

# **ZERRO SERIES FINGERPRINT TERMINAL**

## **HARDWARE INSTRUCTION MANUAL**

**Rev 12.6**

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## 1. Introduction

### 1.1. Supplied Part List

1. Fingerprint Terminal	1 pc
2. 12V/2A Power Supply	1 pc (only for pure T&A model)
3. A suit of insert cables	1 suit
4. Power line	1 pc
5. USB data line	1 pc (Optional)
6. RS232 Cable (1m)	1 pc (Optional)
7. Hardware Instruction Manual	1 pc
8. Software Instruction Manual	1 pc
9. T&A Software CD	1 pc

### 1.2. About

Zerro fingerprint terminal is a flexible and reliable design to meet the market requirement for a robust and secure biometric Time & Attendance solution at a reasonable cost. And it allows registering maximal 3,000 fingerprints and keeping maximal 80,000 records.

### 1.3. Hardware Specification

Fingerprint Template Capacity	3,000
Record Capacity	80,000
Verification Mode	1:1 or 1:N
Communication	USB(or RS232)/RS485(up to 32 channels) TCP/IP (optional)
Keyboard and Display	132*64 LCD with blue back light and 16-key keypad
Power Supply	12 VDC; standby current: 2A; operating current: 400mA
Identification speed	<=2 seconds
FRR (False Rejection Ratio)	<=0.01%
FAR (False Acceptance Ratio)	<=0.0001%
Operating Environment	Temperature: 0°C – 45°C Humidity: 20% – 80%
LCD menu Language Support	English, Spanish, Japanese, Arabic, French, German, Portuguese, Polish, Chinese, etc
Dimension	165(L)*150(W)*50(H)mm

## 1.4. Precaution

Don't install the device under direct strong sunlight. Strong sunlight affects collecting of fingerprint and it may cause failure on the fingerprint authentication.

During summer it's highly recommended not to use outdoors. The device working temperature scope is 0-40<sup>0</sup>C. Long time using outdoors plus the heat of device itself may lead to slow reaction of device and less pass rate. Once it's necessary to use outdoors, a sunshade and a set of cooler radiation are recommended.

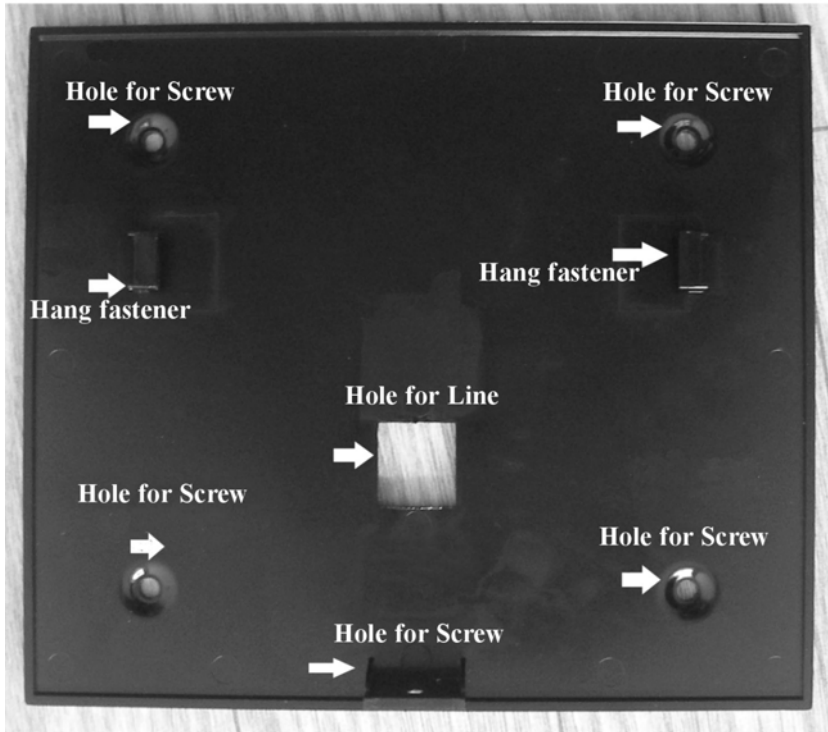
As the fingerprint identification will be affected by the weather, dry climate will not facilitate the fingerprint identification. So in dry weather conditions, it will be recommended to blow at the finger to moisten the fingerprint, which can help to enhance and ensure the identification result in dry climate.



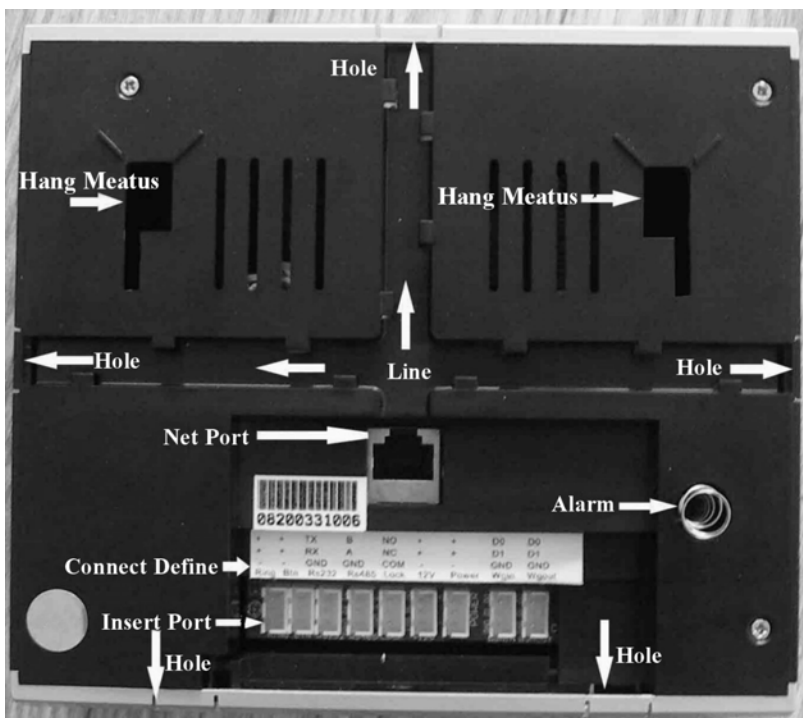
Loosen off the screw in the middle of back lateral which also has RESET hole, take off mounting panel (for mounting and being fixed on the wall), the screw hole shown as below:



For mounting panel, it has 4 holes respectively for those screw holes fixed on the wall or other objects. Mounting panel clip is to secure the device to be fixed with its panel and cable hole for cable out.



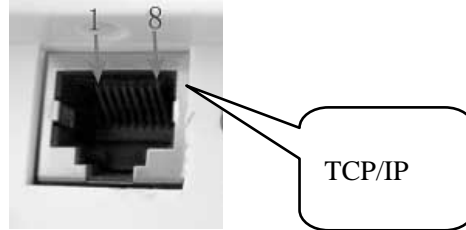
Below is for function flag illustration of device back panel, in which has lead slot, mounting slot, cable hole, wire connection slot, connection define, Ethernet interface and spring of anti-theft alarm.



## 2. Product Overview

### 2.1 Communication

ZERRO terminals have USB, RS232, RS485 and TCP/IP communication interfaces.



### 2.2 Power Management

When ZERRO fingerprint terminal is in power off mode, the device is brought into operational mode once Power Key is pressed and ready for clocking.

When the device is in operational mode, the device is brought into power off mode once Power Key is pressed and held for 4 seconds.

If the auto-off has been set, the device will be brought into power off mode according to defined time schedule.

### 2.3 Keypad Functions



ESC	Move one level up from the menu hierarchy
MENU	Get into the system setting menu
OK	Confirm the current setting
▲	When press ▲ once, display “IN” in the LCD screen
▼	When press ▼ once, display “OUT” In the LCD screen
0...9	Numeric keys
CALL	Control remote door bell



**Power Key:** Key of left, press and hold on for more than 3 seconds, the device will be power off.

**RESET** Key of right, It's invalid for all Zerro pure time attendance devices, namely for all Z9 series. It's only valid for all Zerro time attendance with access control function, namely Z9D series.

## 2.4 User Management

Two user roles are defined: namely manager or normal user.

