

# Fingerprint Access Control System

## User Guide



**Replication without approval from Our Company is forbidden.**

All the functions shall be referred to the real products. Because the continuous renewal of the products, the company shall not promise the consistence of the real products and those mentioned in the material. And the company also shall not take responsibility of the repute arising from this inconsistency. Any change to the products may not be informed in advance.

**The product brands and names mentioned in this introduction document refer to the companies or the manufactured products that own the related brands and names. Our company does not possess any property or right of any brands or product names that do not belongs to us.**



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# 1、 Introduction

In this chapter, details of the common terms and the finger print press manner are presented.

## F7 Fingerprint Access Machine



**OK** Confirm key: confirm your current present operation;

**MENU** Enter the management interface in the initial status;

**C** Cancel your present operation

**↑** Scrolling up key: Scrolling up the menu

**↓** Scrolling down key: Scrolling down the menu

**⊙** Power key: control the power on and off

**BELL** Door bell;

Number: Input number 0-9

**F7** is a simplified-designed terminal unit fingerprint Access Control , and use easy,. It can be assembled on the sensitive area need authority to access; Be combinated with the high-safe fingerprint identification system and advance Access Control management creatively, so that come true high-safe management of in-out control.

## 2、 Necessary to know

Please do not place the product in the place with strong light, because the strong light may significantly affect the finger print scanning, and thus cause the print verification fail.

Try to avoid using outdoor, the working temperature range of the attendance machine is 0-40<sup>0</sup>C. Usage outdoor of long period, in addition to the internal heat of the machine, will cause problem to the operation, including the decrease of the reaction and the passing rate. If outdoor usage can not be avoided, it is suggested to use sun umbrella and cooling facility.

## 3、 Basic Concepts

### 3.1. Basic Concepts

This section contains definitions and descriptions of Fingerprint T&A Concepts including:

- .User Enrollment
- .User Verification
- .Match Threshold Levels
- .User ID Numbers
- .Authority (Status) Levels

The two most important Fingerprint **T&A** Functions are user enrollment and user verification.

#### 3.1.1. User Enrollment

Enrollment is the process of create an ID number and scanning a user's finger to create a template three times. This template is associated with a user ID number and stored.

During user verification, the stored template is compared to the current fingerprint scan to confirm the user's identity.

Enrollment is performed at designated units. The user can verify on the time recorder that enroll his fingerprint. The enrollment process takes approximately 2 seconds.

Up to ten fingers can be enrolled for the same ID number, so the user may have more verifications way.

Ideally, everyone finger on each hand should be enrolled so that if the user injures the enrolled finger had, an alternate finger template is available. While recording the finger type is optional, it is recommended such as left or right index, so that at verification the user is prompted as to which finger to use.

### 3.1.2. User Verification

Verification occurs when a user either enters an ID number or places a finger in the fingerprint sensor, then input password for comparison with the stored template.

### 3.1.3. Match Threshold Levels

The Match Threshold is a number that represents the degree to which verification is examined to ensure that the person is the person claimed.

The Match Threshold Levels establishes a balance between False Acceptance Rate (FAR) and False Rejection Rate (FRR). FAR measures how often a non-authorized user is falsely recognized and granted access to the system. FRR measures how often an enrolled and authorized user, who should be granted access to the system, is denied on the basis that the system did not recognize him.

You can set match threshold levels on a per-use basis. For the fingerprint verification is difficult, you can adopt ID & Fingerprint verification (match one to one).

Raising the threshold increases security, while lowering it increases throughput. The correct balance is essential.

For users with worn or damaged fingers, match threshold levels can (and should) be reduced.

Different sites have different requirements.

Table 1—1 Suggested Match Threshold Settings

FRR	FAR	Match Threshold Settings	
		One-to-many	One-to-one
High	Low	45	25
Middle	Middle	35	15
Low	High	25	10

### 3.1.4. User ID Numbers

Before beginning fingerprint enrollment, a user is assigned User ID Number. This ID number is used to call up the fingerprint template each time that verification is requested.

ID numbers are normally called up via the keypad, but they can be called up through other means such as RF Card.

### 3.1.5. Authority (status) Levels

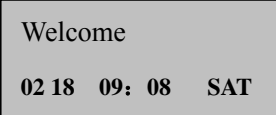
Fingerprint T&A has four authority or status levels:

- ✧ ·Users are people whose identity must be verified, such to gain access to a facility or to have their attendance recorded.
- ✧ ·Enrollers are Users who are authorized to enroll new users or delete on to the system.
- ✧ ·Managers can do other operations, except set advanced option and enroll manager's authority.
- ✧ ·Supervisors are Users who access to all functions and change all setup in the system.

➔ **Note:** Without Manager and Supervisor status in the system, the Enroller will enroll them. And if there isn't a Supervisor in the system, the Manager will enroll him.

### 3.1.6. Start-up window

When the machine is connected to the power source and before the Power on button is pressed, the screen will display a so-called initial interface, as following:



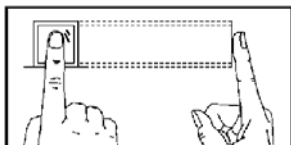
```
Welcome
02 18 09: 08 SAT
```

### 3.2. How to place the finger

✧ **The correct way is:**

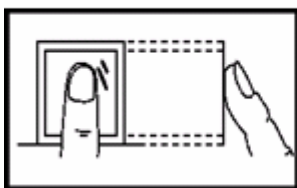
Place a finger flatware on the sensor surface

Place it to the center of the sensor surface

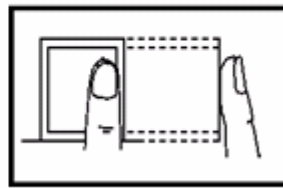


✧ **The wrong way is:**

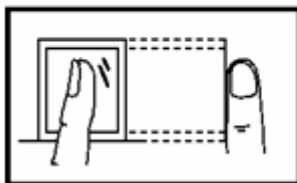
**Vertical**



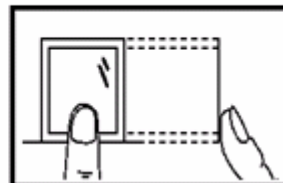
**Offset**



**Inclined**



**Lower**



---

➔ **Note:** Please adopt the correct way to place the finger; Our Company is not responsible for the malfunctioning results arising from improper pressing manners. Our company reserve ultimate the interpreting and modifying right for this.

