

Facing the Future



MultiBio700

Biometric Access
Control Terminal



User Manual

Version 1.1

Date: September 2011



Viper Facial / Biometric Device

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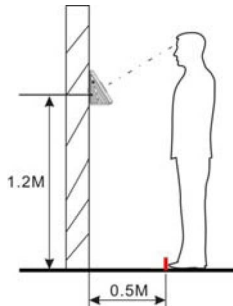
1. Getting Started

1.1 Position, Posture and Facial Expressions

Recommended installation and standing distance:

For users 5-6 feet tall (1.5m-1.85m) we recommend users stand about 2 feet (0.5m) from the wall.

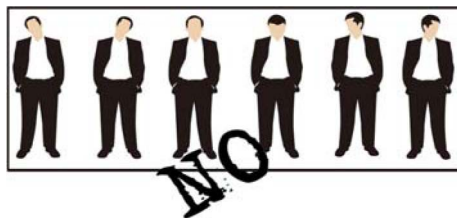
When viewing your image on the device display window, step away if your image appears too bright. Step closer if your image appears too dark.



Recommended Facial Expressions VS Non-Recommended Expressions:



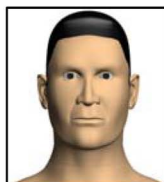
Recommended Posture VS Non-Recommended Posture:



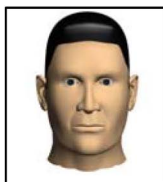
1.2 Enrolment Facing Directions

During the enrolment, position your head such way that your face appears in the center of the device display window. The device will prompt you how to move your head.

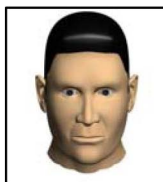
Follow the voice prompts by first gently turning your head :



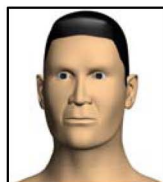
Look ahead



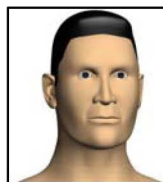
Look at screen



Bow down



Turn left



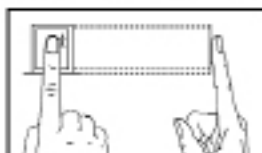
Turn

1.3 Fingerprint Placement

Recommended fingers: The index finger, middle finger or the ring finger; the thumb and little finger are not recommended (because they are usually clumsy on the fingerprint collection screen).

Please enrol and verify your fingerprint by using the proper finger placement mode. We shall not be held accountable for any consequences arising out of the degradation in verification performance due to improper user operations. We shall reserve the right of final interpretation and revision of this document. including the installation guide, access control software user manual.

1. Proper finger placement:



The finger is flat to the surface and centered in fingered guide.

Summary

* Please ensure correct installation procedures.

* Take note of the position, posture and facial expressions.

* Take note: variations are slight movements

* The slight variations of the head angles will help the device to better recognize your face when you attempt to verify.

* Ensure correct fingerprint placements.

1.4 Correct usage of Touch Screen

Touch the screen with one of your fingertips or the edge of a fingernail, as shown in the following figure. A broad point of contact may lead to inaccurate pointing.



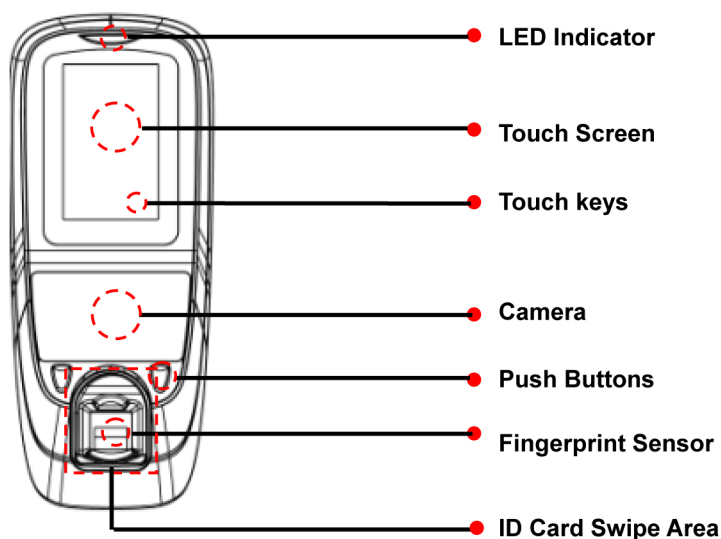
When the touch screen is less sensitive to the touch, you can perform a screen calibration through the following menu operations.

1. Press [Menu] -> [Auto Test] -> [Calibration] on the screen and a cross icon will be displayed. After you touch the center of the cross at five locations on the screen correctly, the system will automatically returns to the main menu.
2. Press [Exit] to return to the initial interface.

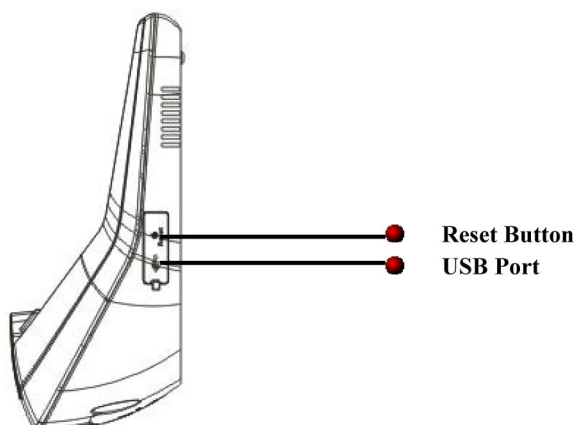
Smear or dust on the touch screen may affect the performance of the touch screen. Therefore, try to keep the screen clean and dust-free.

1.5 Product Appearance

Front View:



Side View:

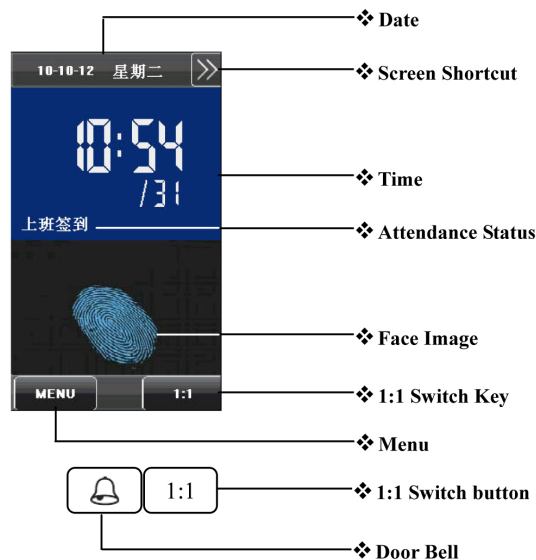


Summary

* Ensure correct usage of the touch screen.

* Calibration is recommended for correct usage of touch screen

1.6 Main Interface



1. Date : Current date is displayed
2. Screen Shortcut Keys : Use to display attendance status. (user can customise)
3. Time : The current time is displayed. (12 & 24 hour are available)
4. Attendance status : Displays the current selected status
5. Fingerprint / Face image : Recognition mode
6. 1:1 Switch Key : Change verification mode
7. Menu : Enter the "Menu"
8. Door Bell : Visitors press to ring door bell inside office
9. 1:1 Switch Key : Change verification mode

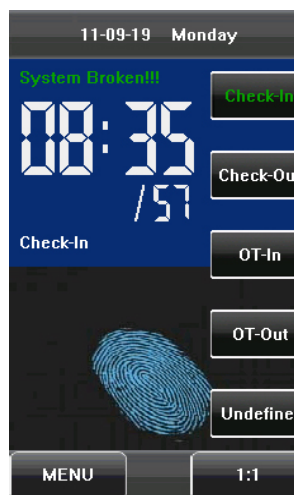
1.7 Verification Modes

1.7.1 Fingerprint Verification Mode

1.7.1.1 1: N Fingerprint Verification

In this fingerprint verification mode, the device compares current fingerprint collected by the fingerprint sensor with all fingerprint data on the device.

1. The default main interface is the fingerprint verification mode. See the figure on the right.
2. Press your finger on the fingerprint sensor by adopting the proper finger placement.
3. If the verification is successful, the device will prompt "Verified".
4. If the verification is not successful, the device will prompt "Please try again".



* 1 : N - One to Many (the system compares your fingerprint to all other fingerprints on the system).



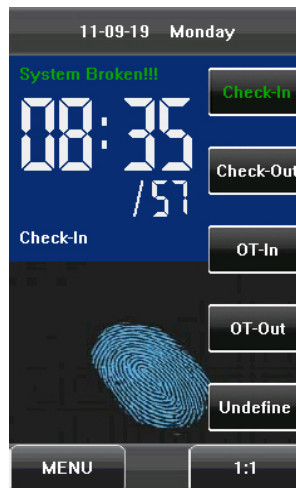
* Successful and unsuccessful verification

Summary

1.7.1.2 1:1 Fingerprint Verification

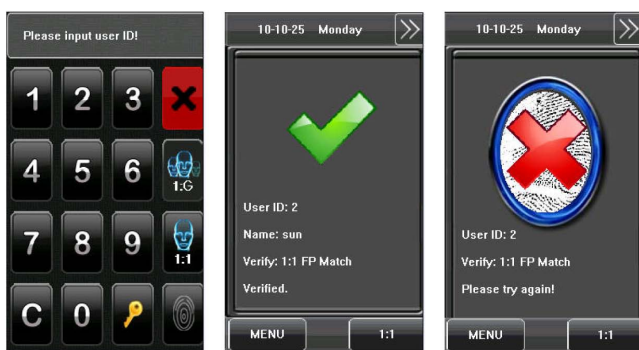
In the 1:1 fingerprint verification mode, the device compares current fingerprint collected through the fingerprint sensor with that in relation to the user ID entered through the keyboard. Adopt this mode only when it is difficult to recognize the fingerprint.

