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1. Introduction

This chapter shows the BioClock Fingerprint T&A basic concepts and how to place the finger.


Figure (Model:TAP-01)





Figure (Model:TAP-01) keypad

1	2	3	ESC
4	5	6	▲
7	8	9	▼
⊙	0	OK	MENU

Keypad Definition

 Confirm the current present.

 Access to manage.

 Escape or cancel.

 Scroll up.

 Scroll down.

 Power button.

 - -  : Numerical key.

1.1 Basic Concepts

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

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

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

1.1.1 User Enrollment

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

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

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

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

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

1.1.2 User Verification

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

1.1.3 Match Threshold Levels

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

The Match Threshold Levels establishes a balance between False Acceptance Rate (FAR) and False Rejection Rate (FRR). FAR measures how often a non-authorized user is falsely recognized and granted

access to the system. FRR measures how often an enrolled and authorized user, who should be granted access to the system, is denied on the basis that the system did not recognize him.

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

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

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

Different sites have different requirements.

Table 1-1 Suggested Match Threshold Settings

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

1.1.4 User ID Numbers

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

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

1.1.5 Authority (status) Levels

TAS Clock Fingerprint T&A has four authority or status levels:

- Users are people whose identity must be verified, such to gain

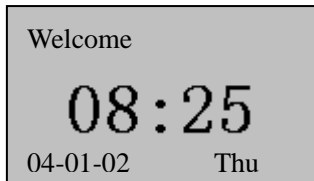
access to a facility or to have their attendance recorded.

- Managers can do other operations, except set advanced option and enroll manager's authority.

Note: Without Manager status in the system, the Enroller will enroll them.

1.1.6 Start-up window

Click the power button and the screen showed on, a display of a window was called the Start-up window. The following appears:



2.1 How to place the finger

1.The correct way is:

Place a finger flatwise on the sensor surface

Place it to the center of the sensor surface

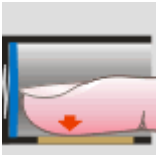
2.When registering, please place finger on sensor surface for about 1 second.

3.If the quality of finger registry is very bad, please register another fingers to instead of.

Notice :

Correct Ways:

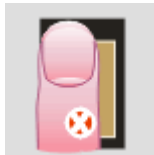
- ① The area of finger on the sensor surface should be larger.
- ② Place a finger flatwise on the sensor surface
- ③ Place finger to the center of the sensor surface



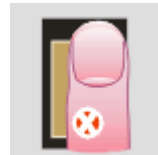
Incorrect Ways



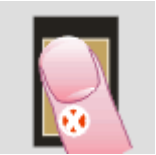
①Touching



②put on the left



③Put on the right



④not straight



⑤Put on the lower place

Note: Please adopt the correct way to place the finger, this company assumes no responsibility for errors from the use of the Time Recorder. This company reserves the right to revise document and to make changes from time to time in

the contents here of without obligation to notify any person of such revision or changes.

2. Enrollment and Verification Procedures

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

The following topics are included:

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

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

2.1 Enrolling Users

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

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

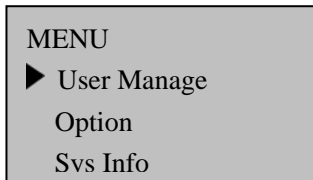
There are three ways of enrollment, fingerprint enrollment, password enrollment, fingerprint & password are suitable for three differences crowds. Fingerprint enrollment suited the most people who have better quality fingerprints; Fingerprint & Password suited few people who enrolling successful, but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

To start the enrollment process, identify yourself firstly-press

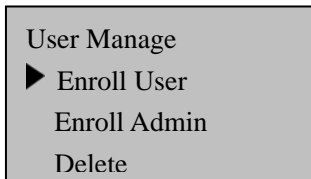
[Menu], enter your ID number or fingerprint, and then verify your identity.

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

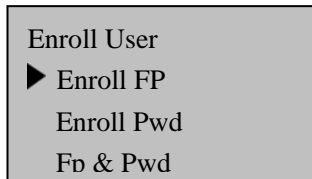
The following message appears on the display:



Press [OK], access the User Manager, the following message display:

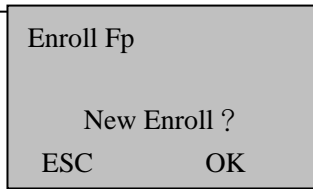


Press [OK], access the User Enrollment, the following message display:

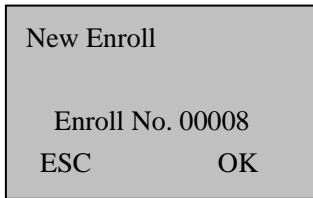


Fingerprint Enrollment

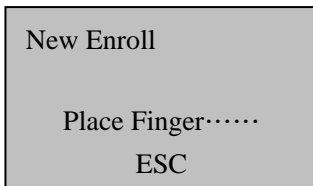
(1) Access the Enroll Fingerprint to press [OK], the following display:



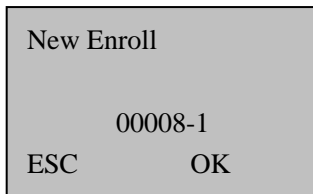
(2) Press [OK], the following appears:



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



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



Note: 00008-1

The last number 1 means the first fingerprint.

