eSSL
Security at Fingertips

User Manual

iClock 990

www.esslsecurity.com

Attention

Fingerprint sensor of this serial can only use V3.X attendance software, which is able to compatible with all devices of V2.X. V3.X is powerful than V2.X. It is more humanistic and easier to use.

Notice

Don't put the device in the place where there is strong light, which will affect fingerprint collection and cause unsuccessful fingerprint verification.

Don't use it outside. The fingerprint reader's working temperature ranges from 0℃ to 40℃. Working outside for long time and the device's heat will affect the device's normal work (slow reaction and decrease pass rate.). If it is necessary to use it outside, sunshade and heat sinking device should be prepared.

Don't hit the device violently. Hitting the device violently may lead to internal parts loose or damaged. The device has no anti-water function. Don't make the device be caught in rain or damp.

Correct operation brings you good use effect and verification speed.

Attention

Only after fingerprint reader is installed, can fingerprint enrollment and verification start.

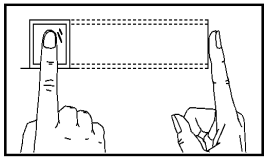
Install Enroll Identify

Enroll Install Identify

Enroll fingerprint by pressing index finger, middle finger or ring finger（thumb and little finger are clumsy）.

Pressing method

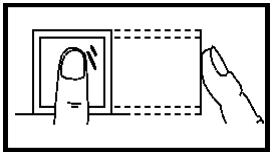
Proper press:



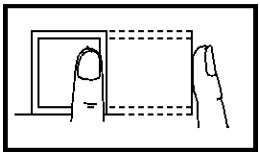
Make finger center pressed on the sensor window

1) Improper press

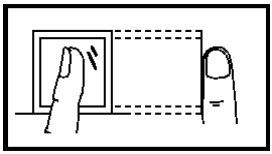
Upright



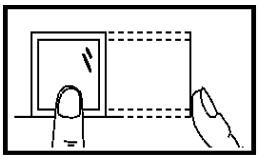
Too lean



Slant



Too downward



About this manual

- All the specifications of the products mentioned here are subjected to the real objects. We do'not promise real products in accordance with the information in this manual, because products update continuously. Also, we have no responsibility for any dispute caused by unconformity of real technology parameter and the information in this manual. Besides, we are not responsible to notice in advance.
- Not all the devices have the functions with ★. The real product prevails.
- The photograph in this file may be different from that of the real

product. The real product prevails.

- Key functions of various models are different. Please read the key board instruction in appendix first.

About use

Use steps:

Step 1:Put the device in the right place and power it.

Step 2:Enroll user, fingerprint (or password), and allocate access. Step 3:Verify user (whether fingerprint or password is usable).

Step 4:Set communication parameters. Use any one of the three methods (Ethernet, RS485 and RS232) or U disk to download employee information to the software.

Step 5:Modify employee information in **employee maintenance** of software, and connect device to upload employee information to the device, then personnel's name will be displayed on the screen upon attendance. （Some models allows direct name edition on the device. Therefore, it is no necessary to connect device.）

Step 6:Check whether the device time is accurate. After validation, start attendance.

Step 7:Download attendance record to software upon stat. at the end of the month.

About attendance

When the device is in standby status, only after successful fingerprint or password verification, can user save attendance record on the device.

Standby status

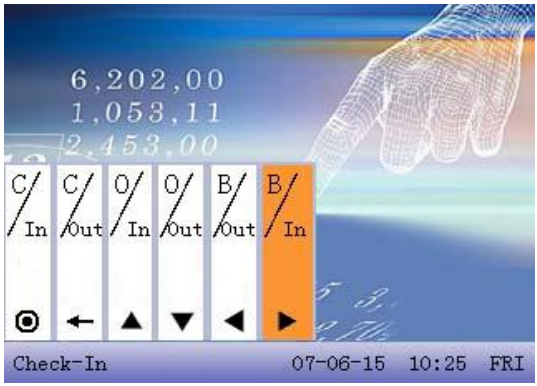
As shown below:

The picture displayed in standby status can be picture uploaded by user (refer to upload user-defined picture). It can also be time display （refer to 4.5 interface option）

Select attendance state

1） mode 1

When the device is in standby status, press state key on the device to modify attendance state, and the state information will be displayed on the screen. The current selected state is displayed in orange. Press "**ESC**", the prompt information will disappear. Refer to 4.4 keyboard definition for default state key definition.



2） mode 2

Various states can be set by user. Therefore, not all state information is displayed upon key press. Corresponding states come out on the left bottom corner.

Employee attendance method

After successful attendance record, the device will display the current time on the screen in clock mode.

- Fingerprint attendance

（1）1:N fingerprint match

Verify the fingerprint pressed on the sensor at present with all fingerprint data in the fingerprint reader.

Step 1:Press fingerprint properly on the sensor.

Step 2:If the device says ‘Thank you”, the verification is complete.

If the device says “Please press again”, return Step 1 for second operation.

（2）1:1 fingerprint match（work code＋fingerprint）

Verify the fingerprint pressed on the sensor at present with the fingerprint related with user number. Use this method when it is difficult to identify user’s fingerprint.

Step 1:Input work code of employee to be verified on the initializing interface.

Step 2:Press fingerprint properly on the sensor.

Step 3:If the device says ‘Thank you”, the verification is complete.

If the device says “Please press again”, return Step 2 for second operation.

Employee can try another 2 times by default. The repeated times can be set in 4.5 interface option. If it fails after 2 times, return Step 1 for second operation.

- Password attendance

Step 1:Input work code of employee to be verified on the initializing interface. Then press **OK.**

Step 2: If it says that the enroll number is wrong, it means that there is no such number or the employee doesn't enroll password.

Step3: Input password when the interface appears.

Step 4: If the device says ‘Thank you”, the verification is complete.

When the device says “password error”, please input password again.

Employee can try another 2 times by default. The repeated times can be set in 4.5 interface option. If it fails after 2 times, return Step 1 for second operation.

About access control

After personnel's access control privilege is set, when employee is verifying his ID, the device will judge whether the employee has the access to open the door. If the employee cannot open the door, the device will give corresponding information. Take fingerprint verification for example:

1. The device prompts successful verification, and the access signal will be output at the same time.

2. The device prompts illegal time zone.

This means the current time is not in the time zone when employee is able to open the door. Therefore, the employee cannot open the door.

3. The device prompts illegal subgroup combination.

This means the group where employee is is not in the unlock combination. Therefore, the employee cannot open the door.

4. The device prompts multi-user verification.

This means it needs the common verification of subgroup where the user is and other subgroups to open the door.

5. The device prompts combined verification.

This means the user's verification method or group's verification method is combined verification. It needs multi- verification to verify ID.

About connection with PC

The device only records attendance time. The statement can be disposed by software on PC. Therefore, it is necessary for device to connect PC to download attendance record to attendance software.

The following are some connection method:

- Ethernet:

（1）Through hub:Use parallel net cable (to connect network card and hub) to connect device into the network.

（2）Direct connection :use cross net cable（connect two Ethernet terminals directly）to connect device and PC.

Set device:enter **menu－option－ communication option** to set the following items:

IP address: Default IP as 192.168.1.201. You can modify it if it is necessary.

Subnet mask: Default subnet mask as 255.255.255.0. You can modify it if it is necessary.

Gateway address: Default gateway address0.0.0.0. You can modify it if it is necessary.

Network speed:There are three options: ATUO, 10M, and 100M.

Connection password:It can be set or not set. If it is set, input corresponding numerical value on connection interface of PC software.

- RS232:Use RS232 serial port wire for connection.

Set device:Enter **menu－option－ communication option** to set the following options:

baud rate:communication speed rate (with computer),if the communication speed is high, RS232 （115200, 57600）is recommended.

RS232: Select "Yes" for RS232.

Communication password:It can be set or not set. If it is set, input corresponding numerical value on connection interface of PC software.

- RS485

set device:Enter **menu－communication option** to set the following options:

Device ID: **1—254**

baud rate:communication speed rate (with computer),if the communication speed is low and stable, RS 485 （9600, , 38400）is recommended.

RS485: Select "Yes" for RS485

Communication password:It can be set or not set. If it is set, input

corresponding numerical value on connection interface of PC software.

- USB

Set device: enter **menu—communication option** to set the following items:

Device ID: set it in "connection option". The number can be selected from 1—254.

USB: Select "Yes" for USB communication.

Communication password: set it in "connection option". It can be set or not set. If it is set, input corresponding numerical value on connection interface of PC software.

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1 Main menu

When the device is in standby state, press **menu** to open main **menu**, as shown below:

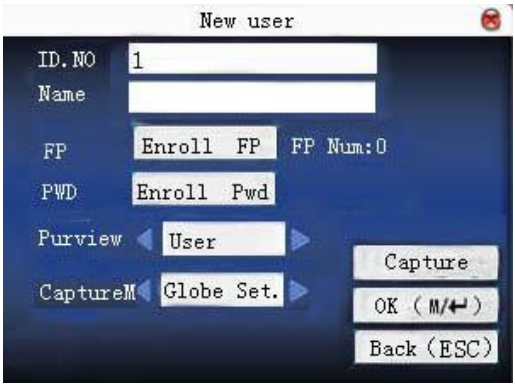
2 User management

The user's basic information on fingerprint sensor includes fingerprint, password and management access. In company's attendance management, for employee's change, the information on fingerprint sensor also needs modification. Therefore, operations including "add, delete, check, modify and so on" can be done on fingerprint sensor.

2.1 Add user

Firstly, enroll employee's fingerprint or password in the device.

Enter **add user** interface:



J Notice: Only some models have name options.

Work code: personnel's attendance number

Name: use T9 input to input employee's name.

Fingerprint: enroll employee's fingerprint. Ten fingerprints can be enrolled at most.

The employee with fingerprint enrolled can use fingerprint to record attendance.

Enroll password: enroll user's password. The effective digit is 1～8. The employee with password enrolled can use password to record attendance.

Access: allocate user access to operate **menu**. Common user can only use fingerprint or password attendance. Administrator can enter **menu** to do various operations and carry out daily attendance as common user as well.

Take photo: adjust video setting to take photos and enroll user's photo.

Photo mode: it is the photo mode used during recording employee attendance.

Tips: If there is no administrator set, anybody can enter **menu** for operation. If there is administrator, it is necessary to verify ID to enter **menu**.

For example: the following is the flow for **add user**.

Input work code

1）Allocate work code by default.

2）Press "←" to delete the allocated work code by default. Input work code from keyboard. If the work code is wrong, press "←" to input it again.

Input name★

Use T9 input to input employee's name.

Press OK or ▲/▼ to select "enroll fingerprint", then press OK to start fingerprint.

Enroll fingerprint

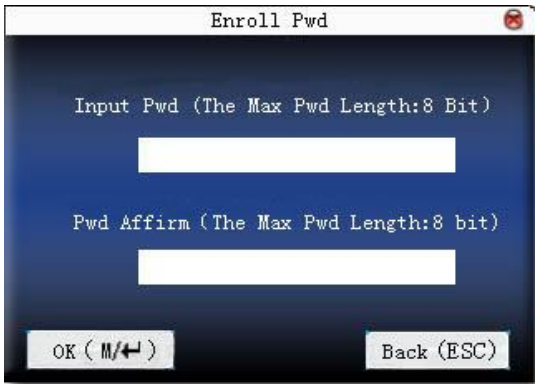
Press finger according to device's prompt. Press the finger three times in the proper way.

If one fingerprint is enrolled successfully, press **OK** to continue

another finger, then press **menu** and **ESC** to return the last interface.

Press ▲/▼ to select "enroll password" and press **OK** to enroll password.

Enroll password



Input password (1～8) according to device's prompt, and press **OK** to verify it. Then press **OK** save it or press **ESC** to exit without saving it.

After saving, 🔑 display will be on the device, which means the password has been set.

Set access

Press ▲/▼ to select "access" box and press ◄/► to select access.

Photo mode ★

Press ▲/▼ to select the item, and then press ◄/► to set photo mode.

There are four modes. The setting here is aimed at current employee. Employee's photo mode for attendance record is based on this setting.

(1) Use overall setting: the employee observes the photo mode setting.

(2) No photo taken: there is no photo taken after attendance record.

(3) Take photo: the taken photo won't be saved after attendance record.

(4) Take photo and save it: the taken photo is saved after attendance record.

Take photo ★

Press ▲/▼ to select "take photo", and then press "OK" to adjust video setting and take photos.

After entering interface, the device is under grasp mode. Press ▲/▼ to switch option input box. Press numerical key on small keyboard to input correct value to adjust the camera's taking effect. After adjustment, press F8 or OK to grasp photo. Then the system will remind you that the photo is saved successfully and ask you whether to take it again or not. If you are satisfied with the photo, press "return". Or you can press OK to take photo again.

Save/exit user enrollment

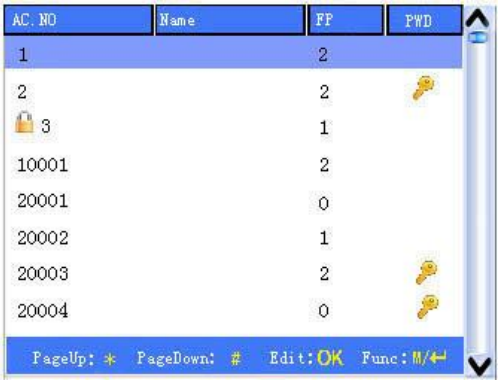
Make sure that the enrolled information is correct, and then save it.

1） Press **menu** or ▲/▼ to select "**complete**（M/↵）" and press **OK**,and the device will prompt "saved successfully ! Continue?". If you want to continue, press **OK**,or press "**ESC**".

2） Press "**ESC**" or ▲/▼ to select "**return**（**ESC**）" and then press **OK**,and the device will prompt "data has been changed. Are you sure to save?". If you want to save it, press **OK** and return to the last menu. Or press "**ESC**" to return the last menu.

2.2 Manage user

All users' information saved in the current device can be queried in **manage user,** including user name, fingerprint count, whether to enroll password, user attendance record and so on. Editing or deleting user can also be done here.



Notice:1） means this employee is the administrator. means password has been enrolled.

2）The picture may be different from your device. The real product prevails.

