



# AT870N

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## Guide for Customer



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## Before using manual for AT870N

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There are some differences between user guide and actual function of device  
User guide can be adjusted by ATID CO.,LTD without consent of user discretionally.

User guide is written for users who want to use and maintain the AT870N. Please read and understand these instruction prior to operating this unit.

## Safety information

Please read and follow all warnings and cautions for user`s safety in this document before you handle and operate ATID equipment.

### ■ WARNING!

A warning requires that you must strictly pay attention to operate procedure, practice, condition, and state, or might be injured seriously.

### ◆ CAUTION

A caution explains the important point which has a huge possibility to break the device and make a malfunction

### ● NOTICE

A notice provides you with needed additional information while using AT870N.  
Do not expose your device to extreme temperatures lower than - 10°C and higher than + 40°C.

Distance of operation

When using a data feature, position the phone a minimum of 0.5 cm from your body for the whole duration of the data transmission.

Adapter

Adapter shall be installed near the equipment and shall be easily accessible.

Manufacture : ATID CO., LTD

Model No.: BPI020S05N03

I/p: 100-240V ~ 50/60Hz ,MAX/0.5A

O/p: 5V 3A

The plug considered as disconnect device of adapter

Battery Caution

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Proper use

As described in this manual, your device can be used only in right location. If possible, please do not touch the antenna area on your device.

The product shall only be connected to a USB interface of version USB2.0

Regulatory Conformance Hereby, ATID CO.,LTD. declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC

CE0700

# Caution when using AT870N

Please aware of the manual contents in advance before you handle and operate your AT870N and other ATID Products.

## How to use battery correctly

- In case that you dropped the main body or battery in water, please do not put into the stove or heater for drying. Just keep it in natural drying or contact purchase place.
- Please note that the battery terminal doesn't have to be contacted to metallic object.
- If you do not use the battery for a long time, please keep it at room temperature after charging.
- Operating time of battery can be shorter than usual in accordance with loss of battery and use time. In this case, please contact us.
- You have to use provided adaptor when charging the device.
- Turn off the device properly then detach or replace the battery.

## Caution when using AT870N

- User careless or products repair would damage the stored data. Manufacturer is not responsible for this damage, so please do back-up the important data separately.
- If you have a problem on product, do not try to repair or disassemble it by yourself, please contact our customer service center.
- Do not use your product at the specific places such as hospital, plane and so on where electromagnetic wave or the risk may occur.
- Please note that using the device in environment of high temperature and humidity for long hours can make a malfunction of device.
- In case of that noise, smoke and odor occur at the device while using product, please disconnect the charger with device and off the power immediately, then please contact our customer service center.
- If you have any other questions on use of device, please contact our customer service center.

# Product Composition

AT870N is based upon Microsoft window CE 5.0 and as the state of the art product.

it is equipped with barcode scanner, RFID Tag reader, MSR card reader, printer, smart card reader, MODEM, Camera and so on and it can be applied to Industry, Enterprise, Logistics and so on, can be used extensively in many fields due to this kind of various functions

## Product composition

Open the packing box and confirm the items as below.



\* Please contact our customer service in defect of product composition and need to be changed.

## Name of each part



## Function of each part

NAME	FUNCTION
Camera (option)	It is possible to image capture and save.
Camera flash (option)	You can use the camera with flash
1D/2D Scanner (option)	Laser beam emitted through this window. Please be careful the foreign substances and preventing from the damage. ◆ <b>Warning!</b> Do not look at the laser beam directly.
Earphone jack	Enable you to connect to earphone.
Sync cable connector	Enable you to connect and send data to PC via USB sync cable.
Cradle connector	Enable you to connect to PC or charging the battery while using cradle.
Charger jack	Enable you to connect to adaptor which provided from factory.
Charger LED	Charger LED will be Red when the battery is charging, or will be green when it is charged completely.
Touch screen	Display running programs, and could execute, use, and exit programs via to touch the screen.
Keypad	Enable you to input key value (number, alphabets, symbol), or executing assigned programs.
Reset button	Enable you to perform a warm Reset, Press <Power>button simultaneously, Enable you to perform a hard Reset
WLAN LED (option)	Displays whether the wireless WLAN power supply
Microphone	Enable you to conduct communication
Internal HF	HF 13.56MHz Embedded module mounting location.
Hand strap hole	Enable you to attach a hand strap or a stylus for the convenience of using, while need to use the device for a long period time.
UHF Connecting port	Enable you to install a UHF 900MHz tag reader module.
Battery	Enable to supply the power to the product.
Battery latch	Enable you to detaching and attaching the main battery.
Scan button (F7, F8)	It is possible to scan barcode or RFID tag

# Basic Function

Battery for AT870N is composed of main battery and backup battery. A main battery supplies the power to the system and RAM which could keep the data. A backup battery could keep the data of RAM when the main battery discharged completely.

Main Battery: 3.7V 2,970mA Lithium - Polymer

Backup Battery: 3.7V 80mA Lithium - Polymer



**Note:**

Please switch on the back-up battery as below instruction in advance at the beginning then, attach the main battery to body and then, charge it in full before using the product

## Switch On Backup Battery

The image as below shows the status of battery compartment on the rear of body

Please slide the switch of backup battery to right for switching on the device.

If the switch turns on, the power of battery will supply to the system.

Backup Battery Switch



Please attach the main battery on the rear of body.

Please attach the main battery to the body by moving the latch lever in case of attaching the battery.

Please refer to section 1.2 of attaching and detaching the battery

Please connect the charger with charger jack and then do check if **red light** is lit on the LED.

Please charge it until the **green light** is lit on the LED



**Note:**

Please press the <POWER> button a couple of seconds for shortening the charging time, in case of that window screen has shown.

## Attaching and Detaching the battery

### ► Battery detachment

Below images are shown the bottom of device

Please slide the battery latch to the right (Direction to UNLOCK), and then lift the main battery to detach the main battery after grapping the laver at the bottom.



Battery Latch



Both Side of the Gap

### ► Battery attachment

Please put the top of the battery into the above gap of device and then, push the bottom of battery into the below gap of device and then, slide the lever to right (Direction to LOCK).



Above gap for attachment/  
top of battery



## Charging battery

You have to charge it through dedicated adapter which is provided when you bought  
**Red light** is lit on LED when it starts charging. It will be changed with **green light** in case of full

### ► Connecting Adapter

1. Connect the adapter plug with 220V socket
2. Connect adapter DC cable with "Power Connecting Jack"
3. LED will be changed when the red light is lit on the LED

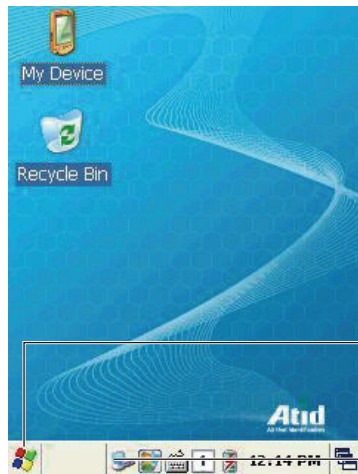


### ◆ Caution:

You must use provided adapter with device. Otherwise your device might be damaged

## Power On and Off

In case of that there is window screen as below or you don't use the system in the status of running other program, the device is able to enter the low-power mode (Sleep mode) If you want to use it again, please press the <POWER> button



Start button

Taskbar

Taskbar : Displayed section of running program

Start button : Initial button for starting the program which you want to activate



## ► Power On and Off via <Power> Button



Power Button

### Power Off:

1. If you push the <POWER> button for 2 ~3 seconds in the state of running on the screen, it will be turned off and enter the low-power mode (sleep mode).
2. Turn it off by pushing <START BUTTON>-><PAUSE> at the task bar

### Power On:

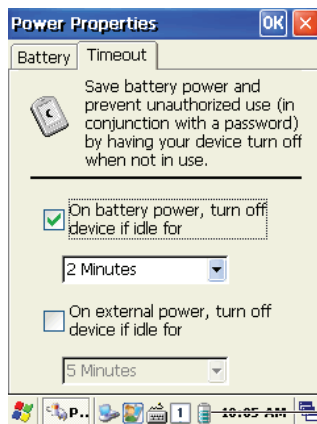
1. The system will be turned on if you push the <POWER> button in short under the power off
2. The system will be automatically turned on when ActiveSync USB cable is connected with device.