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

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

2. Password Enrollment

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

Enroll Pwd	
New Enroll ?	
ESC	OK

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

New Enroll	
Enroll No. 00008	
ESC	OK

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

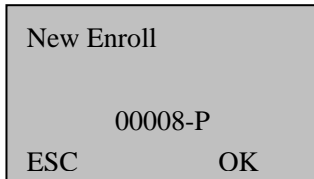
New Enroll	
Input Pwd *****	
ESC	OK

Note: The password range is 1 to 5.

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

New Enroll	
Input Pwd *****	
Pwd Affirm *****	
ESC	OK

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



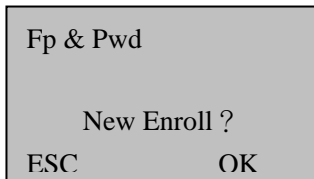
Note: 00008-P

The last letter P means password.

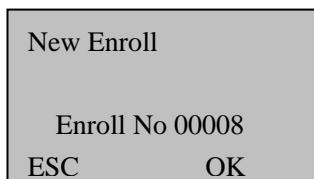
Press [OK], the previous message continues to be displayed while the template is created.

3.Fingerprint & Password

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

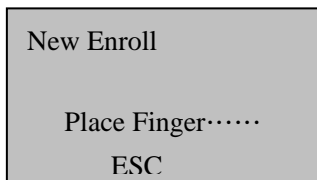


(2) Press [OK], the following appears:

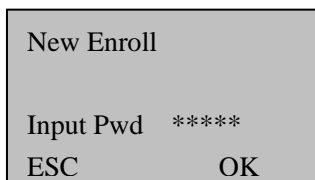


(3) Input the password (range is 1 to 65534), press [OK], the

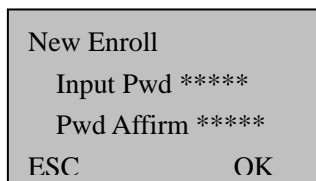
following appears:



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



(5) Input your password, the following appears:

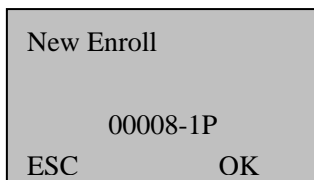


(6) Input the password again, press [OK], the following appears:

Note: 00008-1P

The second from the last 1 means one fingerprint

The last letter P means password.



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

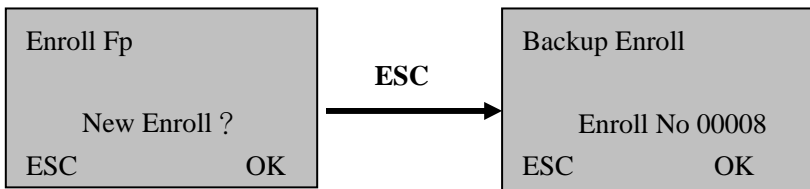
2.2 Testing an Enrollment

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

2.3 Enrolling a User with the Display Finger Option

On

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



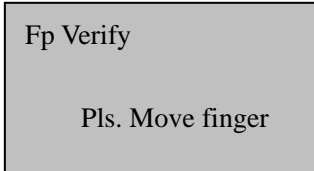
Note: Where system memory permits, it is advisable to have at least two fingers enrolled for a long-term user.

2.4 Verifying Your Identity

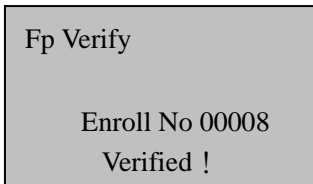
The workers used Fingerprint T&A to verify their identity. The system defaults to three ways of verification: Fingerprint verification, Password verification, ID number & Fingerprint. The following appears

2.4.1 Start-up window

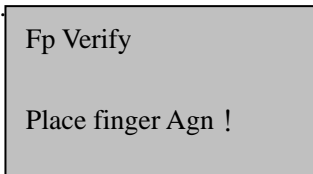
Place the finger on the sensor surface, the following appears:



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



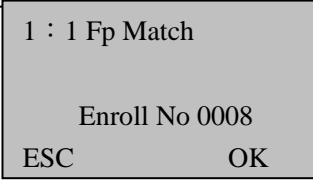
If your identity cannot be verified, you are prompted to try again, the following appears:



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

2.4.2 Password Verification

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



1 : 1 Fp Match

Enroll No 0008

ESC OK

Press [OK], the following appears:



Pwd Affirm

Enroll No 0008

Input Pwd *****

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



Pwd Affirm

Enroll No 0008

Verified

If the password cannot be verified, the following appears:



Pwd Affirm

Enroll No 0008

Error Pwd. !