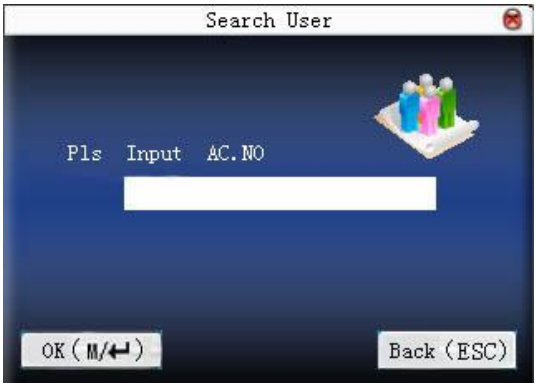
Press **menu** on the above interface, and the operating menu will pop out:

Press ▲/▼ to select the item.

2.2.1 Search user

If many users are enrolled, in order to find an employee quickly, the device has provided "work code" to search the employee.

Press **menu** on **manage user** interface to get operating menu. Select "Search user" or press any numeric key to enter the following page:



Input work code of employee to be queried. Press **OK**, after successful query, the blue cursor will point to the employee. If there is no such employee, "no enrolled data" will appear.

2.2.2 Query attendance

When administrator is checking employee's fingerprint and other enrolled information, he can also check the employee's attendance record during that month.

Press **menu** on **manage user** interface to get the operating menu, select " record",and the employee's monthly attendance record can be checked:

J **Notice**: The picture may be different from your device. The real product prevails.

Press ▲/▼ to read attendance record.

Press "page down & page up" to read attendance record.

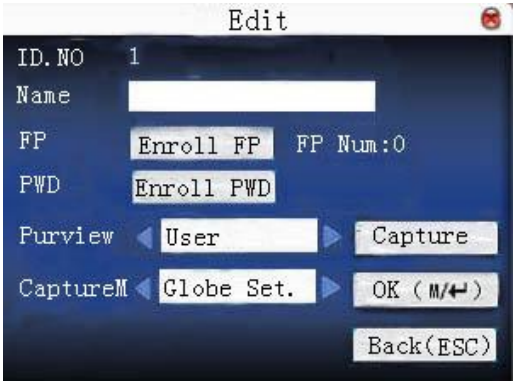
Press **OK**/**menu** to query detailed information.

Then press "**ESC**" to return to **manage user** interface.

2.2.3 Edit user

Edit user information saved in the device. For example, the former enrolled fingerprints are unusable, enter "edit user" to re-enroll fingerprint or enroll password.

Use ▲/▼ or **query user** on **manage user** interface to select employee to be edited. Then press **menu** to select "edit" or press **shortcut** to verify it, and all enrolled information can be displayed on the device:



Work code cannot be modified. The operation is similar to that of **add user**. Fingerprint can be re-enrolled. Click "enroll password" directly to set password or modify password. The access can also be modified.

Save edition/exit edition

1） Press **menu** or ▲/▼ to select "**complete** M/↵）", press **OK**,save edition and return to **manage user** interface.

2） Press "**ESC**" or ▲/▼ to select "**return**（**ESC**）" and then press **OK**,and the device will prompt "data has been changed. Are you sure to save?". If you want to save it, press **OK** and

return to the last menu. Or press "**ESC**" to return the last menu.

2.2.4 Delete user

"Del user" is to delete employee's partial information or all information from the device. It is used when the following states happen:

1）when employee's fingerprint or password is not needed any more.

2） when employee leaves the position.

Press ▲/▼ on **manage user** interface or use **query user** to select the employee to be edited. Click **menu** to get operating menu, and then select "delete user".

Delete user

If the user has no fingerprint or password, the corresponding item is blue and cannot be operated. Press ▲/▼ to select the item to be operated. Press **OK** to pop out dialog box and verify whether to delete this item or not. Then the device will give corresponding prompt.

Press "**ESC**" to return to **manage user** page.

2.2.5 Add user

In order to add user conveniently for operator, **add user** is configured here. The function is the same as that of 1.1add user.

2.2.6 User access control★

Press ▲/▼ on **manage user** interface or use **query user** to select the employee to be edited. Click **menu** to get operating menu, and then select "user access control".

User access control option is to set open door access aimed at everybody, including subgroup setting, verification mode, using time zone, duress fingerprint management.

Subgroup: Allocate enrolled user to different groups for management convenience.

Using time zone :1）group time zone :Whether the user use his group's default time zone

2）user time zone :Set user unlocking time. If group time zone is not used, others' unlocking time won't be affected.

verification mode:1）group verification type :Whether the user use his group's verification type

2）individual verification type :Select the user's verification type. If group verification type is not used, others' verification type won't be affected.

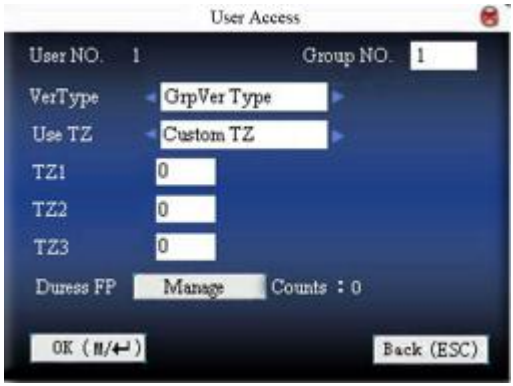
Manage duress fingerprint: User enrolls a new fingerprint or

specifies an enrolled fingerprint in the fingerprint sensor as duress fingerprint. At any time anywhere, duress alarm will generate after the fingerprint passes verification.

Notice: 1. Please refer to appendix 3 multi- verification methods for various verification modes.

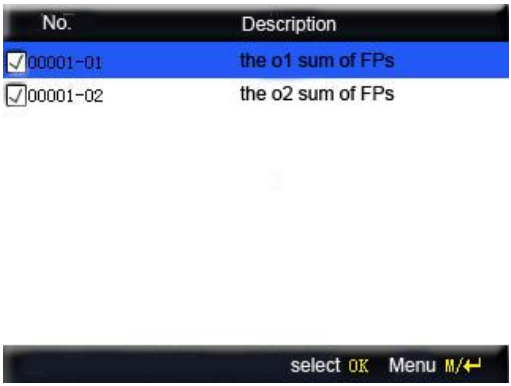
2. Not all models have multi- verification modes.

Operation:



Press ▲/▼to move cursor to the item to be set. If it is the input box, press numeric keys on small keyboard to input the value. If it is the roll box, press ◄/► to switch the values. When the cursor is on "manage duress fingerprint", press ↵ to enter **duress fingerprint management**. After setting, press ↵ or **menu** directly to return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

duress fingerprint management:



1）define/cancel duress fingerprint

Press **OK** on the above interface to define/cancel current selected duress fingerprint. Press **menu** to get the following menu:

Select **cancel all** to cancel all fingerprints, not taking them as duress fingerprint.

2）enroll duress fingerprint

Press **menu** on the above interface, select "add fingerprint" to enter **enroll fingerprint** interface. After successful enrollment, the enrolled fingerprints will be specified as duress fingerprints.

3）save duress fingerprint

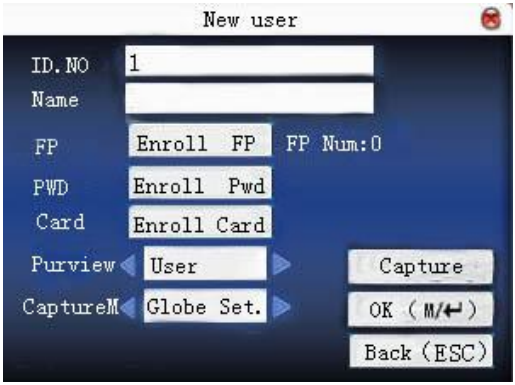
If the duress fingerprint definition on the above interface is correct, press **menu**, and select "save" in the menu.

2.2.7 ID card★

Some devices can use ID card to verify ID.

Enroll ID card

The device with ID card function has **enroll ID card** on **add user** interface:



Press ▲/▼ to make cursor on **"enroll card"**. Press **OK** to enter **enroll card**.

Sway the card in the induction area. After the device inducts the card, move the card off. The device will save the card number and display it on the screen. Press **ESC** to exit. Press **OK** to save it and return to the last interface.

ID card verification

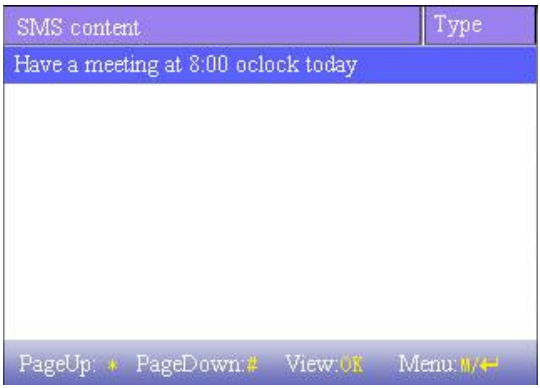
Sway the card in the induction area. After the device inducts the card, move the card off. If the card has been enrolled on the device, the device will display the card holder's information on the screen. If the card has not been enrolled, it will prompt that the card is not enrolled.

Notice: Card induction area is 3cm—7cm above fingerprint head.

2.3 SMS★

SMS is similar to notice. The operator can edit the notice content in advance and make it into SMS displayed on the screen. SMS includes common SMS and individual SMS. If common SMS is set, will be displayed in information column at the bottom of standby interface in the specified time. Press **shortcut** （can be set in keyboard definition）to check SMS content. If individual SMS is set, the employee who can receive SMS can see SMS after successful attendance.

Operation



Notice: The picture may be different from your device. The real product prevails.

Press ▲/▼ to read SMS.

Press “page down & page up” to read SMS.

Press **OK** to query detailed information.

Press **menu** to get SMS setting menu.

2.3.1 Set SMS

1）add SMS

Press ▲/▼ in pop-out menu to select "add SMS" to add the selected SMS.

Start time: The time when SMS comes into effect

Effective time length: SMS appears in the effective time. After the effective time, it won't appear.

Information type : individual: SMS aimed at individual only

common: SMS able to be seen by all employees

preset : Preset SMS, no difference of individual SMS or common SMS.

Operation:

When the cursor is on the text box, press **shortcut** to enable T9

input, input SMS content. Press ▲/▼ to switch option input box. Press ◄/► to change setting or press numeric key on small keyboard to input value.

（1）If the selected type is individual SMS, **distribute** is usable. Here, it is to distribute individual SMS to employee:

Press ▲/▼ to search employee.

Press "page down & page up" to search employee.

Press **OK** to select the employee, and SMS will be distributed to him.

Press **menu** to save it and then exit.

Notice: If exit without selecting any employee, the SMS type will become **preset**.

（2）If the selected type is common SMS or preset SMS, **distribute** cannot be used. After setting, press **menu** to save it and return to SMS list.

2）edit SMS

Press ▲/▼ in pop-out menu to select "edit", and SMS can be edited. The operation is the same with that of **add SMS.**

3）delete SMS

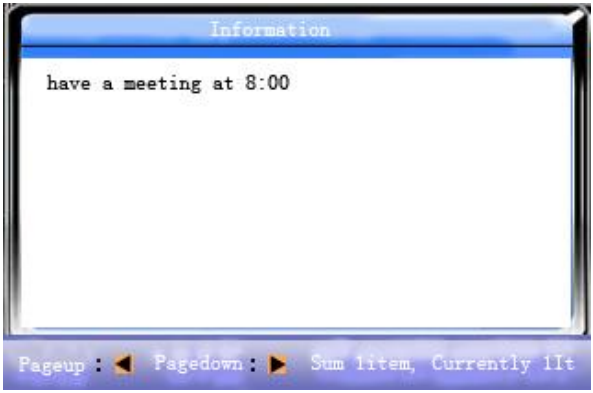
Press ▲/▼ in the pop-out menu to select “delete”, and the selected SMS can be deleted. At the same time, all information related with this record can be cleared.

2.3.2 Employee check SMS

1）check common SMS

When the device is in standby state, the main interface will display pictures and current effective common SMS content in cycle. The display time interval is the same with that of picture display.

When appears on main interface of the device, press **shortcut** （defined in keyboard definition）to check current effective common SMS in time.



2）check individual SMS

When user passes verification, if the user has SMS, the SMS content will be displayed.

The information display time length is 30 seconds. During this period, user verification can be done. Close the current display to enter verification interface.

2.4 Work code★

Salary is based on attendance. There are many work types for employees. An employee may have different work type in different time period. Different work types have different pays. Therefore, in order to distinguish different attendance states when user is dealing with attendance data, the device has provided a parameter to mark which attendance record belongs to which work type.

Operation

Notice: The picture may be different from your device. The real product prevails.

Press ▲/▼ to read work code.

Press "page down & page up" to read work code.

Press **OK** to edit the selected work code.

Press **menu** to get work code setting menu.

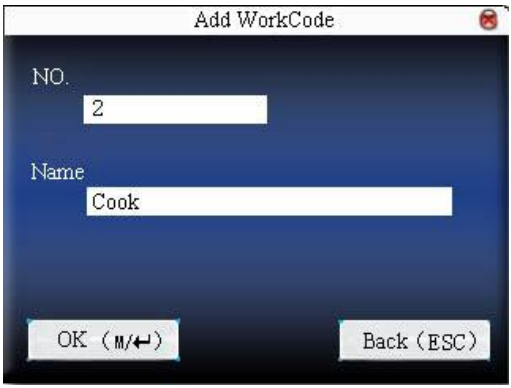
2.4.1 Set work code

1）add work code

Press ▲/▼ in pop-out menu to add a work code.

code: Work code

name: To indicate the work code



2）edit work code

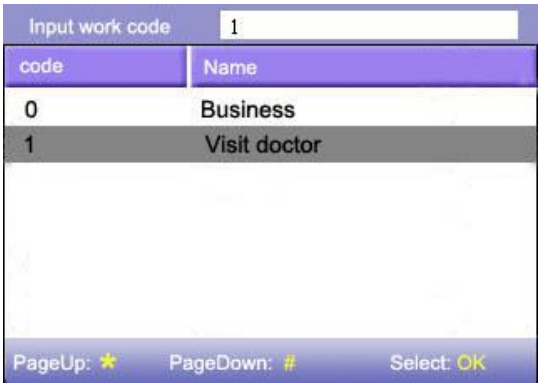
Press ▲/▼ in pop-out menu to select “edit”, and edit the name of selected work code. The operation is similar to that of **add work code.**

3）delete work code

Press ▲/▼ in pop-out menu to select “delete”, and delete the selected work code.