1. Press [1:1] on the screen or [1:1] button to enter the 1:1 fingerprint recognition mode.
2. Enter user ID and then press the "Fingerprint" icon to enter the 1:1 fingerprint recognition mode. If the prompt "Unregistered user!" is displayed, the user ID does not exist.
3. Press your finger on the fingerprint sensor by adopting the proper finger placement. For details, see 1.3 Finger Placement.
4. If the verification is successful, the device will prompt "Verified", otherwise the device will prompt "Please try again".



Summary

* 1 : 1 - One to One (the system compares your fingerprint to the user id entered before verification)

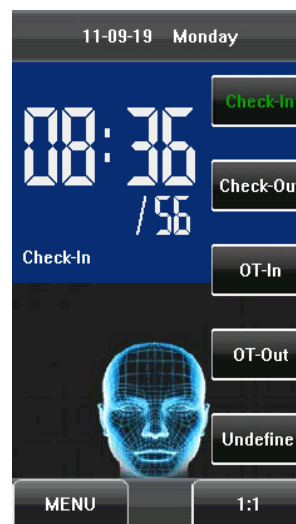


1.7.2 Face Verification Mode

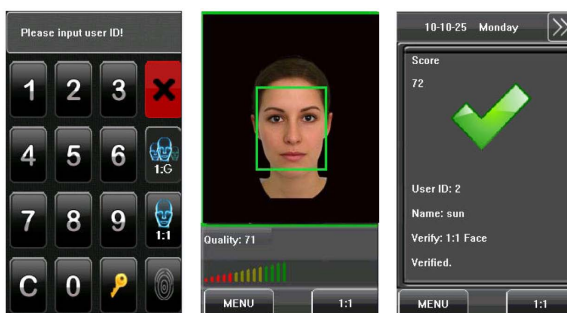
1:1 Face Verification

In the 1:1 face verification mode, the device compares current face collected through the camera with that in relation to the user ID entered through the keyboard. Adopt this mode only when it is difficult to recognise the face.

1. Press [1:1] on the screen or [1:1] button to enter the 1:1 recognition mode.
2. Enter user ID and then press the "1:1 Face" icon to enter 1:1 face recognition mode. If the prompt "Unregistered user!" is displayed, the user ID does not exist.
3. Compare the face in a proper way. For details, see 1.1 Standing Position, Posture and Face Expression.
4. If the verification is successful, the device will prompt "Verified". The system will return to the main interface if the verification is not passed within 20 seconds.



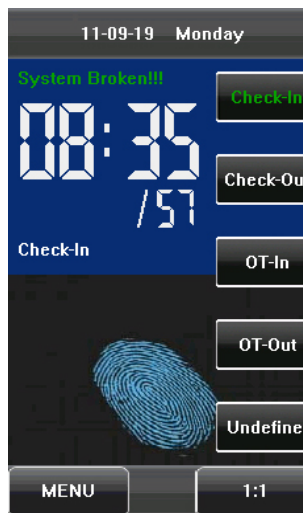
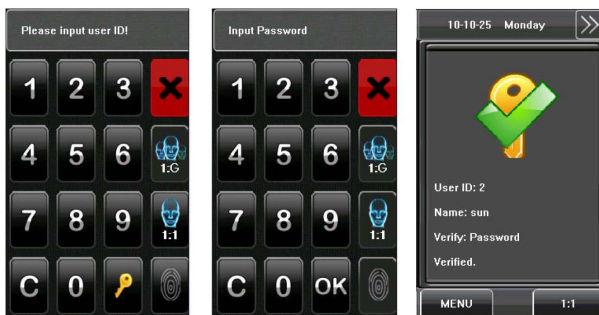
* Use 1:1 when it's difficult to recognise the face in normal 1:N mode.



1.7.3 Password Verification Mode

In the password verification mode, the device compares the password entered with that in relation to the user ID.

1. Press [1:1] on the screen or [1:1] button to enter the password verification mode.
2. Enter the user ID and then press the "Key" icon to enter the password verification mode. If the prompt "Unregistered user!" is displayed, the user ID does not exist.
3. Enter the password and press the "OK" icon to start the password comparison.
4. If the verification is successful, the device will prompt "Verified", otherwise the device will prompt "Verify fail" and return to password input interface.



Summary

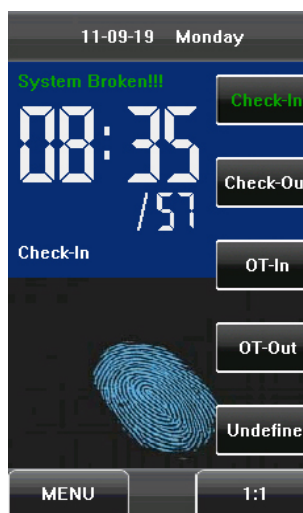
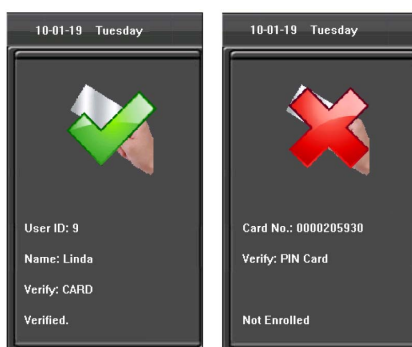
* Password may contain numbers ranging from 1 - 8 digits.

1.7.4 ID Card Verification Mode

 Note: Only the products with the built-in ID card module support the ID card verification.

In the fingerprint verification mode, the device compares current ID card collected by the Card Reader with all the ID card data on the device.

1. Swipe your ID card on the card swipe area by adopting the proper way. For the card swipe area, see 1.6 Appearance of Device.
3. If the verification is successful, the device will prompt "Verified".
4. If the verification is not successful, the device will prompt "Not Enrolled".



* RFID card is for added security on the unit, or if the user can't use a fingerprint or have difficulty recognizing face.

1.7.5 Combination Verification Mode

The device supports up to 20 verification modes, including FACE&PIN/FP/RF/PW, FP&PW, FP&RF, FACE&FP, FACE&PW, FACE&RF, FP, PW, RF, FACE&PIN, FP/RF, PW/RF, FP/PW, PW&RF, PIN&FP, FP&PW&RF, PIN&FP&PW, FP&RF/PIN, FACE&FP&RF, FACE&FP&PW etc.

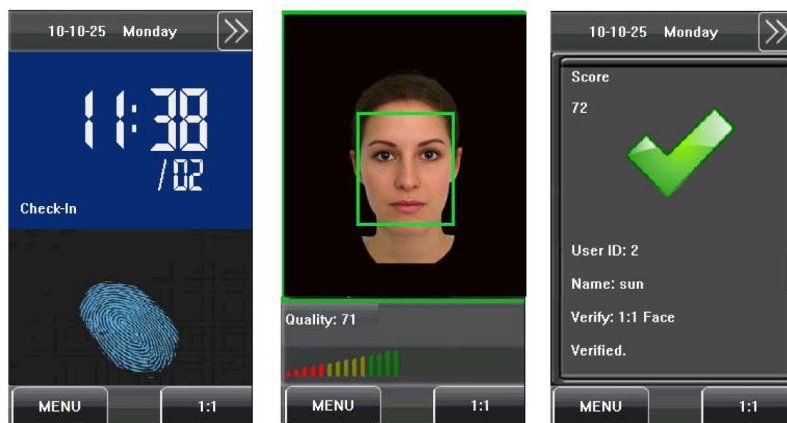
Note: RF means ID card verification. Only the products with the built-in ID card module support the ID card verification.



Here is the combination verification operation; we will use the FACE&FP verification for an example.

If you verify the fingerprint first and then the face, the operations are as follows.

- (1) The default main interface is the fingerprint verification mode, see the figure below.
- (2) Press your finger on the fingerprint sensor by adopting the proper finger placement.
- (3) If the verification is successful, the device will enter the 1:1 face recognition mode. Compare the face in a proper way. For details, see 1.1 Standing Position, Posture and Face Expression.
- (4) If the verification is successful, the device will prompt "Verified". The system will return to the main interface if the verification is not passed within 20 seconds.



Otherwise, the FACE&FP combination verification can perform such as FACE (1: N) + FP, PIN + FACE (1:1) + FP, PIN + FP (1:1) + FACE etc. The operation is similar to the procedure introduced before.

Summary

* Take note of various verification modes.

2. Main Menu

There are two types of rights respectively granted to two types of users: the Ordinary users and administrators. Ordinary users are only granted the rights of face, fingerprint, password or card verification, while administrators are granted access to the main menu for various operations apart from having all the privileges granted to ordinary users.