2.4.3 ID number & Fingerprint

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

1 : 1 Fp Match

Enroll No 0008

ESC OK

If your identity is verified, the following appears:

1 : 1 Fp Match

Enroll No 00008

Verified !

2.5 Hints for Successful Enrollments

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

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

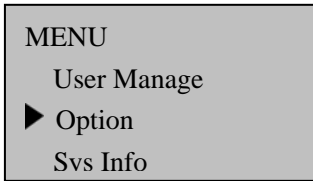
Table 2-1 Enrolled unsuccessful or the fingerprint of poor quality

Dry or dirty fingerprints	Solve the dry problem that rub the dry finger and palm. If the fingerprint is dry, you will adopt the way of wetting up the finger, such as rub the forehead
Have no enough to bring pressure	The user should place a finger firmly and squarely on the sensor surface.
How to select the finger?	Recommend to left or right index or middle finger. Use fingerprints of good quality, without worn or hurt.

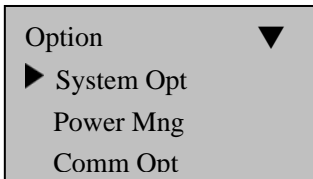
	The user usually selects the forefinger, if it was of a poor quality, you will be recommended to middle finger or ring finger.
How to place the finger?	Place your finger firmly and touch the sensor surface must be over 2/3. The fingerprint does not touch upright on the sensor surface. Do not touch the finger too fast; Do not move the finger on the sensor surface
The influence of the fingerprints change	For users with worn or damaged fingers, the identification can be influenced. If the finger quality was poor, you will select password verification.
Others	However, few people's fingerprint quality is too poor to verify the fingerprint in gear. Please use ID & fingerprint verification, and the Match Threshold Levels can be reduced or use password verification.

3. System Options

Press the [Menu], then verify your identity. The following appears:



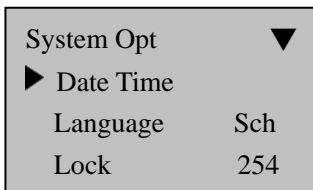
Access Options, press [OK], the following appears:



The following topics included: System Options, Power Manage, Communication Options, Log Options and Auto Test.

3.1 System Options

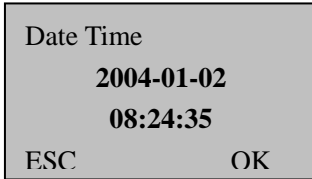
Access System Opt, the following appears:





The setup facility covers four areas: System Options, Language, Lock and Advanced Options.


3.1.1 Date Time

Access Date Time, the following appears:



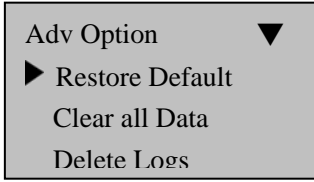
To change the date, press  and , then input the correct date and time, press [OK]



3.1.2 Changing the Default Language

Access Language, press [OK], it defaults to SCH. Press  to select another language. Fingerprint T&A comes with three built-in languages, simplified Chinese, traditional Chinese, and English for all displays. Select the language that you will use, press [OK], then Press [ESC] to return the Options. The system will ask for confirmation of the displayed language. Press [OK] to accept the language displayed.

3.1.3 Advanced Options

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



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

Restore Default: restore all setup information to default.

Clear all Data: delete all enrolling fingerprints and logs.

Delete Logs: delete all logs of flash disk.

Clear Managers' rights: change the managers' rights into ordinary users' rights.

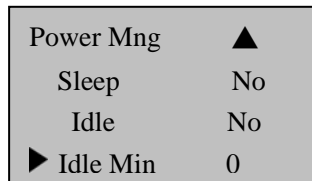
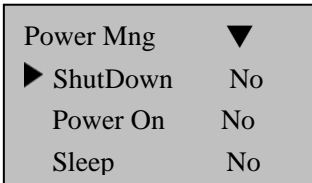
Show Score: whether show the quality value of fingerprint in the screen or not;

Match Threshold Levels: For helping in selecting threshold level settings, see Table 1.1.3.

Sound: whether use to phonic hint or not.

3.2 Power Manager

Access Power Manage, the following appears:



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

Shutdown: auto shut-off in the timed.

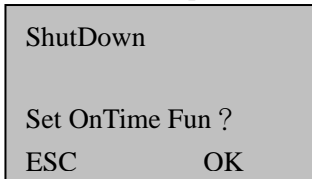
Power on: auto open-up in the timed.

Sleep: automatic resting in the timed, press any key to enter

working state.