2.4.2 Use work code

Press **shortcut** on standby interface （can be set in keyboard definition）to enter **work code option** interface.



Notice: The picture may be different from your device. The real product prevails.

User can input work code directly or press ▲/▼ to select work code from the list and press **menu**, then press **OK** to save it and then return to the main interface.

2.5 Access control option★

Access control option is to set user's open door time zone, control lock and related device's parameters.

To unlock, the enrolled user must accord with the following conditions:

1. The current unlock time should be in the effective time of user time zone or group zone.
2. The group where user is must be in access control (or in the same access control with other group, to open the door together).

The system default the new enrolled user as the first group, default group time zone as 1, access control as the first group, and the new enrolled user is in unlock (if user has modified the related setting of access control, the system will be changed with user's modification.)

Operation:

Press ▲/▼ to select your desired item, press **OK** to execute the current selected item.

2.5.1 Time zone setting

Time zone is the minimum unit of access control option. The whole system can define 50 time zones. Every time zone defines seven time sections (namely, a week). Every time section is the effective time zone within 24 hours everyday. Every user can set 3 time zones. "or" exists among the three zones. It is effective if only one is satisfied. Every time section format is **HH:MM-HH:MM**, namely, accurate to minute.

If end time is smaller than start time （23:57- 23:56）, the whole day is forbidden. If end time is bigger than start time（00:00- 23:59）, it is effective section.

Effective time zone for user unlocking:00:00-23:59 or end time is bigger than start time.

J Notice: System default time zone 1 as whole day open（namely, the new enrolled user is unlocking）.

Operation:.

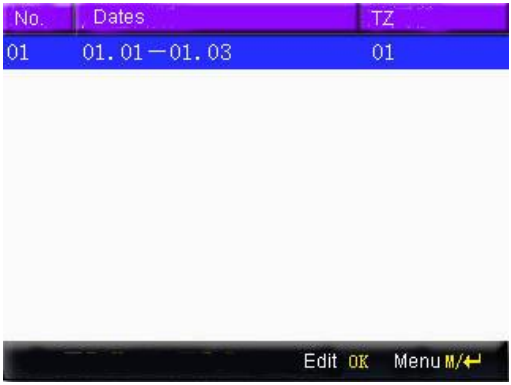
Input time zone number. If the enrolled time zone has number already, then the time zone setting will displayed automatically. Press

▲/▼. ◄/► to move the cursor to the input box, press numeric key on small keyboard to input value. Then press **menu** to save it and press **ESC** to exit.

2.5.2 Holiday setting

Special access control time may need during holiday. It is different to modify everybody's access control time. So a holiday access control time can be set, which is applicable for all employees.

Operation:



1） Add holiday

Press **menu** to get operation menu

Press ▲/▼ to select **add.**

Press ▲/▼ to move cursor to the input box. Press numeric key on small keyboard to input the value. After setting, press **menu** to save it. Then press **ESC** to exit.

2） Edit holiday

Select the line to be edited. Press **OK** directly or press **menu** to select **edit** in operating menu.

Press ▲/▼ to move cursor to the input box. Press numeric key on small keyboard to input the value. After setting, press **menu** to save it. Then press **ESC** to exit.

3） Delete holiday

Select the line to be deleted. Press **menu** to select **delete** in operating menu.

Notice: If holiday access control time is set, user's open door time zone during holiday subject to the time zone here.

2.5.3 Group time zone setting

Grouping is to manage employees in groups. Employee in groups use group time zone by default. Group members can also set user time zone. Every group can hold there time zones. The new enrolled user belongs to Group 1 by default. He can also be allocated to other groups.

Operation:

1） Add group time zone

Press **menu** to get operating menu

Press ▲/▼ to select **add**. For example, to add a group whose time zone is 2 and 3, as shown below:

Notice:1. If holiday is effective, only when there is intersection between group zone and holiday time zone, can the group member open the door.

2. If holiday is ineffective, the access control time of group member won't be affected by holiday.

Press ▲/▼to move cursor to the item to be set. If it is the input box, press numeric keys on small keyboard to input the value. If it is the roll box, press ◄/► to switch the values. After setting, press **menu** directly to return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

2） Edit group time zone

Select the line to be edited. Press **OK** directly or press **menu** to select **edit** in operating menu.

Press ▲/▼to move cursor to the item to be set. If it is the input box, press numeric keys on small keyboard to input the value. If it is the roll box, press ◄/► to switch the values. After setting, press **menu** directly to return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

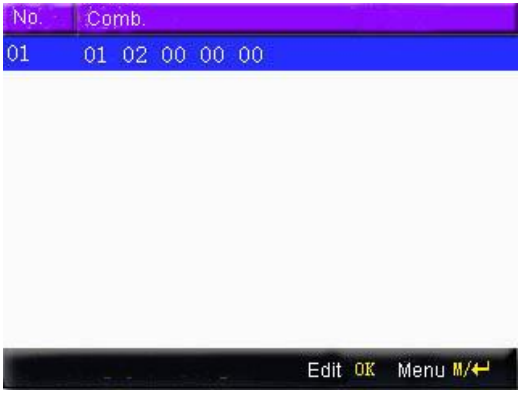
3） Delete group time zone

Select the line to be deleted. Press **menu** to select **delete** in operating menu.

2.5.4 Set access control

Make various groups into different access controls to achieve multi-verification and improve security. An access control can be made up of 5 groups at most.

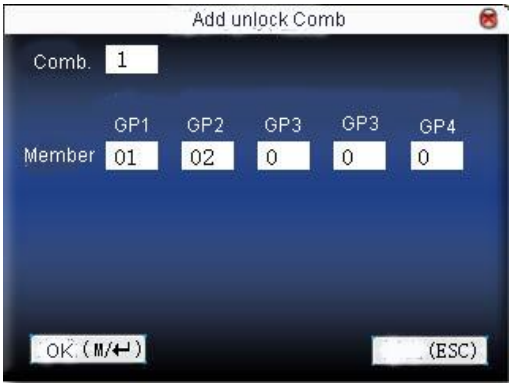
Operation:



4） Add access control

Press **menu** to get operating menu:

Press ▲/▼ to select **add.** For example, to add an unlocking combination which needs the verification of both group 1 and 2, as shown below:



Press ▲/▼ to move cursor to the input box. Press numeric key on small keyboard to input value. After setting, press **menu** to save it. Then press **ESC** to exit.

5） Edit access control

Select the line to be edited. Press **OK** directly or press **menu** to select **edit** in operating menu.

Press ▲/▼ to move cursor to the input box. Press numeric key on small keyboard to input value. After setting, press **menu** to save it. Then press **ESC** to exit.

Delete access control

Select the line to be deleted. Press **menu** to select **delete** in operating menu.

2.5.5 Access control parameter

Set device control locks and related device parameters.

Lock driver time length: Device control electronic lock is in enabling time. （effective value 1～10 seconds）

door sensor delay: After the door is open, delay the time to check door sensor. If door sensor state is different from the normal state of door sensor mode, alarm will be given off. This time is called door sensor delay. （effective value: 1～99 seconds）

1） door sensor mode: It includes NONE, NC and NO. NONE means there is no door sensor. NO means the door is open normally. NC means the door is closed normally.

door sensor alarm: When abnormal door sensor state is detected, alarm will be given off after some time. This time is door sensor alarm. （effective value: 1～99 seconds）

alarm count: When the failed press times reach the set times, alarm signal will come out.（effective value 1～9 times）

NC time zone: Set time zone for access control NC. Nobody can unlock during this time zone.

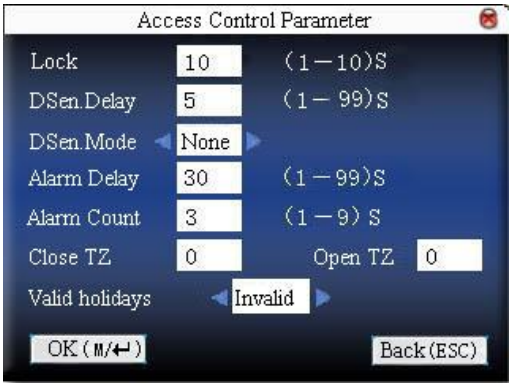
NO time zone: Set time zone for access control NO. The lock is always in enabling state during this time zone.

Whether holiday is effective: Define time zone for NO or NC. Whether the time zone set in time zone is effective. **Notice**:1. When time zone is set for NO or NC, please set door sensor mode as None, or alarm signal may come out

during time zone of NO or NC.

2. If time zone of NO or NC has no definition, the device will prompt it and add the definition in time zone setting.

Operation:



Press ▲/▼to move cursor to the item to be set. If it is the input box, press numeric keys on small keyboard to input the value. If it is the roll box, press ◄/► to switch the values. After setting, press **menu** directly to return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

2.5.6 Duress alarm parameter

There is duress alarm parameter setting in the device. When employee come across duress, select duress alarm mode, the device will open the door as usual. But the alarm signal will be sent to the alarmer.

Help key: If select "Yes", press **help** then press fingerprint in the following 3 seconds or press ID number, and duress alarm will come out after successful identification. If select "No",

it is useless to press **help.**（**help** can be set in keyboard definition.）

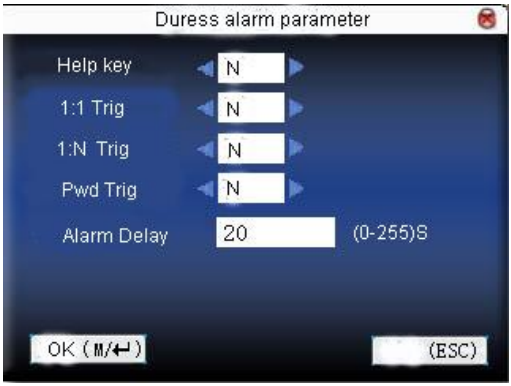
1:1 Trig: if select "Yes", when user use 1:1 match mode, alarm signal will come out. Or there is no alarm signal.

1:N Trig: if select "Yes", when user use 1:N match mode, alarm signal will come out. Or there is no alarm signal.

Pwd Trig: If select "Yes", when user use password verification mode, alarm signal will come out. Or there is no alarm signal.

Alarm delay: After duress alarm gets started, the alarm signal is not output directly. But it can be defined. After some time, alarm signal will be generated automatically.（0-255 seconds）。

Operation:



Press ▲/▼to move cursor to the item to be set. If it is the input box, press numeric keys on small keyboard to input the value. If it is the roll box, press ◄/► to switch the values. After setting, press **menu** directly to return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

2.5.7 Other options★

Refer to appendix 6 anti-pass back for anti-pass back setting.

2.5.8 Disable alarm

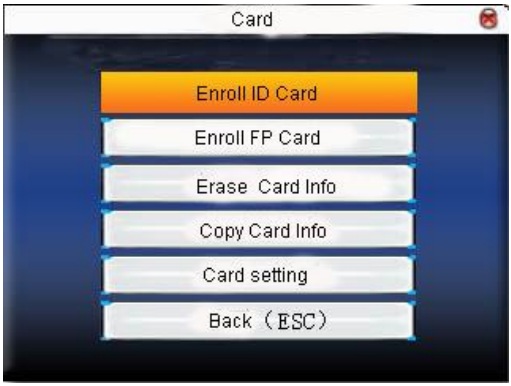
When the device is in alarm state, press **menu**, the device will say "are you sure to disable alarm? ". If not, the alarmer will moo all the time. After the alarm is disabled, the device will recover normal state.

Alarm types: door sensor alarm, tear-down alarm and duress alarm.

2.6 Card management★

Support Mifare non-touch intelligent card with working frequency of 13.56MHZ. Integrate fingerprint attendance to other systems and support multi- verification mode to meet the demands of different people.

Operation



Press ▲/▼ to select your desired item, press **OK** to execute the

current selected item.

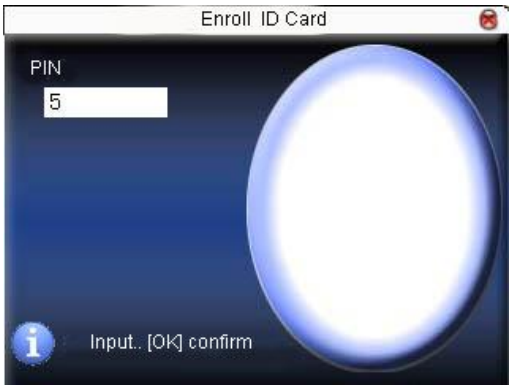
2.6.1 Enroll card

Use Mifare card as ID card. Only card number is needed to enroll.

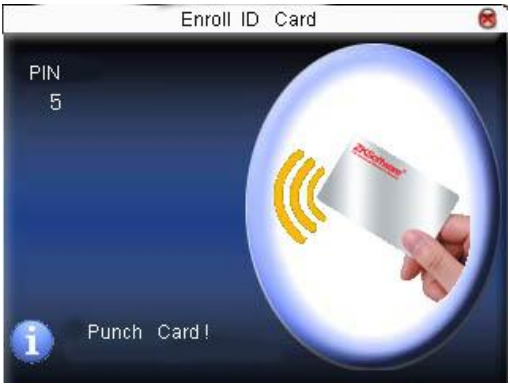
Operation

1. Enroll

Step 1:Select **enroll card** and then press **OK.**



Step 2:press keyboard to input the number to be enrolled（if the number has been there already, the device will prompt you to copy the information to the card.）,and then press **OK**.



Step 3:The device prompts to show card.

Step 4: Put the card in the induction area until the operation is successful.

2. verification:

Sway the card in the induction area. After the device inducts the card, move the card off. When the verification is successful, the device will give prompt.

Tips: Please enter user **access control option** to modify the verification mode as RF, or verification won't be successful.

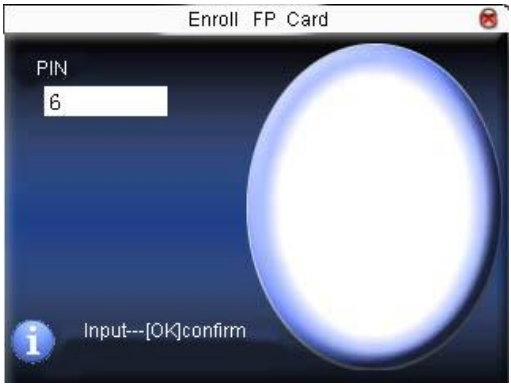
2.6.2 Enroll fingerprint card

Enroll fingerprint and write fingerprint into card.

