US100 User Manual

Version：1.0

Date：October 2009

Introduce

Thid document mainly introduces operations about US100 window and menu.

Contents

1. Must know

Thank you for using this US100. Before using, please read this manual carefully to void unnecessary damages!

Please don't place the product in the place with strong light, because the strong light may significantly affect the fingerprint scanning, and thus cause the fingerprint verification fail.

Don't use it outdoor in summer as possible. US100 work temperature range is 0-40℃. For long time outdoor using and the internal heat of the machine, the device will be affected easily, such as the slower reaction speed and the reduced passing rate. If has to used it outdoor, please adopt umbrellas and cooling equipments. The company reminds the proper use will bring you good use-effect and authentication speed.

1.1 How to place a finger

1. Fingerprint enrollment and identification shall be taken after installing US100 well.

Installation Enrollment Identification

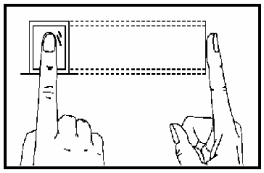
Enrollment Installation Identification

2. Recommended fingers

It is recommended to use the index finger, middle finger or ring finger; avoid the thumb and little finger (because they are usually very clumsy when pressed on the collection window).

3. Place a finger

1) The correct way is:

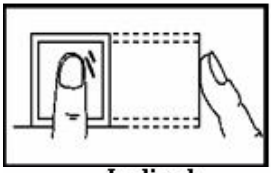


Place a finger flatware on the sensor surface

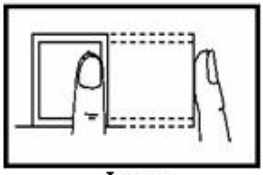
Place it to the center of the sensor surface

2) The wrong ways are:

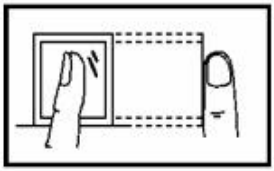
Vertical



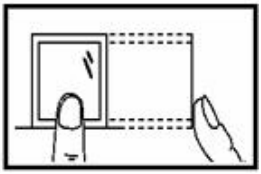
Offset



Inclined



Lower



Notice: Please adopt the correct way to place a finger when enrolling and identifying, to avoid the lower identification caused by unnecessary operations.

1.2 LED lights

1. US100 Normal work.
   Green light blinks per second.
2. Failure authentication
   Red light is of 3-second duration
3. Verification successful
   Green light is of 3-second duration

Notice: If US100's LED doesn't follow above description, please contact us to get technical assistance.

1.3 User Enrollment

For the same ID number, up to ten different fingerprint ability to be enrolled, thus the user may own much more verification way.

Ideally, every finger on each hand should be enrolled, so that if a enrolled finger is injured, to alternate the backup finger is available, in normal condition, it is better that last two finger is enrolled, like, left or right index finger, so the user ability to use his (her) any finger to identify and keep away the troubles is due to he (she) forgets which finger has been enrolled.

1.4 User Identification/Verification

When a user either input an ID number or places a finger in the fingerprint sensor, then input password or press fingerprint, through comparing scanned user's finger against the stored fingerprint template, which is used to identify user staus. The US100 enrolled user can use the fingerprint attendance in his U100, and the whole attendance process is about 2 seconds. The working process is to identify. System

will show whether identify failure or success and store up the successful result to equipment.

1.5 Threshold

The Threshold establishes a balance between False Acceptance Rate (FAR) and False Rejection Rate (FRR). FAR means the machine identifys user A's fingerprint as user B's fingerprint. FRR means the machine rejects to identify the enrolled fingerprint.

You can set the threshold to all users. For a user who's the fingerprint verification is difficult, you can adopt ID & Fingerprint verification (match one to one). Then system will adopt the set data in 1:1 match threshold duing identifying.

For a user whose finger is worn or injured, the threshold should be reduced. (Please refer to **Table 1—1**)

Notice: FAR and FRR affect each other, if increase FAR then reduce FRR, vice versa. The default Threshold is 35, 1:1 matching Threshold is 15.

Table 1—1 Suggested Threshold Settings

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

1.6 User's ID Numbers

Before beginning enrollment, a user is assigned an un-used ID Number. This ID number is used to call up the fingerprint template or password each time that

verification is requested.

ID numbers are normally inputted via the small keypad, but they can also be inputted by the other means such as RF Card (the condition is that there is RF card reader module in the machine)

1.7 Privilege Levels

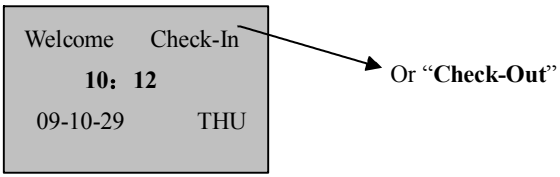
The US100 has four privilege levels:

- 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 setting advanced option and enrolling manager's privilege.
- Supervisors: are users who can access all functions and change all setup in the system.

Explanation: if there is no supervisor in the system, the enroller can enroll administrators and supervisors. In the same way, only when there is no supervisor in the system, can the manager enroll supervisors. Once there is a supervisor, the lower level managers can't enroll the higher level supervisors.

1.8 Start-up window

After power on, the first window on screen is called as the start-up window, as below shown:



2. Enrollment and Identification

This chapter describes how to enroll users in US100. In addition, still introduce how to identify the validity of fingerprint enrollment.

The following topics are included:

- Enrolling User
- Testing an Enrollment
- Enrolling a Auxiliary Fingerprint of User
- Verifying Your Identity
- Hints for Successful Enrollments

Notice: if want to enroll users, you must be enroller, manager, or supervior. The detailed, please refer to "**1.7 Privelege Level**".

2.1 Enrolling Users

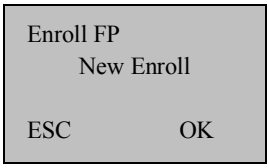
If there is no enrolled manager, everyone will become an enroller, if there is a manager in the system, you should be identified by a manager to enroll a new user.

To start enrolling users, if there is an enrolled manager, it is a must to identify the manager status --- press [Menu], the machine will prompt the manager confirmation, then press fingerprint or input password to identify.

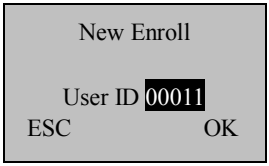
Notice: If there is no enrolled manager, you will not be prompted for verification.

2.1.1 Fingerprint Enrollment

1） Enter into MENU→ User Manage → Enroll User. Select Enroll Fingerprint and press OK key to enter into the window as shown below:

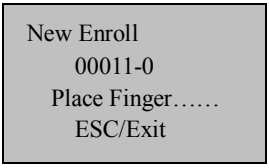


2）Press OK key to enter into the number input window. In the number column, input the enrolling number (the range is from 1 to 65534), as shown below:

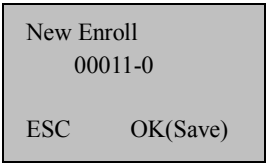


Notice: US100's number is as 5 digits. If your number is not enough 5 digits, the machine will add 0 at the front of the digit automatically. For example, your number is 11, and the machine will display it as 00011.

3） Press OK key to confirm. Enter into the fingerprint enrollment window as shown below:



4） Press the same finger for three times according to the prompts. If a successful enrollment, display as shown below:

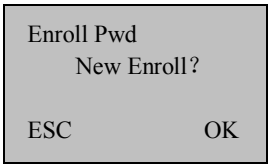


5) Press [OK] to save the just enrolled fingerprint, thus complete the ernollment. If it is a failed enrollment, system will prompt to input again and return to step 2) to

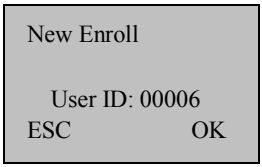
continue enrolling.

2.1.2 Password Enrollment

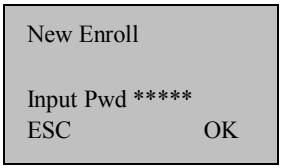
1） Enter into MENU→User Manage→Enroll User. Select Enroll Password and press OK key to enter into the window, as shown below:



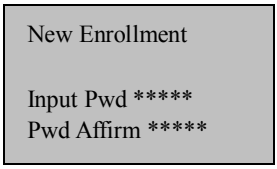
2） Press OK key to enter into the number input window. In the number column, input the number you want to enroll (the range is from 1 to 65534), as shown below:



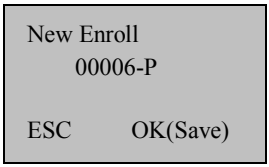
3) Press OK to confirm. Enter into password enrollment window, and input the password in the Input Pwd column, as shown below:



4）Press OK to confirm. Input your password again in Pwd affirm column, and press OK to confirm and enter into the next window, as shown below:



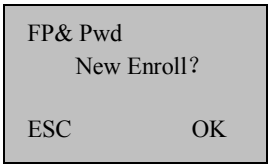
5）The window informs to save the enrolled information. Press OK to save the enrolled data, thus complete the password enrollment.



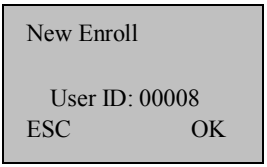
Notice： 00006-P
The last letter P means a password.

2.1.3 Fingerprint & Password

1） Enter into Menu→User Manage→Enroll User. Select Fingerprint&Password, and press [OK] to enter into the next operation, the following appears:

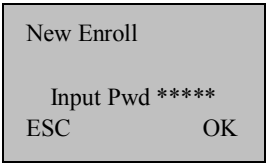


2）Press [OK] key to confirm, and input the number (the range is from 1 to 65534) you want to enroll in the User ID column, the following appears:

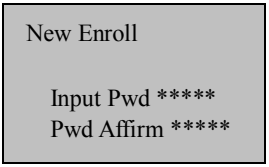


3）Press OK key to enter into fingerprint enrollment window. The following appears:

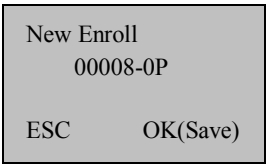
4) Press the same finger for three times according to the prompt. If a successful enrollment, the following appear:



5）Input your password, and press OK to confirm and enter into the next operation. The following appears:



6）Input the password again, and press [OK] to enter into the following window, as shown below:



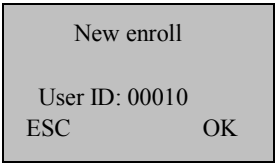
Note: 00008-0P
The last second 0 means one fingerprint. The last letter P means password.

7）Press [OK] to save the enrolled data, thus complete a fingerprint&password enrollment.

