

1 Introduction

1.1 OA3000 Introduction

OA3000 is a genuine breakthrough by Anviz in biometric identification terminals, which fully integrate fingerprint identification, RFID, camera, wireless, GPRS, multimedia and embedded system technology. Utilizing 7 inch industrial TFT true color LCD, Samsung 400MHz Arm9 high speed processor and Windows CE operation system, OA3000 can be used in all applications where fingerprint identification is required especially in governments and larges-scale enterprises as well as places where high security level is a must.



OA3000 Fingerprint Terminal

1.1.1 Feature

- Integrated touch screen
- Samsung 7 inch industrial TFT LCD of high brightness
- 10 number key, 7 function key, 6 user defined function key, 4 status key and 1 circular navigation key
 - Samsung 400MHz Arm9 high speed processor. 2007 version stable core fingerprint module. Super performance. Embedded Wince5.0 operating system
 - Anviz optical fingerprint reader. Scratch-proof, unbreakable and durable. Well accept all kinds of fingerprints

- Multiple identification method: fingerprint, card, fingerprint + card, ID + fingerprint, ID + password, card + password

- Customizable voice prompt and time attendance status. Display user picture, personal and public message. Play multi-media video file. User can select local language
In the menu

- 3 million pixel camera, speaker, microphone, 2 USB and 1 RJ-45(LAN)
- Support TCP/IP, RS232/485, USB Host
- Inbuilt GPRS, inbuilt WIFI, SD card for data transfer
- Support ID, Mifare and HID card for extended function
- Optional SC021 or SC822 access controller for separate type secure access control system.

- Support real-time record download, WEB online tracking function, remote access through internet, and server identification etc.

1.2 Parameter

Item	Description
Sensor	Anviz optical sensor
LCD	Samsung 7 inch industrial TFT LCD
Identification Method	FP、ID+FP、ID+PW、FP+CARD、CARD、CARD+PW
Identification Time	<1 second
Register Method	Fingerprint, Password, (Max. 10 FP/person), card
Scan Area	22mm*18mm
Resolution	500DPI
Fingerprint Capacity	3000
Record Capacity	50000
FRR	0.001%
FAR	0.00001%
Standard Port	TCP/IP, RS232, USB HOST, inbuilt GPRS, inbuilt Wifi, SD card, Wiegand
Working Current	<450mA
Sleeping Current	<380mA
Sensor	>15000V
Power	DC 12V
Temperature/Humidity	-10°C-60°C / 20%-80%

Casing Material	ABS industrial plastic
Size	204(w)*252(h)*35(d) mm
Color	Black(Customizable)

Chapter 2 **Operation Guide**

This chapter is mainly about appearance illustration and relevant system settings such as how to add and delete users etc.



2 Operation guide

2.1 Structure

OA3000 fingerprint identification terminal:

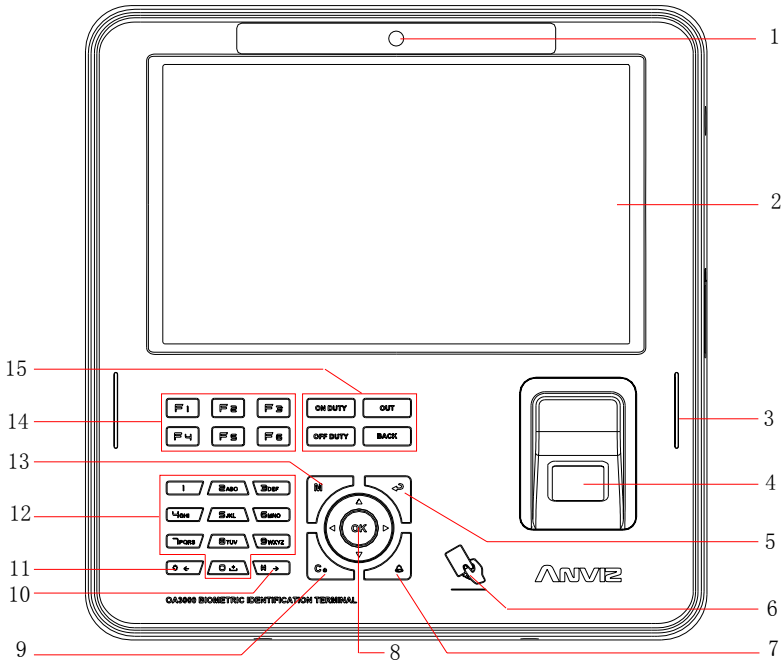


Illustration:

1 Camera	2 LCD	3 Speaker
4 Fingerprint sensor	5 Backspace key	6 Card punching area
7 Ring key	8 O.K. key	9 Cancel/power key
10 Down key	11 Up key	12 Numeric key/letter key
13 Menu key	14 User defined T&A status	15 T&A status key

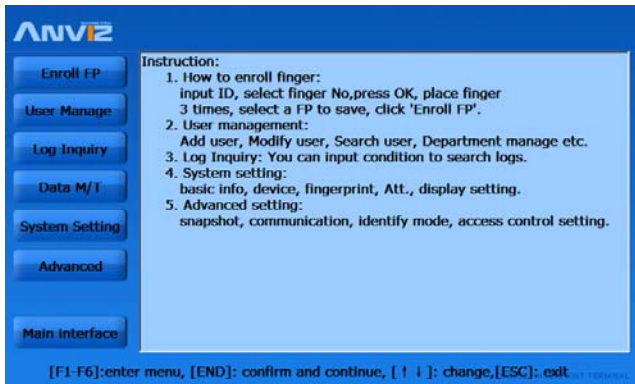
2.2 Start the device

Plug in the 12V power supply. It starts itself. You can see the main interface as follows:



2.3 T&A management

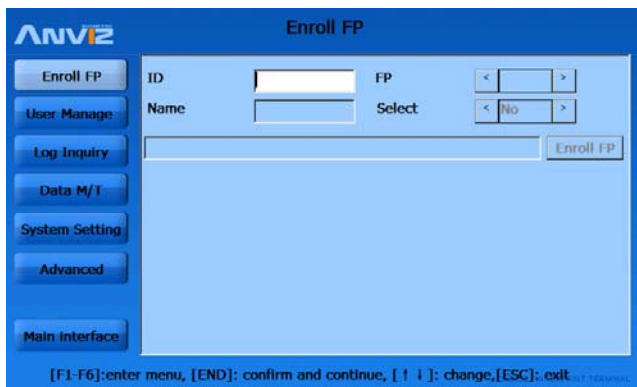
Enter the system background: Press the button “0” and press the button “OK” to confirm. And then enter the management password: “12345”. Press the button “OK” to enter the management interface.



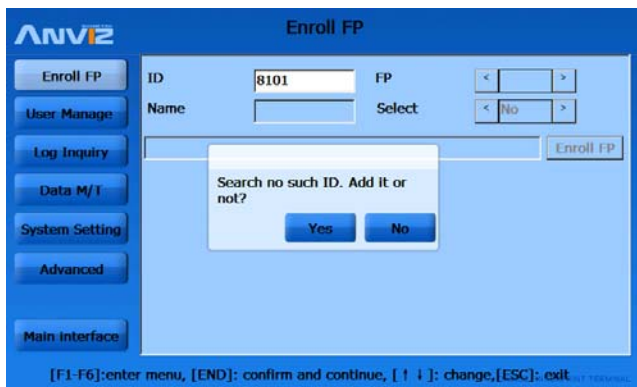
You can enroll fingerprint, manage the users, track the records, set the parameters and so on.

