



AT870N

Guide for Customer



ATID Co., Ltd

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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

Your safety is extremely important. Read and follow all warnings and cautions in this document before you handle and operate ATID equipment. If you do not follow the safety warnings and cautions, you might be seriously injured, and the equipment and data also might be damaged.

■ **WARNING**

A warning requires you must pay attention to the operating procedure practice, condition, and statement strictly, or might be injured seriously.

◆ **CAUTION**

A caution alerts you that you must be observe strictly when you operating procedure, practicing, configuring, for preventing from damage and destruction of equipment, and loss of data.

● **NOTICE**

A notice provide you the information which you must needs while you using AT870N.

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 Mobile 6.5. 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

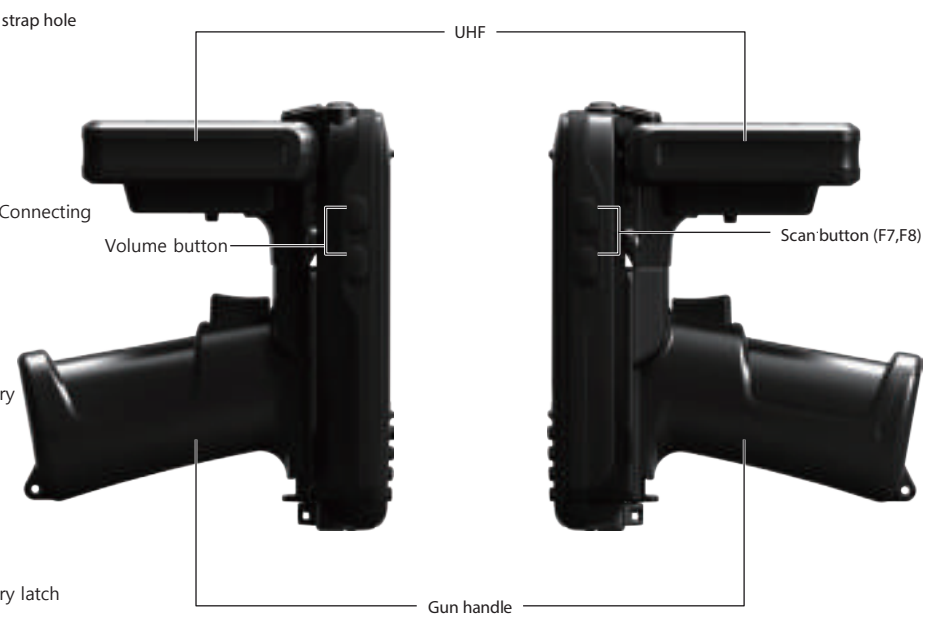
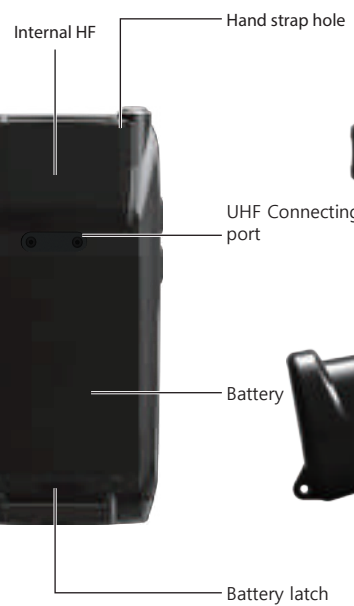
Product composition

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. ◆ Warning! 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 2,960mA 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

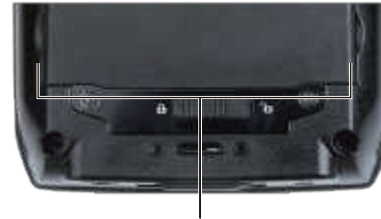
▶ Battery detachment

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

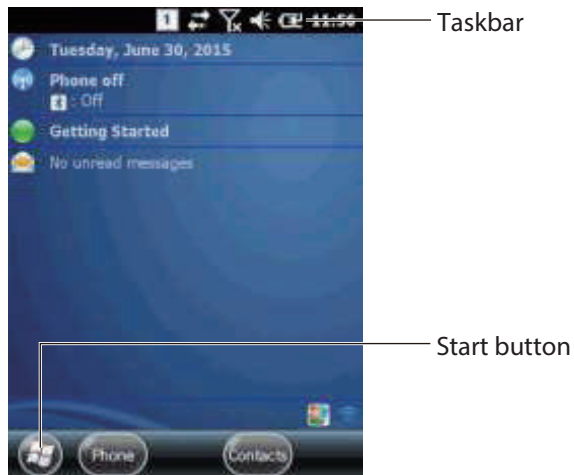


◆ Caution:

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

Power On and Off

In case 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



ICON Mark : Show the present state of system

Start button : Activate the start menu and then, execute a program.

▶ Power On and Off via <Power> Button



Power Button

Power Off:

1. When the system is in booting status, press <Power> button for 2~3 seconds, then the screen will be turned off and enter the low-power mode (sleep mode).