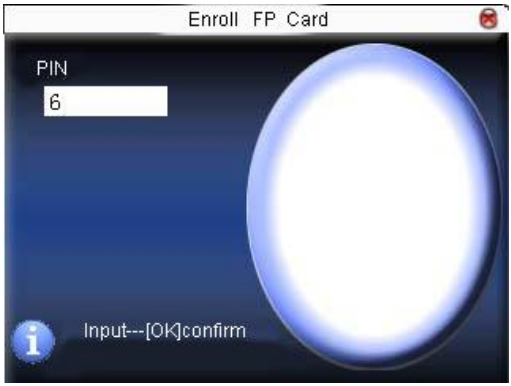
Operation

1. Enrollment

Step 1:Select **enroll fingerprint card** and press **OK**.

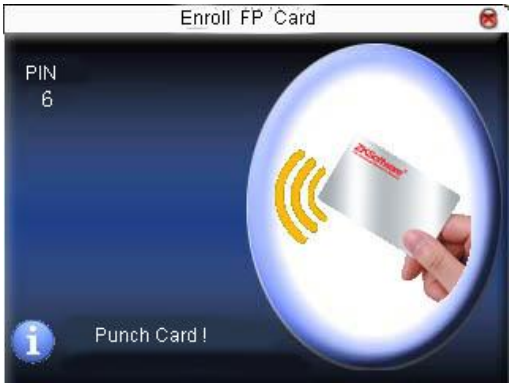


Step 2:Use keyboard to input the number to be enrolled（if the number has been there already, the device will prompt you to copy the information to the card.）,and then press **OK**. The device will prompt you to move off your finger.



Step 3: Press finger properly three times.

Step 4: Device prompts “please show card”.



Step 5:Put the card in the induction area, waiting for the device to read fingerprint data into card until the enrollment succeeds.

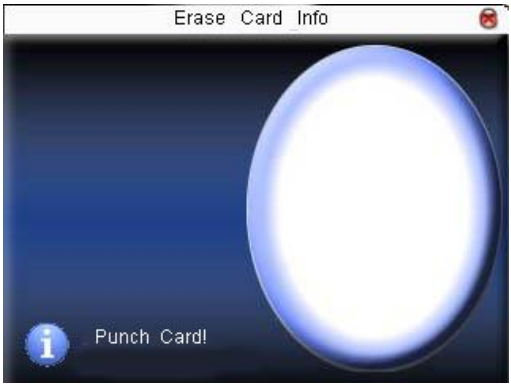
2. verification:

Sway the card in the induction area. After the device inducts the card, move the card off. When the verification is successful, the device will give prompt. If the pressed fingerprint is different from that stored in the card, the verification will fail.

2.6.3 Clear card information

Delete all the information in the card being operated at present.

Operation

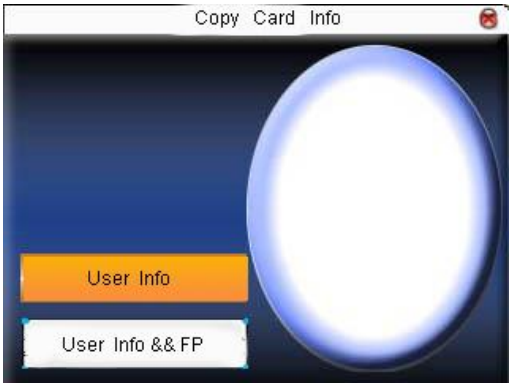


Put the card in the induction area, waiting for device to delete all the information in the card. If the card data has been stored in the device, the device will remind you whether to delete the information in the device or not. “Yes” is to delete the user’s fingerprint and information in the device. “No” is to keep the information.

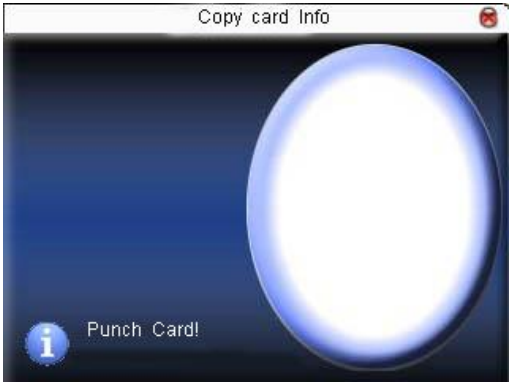
2.6.4 Copy card information

Copy card information to the device（after copy, the fingerprint is still in the card）,then press **fingerprint attendance** directly on the device, with no need of using Mifare card.

Operation



Press ▲/▼ to select "only copy user information" or "copy user information and fingerprint", and then press **OK.**



2.6.5 Set card parameter value

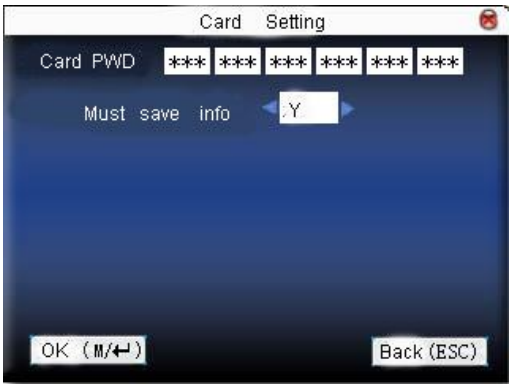
Set password of Mifare card and decide whether the information should be saved or not.

fingerprint card password :After the password is set, the device will write password into the enrolled fingerprint card. Then

the fingerprint card can only be used on this device.

Save the information: Decide whether to save the enrolled information to the device when enrolling card or fingerprint card. "No" means the information is only saved in the card. "Yes" means the information is saved in both card and device.

Operation



Press ▲/▼to move cursor to the item to be set. If it is the input box, press numeric keys on small keyboard to input the value. If it is the roll box, press ◄/► to switch the values. After setting, press **menu** directly to return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

Notice: Card induction area is 3cm—5cm above fingerprint reader.

3 Communication option

When the device and PC are used to transmit data, it is necessary to use communication wire to set communication parameters in the device. When the device is in communication, "communicating…" appears. Don't operate the device then.

Notice: When the device is communicating with computer, please check the setting here. The parameters here must be in accordance with that of software communication interface.

3.1 Network option

When Ethernet is used for communication of device and PC, the following settings need to be checked:

Device IP address: IP is 192.168.1.201 by default. You can modify it if it is necessary. But it cannot be the same with that of PC.

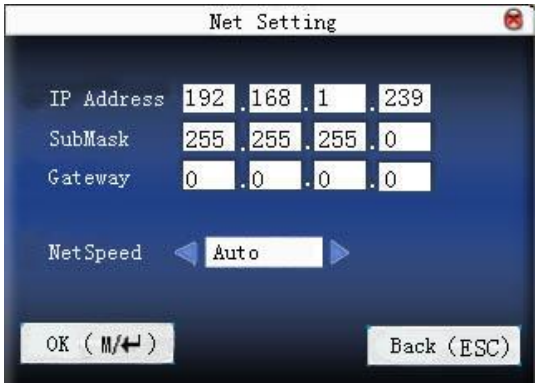
Subnet mask: It is 255.255.255.0 by default. You can modify it if it

is necessary.

Gateway address: It is 0.0.0.0 by default. If the device and PC are in different net segment, it is necessary to set address.

Net speed: Set the speed according to the LAN where the device is.

Operation



Press ▲/▼to move cursor to the item to be set. If it is the input box, press numeric keys on small keyboard to input the value. If it is the roll box, press ◄/► to switch the values. After setting, press **menu** directly to return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

3.2 Serial port option

When serial port （RS232/RS485） is used for communication of device and PC, the following settings need to be checked:

Baud rate: Used for communication with PC. There are five options: 9600, 19200, 38400, 57600 and 115200. If the communication speed is high, RS232 is recommended. If the communication speed is low, RS 485 is

recommended.

RS232: Whether use RS232 to communicate. Select "Yes" if RS232 is to be used.

RS485: Whether use RS485 to communicate. Select "Yes" if RS485 is to be used.

USB: Whether use USB to communicate. Select "Yes" if USB is to be used.

RS232, RS485 and USB cannot be used at the same time.

Operation

Press ▲/▼to move cursor to the item to be set. Press ◄/► to switch the values. After setting, press **menu** directly to return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

3.3 Connection option

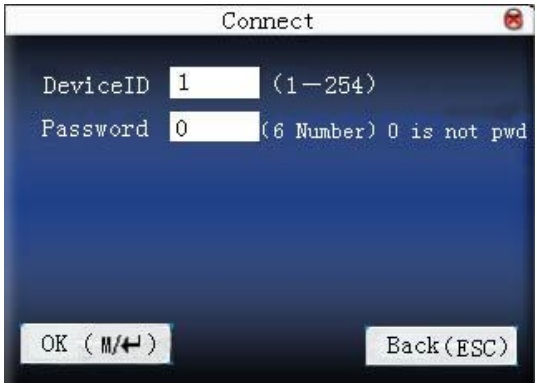
When RS232/RS485 is used for communication of device and PC, it is necessary to set device ID.

Device ID: 1—254. If RS232/RS485 is used, this ID needs to be input on the software communication interface.

To improve the security of attendance data, connection password needs to be set here. Connection password must be input when PC software is to connect device to read data.

connection password :System password is **0** by default.（namely, there is no password. ）it can be set as other value. After setting, the password must be input if software is to communicate with device. Or the connection will fail. The password length is 1～6 digits.

Operation



Press ▲/▼ to move cursor to the input box. Press numeric key on small keyboard to input the value. After setting, press **menu** directly to return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

3.4 Wireless option★

Before the device is used for wireless network, other physical groupware of 802.11 network, such as joint, distributing system, wireless medium must be in existence. ESSID to connect to the network

must be known (network ID).

Network ID: Network ID to be connected to wireless network. (There is difference between small letter and capital letter.)

Network model: there are two models: infrastructure model (for star structure) and ad — hoc model (for peer-to-peer-network).

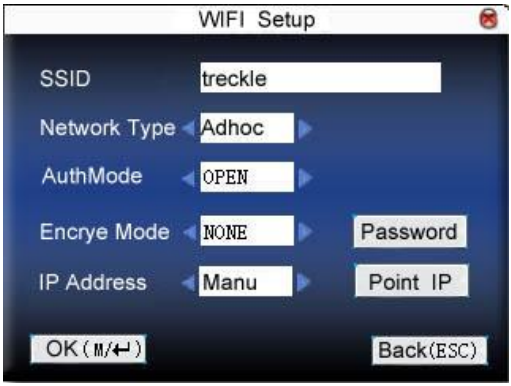
Authentication mode: Infrastructure mode includes five authentication modes: OPEN, SHARED, WEPAUTO, WPAPSK and WPA2PS002E.

ad—hoc model includes four authentication modes: OPEN, SHARED, WEPAUTO and WPANONE.

Encrypt type:when the selected encrypt type is NONE,the password in WEP (Wired equivalent privacy) and WPA (WiFi protested access) cannot be edited, namely, it is not necessary to input password.

Device IP address :In 802.11 wireless network, there is DHCP. Or enter IP interface to input correct IP address, subnet mask and so on.

Operation



Press ▲/▼ to switch cursor to the input box or button. Use T9 input to input network ID, which must be input, or the cursor cannot be moved to other input box. Then press ◄/► to select the item to be set or press **OK** to do corresponding operation.

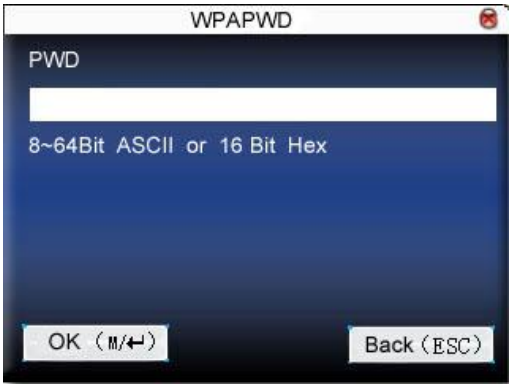
1）set password :

According to the selected authentication mode and different encrypt types, the interface where password is set is also different. There are two interfaces: WEP and WPA.

WEP password

Input correct password. There are four passwords in **WEP password**. If the four passwords are set properly, only the current selected password is the effective value.

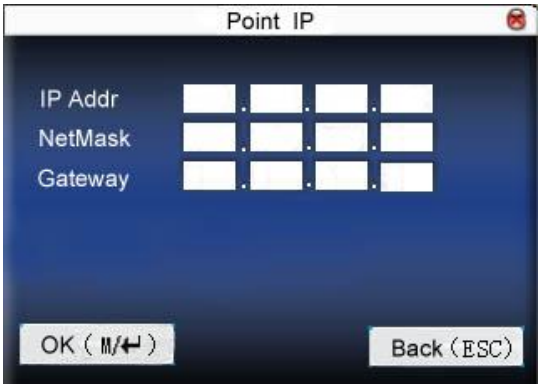
WPA password



Input correct password ,set password, press **OK** or **menu** to save the setting, and then return to **wireless option** interface.

2）specify IP:

Specify the device IP in wireless network. It has nothing to do with **network option** in **communication option**.

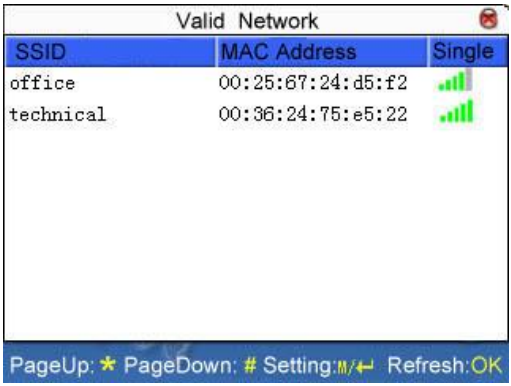


After IP is specified, press **OK** or **menu** to save the setting, and then return to **wireless option** interface.

After setting, press **OK** or **menu** directly to return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

3.5 Wireless network★

Check wireless signal and the signal intensity received in the current environment to create condition for user to select better network.



Press **M/OK** to set the selected wireless network.

Press ◄ to refresh the list.

3.6 Wiegand option★

Define Wiegand input & output format.