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

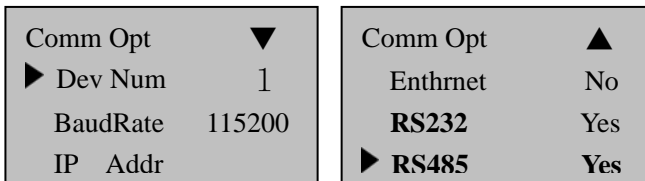
Select Shutdown, press [OK], the following appears:



Press [OK], then enter Shutdown, press [ESC] to cancel.

3.3 Communication Option

Access Comm Opt, the following message appears:



Time Recorder Fingerprint T&A support RS232, RS485, TCP/IP, whether you use Single-Board Computer (SBC) or Networking, BioClock will satisfy the user's demands.

Device Number: machine ID, the range is 1 to 255.

Baud Rate: there are three options, 9600, 38400, 115200; The speed of communication is fast, recommend to use RS232; The speed of low communication is stable, recommend to use RS485.

IP address: it defaults to IP address is 192.168.1.201.

Net Speed: Auto is recommended..

Ethernet: whether use TCP/IP protocol or not.

RS232: communication is RS232.

RS485: communication is RS485.

COMM Key: when connecting with PC, if there is a comm. Key, you need to keyin it., if there is not a comm. Key, you just left the blank empty.

3.4 Log Options

Access Log Opt, the following message appears:

Log Opt		
▶ Alm Attlog		1
ReCheck Min		0

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

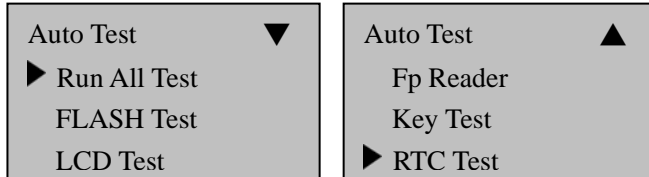
Recheck Minute: Set within compass (Unit: minute). Someone's enrollment has enrolled, then, the log twice was not displayed in the system.

3.5 Access Options

- 1..Define TZ
- 2.User Acc Opts
- 3.GRP TZ Define
- 4.Access Comb
- 5.Lock

3.6 Auto Test

Access auto test, the following message appears:



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

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

4. Download fingerprints & AC Records

- 1.Install Attendance Management System
- 2.Connect PC and TAP-01 with RS232
- 3.Setup PC Com port rate:115200
- 4.Connecting and Download AC Records
- 5.Upload staff's name to TAP-01

4.1 Install Attendance Management System

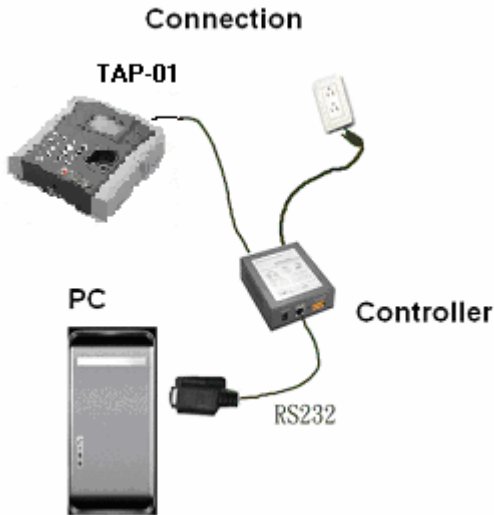
Insert Disk to CD Rom and start setup procedure and complete it.(if there are any update program, please execute it, too)

4.2 Connect PC and TAP-01 with RS232

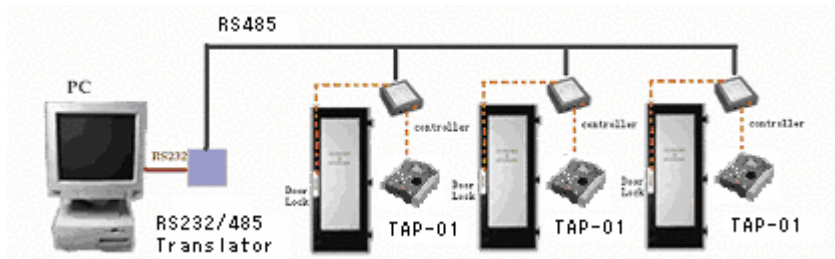
Make sure the switch of controller is pointed at RS232/RS485

The communication for TAP-01 is RS232

“Menu”->”Option”->”Comm Opt”->”RS232”->”Yes”