Power On:

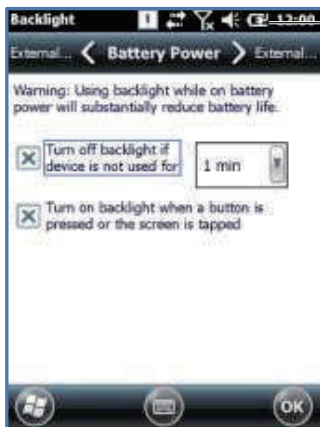
1. When the system is in off status, press <Power> button just a moment, then screen will be turned on and start the system.
2. System will automatically be turned on if it is connected with USB cable for ActiveSync

◆ **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] -> [Power] -> [Advanced]

- User can enter the above screen in case of double clicking the icon of <Power indication>
- System can be turned on in case of low-power mode by pushing the <POWER> button

► Battery Discharging

If the main battery discharge completely, the system will not be turned on, the device will get into low-power mode (sleep mode) automatically, and even press the <Power> button, the system will not be turned on. In this case, you should charge the main battery or connect the adaptor to the adaptor connecting jack of main body, then press the <Power> button to turn on the system.

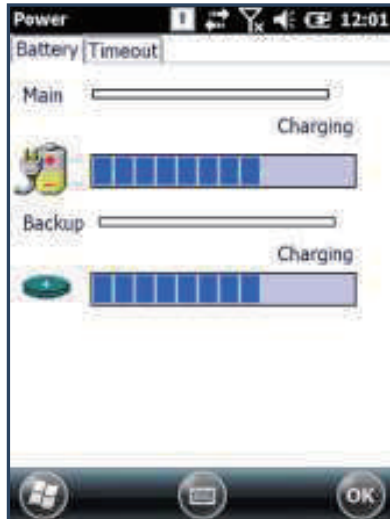
Checking Battery Gauge

◆ 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 2200 mA battery is fully charged.

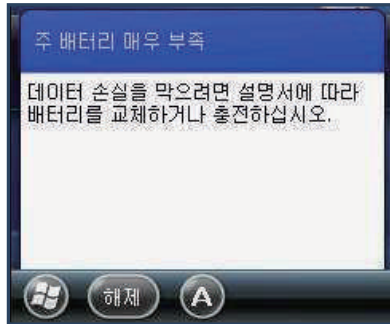
► Checking Battery Gauge

[Start button] -> [setting] -> [Power] -> [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

A backup battery could safely keep the RAM data, even the main battery discharged completely.

- ◆ **Caution:**
If the main battery and the backup battery are both discharged, the RAM data will disappear.
Among the running programs, the RAM data will disappear in which are using, and the system will not be restore to previous state, but rebooting system after start charging.

Battery replacement

You need to purchase a new one if the battery damaged or reached its end of life.

- ◆ **Warning!**
Please dispose the used batteries in a designated place.

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 just a moment automatically.

[Result of Soft Reset]

- System will be restarting.
- 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 restarting.
- 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

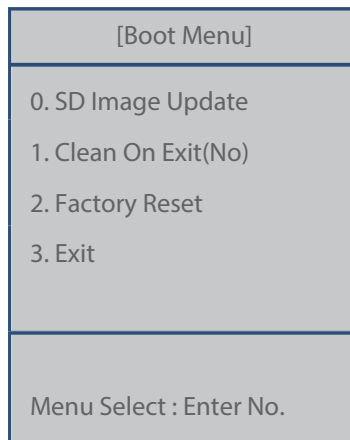
1. When user wants to recover the adjusted registry information back again.
2. When user wants to initialize the storage space inside the "My Computer"
3. When user wants to initialize the storage space inside the "Flash Disk"
4. When user wants to make system a comeback as the state of beginning

Press <Fun> button and press <RESET> button simultaneously



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

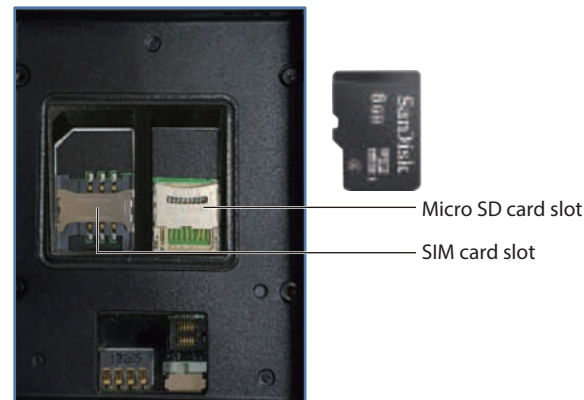
- Enter the left screen even if user double clicks the <Power> icon
- System will be turned on if user push the Power button even though device has been entered into the sleep mode by automatic power off



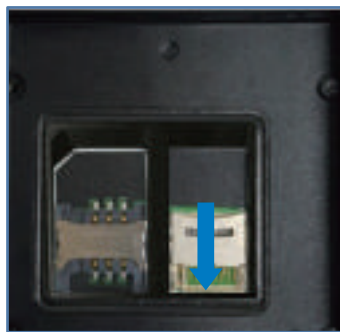
[Boot Menu] Start-up Screen

- SD Image Update
It is for the image (BOOT, OS) update by SD Card
- Clean On Exit(No)
My Device and Registry area recover as shipped
- Factory Reset
My Device, Registry and Flash Disk area recover as shipped
- Exit
Finish the Boot Menu

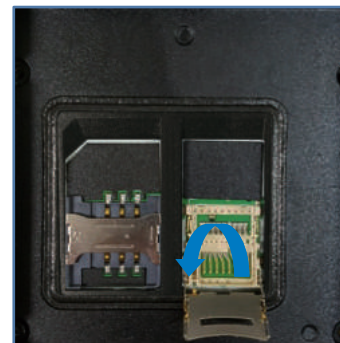
Below image shows the back side of device when separating the main battery from device
There are 1EA SIM Card Slot, 3EA SAM Card Slot and 1EA Micro SD Card Slot.