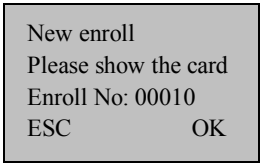
2.1.4 Enroll RFID ★

1）Enter into Menu → User Manage → Enroll User. Select Reg RFID and press [OK]. The following appears:

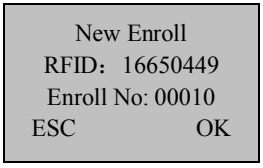
2）Press [OK] to confirm, and input the number (the range is from 1 to 65534) you want to enroll. The following appears：



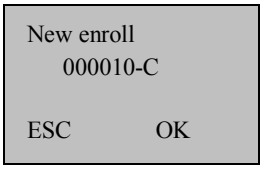
3）Press [OK] to enter into enrolling ID card window. The following appears：



4）Show the card according to the prompt, then read out Card ID. The follow appears:



5）Press "**OK**" key to confirm，and go on next operation. The following appears：



Notice ： 00010-C
The least letter C means ID card

6）Press OK to save enrolled data, so that complete registering ID card flow

Notice: if you want to know more information, please refer to <<ID card user guide>>

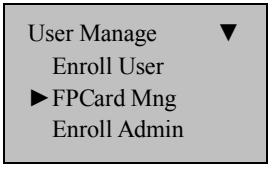
2.1.5 Enroll HID Card ★

This enrollment of HID card is same as that of ID Card, but use HID card only.

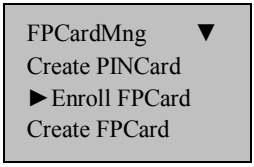
HID standard induction card is encrypted and protected by using specified-format encode card ID and equipment code.

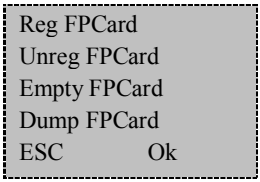
2.1.6 Enroll Mifare Card★

1）In Menu → User Manage window, select FPCard Mng. The following appears：



2）Press OK key to enter next operation. The following appears：





1. Create PIN. Card (Create PIN card): utilize registered user in US100 to create PIN card. User may use the card to identify himself, and don't place the finger.

2. Enroll fingerprint into card (Enroll FP card): directly store the fingerprint that has been registered into card, at this time there is a fingerprint in the card, and that does not exist in the machine. User may use "Card + Fingerprint" to identify himself, must show the Fingerprint card firstly, then place a finger.

3. Create Fingerprint Card (Create FP Card): copy fingerprint from the machine in which exist to a Card, user can use the fingerprint to verify, also can utilize a fingerprint and a Fingerprint Card to verify.

4. Register Fingerprint Card (Reg FP Card): there is more than two US100s, A enroll PIN. Card has been registered in one US100, which wants to be used to anther US100, the Fingerprint Card must be registered firstly.

5. Clean Fingerprint Card (Unreg FP Card): this operation is a reverse process to above operation

6. Erase fingerprint from Fingerprint (Empty FP Card): clear all data (fingerprint, PIN) on the fingerprint card.

7. Copy Fingerprint from card. (Dump FP Card): Copy a fingerprint from a card to US100. It is able to utilize fingerprint direct attendance after finishing

this operation process.

8. Transfer fingerprint into card (Move to FP Card): the fingerprint in US100 is transferred to a Fingerprint Card. There is no fingerprint in US100 after transferred.

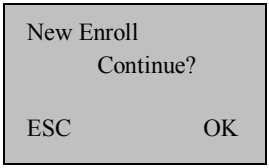
Notice: if you want to know more information, please refer to <<Mifare Card user guide>>

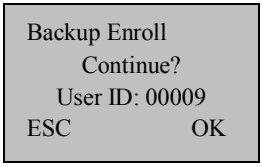
2.2 Testing an Enrollment

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

2.3 Enrolling a Auxiliary Fingerprint of User

Enter the new enrollment interface. Press 'ESC' key to cancel the new enrollment, and to enter the backup enrollment interface. The following appears:





This operation procedure is same as above enroll new user operation, only new enroll at the up-left corner turns to backup enroll.

Notice: it is advisable to have at least two fingers enrolled for a long-term user.

2.4 Authentication type

2.4.1 Fingerprint authentication

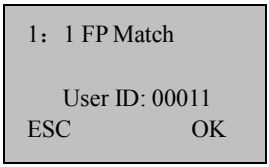
Fingerprint authentication: use 1:1 fingerprint authentication, or use 1:N authentication.

（1）1：1 fingerprint authentication（ID +fingerprint）

1:1 authencticaiton: the enrolled fingerprint corresponding to the ID will be compared to the entered fingerprint.

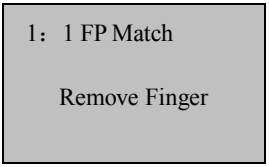
Operational trip：

In the initial interface, enter your ID number by keyboard.



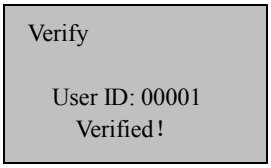
Notice： US100's number is 5 digits, if you enrolled number does not arrive 5 digits, the machine will add 0 in front of this figure, e.g. your number is 11, the 00011 will be displayed in the machine.

Place the finger after presing OK key or press the finger directly, the following appears：

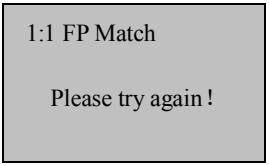


It continues for about 0.5 seconds. If the test is successful, it will say "Thank

you". The following appears:



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



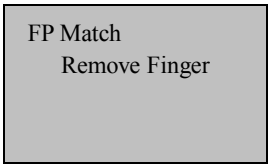
It continues for about 0.5 seconds, return to the start-up window.

（2）1：N fingerprint authentication (Identification)

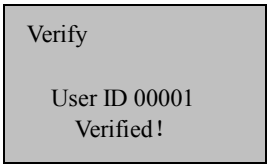
1:N authentication: the enrolled fingerprints in US100 will be compared to the entered fingerprint on fingerprint sensor.

Operational trip：

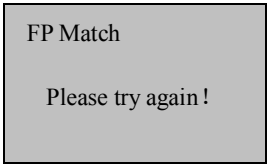
In start-up window, place the finger on the sensor surface. The following appears:



It continues for about 0.5 seconds. If the test is successful, it will say "Thank you". The following appears:



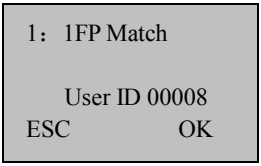
If your identity cannot be verified, you are prompted to try again. The following appears:



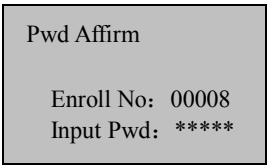
It continues for about 0.5 seconds, return to the start-up window.

2.4.2 Password authentication

In the start-up window, enter your ID number. The following appears:

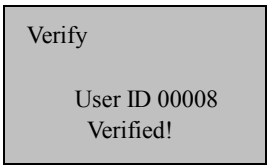


Press [OK] to confirm. The following appears：

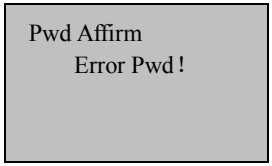


Verified! Input correct password, press [OK] to confirm. The following

appears:



If the password is wrong, system will show error password. The following appears:



System will return to password input window. Since three times of error passwords are permitted, system will return to the start-up window after the third time of error password.

2.4.3 Card authentication ★

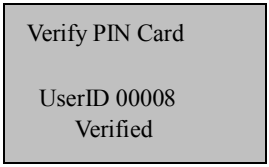
If the card is enrolled in machine, you can pass the authentication by just punching the card on the sense area.

2.4.4 MIFARE card authentication ★

If the Mifare card has been used as created PIN card, need to enter "Menu→Option→System Option→ advance Option". Press "▲/▼" keys to select " No. Card" as Y (es). The authentication process is as follows.

In the start-up window, place the PIN card near induction area (distance is not

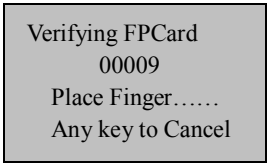
far, otherwise the card will not be detected). Screen displays as follows：



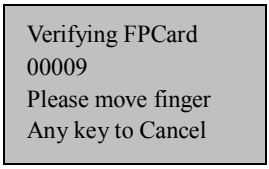
If use other way to register Mifare card (for example: the registration fingerprint card), set “No. card” option as Y (es), then confirmation flow same with above.

If set No. card” option as N (O), then confirmation flow is as follows:

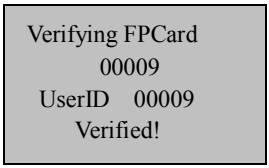
In the initial interface, (distance is not far, otherwise the card will not be detected), screen displays as follows:



Place the finger on the sensor surface. The following appears：

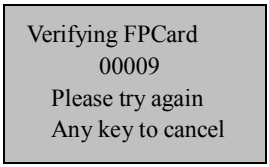


It continues for about 0.5 seconds. If the test is successful, the machine will say “Thank you”. The following appears：



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

following appears：



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

2.5 Hints for Successful Enrollments

If 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

Table 4-1 General reasons when enroll unsuccessfully or poor quality

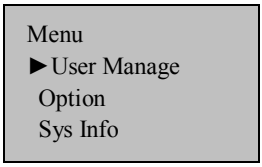
Trouble	Solution
Fingerprints is too dry or dirty	Solve the dry problem that rubs the dry finger with palm. If the fingerprint is dry, you should adopt the way of wetting up the finger, such as brow air over finger.
Have no enough to bring pressure	The user should place a finger firmly and flat on the sensor surface.
How to select the finger?	Recommend to left or right index or middle finger. Use fingerprints of good quality, without worn or injury. 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 small, you will select the thumb.

How to place the finger?	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.
The effect of the fingerprint pattern change	For a user with worn or injury finger, the identification can be affected. If the finger quality is poor, mainly refers to peeling of the finger which is still difficult to verify a week later, you should re-enroll or select password to verify.
Others	However, few people's fingerprint quality is too poor to verify, the fingerprint in gear. Please use ID + fingerprint verification, and reduce 1:1 match threshold properly or use password verification.

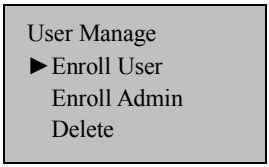
2.6 Enroll Administrator

In order to prevent unauthorized personal to change the option of the machine, US100 provides an option to set the administrator.