- Normal users can clock on the device but can NOT access the settings.
- Managers can clock on the device as well as run system management:
  1. Register/delete normal users' fingerprints and passwords.
  2. Browser attendance records as well as other system information.
  3. Set up system configurations

## 2.5 User Enrollment

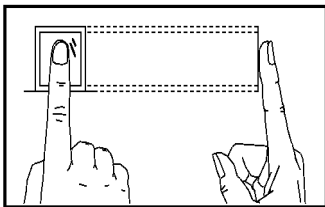
Enrollment is the process of creating an ID, assigning a password and scanning a user's fingers to create the fingerprint templates. All these associated information are stored in the device.

During user verification, the stored fingerprint templates are compared to the current scanned fingerprint to confirm the user's identity.

Enrollment takes approximately 2 seconds for each user. Up to 3 fingers can be enrolled for the same ID number. Ideally, at least one finger on each hand should be enrolled in case of injuries.

## 2.6 The Pressing Method of Fingerprint

### 2.6.1. Illustration of Correct Fingerprint Pressing

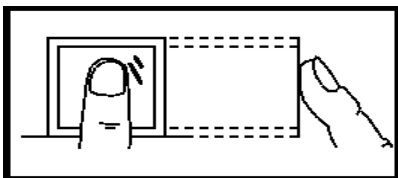


Flatly press fingerprint on U fingerprint scanner

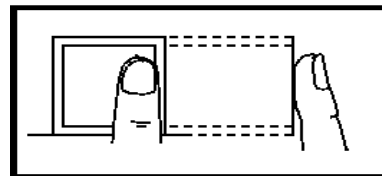
Try to press fingerprint center to the middle or a little upper of U scanner

### 2.6.2. Wrong Pressing Method

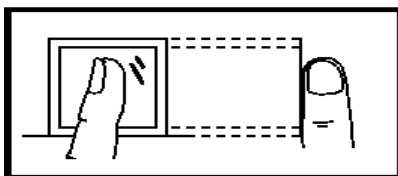
#### Vertical



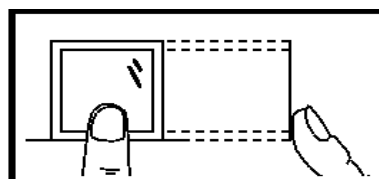
#### Too partial



#### Slant



#### Too lower



**Note: Please adopt correct fingerprint pressing method, and we don't undertake the possible less identification result caused by user's improper operation and we reserve all rights of final explanation and amendment**

### 3. Basic Settings

#### 3.1. System Settings

##### 3.1.1. Total Number of Administrators

Setting	Description
1 -10	set total number of administrators in
Factory Default	5

##### 3.1.2. Machine Number

Setting	Description
1 -255	set an unique address ID to network with multiple machines
Factory Default	1

##### 3.1.3. Baud Rate

Setting	Description
9600	set the communication speed to 9,600 bps (Bit Per Second)
19200	set the communication speed to 19,200 bps
38400	set the communication speed to 38,400 bps
Factory Default	38400

\* Speed setting should be the same with PC, otherwise communication shall fail.

##### 3.1.4. Menu Language

Setting	Description
English	set all display information in English
Other	Set all display information in English, Spanish, Japanese, Arabic, French, German, Portuguese, Polish, Chinese, etc
Factory Default	English

### 3.1.5. Auto Power Off

Setting	Description
NO	auto power off function is disabled
1 - 255	Auto power off when there are no activities on the device.
Factory Default	NO

### 3.1.6. Voice Indication

Setting	Description
YES	Activate the voice indication
NO	Inactivate the voice indication
Factory Default	YES

### 3.1.7. Restore Factory Default

If OK key is pressed, all the current settings will be deleted and restore to the factory default settings.

### 3.1.8. Lock Time-delay (only for model with access control function)

Setting	Description
YES	Output electric lock control signal after successful confirmation
NO	Do not output electric lock control signal after successful confirmation
Factory Default	Yes, 1 second delay

Only after successful comparison message shown plus lock control signal to be set up in advance, there will be lock control signal.

**Remark: For those fingerprint terminals without access control function, this lock control signal is for controlling green indicator.**

## 3.2. Event Settings

### 3.2.1. Administrative Event Full Warning

The machine will give a “FULL” warning signal when the administrative event buffer is below the set limitation.

Setting	Description
NO	There's no warning if there's no administrative event buffer left, and no further administrative events will be logged.
1 - 255	
Factory Default	100

### 3.2.2. Attendance Event Full Warning

The machine will give a “FULL” warning signal when the attendance event buffer is below the set limitation.

Setting	Description
NO	There's no warning if there's no attendance event buffer left, and no further attendance events will be logged.
1 - 1500	
Factory Default	1000

### 3.2.3. Valid Attendance Time Interval

If this time interval is set, only ONE attendance event will be logged if there are multiple attendance events within this time interval for the same user.

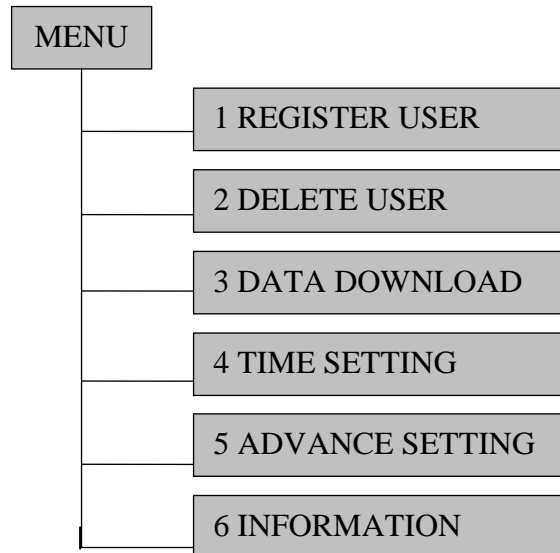
Setting	Description
NO	All attendance events will be counted as valid one.
1 - 255	
Factory Default	NO

## 3.3. Menu Level Structures

There are three kinds of menus:

1. Operation Menu
2. Setting Menu
3. Status Menu

The first level menu items show up when MENU key is pressed if there's no available administrators, affirmation will be done otherwise.

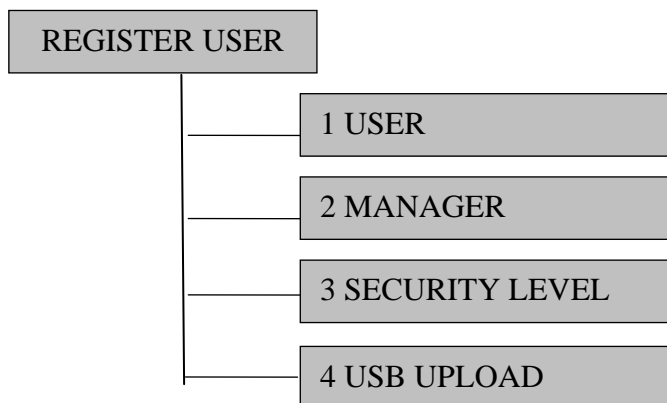


**Remark:** Because of the limitation of bits, those long menu items can not display fully, so they will be abbreviated. But all the abbreviated menu items will be detailed illuminated in this instruction manual.

### 3.3.1. Register User

The Item “Register User” includes 4 Sub Items which are “User”, “Manager”, “Security level” and “USB Upload”

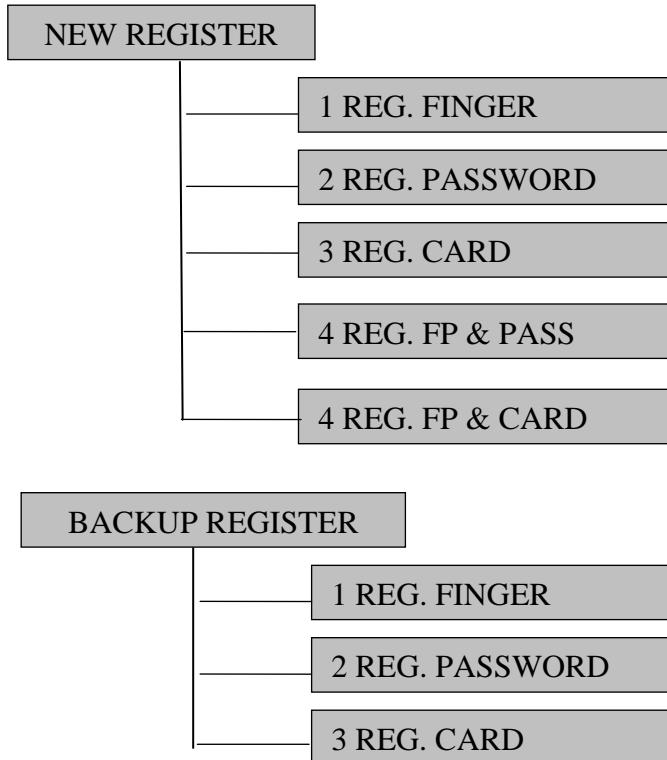
The Sub Items will show up after user select “Register User”, which under the first level menu, and Press “OK”.