Attaching Micro SD card



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



Lift the slot cover up



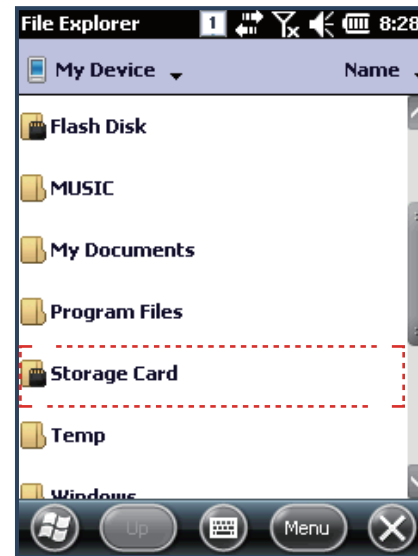
Put the SD memory on the slot and then, shut the cover up



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

[Start] -> [File explorer]



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

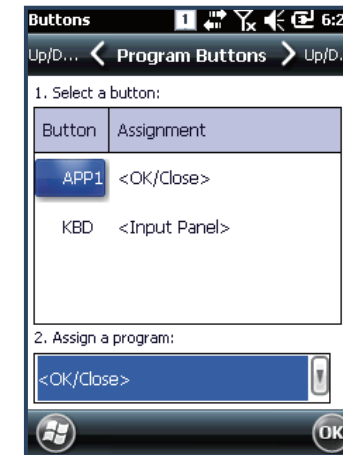


Shortcuts setting

You want to quickly run frequently used programs You can set the shortcuts function

[Start button] -> [setting] -> [Personal] -> [Button]

Select the button you want to assign as the shortcut, And select the desired program from the program assigned



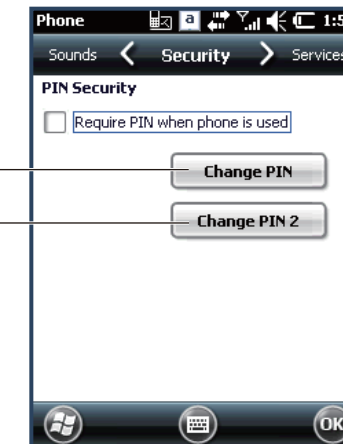
Set up phone password

If the SIM card is lost or stolen, USIM card in order to prevent the use of others by setting as password

[Start button] -> [setting] -> [Personal] -> [Phone] -> [Security]

Use the password

Change the PIN number



When you use the password and select the "Phone using the PIN (personal identification Number) password input window is displayed and required to enter the four digit password and select the 'key' <Enter>'

◆ Caution:

PIN Code is '0000' for protecting USIM card information You can change to own your password.

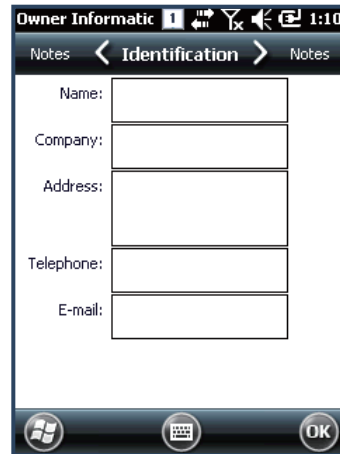
PUK code is that PIN Code entered incorrectly three times identification Number (PIN) consecutive USIM unlock code. (8digit).

It will be on the USIM card's envelope or the body Entered incorrectly 10 times in a row when not able to use the USIM card, please note

Owner information

It can set up the owner information (Name, company, address, Telephone, E-mail and Notes)

[Start button] -> [setting] -> [personal] -> [owner information]

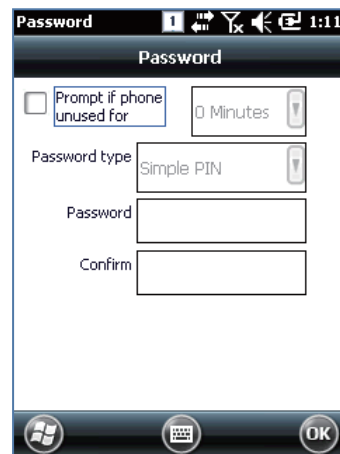


LOCK

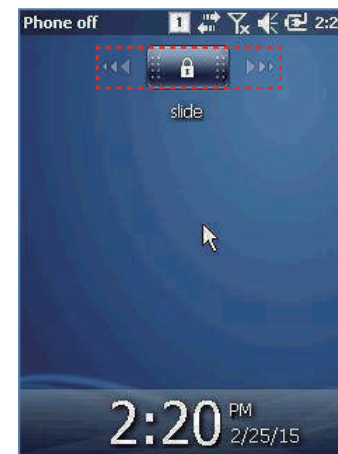
User can set up the device as lock status for protecting data from device

Device is converted with lock status for a predetermined time and user has to input the password for unlocking the device.