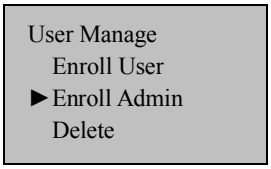
1）Enter the menu of the machine，since no administrator in new machine, enter into directly. The following appears：



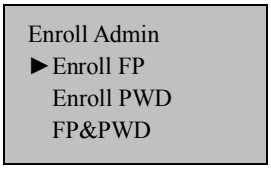
2）Press **OK** key to enter User Management. The following appears：



3）Use "▲/▼" keys to select Enroll Admin. The following appears:



4）Press **OK** key to enter Enroll Admin interface, as below shown:

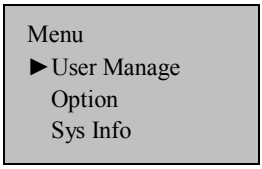


5）You can select a favor way to register, and press **OK** key to enter administrator authorization interface. The administrator authorization includes enroller authorization, manager authorization, and super administrator (supervisor) authorization. The detailed, please refer to 3.1.5 Privilege Level. Since the enrollment way is same as user enrollment, please refer to 4.1 User Enrollment for details.

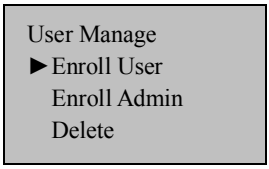
2.7 Delete enrolled Data

Delete a user already enrolled in system.

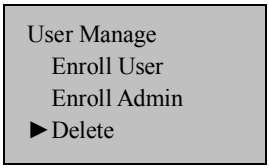
1) Press **Menu** Enter the menu of the machine，after verify successfully, the following window appears：



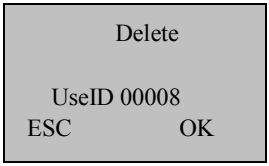
2）Press **OK** key to enter user manager. The following window appears：



3）Use "▲/▼" keys to select Delete. The following interface appears：



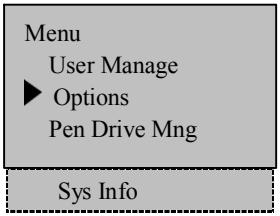
4）Press **OK** key to enter the deletion window, as shown below:



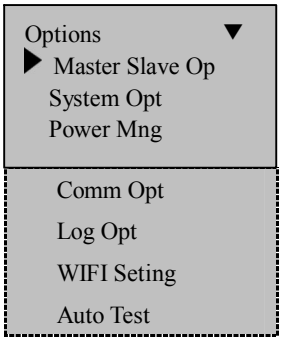
5）Input the number you want to delete in Use ID column. Press OK to confirm and go on next operation. Delete the user following the prompt on the window.

3. Option

In the start-up window, press the [Menu] and then verify your identity. The following appears:



Access Options and press **[OK]**, the following appears:



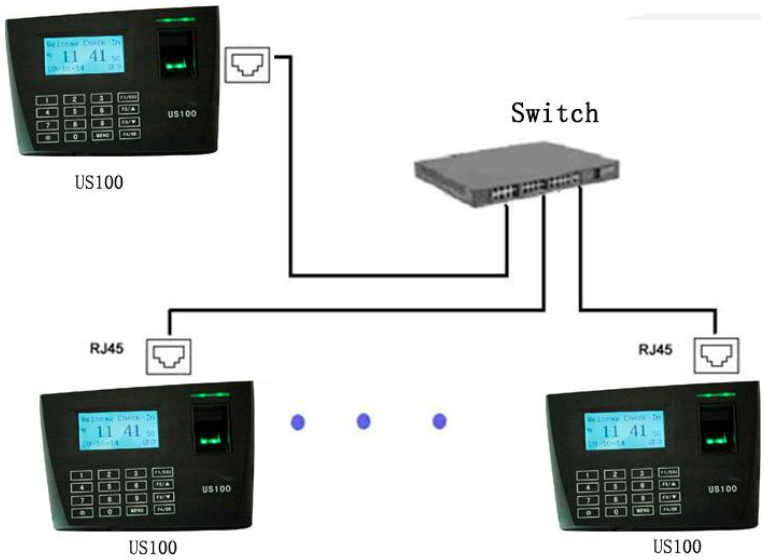
3.1 Master Slave Operation

To reduce multiple times to enroll user information in multiple US100s, we use Master Slave operation. The master slave operation is only required to enroll user information in the master. The other slaves will send synchronization requests to the designated master according to the set synchronization time. The master will check the synchronization requiest sent by the slave and send all user information as well

as fingerprint templates in machine to the slave. The slaves receive the data sent by the master and save. Thus this enrolled user in the master can check attendance in the multiple slaves.

Operational trip:

1. Firstly connect US100 to the network, as shown below:



2. Enter **Menu→Option→System Option→ Master Slave Op**, the following appears:

Master Slave Op	▼
►Master Unit	Y
Slave Unit	N

1) Set this machine as the master

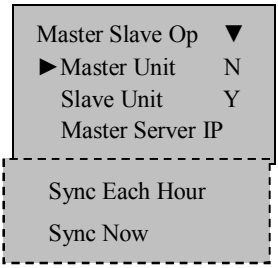
Select Master Unit and press OK key to enter. Press ▲/▼ keys to select Y and

press OK key to confirm. System will prompt to save after pressing ESC key to exit from Master Slave Op. Press OK key to save and complete the setting.

Notice: It isn't required to set Slave Unit as N. For one machine is only as the master or the slave, after saving, the Slave Unit will be set as N automatically.

2) Set this machine as the slave

Select Master Unit and press OK key to enter. Press ▲/▼ keys to save Y and press OK key to confirm. System will prompt to save after pressing ESC key to exit from Master Slave Op. Press OK key to save and complete the setting.



Enter **Master Slave OP** again to set the other options of the slave:

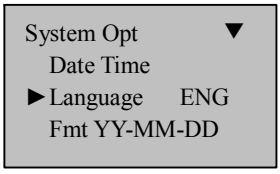
Master Server IP: set as the selected master's IP address.

Sync Each Hour: get user data from the master per a period of time, and synchronize with the master. The time range is from 0 to 99 hours.

Sync Now: start synchronizing the slave with the master. After synchronizing, the slave will get fingerprint templates and user information from the master.

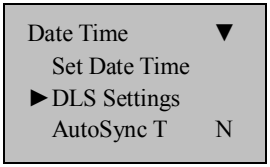
3.2 System Option

Enter Menu→Option→System Opt. The following appears:



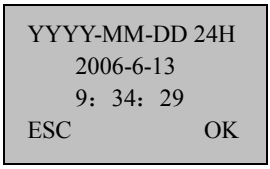
3.2.1 Data Time

Select Date Time and press OK key. The following appears:



3.2.1.1 Set Current Date Time

Set current date and time displayed on US100's screen. Select Date Time and press OK key to confirm. The following appears:



To change the date, press "▲/▼" keys to move the cursor to the item that you want to modify, then input the correct date and time. After confirming, press OK key to save.

3.2.1.2 Daylight Saving Time

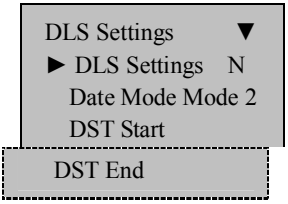
Daylight Saving Time, also known as "Daylight Saving Time" (Daylight Saving Time), is a man-made district time system for saving energy. The time to adopt this system is called “Daylight Saving Time”. In general, the summer with early daylight will be an hour ahead of schedule by manual to let peope early getting up and early sleep, to reduce the amount of lighting in order to make full use of lighting resources, therefore saving lighting power. Turn the clock back in Autumn. The countries adopting daylight saving time have different detailed specifications. At current, about 110 countries all over the world will adopt Daylight Saving Time every year.

In order to meet the needs of daylight saving time, US100 can be specially set to open a setting. Adjust an hour ahead of shedule in xx minute, xx hour, xx date, xx month, and adjut an hour back in xx minute, xx hour, xx date, xx month.

Detailed operations:

Enter Menu→Option→System Opt→Date Time→DLS setting, to set “Daylight Saving Time”.

1) Select DLS setting and press OK key to enter into. As shown below:



If select “Y”, press OK to save after setting to start the DLS. If select “N”, you will disable the DLS.

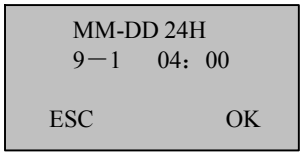
2) After starting the DLS, it is required to set the events to enter into DLS and end DLS. There are two convertion modes of time format: mode 1 and mode 2.

If select mode 1, it indicates to set DLS according to the mode “Month-date hour: minute”. This mode is the default mode.

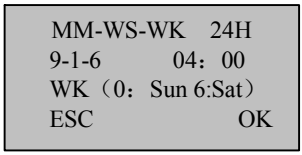
If select mode2, it incates to set DLS accoriding to the mode “Month-Weeks-Week hour: minute”

The value range of WS is from 1 to 6. 1 indicates the first week, 2 indicates the second week, and so on. The value range of WK is from 0 to 6. 0 indicates the Sunday, 1 indicates the Monday, and so on.

Here set an example to introduce these two modes: 4:00, September 1st, 2008 (that is Saturday, the first week, September, 2008)



Mode 1



Mode 2

Notice:

1. If the start month of DLS is bigger than the end month of DLS, it indicates to cross over the year. For example: the start 2007-9-14:00; the end 2008-4-14:00.

2. If select Mode2, set the start time of DLS: the Sunday of the sixth week in September, current year is 2007, then in 2008, no the sixth week but the fifth week in calenday, in this situation, system will regard the last Sunday of this month as the start time of DLS.

3. Set the start time of DLS: the Monday of the first week, current year is 2008, then in 2008, the first day is not Thusday but not Monday, in this situation, system will search the first Monday in this month.

3.2.1.3 AutoSync T

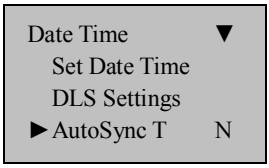
Use multiple US100s in the network and ensure the same time of each US100. If synchronize one by one, the workload is overlarged. You can use one machine or one PC in network as the time server. In the machine required to synchronize time, set the AutoSync t as the time server's IP, the other machines will synchronized time with server automatically when connecting to the server. It is required to ensure all machines can visit server.

For example: multiple US100s in one network have the functions of AutoSync T. Use US100A as the time sever, the time of A is dipalyed as 11:00 28th October, 2009, its IP address is supposed as 192.168.1.100. Synchronize M pieces of machines in network with US100A. Enter into Memnu → Option → System Opt → Date time→ AutoSync T item, and set it as server IP. After setting, restart the maihne. Then the machine will search the time server per a period of time, and synchronize the time with the server time.

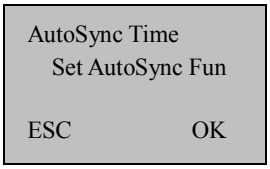
Operations

Set only two items of AutoSync Time and Timer Server to synchronize the time automatically.