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## 4、 Enrollment and Verification Procedures

This chapter describes how to enroll and verify users on the Fingerprint **T&A** verification system.

The following topics are included:

- ·Enrolling User
- ·Testing an Enrollment
- ·Enrolling a User with the Display Finger Option On
- ·Verifying Your Identity
- ·Hints for Successful Enrollments

➤ **Note:** You must have Enroller, Manager, or Supervisor status to enroll users. For information on status levels, see **“Authority (Status) Levels” on 1.1.5.**

### 4.1. Enrolling Users

If this is the first enrollment in a new or empty system, everyone will become an enroller.

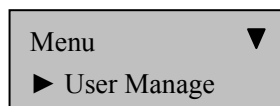
If there is a manager in the system, you will have Manager Status to enroll a new user.

There are three ways of enrollment, fingerprint enrollment; password enrollment, fingerprint & password are suitable for three differences crowds. Fingerprint enrollment suited the most people who have better quality fingerprints; Fingerprint & Password suited few people who enrolling successful, but verification was difficult; Password enrollment suited 1% people who verification unsuccessful.

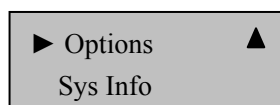
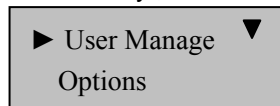
To start the enrollment process, identify yourself firstly—press [Menu], enter your ID number or fingerprint, and then verify your identity.

➤ **Note:** If this is the first enrollment in a new or empty system, you will not be prompted for verification.

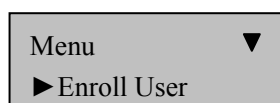
The following message appears on the display:



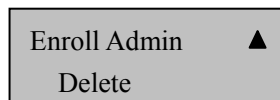
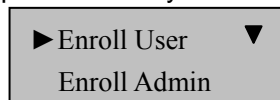
Press Up or Down key , select what you need options:



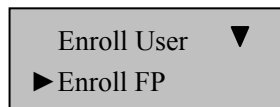
Select User Manage, Press **OK**, the following message display:



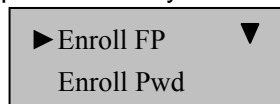
Press Up or Down key select what you need options:

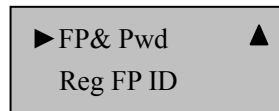
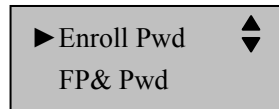


Select Enroll User ,Press [OK], the following message display:



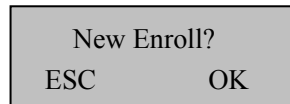
Press Up or Down key select what you need options:



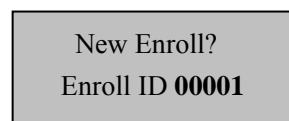


#### 4.1.1. Fingerprint Enrollment

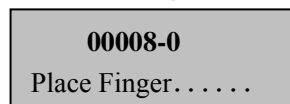
(1) Access the Enroll Fingerprint to press [OK], the following display:



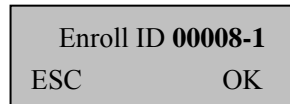
(2) Press [OK], the following appears:



(3) Input the enrolling number (the range is 1 to 65534), press [OK], the following appears:



(4) If the test is successful three times in a row, the following appears:



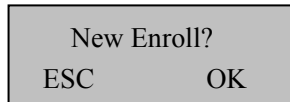
**Note:** 07711-1  
The last number 1 means the first fingerprint.

Press [OK], the previous message continues to be displayed while the template is created.

If your identity cannot be verified, you are prompted to try again. And you must restart the verification procedure (**step 3**).

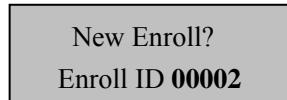
### 4.1.2. Password Enrollment

(1) Access the password enrollment, press [OK], the following appears:



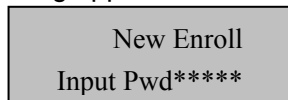
New Enroll?  
ESC            OK

(2) Press [OK], the following appears:



New Enroll?  
Enroll ID **00002**

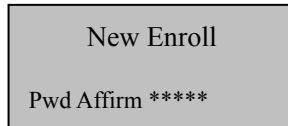
(3) Input the enroll number (the range is 1 to 65534), press [OK], the following appears:



New Enroll  
Input Pwd\*\*\*\*\*

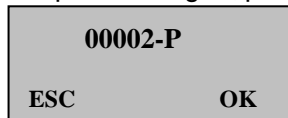
➡ **Note:** The password range is 1 to 5.

(4) Input the password, press [OK], the following appears:



New Enroll  
Pwd Affirm \*\*\*\*\*

(5) Input the password again, presses [OK], the following appears:



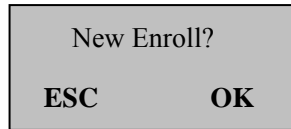
**00002-P**  
ESC            OK

**Note:** 00008-P  
The last letter P means password.

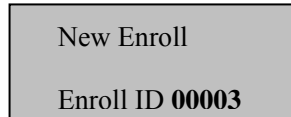
Press [OK], the previous message continues to be displayed while the template is created.

### 4.1.3. Fingerprint & Password

Access the Fingerprint& Password, press [OK], the following appears:



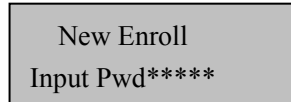
(2) Press [OK], the following appears:



(3) Input the password (range is 1 to 65534), press [OK], the following appears:



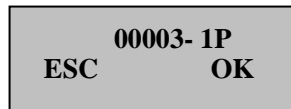
(4) If the test is successful three times in a row, the following appears:



(5) Input your password, the following appears:



(6) Input the passwords again, press [OK], the following appears:



**Note:** 00008—1P  
The second from the last 1 means one fingerprint.  
The last letter P means password.

Press [OK], the previous message continues to be displayed while the template is created.