[Start button] -> [setting] -> [LOCK]



Set up the LOCK screen



LOCK screen



Input the password

Memory

You can check the capacity of the memory

[Start button] -> [setting] -> [System] -> [Memory]

Main memory : Usage and remaining capacity can check
Storage card : it can check Flash area or SD care capacity

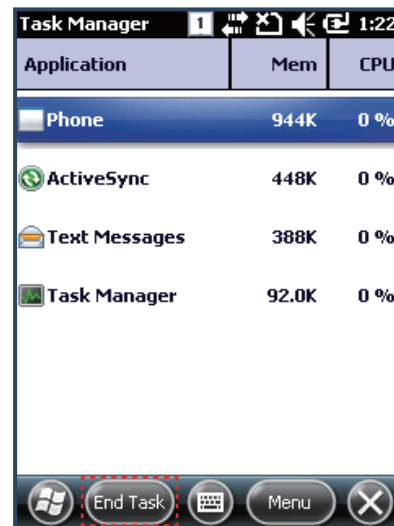


Task Manager

You can see a list of programs currently being used and the Amount of memory you have

[Start button] -> [setting] -> [system] -> [Task manager]

You can be stopped by selecting the program
You are using form the list.

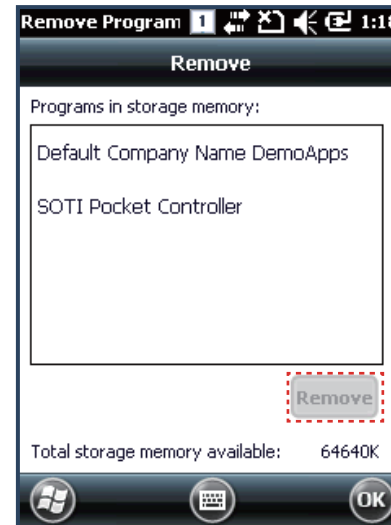


Remove the program

This will display a list of programs installed in addition to the Preinstalled programs

[Start button] -> [setting] -> [system] -> [Remove program]

It can be removed from the list, select the program you want to Remove

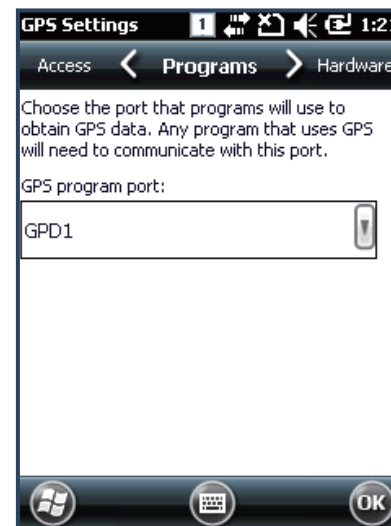


GPS

You can set the GPS port within the terminal

[Start button] -> [System] -> [GPS]

Do not need to be set separately because it is set by default to the port terminals are used in GPS.

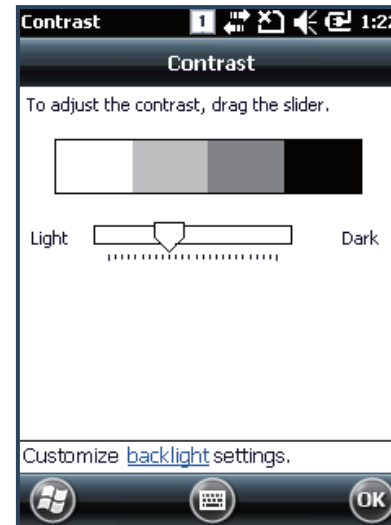


Set screen brightness

Screen brightness is set to the factory in approximately 70%

[Start button] -> [setting] -> [system] -> [Contrast]

Brightness: you can adjust the brightness of the screen

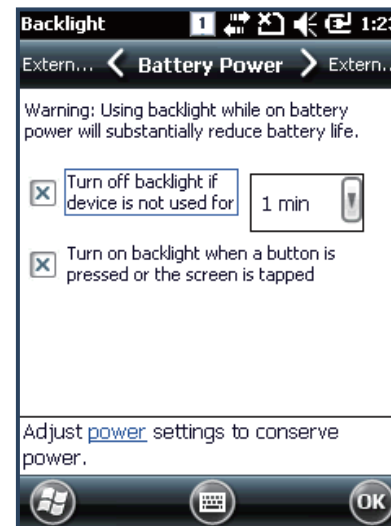


Backlight ON/OFF set up

Screen brightness, the power consumption is most affected
Because it can be set up suit the user's needs.
Off screen timeout time can be set

[Start button] -> [Setting] -> [system] -> [Backlight]