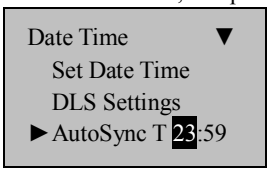
Enter into Menu→Option→System Opt→Date Time, select AutoSync Time as shown below:



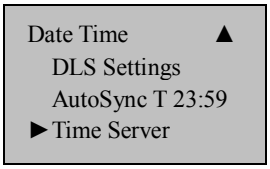
1) Press OK key to enter into this item and set the AutoSync function automatically, as shown below:

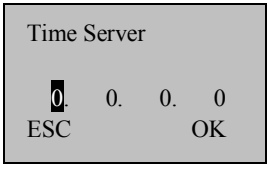


Pres OK key to confirm, then the window will return to the previous window and prompt to input the synchronization time, and press OK key to confirm.



Press ▲/▼ to select Time Server and the server's IP, and press OK key to enter into:

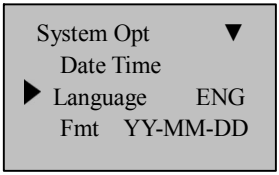




After setting the server's IP, press OK key to save and exit.

3.2.2 Changing the language

Select the language you want and press OK, the default language is English; the screen will show in English.

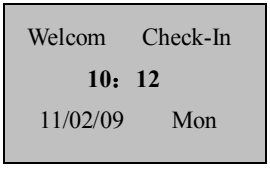


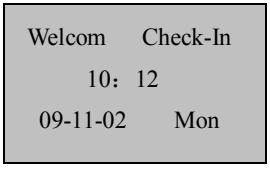
Press the up down key to change the type of language. Choose the language you want, and press OK then press ESC to exit system option, the system may prompt you to save the setup, press to confirm and change the system language setup. Be sure to restart you computer, so the setting takes effect.

3.2.3 Changing the Date Time Format

Set the displayed data format on the screen of US100. Select the format and press OK key to enter into the setting, and press "▲/▼"keys to select the format.

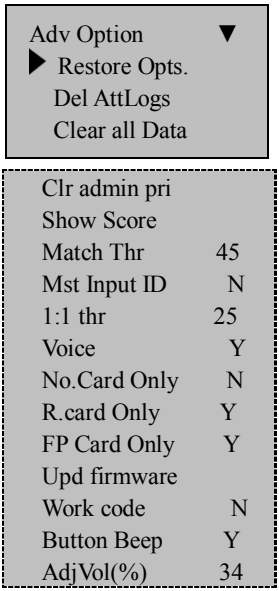
There are ten formats： YY-MM-DD、YY/MM/DD、 YY.MM.DD、MM-DD-YY 、 MM/DD/YY 、 MM.DD.YY 、 DD-MM-YY 、 DD/MM/YY 、 DD.MM.YY、YYYYMMDD. Select the format you want and press OK key to confirm, then press ESC key to exit from the system option. System will inform whether to save the settting. Press OK key to confirm, then the data format of system is changed.





3.2.4 Advance Option

Access Advanced Option, and press [OK] key. The following appears:



Press "▲/▼"to scroll up or down the screen to select the option.

1） **Restore Opts:** restore all setup information to default of leave factory.

2） **Delete AttLogs**: delete all attendance logs in storage chip.

3） **Clear all Data**: delete all enrolled user information and logs.

4） **Clear Admin' Privilege:** change the Administer privilege into ordinary users' option.

5） **Show Score**: whether show the quality value of fingerprint in the screen or not.

6） Match Threshold: set the match degree with the enrolled templates, please refer to **1.5 Match Threshold**.

7） Must Input ID: whether it is a must to input the ID number before using verifiction. If select “Y”, it is a must to input the ID number before doing 1:1 verification; if select “N”, vice versa.

8） 1:1 Threshold: when using ID+ fingerprint to verify, set the match level with enrolled template, please refer to 1.5 Match Threshold

9） **Sound:** if set the option as (**Yes**), the machine will send a hint sound for every operation example; if set the option as (**No**), the machine will only send a buzz of “di”.

10）**Firmware Upgrade**: The firmware in US100 can be updated by the upadate file in U disk through this item.

Notice: if this update file is required, please contact our technicians. In general, it is not recommended to update the firmware.

11）**No. Card★：** This item is set as “Yes”, only verify No. card to pass authentication. If this item is set as “NO”, after verifying Card, must go on fingerprint verification.

12）**R.Card Only★：** This item is set as “Yes” must register card on the machine first; if this item is set as “No”, need not to register card.

13）**FPCard Key★：** After this item is set, the US100 will be able to write in password to the card which has been register in the machine.

14）**Work Code:** set whether to use work code and its mode. There are thres

options: none, mode 1, mode2. The detailed, please refer to Appendix Work Code.

15）**Button Beep:** if set the option as (Yes), then as press the keyboard the machine will utter, if set the option as (NO), when press the keyboard the machine doesn't utter.

16）**Adjust Voice:** adjust the voice volume of keyboard sound.

Notice：

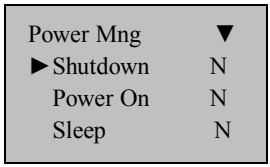
1. No. Card is valid for the machine that is provided with Mifare or ID Card.

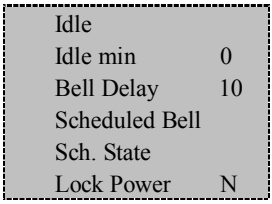
2. **R.Card Only. FPCard key** only are used in machine with Mifare function.

3.3 Power Manager

Power Manager mainly includes whether to power on or off the machine at the fixed time, the time of machine to power on or off, set lock closed to power off, switch the status at the fixted time.

Enter into Menu→Setup→ Power Mng. The following appears:



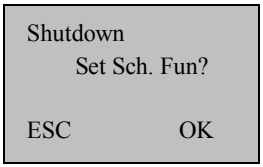


This product uses the smart manage system, supports the fixted time switch and idle features, it can satisfy the user's different demands.

1) Shutdown

Auto shutdown follows the schedule;

Select this item, and press OK key to enter following interface:



Press Ok key to set shutdown schedule，or press ESC to give up.

After complete setting schedule, press OK to confirm, so this function takes effect.

2） **Power on**: auto power up for the schedule, the setting is same as Shutdown；

3） **Sleep:** automatic resting for the schedule , press any key to enter working state；

4） **Idle and Idle Minute**: they are related each other, while the idle minute is zero, the idle is closed; while the idle minute is not zero (unit was minute), for example, it is one minute, the user does not do anything in one minute, and the system will enter the idle state.

5） Scheduled Bell&Bell Delay:

The system total has eight Bell schedules to set, according to actual need you may set time bell, when the time arrive at the appointed time, the US100 will automatically ring bell, the duration of ringing achieves assigned hour, the ringing will stop automatically.

6） Lock Power Button:

if set this option as (**Yes**), the “Shutdown machine” prompt will appear in this menun. In this time, the machine is no able to be shutdown by keyboard. Only enter the menu to choose “Shutdown machine” to realize machine off. If set this option as (**NO**), press the power key on keyboard to shutdown the machine.

7） Scheduled State

Status conversion: when the attendance machine is in use, the attendance state of records are varied with the different time segment, so there are six state keys on machine’s keyboard on some mahines to set current attendance state. State key is required to change the status by manual, that is, when it is required to use one attendance satus, press the corresponding status key. In order to reduce the manual operations, add a scheduled satus in mahine menu.

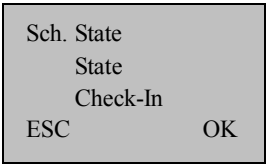
Scheduled State:

When reaching the time defined by user, the machine will change the attendance states automatically. Current attendance status is displayed in the initial window.

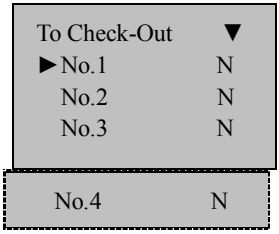
Scheduled state setting

- Set the time to change the state

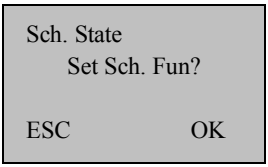
1. Enter Menu→Option→Power Manage→Sch. State, as shown below



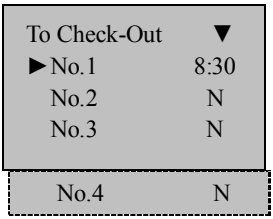
2. Press "▲/▼"keys to select the attendance state required to set, check in, check out, overtime in, overtime out. Press OK key to enter into the setting, here set the example for "check out", as shown below:



3. Set the time required to set. Firstly set the No.1 and press OK key, as shown below:

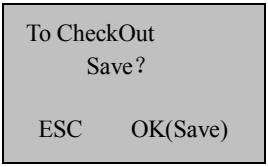


4. Press OK key to enter the following window, and press the digit keys on keyboard directly to input the time. Suppose the input time is 8:30, as shown below:



5. Press "▲/▼" to continually select the time required to set, the operation is same as step 4.

6. After setting, press ESC key to exit. The device will inform whether to save. Press OK key to save, otherwise press ESC key.

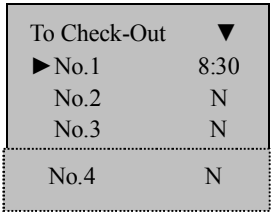


7. If save, the setting will take affect. When reaching the defined time, the attendance state will change to check out.

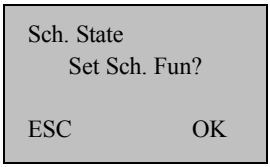
- Cancel the defined time to change status

1. Enter the well-set Sch. State window, here we cancel the above defined time in check out.

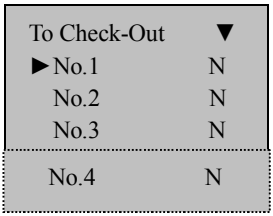
Enter inot Menu→Optin→Power Manage→Sch. State. Select "Check out", as below shown:



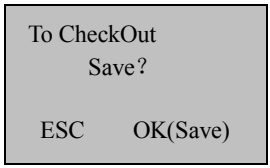
2. If want to cancel NO.1, select No. 1. Press OK key, as below shown:



3. Press ESC key to cancel the time No.1, as shown below:



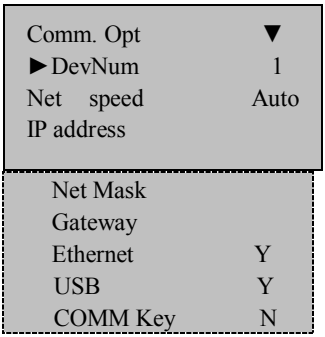
4. After setting, press ESC key to exit. The machine will prompt whether to save. Press OK key to save, otherwise press ESC key.