## 4.2. Testing an Enrollment

Ask the users to place their finger to perform test verification. If the test was successful, you will adopt Fingerprint enrollment. If the poor quality of fingerprint, you will be recommended to use Fingerprint & Password.

## 4.3. Enrolling a User with the Display Finger Option On

Press [ESC] to the Display Finger Option On, the following appears:



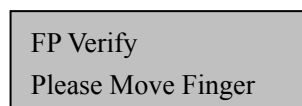
➤ **Note:** Where system memory permits, it is advisable to have at least two fingers enrolled for a long-term user.

## 4.4. Verifying Your Identity

The workers used Fingerprint T&A to verify their identity. The system defaults to three ways of verification: Fingerprint verification, Password verification, ID number & Fingerprint. The following appears:

### 4.4.1. Fingerprint Verification

Place the finger on the sensor surface, the following appears:



It continues for about 0.5 seconds.

If the test is successful, it will say "Thank you", the following appears:

Enroll ID **00008**  
Verified !

If your identity cannot be verified, you are prompted to try again, the following appears:

FP Verify  
Place Finger Agn !

It continues for about 0.5 seconds, return to the start-up window.

#### 4.4.2. Password Verification

To start the enrollment process, enter your ID number, the following appears:

Enroll ID **00003**  
ESC OK

Press [OK], the following appears:

Enroll ID **00003**  
Input Pwd\*\*\*\*\*

Input correct password, press [OK], the following appears:

Pwd Affirm  
Enroll ID **00003**

If the password cannot be verified, the following appears:

Pwd Affirm  
Error pwd !

### **4.4.3. ID number & Fingerprint**

To start the enrollment process, enter your ID number, the following appears:

Enroll ID <b>00003</b>
ESC                      OK

If your identity is verified, the following appears:

Enroll ID <b>00003</b>
Verified!

### **4.5. Hints for Successful Enrollments**

The fingerprint is of good quality, the verification speed will fast; otherwise, it will verify slowly or occur to FRR.

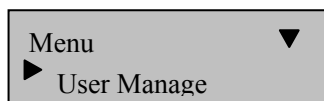
In order to improve the fingerprint verification quality, the following hint appears:

Figure 4-1 Enrolled unsuccessful or the fingerprint of poor quality:

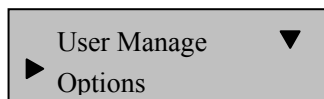
<p>Dry or dirty fingerprints</p>	<p>Solve the dry problems that rub the dry finger and palm. If the fingerprint is dry, you will adopt the way of wetting up the finger, such as 哈气.</p>
<p>Have no enough to bring pressure</p>	<p>The user should place a finger firmly and squarely on the sensor surface.</p>
<p>How to select the finger?</p>	<p>Recommend to left or right index or middle finger. Use fingerprints of good quality, without worn or hurt. The user usually selects the forefinger, if it was of a poor quality, you will be recommended to middle finger or ring finger. If the user's finger is less, you will select the thumb.</p>
<p>How to place the finger?</p>	<p>Place your finger firmly and touch the sensor surface must be over 2/3. The fingerprint does not touch upright on the sensor surface. Do not touch the finger too fast; Do not move the finger on the sensor surface.</p>
<p>The influence of the fingerprints change</p>	<p>For users with worn or damaged fingers, the identification can be influenced. If the finger quality was poor, you will select password verification.</p>
<p>Others</p>	<p>However, few people's fingerprint quality is too poor to verify the fingerprint in gear. Please use ID &amp; fingerprint verification, and the Match Threshold Levels can be reduced or use password verification.</p>

## 5、 System Options

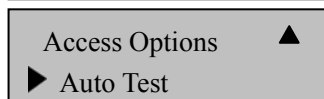
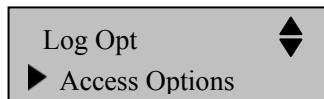
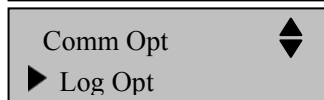
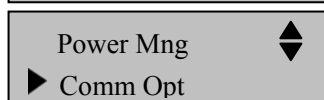
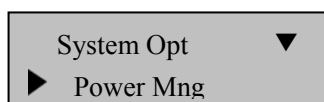
Press MENU key in the initial interface, and the system may identify the proper right of the user, and then the screen shall display the following information:



Press Up or Down key, select "Options"



Choose the option, press MENU and enter the next step, then the following information will be displayed:



In the setup options, there are six choices: system setup, power setup, communication setup, record setup, door lock function setup, auto examination. Now we introduce these one by one.

## 5.1. System Options

Access System Opt, the following appears:

System Opt ▼ ▶ Date Time
Date Time ▼ ▶ Language SCH
Language S ▲▼ ▶ Fmt YYYYMMDD
Fmt YYYYMM ▲ ▶ Adv Option

The setup facility covers four areas: Date Time, Language, and Advanced Options.

### 5.1.1. Date Time

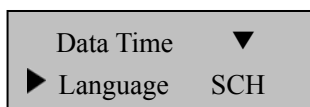
Access Date Time, the following appears:

2004-07-28
9: 47: 56

To change the date, press Up and Down Key, then input the correct date and time, press [OK]

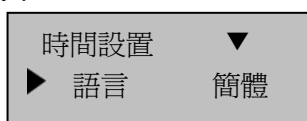
### 5.1.2. Language

Select the wanted language and press OK. The default language is simplified Chinese, the screen shall display Chinese.

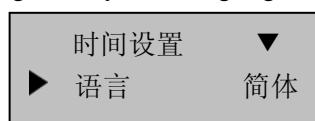


Press the up and down key to choose the language. The attendance supports three languages: simplified Chinese, traditional Chinese, and English. On the screen, these may be displayed as simplified, traditional, and ENG respectively.

Choose the wanted language, and press OK. Then press ESC to exit the system setup. The system may indicate you to save the change. You may press OK to confirm and change the system language setup.