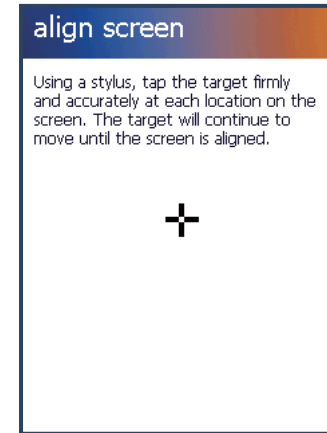
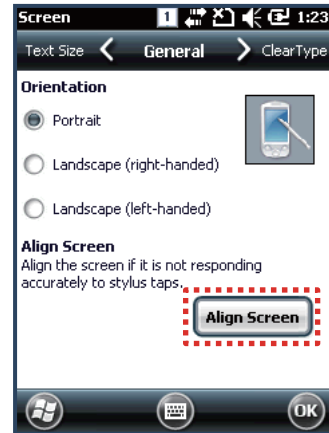
Battery Power : When using the Battery power, set up the brightness On/Off.
External power : the brightness of the screen when using an external Power on/ off settings



Screen adjustment

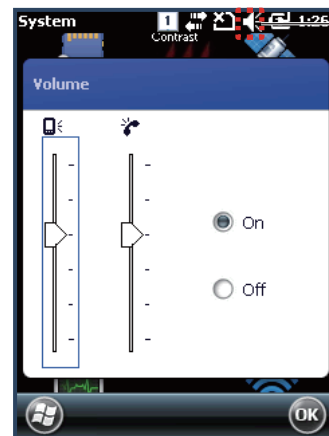
At first beginning of using the device after purchasing or need to use the device for a long period time, if you cannot select the place where you touched with stylus, you need to reset the coordinate calibration values.

[Start button] -> [setting] -> [system] -> [Screen] -> [align screen]



Volume and sounds setting

You can set up the Volume and sounds.



Set up the volume's ICON



- You can adjust the volume with products left volume button (hardware)

Sounds and notification

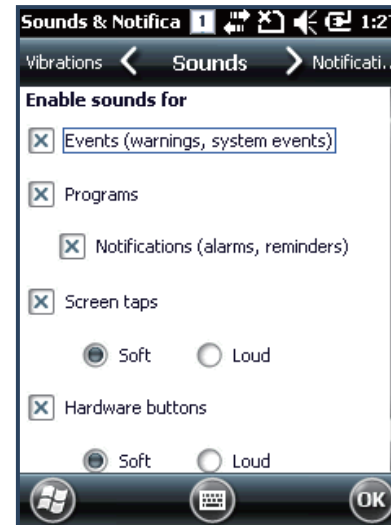
You can set up the ringing one and vibration and bell sound notification On/OFF.

[Start button] -> [setting] -> [Sounds and notification]

Vibration : Set the vibration amplitude set

Sound : Set the sound notification

Notification : Select the ring type



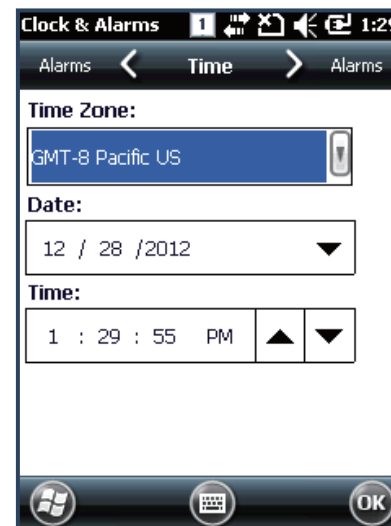
Set up the Clock and Alarms

Set up the date, time and Alarms

[Start button]-> [setting] -> [Clock and Alarms]

Time : Set the Date and Time

Alarms : Set the Alarms



Wireless Manager

You can control the Bluetooth, Wi-Fi, Phone's function On/Off.

[Start button] -> [Setting] -> [connect] -> [Wireless manage]

All : It can control the all ON/OFF of WIFI, Bluetooth, and PHONE
Separately : when you click the Buttons (Wi-Fi, Bluetooth, and Phone) It is possible to ON/OFF

- It can be expressed differently depending on the product option



Keypad enables you to input numbers, alphabets and special symbols. And can also execute other set function with <Fnc> button.

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]

Inputting Data

Numeric Keypad Mode : Press<1<=>ALP> button or keypad icon on the taskbar to change to the numeric mode and directly press number on the keypad.

Alphabet Keypad Mode : Press <1<=>ALP> button or keypad icon on the taskbar to change to the Lowercase or Uppercase and directly press alphabets or special symbols on the keypad. Each button has 2 ~ 3 letters or symbols. Press the button once, the first letter or symbol will be inputted, press twice continuously, then the second letter or symbol will be inputted, and the third letter or symbol need to press button three times continuously.

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.
	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.

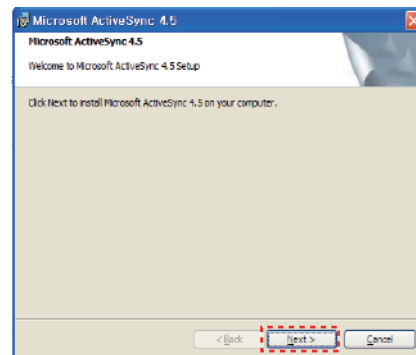
Connecting PDA to PC

ActiveSync: Windows XP

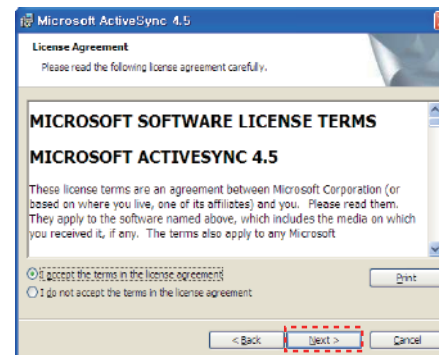
Windows Mobile Device Center 6.1 (64bit): Windows XP or later version