2.3.1 Enroll Fingerprint

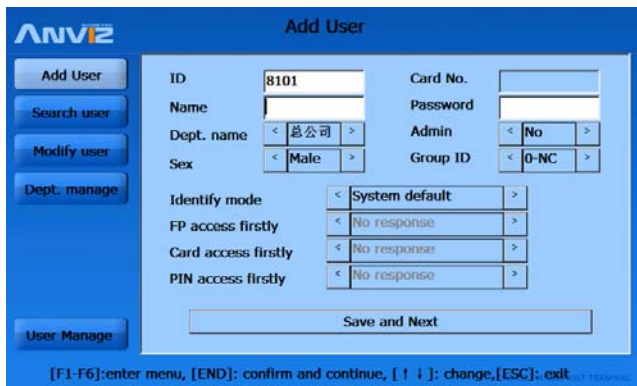
Click the item **【Enroll FP】** . It displays as follows:



Enter the User ID (For example: 8101) . Press the button **【OK】** to confirm:
 If the user ID is not existent, it prompts “ Search no such ID. Add it or not?”



If you want to add a new user, please click the button **【Yes】** . The **【Add User】** window pops up:

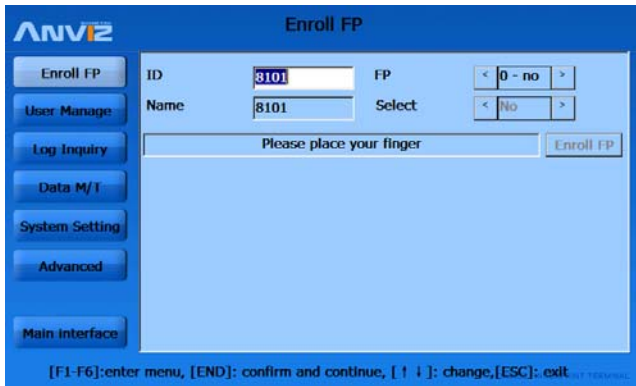


Set the user Information. Click the button **【Save and Next】** . It will return to the **【Enroll FP】** . And then the user can enroll the Fingerprint.

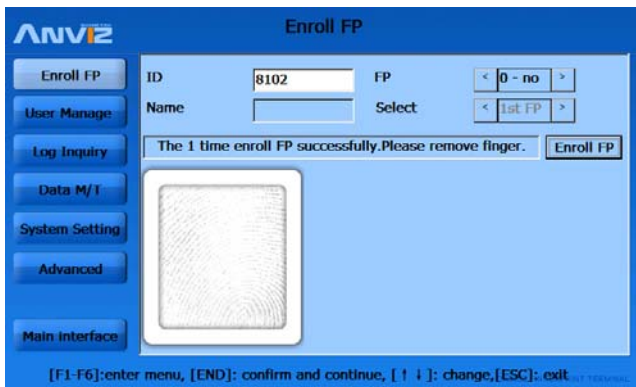
If the User ID is already existent in the system, which is added on terminal or uploaded through communication software, then user info will be shown. Please select the FP number to be enrolled, then press the button **【OK】** to enroll the fingerprint.

Note: One user can enroll 10 fingerprints.

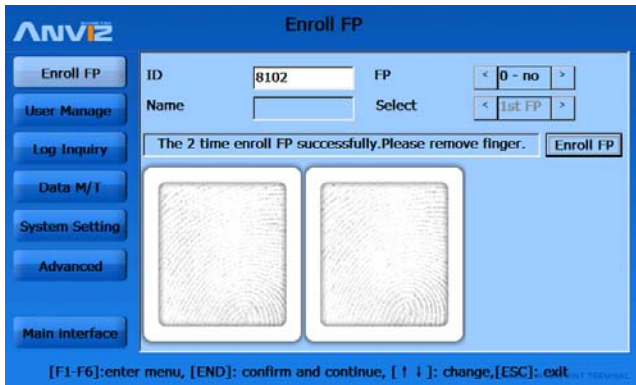
Please place you finger on the scanner window when the system prompts “ Place your fingerprint”.



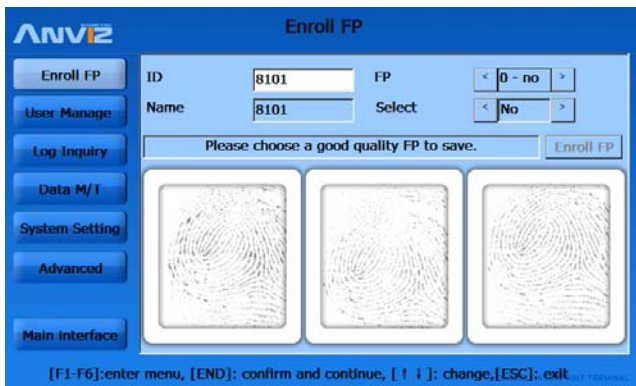
After it captures one fingerprint template for the finger successfully, it prompts “The 1 time enroll FP successfully. Please remove finger”.



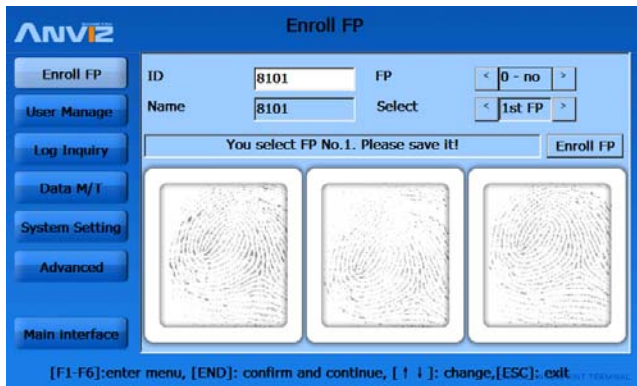
Remove the finger. And place the same fingerprint on the scanner window again. It captures the second fingerprint template for the finger.



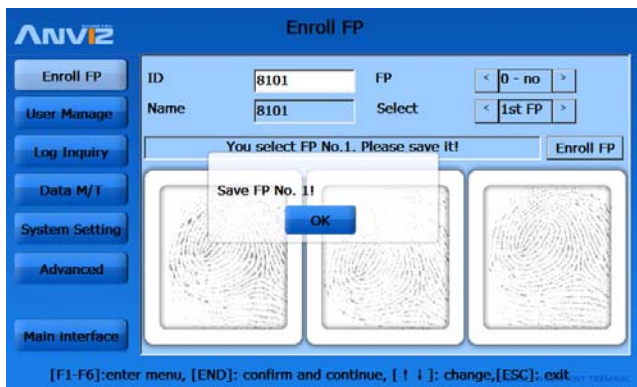
Remove the finger. And place the same fingerprint on the scanner window again. It captures the third fingerprint template for the finger.



Please select a better fingerprint template for the finger by click the fingerprint image on the touch screen. If you click the first fingerprint image, the system prompts “ You select FP No.1. Please save it.”



Click the button **【Enroll FP】** , one message box pops up:

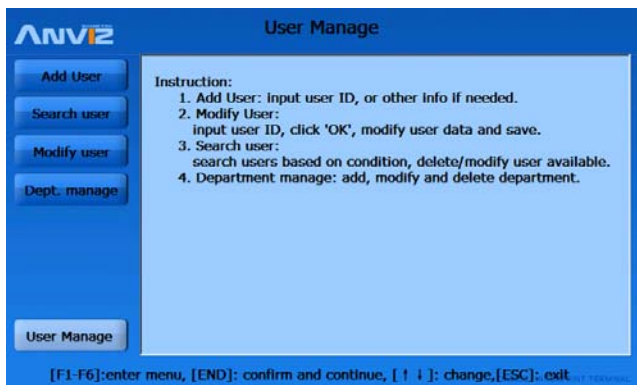


Press the button **【OK】** to save the fingerprint template.

