Export all user data and templates
- Date is stored into a USERALL.TXT file.

- Export admin.

- Export all admin data and templates
- Date is stored into a ADMIN.TXT file.

- Export admin. Logs
 - Export all admin operating logs.
 - Date is stored into a LOG.TXT file.

Import Management



- Import part users
 - Import all users data from USER.TXT file on a USB drive pen in to the terminal.
- Import all users
 - Import all users data from USERALL.TXT file on a USB drive pen in to the terminal.
- Import user list
 - Import all ID and name information of users from USERLIST.TXT file on a USB drive pen in to the terminal.



It is a shortcut way to add user ID and name for a terminal before registration process.



The contents of USERLIST.TXT file are list of <ID> + <TAB

Key> + <Name>.

⚠ The range of user ID is from 1-99,999,999,999,999.

- Import admin

- Import all admins data from MANAGER.TXT file on a USB drive pen in to the terminal.

Set Wallpaper

- Update new wallpaper on a terminal.

⚠ 240 * 320pix BMP/JPG file, and named to <idlepicture.bmp> or <idlepicture.jpg>.

Set Prompt Voice

- Update Successful and Failed voice on a terminal.

⚠ PCM, 16000Hz, 16-bit, stereo wave file, and named to <granted.wav> and <deny.wav>



Keep voice length less than 1 second.

Firmware Upgrade

- Upgrade a new firmware for a terminal.

⚠ Firmware files are <F110.BIN> and <F110.TXT>

System Setting

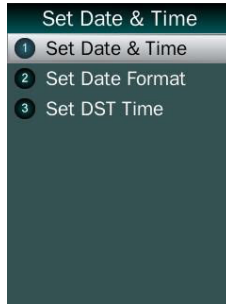


Basic Setting

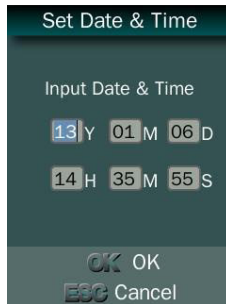
Language Setting



Set Date&Time



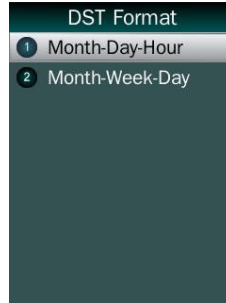
- Set Date & Time



- Set Date Format: Display different date format on a device.



- Set DST Time: Set daylight saving time.



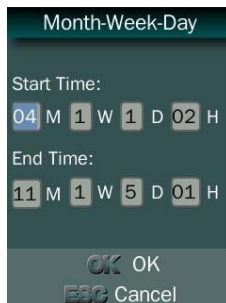
Select proper DST format according to DST rule of your region



Month-Day-Hour: DST time starts on 01:00AM May 1, and ends at 03:00AM October 2

Start Time: 05M 01D 01H

End Time: 10M 02D 03H





Month-Week-Day: DST time starts on 01:00AM first Sunday in May, and ends at 03:00AM third Tuesday in October.

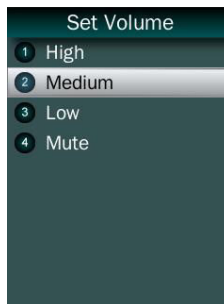
Start Time: 05M 1W 7D 01H

End Time: 10M 3W 2D 03H

⚠ In Month-Week-Day format, we use 1W to represent 1st week in a month. (1W: 1st week / 2W: 2nd week / 3W: 3rd week / 4W: 4th week / 5W: 5th week in a month)

⚠ In Month-Week-Day format, we use 1D to represent Monday, and 7D to represent Sunday. (1D: Mon. / 2D: Tue. / 3D: Wed. / 4D: Thu. / 5D: Fri. / 6D: Sat. / 7D: Sun.)

Set Volume



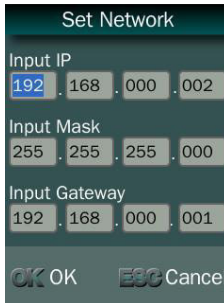
The default is medium.

Set Network



Set Network

Set IP address, mask address, and gateway for a device.

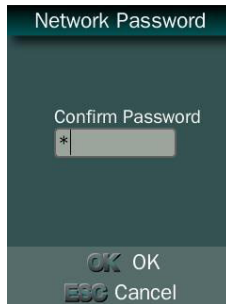


Port

Set a new network port for a device. The default port is 9922.