#### 1) User / Manager

Select the level of user registration (User / Manager) and Press “OK”. The Third Level Menu Items show up as the figure below. “New Register” is for new user registration. “Backup Register” is for enrolling “Backup Record” of registered user. (\*p.s.: “Backup Record” means the 2<sup>nd</sup> or 3<sup>rd</sup> Finger Print template, Password and ID card”.

The registration method shows up after “New Register” or “Backup Register” is selected.



**Remark:**

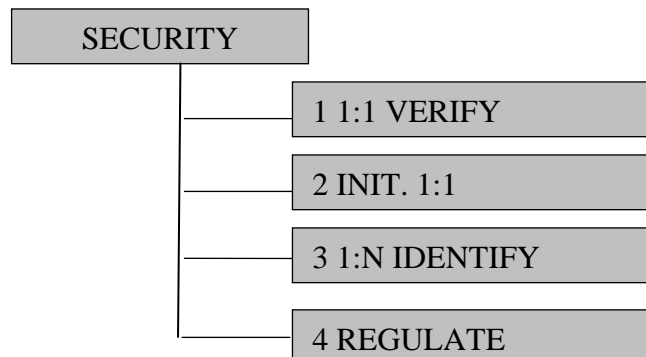
- “Register” abbreviated to “REG.”
- “Fingerprints” abbreviated to “FP”
- “Password” abbreviated to “PASS”

**2) Security Level**

There are 4 options under “Security Level” which are “1:1 Verify”, “Init. 1:1”, “1:N Identify” and “Regulate”

“1:1 Verify” - Compare the user’s fingerprint and the fingerprint template stored in card. (Optional Setting depends on the model)

“1:N Identify” – Compare the user’s fingerprint with the fingerprint template of all registered user stored in machine.

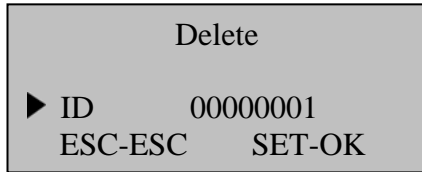


**3) USB Upload**

The Backup of Menu Setting can be uploaded from USB storage device to the Fingerprint Machine. (Optional Setting depends on the model)

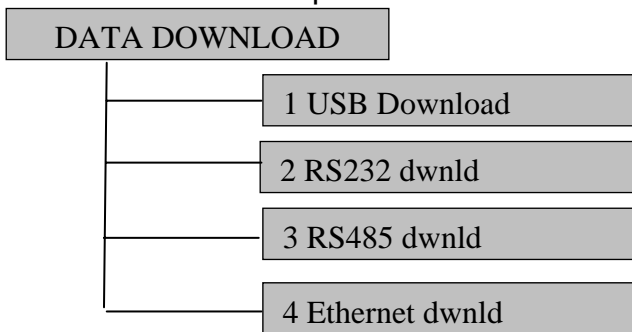
### 3.3.2. Delete User

The “Delete Menu” shows up after selecting “Delete User” under the First Level Menu and pressed “OK”. Enter the User ID by number or direction key. Press “OK” to confirm the deletion.



### 3.3.3. Data Download

The Sub Items show up after select “Data Download” of user First Level Menu



**Remark:**

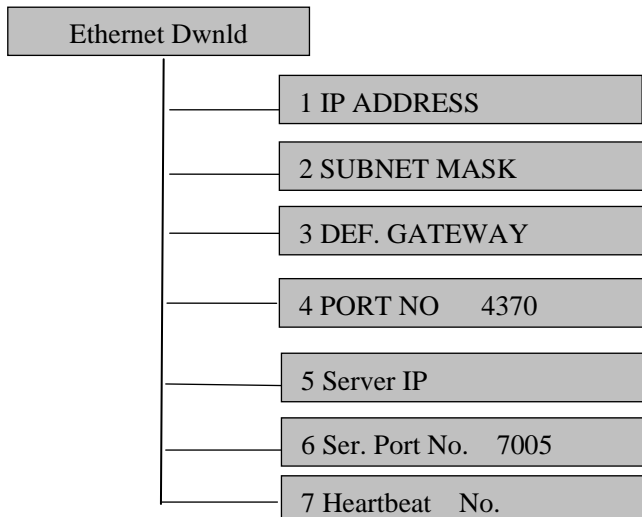
“Download” abbreviated to “dwnld”

#### 1) USB Download

There are three options under the “USB Download”, which are “GLog” and “All Glog” and “All Enroll Data”.(Optional Function depends on the model)

‘Glog’	Attendance Unread Record Download
“All Glog”	Attendance Read & Unread Record Download
“All Enroll Data”	All Enrolled Data

#### 2) Ethernet Download



### Server IP

This setting is only be activated for those devices with additional charge for remote real-time monitor function. **(Server IP setting is for Remote Real-Time Monitor function.)**

.In order to realize real-time monitoring function, it requires to follow below steps:

1) Firstly in the T&A management software system, choose Device --- Device Setting, choose the device name that needs to be monitored under device management, and click “Edit” icon to prompt below interface, the device ID name should be the exact device ID that needs to be monitored and **remember to choose model as “Z9” whenever the device CPU is with ARM9 CPU. (For Arm 7 CPU, just go to choose Z6)** and also remember to click square box of TCP/IP Communication to enable its function.

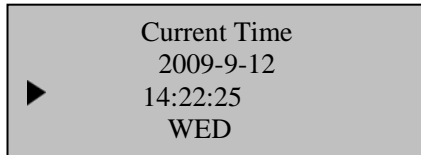
2) Secondly, in the T&A management software system, choose system---system parameter---communication: set the Proxy Sever IP address (it should be a **static IP address**) in the software, and change Real-time Monitor value from defaulted one to “7005” and click to choose below 2 square box, detail please see below interface:

3) Thirdly go to the terminal, follow Menu--- Data Download --- Ethernet Dwnld --- Server IP, and set “IP Address” under “Server IP” same as the above proxy server

IP address. Then (remote) real-time monitoring function can be used. (Noted only model with ARM9 CPU & “T” alphabet can support remote real-time monitor function and it is required additional charge. )

### 3.3.4. Time Setting

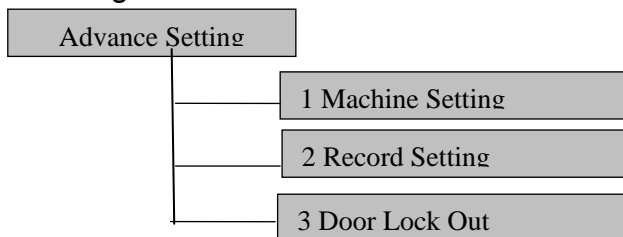
The Time Setting Menu shows up after select “Time Setting” under the First Level Menu and pressed “OK”.



Move the cursor location by direction key. Enter the correct value by number key. (The weekday value is generated by machine automatically).

### 3.3.5. Advance setting

There are three items under “Advance Setting”, which are “Machine Setting”, “Record Setting” and “Door lock out”.