2.3.2 User Manage

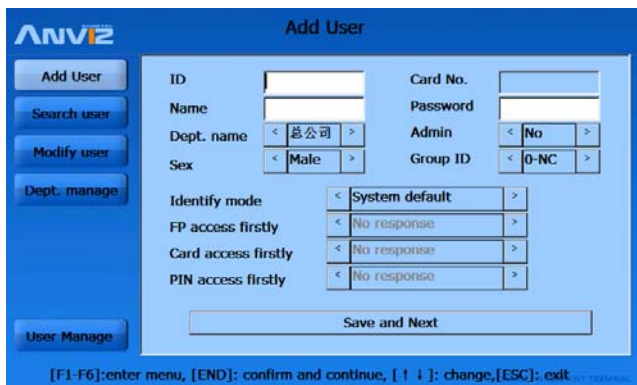
We can add, delete and modify the user.

Click **【User Manage】** in the main interface, it displays as follows:



2.3.2.1 Add User

Click the **【Add User】** , it displays as follows:



ID: user ID. It can't be duplicated and the first digit can't be 0. The max length is 12 digit.

Card No.: edit is limited. When adding card number, only need to swipe user card on card area, then card no. will show in the bar.

Password: user password. The max length is 12 digit.

Identify mode: two modes, user defined mode and system default mode..

System default	Based on Advanced setting
Set independently	administrator can set for appointed user based on need

FP accesses firstly: terminal response when user identify fingerprint. 4 modes available: no response, password identify, card identify, access granted (identification

successfully).

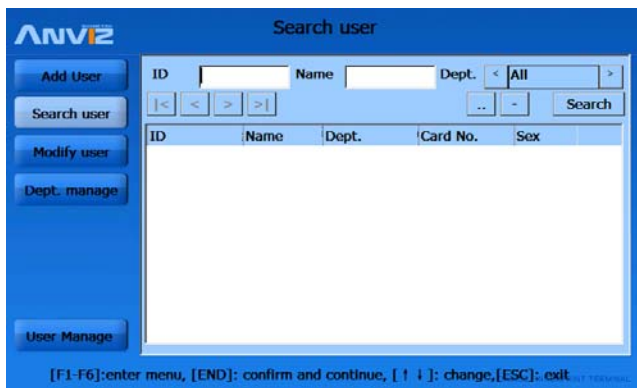
Card accesses firstly: terminal response when user identify card. 5 modes available: no response, password identify, FP identify (1:1) , FP+password identify, access granted (identification successfully).

PIN accesses firstly: terminal response when user identify PIN. 5 modes available: no response, password identify, card identify, FP identify (1:1) , FP+password identify, access granted (identification successfully)

Click the button **【 Save and Next 】** to save.

2.3.2.2 Search User

Click the **【 Search User 】** , it displays as follows:



Set the keyword for searching (ID, Name, Department...). And then click the button **【 Search 】** .

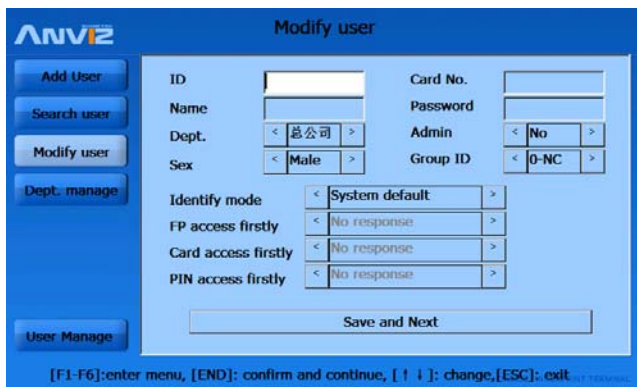
You can shift the page by click the button **【 <|< >|> 】** .

【 Browse the user information 】: You can select the user and then click the button **【 .. 】** .

【 Delete user 】: Select the user and then click the button **【 - 】** .

2.3.2.3 Modify user

Click **【 Modify user 】** , it displays as follows:

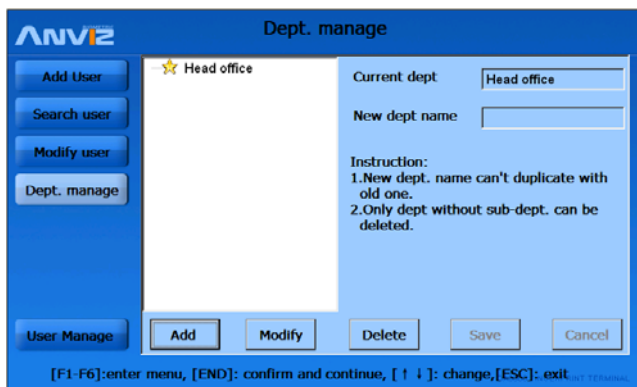


Input the user ID. Click the button **【OK】**, it displays the user's user information. You can modify the user information. Click the button **【Save and Next】** to save the modified user information.

2.3.2.4 Department management

Add, delete and modify the department.

Click the **【Dept. manage】**, it displays as follows:



【Add department】: Select the superior department. And then click the button **【Add】**. Input the new department name. Click the button **【Save】** to save.

Notice: The department name must be exclusive.

【Modify department】: Select the department. Click the button **【Modify】**. Input the new department name. And click the button **【Save】** to save.

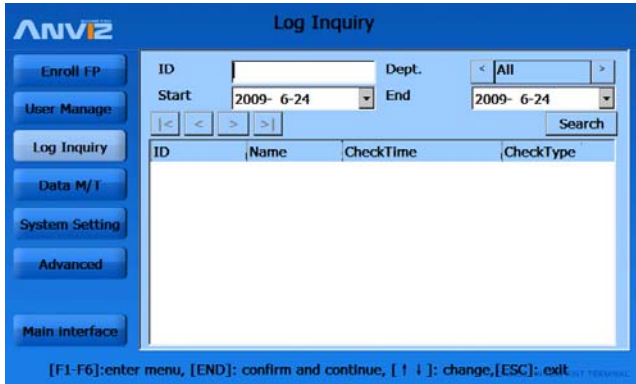
【Delete department】: Select the department. Click the button **【Delete】**. It prompts "Are you sure to delete the selected department?" Click the button **【Yes】** to delete the

department. Or click the button **【No】** to cancel.

Notice: Please delete the department's sub department before delete this department. You can not delete a department which has the sub departments.

2.3.3 Log Inquiry

Click the **【Log Inquiry】**, it displays as follows:



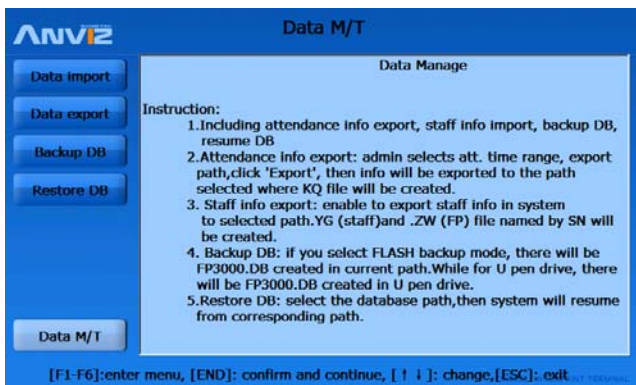
Set the keywords and conditions for the Inquiry. Click the button **【Search】** to search the records.