### ◆ Note:

If there was a tiny battery gauge remained despite of power-off, the data of RAM will be saved, and these programs will be recovered in case of power-on.  
If both main battery and backup battery are in the discharge state, the RAM data will disappear, and the system will be re-starting if the power is charged again.

## ► Automatic Power OFF

The device will be automatically entered to low-power mode (Sleep mode) if user does not use it for the designated time.  
User can change the designated time at the control panel and power as below. If user sets proper time-out, the device can be protected from the situation of power-on without user and battery can be prolonged.



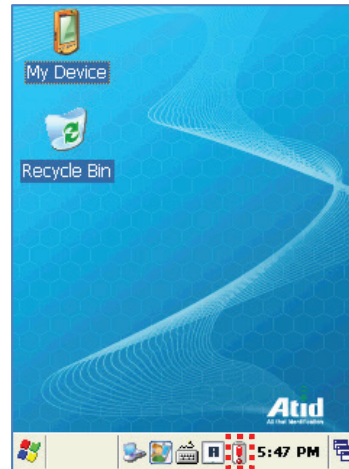
Power Icon

[Start Button] -> [Setting] -> [Control Panel] -> [Power Management] -> [Power Off]

- Please do not afraid that you will enter the above situation in case of double-click on Icon of POWER indication  
The system can be turned on in case of entering the low-power mode by Automatic Power-OFF

### ► Battery Discharging

The system is automatically going to enter the low-power mode (Sleep Mode), if the system is not available due to dead battery. In this situation, the system cannot be turned on despite of pushing <POWER> button. If the system enters low-power mode (Sleep mode) due to dead battery, user is able to turn on the device by pushing <POWER> button after plugging the adapter in adapter jack or charging the main battery.



## Checking Battery Gauge

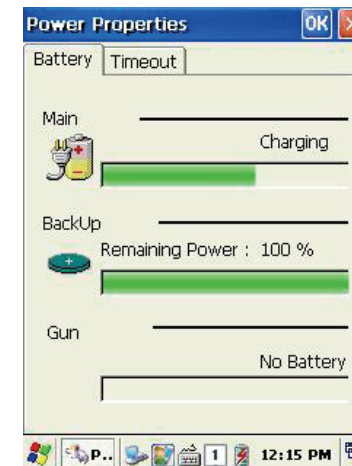


### Note:

Using time for battery will be influenced by way of use, surrounding environment.  
In general, you can use the device from 6 hours to 12 hours after 2,970 mAh battery is fully charged.

### ► Checking Battery Gauge

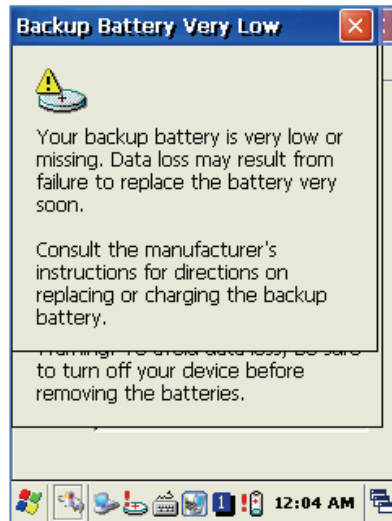
[Start Button] -> [Setting] -> [Control Panel] -> [Power Management] -> [Battery]



### ► Low Power Warning

If the system is unavailable for low-battery, caution screen for lack of battery will be came out.

In this situation, please turn off the device by pushing <POWER> button and then charge as soon as possible.



## Backup Battery

Back-up battery can be used for protecting the RAM data in case of discharging the main battery

### ◆ Caution:

RAM data will be disappeared if both main and back-up battery completely discharge. Activated RAM data will be disappeared at the running program and the system will restart in case of inputting the power instead of recovering.

## Battery replacement

You need to purchase a new battery if existing battery got damaged or reached to its life

### ◆ Warning!

Please discard the expired battery at the designated location

Please do restart the system when the application doesn't work properly or system receives no Response

## Soft Reset

When do you need to perform Soft Reset?

There is a Hang-up, which means that the system receives no response in case of running the program.

When user encounters Hang-up, please do reset the system for recovering the device.

Please note that warm reset can make the program terminate and clear the using memory.

But it doesn't influence on installed program and data etc.

[Process of Soft Reset]

Please press the Reset button which is located on the device with stylus pen for a moment.

The system will be restarted after turning off the screen a moment automatically.

[Result of Soft Reset]

- System will be restarted.
- OS will be restarted.
- Screen will be reshown after 10 seconds
- Adjusted registry information, copied file and installed program will be remained



## Hard reset

When do you need to perform Hard Reset?

Hard reset which is called cold reset can be used for initializing the hardware completely.

Registry value, copied file and installed program can be remained originally even though user uses the hard reset, but please note that time/date will be initialized.

Therefore, please do reset the time if user uses the hard rest Please use hard reset if it is impossible to recover the system despite of soft reset

[Process of hard reset]

Please press the Power button and reset button with stylus pen simultaneously and then, unhand those buttons.

[Result of Hard Reset]

- System will be restarted.
- OS will be restarted.
- Screen will be reshown
- There are setting screen of time / date and user have to reset the setting og time and date.

# Initializing System

Please use [Boot Menu] when user encounters below situation

- 1. When user wants to recover the adjusted registry information back again.
- 2. When user wants to initialize the storage space inside the "My Computer"
- 3. When user wants to initialize the storage space inside the "Flash Disk"
- 4. When user wants to make system a comeback as the state of beginning

Press <POWER> button and <FUN> button simultaneously and then, press <RESET> button



[Boot Menu] is came out at the screen as below after 2 ~ 3 seconds

◆ **Caution:**

Do not use any other functions except for [Clean System] at the [Boot Menu]  
There is a huge possibility to do abnormal movement if you use other functions

[Boot Menu]
[System Information]
[Firmware Upgrade]
[Clean System]
[Configuration Setting]
[Exit Boot Menu]
Move : 2(Up)/8(Down)
Select : Enter

[Boot Menu] Initial Screen

[Boot Menu]
[System Information]
[Firmware Upgrade]
[Clean System]
[Configuration Setting]
[Exit Boot Menu]
Move : 2(Up)/8(Down)
Select : Enter

Select the <Clean System> by using <8↙> button and <2↗> button and then, press <Enter> button

[Boot Menu]
[Clean System] <b>Clean Registry</b> Clean OS Root Clean Flash Disk Factory Reset
Move : 2(Up)/8(Down) Preview : <- BKS Select : Enter

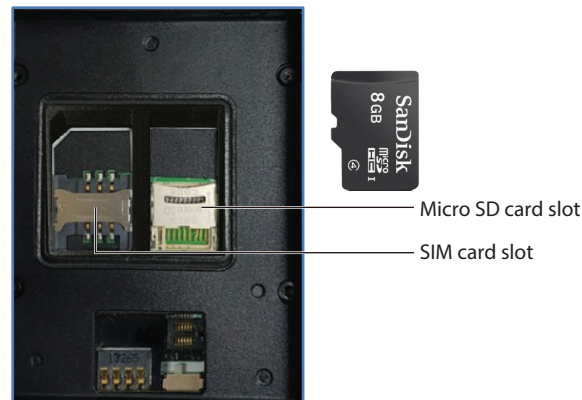
Select the clause > by using <8▼> button and <2▲> button. Please note that you can go back to the main menu if you press <BKS> button

[Boot Menu]
[System Information] [Firmware Upgrade] [Clean System] [Configuration Setting] <b>[Exit Boot Menu]</b>
Move : 2(Up)/8(Down) Select : Enter

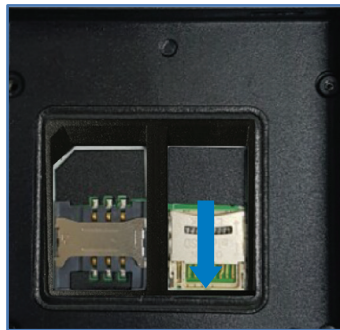
Select the [Exit Boot menu] by using <8▼> button and <2▲> button and then, press the <Enter> button to get out of [Boot Menu]

- Clean Registry  
It makes registry as initial state
- Clean OS Root  
It makes "My Computer" as initial state
- Clean Flash Disk  
It makes "Flash Disk" as initial state
- Factory Reset  
It makes the device as factory default

Below image shows the back side of device when separating the main battery from device There are 1EA SIM Card Slot and 1EA Micro SD Card Slot.