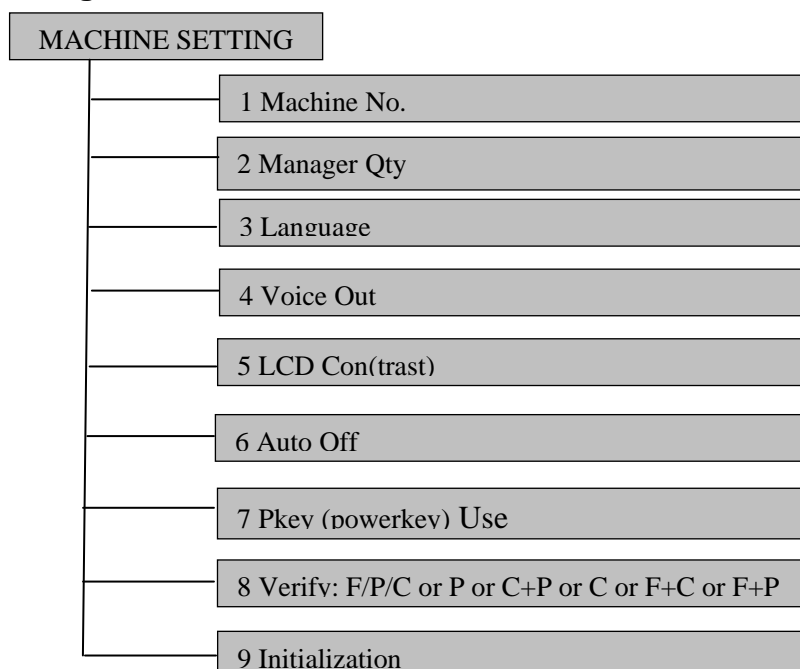


“Machine Setting” configures the settings of machine operation.

“Record Setting” configures the settings of data logging

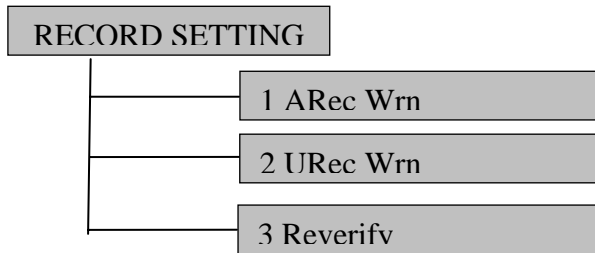
“Door lock Out” is the settings for Access Control unlock time and purview to the users already enrolled.

#### 1) Machine Setting



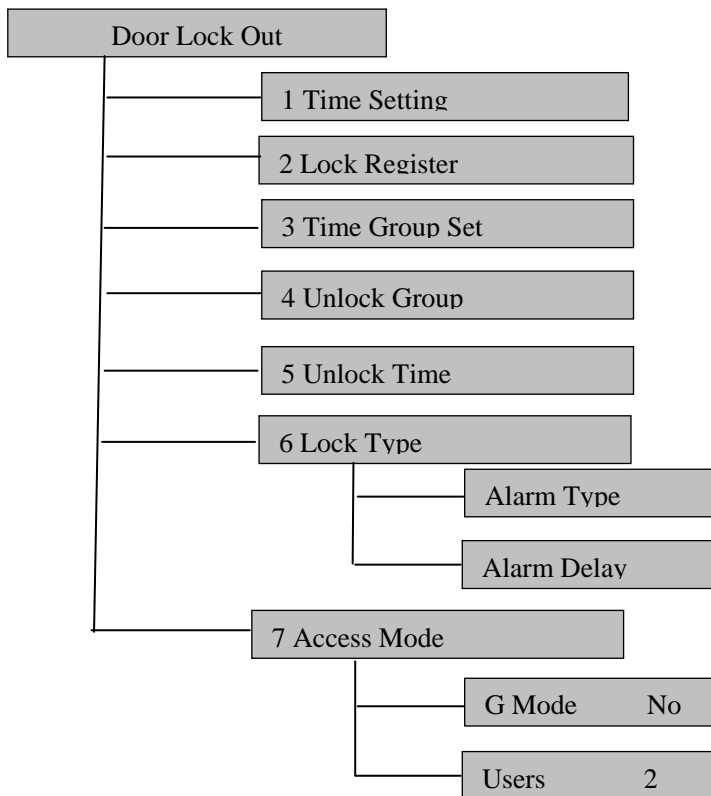
- Machine No.: The Unique ID of the machine on the same communication channel.
- Manager Qty.: The maximum number of machine administrator.
- Language: The language of operation menu. It supports multiple languages.
- Voice Out: Enable or disable the function of voice indication.
- LCD Con: The contrast of between the display and back-light.
- Auto Off: The machine will shut down after a certain idle time. (The function is disabled).
- Pkey Use: The use of Power Key.
- Verify: Choose verification mode.
- Initialization: Restore all settings which under "Settings" to factory default setting.

**2) Record Setting**



- Arec wrn (Slog Wrn): To set the limit of remaining system log memory. If the number of remaining system log memory reach the limit. Warning occurred. (All administrators' operation is record as system log.)
- Urec wrn (Glog Wrn): To set the limit of remaining attendance record memory. If the number of remaining attendance record memory reaches the limit. Warning occurred. (All attendance' activity is record as Glog.)
- Reverify: The duration of 2 successful attendances which from the same fingerprint. All duplicate attendance record doesn't be recorded.

**3) Door Lock Out**



Door Lock Out settings are for setting the access control. All the settings can be set from the ACCESS CONTROL module of software and then upload into the device, or can be directly set on the individual device.

Time Setting.: Time setting from hardware, which is only for one separate device, and it can also be set from software access control part and then upload to 1 or multiple devices.

Lock Register: Set lock register of different ID number. It can also be set from software.

Time Group: Time Group setting from hardware, which is only for one separate device, and it can also be set from software access control part and then upload to 1 or multiple devices.

Unlock Group: Unlock setting of time group. It can also be set from software.

Unlock Time: Unlock time delay and it counts by second. It can also be set from software.

Lock Type: A. Alarm type: NG for none, NO for Normal Open, NC for Normal Close. B. Alarm Delay: Alarm time delay and it counts by second.

Access Mode: It includes G Mode & Users. G Mode is defaulted as NO, if it's changed as Yes, and Users qty is "2", it means it need any 2 person who have already registered on site to open the door together.

### 3.3.6. Information

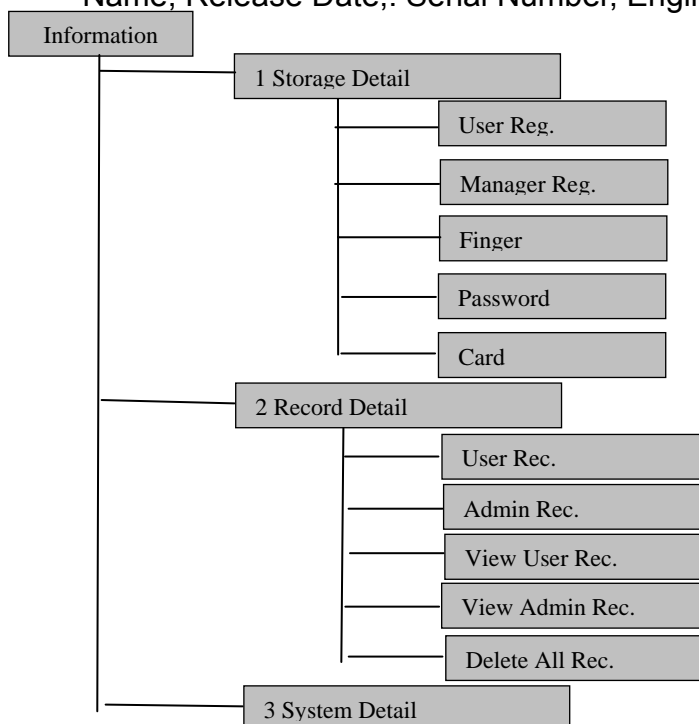
"Information" shows the storage detail, records, manufacturer and firmware version.

The sub items are shown below.

Storage Detail: To show the information about user registration such as the number of registered user, number of registered administrator, number of fingerprint template, number of registered password and number of registered Card.