3.6.1 Input configuration

User defined format:User defined Wiegand input format

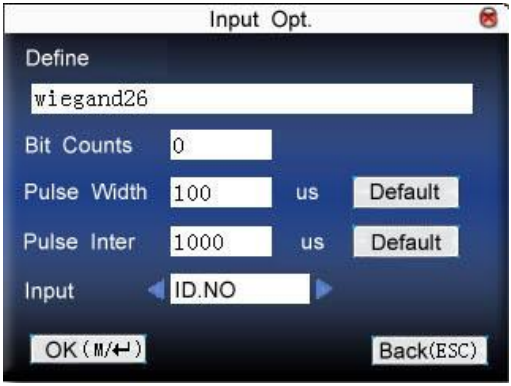
bit digit:Wiegand data digit length

pulse width:Pulse width is 100 microseconds by default, which can be adjusted from 20 to 800.

Pulse interval:It is 900 microseconds by default, which can adjusted between 200 and 20000.

Input content:Content contained in Wiegand input signal, including work code or card number.

Operation



Input the name of user-defined format. Press ▲/▼to move cursor to the item to be set. If it is the input box, press numeric keys on small keyboard to input the value. If it is the roll box, press ◀/▶ to switch the values. After setting, press **menu** directly to return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

3.6.2 Output configuration

format: It is the defined format in the system. User need not specify total digit and the information position.

There are 4 definition formats by default in the system:Wiegand 26 with site code, Wiegand 34 with site code, Wiegand 26 without site cod and Wiegand 34 without site code. Wiegand26 with site code means W26 format output with device ID. Wiegand26 without site code means W26 format output without site code. If there is no site code, then the signal not to be output does not contain the information. If there is site code, the output is the set site code（similar to device ID. But this code is specified by the user and different devices can be repeated, with range of 0-255.）.

Failed ID: It is the failed ID after unsuccessful verification. “close” means not to output it. (with range of 0-65534)

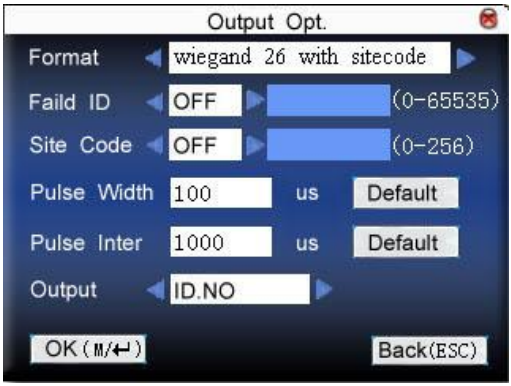
Site code:Similar to device ID. But the code is specified by user. Different device can be repeated. (With range of 0-255)

pulse width:Pulse width is 100 microseconds by default, which can be adjusted from 20 to 800.

Pulse interval:It is 900 microseconds by default, which can adjusted between 200 and 20000.

Output content:Content contained in Wiegand output signal, including work code or card number.

Operation



Input the name of user-defined format. Press ▲/▼to move cursor to the item to be set. If it is the input box, press numeric keys on small keyboard to input the value. If it is the roll box, press ◄/► to switch the values. For example, to modify failed ID as 10,press◄/► firstly to select "Yes", then input 10 in the input box.. After setting, press **menu** directly to return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

4 System option

Set system parameters to meet user's demand as many as possible.

4.1 System parameter

1:1 matching threshold value: The similarity of ID+fingerprint verification and the enrolled template

1:N matching threshold value: The similarity of verification and the enrolled template

Recommended matching threshold value:

		Matching threshold value	
FRR	FAR	1:N	1:1
high	low	45	25
middle	middle	35	15
low	high	25	10

Time format: Time format displayed on the initializing interface of

fingerprint sensor

Press ◄/► to select format. The fingerprint sensor supports ten date format: YY-MM-DD, YY/MM/DD, YY.MM.DD, MM-DD-YY, MM/DD/YY, MM.DD.YY, DD-MM-YY, DD/MM/YY, DD.MM.YY and YYYYMMDD. Select your desired date format.

keyboard voice: Press ◄/► to set whether the key has voice or not. "Yes" means having voice, and "No" means no voice.

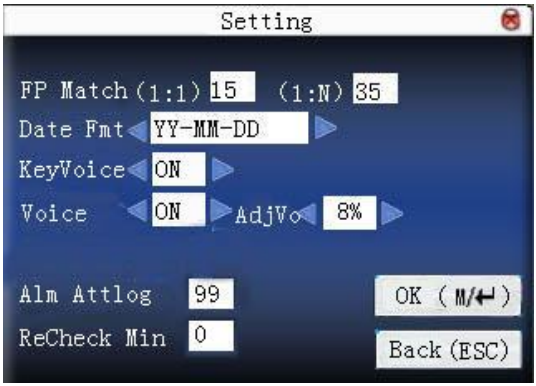
Voice prompt: Press ◄/► to select whether to give voice prompt or not. The device will give corresponding voice prompt during operation.

volume: Press ◄/► to set it.

attendance record alarm: when the free space reaches the set value, the device will give alarm automatically (effective value is 0～99,0 means the space is all used and there is no alarm.)

repeat verification time: it is in the set time range（unit :minute）. If somebody's attendance record has been there, then the record of second attendance won't be saved. (effective value is 0～60 minutes. 0 means all the records after verification are saved.)

Operation



Press ▲/▼ to move cursor to the input box. Press numeric key on small keyboard to input the value. If it is the input box, press numeric keys on small keyboard to input the value. If it is the roll box, press ◄/► to switch the values. After setting, press **OK** or **menu** directly to save the setting and return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

4.2 Data management

Delete attendance record:Delete all attendance records.

Delete all data:Delete all enrolled employees' information, fingerprint and attendance record.

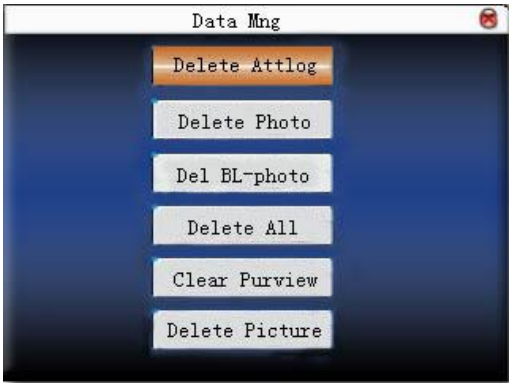
Clear management access:Change all administrators into common users.

Delete attendance photo: delete all employees' attendance photos.

Delete photos of black list: delete the saved photos which fail in passing attendance record.

K Notice:If the device has access control function, when all data are deleted, the device needs to be restarted to continue enrollment, or the new enrolled employee has no unlocking access.

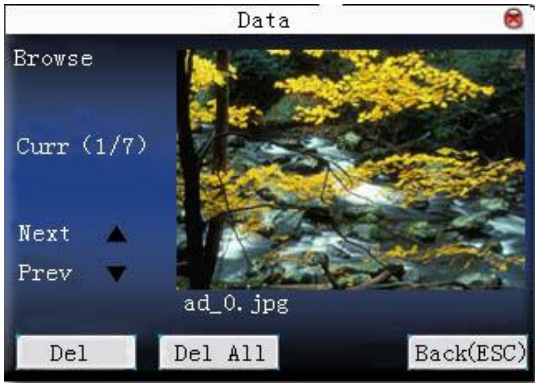
Operation



Press ▲/▼ to move cursor to the selected button. Press **OK** or **menu** to start operation. The device will remind you whether to continue the current operation or not. Then press **OK** or **menu** to delete all the data, which won't be recovered after deletion. Press "**ESC**" to return to the last interface.

Clear propaganda picture:Clear the propaganda pictures uploaded to the device from U disk. （refer to 5.4 upload user defined picture for how to upload the propaganda pictures.）

Operation



Press "▲/▼" to preview the propaganda pictures in the device. Click **OK** to delete all these pictures. After deletion, the next picture will appear. Click **"delete all"** to delete all the propaganda pictures in the device. Then press "**ESC**" to return to **data management** interface.

4.3 Upgrade firmware

Use software to upgrade firmware program.

Notice:If you need such upgrade file, please contact technician. Usually, firmware upgrade is not recommended.

Operation

Insert U disk with upgrade file into the slot. The device will identify the file automatically. The device will give prompt whether it is successful or not.

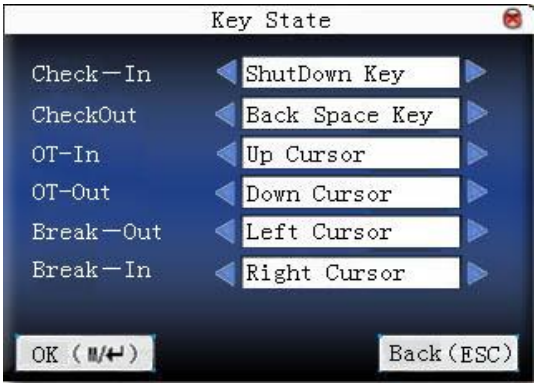
4.4 Keyboard definition

4.4.1 Status key definition

User defined the device's attendance status key. Press corresponding status key to record attendance.

Press any status key on the standby interface, and the attendance status and status key will be displayed at the left bottom of the screen..

Operation



Press ▲/▼ to move cursor to the input box. Press ◀/▶ to switch the values. After setting, press **OK** save the setting. And press "**ESC**" to cancel setting and return to the last interface.

Notice:1. If some status key is useless, set the status key as None.

2. It is iclock100 keyboard Operation here. Refer to 4.4.2 **shortcut** definition for other models.

4.4.2 Shortcut definition★

Define the shortcut function of various keys. The key can be

defined as attendance status **shortcut** or check **shortcut.** Press corresponding key on the standby interface, attendance status will appear or enter the function interface quickly.

Operation

Shortcut	Function	Code	Name
F1	Status Key	1	Check-in
F2	Status Key	2	Check-out
F3	Status key	3	OT Check-in
F4	Status key	4	OT Check-out
F5	Status key	5	Out
F6	Status key	6	In
F7	Undefine		
F8	Undefine		

Pageup * Pagedown# Edit OK

Press ▲/▼ to read **shortcut definition.**

Press "Page up & Page down" to read **shortcut** definition.

Press **OK** to edit the selected **shortcut.**

4.4.2.1 Set **shortcut**

Select a **shortcut** ,press **OK** to enter **edit** interface.

function:Set shortcut function for his key, including status key , work code and SMS check.

The following options will appear after the status key is selected:

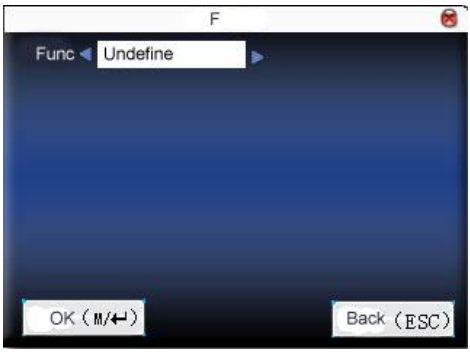
code:Allocate a code for status key to provide convenience to check the record statistics.

name:The name of key status

auto switch:When it reaches the set time point, the device will switch the attendance status automatically.

1）set it as function key

Operation



Press ◀/▶ to set " # " as **help**.

2）set it as status key

Press ▲/▼ to move cursor to the input box. Press numeric key on small keyboard to input the value. After setting, press **menu** directly to save the setting and return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

4.4.2.2 Use **shortcut**

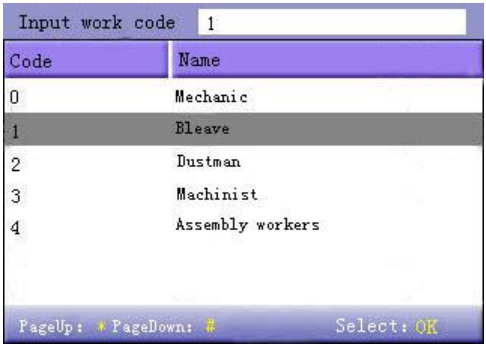
1） status key

Press “F3” on standby interface and the corresponding status will appear at the left bottom.

2）shortcut key

Set “ * ” as work code in **setting**.

Press “ * ” on standby interface to enter the interface of work code.



4.5 Interface option

When user is using 1:1 match or password verification,he may forget to enroll fingerprint or does not press the finger in the proper way. For user's convenience and to reduce repeat key, the device allows retry. User can set initializing interface's display style.

Select clock:After verification, the selected clock mode will be displayed on the screen.

Display propaganda picture:User can display some propaganda pictures on the screen.

1）picture cycle interval means how soon will the picture be changed（effective value is 3～999 seconds.）

2）time display delay means the clock picture display time length after verification. After the display delay, the propaganda picture will be displayed on the initializing interface again (with effective value of 0～999 seconds, and 0 means displaying clock all along. ）

Photo mode: when the employee is in attendance record, grasp photo and save it? It is aimed at the setting of all employees.

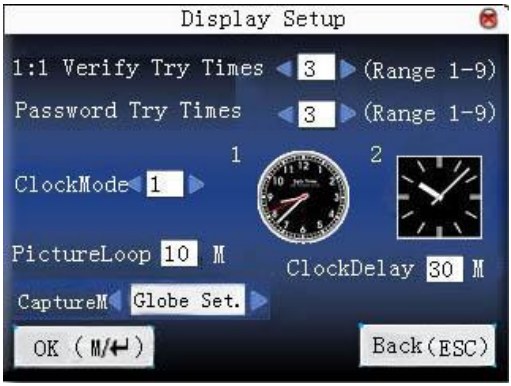
There are 4 modes: take photo: take photo but not save photo during attendance record.

No photo taken: there is no photo taken during attendance record.

Taken photo and save photo: take photo and save photo during attendance record.

Save photo even if fail in pass: take photo and save photo when employee fails three times in passing attendance record.

Operation



Press ▲/▼ to move cursor to the input box. Press numeric key on small keyboard to input the value. After setting, press **menu** directly to save the setting and return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

4.6 Reset

Make device's communication option,system option and so on reset to the state of factory.

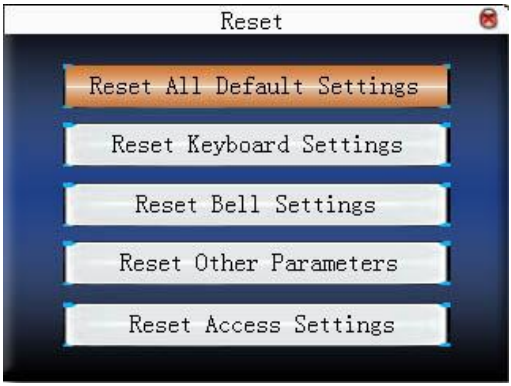
Factory reset: Make all the parameters in the device reset to the state of factory.