5. If press OK key to save, the setting will take affect. The sheculded time No.1 of check out is cancelled.

3.4 Communication Option

Access Comm. Opt menu, the following message appears：



1) **Device Number**: the machine's number, the range is **1 to 255**；

2) **Net Speed:** the speed of network. There are five items of Auto, 10M-F, 10M-H, 100M-F, 100M-H. It is suggested to use 10M-F in ZEM100 serial products. It is suggested to use AUTO in ZEM200 serial products.

3) IP address: the default IP address is 192.168.1.201. As you need to change it；

4) Net Mask: the default Net Mask is 255.255.255.0. As you need to change it；

5) Gateway: the default Gateway is 0.0.0.0. As you need to change it；

6) **Ethernet**: whether use TCP/IP protocol or not；If use Ethernet to communicate, select Y in this itme; otherwise select N.

7) **USB** whether use USB or not；If use USB to communicate, select Y in

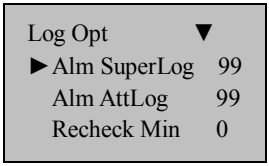
this itme; otherwise select N.

8) **Communication key:** when the key is 0, don't need password when communicating; when the key is the other value, need to input this communication key.

Notice： After setting, be sure to restart machine, so the configuration takes effect.

3.5 Log Options

Access Log Opt, the following message appears：



1) **Alarm Supervise Log**: when the rest management log capacity reaches the set numerical value, it will automatically prompt the warning information of rest logs.

2) **Alarm Attendance Log**: when the rest log capacity reaches the set numerical value, it will automatically prompt the warning information of rest logs.

3) **Recheck Minute**: Set it within the scope (Unit: minute). Someone's enrollment has enrolled, then, the log twice will not be displayed in the system.

3.6 GPRS★

GPRS is the title of General Packet Radio Service (General Packet Radio Service), is a radio package switching technology based on GSM system. GPRS is a high-speed data processing technology, in “Package” form to send materials to users. GPRS is especially suitable for intermittent, sudden or frequent, a small amount of data transmission, also suitable for the occasional large data transfer. This feature is just suitable for the most mobile internet applications. Such as mobile office, Internet access etc., it is even more evident of the superior technology in the transmission rate, wireless resource management, billing etc.

Our devices have also realized the GPRS function. GPRS module built in fingerprint products has achieved the data transmission by GPRS system.

The GPRS function, please refer to the appendix.

3.7 WIFI

WIFI’s full name is Wireless Fidelity, also called as the 802.11b standard. Its greatest advantage is that a higher transmission speed can reach 11Mbps. In addition, its effective distance is also very long, at the same time it is also complied with variously existed 802.11 DSSS devices. IEEE 802.11b wireless network specification is a variant of IEEE 802.11 network specification. The maximum bandwidth is 11 Mbps. In weak signal or interference cases, the bandwidth can be adjusted as 5.5Mbps, 2Mbps, 1Mbps. The automatically adjusted bandwidth can protect the network stability and reliability effectively. Its main features are: fast speed, high reliability; in the open area, the communication distance is up to 305 meters; in the closed area, the communication distance is from 76 meters to 122 meters; easily integrated with the existed cable Ethernet network, lower-cost

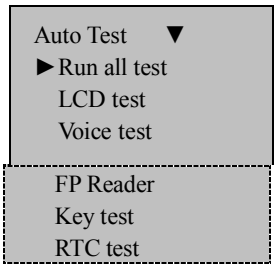
networking.

US100 has also realized the WIFI function. The WIFI module is built in mould US100 to achieve wireless data transmission via WIFI.

US100's WIFI function, please see the appendix.

3.8 Auto Test

Access auto test, the following message appears:

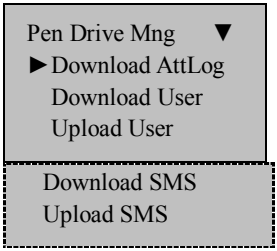


In the option, you can run system machine test. When the machine broken down, it can analyze the cause of the machine's fault and the machines were quickly and easily maintained.

It tests the **LCD**, **Voice**, **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.

4. How to Manage USB

Choose USB flash disk management in the menu; press [OK], the following appears：



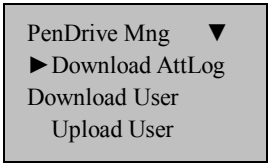
The USB flash disk can be used to download the attendance data, and download and upload employee data、short message.

4.1 Downlоad the attendance data

1） Insert the USB disk in the USB slot

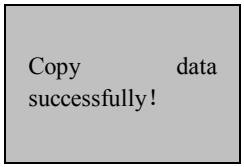
2） Press the Menu button to enter the “USB flash disk management” menu, Press “▲” and “▼”to scroll up or down the screen to select the “Download AttLog”,

3）Press “ok” to go on downloading data, after operation finish, this interface shows as follow.



4) Press “ESC” key to return to the initial interface，and take out U disk. The

three files of X_attlog.dat (attendance log), X_oplog .dat (management log), and X_user will be saved in the USB disk (X is a symbol of machine No).



Notice: It will show data copy successful when operation is finished. If it indicates No USB Disk or Please insert the USB Disk, please make an examination whether inserted USB.

4.2 Download User

The operation is similar with that of the attendance data. Enter "USB flash disk management" menu, and press "▲▼" keys to select Dowload User. The file of User.data (user data) and Template.data（fingerprint template）will be saved in the USB disk. These two files shall be downloaded at the same time.

4.3 Upload User

Enter Pendrive Management. Press "▲/▼" keys to scroll up or down to select the "Upload User", and press "OK" key to perform this operation. The two files of user.dat and template.data will be uploaded to US100 at the same time.

4.4 Download SMS

The operation is similar with that of the attendance data. Enter **Pendrive Managemen**t, and press "▲/▼" keys to scroll up or down to select the "Download

SMS". Press OK key to perform this operation. After finishing, system shows whether the operation is successful.

SMS Function:

US100 has provided the function to send the public and private short message to the specificed person at the specified time. We only need to set at the background software and upload it to US100. The public information will appear on the screen all the time when machine statting-up, while the private information will appear after the user's fingerprint authentication passed. So the workload of personnel is reduced and the work effenciency is improved greatly.

Send a message for an individual. For example an employee's birthday is in October 20th, and we can set a short message "Happy birthday to you" for him at the background software and upload it to the machine. After the employee's authentication passed at that day, this message will appear on the screen.

Send a message for multiple persons. For example, it is required to have a meeting of the whole company in Aprirl 19th. We set well at the background software and upload it to the machine. Till this day, the "XX meeting in xx meeting room, please everyone attends it at the time of xx o'clock (set the message as you like)" will appar on the screen.

Set short message: In the attendance software, set the short message well and then upload it to the US100. US100 supports two ways to import: one is to import directly by software connecting US100, and the other is to import from U disk.
The detailed operations are as follows:

1. Set the message well at the place "external program"—"short message management" in the attendance softare. Connnect US100 and upload the messge to US100.

2. Set the message well at the palce “external program”→”short message management”. Select “external program”→”USB management”→”Export a message”→”Export a message to USB”. After exporting successfully, insert USB into US100. Select “Menu” →“USB management” → “Upload SMS”.

SMS’s effection: the publich SMS will apearr all the time when US100 startting-up. The private SMS will appaear after the use’s fingerprint authentication is passed.

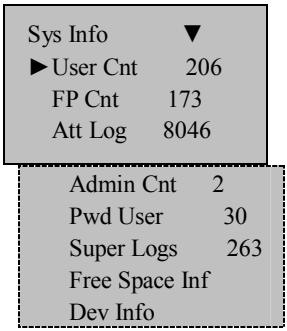
Notice: the totoal number of private and publich short-messages is 1024.

4.5 Upload SMS

After set Short Message where is under the software, “External program”-> “Short message”. Select “External program”-> “U disk management”-> “Export Short Message”-> “Export SMS to U disk”. After exporting SMS successfully, plug the U disk into US100. Select item from US100 via “Menu”->“Pendrive Mng” -> “Upload SMS”. Send the customized SMS to the US100.

5. System Information

Through system information you can view machine's all information. Access [Menu] to Sys Info, press [OK], the following appears：



This screen displays the amounts of users enrolled, fingerprints, passwords, attendance logs, administrators enrolled, supervisor logs. You can view the rest space in fress space information and view the device capacity, factory data, serial number, manufacturer, the algorithm's version number, firmware version number and so on in device information.

6. View T&A Records ★

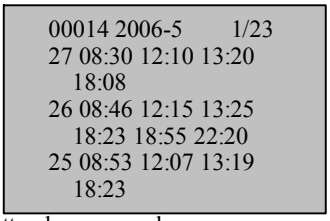
US100 provides a capability to query one staff's records or all staff's attendance records without connectiong to software.

1）The way of inquiring attendance records

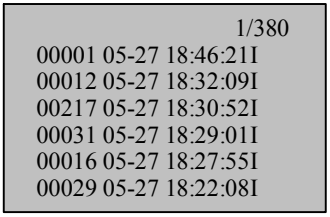
This machine provides user with two inquiring ways：

- Enter menu->view attendance records. Input a registered No. that you want to inquire，and choose [**OK**] key to inquire attendance records of the staff whose PIN is appointed. If don't input staff's No., keep the screen displaying as "00000", the inquiring function will display crew's all attendance records；
- After a staff is checked, before the interface will restore to the initial attendance interface, press Menu key to inquire this staff's attendance records.

For example：Query attendance records which attendance ID is 00014.