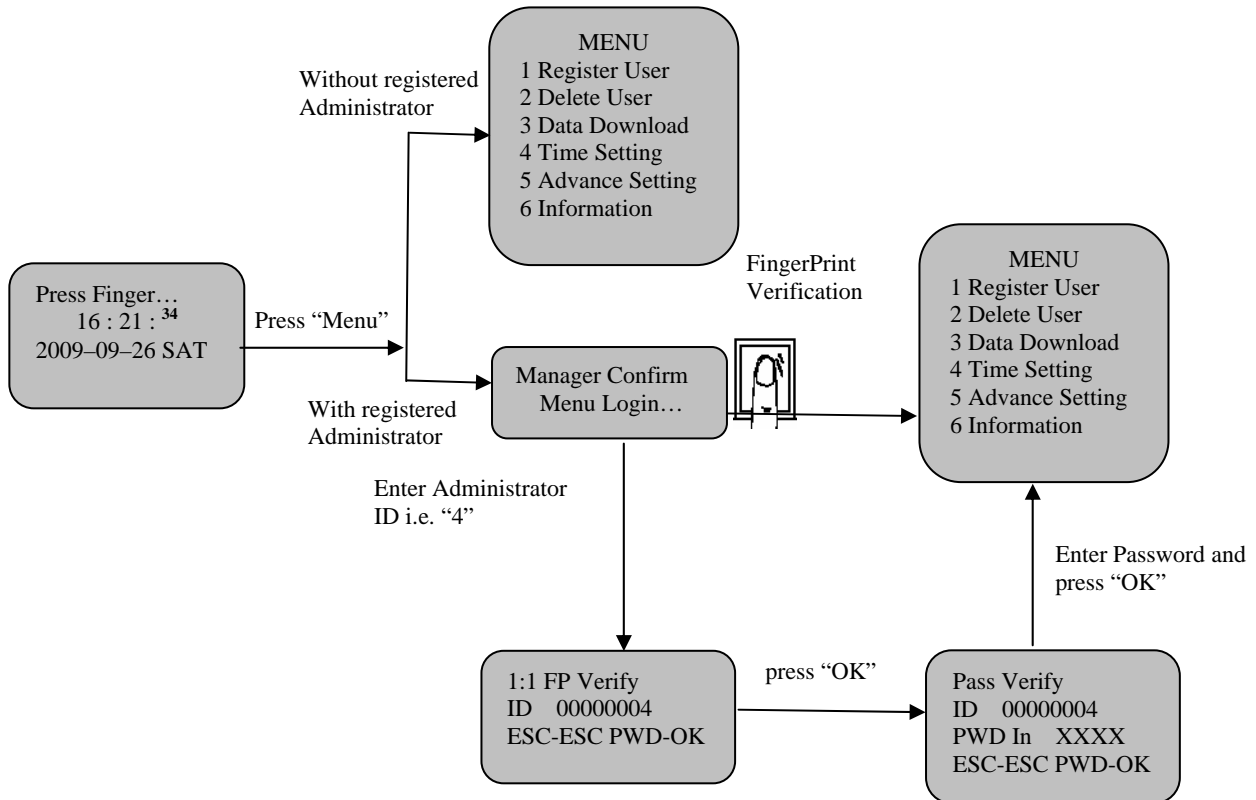
Record Detail: To show or operate the machine record such as number of user record, number of administrator record, attendance record of user, system log of administrator, and delete all record.

System Detail: To show hardware information which includes Manufacturer, Machine Name, Release Date,. Serial Number, Engine Version and Soft Version.



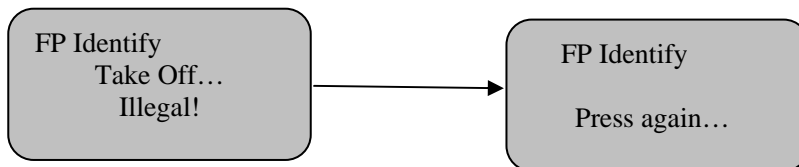
### 3.4. Machine Operation for Administrator

#### 3.4.1. How to show the First Level Menu



If the “manager confirm” is requested on the operation and the user didn’t enroll any administrator, please shut down the machine and contact with retailer.

If confirmation is failed, “Illegal” is shown and request the reconfirmation.

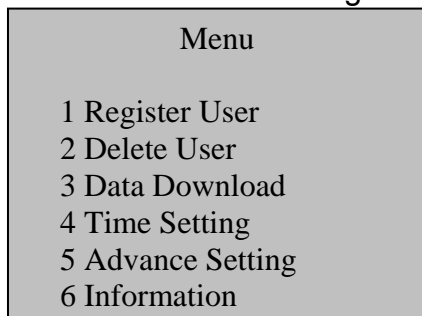


#### 3.4.2. Machine Management

New User Registration / New Administrator Registration

Step 1 Enter the First Level Menu (Refer to Page 8.)

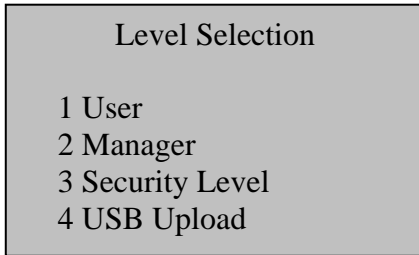
Step 2 Press “1” to choose “Register User”



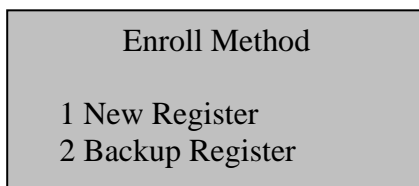
Step 3 Press "1" to choose "User" for normal user registration

Or

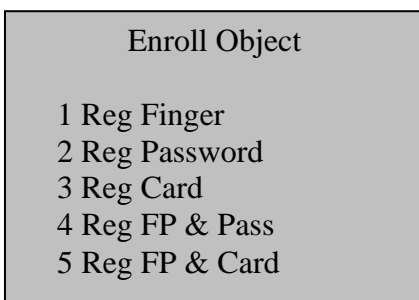
Press "2" to choose "Manager" for administrator registration



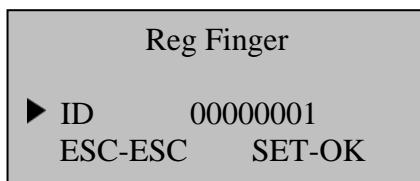
Step 4 Press "1" to choose "New Register"



Step 5 Press "1" to choose "Reg. Finger" for Fingerprint Enrolling.



Step 6 Enter the User ID (i.e) 00000001 and Press "OK".



Step 7. Flatly press fingerprint the first time on U fingerprint collector



Step 8. Flatly press fingerprint the second time on U fingerprint collector

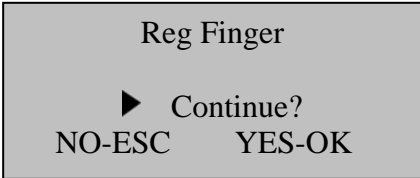


Step 9. Flatly press fingerprint the third time on U fingerprint collector



Successful Registration

Step 10 Press "ESC" to quit the registration process.



Enrolled User Registration (Backup Register)

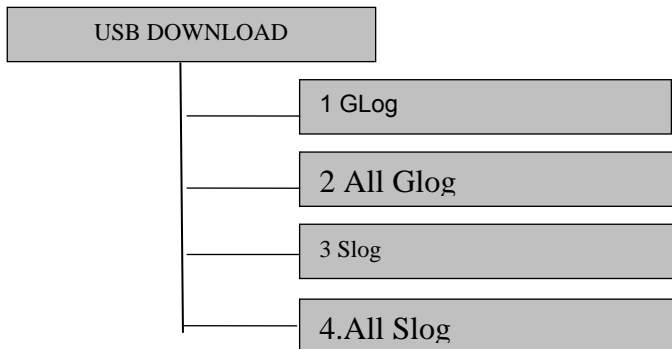
It allows administrator enroll 2 more fingerprint temple, password and Card for the same user as Backup.

4 Level Administrator Registration



- Sup Manager** - Have the full access of the machine. "Sup Manager" should be enrolled firstly before enrolling other "Manager" user.
- Gen Manager** - Have not the full access of the machine ,but just one lower level access than "Super Manager", can enroll, download data or delete general "User", but can not delete "Manager" User.
- Enr Manager** - Only have an access for Enrollment of general users, can not enroll Manager users.
- Udisk Manager-** Only have an access for downloading data to USB sticker.

Only when enrolled U-disk Manager, press fingerprint to download data from the device to the USB sticker, the sub menu will display as below:

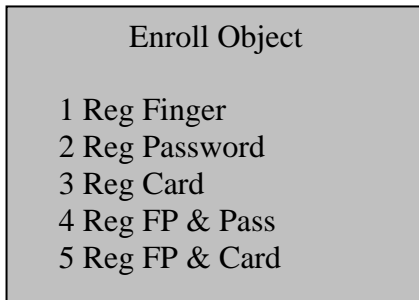


- Glog** - Unread general log
- All Glog** - All read and unread general log
- Slog** - Unread administrator log (same as the “M-log” in the software.)
- All Slog** – All read and unread administrator log.