Reset keyboard definition:Reset the corresponding setting of keyboard definition to that of factory.

Reset bell option:Only reset bell option to factory state.

Reset other parameters: only reset communication option,system parameter,interface option and so on to factory state.

Reset access control option: Only reset access control **option** and user access control option to factory state.



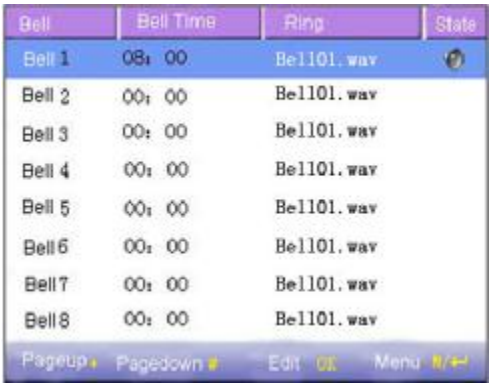
Press ▲/▼ to move cursor to the button to be operated. Press **OK** to start operation. The device will say "Are you sure to execute the current operation?". Press **OK** to reset it to factory state and press "**ESC**" to cancel operation.

@ **Notice**:The employee's information and attendance data won't be deleted when this operation is being done.

4.7 Bell option★

Many companies need bell for on-duty and off-duty. Some use manual bell. Some use electronic bell. To save cost and provide convenience for management, we integrate bell functions to fingerprint sensor. You can set time for bell. When it is the scheduled time, the fingerprint sensor will play the selected ring automatically. And the ring will stop automatically when it is the end time.

Operation:



Press ▲/▼ to read bell option.

Press "Page up & Page down" to read bell option.

Press M/↵ to enable/disable the selected bell.

Press **OK** to set the selected bell and edit the bell.

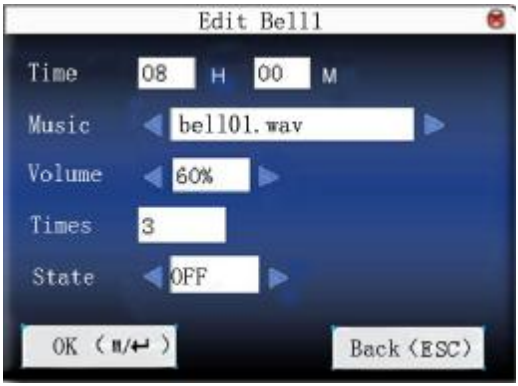
Bell time:The bell rings automatically when it is the specified time.

Ring option:Bell ring

Adjust volume: ring volume

Ring counts:Ring times

Bell status:Whether to enable this bell



Press ▲/▼ to move cursor to the input box. Press numeric key on small keyboard to input the value. After setting, press **menu** directly to save the setting and return to the last interface. Press "**ESC**" to exit.

Notice:Ring time can be set with week as the period, namely, the bell rings automatically at some time of some day in a week. This function is not the must configuration. If you want it, please contact our businessman or technician.

4.8 Other options

Set sleep time, external bell and other parameters for the device.

Scheduled sleep:When it is the scheduled sleep time, the device not in operation will enter sleep status. Press any key or finger to awake it.

External bell:whether to enable external bell (It is the bell ring given off from external electronic bell, connected with the internal of the device, instead of the device speaker.

Video setting: set parameters of camera installed in the device and adjust the camera effect to the best.

fingerprint image display:Select whether to display the fingerprint image on the screen when it is enrolling or verifying There are 4 options:display upon both enrollment and verification, only display upon enrollment, only display upon verification, not display upon enrollment and verification.

lock **power-off** :To prevent hostile power-off, select whether to lock power-off or not.

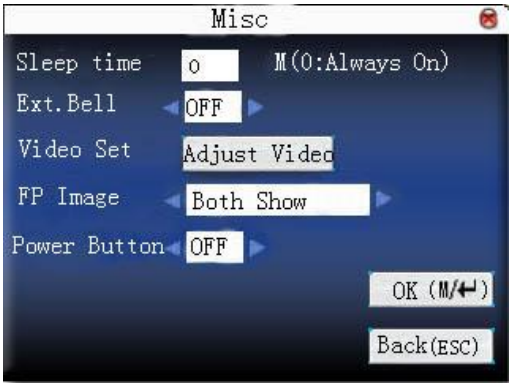
"disable": the power is off 3 seconds after pressing **power-off.**

" enable ",it is ineffective after pressing **power-off.**

Notice:1. External bell function needs support of device hardware. If you need it, please contact with our businessman or technician.

2. Only device with **power-off** function has **lock power-off** option**.**

Operation

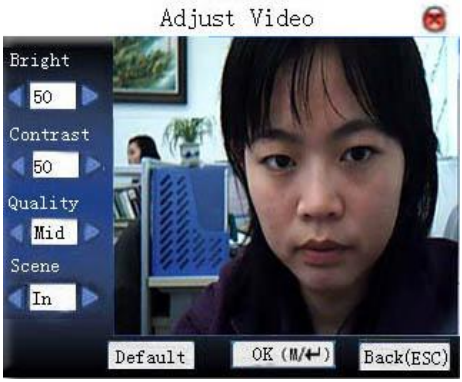


Press numeric key on small keyboard to input the value to be set.

After setting, press M/↵ directly to save the setting and return to the last interface. Press "**ESC**" to cancel the setting and return to the last interface.

Video setting ★

Press ▲/▼ to select "adjust video setting", press "OK" to enter video setting adjustment interface.



After entering the interface, the device is under the mode of grasp. Press▲/▼ to switch option input box. Press numerical key on small keyboard to input correct value to adjust the taking effect of camera. Then press M/↵ or OK to save setting.

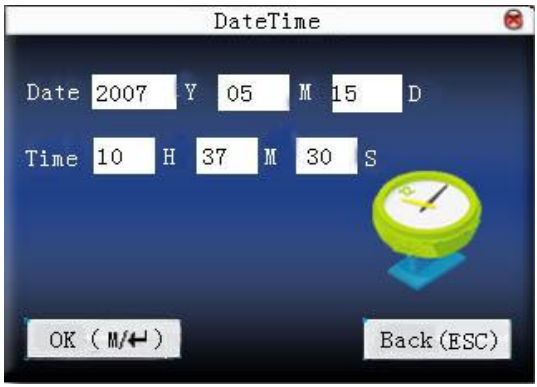
5 Time date

5.1 Time date option

Accurate attendance time is based on accurate time date.

Enter **time date** to set options:

Operation



Press ▲/▼ to move cursor to the input box. Press numeric key on small keyboard to input the value. After setting, press **menu** directly to save the setting and return to the last interface. Press "**ESC**" to cancel setting and return to the last interface.

5.2 DLST ★

DLST,also called Daylight Saving Time,is a system to pr**esc**ribe local time in order to save energy. The unified time adopted during the system date is called "DLST". Usually, the time will be one hour forward in summer. It can make people sleep early and get up early. It can also reduce lighting to save power. In autumn, the time will be

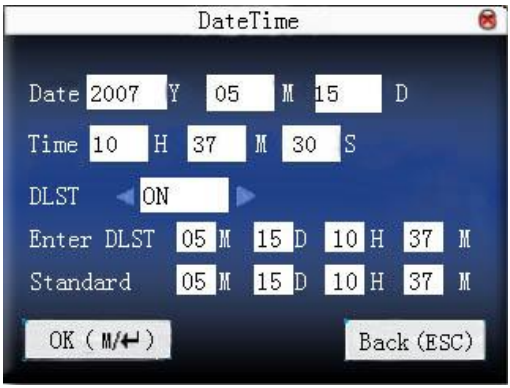
recovered. The regulations are different in different countries. At present, nearly 110 countries adopt DLST.

To meet the demand of DLST, a special **option** can be customized on our RF Card Time & Attendance recorder. Make the time one hour forward at XX (minute) XX (hour) XX (day) XX (month), and make the time one hour backward at XX (minute) XX (hour) XX (day) XX (month) if necessary.

Notice:Only some models have DLST function. If you need it, please contact our business representative or technician.

Operation

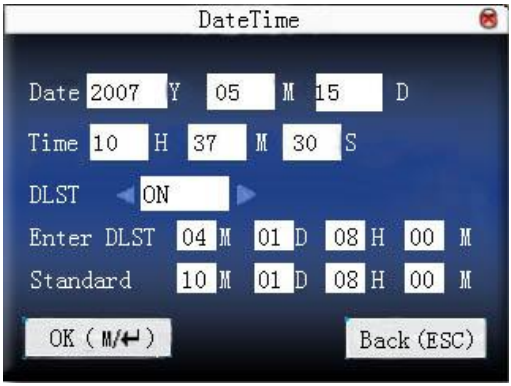
When the device has DLST function, the option will be appeared on **time date** interface:



1）Set DLST as “ enable ”。

2）Input DLST start time and end time.

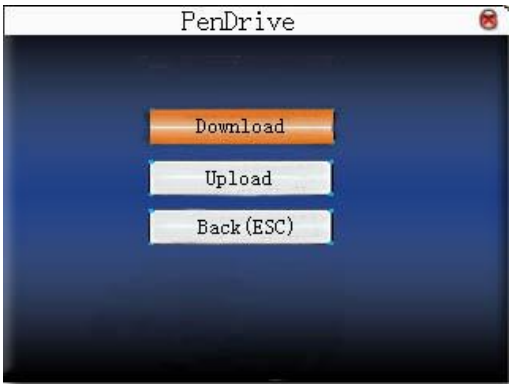
For example, if 08:00, April 1st is set, the device enter DLST,and the time will be one hour forward. If it is 08:00,August 1st, the device will reset normal time.



3）Press M/↵/"OK" to save setting. Press "**ESC**" to exit without saving.

6 U disk management

Import user information, fingerprint template, attendance data and so on in the device to attendance software or import user information and fingerprint to other devices through U disk.



6.1 Download data

6.1.1 Download attendance data

Save all attendance data in the device to U disk.

Operation

1） Insert U disk into USB slot of fingerprint sensor through mini USB.

2） Press "▲/▼" to download attendance data.

Press **OK** for verification. "downloading data, please wait…"will appear on the display when the device is downloading attendance data until it is successfully downloaded.

3）Press "**ESC**" to return to initializing interface. Pull out U disk. X_attlog.dat（attendance log）will be saved in U disk. (X stands for device ID.).

6.1.2 Download user data

Save all users' information and fingerprint in the device to U disk.

Operation

Insert USB flash disk into USB slot of fingerprint sensor,press "▲/▼" to download user, then user.dat（user information）and template.dat （fingerprint template）will be saved in U disk.

6.1.3 download SMS★

Save SMS added to the device to U disk.

Operation

Insert U disk into USB slot of fingerprint sensor. Press "▲/▼" to select **download SMS**. After successful download, udata.dat and sms.dat can be seen in U disk.

6.1.4 Download user photo★

Save employee's photo into U disk.

J Notice: Only some models possess the function to download user photos.

Operation:

Insert USB flash disk into USB slot of fingerprint sensor,press "▲/▼" to download user,then the picture named with work code will be

seen in U disk.

6.1.5 Download attendance photo★

Download attendance photos and black list photos saved in device to U disk. The format of photo is JPG.

J Notice: Only some models possess the function to download attendance photos.

Operation:

Insert U disk into USB slot of fingerprint sensor, press "▲/▼" to download attendance photo.

Download all photos: including attendance photos and black list photos.
Download attendance photo: only download attendance photo to U disk.
Download black list photo: only download blacklist photo to U disk.
Delete downloaded photo: select " not delete downloaded photo", the photo will be in the device after download.
Select "delete downloaded photo", the corresponding

photos will be deleted after download.

Press "▲/▼" to select type of photo to be downloaded. Press ◄/► to decide whether to delete downloaded photos or not. The first directory in U disk is pic_ machine ID. Attendance photos are saved in second directory pass. And blacklist photos are saved in second directory bad.

6.2 Upload data

6.2.1. Upload user data

Upload user information and fingerprint saved in U disk to device.

Operation

Insert U disk into USB slot of fingerprint sensor. Press "▲/▼" to select **upload user data**,then press **OK**,and user.dat（user information）and template.dat（fingerprint template）in U disk will be uploaded to the device. If there are no such files, "data copy error" will appear.

6.2.2. Upload SMS★

Upload SMS in U disk to the device.

Operation

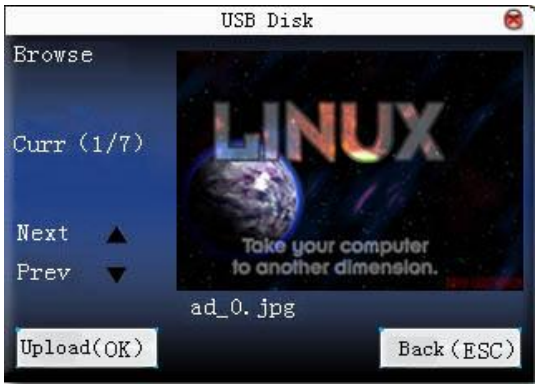
Insert U disk into USB slot of fingerprint sensor. Press "▲/▼" to select **upload user data**,then press **OK**,and udata.dat and sms.dat will be uploaded to the device.

6.2.3. Upload user defined picture

Upload JPG picture started with "ad_" in U disk to the device. Then these pictures will be displayed on the initializing interface. （refer to

appendix 3 for picture specification.）

Operation



Insert U disk into USB slot of fingerprint sensor. Press "▲/▼" to preview the pictures in U disk. To upload the picture, click **OK.** Then the next picture will appear automatically. After upload, press "**ESC**" to exit.

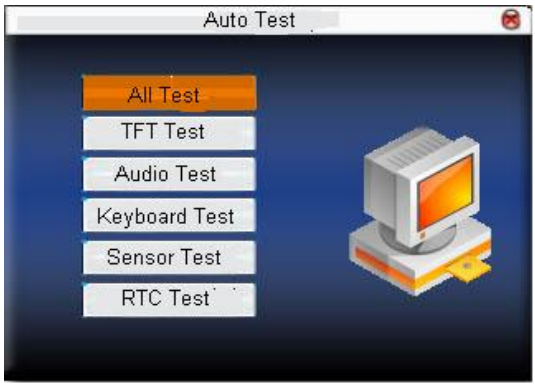
6.2.4. Upload user photo★

Upload JPG picture named with work code in U disk to device. Then the employee's photo will be displayed upon fingerprint verification.