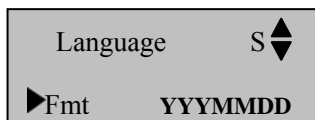
Traditional Chinese



Simplified Chinese

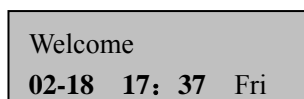
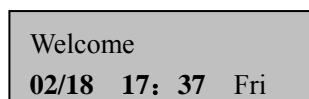
### 5.1.3. Format

Press UP or Down, select "Fmt", Press OK, and modify Fmt,



There are four formats: **YYYYMMDD**、**YY.MM.DD**、**YY-MM-DD**、**YY/MM/DD**. It will modify date format on original interface

For example:**YY/MM/DD** is left figure、**YY-MM-DD** is right figure:



### 5.1.4. Advanced Options

Access Advanced Option, press [OK], the following appears:

Adv Option	▼
▶ Reset Opts.	

Press UP or Down key select option, all display as follows:

Reset Opts.	▼
▶ Del Att Logs	

Del Att Logs	◆
▶ Clear All Data	

Clear All Data	◆
▶ Clr Admin Pri	

Clr Admin Pri	◆
▶ Show Score	Y

Show Score	◆
▶ Match Thr	35

Match Thr	◆
▶ Only 1 to 1	N

Only 1 to 1	◆
▶ 1:1 Thr	15

1:1 Thr	◆
▶ Voice	Y

Voice	▲▼
▶ Card Only	Y

Card Only	▲
▶ Image Qlt	100

Press Up and Down Key to scroll up or down the screen to select the option.

**Reset Opts:** restore all setup information to default.

**Del Att Logs:** delete all logs of flash disk.

**Clear all Data:** delete all enrolling fingerprints and logs.

**Clr Admin Pri:** change the managers' rights into ordinary users' rights.

**Show Score:** whether show the quality value of fingerprint in the screen or not;

**Match Threshold Levels:** For helping in selecting threshold level settings, see [Table 3.1.3](#).

**Only 1 to 1:** Whether input the staff ID No.;

**1:1 Threshold Levels: ID+** Fingerprint identification and degree of register template matching, Please see [Table 3.1.3](#)

**Voice:** Whether use to phonic hint or not.

**Card Only:** Whether validate to Card only or not;

**Image Qlt:** The fingerprint clear degree

## 5.2. Power Manager

Enter the power setup menu; the screen shall display the following information:

Power Mng	▼
▶ Shutdown	No
Shutdown	▼
▶ Power on	No
Power on	◆
▶ Sleep	No
Sleep	◆
▶ Idle	SLP
Idle	S◆
▶ Idle Min	1
Idle Min	◆
▶ Auto Alarm	
Auto Alarm	◆
▶ Sch. State	

Our product use the intellectual power management system which supports the timing of power on and off, and sleep mode. This may significantly increase the working span of the machine and satisfy the various requirements of the users.

**Shut down:** turn off the power on the defined time

**Power on:** turn on the power on the defined time

**Sleep:** enter the sleeping mode on the defined time. Press

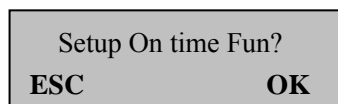
any key to activate the system again.

**Idle and Idle Minute:** these two options are related to each other. When the idle time is 0, then the idle setup function is off. When the idle time is not 0 (unit is minute), for example, 1, then when no operation occurs in 1 minute, the system shall enter the mode defined in the idle setup.

**Auto Alarm:** auto alarm on the defined time;

**Sch. State:** auto switch attendance state on the defined time

Choose the timing of power off, enter the following interface:



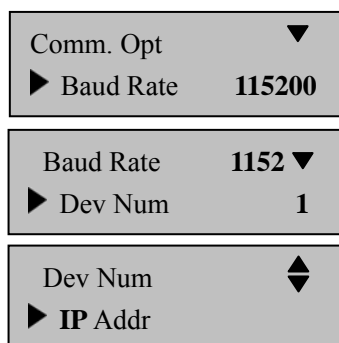
Press OK to enter the following interface, press ESC to cancel the timing of power off function.

When the power off time is set, press Ok to confirm, then the timing of power off function is on.

The timing of the power on and sleeping mode is similar with the timing of the power off.

### 5.3. Communication Options

Enter the communication menu; the screen shall display the following information:



<b>IP Addr</b>	◆
▶ Net Speed	100M-H
Net Speed	100M◆
▶ Ethernet	Yes
Ethernet	◆
▶ RS232	Yes
RS232	◆
▶ RS485	Yes
RS485	▲
▶ COMM Key	0

**Dev Num:** the number of the machine, ranged from 1-255

**Baud rate:** the communication speed of the communication with the computer. There are three choices: 9600, 38400, 115200. High speed communication is fast, and the RS232 communication is recommended. Low speed communication is slow, RS485 communication is recommended.

**IP address:** By default, the IP is **192.168.1.201**. You may change according to practical requirement.

**Network speed:** the default network speed is 10M-F

**Ethernet:** Whether or not use the TCP/IP to communicate

**RS232:** Whether or not use the RS232 to communicate

**RS485:** Whether or not use the RS485 to communicate

**COMM Key:** the system default keyword is 0, which may be defined

**⚠ Warning: RS485 communication in the outdoor environment, the lightning protection device is required.**

## 5.4. Log Options

Access Log Opt, the following message appears:

Log Opt	▼
▶ Alm SupperLog	<b>10</b>
Alm SupperLog	▼
▶ Alm AttLog	<b>10</b>
Alm AttLog	▲
▶ ReCheck Min	<b>0</b>

Alarm Attendance Log: when the remainder log capacity reached set numerical value, it will automatically sound a warning that logs were filled.

Recheck Minute: Set within compass (Unit: minute). Someone's enrollment has enrolled, then, the log twice was not displayed in the system.