Network Password

Enhance security of network access. It is for the attendance management software or SDK.

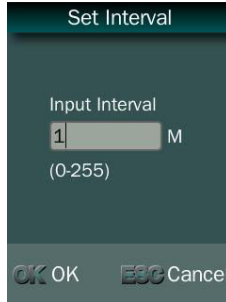


Set Attendance



Set Interval

Set a period to save records generated by the same user periodically.





0 means to disable this function

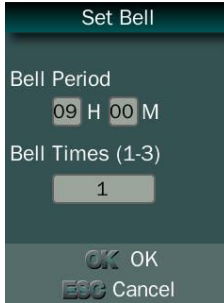


Range from 0 – 255 minutes

Set Bell

Set Bell			
	Time	Bell	Status
1	09:00	bell1	OFF
2	10:00	bell1	OFF
3	11:00	bell1	OFF
4	12:00	bell1	OFF
5	13:00	bell1	OFF
6	14:00	bell1	OFF
7	15:00	bell1	OFF
8	16:00	bell1	OFF

- Press  /  to select a bell
- Edit period and times

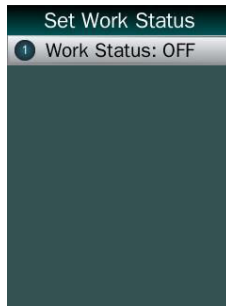


- Select a sound




- Edit ON/OFF status

Set Work Status



- Enable/Disable work status function.



If Work Status function is enabled, press  in standby screen to activate Work Status list before recognize.



F110 concludes 6 work statuses

- IN / OUT: It uses for punched in and out status of normal attendance.
- IN (Overtime) / OUT (Overtime): It uses for punched in and out status of working extra hours.
- IN (Break) / OUT (Break): It uses for punched in and out status for break time.

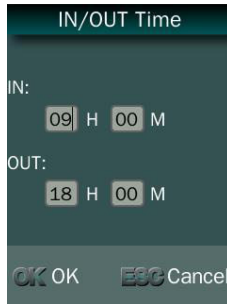
Attendance Rule



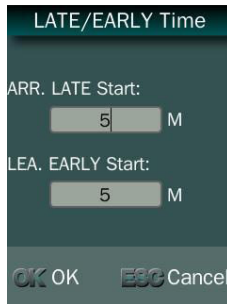
- **Date of Each Month:** Set a starting date of a month for attendance reports.



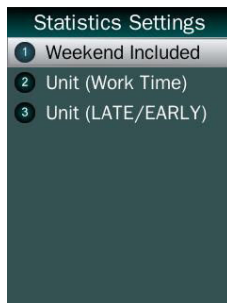
- **IN/OUT Time:** Set starting time for PUNCHED IN and PUNCHED OUT status.



- **LATE/EARLY time:** Set starting minutes for ARRIVE LATE and LEAVE EARLY status.



- **Statistics Setting**



- **Weekend Included:** Set Saturday and Sunday to be a workday or a weekend



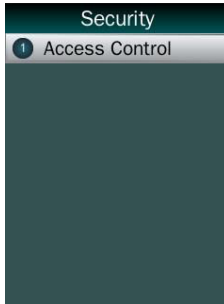
- Unit (Work Time): Set work time unit to Hour or Day



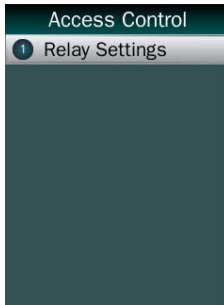
- Unit (LATE/EARLY): Set a unit for LATE/EARLY status to Hour or Minute



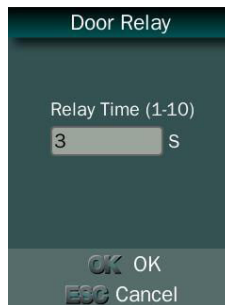
Security



Access Control



- Relay Settings
 - Unlock Time

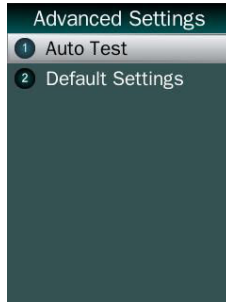


- Unlock Time: Set a relay time for NO/NC/COM



Default time is 3 seconds

Advanced Setting




Auto Test




- Testing All: Test all below entries automatically



Press  to report as “Good”



Press  to report as “Trouble”.