Connect PC and TAP-01 with RS485

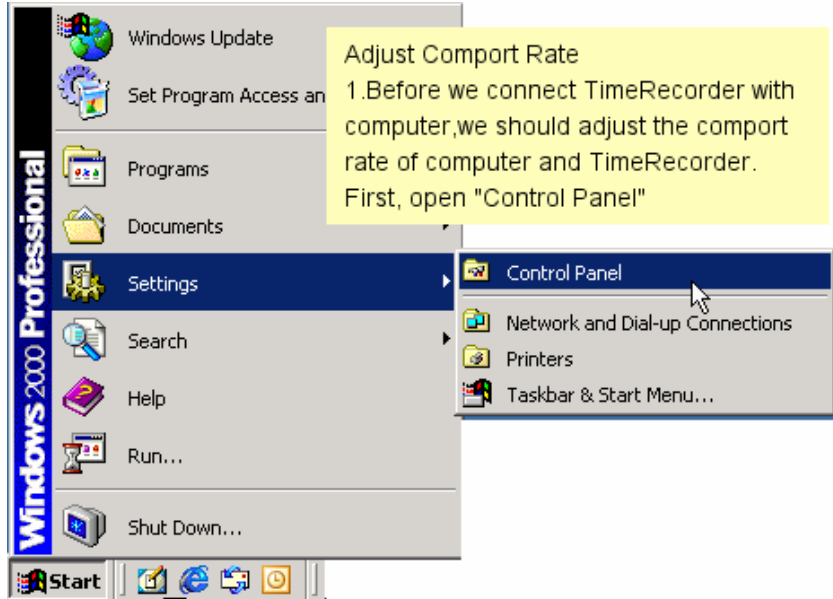


4.3 Setup PC Com port rate:115200 or 9600

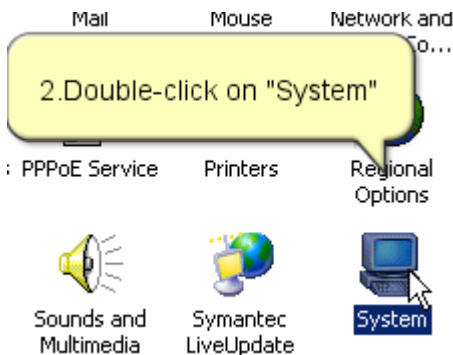
if connected with RS232, 115200 is recommended, if with RS485, 9600

is recommended

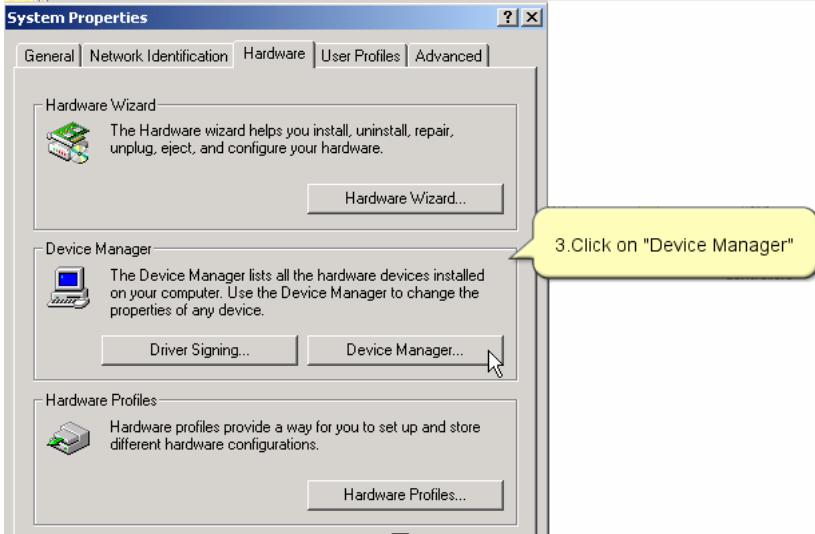
(1)



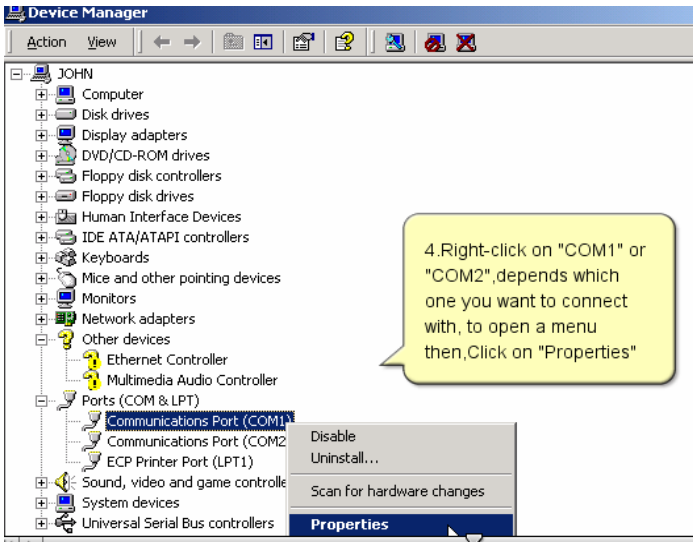
(2)