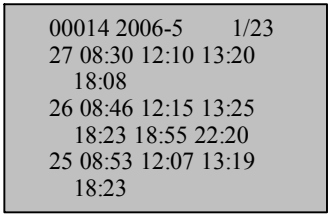
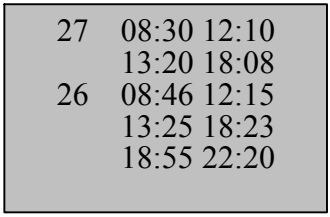
Query all attendance records：



2）The way of browsing attendance records

The attendance records are in order according to record time from newly to old. During browsing, use the following keys to operate：

<table>
<tr><td>Key</td><td colspan="2">Function explain</td></tr>
<tr><td>▲</td><td colspan="2">previous display content</td></tr>
<tr><td>▼</td><td colspan="2">Next display content</td></tr>
<tr><td>1</td><td colspan="2">move a rank to left for displaying content</td></tr>
<tr><td>3</td><td colspan="2">move a rank to right for displaying content</td></tr>
<tr><td>OK</td><td colspan="2">restore right and left displaying position to initial value</td></tr>
<tr><td>2</td><td colspan="2">move a line up for displaying content</td></tr>
<tr><td>5</td><td colspan="2">move a line down for displaying content</td></tr>
<tr><td>4</td><td>Switch displaying modes of the compact-form/complete-form record.
For example the right figure is the displaying modes of “complete-form record” and “compact-form record”.
● Compact form: it is designed to the record displaying form that can demonstrate enough many information on the LCD screen.
● completes the form: it is</td><td>1/380
00001 05-27 18:46:21I
00012 05-27 18:32:09I
00217 05-27 18:30:52I
00031 05-27 18:29:01I
00016 05-27 18:27:55I
00029 05-27 18:22:08I
The complete form
1/380
00001 27 18:46IF
00012 27 18:32IF
00217 27 18:30IF
00031 27 18:29IF
00016 27 18:27IF
00029 27 18:22IF
The compact form</td></tr>
</table>

	designed to record demonstration form that can demonstrate the integrity field value	
6	Alter the fonts/small font's record displaying mode, like as the right figure, take "individual attendance interface" as an example, the effect figure is to alter small font and big font.	 Small font  Big font
9	The latest record	
0	The oldest record	

3）View records and print out

When viewing records on US100, you can press OK key to print out record content displayed on the current screen. The super terminal can also be used to view this export.

7. Maintained

1. Cleaning

From time to time, the surface of optical sensor, the keypad and display window will be required to clean. Since its working environments differ, it is not possible to define when cleaning should be performed. Following is guide:

Table 0-1 Maintainence Explanation

Item	Cleaning Frequency
Keypad and display window	Cleaning when visibly dirty and hard to read. See the introduction below.
Optical sensor	Do not over clean. The sensor is designed to work better under greasy conditions.
	However, do clean if the sensor is affected or covered. See the introduction below.

2. Cleaning the Keypad and LCD

To clean the keypad and display, use the wet washcloth or the other neutral cleaning detergent to clean in shutdown status, and then dry them.

3. Cleaning the Optical Sensor

In shutdown status, clean the optical sensor as follows:

(1) If dusty or gritty, first blow on surface of the sensor to clean off any loose particles.

(2) Use the adhesive tape to clean surface of optical sensor.

Warning: don't use water and the other cleaning agents for cleaning, which may damage the optical lens.

(3) Use the fine cloth with no small cotton to dry it. Be careful not to scratch the lens. If there is some small cottons on lens, below them off after the sensor is dry.

Appendix

USB

1. USB Host

Regard US100 as USB host, which can connect the external USB to exchange data.

The traditional fingerprint attendance machine only supports the RS232, RS485 or Ethernet and so on to transimit data, when as a result of physical condition limit, data quantity big, and the data transmission costs quite a long time. But the USB data transmission is more quick than the former any transmission mode. When need to download data, firstly plug the U disk into the US100 to download data, then insert U disk into the computer to export data. Moreover our US100 also supports to mutually pass the user information and the fingerprint data between two machines. Thus it has solved the tedious wiring work when the traditional US100 transmits data with computer. Do not worry for the traditional wiring.

About operations when device is as USB Host, please see the details in "7. USB manage".

2. USB Client

Regard US100 as the mobile storage device to connect with PC, through USB connection cable to transimit the data in US100 to PC.

When regarding US100 as USB client, USB communication will appear in US100 communication setting menu, please refer to the introduction in "3.4 Communication settting".

Notice: when uses US100 of USB client to connect with PC, user must install the revelant driver in PC.

Nine Digit Codes★

When go on enrolling user in US100, along with the standard enrolling code is five digits（its range is 1-65535. If you need that the enrolling code is longer in the actual application, we can provide a customized design that the machine owns nine digit codes.

EM only-reading card★

In order to meet the market need of wide-used RF cards, we have developed the US100 embedded with specified reading-card module of contactless RF EM card, which integrates fingerprint as well as EM only-reading card together, can be very easily integrated into the existing the one-card system of phone, sales meals, access control. This US100 has multiple authentication modes of fingerprint, password, card, card plus fingerprint, card plus password and so on, so can meet the needs of different groups of people.

The reading-card distance is 5cm. It supports ID/EM cards such as the thick card(1.88mm), the thick and thin card(1.05mm), the thin card(0.88) with working frequency as 125KHZ.

HID card★

In order to meet the market need of wide-used RF cards, we have developed the US100 embedded with specified reading-card module of contactless RF HID card, which integrates fingerprint as well as HID only-reading card together, can be very easily integrated into the existing the one-card system of phone, sales meals, access control. This US100 has multiple authentication modes of fingerprint, password,

card, card plus fingerprint, card plus password and so on, so can meet the needs of different groups of people.

The reading-card distance is 2-5cm. It supports HID cards with working frequency as 125KHZ.

Mifare card★

In order to meet the market need of wide-used RF cards, we have developed the US100 embedded with specified reading-card module of contactless RF Mifare card, which integrates fingerprint as well as Mifare only-reading card together, can be very easily integrated into the existing the one-card system of phone, sales meals, access control. This US100 has multiple authentication modes of fingerprint, password, card, card plus fingerprint, card plus password and so on, so can meet the needs of different groups of people.

The reading-card distance is 3-5cm. It supports contactlessly intelligent Mifare cards with working frequency as 125KHZ.

Web Attendance★

Summary

This attendance system is based on Web Server technical, uses web page request to process and manage data. It integrates many features such as on-site data collection, on-site intellectual port (RS232/RS485), various communication protocol conversion, image collection, alarm data storage, and WEB server etc. The unified monitoring platform based on this device has provided one solution for on-site equipment management as well as attendance monitor very easily. It is independent

on regional limit, and does not need to install other software. Through browses such as IE, Netscape and so on, remotely downloads the staff data information in fingerprint terminal, and then creates report tables for enterprise management and decision-making. It supplys easy way for manager of enterprise know the employ in post or attendance state at any moment, in time search for information, statistic data, deal with operation at same time, provide a solution of staff attendance, check in or out management, pay roll management, in word and deed realize that at everywhere any moment the information is synchronization.

The actions of Web Server built in device

1. a few or nobody keep watch

   Thought TCP/IP and Ethernet, WEB Server is able to be applied to on-site. The data stored in machine can be watched and dealed with via long distance network. With browser, it is not need to administrator or person specially assigned go to local for to achieve task, collect data, upload and download data, as well as upgrade system, not have the other softwares and tools.

2. Fully compatible with the revelant programs

   WEB Server platform may be fully compatible with the other relevant programs. Each other entirely is mutually beneficial, ability to much more flexible to meet customer need.

3. More reliable, fast through long distance transfer data communication mode

   Through Web Server, the data is able to reliable and fast be download local system, utilize browse ability to down all data in short time, do not worry about the data's reliability

4. More flexible, easy for data management and source share

   Via the application program created by Web server platform, data management becomes more easy and flexible.

5. May easy integrate OA, CRM system in network, reliable base on network human force management.

Understanding SOAP

SOAP define

SOAP is a lightweight protocol intended for exchanging structured information in a decentralized, distributed environment. SOAP uses XML technologies to define an extensible messaging framework, which provides a message construct that can be exchanged over a variety of underlying protocols. The framework has been designed to be independent of any particular programming model and other implementation specific semantics.

SOAP application

Our US100 can fully support XML-based soap, you can build in soap request in your software, use it to download, upload the user's information, fingerprint information and verification record. It is convenient to import these datum enterprise's database, also can meet enterprise manage employee and different software request.

SOAP protocol specification based on iClock

Agreement:

1. All parameters are sent in <Arg/> form, the form <Arg PIN="2"/><Arg> in parameters values is equal to the form <PIN>2</PIN></Arg>.
2. All returned values are returned in <Return/>, the returned value is returned in the attribtion form. For example <Return PIN="2"></Return>
3. All SOAPs are submitted in POST method.
4. If error occurs, return the standard Soap error mark

<SOAP-ENV:Fault>
<faultcode>500</faultcode>
<faultstring>Internal Error</faultstring>
</SOAP-ENV:Fault>

The other errors, please comply HTTP error status code.

If the submitted SOAP-XML format isn't compatible with WELL FORMAT or the visited method name doesn't exist, system will return 500 general service error. For example, if visit the service name wrong, return 404 error in the head of HTTP.

Service name: iWsService

This service name has designated the SOAP service provided by Web Server is required.

HTTP head:

Comply with standard SOAP-HTTP head regular

POST /iWsService HTTP/1.0 'need SOAP service

Content-Type: text/xml 'It is required to designate the SOAP analysis format as XML.

Content-Length: nnnnn 'It is required to designate the size of XML requested by SOAP.

SOAPAction:"uri:someuri" 'The extended HTTP protocol, indicates URI after the action field of this SOAP can be empty. The acceptable formats are:

SOAPAction:

SOAPAction:""

SOAPAction:"uri:someuri"

Uri can be the name of any legal field

Server will return after responding to SOAP request.

HTTP/1.0 200 OK '200 indicates successful

Server: ZKWEBSERVER

Content-Type: text/xml

The returned XML-SOAP data.

Notice: If you want more details, please contact our technical Assistance.

GPRS function ★

1. GPRS function

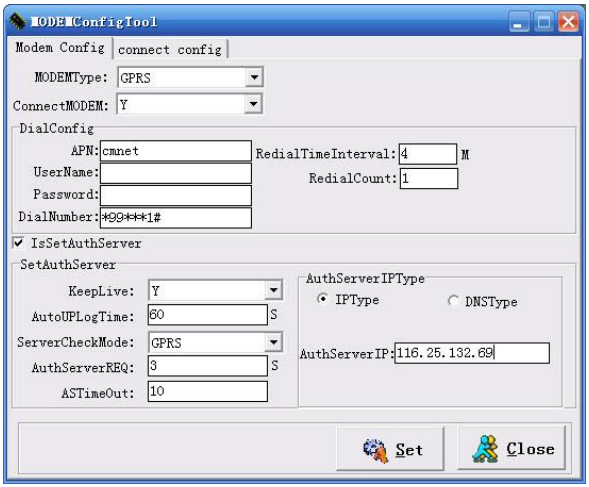
1) Only attendance records can be transmitted.

2) Only support GPRS network which connects to Internet directly, not support WAP (Wireless Application Protocol).

2. Use GPRS configuration program

Double click Config.exe in disk, and set US100 configuration parameters by running GPRS configuration tool. When device is used in dialing network, please make sure that the device is in the area covered by GPRS or CDMA singal and must know the used modem type, APN name, and access number etc.