Press [Menu] on the initial interface to access the main menu, as shown in the following figure:



The main menu includes nine sub menus:

- **Add User:** Through this submenu, you can add a new user and input the information on the device, including the user ID, name, fingerprint, face, card, password, rights, group No. and user access.
- **User Mgt.:** Through this submenu, you can browse the user information stored on the device, including the user ID, name, fingerprint, face, card, password, rights, group No. and user access. Here you can also add, modify or delete a user's information.
- **Comm.:** Through this submenu, you can set related parameters for communication between the device and PC, including the IP address, gateway, subnet mask, baud rate, device No. and communication password.
- **System:** Through this submenu, you can set system-related parameters, including the basic parameters, interface parameters, fingerprint, face and attendance parameters, Keyboard definitions, Access settings, firmware update etc. to enable the device to meet the user's requirements to the greatest extent in terms of functionality and display.
- **Data Mgt.:** Through this submenu, you can perform management of data stored on the device, for example, deleting the attendance records, all data, clear administrator, restore to factory settings and query records.
- **Date/Time:** Through this submenu, you can set the alarm time and duration, or set the Bell.
- **Auto Test:** This submenu enables the system to automatically test whether functions of various modules are normal, including the screen, sensor, voice, face, keyboard, clock tests and screen calibration.
- **Dn/Upload:** Through this submenu, you can download user information and attendance data stored in the device through a USB disk to related software or other fingerprint recognition equipment.
- **Sys Info.:** Through this submenu, you can browse the records and device information



Any user can access the main menu by pressing the [Menu] key if the system does not have an administrator. After administrators are configured on the device, the device needs to verify the administrators' identity before granting them access to the main menu. To ensure device security, it is recommended to set an administrator when using the terminal initially.

Summary

- * Users have verification authority only
- * Administrator have full system authority

* Enrolment of users

* Administrators manage the enrolled users on the system

* Communications menu

* System related parameter menu

* Device / Data management

* System test menu

* USB up and download

3. Adding User


Press [Add] on the [User Mgt.] interface to display the [Add User] interface as shown below.

- **User ID:** Enter a user ID. 1 to 9 digits user IDs are supported by default.
- **Name:** Enter a user name. 12 characters user names are supported by default.
- **Fingerprint:** Enroll a user's fingerprint and the device displays the number of enrolled fingerprints. A user can enroll 10 fingerprints at maximum.
- **Password:** Enroll a user's password. The device supports 1-8 digit passwords by default.
- **Card:** Enroll a user's card
- **Face:** Enroll a user's face.
- **Group No.:** Set the group that the user belongs to. Valid group No.: 1-24.
- **Role:** Set the rights of a user. A user is set to ordinary user by default and can also be set to administrator. Ordinary users are only granted the rights of face, fingerprint or password verification, while administrators are granted access to the main menu for various operations apart from having all the privileges granted to ordinary users.
- **Photo:** Enroll a user's photo. During user verification, the user's photo is displayed on screen.
- **User Access:** Set the lock control and access control parameters.


3.1 Entering User ID

The device automatically allocates an ID starting from 1 for every user in sequence. If you use the ID allocated by the device, you may skip this section.

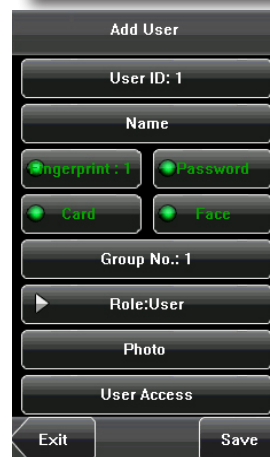
1. Press [User ID] on the [Add User] interface to display the user ID management interface.

 **Tip:** The user ID can be modified during initial enrollment, but once enrolled, it cannot be modified.

2. On the displayed keyboard interface, enter a user ID and press [OK]. If the message "The user ID already exists!" is displayed, enter another ID.

 **Tip:** The device supports 1 to 9 digits user IDs by default. If you need to extend the length of current user ID numbers, please consult our commercial representatives or technical pre-sales.

3. After the user ID is entered, press [Save] to save the current information and return to the previous interface. Press [Exit] to return to the previous interface without saving the current information.



Summary


* Take note: Only Administrator can edit / delete users

* Ensure to select correct user ID before deletion

3.2 Entering User Name

Use T9 input method to enter the user name through the keyboard.

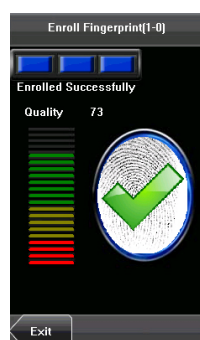
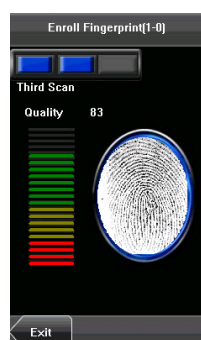
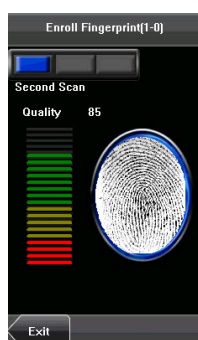
1. Press [Name] on the [Add User] interface to display the name input interface.
2. On the displayed keyboard interface, enter a user name and press [X].
3. After the user name is entered, press [Save] to save the current information and return to the previous interface. Press [Exit] to return to the previous interface without saving the current information.

 **Tip:** The device supports the 1 to 12 characters names by default.



3.3 Enrolling a Fingerprint

1. Press [Fingerprint] on the [Add User] interface to display the [Enroll Fingerprint] interface.
2. On the displayed [Enroll Fingerprint] interface, place your finger on the fingerprint sensor properly according to the system prompt. For details, see 1.3 Finger Placement.
3. Place the same finger on the fingerprint sensor for three consecutive times correctly. If the enrollment succeeds, the system will display a prompt message and automatically return to the [Add User] interface. If the enrollment fails, the system will display a prompt message and return to the [Enroll Fingerprint] interface. In this case, you need to repeat the operations of step 2.
4. You can enroll the backup fingerprint by pressing [Fingerprint] again. A user can enroll 10 fingerprints at maximum.
5. Press [Save] to save the current information and return to the previous interface. Press [Exit] to return to the previous interface without saving the current information.




Summary

- * Ensure to save name before exit.
- * Max 12 characters

- * ensure correct placement of finger
- * Three scan will be done pre finger
- * Maximum of x10 fingerprints per user allowed

3.4 Enrolling Password

1. Press [Password] on the [Add User] interface to display the password management interface.
2. On the displayed keyboard interface, enter a password and press [OK]. Re-enter the password according to the system prompt and then press [OK].

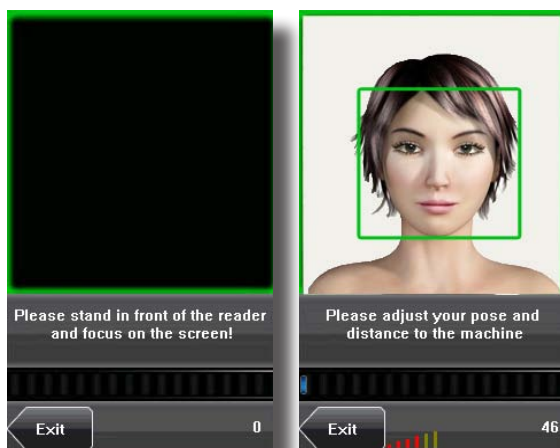
 Tip: The device supports 1-8 digit passwords by default.

3. After the password is entered, an interface is displayed as shown below. Press [Save] to save the current information and return to the previous interface. Press [Exit] to return to the previous interface without saving the current information.



3.5 Enrolling a Face

1. Press [Face] on the [Add User] interface to display the face enrollment interface.
2. On the displayed face enrollment interface, turn your head to the left and right slightly, raise and lower your head according to the voice prompts, so as to enroll different parts of your face into the system to assure the accurate verification. See 1.2 Enrollment Face Expressions.
3. If your face image is enrolled successfully, the system will display a prompt message and automatically return to the [Add User] interface.
4. Press [Save] to save the current information and return to the previous interface. Press [Exit] to return to the previous interface without saving the current information.



3.6 Enrolling a Card

1. Press [Card] on the [Add User] interface to display the card enrollment interface.
2. On the displayed interface, the screen message will display "Punch Card!". Swipe the card over the reader area as indicated in section 1.6 Appearance of device.
3. Once your card has been swiped the card number will display on the screen.
4. Press [Save] to save the current information and return to the previous interface. Press [Exit] to return to the previous interface without saving the current information.



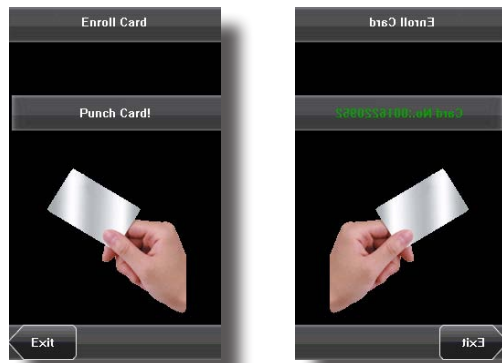
Summary

* Password support 1-8 digits

* Ensure to follow instructions, and not to make big movements.

* Angles of different facial reading is very small.

3.6 Enrolling Card...continue



3.7 Entering a Group No

During face enrollment, the device automatically allocates a group No. starting from 1 for every user in sequence. When the number of users in Group No. 1 reaches the upper limit, the subsequent users will under Group No. 2 automatically. Up to 100 face images can be enrolled in Group No. 1 and only 50 face images can be enrolled in other groups. If you use the group No. allocated by the device, you may skip this section.

1. Press [Group No.] on the [Add User] interface to display the group No. management interface.
2. On the displayed keyboard interface, enter your group No. and press [OK].
3. After the group No. is entered, an interface is displayed as shown below. Press [Save] to save the current information and return to the previous interface. Press [Exit] to return to the previous interface without saving the current information.

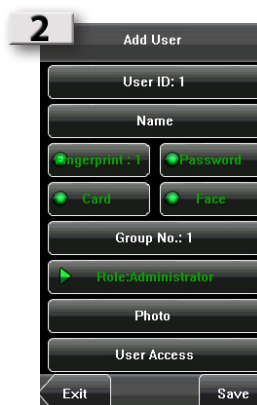
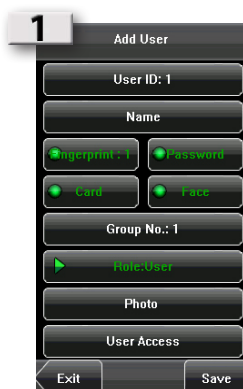
Tip: A valid group No. contains 1 to 24 digits. Please remember your own group No.