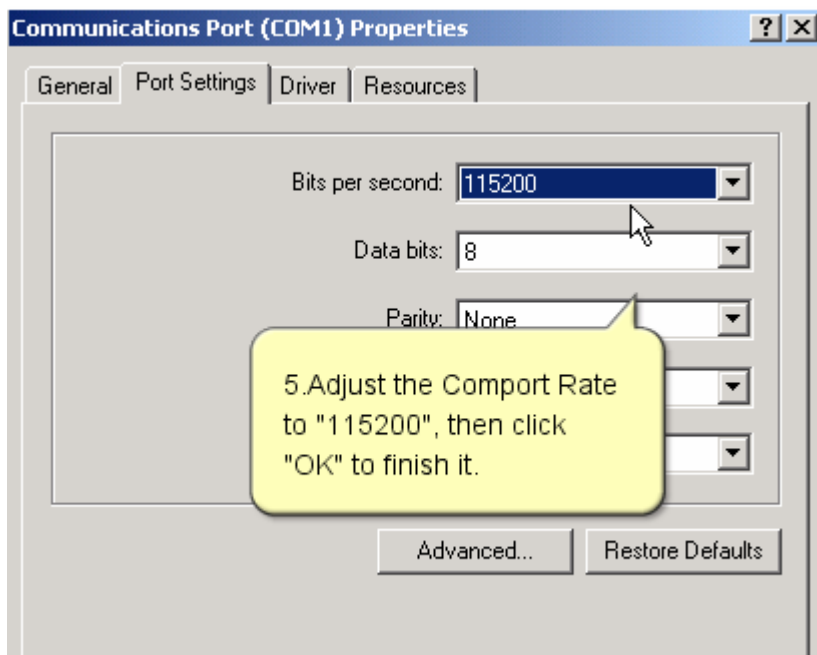
(3)



(4)



(5)

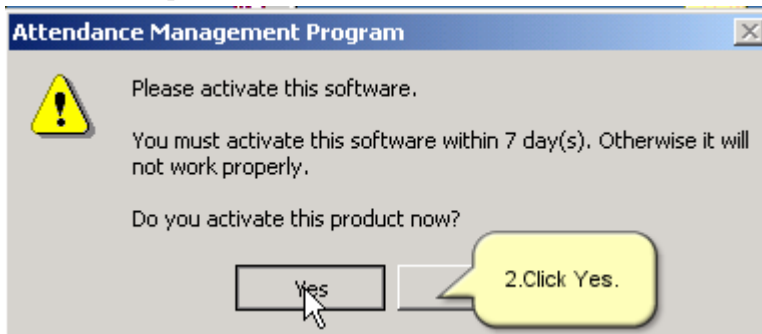


4.4 Connecting and Download AC Records

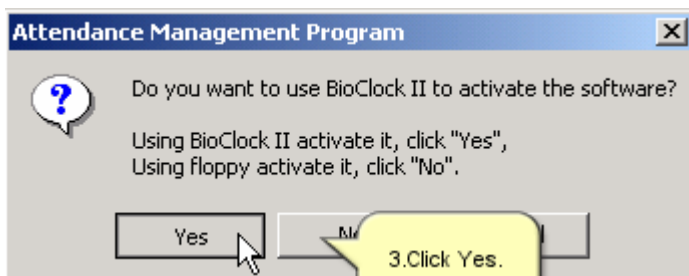
(1) Double-click on shortcut on desktop



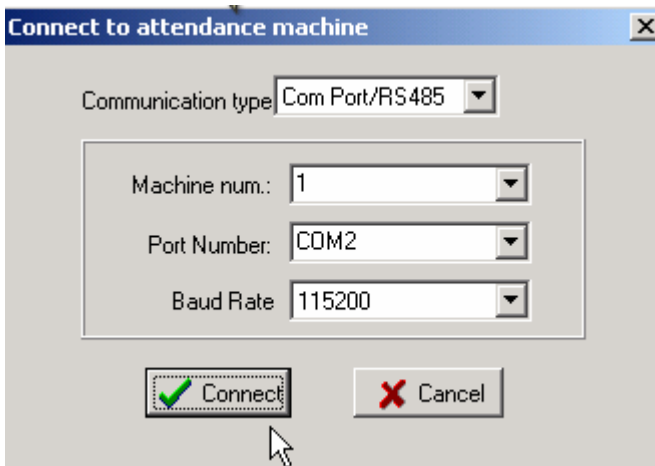
(2)Active this product



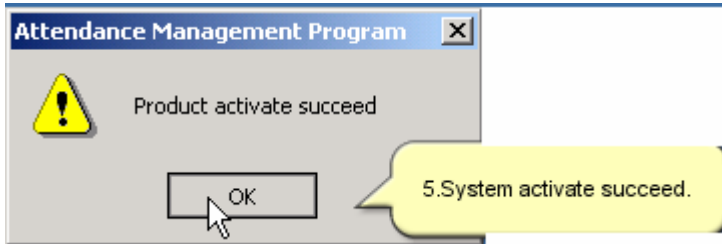
(3)Click “Yes”