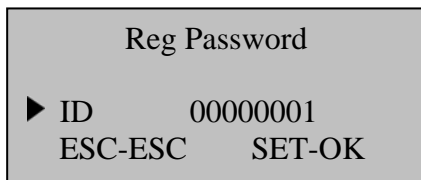
### 3.4.3. Password Registration

Step 1 Enter the Menu “Enroll Object”

Step 2 Press”2” to choose “Reg Password”



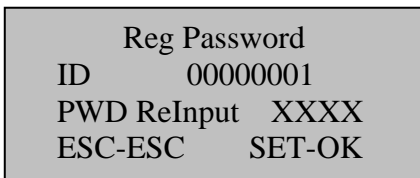
Step 3 Enter the User ID (i.e) 00000001 and Press “OK”.



Step 4 Enter the Password (4 digits) and Press “Enter”

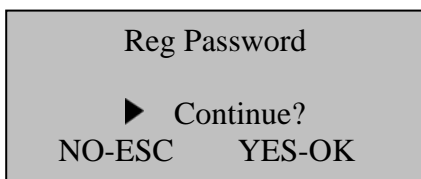


Step 5 Re-enter the password to confirm.



Successful Registration

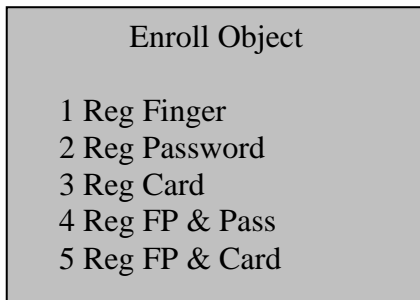
Step 6 Press ”ESC” to quit the registration process.



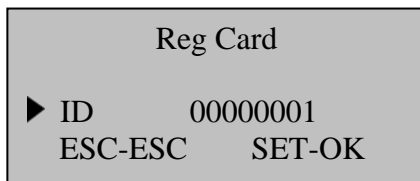
### 3.4.4. Card Registration (Optional function for model with alphabet “K” or “M”)

Step 1 Enter the Menu “Enroll Object”

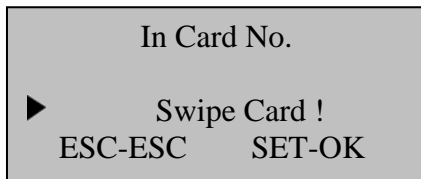
Step 2 Press “3” to choose “Reg Card”



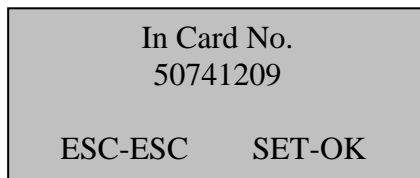
Step 3 Enter the User ID (i.e) 00000001 and Press “OK”.



Step 4 Please swipe card on the detecting area.

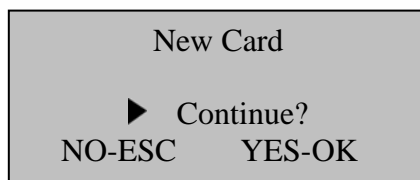


Step 5 Card ID is shown on the screen and Press “OK” to confirm.



Successful Card Registration

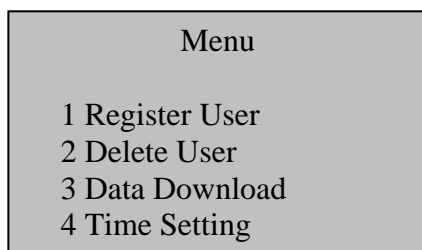
Step 6 Press “ESC” to quit the registration process.



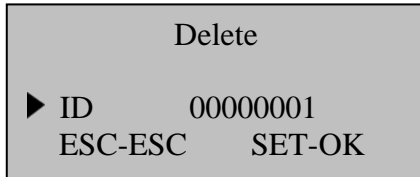
### 3.4.5. Delete User

Step 1 Enter the First Level Menu (Refer to Page 8.)

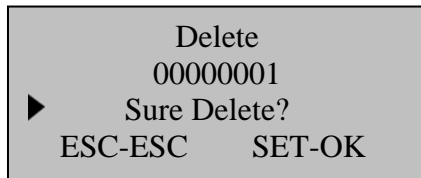
Step 2 Press “2” to choose “Delete User”



Step 3 Enter the User ID and Press “OK”

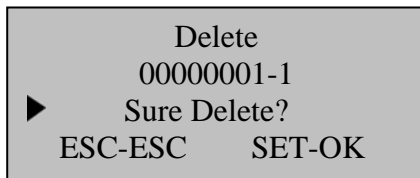


Step 4 Press “OK” to confirm



Successful Deletion

If any backup record belong the deleted User ID, the alert of deletion of backup record will show on the screen.



The type of record is indicated by the last digit.

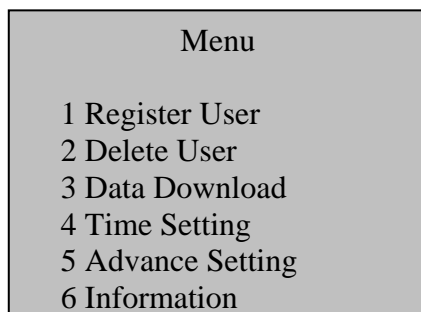
- “0” means 1<sup>st</sup> Fingerprint template.
- “1” means 2<sup>nd</sup> Fingerprint template
- “2” means 3<sup>rd</sup> Fingerprint template
- “P” means Password
- “C” means Card

### 3.5. Attendance Log and System Log Management

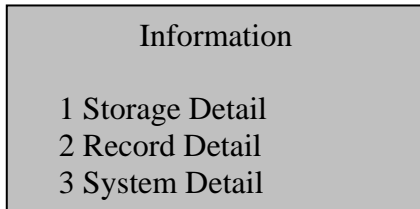
#### 3.5.1. Query of Attendance Log

Step 1 Enter the First Level Menu (Refer to Page 8.)

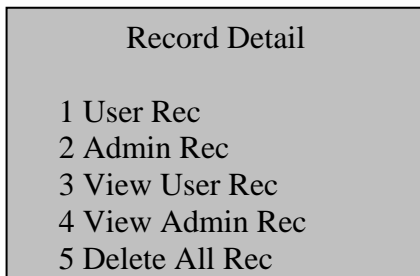
Step 2 Press”6” to choose “Information”



Step 3 Press "2" to choose "Record Detail"



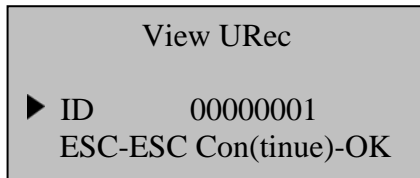
Step 4 Press "3" to choose "View User Rec"



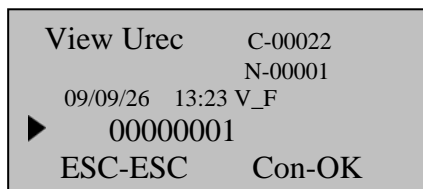
Step 5 Press "OK" to query all attendance log. (In order by time)

Or

Enter the User ID to query a certain user 's record. Press "OK"



Step 6 Press "▲" or "▼" to view the previous or next record.