## 5.5. Access Options(F4)

Enter the **Acc Opt** menu; the screen shall display the following information:

Access Options	▼
▶ Define TZ	
Define TZ	▼
▶ User Acc Opts	
User Acc Opts	◆
▶ GRP TZ Define	
GRP TZ Define	◆
▶ Access Comb	
Access Comb	◆
▶ Lock	254
Lock	◆
▶ DSen. Delav	10
DSen. Delav	▲
▶ Dsen. Mode	No

Five main functions in Access Options:

**Time Zone Define:** indicate the door unlocked time in every day of the week

**User Access Options** is to setup the unlock time and Access Comb by the user;

**GRP TZ Define** is GRP TZ, time zone station the group;

**Access Comb** is to define variant unlock combinations, every combination consists different groups;

**Lock:** Fingerprint startups lock time;

**DSen. Delav** Some segment time which begin after open door just begin alarm;

**Dsen. Mode** include three : **No**、**NC**、**None**; **No**: No use door magnistor; **NC** : When the door is open, the lock is open; **None**:When the door is closed ,the lock is closed.

In this menu, the user can define the corresponding functions.

For details of the operation, please refer to the << [Access Options Operating Guide](#)>>

## 5.6. Auto Test

Access auto test, the following message appears:

Auto Test	▼
▶ Run All Test	
Run All Test	▼
▶ FLASH Test	
FLASH Test	◄
▶ LCD Test	
LCD Test	◄
▶ Voice Test	
Voice Test	◄
▶ FP Reader	
FP Reader	◄
▶ Key Test	
Key Test	▲
▶ RTC Test	

In the option, you can run system device test. When the device broken down, it can analyze the cause of the device's fault and the devices were quickly and easily maintained.

It tests the Memory LCD, and Sound, Fingerprint sensor, keypad and clock. In the course of test, you should guarantee the stability of the power. Otherwise, the system's hardware was probably damaged; especially it runs the memory test.

## 6、 System Information

Access [Menu] to Sys Info, press [OK], the following appears:

Sys Info ▼	
▶ User Cnt	4
User Cnt ▼	
▶ FP Cnt	0
FP Cnt ▲▼	
▶ Att Log	3
Att Log ▲▼	
▶ Admin Cnt	0
Admin Cnt ▲▼	
▶ Pwd Usr	37
Pwd Usr ▲▼	
▶ Super Logs	4073
Super Logs ▲▼	
▶ Free Space Info	
Free Space Info ▲	
▶ Dev Info	

It is plays user numbers, password numbers, fingerprint numbers, manager and log numbers in the screen. You can see some information such as the remainder log capacity in the memory, the device capacity, the defaults date, machine number and OEM's information are in the system.

## 7、 Trouble shooting

### 1. Cleaning

From time to time, the optical platen, the keypad and display window require cleaning. Since working environments differ, it is not possible to define when cleaning should be performed. Following is guide:

Figure 7-1 Cleaning Schedule

Item	Cleaning Frequency
Keypad and display window	Cleaning when visibly dirty and hard to read. See cleaning the keypad and display below.
Optical platen	Do not over clean. The platen is designed to work under greasy or dirty conditions.
	However, do clean if the platen is obstructed or people are reporting deteriorating performance. See cleaning the Optical Platen below.

### 2. Cleaning the Keypad and Display

To clean the keypad and display, use the same cleaning products as for the platen, and wipe dry.

### 3. Cleaning the Optical Platen

Clean the optical platen as follows:

- (1) If dusty or gritty, first blow on the platen to clean off any loose particles.
- (2) Spray on a light coating of a window cleaning product or other similar neutral detergent.

Warning: Do not use any other cleaner or the platen may become damaged.

- (3) Using a non-abrasive and lintine, pat dry. Be careful not to scratch the platen. If lint particles adhere to the platen surface, below them off when the platen is dry



## **8、 User Acc Opts Guide**

### **8.1. Product Features**

- ◇ Arbitrary time zone and grouping access control function
- ◇ Manageable access control and attendance record functions
- ◇ Internal integrated single-door controller, easy to install
- ◇ Self-contained top grade wireless doorbell, 6 music selectable
- ◇ Panel equipped with red and green status indication LED, elegance and fashion
- ◇ Removal alarm function
- ◇ Adopt standard access control bracket installation
- ◇ Network management software, easy to manage multi-set of equipments
- ◇ Compatible with ZKSoftware management system
- ◇ Wireless Modem (optional)
- ◇ U-disk data download (optional)
- ◇ Wiegand 26 standard output (optional), compatible with other door controllers
- ◇ Adopt 2004V5.06 version high-speed algorithm of ZKSoftware

## 8.2. Basic Concepts

Basic concepts in Access Options function:

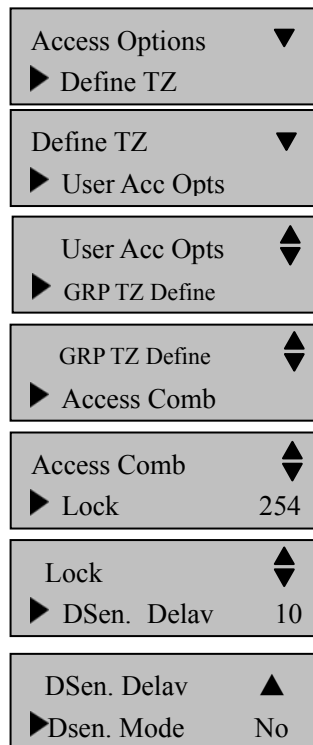
- **Access Options:** is the settings of registered user's unlocking time zone and unlocking combination.
- **Define TZ:** is the definition of everyday Time Zone that can unlock door in one week.
- **Grouping (GRP):** divides registered users into several groups, is easy and convenient to manage.
- **Effective Time Zone:** is the definition of Time Zone in which user currently passes verification.
- **Group Time Zone:** is used to set group unlocking time.
- **User Time Zone:** is user to set user's unlocking time.
- **Access Comb (Unlocking combination):** defines different unlocking combinations, and each combination is composed of different groups.
- **Lock (Time duration of lock drive):** fingerprint scanner controls the time to open electronic lock.

## 8.3. Access Options

Press "MENU" key and enter main menu.

Press "UP" and "DOWN" keys and select "Options". Press "OK" to enter Options menu.