The operation is the same with that of upload user defined picture.Insert U disk into USB slot of fingerprint sensor. Press "▲/▼" to preview the pictures in U disk. To upload the picture, click **OK.** Then the next picture will appear automatically.After upload, press "**ESC**" to exit.

7 Auto test

The device can test various modules automatically to help operator to judge the module with fault quickly, including test of TFT display, voice prompt, clock, keyboard, and fingerprint sensor.



Press ▲/▼ to select the item to be selected. Press **OK** to start it.

7.1 TFT display test

The device can automatically test TFT color display effect (through color display, white display and black display) to see whether the screen works normally.

Press **OK** to continue and press "**ESC**" to exit.

7.2 Voice test

The device can automatically test voice prompt effect through playing voice files in the device to see if the files are complete and the

voice effect are good or not.

Press **OK** to continue and press "**ESC**" to exit.

7.3 Keyboard test

The device can automatically test various keyboards to see if the keys work normally or not.

Press any keyboard on the test interface （except for **OK and** "**ESC**"）to check whether the pressed keyboard is in accordance with that displayed on the screen. will appear if it is the right key, and will appear if it is not the right key.

Press "**ESC**" to exit.

7.4 Sensor test

The device will automatically test the sensor to see if it works normally. Press fingerprint to see if the image is clear and usable.

Press fingerprint on the sensor window and the fingerprint image will appear on the screen.

Press "**ESC**" to exit.

7.5 Real-time clock

The device can automatically test the clock to see if it works normally.

Press **OK** to start time and then press **OK** to stop time.

Press "**ESC**" to exit.

8 Query record

Employee's attendance record will be saved in the device. For query convenience, **query record** function is provided.

8.1 Query attendance

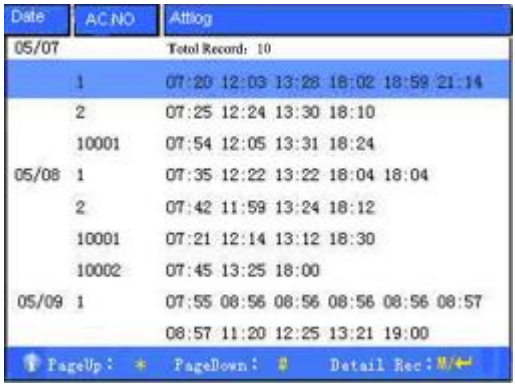
According to user's input query condition, the record will be displayed on the screen for user to check.

Enter **query attendance**,input corresponding information in the **query condition** input box.

1） When the input work code is blank, all employees are queried.

2） When a work code is input, then only an employee's attendance record can be queried.

After query, the records in accordance with the conditions will be displayed on the screen:



Press ▲/▼ to move the cursor to the line to be queried. And press **OK** to check attendance record.

For example, the following is the detailed attendance information of employee 10001 on May 8th:

At the bottom of the screen, there are some capital letters with their meanings.

Verification

F: Fingerprint verification

P: Password verification

Status

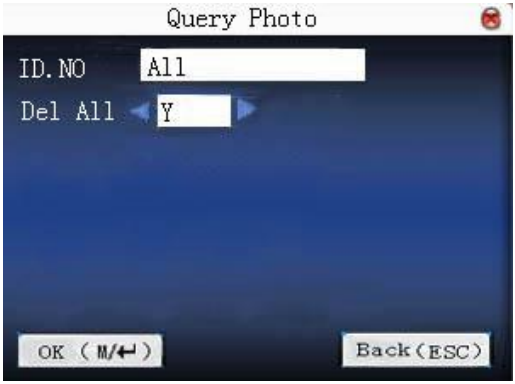
It is the attendance status. The code displayed in the list is the status code. And status name will be displayed in the information column.

8.2. Query attendance photo★

If attendance photo mode is set as taking photo and saving it, the employee's photo will be taken and saved upon successful attendance record. There attendance pictures can be searched here.

J Notice: Only some models possess the function to query attendance photos.

Enter **query attendance photo**,input corresponding information in the **query condition** input box.



Input the number of employee to be queried.

1） If work code is all, query all employees.

2） When a work code is input, then only an employee's attendance photo can be queried.

Whether query all photos? If it is "NO', input query date range.

Press M/↵ /"OK" to query, then the photo in accordance with conditions will be displayed on the screen.

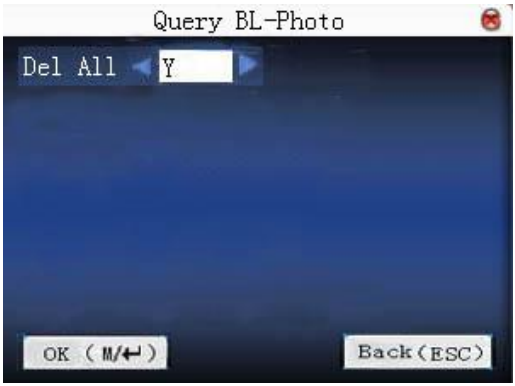
Press ▲/▼ to search attendance photo saved in the device. The information that how many photos there are and which one is the current photo will be displayed under the photo. The taking date and time will be displayed as well.

8.3 Query blacklist photo ★

If photo mode is set as taking photo and saving it or saving it upon attendance pass failure, the photo will be grasped and saved even if employee fails in passing attendance record. These photos are called blacklist photos, which can be queried here.

J Notice: Only some models possess the function to query blacklist photos.

Enter **query blacklist photo**,input corresponding information in the **query condition** input box.



Whether query all photos? If it is "NO', input query date range.

Press M/↵ /"OK" to query, then the photo in accordance with conditions will be displayed on the screen.

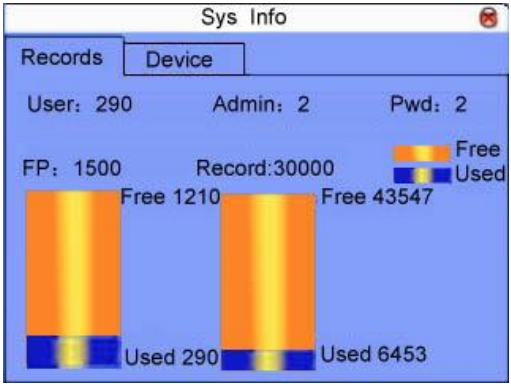
Press ▲/▼ to search attendance photo saved in the device. The information that how many photos there are and which one is the current photo will be displayed under the photo. The taking date and time will be displayed as well.

9 System information

Use **system information** to check the current device's saving status, its version information and so on.

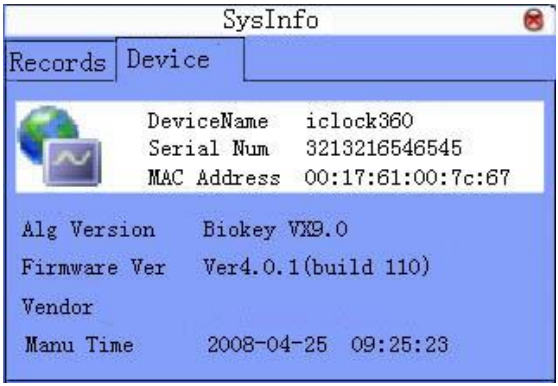
9.1 Record capacity

Display the count of enrolled user, administrator and password enrollment and the capacity of fingerprint, the enrolled fingerprint, attendance record and the current saved attendance record in the form of diagram, as shown below:



9.2 Device information

Display device name, serial number, version information, manufacturer and manufacture date in device information for check:



9.3 Power information★

It is used to view the information of the power supply and battery. The power supply can be from the AC power and battery. The 'Battery Info' shows the current battery power. As shown below:

Explanation:

1. If current power supply is the battery, the icon is displayed as: ; if the AC power, the icon is displayed as .

2. ‘Battery info’ displays the information of battery power. Five icons are described as below:

Electricity：0%

Electricity：25%

Electricity：50%

Electricity：75%

Electricity：100%

Appendix

Appendix 1 keyboard

Keyboard type 1

key	function
Numeric key	1. 0～9,used to input employee number, password and so on. 2. 0 on **manage user** interface is **shortcut** of "query user".
▲	1. upward。 2. status key 。
▼	1. downward。 2. status key 。
▶	1. modify current item value。 2. status key 。
◀	1. modify current item value。 2. status key 。
◎	1. **power-off.** Press it on the initializing interface for 3 seconds to enter power-off count down state. 2. status key 。 3. page up key in list page
←	1. Space back. Press it when work code, password, and system value are input incorrectly to delete the wrong value and input the value again. 2. status key 。 3. page down key in list page

M/↵	**menu**,**OK**
OK	**OK**
ESC	1. Cancel the operation and return to the superior menu. 2. Press "**ESC**" on the initializing interface to display the keyboard definition of the present device.

keyboard type 2:

key	function
Numeric key	1. 0～9,used to input employee number, password and so on. 2. 0 on **manage user** interface is **shortcut** of "query user".
▲	1. upward。 2. shortcut 。
▼	1. downward。 2. shortcut 。
▶	1. modify current item value。 2. shortcut 。
◀	1. modify current item value。 2. shortcut 。
◎	1. **power-off.** Press it on the initializing interface for 3 seconds to enter power-off count down state. 2. shortcut 。
←	1. Space back. Press it when work code, password, and system value are input incorrectly to delete the wrong value and input the value again. 2. shortcut 。
M/↵	**menu**,**OK**

OK	**OK**
ESC	1. Cancel the operation and return to the superior menu. 2. close T9 input。
*	1. page up & page down key in list page 2. shortcut 。 3. enable T9 input。
#	1、 page up & page down key in list page 2、 shortcut 。

keyboard type 3:

key	function
Numeric key	1. 0～9,used to input employee number, password and so on. 2. 0 on **manage user** interface is **shortcut** of "query user".
▲	1. upward。 2. shortcut 。
▼	1. downward。 2. shortcut 。
▶	1. modify current item value。 2. shortcut 。
◀	1. modify current item value。 2. shortcut 。
	bell key。
←	1. Space back. Press it when work code, password, and system value are input incorrectly to delete the wrong value and input the value again.

	2. shortcut 。
↵	**menu**,**OK**
OK	select character
ESC	1. Cancel the operation and return to the superior menu. 2. Close T9 input。
Tab	1. enable T9 input。 2. shortcut 。
PgUp	2. page up key in list page 3. shortcut 。
PgUp	1. Page up in list page 2. shortcut 。
␣	1. space key in T9 input 2. shortcut 。

keyboard type 4:

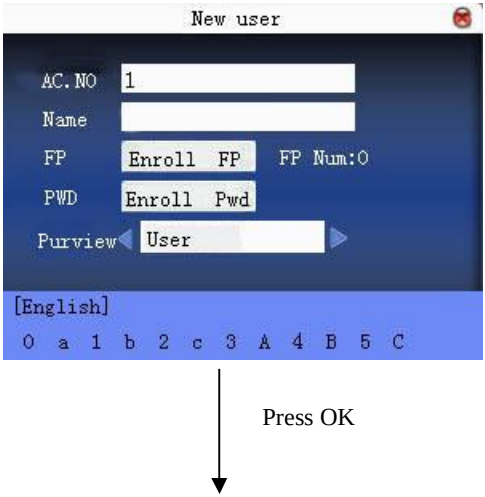
key	function
Numeric key	1. 0～9,used to input employee number, password and so on. 2. 0 on **manage user** interface is **shortcut** of "query user".
▲	1. upward。 2. shortcut 。
▼	1. downward。 2. shortcut 。
▶	1. modify current item value。 2. shortcut 。
◀	1. modify current item value。 2. shortcut 。

	bell key。
M/OK	**menu**,**OK**
ESC	Cancel the operation and return to the superior menu.

Appendix 2 T9 input★

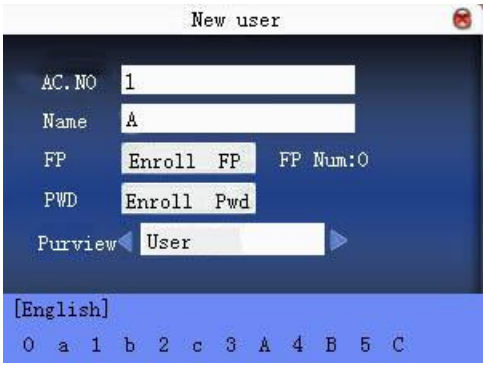
T9 input (intelligent input) is quick and high efficient. The device support T9 Chinese, T9 English and symbol input. There are 3 or 4 English letters on numeric keys (0～9), (for example, A, B, C are on numeric key 1.) Press the corresponding key once, and the program will generate effective spelling. By using T9 input, names, SMS content and some symbols can be input.

T9 Chinese character input (take "中" for example) :
Press * to enter T9 input.



Input "94664" to get the above characters, and press ▶ to select 'zhong'

Press OK



Press ◄ / ► to search for Chinese character. When the character appears on the screen, press ◄/► to select the desired one.

Press Numeric

The desired character will appear in the middle of the screen. Repeat the former operation to get more characters, and then press **ESC** to exit.

Appendix 3 multi- verification methods★

To meet the demand of high security, we have provided multi-verification modes. Aimed at individual or group setting, various verification types are set. They are the combinations of PIN,FP, PW and RF, for example: single fingerprint, single password, ID+FP, FP+PW, FP+PW+card, PIN+FP+PW and so on.

Notice:1）Mifare can be looked as RF in the real dispose. Only device with Mifare card function can use it.

2）Except for some special models, most devices have only fingerprint verification and password verification. Only device with Mifare card function has Mifare card verification.