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

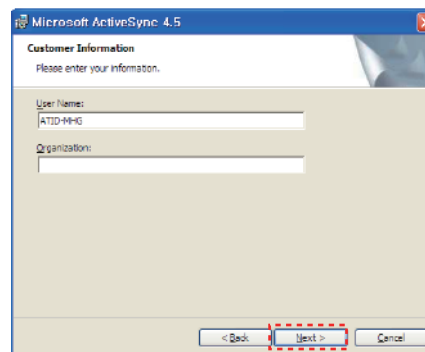
Caution:
To synchronize via ActiveSync, Microsoft ActiveSync 3.7 or later version must be used.



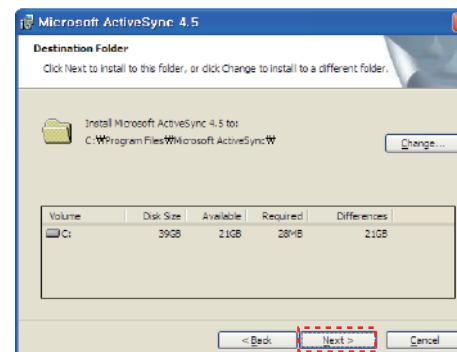
Click the [Next] Button



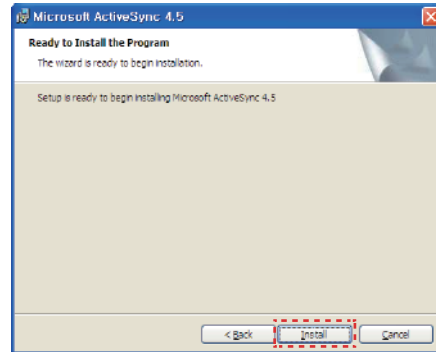
Select the license agreement and then, click the [Next] Button



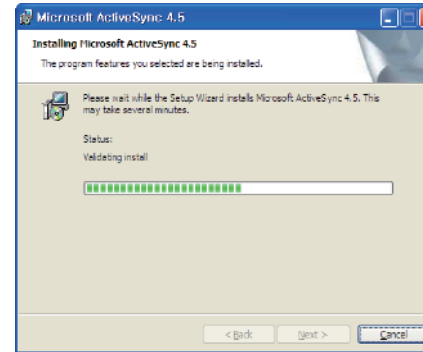
Input the name of user and group and then, click the Next Button



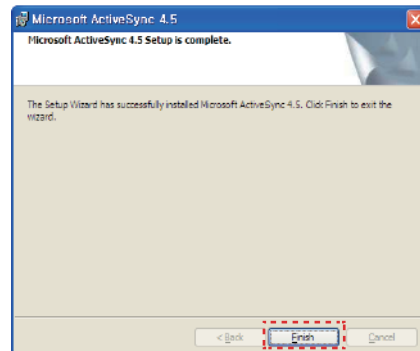
Select the license agreement and then, click the [Next] Button



Click the Installation button



ActiveSync are installing

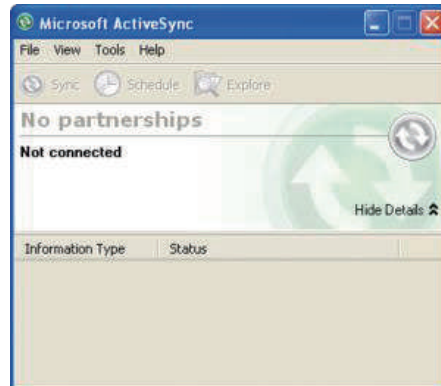


Press End button for termination of installation

Setting PC

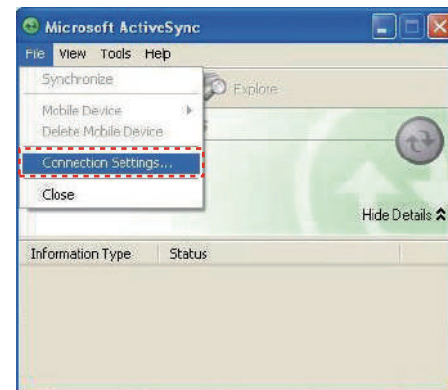
[Start button] -> [Programs] -> [Microsoft ActiveSync]

< Windows Xp >



Click on the install button

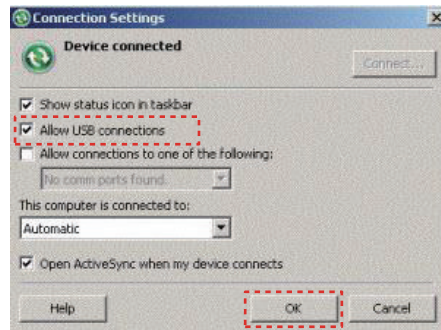
< Win7 / Vista >



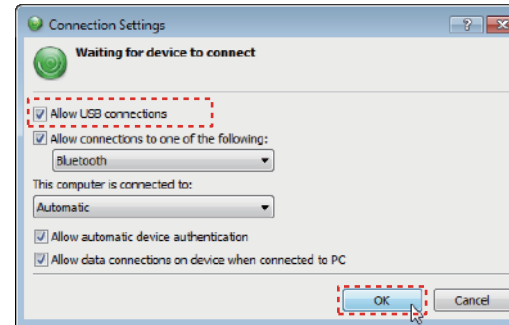
File connection settings, Click the button.