### Attaching Micro SD card



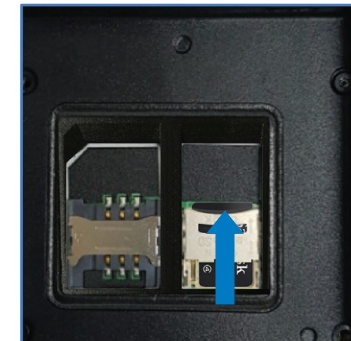
Do unlock the Micro SD CARD by sliding the card slot cover right side



Lift the slot cover up

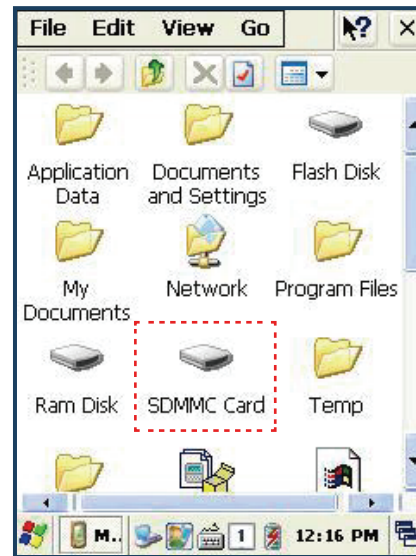


Put the SD memory on the slot and then, shut the cover up



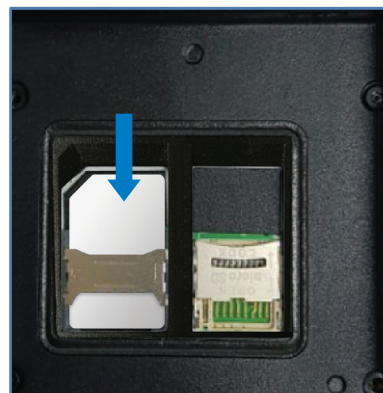
Do lock the slot cover by sliding it left side and then, turn on the device after installing the battery

SD MMC CARD folder will be shown if user implements the file explorer after inserting the Micro SD memory card as below image



## Attaching SIM Card

Below image shows the state of equipping the SIM CARD with device. Please do insert it in accordance with card shape and edge shape





## Screen brightness setting

The default setting on brightness is set up around 80% and user is able to set brightness up in accordance with his/her need since the power can be influenced by brightness

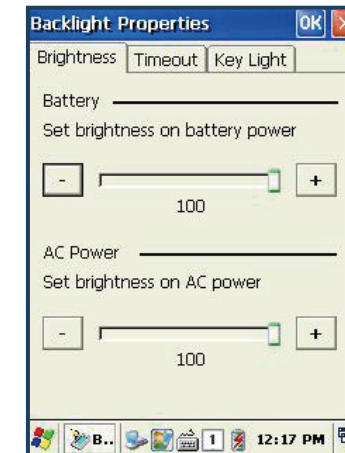
[Setting the screen brightness]

1. [Start Button] -> [Setting] -> [Control Panel] -> [Backlight]
2. [MyDevice] -> [Control Panel] -> [Brightness]

**Brightness:** Control the brightness

**Timeout:** Adjust the timeout

**Key Light:** Adjust the timeout of key light

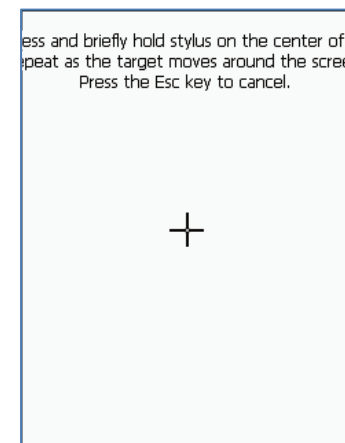


## Screen adjustment

Please adjust the coordinate correction as below in case that the screen cannot be selected by stylus pen when using it first or using it for a long time

Touch screen calibration

[Start Button] -> [Setting] -> [Control Panel] -> [Stylus] -> [Calibration] -> [Recalibration]



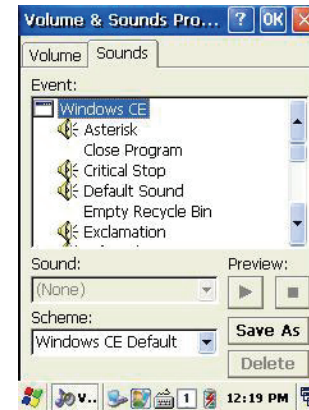
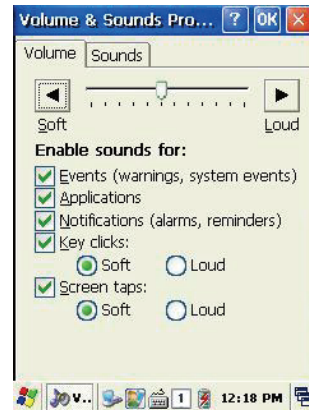
Please softly press the center of target 5 times using stylus pen along the target moving. If screen adjustment is over, countdown is come up on the screen. In this case, it will be disappeared if you touch the screen, but if you don't touch the screen, screen adjustment also will be disappeared.

## Volume and sounds setting

The default setting on sound is set up around 80% and user is able to set sound up in the section of "Control Panel->Volume & Sound"

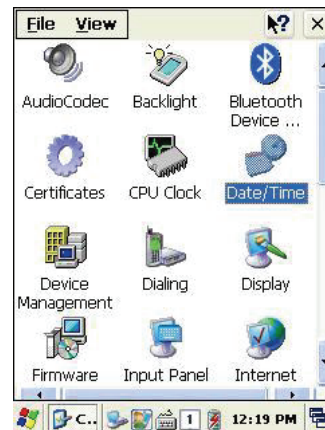
### Setting Volume and Sounds

[Start Button] -> [Setting] -> [Control Panel] -> [Volume and Sounds]



## Data and time setting

[Start Button] -> [Setting] -> [Control Panel] -> [Date and Time]



### Setting Year:

Please double click the year and then, select the year using rudder



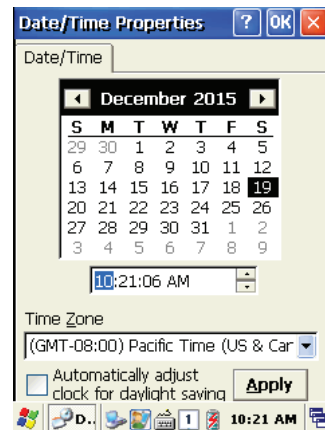
#### Setting Month:

Please select the month either using rudder or clicking the month directly



#### Setting Day:

Please select the relevant month



#### Setting Time:

Please click the time and then, adjust by using rudder



#### Setting Time Zone:

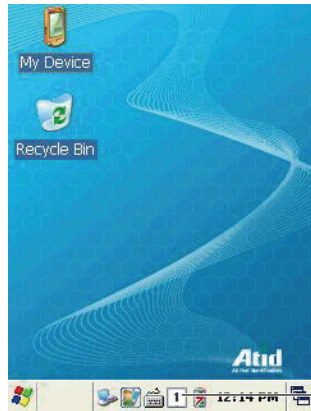
If you select the exact time-zone, user easily can adjust the time setting by selecting the time-zone on regional movement from the next time.

User easily inputs the number and alphabet by using keypad which is useful input method editor. It also can do a programmed function in combination with <Fun>

## Using keypad

Please press the <1<=>ALP> button as below step, if user wants to change the input language

It will be converted in the order of [Number] -> [Small Letter] -> [Capital Letter]



Input mode can be converted  
if user clicks input language icon  
on the task bar

## Inputting Data

**Numeric Keypad Mode :** Press the <1<=>ALP > button or input language icon on the task bar to change the number keypad mode

**Alphabet Keypad Mode :** Press the <1<=>ALP > button or input language icon on the task bar to change the small or capital letter and then, input the word you want.

As shown in the button for the device, there are 2 or 3 words in each button and user can input the pertinent word as per a next instruction. First word needs to push just 1 time, second word needs to push 2 times in a row and third word needs to push 3 times in a row.

## Using <Fun> Button

Device can implement the programmed function in case that you push the number button with <Fun> button simultaneously.