Press "UP" and "DOWN" keys and select "Access Options". Press "OK" to enter setting menu of Access Options function, and screen information displays as follows:



“Access Options” has 7 main functions:

**Time Zone** is the minimum time definition zone unit in Access Options

**User Acc Opts** is to process correlative setting according to user’s requirement.

**GRP TZ Define** is group Time Zone, and configure group time zone.

**Access Comb** defines different unlocking combinations, and each combination is composed of different groups.

**Lock** fingerprint scanner controls the time to open electronic lock. In this menu, user can define and set each function.

### 8.3.1. Brief Introduction to Access Options

Access Options function setting is the settings of registered user's unlocking time zone and unlocking combination.

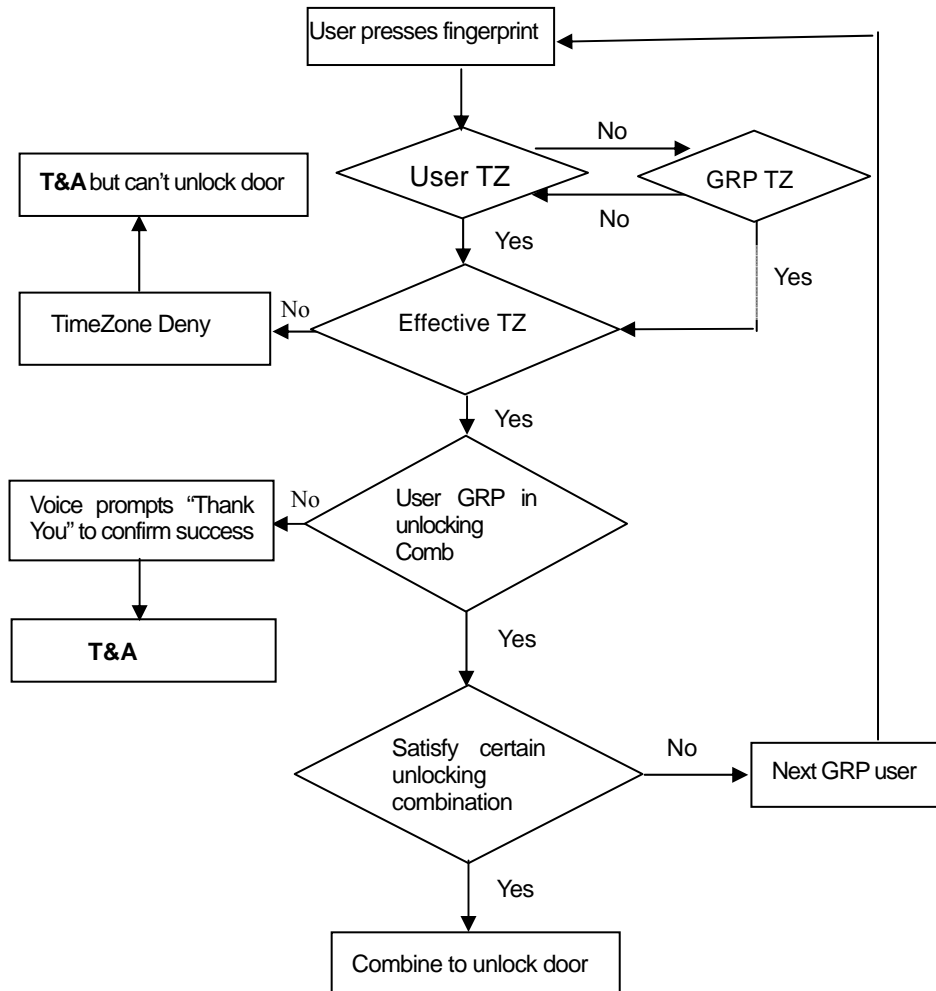
Each user's settings are composed of one belonged grouping, use group time zone and user time zone. Grouping is to divide users into several groups, such as group 1, group2, etc. In group time zone, user can select maximum three time zones already being set. Relationships among these three time zones are "OR" (i.e. it is only need to satisfy any one of these three time zones). In user time zone, user can select maximum three time zones already being set. Relationships among these three time zones are also "OR". For details of relationship between use group time zone and user time zone, please refer to "[User Access Options](#)".

Simply put, conditions of registered user can unlock door are:

- 1: The group that user belongs to should be in unlocking combination (also this group can be in unlocking combination with other groups, but it is required to unlock door together with them).
- 2: Current unlocking time should be in any effective time zone in user time zone.

System defaults that new registered user belongs to group 1, default grouping combination is group 1, and default group time zone is "1". Under the condition that group 1 and time zone 1 are in factory default status, new registered user defaults in unlocking status (if user changes correlative setting of Access Options, system will change according to user's modification). If the grouping that user belongs to does not include in grouping combination setting, then user can only record attendance and cannot unlock door.

### 8.3.2. Verification Flow of Access Options



## 8.4. Function Description

### 8.4.1. Definition of Time zone

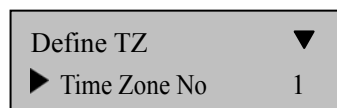
Time zone is the minimum time zone unit of Access Options. Whole system can define maximum 50 time zones. 7 time regions (i.e. one week) can be set in each time zone. Each time region is effective time zone in 24 hours of a day. Each user can set maximum 3 time zones. Relationships among these three time zones are "OR". It is effective as long as the time to verify can meet one of these three time zones. Each time region format of time zone is **HH:MM-HH:MM**, i.e. the format is according to 24-hour mode and accurate to minute.

End-time less than start-time (23:57-23:56) represents all-day forbidden. End-time larger than start-time (00:00- 23:59) represents effective in this region.

Effective time zone for user to unlock: all-day open (00:00-23:59) or end-time larger than start-time in time zone.

🔗 **Note:** System defaults that time zone of serial number 1 is all-day open (i.e. new registered user default can unlock door).

- 1) Enter "Define TZ" and screen displays as follows:



Press "OK" to enter setting of time zone 1 and screen displays as follows:

Def Time Zone 1 ▼
▶ Sun 00:00-23:59
Sun 00:00-23:59 ▼
▶ Mon 00:00-23:59
Tue 00:00-23:59 ◆
▶ Wed 00:00-23:59
Wed 00:00-23:59 ◆
▶ Thu 00:00-23:59
Thu 00:00-23:59 ◆
▶ Fri 00:00-23:59
Fri 00:00-23:59 ▲
▶ Sat 00:00-23:59

Definition of time zone 1 above is all-day open, i.e. factory default status.