<Windows Xp>



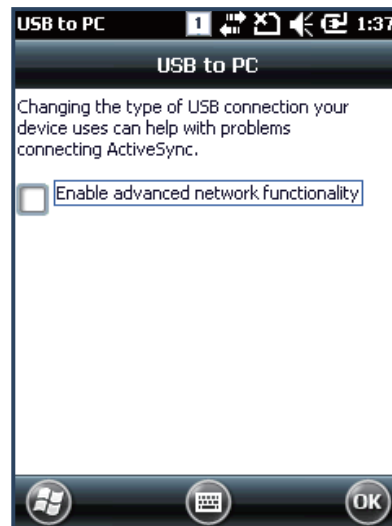
<Win7/Vista>

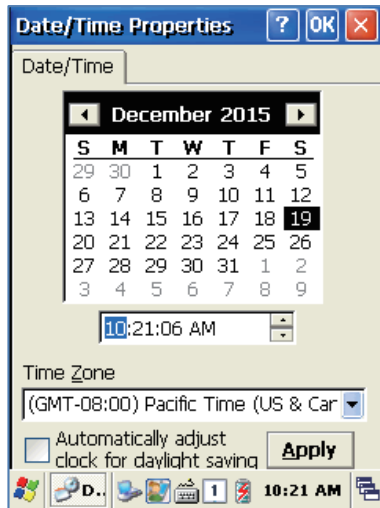


USB sync cable connection, select Allow, and then click the OK button.

[Start buttons] -> [setting] -> [connect] -> [USB-PC]

Even connect to PC, synchronization is not good
 Please select the Enable advanced network functionality
 To use a VPN you can connect your computer to your device
 Using the RNDIS.
 In this case, please try to connect and after you turn off the
 'Enable advanced network functionality'





Time setting

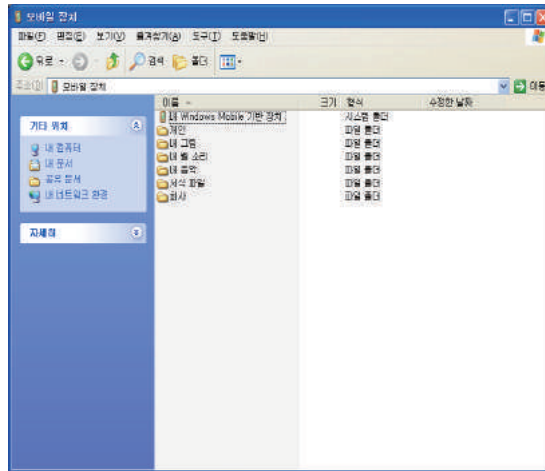
Please click the time and then, adjust by using rudder



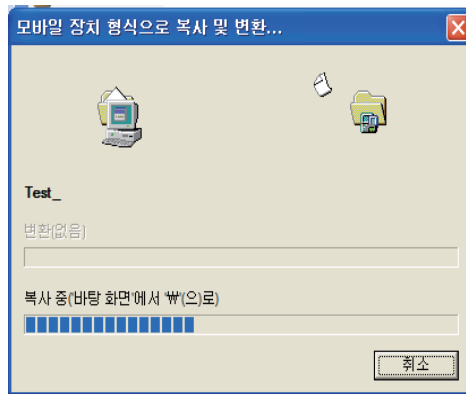
Time-zone setting

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.

< Windows XP >



File/ directory device's screen



Data transfer screen

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

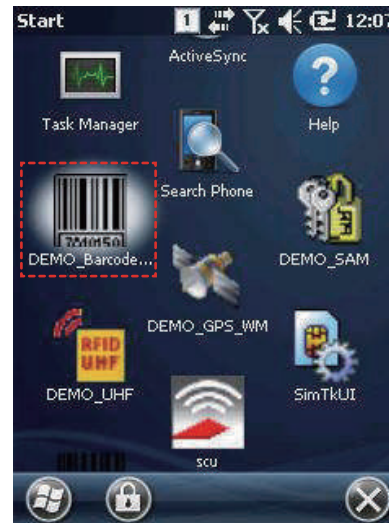
- 1) Barcode reader
 - 1D Laser Barcode Scanner
 - 2D Imager Barcode Scanner
- 2) Wireless LAN – 802.11 a/b/g/n Option
- 3) Bluetooth
- 4) HF13.56 Reader
- 5) UHF 900MHz RFID – GEN2, ISO/IEC 18000 6C
- 6) GPS Module
- 7) Camera

Enable to equip with a compact image engine, which could recognize all the 1D and 2D barcodes.



Using 1D or 2D barcode scanner

Running application
[Start Button] -> [DEMO_BarcodeScan] performing



7. Use of ActiveSync Program

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.