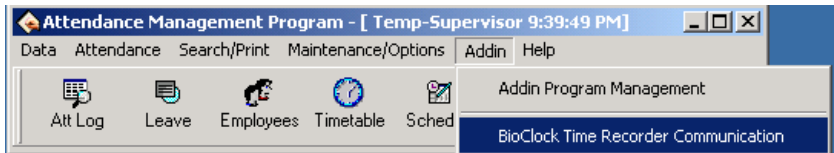
(4)Make sure settings are correct, then click “Connect”



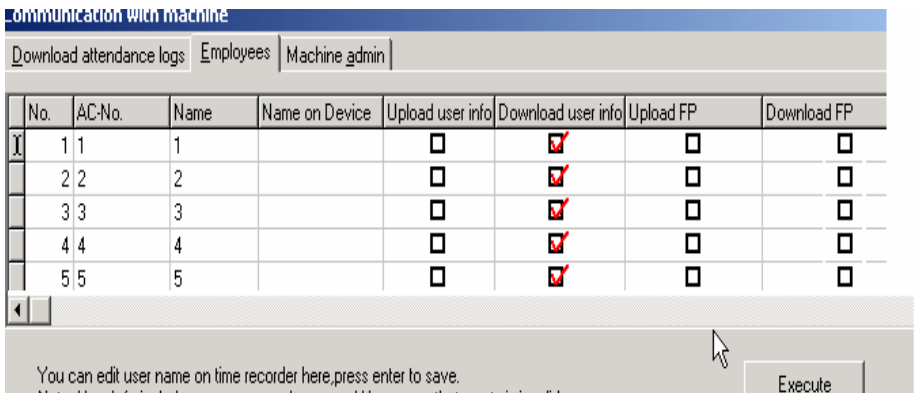
(5)Product active succeed



(6)Enter “Time Recorder Communication”, and again just do the same like step 4



(7)Check “Download user Info”, then click “Execute” button to download User name and password.



(8) Check “Download Fp”, then click “Execute” button.

Communication with machine

Download attendance logs | Employees | Machine_admin

No.	AC-No.	Name	Name on Device	Upload user info	Download user info	Upload FP	Download FP
1	1	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	2	2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	3	3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	4	4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	5	5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

You can edit user name on time recorder here,press enter to save.

Execute

(9)Click “Download all records” to download A.C. Records.

Download attendance logs | Employees | Machine_admin

No.	AC-No.	Time	Verify code	Machine no.	Clock In/Out

Download all record from machine

Note: Repeat record will not be saved to database.

Download all record | Clear record on Time Recorder

(10)Download successfully

Download attendance logs | Employees | Machine_admin

No.	AC-No.	Time	Verify code	Machine no.	Clock In/Out
115	1	04-02-15 11:28	y fingerprint	1	C/In
116	1	04-02-15 11:28	y finge		
117	2	04-02-15 11:29	y finge		
118	2	04-02-15 11:29	y finge		
119	2	04-02-15 11:29	y fingerprint	1	C/In
120	2	04-02-15 11:29	y fingerprint	1	C/In
121	2	04-02-15 11:29	y fin		
122	2	04-02-15 11:29	y fin		
123	2	04-02-15 11:29	Savir		
124	1	04-02-15 11:30			
125	2	04-02-15 11:30	y fin		
126	2	04-02-15 11:30	y fin		
127	2	04-02-15 11:30	y fingerprint		
128	2	04-02-15 11:30	y fingerprint	1	C/In
129	2	04-02-15 11:30	y fingerprint	1	C/In
130	2	04-02-15 11:30	y fingerprint	1	C/In
131	2	04-02-15 11:30	y fingerprint	1	C/In
132	1	04-02-15 11:30	y fingerprint	1	C/In

Download successfully

Attendance Management Program

Record number of downloaded: 132
Record number of saved: 32
New enrolled users: 0

OK

Note: Repeat record will not be saved to database.