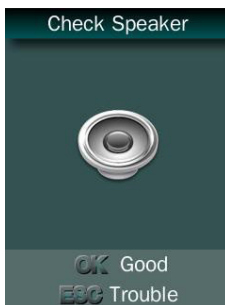
- Check LCD: Display Red, Green and Blue on the screen



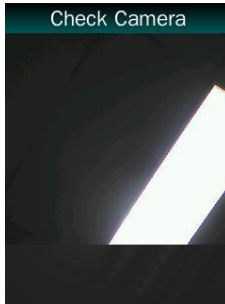
- Check Keyboard: Follow the screen message to check all keys.



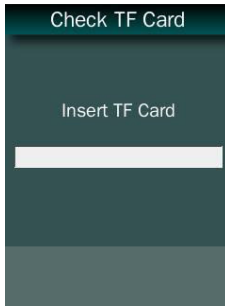
- Check Speaker



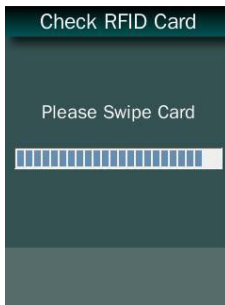
■ Check Camera



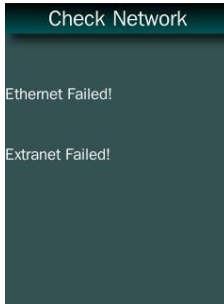
■ Check TF Card



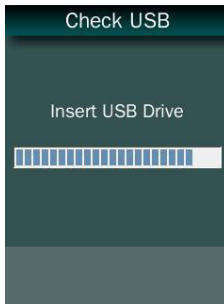
■ Check RFID Card



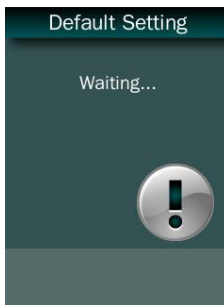
■ Check Network



■ Check USB



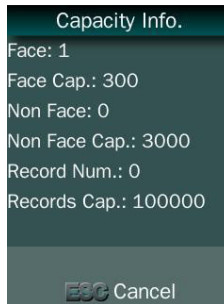
Default Setting



⚠ Delete all data including admins' data, users' data, all records and device settings.

System Information

Capacity Information



Face & Face Cap.: Current enrolled user numbers and total capacity of user numbers for face related recognition mode.



Non Face & Non Face Cap.: Current enrolled user numbers and total capacity of user numbers for other recognition mode.



Record Num & Record Cap.: Current record numbers and total capacity of record numbers.

Product Information



Part 3 Daily Usage

Standby Status





- After powering up a terminal (around 30 seconds), the terminal will enter to a standby status.
- In standby status, the system display time and date.
- The terminal will activate to face detecting mode while a user stand in front of it.
 - Message <Eyes in Mirror> and <Verifying...> will show on the screen.
- Indicator will flash if face position is proper for detecting and terminal will activate verification process at the same time.
- The terminal will return to standby status if there is no face detected around 30 seconds.
- When record storage is occupied up to 85%, the system will display a notification on the screen. An administrator should export records first, and then clear all records.

Face Recognizing

- When user stands in front of a terminal, it will activate and detect user's face automatically.
- The terminal will activate to face detecting mode while a user stand in front of it.
 - Message <Verifying...> and <Eyes in Mirror> will show on the screen.
- Indicator is flashing, if the terminal locates user's eyes. Then the system activates recognition status.
- When recognizing is finished and successful, the system will list user's registered information: ID, name, enter time, etc.



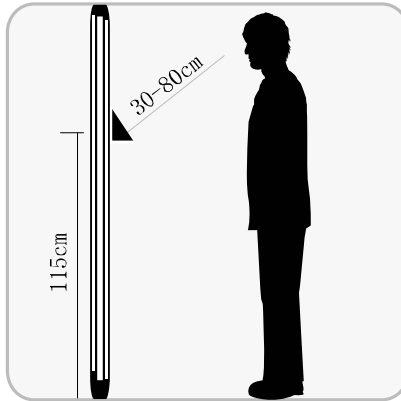
If Work Status function is enabled, press  to activate Work Status list before recognize.

- If the terminal could not recognize a user in first 5 seconds, it will show "Adjust Your Position" message on the screen; if it still could not recognize the user in second 3 seconds, the terminal will show rejecting message.
- In standby status, press  to enter ID & Face (ID & Pin) recognition method directly.