3.8 Modifying User Rights

Note: There are two types of rights respectively granted to two types of users: the ordinary users and administrators. Ordinary users are only granted the rights of face, fingerprint, or password verification, while administrators are granted the access to the main menu for various operations apart from having all the privileges granted to ordinary users.

1. On the [Add User] interface, press [Role: User] to change the user to an administrator.
2. After the modification is done, the interface is as shown below. Press [Save] to save the current information and return to the previous interface; press [Exit] to return to the previous interface without saving the current information.



Summary

* Group 1 = 100 faces

* Group 2 = 50

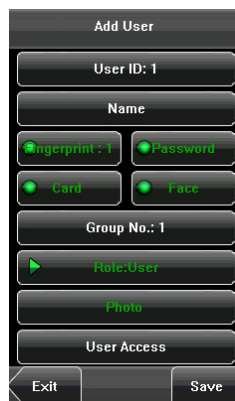
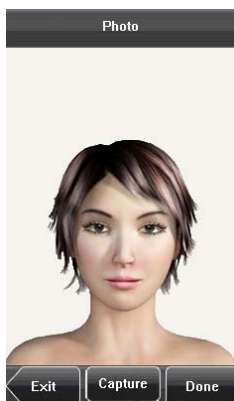
* Ensure to remember your group number that you were entered into.

* Ensure to enrol an administrator for security purposes.

3.9 Enrol Photos

If you had enrolled your photo in the system, the system will display your enrolled photo in addition to your ID and name after you pass the verification.

1. Press [Photo] on the [Add User] interface to display the photo enrollment interface.
2. On the photo enrollment interface, stand naturally in front of the screen. For details, see 1.1 Standing Position, Posture and Face Expression. Press [Capture] to capture the photo.
3. After taking the photo, press [Exit] to return to the previous interface.
4. After the photo is taken, press [Save] to save the current information and return to the previous interface; press [Exit] to return to the previous interface without saving the current information.



Summary

* Ensure correct posture and position before capturing photo.

3.10 User Access Settings

Press [User Access] on the [Add User] interface to display the user access settings interface.

User Access settings are to set the user's rights to verify and open the door, such as the Verify Type, Time Zone and Duress FP management.

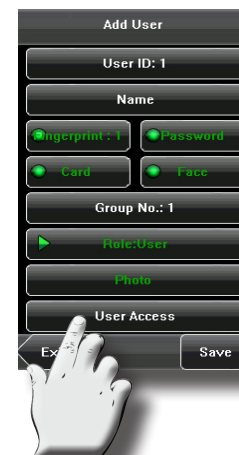
1. Verify Type:

(1) Group Verify Mode: If the user uses the group verify mode that he belong to.

(2) Individual verify mode: Select the verification mode for this user instead of the group verify mode. That will not affect other users in this group.

Note:

- (1) Only the products with the built-in ID card module support the ID card verification.



* Configure user access settings



2. Time Zone:

(1) Group Time Zone: If the user uses the group time zone that he belong to.

(2) Individual time zone: Select the time zone of this user instead of the group time zone. That will not affect other users in the group.

3. Duress FP:

Enroll a new duress fingerprint or cancel an existing one. In any situation, only if the enrolled duress fingerprint is verified, it will trigger the duress alarm.

Duress FP management:

(1) Register Duress FP:

Press [Reg. Duress FP] on the [User Access] interface to display the [Enroll Fingerprint] interface. On the displayed [Enroll Fingerprint] interface, place your finger on the fingerprint sensor properly according to the system prompt. For details, see 1.3 Finger Placement.



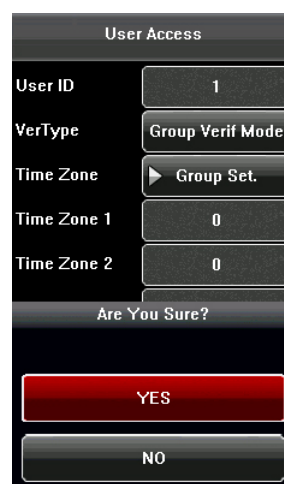
Summary

* Suggest that you use software for accurate time zone configurations



(2) Cancel duress FP:

Press [Can. Duress FP] on the [User Access] interface to popup the confirm message. Select [YES] to delete the enrolled duress FP, otherwise select [NO] to cancel the operation.




* ensure correct user ID before deletion

4. User Management

Browse the user information, including the user ID, name, fingerprint, face, ID card, password, rights, group No. and user access settings through this interface. To add, edit or delete the basic information of users.

Press [User Management] on the main menu interface to display the user management interface.

 This user is an administrator.

 Note: The users are listed in alphabetical order by last name. If you press a user name, you can access the editing interface of this user to edit or delete the related user's information.

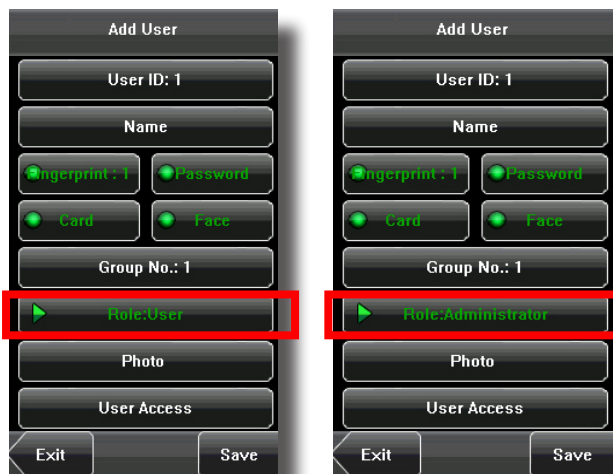


4.1 Edit a User

Press a user name from the list to enter the [User Info] interface.

The User ID cannot be modified, and the other operations are similar to those performed in add a user. You can re-enroll your fingerprint and face image, change your password, modify the management rights and group number.

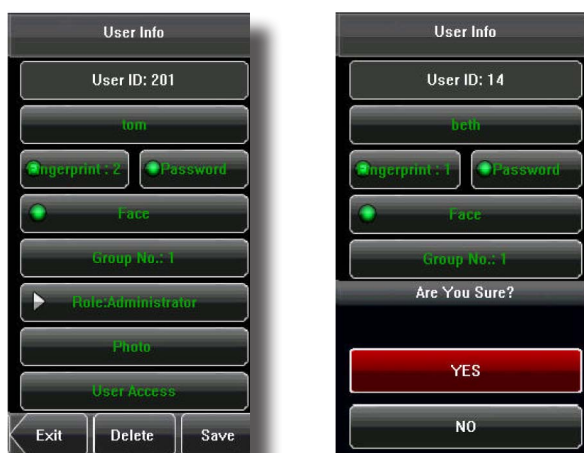
For example: Change the user rights from Administrator to ordinary user. As shown below.



4.2 Delete a User

On the [User Info] interface, you can delete all or partial user information.

1. Press [Delete] to delete a user.
2. On the displayed interface, click [YES] to delete the current user or [NO] to return to the previous interface.
3. On the [User Info] interface, press [Name], [Fingerprint], [Face] or [Password] to delete the related user information and to re-enroll the new information follow the device prompt.



Summary

* Take note that only administrator can edit and delete users.

* ensure correct user ID before deletion

4.3 Query a User

To facilitate administrators to locate a user quickly from a large number of enrolled users, the device enables to query by "User ID".

User ID Query:

1. Press [Query] on the [User Management] interface to display the User ID query interface.
2. Enter the user ID on the displayed interface, and click [OK] to locate the cursor on the desired user.



5. Communication Settings

You can set related parameters for the communication between the device and PC, including the IP address, gateway, communication mode, subnet mask, baud rate, device ID, and communication key.



Summary

* Ensure to insert IP address, unit does not use DHCP

5.1 Network Settings

When the device communicates with the PC over Ethernet, you need to check the following settings:

IP Address: The IP address is 192.168.1.201 by default and can be changed as required; the IP address of the device and that of the PC cannot be duplicated.

Subnet Mask: The subnet mask is 255.255.255.0 by default and can be changed as required.

Gateway: The gateway is 0.0.0.0 by default. If the device and the PC are not located in the same network segment, you need to set the gateway.

When the device communicates with the PC over serial ports (RS232/RS485), you need to check the following settings:

RS232: This parameter is used to enable or disable the RS232 communication. If the RS232 communication cables are used, set this parameter to "ON".

RS485: This parameter is used to enable or disable the RS485 communication. If the RS485 communication cables are used, set this parameter to "ON".

Baud Rate: This parameter is used to set the baud rate for the communication between the device and the PC. It includes five options: 9600, 19200, 38400, 57600, and 115200. The higher baud rate is recommended for the RS232 communication to achieve high speed communication, while the lower baud rate is recommended for the RS485 communication to achieve stable low-speed communication.

Device ID: This parameter is used to set the ID of device from 1 to 254. If the RS232/RS485 communication is adopted, you need to enter the device ID on the software communication interface.

Comm. Key: To enhance the security of attendance data, you can set a password for the connection between the device and PC. Once the password is set, you can connect the PC with the device to access the attendance data only after entering the correct password. The default password is 0 (that is, no password). Once a password is set, you need to enter this password before connecting the PC software with the device; otherwise, the connection is unsuccessful. 1 to 6 digits passwords are supported.