Fun + button	Function description
<Esc>	It is able to cancel the selected command and movement & state of program.
Left side of < ↑ >, < ↓ >	It uses for sound control
<3>,<9>	It uses for page UP / DOWN.
<2>,<4>,<5>,<6>,<8>	Key button for right and left and top and bottom.
<Del>	It delete the letter behind the cursor
<7>	It can be used Tab button
<*>,<0>,<#>	It inputs the + sign, 000 sign and –sign.
<F3>,<F4>	It uses for function button

## Use of stylus

User is able to use stylus pen that has same function with computer mouse and it can be used in connection with hand strap hole located on back bottom side of PDA

### Use of stylus:



- Setting Direction of Screen Display
- Selection of letter on the soft keypad
- Applied program on the main screen or task bar
- Selection of button, field and tap at the applied program and dialog box

#### ◆ Caution:

There is a danger of getting damaged if you use any other sharp objects except for provided stylus pen since it is very sensitive one

User can work in concert with computer and device by using ActiveSync through the synchronization of data one another such as installation, copy, Delete, Movement and so on.

## Connecting PDA to PC

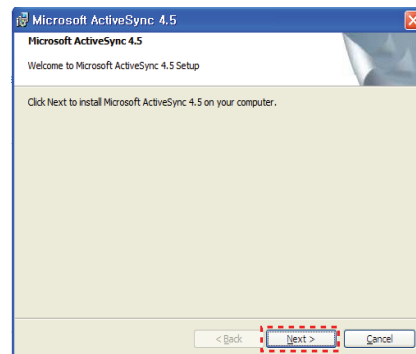
Please install the program at the PC after downloading the latest version of Microsoft Windows CE.

ActiveSync : Windows XP

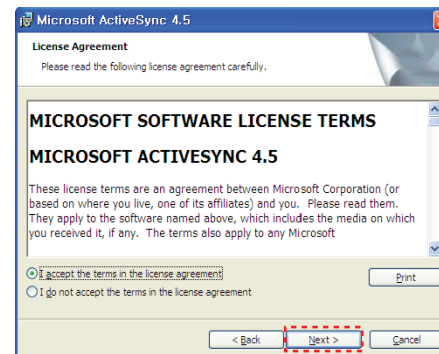
Windows Mobile Device Center 6.1 (64bit) : Windows XP or above

Link for Download : <http://www.microsoft.com/downloads/>.

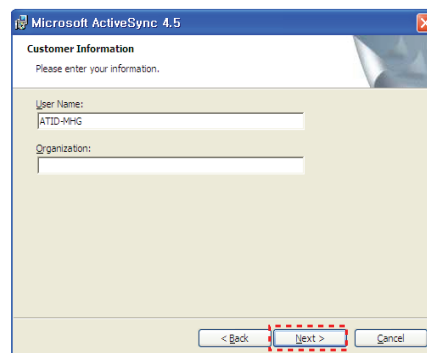
◆ **Caution:**  
User has to use Microsoft ActiveSync 3.7 or above if you want to synchronize by using ActiveSync



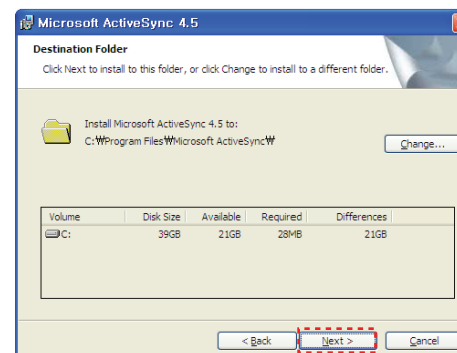
Click the [Next] Button



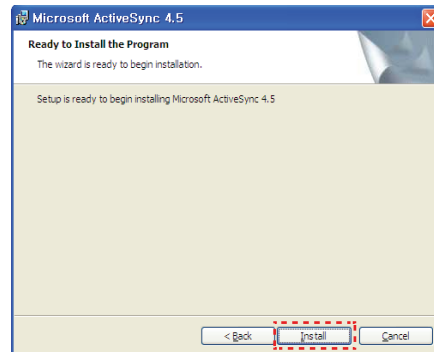
Select the license agreement and then, click the [Next] Button



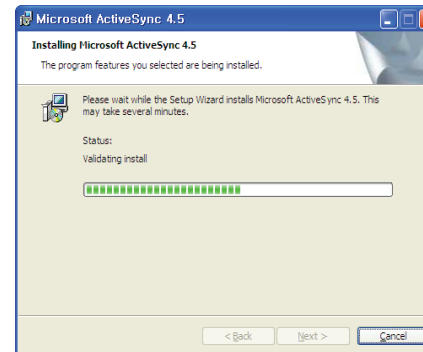
Input the name of user and group and then, click the Next Button



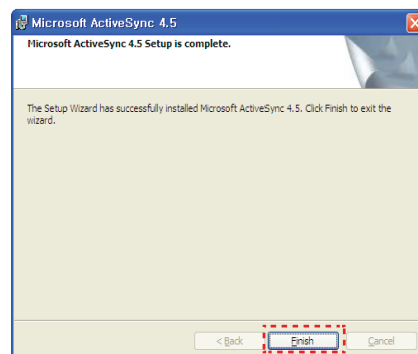
Select the license agreement and then, click the [Next] Button



Click the Installation button



ActiveSync are installing



Press End button for termination of installation

## Data transfer

Please connect the USB sink cable with PC



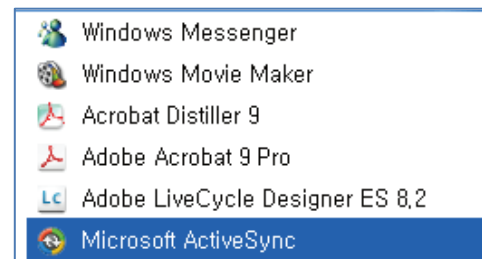
Connected State



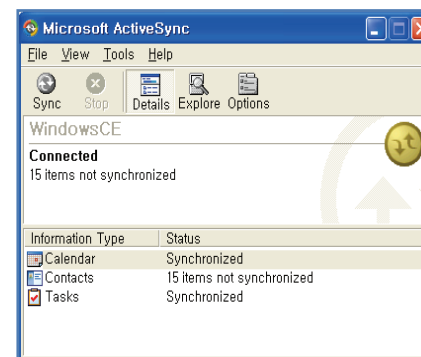
Disconnected State

User can check the connection state of ActiveSync on the task bar

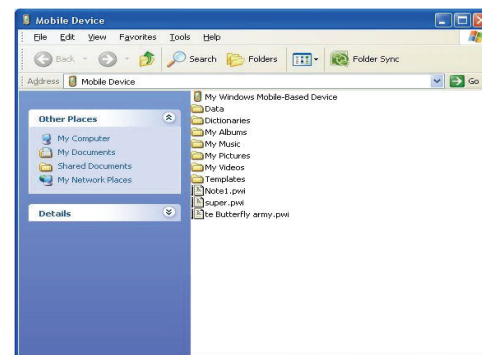
< Windows XP >



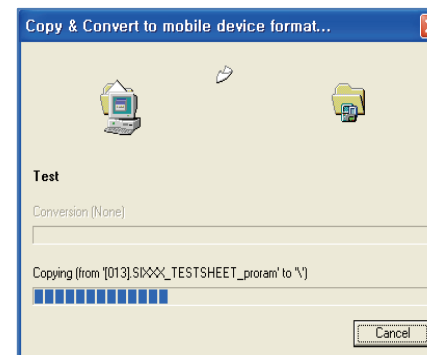
Start button/Programs/Microsoft ActiveSync



After ActiveSync connected, click Explore button.



Designate transmitting file path.



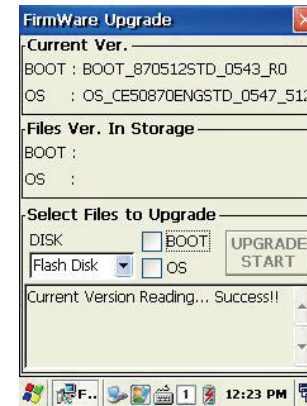
Transmitting files.



## Firmware upgrading

Please click the firmware update icon at the control panel if you want to upgrade the firmware of AT870N

[Start Button] -> [Setting] -> [Control Panel] -> [Firmware Upgrade]



# Optional module

This chapter shows various option module which can be equipped in AT870N. Please refer to the explanation of optional module.