You can use the button **【<|< >|>】** to shift the page.

2.3.4 Data maintenance

Data M/T includes attendance log and user info export, user info import, backup database, restore database etc.

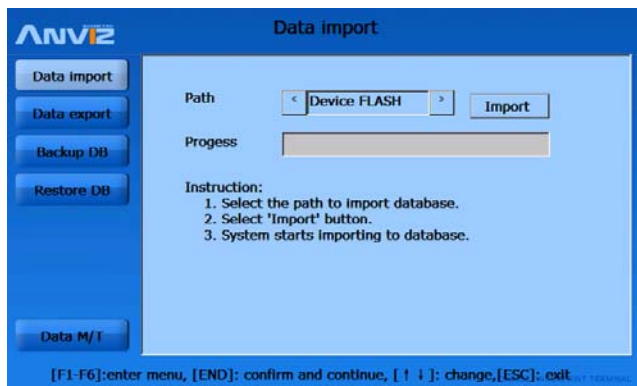
In system management interface, select **【Data M/T】** item, the interface will show as follows,



2.3.4.1 Data import

Data import is to import user info in standard format.

In **【Data M/T】** interface, select **【Data import】** item, the interface will show as follows,



Before importing staff info, please transfer the source file to the file folder named by terminal SN in Flash, SD card or U pen drive. Then rename the staff info file to BAK, i.e.

Staff info file: BAK.YG staff FP file: BAK.ZW staff log file: BAK.KQ

While postfix name are the following meaning,

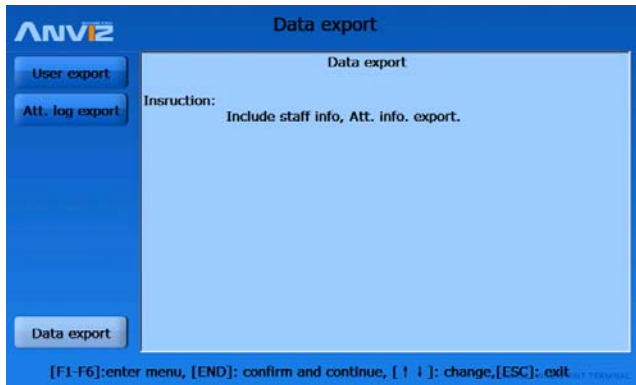
YG represents staff, ZW represents FP, KQ represents attendance log.

Select source file path, click **【Import】** button to start importing data to system database. After completed, progress bar will be 100%.

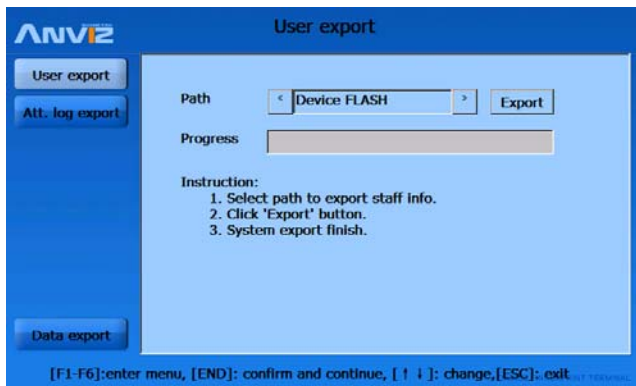
2.3.4.2 Data export

Data export includes user info and attendance log export.

In **【Data M/T】** interface, select **【Data export】** item, the interface will show as follows,



【User export】: click 【User export】 item in 【Data export】 , the interface will show as follows,

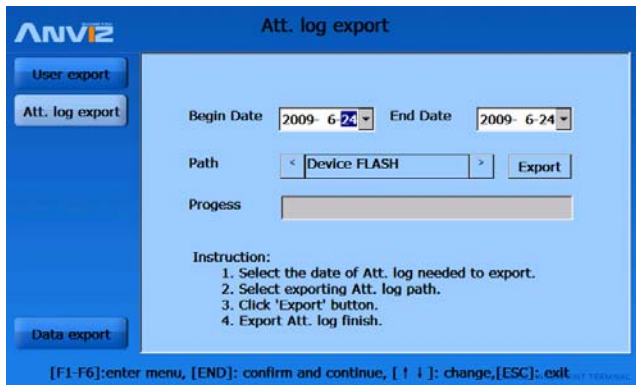


Select the path to export staff info. Flash, SD card and U pen drive are optional. Click 【Export】 button to start the exporting. There will be two files named by .YG (staff info) and by .ZW (FP templates) created in the selected path. i.e. staff info file BAK20090716.YG and staff fingerprint templates file BAK20090716.ZW

Staff info name: BAK+ export date + postfix name (.YG)

Staff fingerprint template name: BAK+ export date + postfix name (.ZW)

【Att. log export】 : click 【Att log export】 item in 【Data export】 , the interface will show as follows,

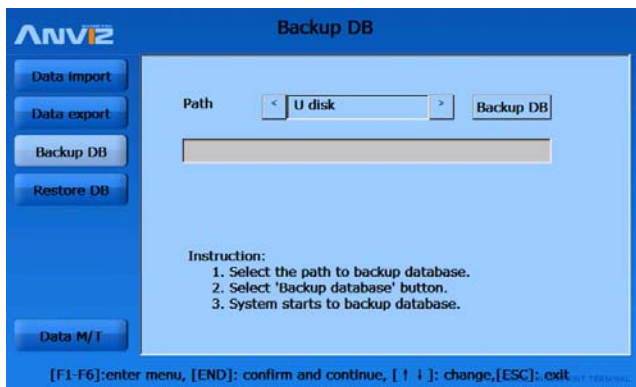


Firstly set the attendance log begin and end data to export, then select the exporting path (Flash, SD card, U pen drive are optional), click **【Export】** button to start exporting process. There will be attendance log file (.KQ) in the file folder named by SN. i.e. BAK20090716.KQ.

Attendance log file name: BAK + export date + postfix name (.KQ)

2.3.4.3 Backup Database

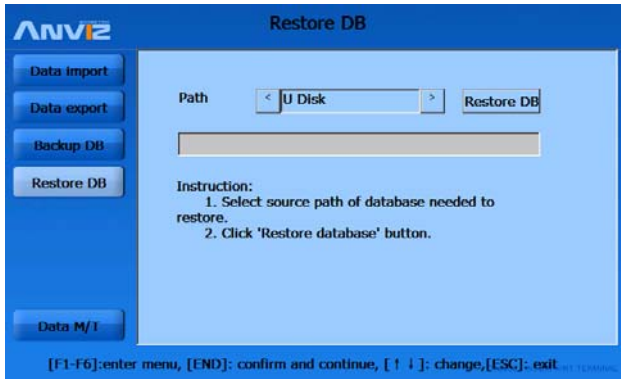
Click **【Backup DB】** item in **【Data M/T】** , the interface will show as follows,



Select the path to backup database (Flash, SD card and U pen drive are optional). Then click **【Backup DB】** button to start the backup process. After completed, there will be a file named by FP3000.DB created in the path.