Considering the massive data including the fingerprint and face templates stored in the device, it is recommended to transfer the data between the device and PC over network to enhance the transfer speed.

5.2 Wiegand Output

Wiegand Format: The system has two built-in formats Wiegand 26-bits and Wiegand 34-bits, and also supports the format customization function to meet individualized requirements.

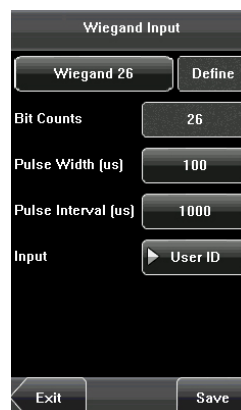
Failed ID: Refers to the value output by the system upon verification failure. The output format is subject to the setting of "Wiegand Format". The default value scope of Failed ID is 0–65535.

Site Code: The site code is used for a customized Wiegand format. The site code is similar to the device ID, but the site code is customizable and can be duplicated among different devices. The default value scope of the Site Code is 0–255.

Pulse Width: Refers to the width of the Wiegand pulse in microseconds. The default value scope of the pulse width is 1–1000.

Pulse Interval: Refers to the interval of the Wiegand pulse in microseconds. The default value scope of the pulse width is 1–10000.

Output: Refers to the contents output upon successful verification. You can select the "User ID" or "Card Number" as the output.



Summary

* Ensure correct IP address

* RS232 - Recommended distance below 10m

* RS485 - Recommended distance below 500m

* ensure to use shielded cable

5.2.1 Wiegand 26-bits Output description

The system has a built-in Wiegand 26-bits format. Press [Wiegand Format], and select "Standard Wiegand 26-bits".

The composition of the Wiegand 26-bits format contains 2 parity bits and 24 bits for output contents ("User ID" or "Card Number"). The binary code of 24-bits represent up to 16,777,216 (0–16,777,215) different values.

1	2	25 26
Even parity	User Id / Card Number	Odd parity bit

Definition of fields:

Field	Meaning
Even parity bit	Judged from bit 2 to bit 13. The even parity bit is 1 if the character has an even number of 1 bit; otherwise, the even parity bit is 0.
User ID / Card Number (bit 2-bit 25)	User ID/Card Number (Card Code, 0–16777215) Bit 2 is the Most Significant Bit (MSB).
Odd parity bit	Judged from bit 14 to bit 25. The odd parity bit is 1 if the character has an even number of 1 bit; otherwise, the odd parity bit is 0.

For example, for a user with the user ID of 12345, the enrolled card number is 0013378512 and the failed ID is set to 1.

1. When the output is set to "User ID", the Wiegand output is as follows upon successful verification:

0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 1 1 1 0 0 1 1

Even parity bit User ID = Binary code of 12345 Odd parity bit

2 When the output is set to "Card Number", the Wiegand output is as follows upon successful verification:


1 1 1 0 0 1 1 0 0 0 0 1 0 0 0 1 1 1 1 0 1 0 0 0 0 0

Even parity bit User ID = Binary code of 0013378512 Odd parity bit

3. The Wiegand output is as follows upon verification failure:

0 1 0

Even parity bit Failed ID = Binary code of 1 Odd parity bit

 **Note:** If the output contents exceed the scope allowed for the Wiegand format, the last several bits will be adopted and first several bits are automatically discarded. For example, the user ID 888 888 888 is 110 100 111 110 110 101 111 000 111 000 in binary format. Wiegand26 only supports 24 bits, that is, it only outputs the last 24 bits, and first 6 bits "110 100" are automatically discarded.

5.2.2 Wiegand 34-bits Output description

The system has a built-in Wiegand 34-bits format. Press [Wiegand Format], and select "Standard Wiegand 34-bits".

The composition of the Wiegand 34-bits format contains 2 parity bits and 32 bits for output contents ("User ID" or "Card Number"). The binary code of 32-bits represent up to 4,294,967,296 (0–4,294,967,295) different values.

1	2	33 34
Even parity	User Id / Card Number	Odd parity bit

Definition of fields:

Field	Meaning
Even parity bit	Judged from bit 2 to bit 17. The even parity bit is 1 if the character has an even number of 1 bit; otherwise, the even parity bit is 0.
User ID / Card Number (bit 2-bit 33)	User ID/Card Number (Card Code, 0–4,294,967,295) Bit 2 is the Most Significant Bit (MSB).
Odd parity bit	Judged from bit 18 to bit 33. The odd parity bit is 1 if the character has an even number of 1 bit; otherwise, the odd parity bit is 0.

For example, for a user with the user ID of 123456789, the enrolled card number is 0013378512 and the failed ID is set to 1.

1. When the output is set to "User ID", the Wiegand output is as follows upon successful verification:

0 0 0 0 0 0 1 1 1 0 1 0 1 1 0 1 1 1 0 0 1 1 0 1 0 0 0 1 0 1 0 1 1

↓ ↓ ↓

Even parity bit User ID = Binary code of 123456789 Odd parity bit

2. When the output is set to "Card Number", the Wiegand output is as follows upon successful verification:

[illegible]

3. The Wiegand output is as follows upon verification failure:

[illegible]

5.2.3 Customised Format


Apart from the two built-in formats Wiegand 26-bits and Wiegand 34-bits, the system also supports the format customization function to meet individualized requirements.

The customized format consists of two character strings: the data bits and parity bits. These two character strings need to be defined separately. Data bits define the number of binary bits output by Wiegand as well as the meaning of each bit. The data bits output by Wiegand can be a card number (C), site code (s), facility code (f), manufacturer code (m) and parity bits (p). Parity bits define the check mode of each bit in data bits and ensure the correctness of data bits during transfer through the parity check. The parity bits can be set to odd check (o), even check (e) and both odd check and even check (b). There is a one-to-one correspondence relationship between the data bits and parity bits.

For example, the Wiegand26 can be customized as follows:

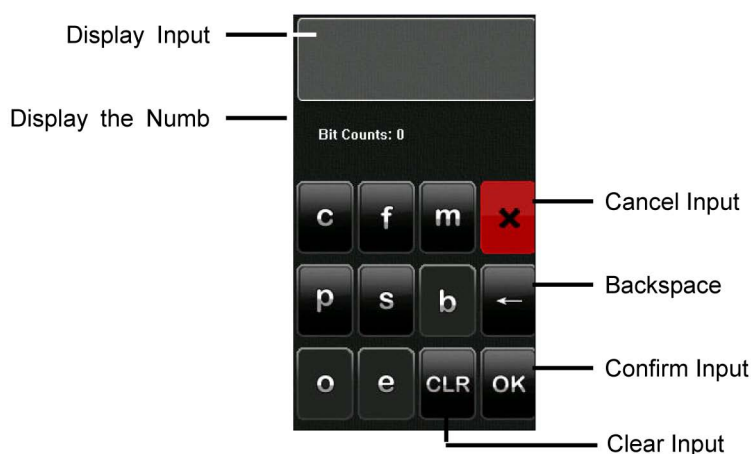
Definition of data bits: psssssssscccccccccccccccccp

Definition of parity bits: eeeeeeeeeeeeeoooooooooooo

 Note: Wiegand26 consists of 26 bits. The first bit is the even parity bit of bits 2 to 13; the 26th bit is the odd parity bit of bits 14 to 25; the second to the ninth bits are the site code; the 10th to the 25th bits are the card number.

To customize Wiegand format, proceed as follows:

- (1) Select [Define Format] and the [Set] key is then enabled.
- (2) Press [Set] to display the [User Define Format] interface, as shown in the following figure:
- (3) Click the entry box below "Card Format" to display the following interface:



Characters used to define data bits and their meanings:

c: Indicates the card number, that is, the output contents, it can be set to User ID/Card Number through menu operations.

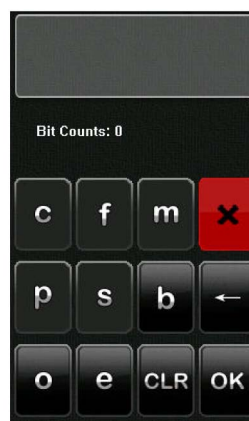
f: Indicates the facility code which is 0 by default. It is not configurable. To modify it, please contact the equipment supplier.

m: Indicates the manufacturer code which is 0 by default. It is not configurable. To modify it, please contact the equipment supplier.

p: Indicates the parity position.

s: Indicates the site code which can be set from 0 to

255 by default.



Summary

(4) Click the entry box below "Parity Format" to display the following interface:

Characters used to define parity bits and their meanings:

o: Indicates the odd check, that is, there is an odd number of 1's in the bit sequence (including one parity bit). For example, for 1000110(0), the parity bit is 0 and there are already three 1's. After 0 suffixed to 1000110, there is still an odd number of 1's.

e: Indicates the even check, that is, there is an even number of 1's in the bit sequence (including one parity bit). For example, for 1000110(1), the parity bit is 1 and there are already three 1's. After 1 suffixed to 1000110, there is an even number of 1's.

b: Indicates both odd check and even check.

For example, Definitions of several universal Wiegand formats.

Wiegand34

Data bits:

pppppppppppppppppppppppppppppppppppp

Parity bits:

eeeeeeeeeeeeeeeeoooooooooooooooooooo

Note: Wiegand34 consists of 34 bits. The first bit is the even parity bit of bits 2 to 17; the 34th bit is the odd parity bit of bits 18 to 33; the second to the ninth bits are the site code; the 10th to the 25th bits are the card number.