1) Modem Config: GPRS parameter setting



ModemType: select the modem type for device according to the type of SIM card.

ConnectMODEM: whether use modem.

DialConfig (Dial setting)

APN: Access Point Name, used to identify the business type of GPRS/CDMA.

UserName and Password: verify whether the user has the privilege to use the

network.

DialNumber: the access number of GPRS/CDMA business.

RedialTimeInterval: it will re-dial per a period of time if network broken.

RedialCount: the times of device to re-dial if network broken.

SetAuthServer (Server Setting)

Set the device's server parameter. The server is used to collect attendance records of device (Install data collection software provided by the company in the server). After setting correctly, the device will send attendance records to the server automatically.

KeepLive: whether the device remains GPRS in live status.

AutoUPLogTime: the device will upload attendance records to the server per a period of time automatically.

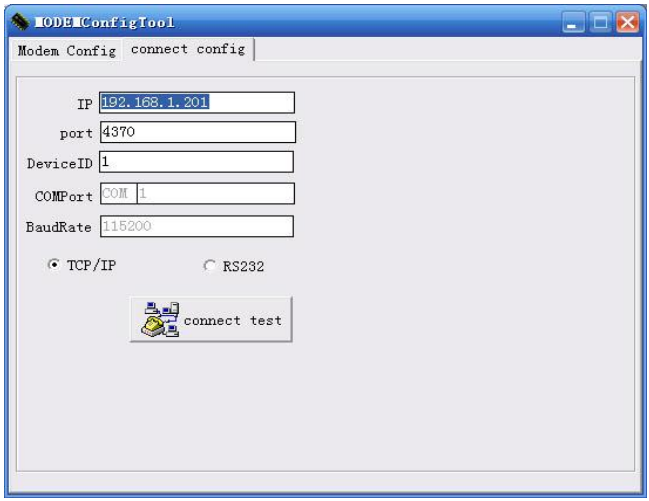
ServerCheckMode: select to check by GPRS or LAN method.

AutoServerREQ: device will check automatically per a period of time.

ASTimeOut: the timeout time of auto upload

AuthServerIPType: set the address type of server.

2）connect config: set the communicaton parameters between program and US100.



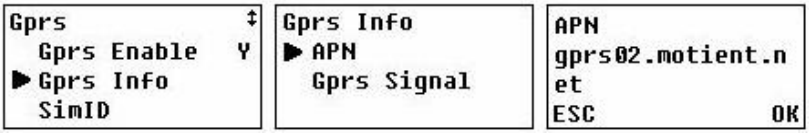
This communication parameters here are in accordance with those in US100'menu->Setting->Communication setting. Click 'connect test' button to test the connection. After connecting successfully, the device can write the set parameters in Modem Config into US1000. After setting, please restart US100.

3. Devcie's GPRS setting

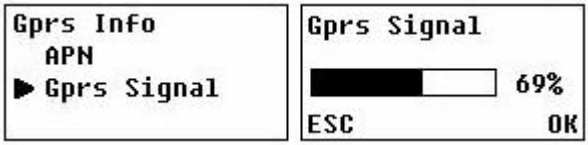
The machine with GPRs function, the GPRS option will appear in the menu settings.

1) In Menu->Options->Gprs->Gprs Enable, select 'Y' to open GPRS funcation or select 'N' to close GPRS function.

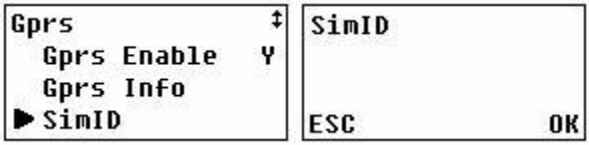
2) In menu->option->Gprs->Gprs Info->APN, you can view APN of the device.



In Menu->Option->Gprs->Gprs Info->Gprs Signal, you can view the GPRS signal of this device.



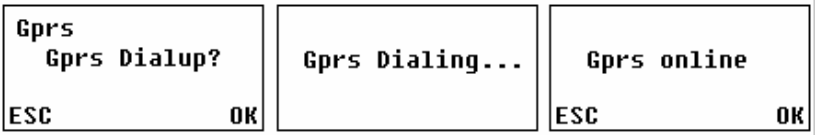
3) In Menu->Option->Gprs->Sim ID, you can vie the card number of Sim card.



4) In Menu->Option->Gprs->Shut/Link Gprs, you can do dialing-up or shutting

operation.

GRPS dials up successfully in work status.



If GPRS is already set as “Disabled”.

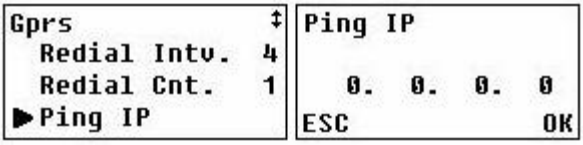
5) In Menu->Option->Gprs->Band, set the frequencies of GPRS, including 7 various frequencies of 900/1800, 850/1900, 900/1900, 850, 900, 1800, 1900, set according to the locally used frequency, for example, set as 850/1900 if in America.

6) In Menu->Option->Gprs->Redial Intv., set the time interval to re-dial. The unit is a second, and the range is from 1 to 999.

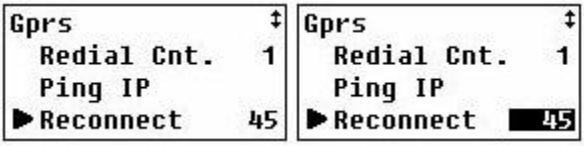
7) In Menu->Option->Gprs->Redial Cnt, set the times of GPRS to re-dial. The unit

is one time, and the range is from 1 to 999.

8) In Menu->Option->Gprs->Ping IP, set the IP address to test GPRS connection.

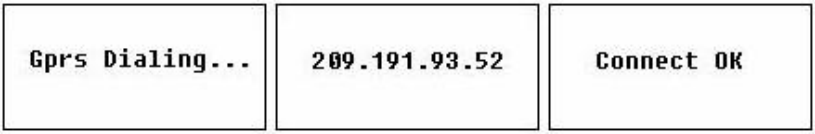


9) In Menu->Option->Gprs->Reconnect, set the time interval of GPRS connection. The unit is second, and the range is from 0 to 999. When set as 0, it indicates not to have a connection test.



10) In Menu->Option->Oprs->GPRS TEST, test GPRS connection status

After GPRS dialing-up successfully, check whether GPRS can work normally through testing dialing and designated network address（209.191.93.52）.



4. Start Gprs function and Dial-up

1) Use Gprs configuration program to configure Gprs parameters for machine.

2) Set ‘Start Gprs’ item as ‘Y’.

3) Enter into Menu->Option->Gprs, select ‘Shut/Link Gprs’ and then press ‘OK’. A message box “Gprs dialing?’ will appear, and press OK to proceed Gprs dialing, thie process maybe continue for a period of time, please be patience,

If inform “”, it indicates successfully.

If informs ‘Gprs Link Faile’, it indicates connecting failed.

5. Install and use data collection program

Install

1) If you have installed Microsoft.NET Framework1.1 Package in your PC, please double ‘GPRS-Install.msi’ file in disk to start installing Gprs data collection program.

2) In no Microsoft.NET Framework 1.1 Package installed, you can download this program in its official Microsoft website; you also can double click ‘dotnetfx.exe’ file in disk to start installing Microsoft.NET Framework 1.1.

3) Or double clidk ‘Setup.exe’ file in disk to install Microsoft.NET Framework 1.1, Gprs data collection program at the same time.

Introduce the installing process of GPRS_Install.msi in the following. Please self-install Microsoft.NET Framework 1.1.

Step 1: double click GPRS_Install.msi in the disk, the following window appears:

Step2: Click ‘Next’ to select the installing path of program.

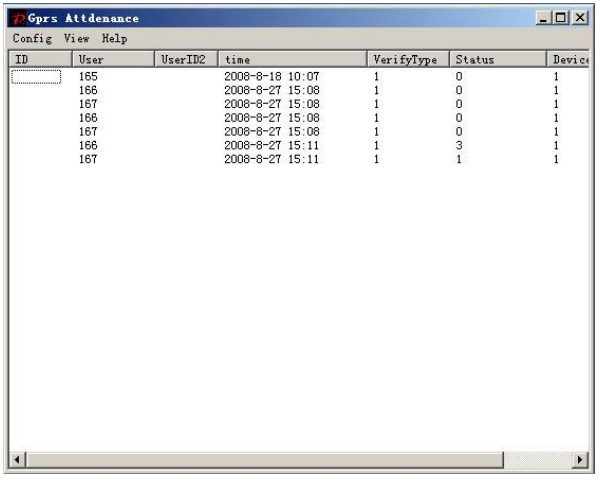
Step 3: click ‘Browse’ to select the installing patch (default path is recommended), and then click ‘Next’.

Step 4: the above window appears, click 'Next' to start installing program.

Step 5: till inform 'Installation Complete', which indicates a successful installation.

Use data collection program

When dial-up and connect data collection server successfully, US100 will upload records in device to server per a period of time (AutoUPLogTime).



6. Problem Detection

1) Enter into Menu->Option->Gprs->Start Gprs, check whether 'Start Gprs' is set as 'Enable', if not, please set it as 'Enable' and then save and exit.

2) Enter into Mneu->Option->Gprs-Gprs dial, select 'Signal strength' and then press 'OK' to detect.

If the signal is as 0, it indicates GPS moduel is not connected well, short-circuit etc. It is required to check the hardware.

If the signal is less than 20%, it indicates the GPRS signal isn't stable.

If the signal is bigger than 20%, it indicates the GPRS module works normally.

3) Confirm whether the SIM card is inserted, if SIM card is already inserted, the machine will restart.

WIFI function ★

1. Before configuration

US100 in the wireless network as the workstations within the same work, US100 applies to the wireless network, 802.11 networks for the other physical components, such as access points, distribution systems, wireless media, must be present.

US100 works as the workstation in wireless network, before US100 is applied to wireless network, the other physical components of network 802.11 such as access point, distribution system, wireless medium must exist.