Download all record | Clear record on Time Recorder

4.5 Upload staff's name to TAP-01

(1)Enter "Employee Maintenance"

Attendance Management Program - [Temp-Supervisor 3:51:22 PM]

Data Attendance Search/Print Maintenance/Options Addin Help

Att Log Leave Employee Department List Ctrl+D
Employee Maintenance Ctrl+E

(2)Input Names, then out of this window

The screenshot shows a software window titled "Employee List". On the left, there is a tree view under "OUR COMPANY" with sub-items "Production Dep" and "Sales Dep". The main area contains a table with the following data:

AC No.	ID No.	Name	Gen
1		John	Ma
2		Lily	Fe
3		Tom	Ma
4		Linda	Fe
5		Candy	Ma

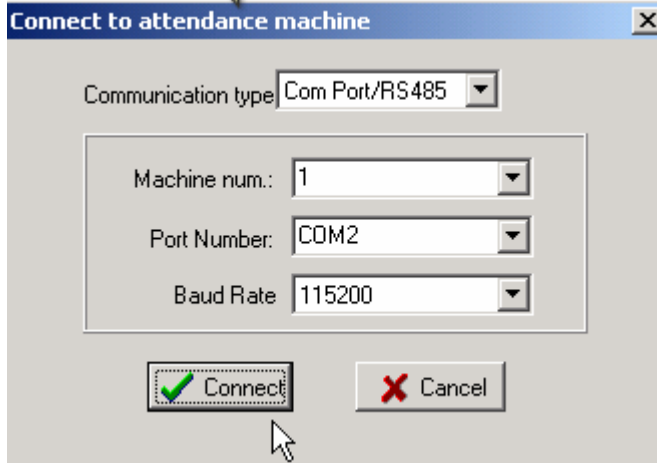
Below the table is a form with the following fields:

- AC No.
- Name
- Gender
- ID Number
- Nationality
- Office Tel.
- Title
- Home Tel.

(3)Enter “Time Recorder Communication”

The screenshot shows a software window titled "Attendance Management Program - [Temp-Supervisor 9:39:49 PM]". The menu bar includes "Data", "Attendance", "Search/Print", "Maintenance/Options", "Addin", and "Help". Below the menu bar, there are icons for "Att Log", "Leave", "Employees", "Timetable", and "Sched". A dropdown menu is open under "Addin", showing two options: "Addin Program Management" and "BioClock Time Recorder Communication", which is highlighted in blue.

(4)Click “Connect”



(5)Check “Upload user info”, then click “Execute” to upload name and password.

Communication with machine

Download attendance logs: Employees Machine_admin

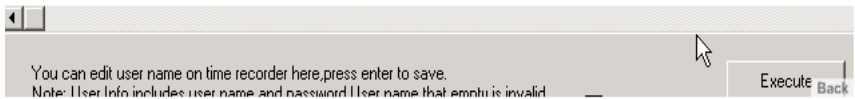
No.	AC-No.	Name	Name on Device	Upload user info	Download user info	Upload FP	Download FP
1	1	1		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	2	2		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	3	3		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	4	4		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	5	5		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

You can edit user name on time recorder here,press enter to save.
 Note: User Info includes user name and password User name that empty is invalid

Execute Back

(6) Names have been uploaded to Machine successfully. If you need to upload fingerprints to another m/c, please check the column of “Upload FP”, then click on “Execute” button.

Communication with machine								
Download attendance logs		Employees	Machine_admin					
No.	AC.No.	Name	Name on Device	Upload user info	Download user info	Upload FP	Download FP	
1	1	John		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	2	Lily		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	3	Tom		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	4	Linda		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	5	Candy		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



4.6 Connect PC and TAP-01 with TCP/IP

Connect PC and TAP-01 with TCP/IP

1. Make sure the switch of controller is pointed at TCP/IP

2. The communication for TAP-01 is TCP/IP

“Menu”->”Options”->”Comm Opt”->” IP Addr”->”213.10.15.124”(use fixed Ip address.

“Menu”->”Options”->”CommOpt”->”Ethernet”->”Yes”

“Menu”->”Options”->”Comm Opt”->”RS232”->”No”

“Menu”->”Options”->”Comm Opt”->”RS485”->”No”

“Menu”->”Options”->”CommOpt”->”NetSpeed”->”Auto”

The download and upload procedure, please reference chapter 4.1 , 4.3 , 4.4 , 4.5.

note: If the controller box is reset, please restart the box by pulling off the

wire, if reset the comm. Options , please restart the TAP-01.

5. System Information

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

Sys Info	▼
▶ User Cnt	206
Fp Cnt	173
Att Log	8046

Sys Info	◆
Admin Cnt	0
Pwd User	37
▶ Res Space	

Sys Info	▲
Pwd User	37
Res Space	
▶ Dev Info	

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

6. Trouble shooting

1. Cleaning

From time to time, the optical platen, the keypad and display

window require cleaning. Since working environments differ, it is not possible to define when cleaning should be performed. Following is guide:

Table 5-1 Cleaning Schedule

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

2. Cleaning the Keypad and Display

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

3. Cleaning the Optical Platen

Clean the optical platen as follows:

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

Spray on a light coating of a window cleaning product or other similar neutral detergent.

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

(3) Using a non-abrasive and lint-free cloth, pat dry. Be careful not to scratch

the platen. If lint particles adhere to the platen surface, below them off when the platen is dry.

User Manual