Wiegand37a

Data bits: pmmmmssssssssssccccccccccccccccccccpp

Parity bits: oeobeobeobeobeobeobeobeobeobeobeobe Note: Wiegand37a consists of 37 bits. The first bit is the odd parity bit of bits 3, 4, 6, 7, 9, 10, 12, 13, 15, 16, 18, 19, 21, 22, 24, 25, 27, 28, 30, 31, 33, 34 and 36; the 37th bit is the odd parity bit of bits 2, 4, 5, 7, 8, 10, 11, 13, 14, 16, 17, 19, 20, 22, 23, 25, 26, 28, 29, 31, 32, 34 and 35; bits 4, 7, 10, 13, 16, 19, 22, 25, 28, 31 and 34 participate in both odd and even parity check. Bits 2 to 5 are manufacturer code; bits 6 to 17 are the site code; bits 18 to 36 are the card number.

Wiegand37

Data bits:

pmmmmffffffssssccccccccccccccccccccpp

Parity bits:

eeeeeeeeeeeeeeeeoooooooooooooooooooo Note: Wiegand37 consists of 37 bits. The first bit is the even parity bit of bits 2 to 18; the 34th bit is the odd parity bit of bits 19 to 36; the second to the fourth bits are the manufacturer code; the 5th to the 14th bits are facilitate code; the 15th to the 20th bits are the site code; the 21st to the 36th bits are the card number.

Wiegand50

Data bits: pssssssssssssccccccccccccccccccccccccccccccccccccpp

Parity bits:

eeeeeeeeeeeeeeeeeeeeoooooooooooooooooooo Note: Wiegand50 consists of 50 bits. The first bit is the even parity bit of bits 2 to 25; the 50th bit is the odd parity bit of bits 26 to 49; the second to the 16th bits are the site code; 17th to the 49th bits are the card number.

5.3 Wiegand Input

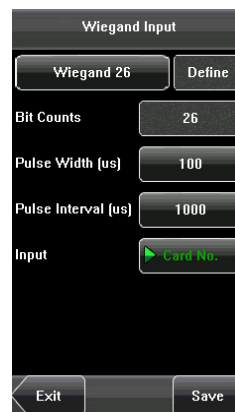
Wiegand Format: The system has two built-in formats **Wiegand 26-bits** and **Wiegand 34-bits**, and also supports the format customization function to meet individualized requirements. About the Wiegand format, please refer to 5.2 Wiegand Output.

Bit counts: Wiegand data digit length.

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

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

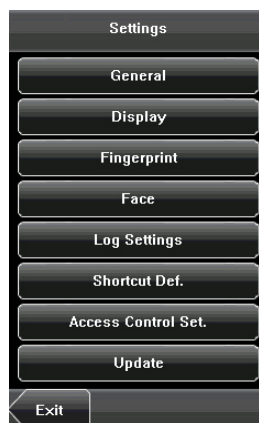
Input: Content contained in Wiegand input signal, including User ID or card number.



6. System Configuration

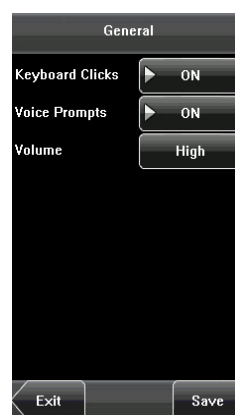
Through the [System] menu, you can set system-related parameters, including the General, Display, Fingerprint, Face, Log settings, Shortcut Def, Access Control Set, and Firmware Update, to enable the device to meet user requirements to the greatest extent in terms of functionality and display.

* Administrator access only



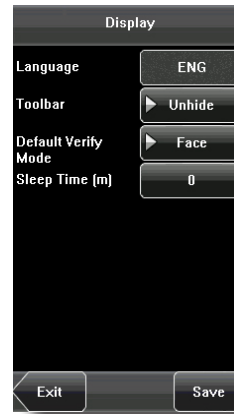
6.1 General Parameters

- **Keyboard Clicks:** This parameter is used to set whether to generate beep sound in response to every keyboard touch. Select "ON" to enable the beep sound, and select "OFF" to mute.
- **Voice Prompts:** This parameter is used to set whether to play voice prompts during the operation of the device. Select "ON" to enable the voice prompt, and select "OFF" to mute.
- **Volume (%):** This parameter is used to adjust the volume of voice prompts.



6.2 Interface Parameters

- **Language:** This parameter is used to display the current language used by the device. For multilingual-capable devices, you can switch between different languages through this parameter.
- **Toolbar:** This parameter is used to display the style of the shortcut keys on the initial interface. It can be set to "Auto Hide" and "Permanent Display". By selecting "Auto Hide", you can manually display or hide the toolbar. By selecting "Permanent Display", you can permanently display the toolbar on the initial interface.
- **Default Verify Mode:** This parameter is used to specify which verification mode is set to default.
- **Sleep Time (S):** This parameter is used to specify a period after which the device is put in sleep mode if no operation within this period. You can wake up the device from sleep by pressing any key or touching the screen.



Summary

* Ensure not to change language, if not needed be.

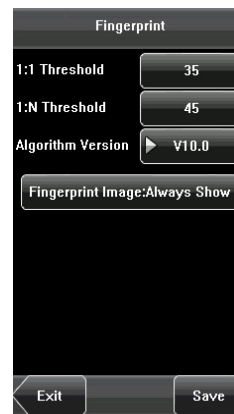
* Auto-Hide function maybe disturbing.

* Depending on client preference, you can change default verification mode.

* Sleep time can be mistaken for device not functioning, ensure to notify client of settings

6.3 Fingerprint Parameters

- **1: 1 Threshold:** This parameter is used to set the threshold of matching between the current fingerprint and the fingerprint template enrolled in the device in the 1:1 verification mode. If the similarity between the current fingerprint and the fingerprint template enrolled in the device is larger than this threshold, the matching is successful; otherwise, the matching is not successful.
- **1: N Threshold:** This parameter is used to set the threshold of matching between the current fingerprint and the fingerprint template enrolled in the device in the 1: N verification mode. If the similarity between the current fingerprint and the fingerprint template enrolled in the device is larger than this threshold, the matching is successful; otherwise, the matching is not successful.



* Threshold can be changed, depending on the environment lighting

The recommended thresholds are as follows:

FRR		FAR		Threshold	
				1:N	1:1
High		Low		45	25
Medium		Medium		35	15
Low		High		25	10

- **Algorithm Version:** This parameter is used to select the fingerprint algorithm version between 9.0 and 10.0. Please select the algorithm version with caution because the fingerprint templates of these two algorithm versions are incompatible.
- **Fingerprint Image:** This parameter is used to set whether to display the fingerprint image on the screen during fingerprint enrollment or comparison. It has four options:
 - **Show for Enroll:** Display the fingerprint on the screen in enrolling process.
 - **Show for Match:** Display the fingerprint on the screen in verification process.
 - **Always Show:** Display the fingerprint on the screen in enrolling and verifying process.
 - **Never Show:** Never display the fingerprint on the screen

* Ensure to enrol every user on the same algorithm, these 2 version are not compatible

6.4 Face Parameters


- **1:1 Threshold:** This parameter is used to set the threshold of matching between the current face and the face template enrolled in the device in the 1:1 verification mode. If the similarity between the current face and the face template enrolled in the device is larger than this threshold, the matching is successful; otherwise, the matching is not successful. The valid value scope is 55–120. The higher the threshold, the lower the FAR and the higher the FRR are, and vice versa.
- **1:1: N Threshold:** This parameter is used to set the threshold of matching between the current face and the face template enrolled in the device in the 1: N verification mode. If the similarity between the current face and the face template enrolled in the device is larger than this threshold, the matching is successful; otherwise, the matching is not successful. The valid value scope is 65–120. The higher the threshold, the lower the FAR and the higher the FRR are, and vice versa.



The recommended thresholds are as follows:

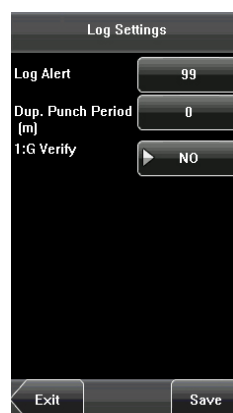
FRR FAR		Threshold	
		1:N	1:1
High	Low	90	80
Medium	Medium	80	70
Low	High	75	65

- **Exposure:** This parameter is used to set the exposure value of the camera.
- **Gain:** This parameter is used to set the gain value of the camera.
- **Quality:** This parameter is used to set a quality threshold for the face images obtained. The device accepts the face images and processes them by adopting the face algorithm when their quality is higher than the threshold; otherwise, it filters these face images.

 **Note:** Improper adjustment of the Exposure, Gain and Quality parameters may severely affect the performance of the device. Please adjust the Exposure parameter only under the guidance of the after-sales service personnel from our company.

6.5 Log Settings

- **Log Alert:** When the available space is insufficient to store the specified number of attendance records, the device will automatically generate an alarm (Value scope: 1-99).
- **Dup. Punch Period (m):** If a user's attendance record already exists and the user punches in again within the specified period (unit: minute), the second attendance record will not be stored (Value scope: 1-60 minutes).



Summary

* Ensure correct environment lighting before changing the thresholds.

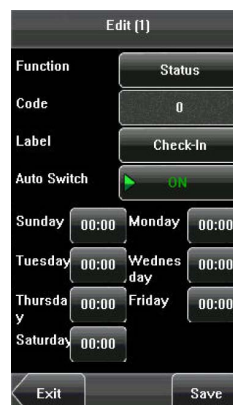
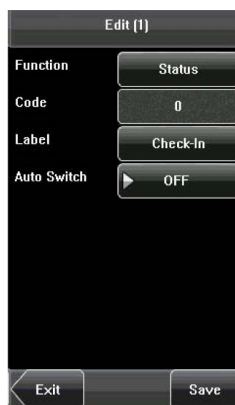
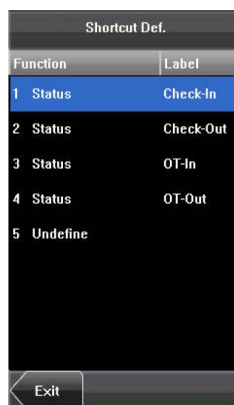
* Administrator need to monitor the log, using the log alert.