## Various optional modules for AT870N

- 1) Barcode reader
  - . 1D Laser Barcode Scanner
  - . 2D Imager Barcode Scanner
- 2) Wireless LAN – IEEE 802.11 a/b/g/n Option
- 3) Bluetooth
- 4) HF13.56 Reader
- 5) UHF 900MHz RFID – GEN2, ISO/IEC 18000-6C
- 6) GPS Module
- 7) Camera

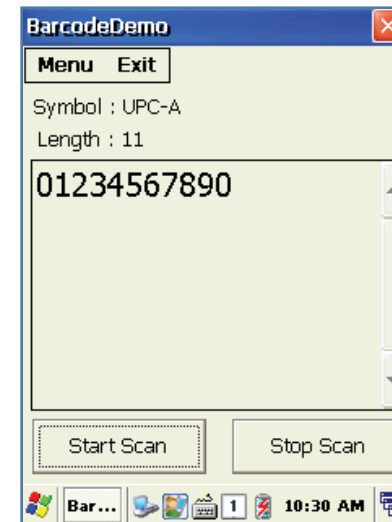
AT870N can be equipped with 1D & 2D barcode scanner



## Using 1D or 2D barcode scanner



Start->Program->Scanner->  
Barcodedemo



Device can read the barcode by clicking  
the Start button or scanner button  
located on front of device or left/right side of device

## Barcode emulator setting

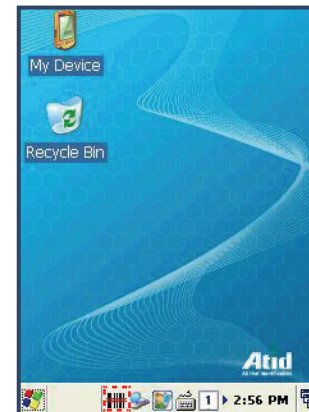
User can input the barcode value at the cursor by setting the scan sound, button, input method of barcode value through barcode emulator.

Executing Barcode Emulator

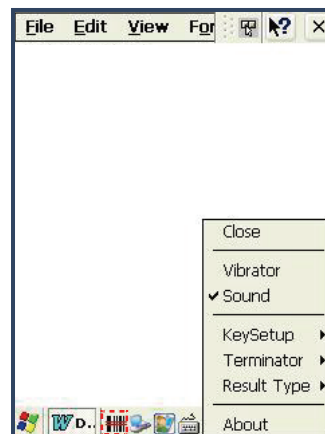
[Start Button] -> [Programs] -> [Demo Apps] -> [Scanner] -> [BarcodeEmulator]



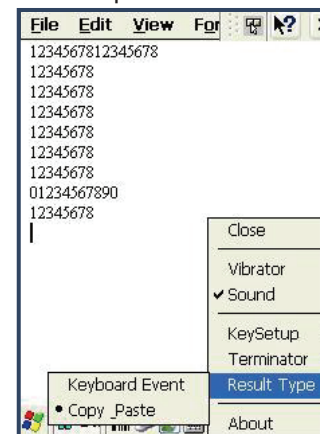
Run a Barcode Emulator first



Barcode Emulator can be shown up at the task bar



Run a WordPad program and then, click the Emulator icon

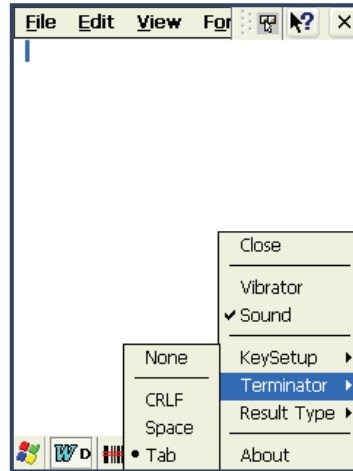


Setting the delivery method for barcode value

[Result Type](#)

Keyboard Event : keyboard input method  
(Default method)

Copy Paste : Clipboard method



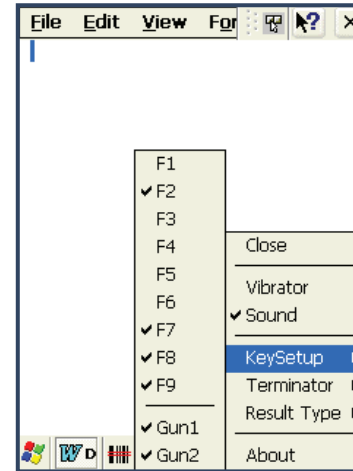
Setting the termination code for barcode value

[Terminator](#)

None : Not input the termination code

CRLF : Carriage Return & Line Feed input method

(Enter code) Tab : Tab key input method

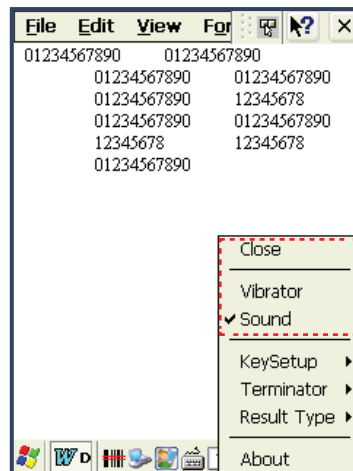


Setting the Key for barcode reading

: [Key Setup](#)

F1-F8 : Run with Hardware key

Gun1, Gun2: Run with Gun



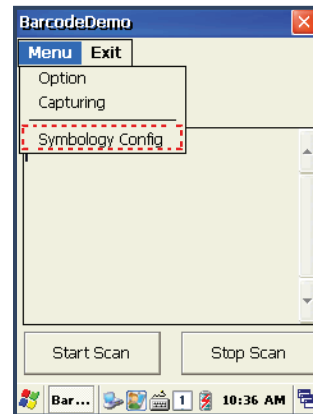
[Sound](#) : Sound On/Off after scanning the barcode

[Vibrator](#) : Vibrator On/Off after scanning the barcode

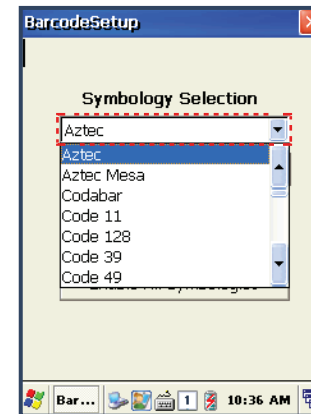
[Close](#) : Terminate the Emulator

## Barcode symbology setting

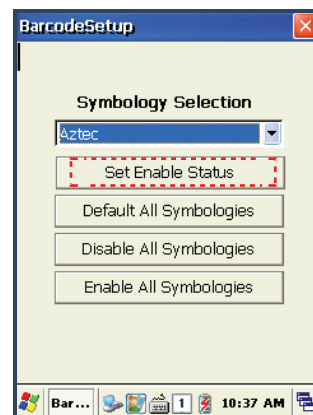
User can set various barcode using provided program and work more comfortably by distributing the symbology as frequent use and infrequent use. For example, user continuously can work if symbology uses most often is set just one time.  
[Start Button] -> [Program] -> [Demo Apps] -> [Scanner] -> [BarcodeDemo]



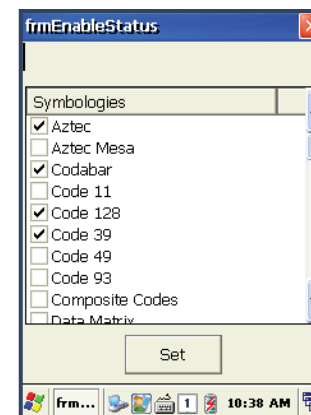
Run a BarcodeSetup



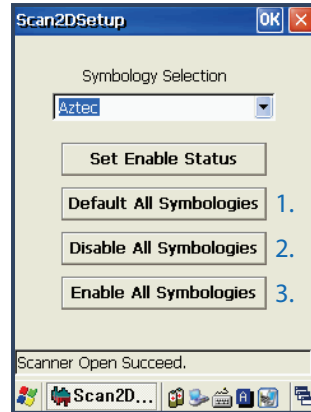
Set up the specific barcode type



Click the "Set Enable Status"

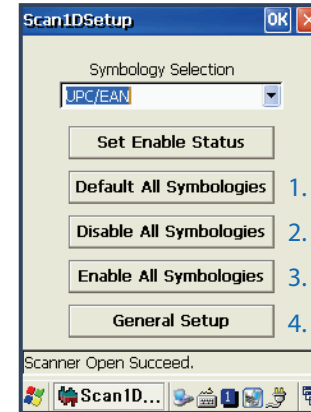


Check whether user will use barcode type or not



2D Symbology Selection:

1. Initialization of all barcode setting
2. Setting all barcode not to read
3. Setting all barcode to read



1D Symbology selection:

1. Initialization of all barcode setting
2. Setting all barcode not to read
3. Setting all barcode to read
4. Setting the label which can read more than two barcodes at one ago

◆ **CAUTION!**

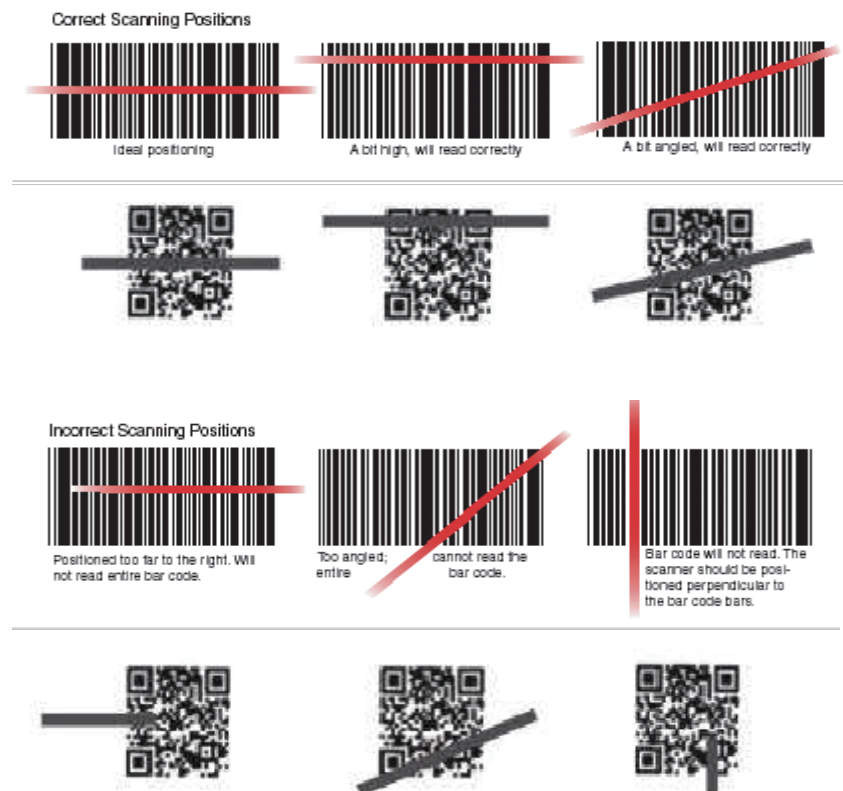
Do not use it to human eyes directly since laser beam is harmful to health.

## Barcode scanning

1. Please eliminate the protect film in front of scanner at the first.
2. Please run a barcode demo program
3. Please use the scan bean to center of barcode
  - Please adjust the range in accordance with barcode size
  - It will stop to read if user deviates from reading range

### [Correct barcode reading]

1. Please bring it close to barcode in case of smaller barcode. This device can read the barcode in range of 40~300mm. If you have failure to read the barcode, please do check the angle and range.
2. Laser beam will be shown up as a clear red line when using it at the barcode



### [Incorrect barcode reading]

1. Laser beam have to be crossed in the barcode
2. If laser beam partly will be shown up on the barcode, it doesn't work well.



AT870N enable to explain wireless communication including APN since it can communicate through 802.11 a/b/g/n radio.

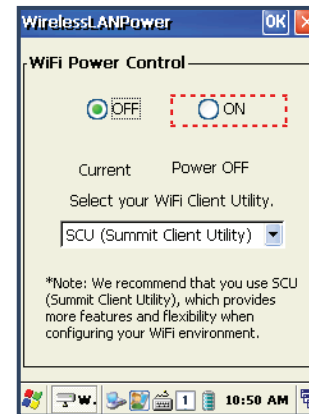
AT870N supports the TCP/IP network protocol and AT870N directly uses the TCP/IP and host computer at this protocol Device will be started as OFF state at the beginning

## WLAN connection and termination

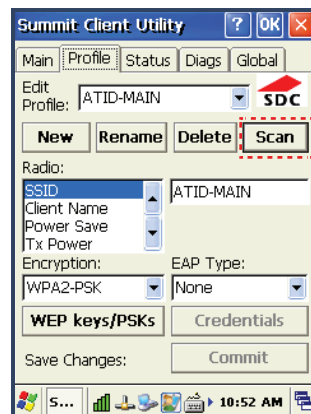
[Start Button] -> [Programs] -> [Demo Apps] -> [Wireless Lan]



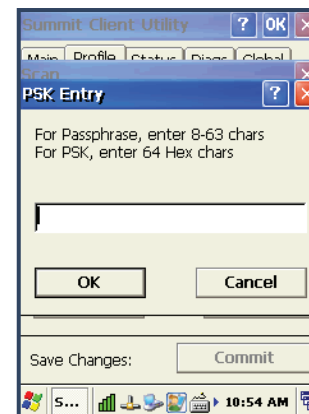
Click the Wireless Lan



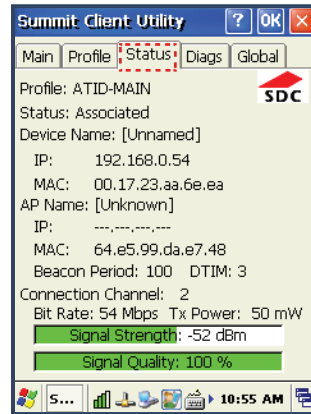
Select the ON and then,  
click the OK button



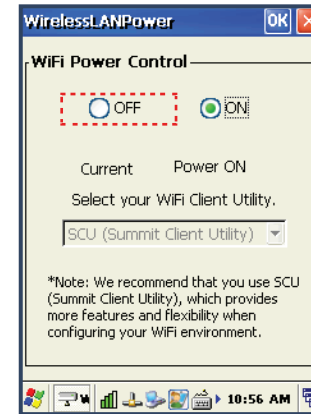
Click the scan button and then,  
select and double click if there  
is proper AP or captured router.



Input the key password and then,  
click the OK button





Click Status button and then,  
check signal quality and IP information.



Click Start->Program->ATID App  
->Wireless Lan OK button  
and terminate the wireless lan

◆ **Warning!**

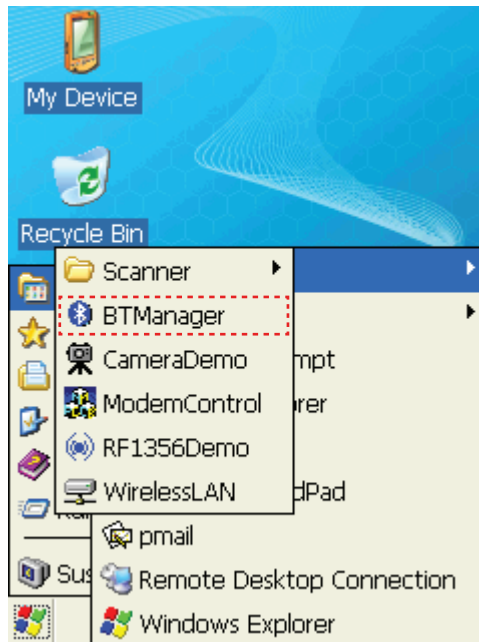
LED for Wireless LAN will be changed as green light and mark for task bar will be changed as  in case of success in connection with wireless LAN,  
but it will be Changed as  if it fails to connect

The contents in this manual is effective with the device which is applied to “HBH2X3M” Module

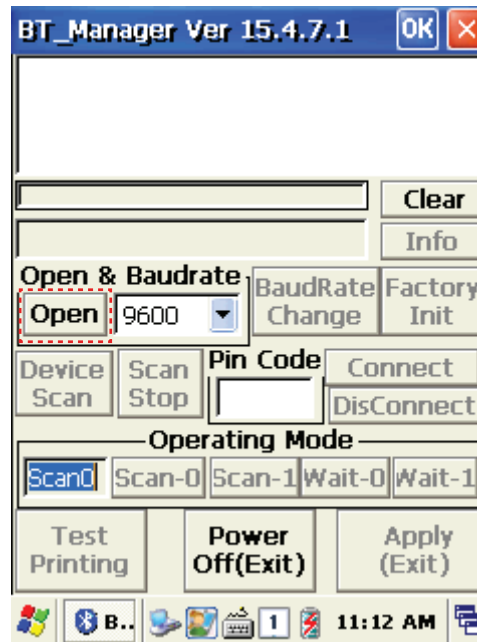
## Bluetooth connection and termination

User can only control the Power ON/OFF of Bluetooth module since AT870N basically uses stack at the windows system  
[WinCE Start] -> [Programs] -> [Demo Apps] -> [Bluetooth]