Enroll Face Templates

- Usage:
 - 30cm to 80cm (between face and mirror)
 - Normal face expression

- No sunglasses



- Follow instructions on the screen to enroll face templates.
 - **<Move Farther>**: move your head or body farther to the terminal.
 - **<Move Closer>**: move your head or body closer to the terminal.
 - **<Collecting...>**: terminal is collecting face templates.
 - **<Find Eyes in Mirror>**: adjust your position and keep the eyes in the mirror.

- There is a LED Indicator under the mirror.
 - **<Red flashing>**: face position is proper for enrollment or verification.
 - **<Red lighting>**: face position is not proper for enrollment or verification.
 - **<Green lighting>**: Verification successful.

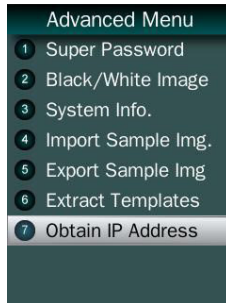
- After templates enrolling, user selects access status in User Privilege list.
- The terminal will list the user's information (ID, name and privilege), after choosing one privilege.
- ⚠ During templates extracting, the user should keep normal expression.

Appendix




Advanced Menu

Adv. Menu 1

Press **OK** **6** **4** **2** **1** **6** **8** **OK** to enter the advanced menu:



- Super Password: Unlock the terminal by a password.

  / : Move the green frame upwards or downwards.

  / **MENU**: Move the green frame leftwards or rightwards.

- Black/White Image: Display image collected from infrared camera on terminal screen.
- System Info.: Display kernel and algorithm version.
- Import Sample Img.: Import sample image from USB pen drive.

⚠ Sample files is named to <USERALL.IMG>

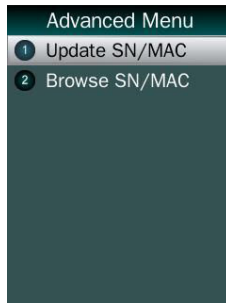
- Export Sample Img.: Export sample image to USB pen drive.

⚠ Sample files is named to <USERALL.IMG>

- Extract Templates: Extract user data from existing sample data.
- Obtain IP Address: Obtain IP Address automatically

Adv. Menu 2

Press **OK** **1** **5** **9** **3** **5** **7** **OK** to enter the advanced menu:



- Update SN/MAC: Upload SN and MAC of terminal from a file.

⚠ Files is named to <PARAMETER.TXT>

⚠ Content:

<IP="192.168.132.251",PORT="9922",SN="123456789012349",MAC="00-0C-5B-00-68-73">

- Browse SN/MAC: Display terminal SN and MAC

Specification

- **User capacity**
 - 300 users for face related recognition method;
 - 3,000 users for other methods

- **Record capacity**
 - 100,000 entries

- **Recognition methods**
 - Face
 - Card & Face
 - Card or Face
 - Card
 - Card & Photo
 - ID & Pin

- **Languages:**
 - English
 - Portuguese
 - Spanish
 - Turkish

- **Recognition algorithm**
 - V3.1

- **Face templates of user**
 - 18 templates per person

- **Display:** 2.8 inch TFT

- **Keypad:** 4 * 4 touch keypad
- **RFID card:** Proximity card or Mifare card (Optional)
- **Communication**
 - TCP/IP
 - USB port

- **Power:** 12V DC, 1A
- **Environment Light:** 0-7000Lux
- **Working Temperature:** 0°C-40°C
- **Working Humidity:** 20% - 80%

Caution

- **Restoration and restart**
When the system halted and cannot quit, you can remove the adapter to restore and restart the system, or you also can press RESET to restart the device.
- **Restore to default setting**
Restore all parameter to the default setting.
- **Non-Water proof**
The device is non-waterproof, please keep away from water.
- **Prevent from Falling**
The parts in this device are friable; please prevent the device from dropping, smashing, bending and high pressure.
- **Cleaning**
Please use soft cloth or the other similar material to clean the screen and faceplate, please avoid cleaning with water and cleanser.
- **Low Temperature Environment**
The working temperature for screen and the main parts in this device are the normal indoor temperature. The performance of this device will get worse, if the working temperature extend this temperature range.



Please prevent the screen from oil or any sharp objects.



Please use the equipped adapter for the device, the other unknown adapters will burn out the device.

FCC Cautions:

- 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 generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the 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 an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.

- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.