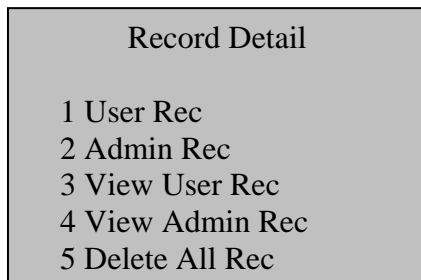
- C           →     total amount of attendance record  
                  (C-00022 means there are 22 records)
- N           →     the sequence of attendance record  
                  (N-00001 means it is the first record)
- V\_F       →     by fingerprint
- V\_P       →     by password
- V\_C       →     by card
- F\_P       →     by fingerprint first and then by password

F_C	→	by fingerprint first and then by card
D_C	→	close door
I_O	→	Invalid door-opening
D_O	→	open door
00000001	→	User ID of the current record
09/09/26 13:23	→	attendance time

### 3.5.2. Query of System Log

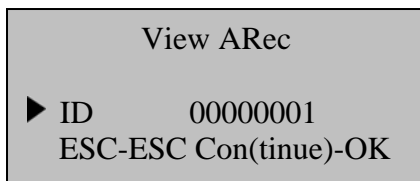
Step 1 Enter the Menu “Record Detail”

Step 2 Press “4” to choose “View Admin Rec”

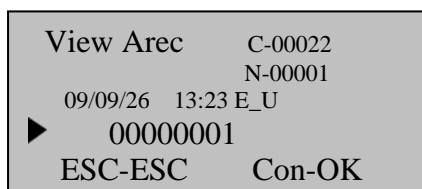


Step 3 Press “OK” to query all system log. (In order by time)

Or enter the User ID to query a certain user’s system log. Press “OK”



Step 4 Press “▲” or “▼” to view the previous or next record.

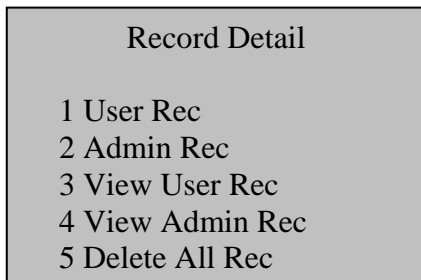


E_U	→	Normal user registration
E_M	→	Administrator registration
E_DF	→	Delete Fingerprint template
E_DP	→	Delete Password
E_DC	→	Delete Card
D_L	→	Delete all record
S_T	→	Time Setting
S_S	→	System Setting
S_O	→	Door-opening Setting

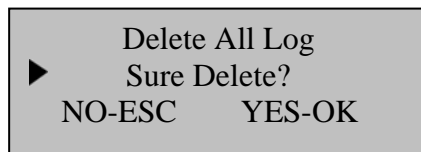
### 3.5.3. Delete all Record

Step 1 Enter the Menu “Record Detail”

Step 2 Press "5" to choose "Delete All Rec"



Step 3 Press "OK" to confirm the deletion



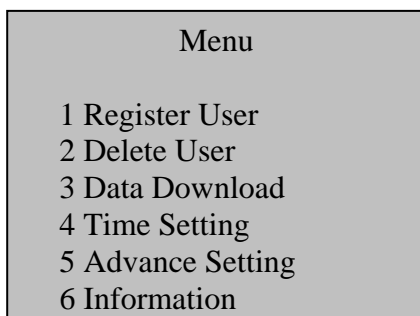
Successful Deletion

### 3.5.4. Advance Setting

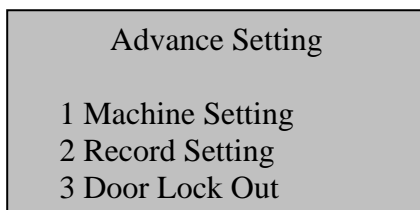
Follow the steps below to access Machine Setting Menu.

Step 1 Enter First Level Menu

Step 2 Press"5" to choose "Advance Setting"



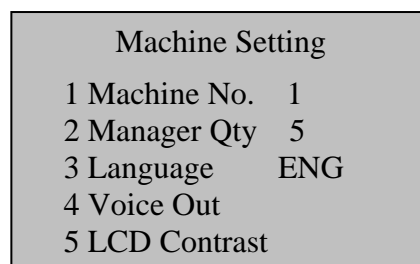
Step 3 Press"1" to choose "Machine Setting"



### 3.5.5. Machine Setting

The machine No of each machine on the same channel should be unique. (No matter Using RS485 or TCP/IP protocol).

Step 1 Press "1" to choose "Machine Setting"



Step 2 Enter the NEW Number with range between 1-255 (i.e “2”) and press “OK” to confirm.

Machine Setting	
1 Machine No.	2
2 Manager Qty	5
3 Language	ENG
4 Voice Out	
5 LCD Contrast	
6 Auto Off	
7 Pkey (powerkey) Use	
8 Initialization	

### 3.5.6. Manager Quantity

Step 1 Press “2” to choose “Manager Qty”

Machine Setting	
1 Machine No.	1
2 Manager Qty	5
3 Language	ENG
4 Voice Out	
5 LCD Contrast	
6 Auto Off	
7 Pkey (powerkey) Use	
8 Initialization	

Step 2 Enter the maximum no. of machine administrator (i.e. 6) and press “OK” to confirm.

Machine Setting	
1 Machine No.	1
2 Manager Qty	6
3 Language	ENG
4 Voice Out	
5 LCD Contrast	
6 Auto Off	
7 Pkey (powerkey) Use	
8 Initialization	

### 3.5.7. Language

Step 1 Press "3" to choose "Language"

Machine Setting	
1 Machine No.	1
2 Manager Qty	5
3 Language	ENG
4 Voice Out	
5 LCD Contrast	
6 Auto Off	
7 Pkey (powerkey) Use	
8 Initialization	

Step 2 Press "▲" or "▼" to choose Language (English, Spanish, Japanese, Simplified Chinese and Traditional Chinese) and press "OK" to confirm.

Machine Setting	
1 Machine No.	1
2 Manager Qty	5
3 Language	ENG

### 3.5.8. Voice Out

Step 1 Press "4" to choose "Voice Out"

Machine Setting	
1 Machine No.	1
2 Manager Qty	5
3 Language	ENG
4 Voice Out	Yes
5 LCD Contrast	
6 Auto Off	
7 Pkey (powerkey) Use	
8 Initialization	

Step 2 Press "▲" or "▼" to enable or disable the function

Yes – Enable

No – Disable

Press "OK" to confirm.

Machine Setting	
4 Voice Out.	No
5 LCD Con	47
6 Auto Off	No

### 3.5.9. LCD Contrast

Step 1 Press "5" to choose "LCD Con"

Machine Setting	
1 Machine No.	1
2 Manager Qty	5
3 Language	ENG
4 Voice Out	Yes
5 LCD Contrast	
6 Auto Off	
7 Pkey (powerkey) Use	
8 Initialization	

Step 2 Enter the contrast value and press "OK" to confirm  
("0" – Blank Display, "63" – Black Display)

### 3.5.10. Auto Power Off

Step 1 Press "6" to choose "Auto Off"

Machine Setting	
1 Machine No.	1
2 Manager Qty	5
3 Language	ENG
4 Voice Out	Yes
5 LCD Contrast	47
6 Auto Off	No
7 Pkey (powerkey) Use	
8 Initialization	

Step 2 Press "▲" or "▼" to disable the function or set the delay time (1 – 255mins)

### 3.5.11. Powerkey Use (Relay Output Signal)

Step 1 Press "7" to choose "Pkey Use"

Machine Setting	
1 Machine No.	1
2 Manager Qty	5
3 Language	ENG
4 Voice Out	Yes
5 LCD Contrast	47
6 Auto Off	No
7 Pkey (powerkey) Use	
8 Initialization	

Step 2 Press “▲” or “▼” to disable the function or set the delay time (1 –16s)

### 3.5.12. Initialization

Step 1 Press “8” to choose “Initialization” and confirm the restoring.

Machine Setting	
1 Machine No.	1
2 Manager Qty	5
3 Language	ENG
4 Voice Out	Yes
5 LCD Contrast	47
6 Auto Off	No
7 Pkey (powerkey) Use	
8 Initialization	

All setting under machine setting will be recovered to default factory setting.  
(Except System Log and Attendance Log)

### 3.5.13. Record Management

Follow the steps below to access Record Setting Menu.

Step 1 Enter First Level Menu

Step 2 Press “5” to choose “Advance Setting”

Menu	
1 Register User	
2 Delete User	
3 Data Download	
4 Time Setting	
5 Advance Setting	
6 Information	

Step 3 Press “2” to choose “Record Setting”

Advance Setting	
1 Machine Setting	
2 Record Setting	
3 Door Lock Out	

### 3.5.14. Administrator Record (System Log) Warning

Step 1 Press “1” to choose “ARec Wrn”

Record Setting	
1 ARec Wrn	100
2 URec Wrn	1000
3 Reverify	No

Step 2 Enter the number of residue system log memory (1 – 255) before the warning occur.  
And press “OK” to confirm.  
(i.e. “100” means the warning will occur if the residue system log memory reach 100.)