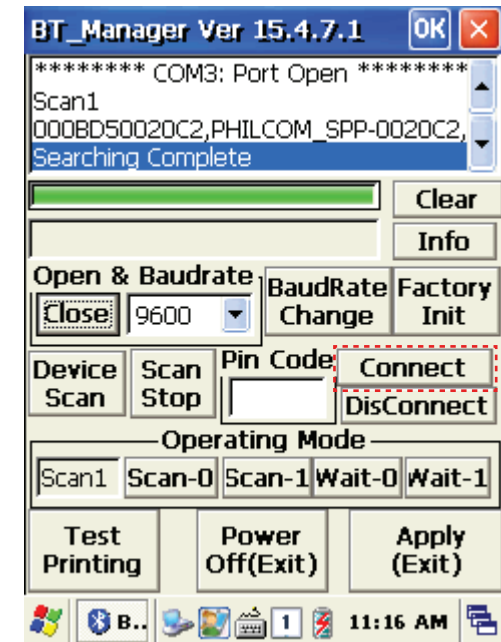
### 1. Start Bluetooth function



Execute “BT Manager” at the start menu



Ready state is on the screen if you click the Open button at the initial screen of BT Manager



The device is on-state If you click Open button and then, input the pin code and then, press the connect button

[WinCE Start] -> [Programs] -> [Demo Apps] -> [Bluetooth]

#### 1. End Bluetooth function



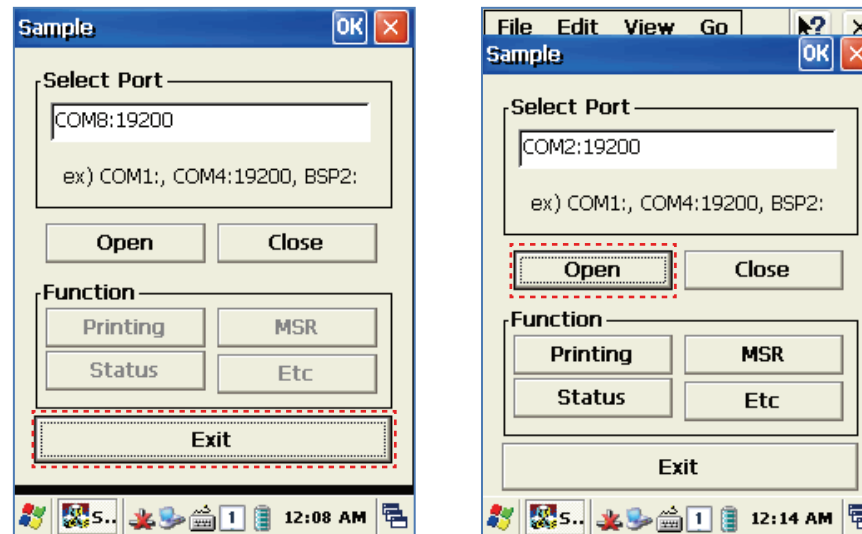
It will be terminated if you press the X button on the screen

## Bixolon SPP-R200 Printer Demo

Printing will be started by application which can find from SPP-R200 at the Bixolon website through bluetooth

\*\*Used program and SDK, which described in this User Guide is based on the 10th Dec, 2015, and it's would be a little different with homepage contents according to the Bixolon policy.

1. Download "SPP-R200 Windows SDK" from the Bixolon homepage ([www.bixolon.com](http://www.bixolon.com)) and unzip the file.
2. Bluetooth Power-On
3. Execute "Bluetooth Device Properties" programs at the Control Panel.
4. SPP-R200 printer power ON.
5. Setting the SPP-R200 printer to be in the status of pairing. (Please refer to the User Guide of SPP-R200 Printer)
6. Press "Scan Device" button to search device nearby.
7. In the status of pairing, the factory setting password is "0000" usually.
8. If connected successfully, "COM2 port connected" message will be confirmed. (If it had connected sometime before, message maybe not shown)
9. Copy and paste the DLL and executable file located in bin\ce5\MobileCompia\_M3Plus\ within the printer SDK, to AT870N Flash Disk.
10. Execute the Sample.exe program in the Flash Disk
11. Change from COM8 to COM2, then press "Open" button to test printer



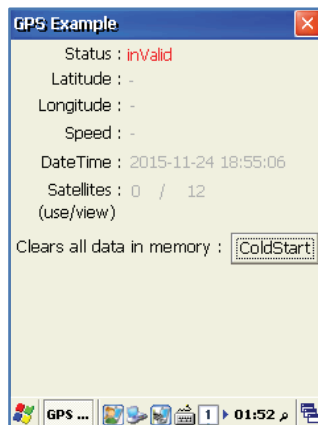
GPS can be selected as optional and it will be equipped on AT870N as built-in  
COM6 has been set as Baud – 9600

## GPS demo program execution

[Start Button] -> [Program] -> [DEMO Apps] ->[GPS-Demo]



Execute **GPSDemo** Program.



### Confirm GPS receiving Data:

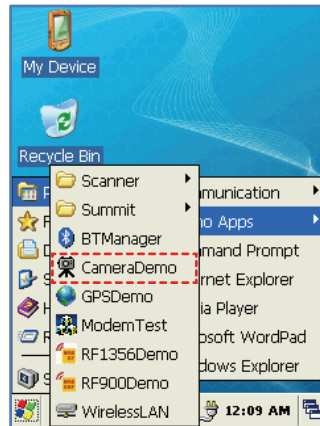
1. Finding an open place to check your GPS signals.
2. According to the actual environment, the time to receive data is different (about 3~10min) , After receiving GPS data once, it is faster to receive GPS data than the first attempt.

If you press Func key on the keyboard with Cold start simultaneously, you can check the data from GPS.

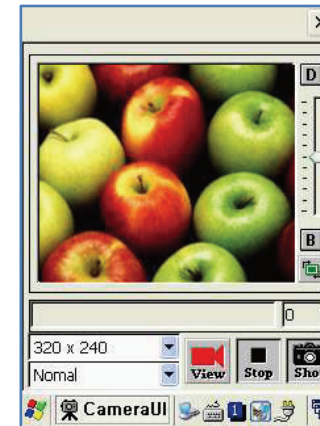
AT870N enables to equips with 3.0-megapixel camera which has function to adjust the brightness, video solution and screen capture.

## Use of camera

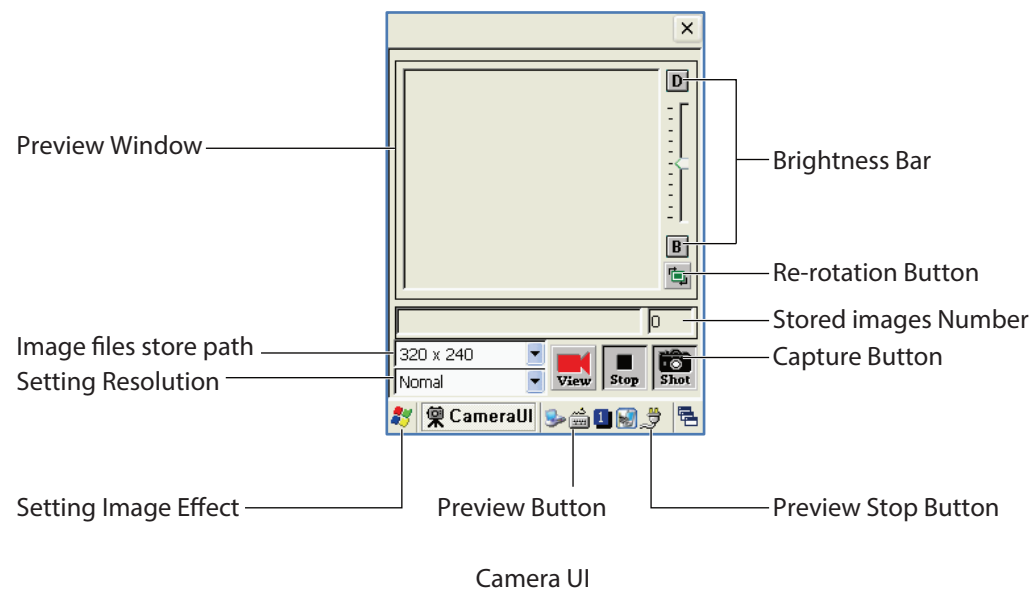
[Start Button] -> [Program] -> [DEMO Apps] -> [CameraDemo]



Execute Camera Program.