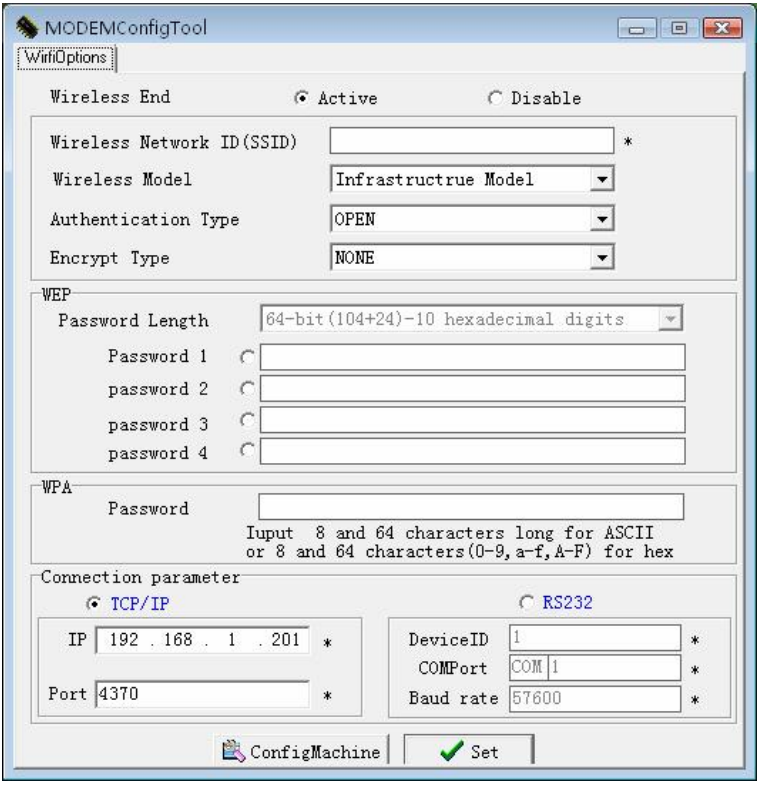
Must know the ESSID (network identification name) used to access network.

2. Operation step

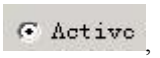
1) Copy the attached WiFiConfigure provided by manuafacturer to PC.

2) Connect US100 to PC.

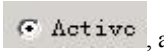
3) Double click ZKMACUpdate to open this file, the following window appears:



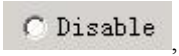
3. Activate software

There are two items of 

at the top of this window. The items must be set for every wireless terminal.

If select the item 

, activate the wireless terminal, then configure the access point of network 802.11.

If select the item 

, disable the wireless terminal.

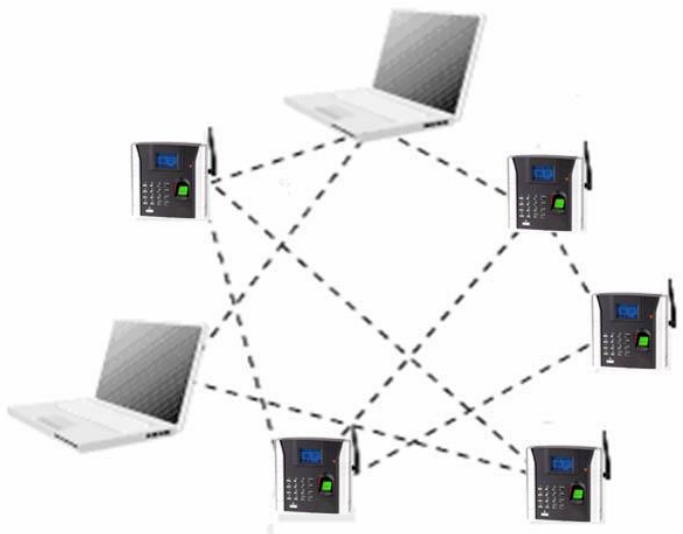
4. Network ID

Use characters or digits to fill the input box, the wireless Network ID you want to acess (distinguish the capticals from small cases).

Notice: Those input boxes marked "*" at the back must be filled

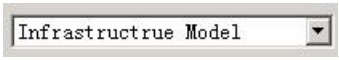
5. Network Stucture

There are two modes: basic mode (Infrastructure Model) and special mode (Ad-hoc Model). Basic model corresponds to the star-structure network, and special model corresponds to the peer-to-peer network, as shown below:



Start-structure newtork

Point to point network

Click the drop-down box 

, and select the network mode according to the different network topology structure. Basic model corresponds to the star-structure network, and special model corresponds to the peer-to-peer network.

6 Select authentication type

Basic model includes five authentication types: OPEN, SHARED, WEPAUTO, WPAPSK, WPA2PS.

Special model includes four authentication types: OPEN, SHARED, WEPAUTO, WPANONE.

Click the drop-down box 

to select the authentication type.

7. Select encryption mode

When select Encrypt Type as none, the password in WEP (wired equivalent privacy) and WPA (WiFi protested access) can't be edited, that is, it isn't required to input the password.

According to the selected authentication type and encyp type, click the drop-down box 

, input the password complied with requirement in WEP or WPA column. The password formart will be set by the software automatically.

Notice: there are four groups in WEP column. If four groups of passwords are set correctly, only current selected password will take affect.

8 Set connection parameter

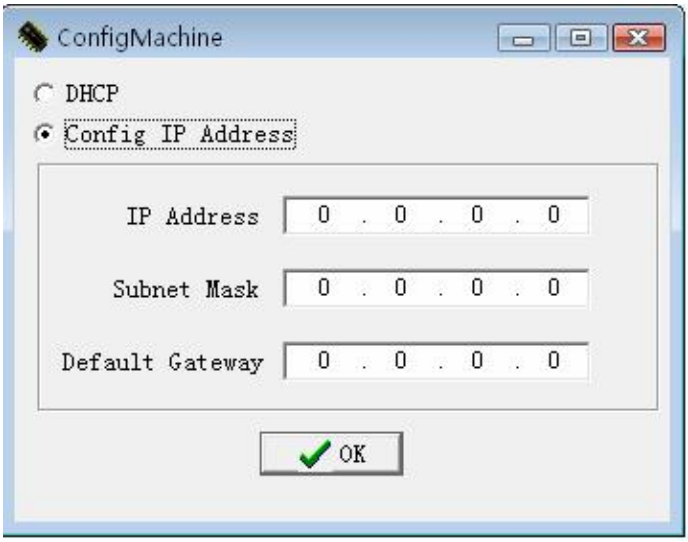
There are two conection modes to connect the machine: one is TCP/IP, the orther is RS232.

When select TCP/IP, input the IP address and the Port. Set the IP address same as the machine's IP, and set "Yes" in Ethernet item of machine.

When select RS232, set DeviceID, COMPort, Baud rate same as those of machine's communication.

9. Configure wirelss network IP address

Click the button configMchien to pop up the following menu:



If in wireless network 802.11, select DHCP and press OK key to eixt when there is the function of DHCP.

Otherwise, input the correct IP address, net mask and so on, and press OK key to return to the main window.

Afte setting the wireless network, click the “set” button at the window of MODEMConfigTool window. The machine will display the work status. After setting, the prompt message of success will appear. Click OK key on the prompt message to close the prompt message, then shutdown and restart the machine.

10. View US100’s wireless network setting

Power on US100, access Menu → System information → device information → wireless card → ransb0:

Work code

[Function]

In order to distinguish records according to the different situation, we bring forward the concept of work code. For example: we define having a dinner as 1, seeing a doctor as 2, smoke as 3, input the corresponding value in corresponding event. So the software can distinguish the event 1, 2, 3 conviently.

[Operation]

In the machine which supports this function, press to enter Menu→Option→ Advance Option→ work code, set the work code, there are three options of mode 1, Mode2, None.

Select "mode 1", that is, after passing the fingerprint authentication, it is required to input the work code (can input 1~ 9 digits), and then press OK key. The record and the inputted work code will be saved together.

Notice:

1) If press OK key directly after passing the authentication without inputting any digit, the work code will be marked as 0.

2) If input the work code but not press OK key after passing the authentication, the work code will be marked as 0.

3) If no operation for machine after passing the authentication, the machine will save this record and mark the work code as 0 automatically in 5 seconds.

Select "Mode 2", that is, firstly press "▲" key to prompt and input the work code (can input 1~9 digits), and then press OK key to prompt and press the fingerprint. After a successful fingerprint authentication, the record and the inputted work code will be save together.

Notice:

1) If authenticate directly without pressing "▲" firstly, still can pass the authentication, but the work code in record will be 0.

2) If no operation after pressing "▲", the machine will return to the original window in 10 seconds.

If select "None", this function will be invalid. Any operation will not prompt to input the work code.

Notice:

1. Current attendance software can save this field into database during downloading records, but not to deal with the work code.

2. Now the standalone communication SDK can support the work code. In the second development, users can deal with work codes in category according to the different code. So realize the statistics of different events, the statistics of different authentication modes and so on.

Statement on Human Rights and Privacy

Dear Customers:

First of all, thank you for using the identification product designed and produced by us. As the world famous provider of leading identification technology, we attach great importance to the law involved in human rights and privacy in every county.

Therefore, we have the following statements:

1. Our civilian identification equipments only capture character points rather than images, not concerning in retaining privacy.
2. The captured character points cannot recover the original image, not involved in privacy.
3. We (as provider of equipments) have no direct or indirect legal liabilities for any negative consequences arising from using the equipment.
4. If you have dispute about human rights or privacy, please contact your employer.

Our other police equipment or development tools will provide function to capture citizens' original image. As for right infringement, please contact government or the equipment's ultimate provider. We have no any legal liabilities for it.

Notice: Chinese law provides citizen personal freedom rights, including the following:

1. The person is free from unlawful arrest, detention, search and infringement.
2. Personal dignity related with personal freedom is out of infringement.
3. Citizen's residence is inviolable.
4. Citizen's communication freedom and privacy are protected by law.

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

Environmental protection

The environmental protection use period marked on our products is the safety period of our products used under the conditions specified by this manual without toxic and harmful substances leaking happened

The environmental protection use period marked on our products does not include the easy wear and tear components required to be replaced regularly such as the battery etc. The battery's environmental protection use period is 5 years.

The toxic and harmful substances or element names and the content table

Part name	The toxic and harmful substances or elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr6 +)	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
SMD resistor	×	○	○	○	○	○
SMD capacitor	×	○	○	○	○	○
SMD inductance	×	○	○	○	○	○
SMD diode	×	○	○	○	○	○
ESD components	×	○	○	○	○	○
Buzzer	×	○	○	○	○	○

Adapter	×	○	○	○	○	○
Screw	○	○	○	×	○	○

○：Indicate that the content of the toxic and harmful substance contained in all homogeneous materials of this part is in the limitation requirement stipulated in SJ / T 11363-2006.

×：Indicate the content of the toxic and harmful substance contained in at least one homogeneous material of this part is beyond the limitation requirement stipulated in SJ / T 11363-2006.

Notice: The 80% product has adopted the manufacture with non-toxic and harmless environmental protection materials, the non-toxic and harmless substances or elements instead of the toxic and harmful substances or elements contained can not be achieved because of the current technology and economic constraints.