"/"--- or ,"&"--- and "←"---Enter

The following is the description of user enrolled fingerprint card and the verification mode with password enrolled.

type	description
FP	Only fingerprint verification 1）PIN+FP（1:1 verification ） 2）FP (1:N verification) 3）RF+FP(1:1 match)
PIN	only number verification 1）PIN+“←”
PW	only password verification 1） PIN+“←”+PW 2） RF+PW

RF	only RF Card verification 1）RF+FP
FP/PW	fingerprint or password verification 1）PIN+FP(1:1) 2）FP(1:N) 3）PIN+“←”+PW 4）RF+PW
FP/RF	fingerprint or RF verification 1）PIN+FP(1:1) 2）FP(1:N) 3）RF+FP
PW/RF	password or RF verification 1） RF+FP 2） PIN+“←”+PW
FP/PW/RF	fingerprint or password or RF verification 1） PIN+FP(1:1) 2） FP(1:N) 3） PIN+PW 4） RF+FP
FP&PIN	fingerprint and number verification 1）PIN+“←”+FP(1:1) 2）RF +“←”+FP(1:1)
FP&PW	fingerprint and password verification 1） FP(1:N)+PW+“←” 2） PIN+FP(1:1)+PW+“←” 3） RF+PW +“←”+ FP(1:1)
FP&RF	fingerprint and RF verification 1）RF+FP(1:1)

	2）FP(1:N)+RF 3）PIN+FP(1:1)+RF
PW&RF	password and RF verification 1） RF+PW 2） PIN+“←”+PW+RF
FP&PW&RF	fingerprint , password and RF verification
	1） FP(1:N)+PW+RF 2） PIN+FP(1:1)+PW+RF 3） RF+ PW+ FP(1:1)
FP&PIN&PW	fingerprint ,number and password
	1） PIN+“←”+PW+FP(1:1) 2） RF+“←”+PW+“←”+FP(1:1)
FP&RF/PIN	Fingerprint and RF verification or fingerprint and number.
	1）RF+FP(1:1) 2）FP(1:N)+RF 3）PIN+“←”+FP(1:1)

If enroll user with fingerprint card or password +card, refer to the following for various verifications:

type	description	
	fingerprint enroll	password enroll
FP	Only fingerprint verification	
	1 ） PIN+FP （ 1:1 verification ） 2）FP (1:N verification 3）RF+FP(1:1)	cannot pass
PIN	only number verification	

	1）PIN+“←”	1）PIN+“←”
PW	only password verification	
	password error	1） PIN+“←”+PW 2）RF+PW
RF	Only RF Card verification	
	1）RF+FP	1）RF
FP/PW	fingerprint or password verification	
	1） PIN+FP(1:1) 2） FP(1:N) 3） PIN+“←”+ FP(1:1) 4） RF+FP(1:1)	1） PIN+“←”+PW 2） RF+PW
FP/RF	fingerprint or RF verification	
	1） PIN+FP(1:1) 2） FP(1:N) 3） RF+FP	1）RF
PW/RF	password or RF verification	
	1） RF 2） PIN+“←”+RF	1） PIN+”←”+PW 2） RF
FP/PW/RF	fingerprint or password or RF verification	

	1） PIN+FP(1:1) 2） FP(1:N) 3） PIN+“←”+ FP(1:1) 4） RF+FP	1） PIN+”←”+PW 2） RF
FP&PIN	fingerprint and number verification	
	1） PIN+“←”+FP(1:1) 2） RF+ PIN+“←”+FP(1:1)	cannot pass
FP&PW	fingerprint and password verification	
	cannot pass	cannot pass
FP&RF	fingerprint and RF verification	
	1） RF+FP(1:1) 2） FP(1:N)+RF 3） PIN+FP(1:1)+RF	cannot pass
PW&RF	password and RF verification	
	cannot pass	1） RF+PW 2） PIN+“←”+PW+RF
FP&PW&RF	fingerprint , password and RF verification	
	cannot pass	cannot pass
FP&PIN&PW	fingerprint,number and password	
	cannot pass	cannot pass
FP&RF/PIN	fingerprint and RF	

	verification or fingerprint and number	
	1）RF+FP(1:1) 2）FP(1:N)+RF 3）PIN+“←”+FP(1:1)	cannot pass

Notice:1）If user enrolls a card and fingerprint at the same time. Only card is needed during RF verification.

2）For combined verification, it is better to use **fingerprint + password** to enroll user, or verification will fail.

For example:User A use fingerprint for enrollment, while password is used for verification, then the user cannot pass the verification.

Appendix 4 quick query of attendance record

It is used for common user to query his intraday attendance record to see if there is something wrong for card use and notify abnormal administrator recorder in time.

Operation

Press M/↵ to display employee's intraday records after successful fingerprint or password verification.

For example:the employee with work code of 1 can check his intraday attendance record by pressing M/↵ after fingerprint verification.

Notice: The picture may be different from your device. The real product prevails.

Press ▲/▼ to read attendance record.

Press "page down & page up" to read attendance record.

Press **OK** or M/↵ to query detailed information.

Press **ESC** to return to initial interface.

Appendix 5 propaganda picture upload rules

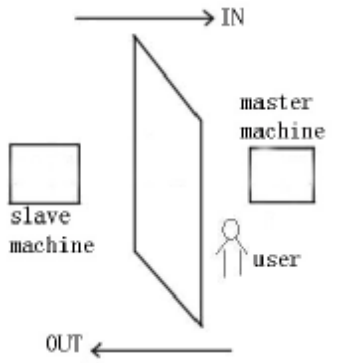
1. The picture format must be JPG. Other formats are not accepted here.
2. The file name of propaganda picture must be ad_0～ad_9, for example ad_1.jpg.
3. The file name won't be changed after it is uploaded to the device. If it is necessary to change this picture, upload another picture with the same file name to cover it.
4. Every picture cannot be over 20K,or it cannot be uploaded.
5. The picture's resolution is 320 wide and 210 high. It is better not to be more or less than it.
6. The propaganda pictures' count should be 10 at most.

Appendix 6 anti-pass back ★

【overview】

Sometimes, some illegal person follows the employee into the gate, which will bring security problem. To prevent such risk, this function is enabled. In record must match out record, or the gate won't be open.

This function needs two machines to work together. One is installed inside the door (master machine hereinafter), the other is installed outside the door (slave machine hereinafter). Wigand signal communication is adopted between the two machines.



【working principle】

The master machine has Wigand In and slave machine has Wigand Out. Connect Wigand Out of slave machine to Wigand In of master machine. Wigand output from slave machine must not own machine ID. The number sent to master machine from slave machine must be found in the master machine.

【function】

Judge whether it is anti-pass back according to user's recent in-out

record. In record and out record must be matched. This machine supports out, in, or out-in anti-pass back (enter machine menu—setting—system setting—advanced setting—anti-pass back).

When master machine is set as “out anti-pass back”,if user wants to come in and go out normally, his recent record must be “in”, or he cannot go out. Any “out” record will be “anti-pass back refused”. For example, a user’s recent record is “in”, his second record can be “out” or “in”. His third record is based on his second record. Out record and in record must match.（Notice: if customer has no record before, then he can come in but cannot go out. ）

When the master machine is set as “in anti-pass back”,if the user wants to come in and go out normally, his recent record must be “out”, or he cannot go out. Any out record will be “anti-pass back refused” by the system. (Notice: if the customer has no former record, then he can go out, but cannot come in. ）

When the master machine is set as “out-in anti-pass back”,if the user wants to come in and go out normally, if his recent record is “out” and “in”, then his next record must be “ in” and “out”.

【operation】

1） Select model

Master machine:Machine with Wiegand in function, except for F10 reader

Slave machine:Machine with Wiegand Out function

2） Menu setting

Anti-pass back

There are three options:out anti-pass back,in anti-pass back,and nonanti-pass back.

out anti-pass back:Only user’s last record is in-record, can the door be open.

in anti-pass back:Only user's last record is out-record, can the door be open.

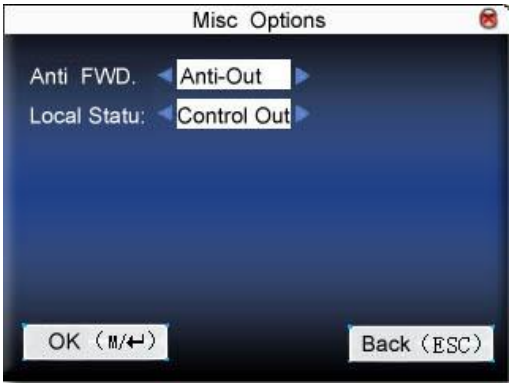
Device status

There are three options:Control-in, control-out and none

Control-in:When it is set, the verified record on the device is in-record.

Control-out:When it is set, the verified record on the device is out-record.

None:When it is set, close the device's anti-pass back function.



Press ▲/▼ to switch the input box. Press ◀/▶ to modify setting. Then press **menu** to save it. Press "**ESC**" to exit.

3）modify device's Wiegand output format

When the two devices are communicating, only Wiegand signals without device ID are received. Enter device menu—>communication option—>Wiegand option or enter software-〉basic setting-〉device management-〉Wiegand,to modify "defined format" as "wiegand26 without device ID".

4）enroll user

The user must be on master machine and slave machine at the

same time, and user PIN must be the same. Therefore, it is necessary to enroll user on master machine and slave machine at the same time.

5）connection instruction

Wiegand communication is adopted for master machine and slave machine. Refer to the following for connection::

Master		Slave
IND0	<----->	WD0
IND1	<----->	WD1
GND	<----->	GND

Appendix 7 Photo ID function★

Some devices support Photo ID function, which can display user photo saved in U disk on the screen as well as work code, name and so on after verification.

【Operating Step】

1. If the device has no SD card, the operating steps are as the following:

1）Create a folder named photo in U disk and store user's photo in it.

2） The photo format must be JPG and file name must be work code. For example, the name of photo of user whose work code is 154 must be 154.jpg.

3） Insert U disk into USB slot of fingerprint sensor, and the photo will appear after verification.

Notice:1）The name of user photo must not be over 8 digits.

2）When user is verifying, U disk must be inserted into the device all along.

2. If the device has SD card, the operating steps are as the following:

1）Create a folder named photo in U disk and store user's photo in it.

2）The photo format must be JPG and file name must be work code. For

example, the name of photo of user whose work code is 154 must be 154.jpg.

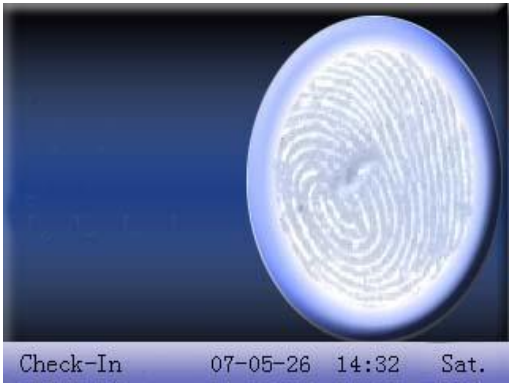
3） Insert U disk into USB slot of fingerprint sensor, enter U disk management-> upload data-> upload user photo. The operation is the same with that of 6.6 upload user defined picture.

4）Enter U disk management->download->download user photo,and a folder named photo will be created automatically in U disk. Downloaded user photos are all saved in this folder.

Appendix 8 taking photo for attendance record

When photo mode is set as taking photo/taking photo and saving it/save photo upon attendance record pass failure, the employee's attendance flow is as the following (take 1:N fingerprint verification for example):

Step 1: Press fingerprint properly on the sensor.



Step 2: If verification is successful, the device start to taking current photo and display the photo in the middle of screen.

Step 3: When device prompts "Thank you", (if user has enrolled photo, the photo will be displayed.), the verification is complete.

Step 4: When verification fail, the device starts to take current photo and display it on the screen.

Step 5: If the device says “Please press again”, return Step 1 for second operation.

Appendix 9 Backup battery★

The series of color screen based on ZEM510 platform are equipped with the backup batteries and support the firmware with a back-up battery function.

² **NOTE**: During removing the battery, be sure to disconnect the external power supply.

Working Principle

1. Judge the power supply automatically

After powering on, the single-chip detects the information of power supply automatically and displays it in the upper right corner of the screen, as below battery-powered information map:：

During the system is powered by a back-up battery, there are three situations when plugged into with a 12V power supply as follows:

(1) When the battery in saturation, the external power icon instead of the battery icon is displayed in the upper right corner of the main interface.

(2) When the battery in non-saturation, the dynamic charging icon

is displayed in the upper right corner of the main interface, similar to mobile phone.

(3) When no battery or battery damaged, no icon is displayed in the upper right corner of the main interface.

2. Electricity information displayed in real time

During the system is powered by a back-up battery, the icon displaying the electricity in real time is displayed in the upper right corner of the main interface.

- When the battery power is 100%, the icon is displayed as:
- When the battery power is greater than 75% and less than 100%, the icon is displayed as:
- When the battery power is more than 50% and less than 75%, the icon is displayed as:
- When the battery power is more than 25% and less than 50%, the icon is displayed as:
- When the battery power is less than 25%, the icon displayed as will flicker per second with a beep sound. Then the device will power off automatically in about 3 minutes.
- When there is no battery or battery damaged, no icon is displayed.

3. Detailed battery information display

Refer to section 9.3 power information.

4. System power on/off

There is an on-off switch like "0 /" key in the keyboard.

Power on automatically:

As long as the 12V power supply is plugged into, the device will start directly without the necessary to press the on-off switch

Power on manually:

1. When the device is powered by the battery only, you must press on-off switch to power on the device.

2. When the device is powered off manually or the function to shutoff at the designated time is set, you must press the on-off key to power on the device.

In addition, the "0 / ⊙" key is required to press for a long time when powering off the device manually.

Technical Specifications

Standard charged time	three hours (reference)	Discharged time	more than 4 hours
Operate temperature	-20℃～45℃	Relative humidity	10%～90%
Recommended storage condition	After fully charged, the battery should be stored under 20℃±5℃, 65%±20% RH		
Cycle Life	Charged/discharged cycle for more than 300 times, ≧80% the amount of capacity		

Statement on Human Rights and Privacy

Dear Customer:
First of all, Thank you for using the identification product designed and produced by us. As world famous provider of leading identification technology, we attach great importance to the law involved in human rights and privacy in every county.
Therefore, we have the following statement:
1. Our civilian identification equipments only capture character points rather than images, not concerning in retaining privacy.
2. The captured character points cannot recover the original image, not involved in privacy.
3. We (as provider of equipments) have no direct or indirect legal liabilities for any negative consequences arising from using the equipment.
4. If you have dispute about human rights or privacy, please contact your employer.
Our other police equipment or development tools will provide function to capture citizens' original image. As for right infringement, please contact government or the equipment's ultimate provider. We have no any legal liabilities for it.
Notice: Chinese law provides citizen personal freedom rights, including the following:
1. The person is free from unlawful arrest, detention, search and infringement.
2. Personal dignity related with personal freedom is out of infringement.
3. Citizen's residence is inviolable.
4. Citizen's communication freedom and privacy are protected by law.

For password insecurity, people all over the world are suffering great damages. The advanced identification technology will enter e-commerce, bank, insurance, law affair and other industries in the near future. Identification in high-security environment ensures you real protection.

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