Camera's Main Screen.



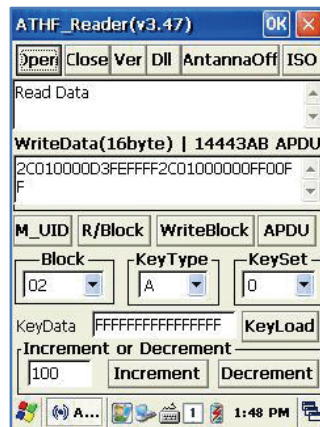
AT870N enables to equip with HF13.56MHz module as a option, and the recognition range is 3-8.5cm according to the standard of ISO, in the case of Mifare Tag, its range will be 1~3.5cm.

## HF13.56 demo program execution

[Start Button] -> [Program] -> [DEMO Apps] -> [RF13.56Demo]



## Mifare tag recognition



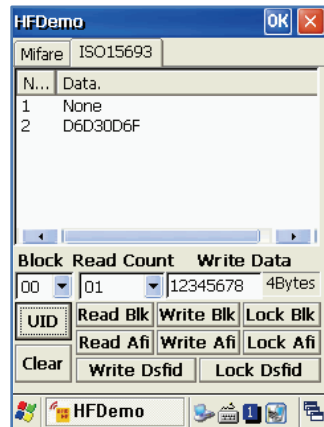
Click **M\_UID** button to read a Mifare Tag

### Mifare:

Open : Open device  
Close : close device  
Version : Read firmware version of ISO15693.  
DII : Read library version.  
AntennaOff : Stop the Antenna.  
ISO : Show ISO15693 Tag Window  
M\_UID : Read Mifare Tag ID.  
R/Block : Read Block Data..  
WriteBlock : Write Block Data.  
APDU : send APDU data  
KeyLoad : Register authorization key to the R/W while to access Mifare  
Increment : Increase the values to data block.  
Decrement : Decrease the values to data block.



## ISO15693 tag recognition



Click **UID** button to read  
ISO 15693 Tag

### ISO15693:

UID : Read ISO15693 Tag ID.  
R/Block : Read ISO15693 Block data.  
W/Block : Write ISO15693 Block data.  
Clear : Clear data information.  
Close : Close this window

AT870N enables to equip with UHF 900MHz Tag Reader and this reader enables to read and write RFID Tag which supports protocol of GEN2, ISO/IEC 18000-6C. The Frequency range is CE 865 ~ 868MHz, FCC 902 ~ 928MHz and it could be adjusted in accordance with country

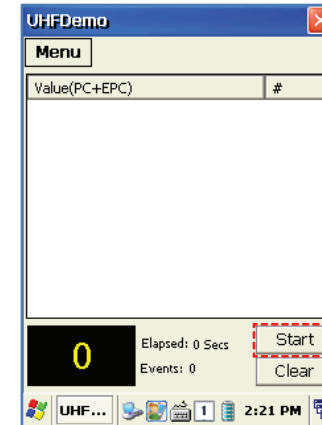


## UHF 900MHz Program

[Start button] -> [Program] -> [DEMO Apps] -> [RF900Demo]



Run RF900Demo Program



INVENTORY Mode:

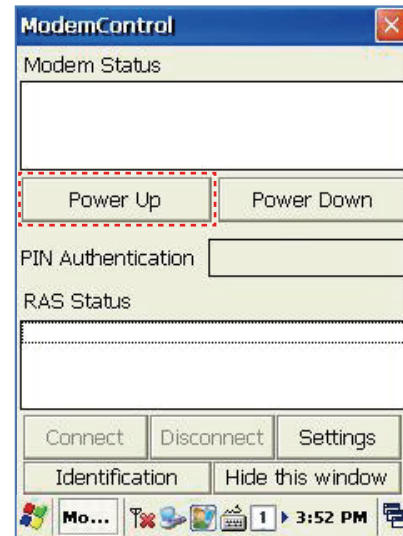
Start: click Start button to read the tag

Clear : delete all tag values on the screen

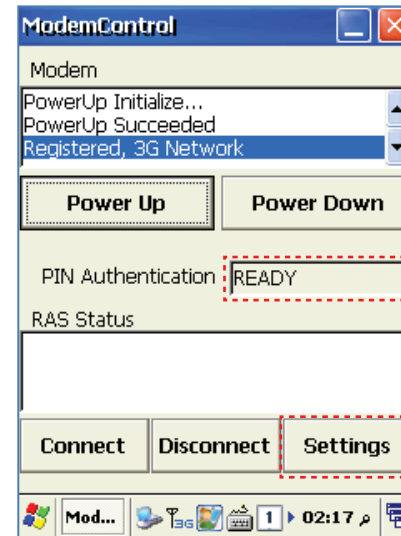
## Modem ON/OFF



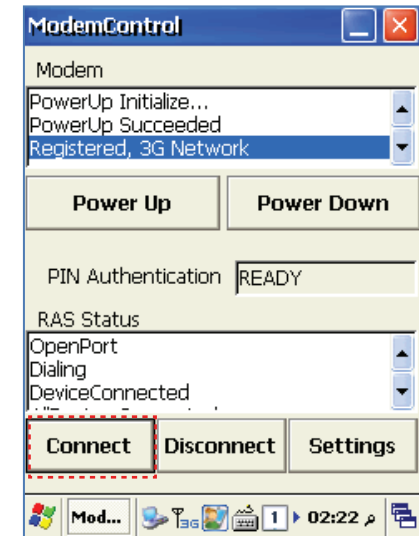
Click Start->Demo Apps -> ModemTest



Press <Power Up> button, wait till powerup succeed.



Press Settings button for setting the country and mobile service company after ready state (If user is not able to find the country and mobile service company at the setting screen, please do set it by hand power)



Press connect button after setting the country and mobile service company for use of modem

# Appendix

## Product specification

PHYSICAL CHARACTERISTICS	
Dimension (L x W x H)	148 x 76 x 26 (30.5) mm
Weight	250g (PDA only, without Battery)
Operating Temp.	-20℃ ~ 60℃
Storage Temp.	-30℃ ~ 70℃
Humidity	95% non-condensing
Drop Spec.	1.5m Drop to concrete
Dust & Water Proof	IP65
PERFORMANCE CHARACTERISTICS	
Processor	Marvell™ PXA320 806MHz
Operating System	Windows CE 5.0 / Windows Embedded handheld 6.5
Memory	512MB RAM / 512MB ROM
Display	3.5" QVGA with Backlight TFT LCD, 240x320 Pixel, 262K Color
Audio	Speaker, Ear Jack, Microphone+
Standard I/O Port	USB 1.1 Client / USB Host & Serial (RS-232) via gender cable or cradle
Expansion Slot	1 Micro SD Slot (SDHC), 1 SIM Slot
Notification	Vibrator and LED, Speaker
POWER SYSTEM	
Main Battery	Lithium Polymer 3.7V 2,970mAh (Rechargeable)
Backup Battery	Lithium Polymer 3.7V, 80mAh (Rechargeable)
Power Adapter	Input AC100~240V / Output DC 5V 3A

NETWORK CHARACTERISTICS	
Radio	MODEM 3G (GSM / GPRS / EDGE / WCDMA / HSPA+)
WLAN	IEEE 802.11 a/b/g Compliant (a/b/g/n Option)
Antenna	Internal
DATA CAPTURE DEVICE	
Barcode Engine	1D Laser or 2D Imager Barcode Scanner
Camera	3.0 Mega Pixel Auto Focus with Flash
UHF 900MHZ TAG READER	
Frequency	CE 865MHz ~ 868MHz FCC 902MHz ~ 928MHz
Reading Range	0M ~ 5M (According to Tag & Environment)
Writing Range	0M ~ 0.5M (According to Tag & Environment)
Antenna Gain	1 dbi (Typical)
RF Output	1W (MAX)
Protocol	GEN2, ISO/IEC 18000- 6C
Special Function	Anti-Collision

\* All Features and specifications described are subject to change without notice.