2.3.4.4 Restore Database

Click **【Restore DB】** item in **【Data M/T】** , the interface will show as follows,

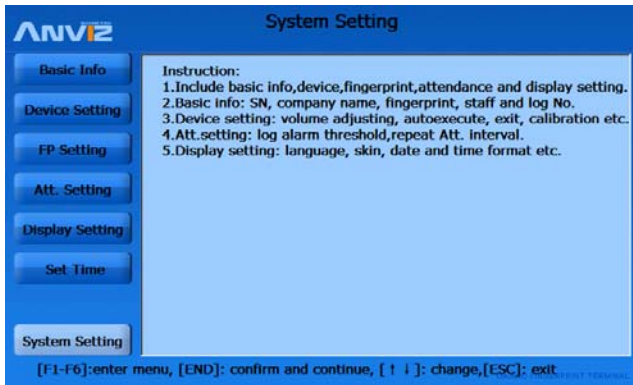


Select the path to restore database (Flash, SD card and U pen drive are optional). Click **【Restore DB】** button to start the restoring. After completed, progress bar will be 100%.

2.3.5 System Setting

System setting is to do configuration for all system, including basic info, device, fingerprint, attendance, display, and time setting.

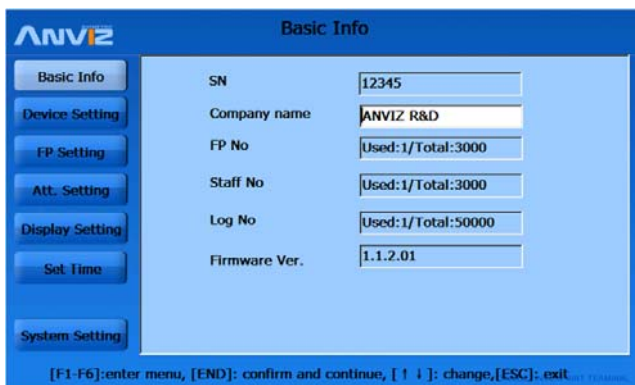
Select **【System Setting】** in **【System Setting】**, the interface will show as follows,



2.3.5.1 Basic Info

Basic info mainly includes serial number, fingerprint number, staff number, attendance log number and firmware version.

Select **【Basic Info】** in **【System Setting】**, the interface will show as follows,



SN: the unique mark of terminal. Modification is limited.

Company name: user company name.

FP No.: enrolled FP number/total FP capacity

Staff No.: enrolled user number/total user capacity

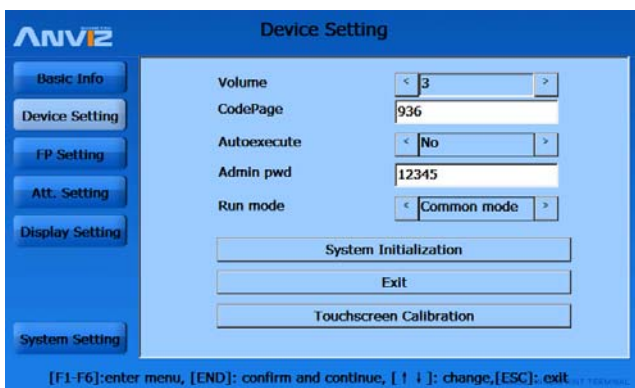
Log No.: existed attendance log/total log capacity

Firmware ver: firmware version of the terminal

2.3.5.2 Device Setting

Device Setting includes volume adjustment, Autoexecute, exit, and touchscreen calibration functions.

Select **【Device Setting】** in **【System Setting】** , the interface will show as follows,



Volume: OA3000 device prompting audio volume, default is 3.

CodePage: the mapping table between language code and Unicode. Frequently used Codepage are as follows,

codepage=932 Japanese; codepage=936 Simplified Chinese GBK;
codepage=949 Korean; codepage=950 Traditional Chinese BIG5;
codepage=437 US/Canada English; codepage=866 Russian;
codepage=65001 unicode UFT-8;

Autoexecute: if selecting 'Yes', the program will auto run after device startup. If 'No', the program will not run.

Admin PWD: admin password is used to enter administrative menu of device.

Default is 12345.

Run mode: include Common mode and Debug mode, default is Common mode.

System Initialization: it will initialize the system to factory setting and cleared all data.

Backup all data is recommended.

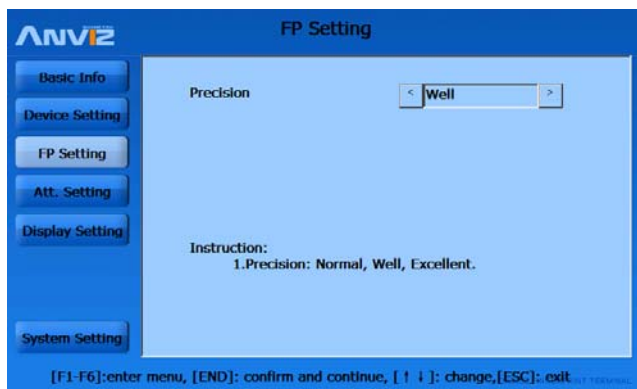
Exit: close the running program.

Touchscreen Calibration: it is to calibrate the focus of touchscreen. Click **【Touchscreen Calibration】** button, then in the interface followed, click on the crossed symbol through cursor. When the symbol moves, repeat the step. After setting completed, the interface will prompt 'New calibration setting is finished.' Click 'Enter' button to save the new setting, 'ESC' button to exit.

2.3.5.3 FP Setting

Fingerprint Setting includes fingerprint precision setting.

Select **【FP Setting】** in **【System Setting】**, the interface will show as follows,

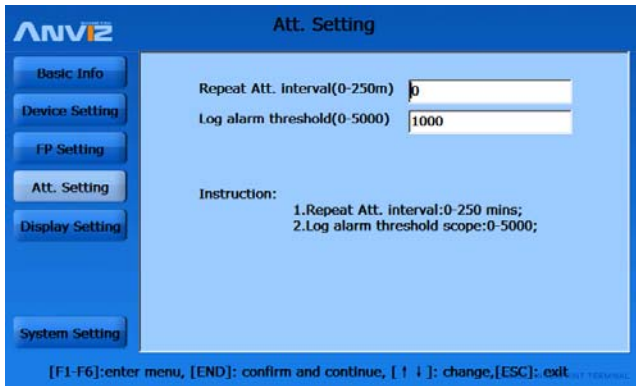


Precision: it has 3 levels (Normal, Well, Excellent), default is Normal. When precision is higher, it will require better quality fingerprint.

2.3.5.4 Attendance Setting

Attendance setting includes repeat attendance interval and log alarm threshold setting.

Select **【Att. Setting】** in **【System Setting】** , the interface will show as follows,



Repeat attendance interval: the interval time the same user identifies. Default is 0 (not time interval) . Setting period is 0-250mins.

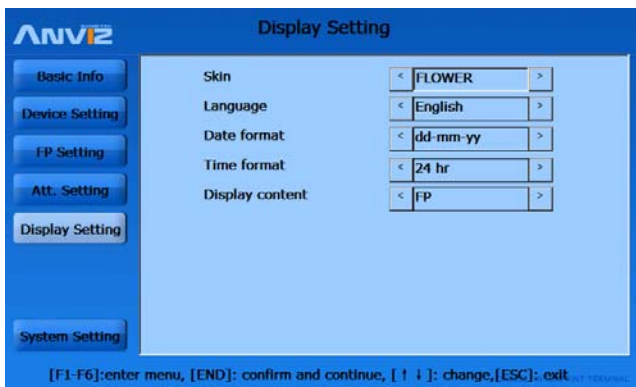
Prompt: if the same finger is identified continuously in re-verify time period, only the first record will be saved in device memory.

Log Alarm Threshold: If the rest memory space for the record is less than the threshold value, the machine will alarm. Setting period is 0-5000.