* duplicate punch can be adjusted to ensure security

6.6 Keyboard Definitions

Define touch screen functional shortcut keys.

1. Press [Shortcut Def] to display the [Edit] interface, as shown below.
2. If you want to cancel the shortcut key, press [Status] to enter the edit interface, select the value to "Undefined".
3. Edit the item [Code], select [Label] (Six attendance state option). Select the state of [Auto Switch], the interface as shown above.
4. Press [Save] to save the modification and exit.



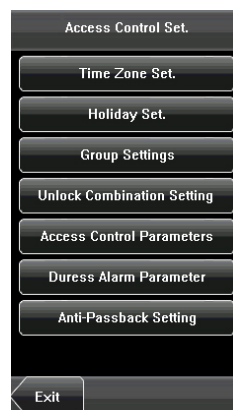
6.7 Access Settings

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

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

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

The new enrolled user is under the first group by default, and use the No. 1 group time zone, the No. 1 access control group. The new enrolled user is in unlocking state (if you have modified the related settings of access control, the system will be changed with the modification).




6.7.1 Time Zone Settings

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

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

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

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



Summary

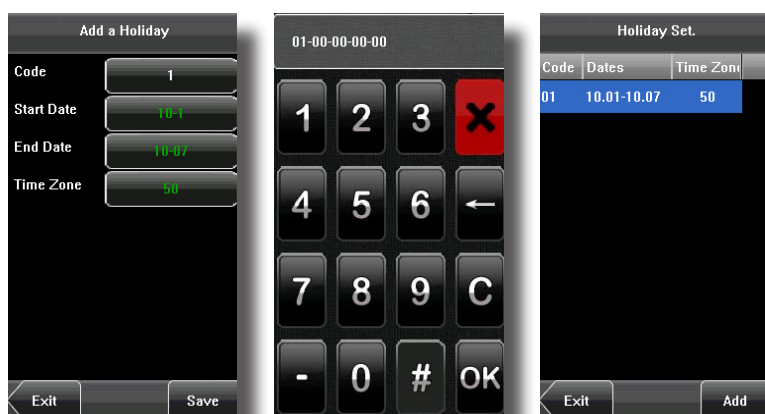
* Recommend to use software to adjust the settings

6.7.2 Holiday Setting

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


1. Add holiday:

- (1) Enter holiday add interface, press the key to edit the items.
- (2) Press the touch screen number key to set the value, after setting, press [OK] to save, and press [X] for exit and return to the previous interface.
- (3) Press [Save] to save the current information and return to the previous interface; press [Exit] directly to return to the previous interface without saving the current information.



2. Edit holiday

Select the holiday to be edited and enter the edit interface. The edit operation is similar to add holiday. After editing, press [Save] to save and return to the previous interface.

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

3. Delete holiday

Select the holiday to be deleted. Press [Delete] to popup the confirm interface as follows. Select [Yes] to delete this holiday, otherwise select [No] to cancel the operation.



Summary

* Recommend to use software to adjust the settings

6.7.3 Group Time Zone Settings

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

1. Add group time zone

(1) Enter the Add Group interface; press the key to edit the items.

Code: Enter the number edit interface to set the value.

VerType: Select the Group Verify Type.

Holiday No.: Select if the Time zone is valid in holiday.

Time Zone: Select the Group Time Zone.

(2) After editing, press [Save] to save the current information and return to the previous interface; press [Exit] directly to return to the previous interface without saving the current information.

 **Note:**

(1) RF means ID card verification. Only the products with the built-in ID card module support the ID card verification.

2. Edit group time zone

Press the line to be edited, and enter the edit interface. After editing, press [Save] to save the current information and return to the previous interface; press [Exit] directly to return to the previous interface without saving the current information.

3. Delete group time zone

Select the line to be deleted. Press [Delete] to popup the confirm interface as follows. Select [Yes] to delete this holiday, otherwise select [No] to cancel the operation.



6.7.4 Unlock Combination Setting

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

1. Add Unlock Combination

(1) Enter holiday add Combination Setting interface, press the key to edit the items.

(2) Press the touch screen number key to set the value, after setting, press [OK] to save, and press [X] for exit and return to the previous interface.

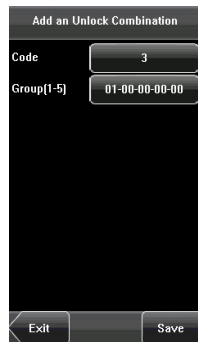
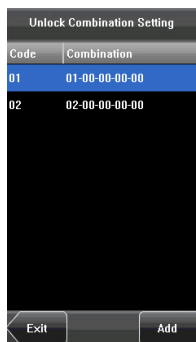
(3) Press [Save] to save the current information and return to the previous interface; press [Exit] directly to return to the previous interface without saving the current information.

Summary

* Recommend to use software to adjust the settings

* Combination settings are for added security at client premisses

6.7.4 Unlock Combination Settings...continue

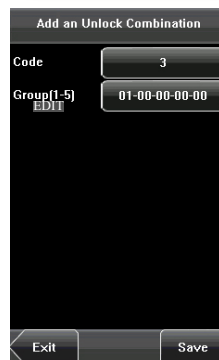


2. Edit Unlock Combination

Select the line to be edited. Press the item directly to enter the edit interface. After editing, press [Save] to save the current information and return to the previous interface; press [Exit] directly to return to the previous interface without saving the current information.

3. Delete Unlock Combination

Select the line to be deleted. Press [Delete] to popup the confirm interface as follows. Select [Yes] to delete this holiday, otherwise select [No] to cancel the operation



6.7.5 Access Control Parameter

Through the [Access] menu, you can set the parameters of the electronic locks and related access control devices.

Lock Delay: Indicates the duration for the device to place the electric lock in open state. (Value scope: 1-10 seconds)

Door Sensor Delay: Indicates the delay for checking the door sensor after the door is opened. If door sensor state is inconsistent with the normal state set by the door sensor switch, an alarm will be triggered, and this period of time is regarded as the "door sensor delay". (Value scope: 1-99 seconds)

Door Sensor Mode: Includes the None, Normally Open (NO), and Normally Closed (NC) modes. "None" indicates that the door sensor switch is not used. "NO" indicates that the door sensor is open in the normal state. "NC" indicates that the door sensor is closed in the normal state.

Alarm Delay: Indicates the duration from the detection of the door sensor exception to the generation of alarm signal. (Value scope: 1-99 seconds)

Failure Alarm Threshold: When the failed press times reach the set times, alarm signal will come out (effective value: 1-9 times).

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

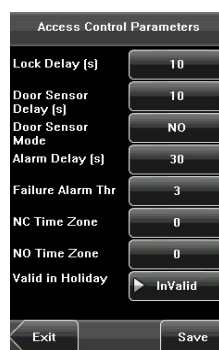
NO Time Zone: Set time zone for access control NO. The lock is always in valid state during this time zone.

Valid in Holiday: Define time zone for NO or NC. Whether the time zone set in holiday time zone is valid.

 Notice:

1. If the Time Zone of normally open or normally closed has been set, please switch door sensor to no, otherwise it will produce alarm signal during Normal close Time Zone or Normal open Time Zone.

2. If the normally open or normally closed Time Zone is not defined yet by the time, the equipment will prompt that you to define the Time Zone, and transfer you to the Time Zone interface to add.



Summary

* Ensure delay modes are set according to client requests.

6.7.6 Duress Alarm Parameters

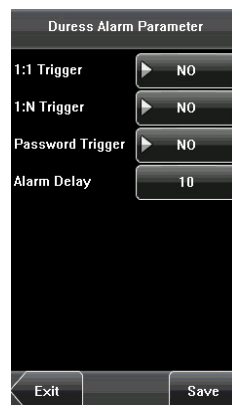
There are duress alarm parameters setting in the device. When an employee comes across a duress situation, he can use the set duress alarm mode to verify. The device will open the door as usual, but the alarm signal will be sent to the alarm.

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

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

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

Alarm Delay: After duress alarm gets started, the alarm signal will not output directly. It can be defined. After the set time period, the alarm signal will be generated automatically (0-255 seconds).



6.7.7 Anti-Pass Back Setting

Set the device Anti-Pass back function.

APB Direction: There are four options: None, APB-Out, APB-In, APB-Out/In.

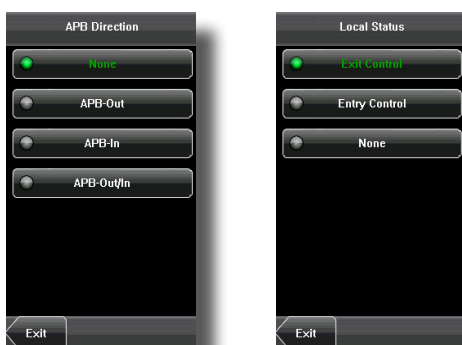
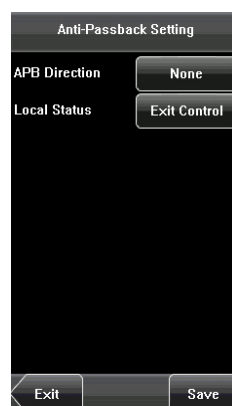
Device Status: There are three options: Exit Control, Entry Control and None.

Anti-Pass back setting operation:

(1) Enter Anti-Pass back setting interface, press the key to edit the items.