2) For example:

Time zone can be redefined, i.e. definition of time zone 1 is:  
 Saturday and Sunday are break, and not allow to enter.  
 Working time of Monday to Friday allow to enter.  
 Working time: 08:30-18:00

Setting is as follows


Def Time Zone 1 ▼
Sun 23:57-23:56
Sun 23:57-23:56 ▼
▶ Mon 08:30-18:00
Mon 08:30-18:00 ⬆
▶ Tue 08:30-18:00
Tue 08:30-18:00 ⬆
▶ Wed 08:30-18:00
Wed 08:30-18:00 ⬆
▶ Thu 08:30-18:00
Thu 08:30-18:00 ⬆
▶ Fri 08:30-18:00
Fri 08:30-18:00 ▲
▶ Sat 23:57-23:56

On analogy of this, multi time zones can be defied according to practical requirements. Whole system can define maximum 50 time zones.

### 8.4.2. Definition of Grouping Function

Grouping function can divide users into group, and can also combine different groups into different unlocking combinations, which are easy and convenient for grouping management of Access Options. And all that, the grouping function can combine many unlocking combinations. System defines 5 groups: group 1, group 2, group 3, group 4 and group 5. New registered user default belongs to group 1, but the user can be relocate into other group.

Select **serial number of Time Zone** already being set in **group Time Zone** .New registered user default uses time zone of **group 1**. But after user resets the belonged group, the user uses default time zone of correlative group. So default time zone of each group should be defined first.For details of use group time zone, please refer to "[User Access Options](#)".

 **Note:** time zone of system defaults that group 1 selects serial number "1" of time zone. (i.e. new registered user default can unlock door)

a) Enter "GRP 1 TZ Define " and screen displays as follows:

GRP TZ Define	▲
Group No.	1

Press **OK** to enter.

GRP 1 Dflt TZ	▼
▶ TZ 1	1

TZ 1	▼
▶ TZ 2	8

TZ 2	▲
▶ TZ 3	40

There are 3 time zones in GRP TZ Define. Relationships among these 3 time zones are “OR”.

Group 1 is effective in time zones of 1, 8 and 40, and can also select other defined time zones.

b) Enter “GRP 2 Dflt TZ ” and screen displays as follows:

Setting of time zone of group 2:

GRP TZ Define	▲
Group No.	2

Press **OK** to enter.

GRP 2 Dflt TZ	▼
▶ TZ 1	1

TZ 1	▼
▶ TZ 2	10

TZ 2	▲
▶ TZ 3	36

Group 2 is effective in time zones of 2, 10 and 36, and can also select other defined time zones.

On the analogy of this, time zones of each group can be defined according to practical requirements. Whole system can define time zones of maximum 5 groups.



### 8.4.3. User Acc Opts

User Access Options is to process correlative setting according to user's requirements.

1. Enter this menu to check certain user's Access Options status.

User Access Options include: belonged grouping setting, use group time zone and user time zone

- ✧ Grouping: divides registered users into several groups, is easy and convenient to manage.
- ✧ Use group time zone: whether the user uses default time zone of belonged group.
- ✧ User time zone: is user to set user's unlocking time, and select serial number of time zone already being set.

---

⚠ **Note:** relationships between use group time zone and user time zone

**Yes** and **No** in "**Use Group Time zone**" only have impact on the following **user time zone**:

- 1) If **use group time zone** is "**Yes**", then user time zone will automatically be assigned the value of serial number of time zone of belonged group (group time zone should be set in advance).
  - 2) If **User Time zone** is changed, then **use group time zone** automatically change to "**No**".
-

2. Example of setting:

The following example is to set user 00001 and 00002 to group 1 and group 2, respectively.

- A. Enter setting interface of serial number 00001, and screen displays as follows:

User Acc Opts Enroll ID: 00001
-----------------------------------

Press "OK" to enter setting menu of **use group time zone**. Press "UP" and "DOWN" keys and select "Yes". Screen displays as follows:

User 00001 Opt	▼
▶Belong to GRP	1

Belong to GRP	▼
▶Use GRP TZs	Yes

Use GRP TZs	◆
▶TZ 1	1

TZ 1	◆
▶TZ 2	40

TZ 2	▲
▶TZ 3	48

User of serial number 00001:

User's belonged grouping is "1", it uses time zone of group 1 (serial number of user time zone is serial number of group time zone).

User 00001 is effective in time zones of 1, 8 and 48.

B. Enter setting interface of serial number 00002, and screen displays as follows:

User Acc Opts	▲
Enroll ID: 00002	

Press **OK** to enter.

If serial number of user time zone is 1 or 20, then **use group time zone** automatically change to "**No**".

User 00002 Opt	▼
▶ Belong to GRP	2

Belong to GRP	▼
▶ UserGRP TZs	No

UserGRP TZs	◆
▶ TZ 1	1

TZ 1	◆
▶ TZ 2	20

TZ 2	▲
▶ TZ 3	48

User of serial number 00002:

User's belonged grouping is "2", it uses user time zone and does not use group time zone, i.e. it is effective in time zones of 1 and 20.

When user wants to use group time zone, then select "**Yes**". In user time zone, serial number of group time zone will be automatically assigned the value of serial number of group time zone. Contrariwise, if user wants to use user time zone, just directly modify the serial number in user time zone and **use group time zone** will automatically change to "**No**".

### 8.4.4. Access Comb

Unlocking combination is the direct representation of controlling unlocking. For example, if user wants that all registered users cannot unlock, then the user can set all 10 unlocking combinations to null.

Unlocking combination definition is to define different unlocking combinations, and each combination is composed of different groups. Unlocking combination directly uses group number and does not consider user verification sequence between each group. For example “123” represents group 1, group 2, group 3 and at least one user in each group congregates and passes verification together, then door can be unlocked. “4” represents that after individual user in group 4 passes verification, then door can be unlocked. System can simultaneously define maximum 10 unlocking combinations. It is required that only one of them passes verification.