2.3.5.5 Display Setting

Display setting includes system skin, language, date, time format setting.

Select **【Display Setting】** in **【System Setting】** , the interface will show as follows,



Skin: main interface skin, 3 selections.

Language: display language types, English and Chinese are optional.

Date format: system date type: dd-mm-yy, yy-mm-dd and mm-dd-yy

Time format: system time type: 12 hr and 24 hr.

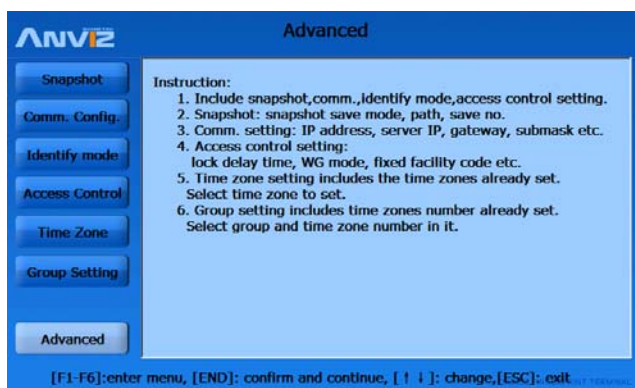
Display content: it is the display content in the pop-up window when user does attendance on OA3000. fingerprint, picture, snapshot are optional.

Fingerprint	Show user's finger image when placing it for identification
Picture	Show user's corresponding picture stored in terminal. The picture is named by user ID(.jpg) which are saved in 'My device\Nandflash\OA3000\ICON'
Snapshot	When user identify successfully, camera will take snapshot and show it in display window

2.3.6 Advanced

Advanced setting includes snapshot, communication, identification method and access control setting.

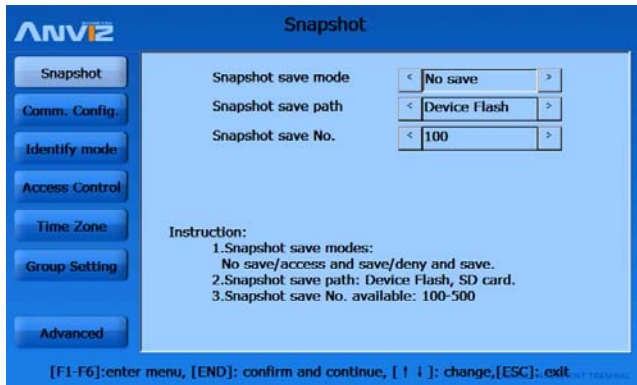
Select **【Advanced】**, the interface will show as follows,



2.3.6.1 Snapshot

Snapshot includes snapshot save mode, path and number setting.

Select **【Snapshot】** in **【Advanced】**, the interface will show as follows,



Snapshot save mode: 3 modes, no save, pass and save, no pass and save. Default is no save.

No save	System will not save snapshot
Pass and save	When user identify successfully, camera will take snapshot and save in the path 'My device\Nandflash\OA3000\SNAP' file folder.
No pass and save	When user identify failed, camera will take snapshot and save in the path 'My device\Nandflash\OA3000\SNAP' file folder.

Snapshot save path: device Flash, SD card are optional. Default is device flash.

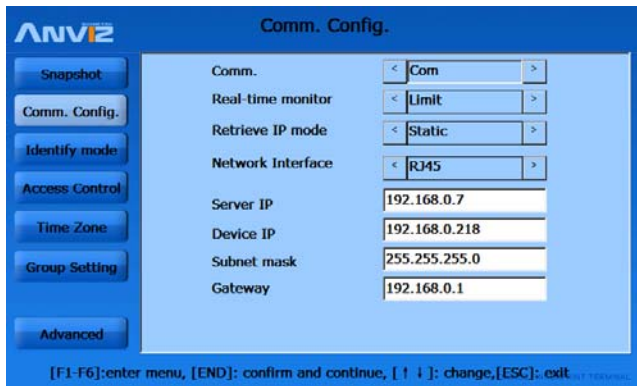
Device Flash	Save to terminal flash
SD card	Save to SD card. System will create ICON、SNAP two file folders.

Snapshot save number: snapshots capacity is 500 pieces, default is 100.

2.3.6.2 Comm. Config

Communication configuration mainly includes communication mode, real time monitor, retrieve IP mode, network interface and IP setting.

Select **【Comm. Config】** in **【System Setting】**, the interface will show as follows,



Comm.: includes 3 communication types, Com, RS485, TCPIP

Real-time monitor: to real-time monitor time attendance log on terminal. This function must be activated before do real-time monitor for log on terminal.

Retrieve IP Mode: two types, static and dynamic. Default is static.

Network Interface: two types, RJ45 and Wifi. Default is RJ45

Server IP: the IP address of PC/Server that communicates with terminal

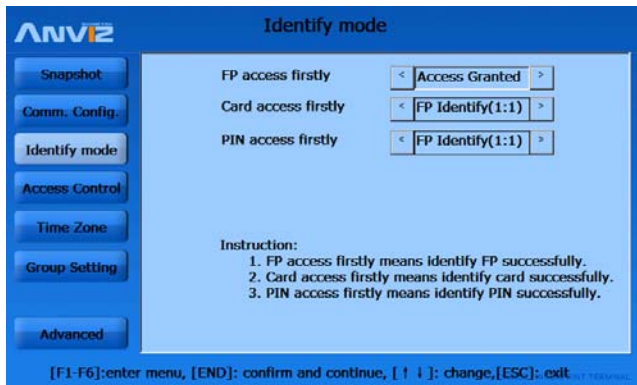
Device IP: terminal IP address

Subnet Mask: corresponding subnet mask of real network which terminal is connected

Gateway: gateway needed to set when connecting to Internet.

2.3.6.3 Identify Mode

Select **【Identify Mode】** in **【Advanced】** , the interface will show as follows,



FP accesses firstly: terminal response when user identify fingerprint. 4 modes

available: no response, password identify, card identify, access granted (identification successfully).

Card accesses firstly: terminal response when user identify card. 5 modes available: no response, password identify, FP identify(1:1 , FP+password identify, access granted (identification successfully).

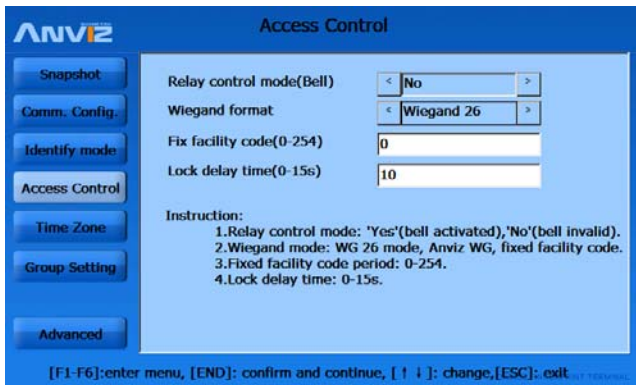
PIN accesses firstly: terminal response when user identify PIN. 5 modes available: no response, password identify, card identify, FP identify (1:1) , FP+password identify, access granted (identification successfully).

Prompt: if identify mode is different with 'Identify mode', identify mode in **【Add user】** is effective.

2.3.6.4 Access Control Setting

Access control includes lock delay time, wiegand mode, fixed facility code setting.

Select **【Identify Mode】** in **【Advanced】** , the interface will show as follows,



Relay control mode (Bell): 'Yes' is bell allowed, 'No' is bell limited.

Wiegand mode: two modes, Anviz wiegand and wiegand 26. Default is wiegand 26.