(2) Press the touch screen number key to set the value, after setting, press [OK] to save, and press [X] for exit and return to the previous interface.

(3) Press [Save] to save the current information and return to the previous interface; press [Exit] directly to return to the previous interface without saving the current information.



6.8 Update

You can upgrade the device firmware by using the upgrade file in the USB disk through this function.



Summary

* Ensure to configure Duress finger alarm settings

* Take note, that not all USB sticks are compatible.


* Ensure backups are made before upgrades

7. Data Management

Through the [Data Mgt.] menu, you can perform management of data stored on the device, for example, delete the attendance records, delete all data, clear administrator, restore the device to factory settings, and query user records.



- 1. Delete Transactions:** Delete all the attendance records.
- 2. Delete All Data:** Delete all the information of enrolled personnel, including their fingerprints, face images and attendance records.
- 3. Clear Administrator:** Change all administrators to ordinary users.
- 4. Restore to Factory Settings:** Restore all parameters on the device to factory settings.

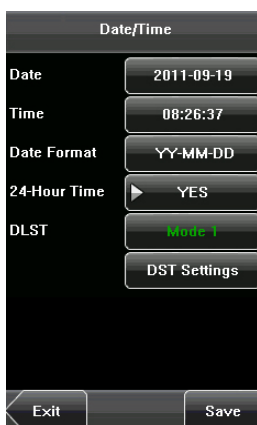
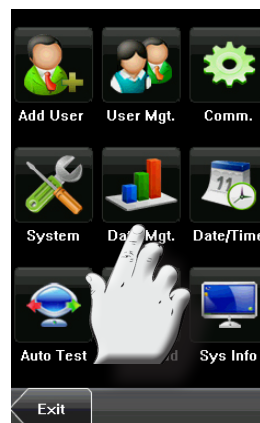
 **Notice:** The employee information and attendance records will not be deleted during restoration to factory settings.

8. Date and Time Setting

8.1 Set Date/Time

The date and time of the device must be set accurately to ensure the accuracy of attendance time.

- Press [Menu] on the initial interface to display the main menu interface.
- Press [Time/Date] on the main menu interface to display the time setting interface.
- Select the desired date and time by pressing the parameter. For the time format, there are 10 formats to select from. Both 12-hour and 24-hour time systems are supported.
- Press [Save] to save the current information and return to the previous interface. Press [Exit] to return to the previous interface without saving the current information.



Summary

* Administrators need to manage records, to ensure the data logs are not running over capacity.

* Ensure correct date and time before handing over the unit. Wrong date and time can effect time and attendance logs.

8.2 Bell Setting

Lots of companies need to ring their bells to signal the start and end of work shifts, and they usually manually ring their bells or use electric bells. To lower costs and facilitate management, we integrated the time bell function into the device. You can set the alarm time and duration for ringing the bell based on your requirements, so that the device will automatically play the selected ring tone and triggers the relay at the alarm time, and stop playing the ring tone after the set duration.

Press [Bell] on the [Date/Time] menu to display the bell setting interface, as shown in figure below.



1. Add a bell

1) The displayed bell setting interface lists all the bells. Click [Add] to display the [Add] interface.

2) On the [Add] interface, set the following parameters:

Bell Time: This parameter is used to set a time point when the device automatically plays a bell ring tone every day.

Bell Date: This parameter is used to set which day the device automatically plays a bell ring tone.

Ring Tone: This parameter is used to set the bell ring tone.

Volume: This parameter is used to set the volume of ring tone.


Repeat: This parameter is used to set the alarm times.

State: This parameter is used to set whether to enable the bell.

Bell Type: You can select between internal ringing and external ringing. For internal ringing, the ring tone is played by the loudspeaker of the device. For external ringing, the ring tone is played by an external electric bell that is connected with the device.

2. Edit and delete a bell

Press a bell in the list on the bell setting interface to display the [Edit] interface, with the similar operation as "Add a bell".

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



Summary

* Ensure to configure correctly in coreespondence with time and date settings.

* Ensure to use correct volume.

9. Auto Test

The auto test enables the system to automatically test whether functions of various modules are normal, including the screen, sensor, voice, face, keyboard and clock tests.



1. Test Screen: The device automatically tests the display effect of the color TFT display by displaying full color, pure white and pure black and checks whether the screen displays properly. You can continue the test by touching the screen or exit it by pressing [Exit].

2. Test Fingerprint: The device automatically tests whether the fingerprint sensor works properly by checking whether the fingerprint images are clear and acceptable. When the user places his/her finger on the sensor, the collected fingerprint image is displayed on the screen in real-time. Press [Exit] to exit the test.

3. Test Voice: The device automatically tests whether the voice files are complete and the voice quality is good by playing the voice files stored in the device. You can continue the test by touching the screen or exit it by pressing [Exit].

4. Test Face: The device automatically tests whether the camera works properly by checking whether the collected face images are clear and acceptable. Press [Exit] to exit the test.

5. Test Keyboard: The device tests whether every key on the keyboard works normally. Press any key on the [Keyboard Test] interface to check whether the pressed key matches the key displayed on screen. The keys are dark-gray before pressed, and turn blue after pressed. Press [Exit] to exit the test.

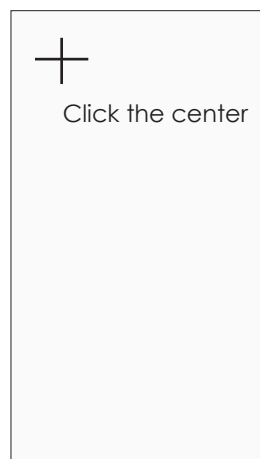
6. Test Time: The device tests whether its clock works properly by checking the stopwatch of the clock. Touch the screen to start counting, and touch it again to stop to check whether the counting is accurate. Press [Exit] to exit the test.

7. Screen Calibration:

You can perform all the menu operations by touching the screen with one of your fingers or a touch pen. When the touch screen is less sensitive to the touch, you can perform a screen calibration through menu operations.

The Screen Calibration Operation:

- (1) Press [Menu] on the initial interface to display the main menu interface.
- (2) Press [Calibration] on the [Auto Test] interface to display the screen calibration interface.
- (3) Touch the center of the cross "+".
- (4) Repeat Step 3 following the move of the "+" icon to different locations on the screen.
- (5) Touch the center of the cross at five locations on the screen correctly. When the message "Calibrating screen, pls wait..." is displayed on screen, the calibration succeeds and the system automatically returns to the main menu. If the calibration fails, the system recalibration will start from Step 3



Summary

* Run Auto test before handing over to client

* Use finger for calibration and not a sharp object!

10. USB Disk Management

Through the [Dn/Upload] menu, you can download user information and attendance data stored in a USB disk to related software or other fingerprint recognition equipment.



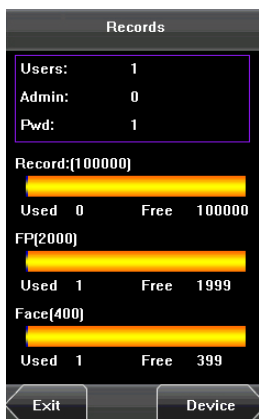
1. **Download Transactions:** Download all the attendance data from the device to a USB disk.
2. **Download User:** Download all the user information, fingerprints and face images from the device to a USB disk.
3. **Download user photos:** Download the employees' photos from the device to a USB disk.
4. **Upload User:** Upload the user information, fingerprints and face images stored in a USB disk to the device.
5. **Upload User Photo:** Upload the JPG documents that are named after the user IDs and stored in a USB disk to the device, so that user photos can be displayed after the employee passes the verification. See Appendix 1 Photo ID Function.

11. System Information

You can check the storage status as well as version information of the device through the [System Information] option.

Records: The number of enrolled users, administrators and passwords are displayed on the [Records] interface; the total fingerprint storage capacity and occupied capacity as well as the total attendance storage capacity and occupied capacity are graphically displayed respectively.

Device: The device name, serial number, version information, vendor and date of manufacture are displayed on the [Device] interface.



Summary

* In the case where TCP/IP, RS232, RS485 are not available, USB management can assist with download of records.

* Enrolling users and transferring users to other devices, ENSURE all the other units are in the same light environment.

* Basic system information can be viewed.

12. Appendix

Appendix 1: Photo ID Function

The Photo ID function is used to display the photo enrolled by a user or stored in a USB disk on the screen in addition to such information as the user ID and name.

[Operation Steps]

1. When the photo taken by the device is used, the photo can be displayed upon successful verification.

2. To use a photo stored in a USB disk, proceed as follows:

1) Create a folder with the name of "photo" in the USB disk, and store users' photos under this folder.

2) The user photos must be in JPG format and named after their IDs. For example, for the user with the user ID of 154, the photo name must be 154.jpg.

3) Insert the USB disk into USB slot on the device, and select USB Disk Management -> Upload -> Upload Photos. Then user photos can be displayed upon successful verification.

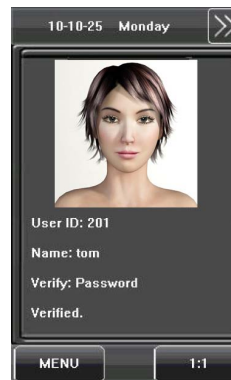
Note:

1) The length of a user name cannot exceed 24 digits.

2) The recommended size of a user photo is less than 30 kbit.

3) The uploaded new user photo will overwrite the existing photo in related to the user ID.

4) To download user photos, select USB Disk Management -> Download -> Download User Photos. A folder with the name of "photo" will be automatically created on the USB disk, and all downloaded user photos are stored under this folder.



Appendix A:

Multibio700 Pinout