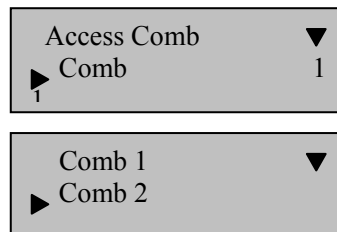
**Note:** Unlocking combination of system initial default setting is “1” (i.e. new registered user default can unlock door).

Press “MENU” and enter main interface.

Select “Options” and press “OK” to enter setting menu.

Select “Access Options” and press OK to enter menu.

Select “Unlocking Combination Definition” to enter “Unlocking Combination” and screen displays as follows:



Comb 2 ▶ Comb 3	◆
Comb 3 ▶ Comb 4	◆
.....	
Comb 9 ▶ Comb 10	▲

When do not process setting yet (i.e. factory default status), system defaults that group 1 is unlocking combination 1 and others are null.

If do not want to allow all users to unlock door, then set 10 unlocking combination all to null.

If only want to allow some groups to unlock door together, then set these groups in unlocking combination definition.

1) For example:

Access Comb ▶ Comb 1	▼	123
Comb 1 ▶ Comb 2	▼	4
Comb 2 ▶ Comb 3	◆	24
Comb 2 ▶ Comb 3	◆	45
Comb 2 ▶ Comb 3	◆	15

From above combination setting, it can be seen that:

123 is a combination.

4 is a combination.

24 is a combination.

45 is a combination.

15 is a combination.

Combination 1: when personnel of group 1, group 2 and group 3 are all on the scene and the time zone is effective in which at least one user in each group passes verification together, then door can be unlocked.

Combination 2: only one of personnel belonged to group 4 is on the scene, then door can be unlocked.

Combination 3: when personnel of group 2 and group 4 are all on the scene and the time zone is effective in which at least one user in each group passes verification together, then door can be unlocked.

Combination 4: when personnel of group 4 and group 5 are all on the scene and the time zone is effective in which at least one user in each group passes verification together, then door can be unlocked.

Combination 5: when personnel of group 1 and group 5 are all on the scene and the time zone is effective in which at least one user in each group passes verification together, then door can be unlocked.

❖ **Note:** time zones that cannot pass verification

- ✧ User time zone does not select serial number of time zone.
- ✧ Group time zone does not select serial number of time zone.
- ✧ Time in which user passes verification does not include any time zone that is set by user.
- ✧ Time zone is defined as forbidden.

🗑 **Note:** If time zone that user sets is the time zone that cannot pass verification.

❶ When meet combination 2 above, user who displays prompt of “Invalid Time zone Access” cannot unlock door, but can record attendance. (If there is user in group 4 who can meet unlocking condition, then combination 2 can unlock door)

❷ When meet combination 1, 3, 4, and 5 above, user who displays prompt of “Invalid Time zone Access” cannot unlock door, but can record attendance.

---

- 2) For example: one bank treasury requires that 3 people are all on the scene to open the door of treasury. Detailed settings are as follows:

These 3 people belong to group 2, group 4 and group 5 respectively, and have the right to unlock door within the same time zone. Select “Group 1” and press “OK” to enter edit status. Press digit keys to enter 245. Then press ESC to exit and save setting interface.

🗑 **Note:** When combination 245 is defined, then user cannot define 24, 25, 45 as combination.

### 8.4.5. Lock

System requires to set fingerprint scanner to control the time to open electronic lock. Setting to “0” is close. Close lock control function. One quantity unit is 20ms; maximum value can be set to 254, i.e. 5.08s. Select this item and press “OK” to enter Options. Then press digit keys to enter corresponding digits. Finally press “ESC” to exit and save setting.

### 8.4.6. DSen. Delav

**DSen. Delav** : Some segment time which begin after open door just begin alarm;

Press "MENU" enter main interface;

Select "Options", Press "OK" enter;

Select "Acc Opts", Press OK enter menu ;

Press UP or Doen enter , select DSen.Delav, display as follows:



Press **OK**, select number, Press Up or Down key to modify DSen. Delav.

### 8.4.7. Dsen. Mode

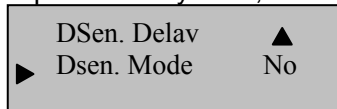
**Dsen. Mode** include three : **No**、**NC**、**None**; **No**: No use door magnistor; **NC** : When the door is open, the lock is open; **None**:When the door is closed ,the lock is closed.

Press "MENU" enter main interface;

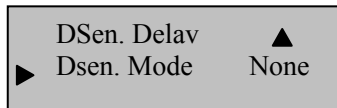
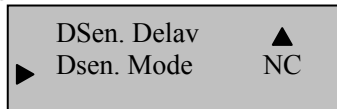
Select "Options", press "OK" enter menu;

Select "Acc Opts", prsee **OK** enter menu;

Press Up or Down key enter , select DSen.Mode, display as follows:



Press **OK**, select option, press Up or Down key to change the state of Dsen. Mode



## Technical specifications

User capacity	500/1000/1500
Transaction capacity	30000
Verification mode	1: 1or 1: N
Access Contro	50 TimeZone, 5 Grouping, 10 Access Comb, 支持多指纹进入, 指纹或密码验证方式可选, 一路报警输出, 拆机报警输出等高安全门禁功能
Electrocontrol	Relay output 3A/12VDC
考勤功能 (可选)	Support zk attendance software
其他输入	一组门磁输入, 一组开门按钮输入, 一组门铃输出
Communications (Optional)	TCP/IP、RS485、RS232
Wiegand 输出	Wiegand26 output (Optional)
keyboard and Display	液晶显示屏, 4*4 数字键盘, 蓝色背++光

keyboard and Display	液晶显示屏, 4*4 数字键盘, 蓝色背++光
Power	12V DC, 待机电流: 50 mA, 工作电流: 400 mA
Validating speed	<=2 s
FRR	<=1%
FAR	<=0.0001%
Operating Temperature	0°C - 45°C
Operating Humidity	20%-80%
Language	English、Simplified Chinese、Traditional Chinese
OEM	Supply OEM Produce
Size	82 (L) *35 (W) *180 (H) mm