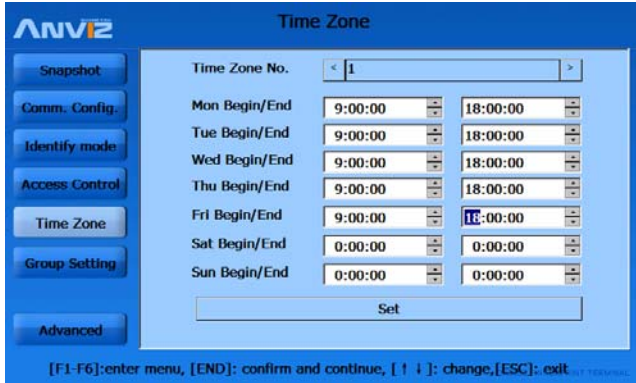
Fix facility code (0-254): if the same finger/card uploaded to two different ID terminal, the wiegand code output from the two terminal are different. So if facility code is set to be the same, then the wiegand code output will be the same.

Lock, delay time (0-15s): the door connected to lock open time. Delay time period: 1—15s.

2.3.6.5 Time zone setting

Time zone setting includes checking old time zones and set new time zones.

Select **【Time zone】** in **【Advanced】** , the interface will show as follows,



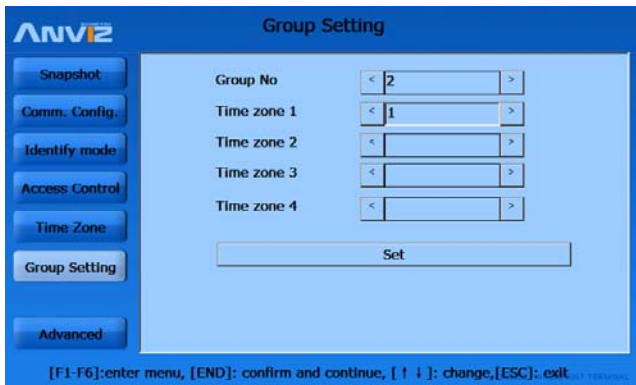
If you need to check time zones that set previously, please select the time zone number, and the old time zones will show automatically.

If setting time zones, select time zone number firstly, i.e. 1, then set the time zone period, click **【Set】** to save after setting completed.

2.3.6.6 Group Setting

Group Setting includes groups that already set checking, and new group setting.

Select **【Group Setting】** in **【Advanced】** , the interface will show as follows,

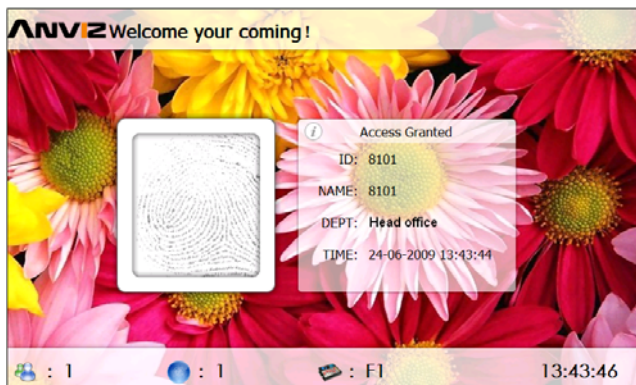


Select group number, then select time zone number needed to set. i.e. set group 2 including time zone 1. click **【Set】** to save the setting.

2.4 Identification

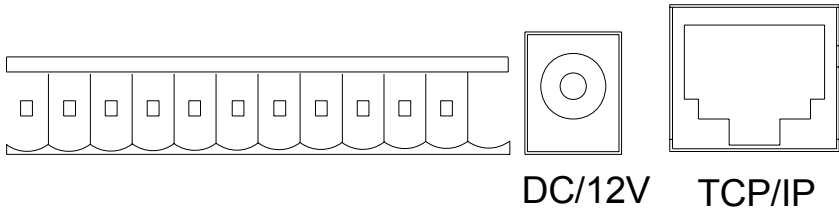
In the main interface, press F1-F6 button and attendance status button to set. After completed, you can do attendance.

If user identify successfully, the main interface will show as follows,



7 Appendix

7.1 Communication and Power Interface



RX/485A	TX/485B	EGND	N_C	COM	N_O	WG_D0	WG_D1	EGND	GND	+12V
---------	---------	------	-----	-----	-----	-------	-------	------	-----	------

RX/485A RS485 Signal Input;

TX/485B 485 Signal Output;

EGND External Ground;

N_C Dry contact signal connector (normal close)

COM Dry contact signal public connector

N_O Dry contact signal connector (normal open)

WG_D0 Wiegand Signal D0

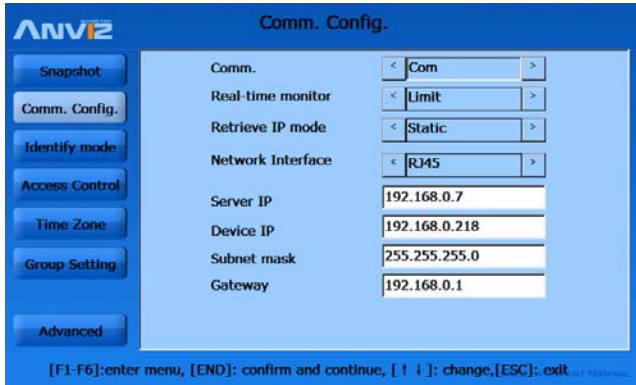
WG_D1 Wiegand Signal D1

EGND External Ground

GND Ground

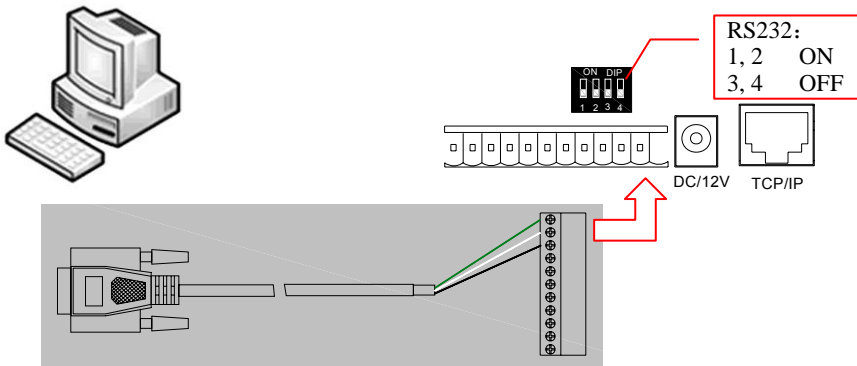
+12V 12V Power in

7.2 Set communication method

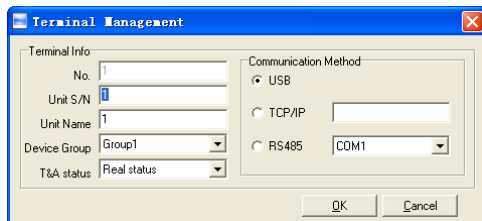


7.2.1 RS232 communication

Set the “Comm.” as “Com” in the menu **【Advanced】 - 【Comm. Config.】** .
 And then connect the PC and the machine through RS232 cable.