### 3.5.15. User Record (Attendance Log) Warning

Step 1 Press”2” to choose “URec Wrn”

Record Setting	
1 ARec Wrn	100
2 URec Wrn	1000
3 Reverify	No

Step 2 Enter the number of residue attendance record (1 - 1500)before the warning occur.  
And press “OK” to confirm.  
(i.e. “1000” means the warning will occur if the residue attendance log memory reach 1000)

### 3.5.16. Reverify

Step 1 Press”3” to choose “Reverify”

Record Setting	
1 ARec Wrn	100
2 URec Wrn	1000
3 Reverify	No

Step 2 Press “▲”or “▼”to disable the function  
or set the duration between 2 successful attendance (1 –255mins)

### 3.5.17. Record Detail

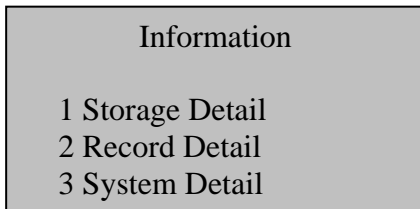
Follow the steps below to access Information Menu.

Step 1 Enter First Level Menu

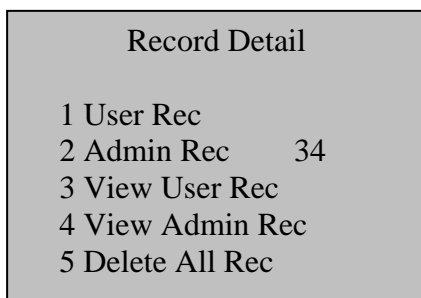
Step 2 Press”6” to choose “Information”

Menu	
1 Register User	
2 Delete User	
3 Data Download	
4 Time Setting	
5 Advance Setting	
6 Information	

Step 3 Press"2" to choose "Record Detail"



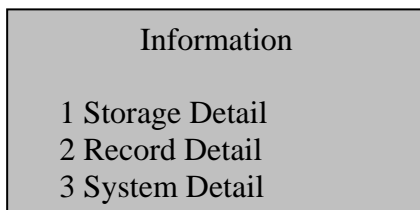
Step 4 Press"ok" to view details



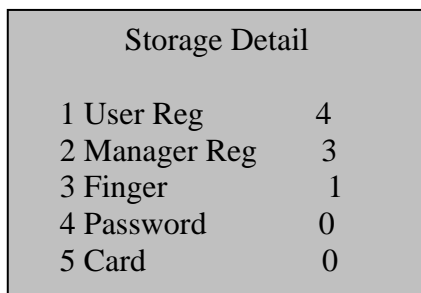
### 3.5.18. Enroll Information (Storage Detail)

It shows all amount of Enrolled record storage such as the number of enrolled user, the number of enrolled administrator, enrolled fingerprint template, enrolled password and enrolled card.

Step 1 Press"1" to choose "Storage Detail"



Step 2 Press"1" to choose "User Reg"



### 3.6. Maintenance

#### 3.6.1. Clean

Sometimes optical lens, keyboard or screen needs to be cleaned. Due to different outside working environment, it's hard to give an exact cleaning schedule. The below table is a guide that may do some help:

Item	Clean
Keyboard & screen	Whenever it's too dirty and blurry on the surface, it needs cleaning. Details refer to 3.6.2.
Optic Lens	Don't clean too frequently. Lens works better with a little lipid.
	Once the lens is shaded or somewhat affects identification of fingerprint, it needs cleaning. Details refer to 3.6.3.

Tab.5-1 Maintenance Legend

#### 3.6.2. Clean keyboard & LCD Screen

Make sure to turn off the device when it needs to do cleaning on keyboard & liquid screen. Use wet duster cloth or other mild detergent and then dry it.

#### 3.6.3. Clean Optic Lens

Follow below suggestion when cleaning Optic Lens:

- 1) Once it is with dust or grit, please blow dust off first;
- 2) Use adhesive tape to clean display window.  
Warning: Don't use water or other detergent to clean which may do harm on optic lens.
- 3) Wipe with fine cloth without any fluff and be careful not to hurt lens. Once it has fluff on the lens, blow it off after the lens becomes dry.

## 4. Quick Setup Guide

### 4.1. Hardware

#### 4.1.1. Power on/off

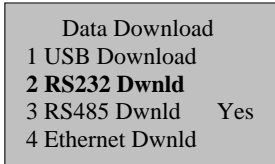
1. Connect the Power Adaptor to a 220V/110V socket.
2. Connect the fingerprint terminal, and then it will automatically power on.
3. Hold the Power Button for 2 seconds to power off.

### 4.1.2. Computer Connection

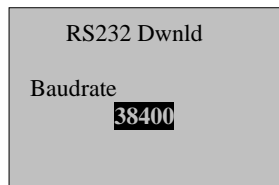
There are four ways to establish the connection with the Computer.

#### A. Through RS232

1. Press "MENU" to enter menu. Press 3>>2>>1



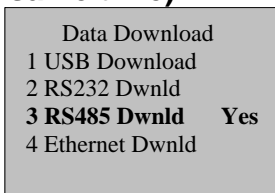
2. Set the baud rate to 38400 by pressing ▲ or ▼ and then press "OK" to save.



3. Power off.
4. Connect RS232 cable to the 9-pin port or connect the bundled RJ45-RS232 cable to the RJ45 port on.
5. Connect the other end of RS232/ RJ45-RS232 cable to computer COM-PORT.
6. Power on.

#### B. Through RS485

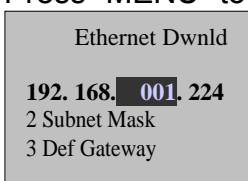
1. Press "MENU" to enter menu. Press 3>>3
2. Set "RS485 Use" to "On" pressing ▲ or ▼ and then press "OK" to save.  
**(Note: can either enable RS485 connection or TCP/IP connection at the same time)**



3. Power off.
4. Connect RS485 cable to the RJ45 port on. (Note: please refer to **5. RJ45 Port Pin Assignment** for details of the required RS485 cable)
5. Connect the other end of RS485 cable to a RS232/RS485 Converter
6. Connect the other end of RS232/RS485 to computer COM-PORT.
7. Power on .

#### C. Through TCP/IP

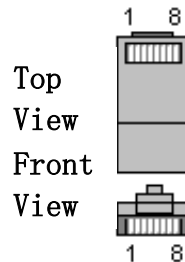
1. Press "MENU" to enter menu. Press 3>>4>>1 to enter IP setup page.



2. Configure the IP according to your network settings. The default IP is 192.168.1.224. Please make sure that the IP of fingerprint terminal is within the same network with your computer. Thus, if IP of your computer is 192.168.001.xxx, then IP of Zerro fingerprint terminal must be 192.168.001.xxx also.
3. Power off .
4. Connect computer directly with Ethernet 10/100Base-T Crossover Cable, or connect to network Hub/Switch with Ethernet 10/100Base-T Straight Thru Cable.
5. Power on.
6. Pin Assignment refer to below diagram

#### RJ45 Port Pin Assignment

Pin	Function
1	TCP---TX+
2	TCP---TX-
3	TCP---RX+4
6	TCP—RX



#### D. Through USB (Not available for models with “U” alphabet)

1. Install USB driver program on PC. (Included in CD-ROM attached)
2. From software menu-device management and choose “USB” for communication mode.
3. Connect computer directly with USB cable for direct communication from the device to computer.

## 4.2. Software

### 4.2.1. Fingerprint Registration

1. Connect the Power Adapter to ZERRO fingerprint terminal and power socket, power on.
2. Press “MENU”, and followed by 1>>1>>1>>1 to enter staff finger print registration page.
3. Input the user ID and then place the finger on scanner for three times.
4. Press “MENU”, and followed by 1>>2>>1>>1 to enter manager finger print registration page.
5. Once there is a user registered as Manager, the menu function will be locked. Thus no one can access to menu without manager authentication.

### 4.2.2. Software Installation

1. Put the Software CD-Rom into CD/DVD Drive of Computer.
2. Copy Green version software pack to any subarea of PC (C: not recommended) and then click Kqgl.exe to run software.

### 4.2.3. Software Start-up

Run the software and then login with default User Name / Password: admin/123.