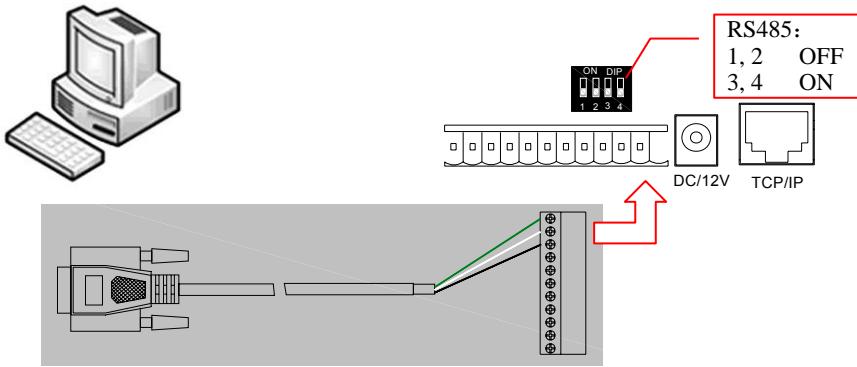


And you should also set the communication method as RS232 in the communication software.

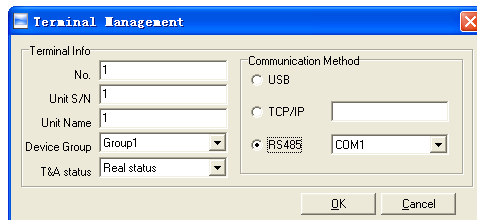


7.2.2 RS485 communication method

Set the “Comm.” as “RS485” in the menu **【Advanced】 - 【Comm. Config.】** .
 And then connect the PC and the machine through RS485 cable.



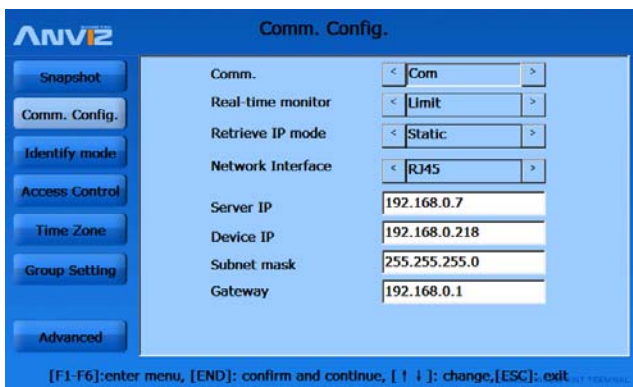
And you should also set the communication method as RS485 in the communication software.



Notice: You must input the right Unit S/N.

7.2.3 TCP/IP communication method

Run the T&A program in the OA3000. Enter the background of the OA3000 T&A system.



And then please set the OA3000's IP settings in the menu **【Advanced】 - 【Comm. Config.】** .

For instance: There is one T&A machine and one PC.

1. Use the static IP address in wired network.

The settings in the OA3000 **【Advanced】** → **【Comm. Config.】** is set as follows:

Comm.	TCP/IP
Real-time monitor	limit
Retrieve IP mode	Static
Network interface	RJ45
Server IP	192.168.0.7 (Notice: The server IP must be as same as the

connected PC's IP address.)

Device IP	192.168.0.218 (Notice: It is the OA3000's IP address.)
Subnet Mask	255.255.255.0 (It is as same as the connected PC)
Gateway	192.168.0.1 (It is as same as the connected PC.)

PC's IP settings:

IP address	192.168.0.7
Subnet Mask	255.255.255.0
Gateway	192.168.0.1

2. Obtain the IP address automatically in wired network.

The settings in the OA3000 **【Advanced】** → **【Comm. Config.】** is set as follows:

Comm.	TCP/IP
Real-time monitor	limit
Retrieve IP mode	Automatic
Network interface	RJ45
Server IP	192.168.0.7 (Notice: The server IP must be as same as the


connected PC's IP address.)

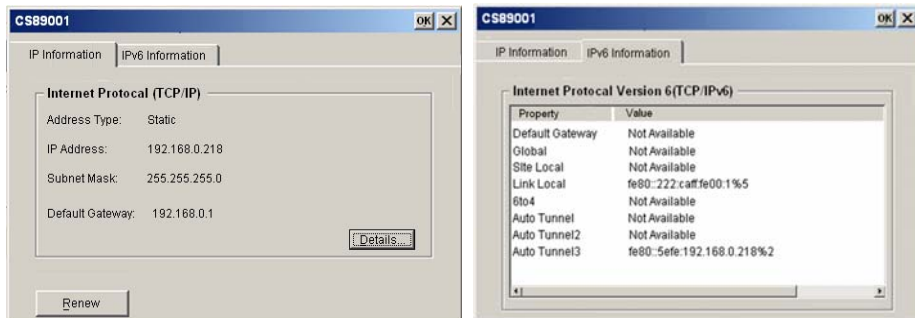
IP address	
Subnet Mask	
Gateway	

PC's IP settings:

IP address	192.168.0.7
Subnet Mask	255.255.255.0

Gateway 192.168.0.1

When you obtain the IP automatically in wired network, you can not see the Device's IP in the OA3000's T&A program background. You should exit the OA3000 T&A program and see the auto-assigned IP address in the Windows CE OS. Double click the icon  on the bottom right corner, following window pops up:



3. Use static IP address in the wireless network

The settings in the OA3000 **【Advanced】** → **【Comm. Config.】** is set as follows.:

Comm. TCP/IP

Real-time monitor limit

Retrieve IP mode Static

Network interface WIFI

Server IP 192.168.0.7 (Notice: The server IP must be as same as the connected PC's IP address.)

Device IP 192.168.0.218 (Notice: It is the OA3000's IP address.)

Subnet Mask 255.255.255.0 (It is as same as the connected PC)

Gateway 192.168.0.1 (It is as same as the connected PC.)

PC's IP settings:

IP address 192.168.0.7

Subnet Mask 255.255.255.0

Gateway 192.168.0.1

4. Obtain the IP address automatically in wireless network

The settings in the OA3000 【Advanced】 → 【Comm. Config.】 is set as follows:

Comm.	TCP/IP
Real-time monitor	limit
Retrieve IP mode	Automatic
Network interface	WIFI
Server IP	192.168.0.7 (Notice: The server IP must be as same as the


connected PC's IP address.)

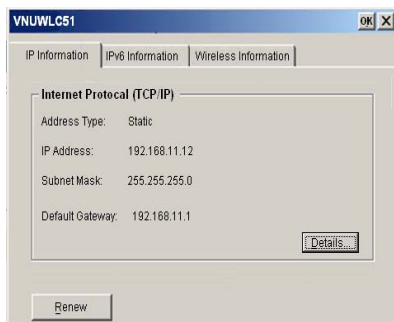
IP address	
Subnet Mask	
Gateway	

PC's IP settings:

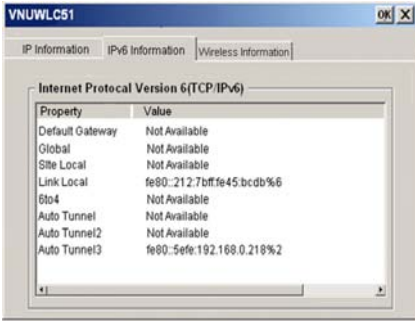
IP address	192.168.0.7
Subnet Mask	255.255.255.0
Gateway	192.168.0.1

When you obtain the IP automatically in wired network, you can not see the Device's IP in the OA3000's T&A program background. You should exit the OA3000 T&A program

and see the auto-assigned IP address in the Windows CE OS. Click the icon  on the bottom right corner, following window pops up:



Click the item “Wireless information” and choose a wireless access point. And then click the button “Connect” to make connection.



Notice:

1. If you want to obtain the IP address automatically, the OA3000 must be connected to a wireless network switch which supports the DHCP.