7.1 Installation of Microsoft ActiveSync

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

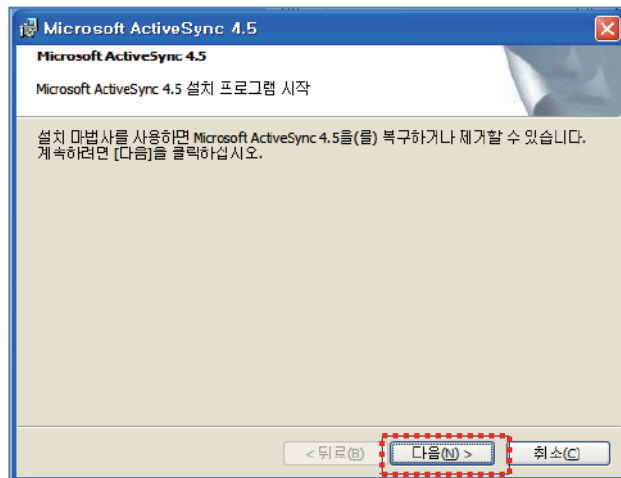
ActiveSync : Windows Xp

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

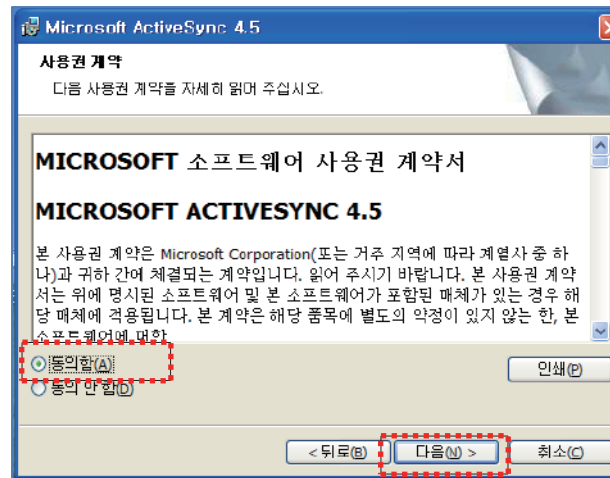
Link for Download: <http://www.microsoft.com/downloads/>.

⊠ CAUTION:

User has to use Microsoft ActiveSync 3.77 or above if you want to synchronize by using ActiveSync



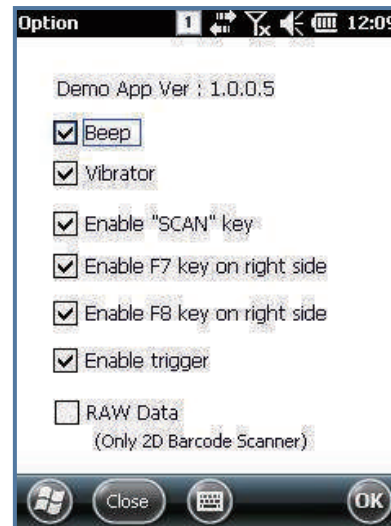
Click the Next Button



Select the license agreement and then, click the Next Button

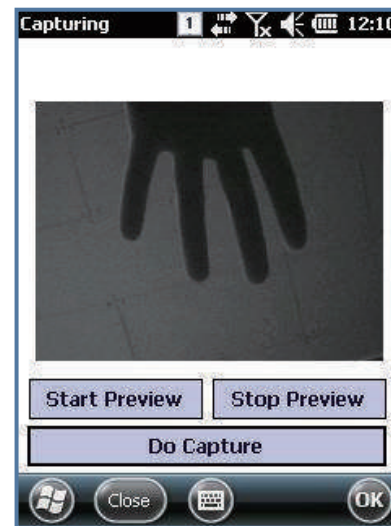
Option window

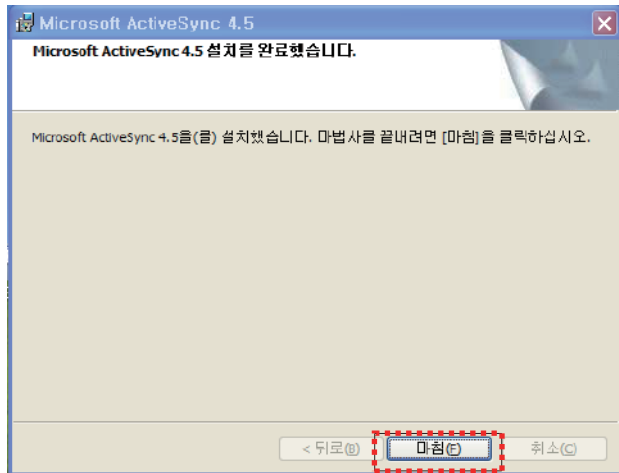
- Beep : Success the Barcode scanner, beep sound output.
- Vibrator : Success the Barcode scanner, working vibrator.
- Enable "SCAN" key : Enable "SCAN" key
- Enable F7 key on right side : Enable F7 key
- Enable F8 key on right side : Enable F9 key
- Enable trigger : Enable Gun Trigger key
- RAW Data : To set the scan results in the form of raw data
2D scanners only support.



Capturing window

- Start Preview : Start preview by 2D scanner
- Stop Preview : Stop preview
- Do Capture : current screen and save it as a file

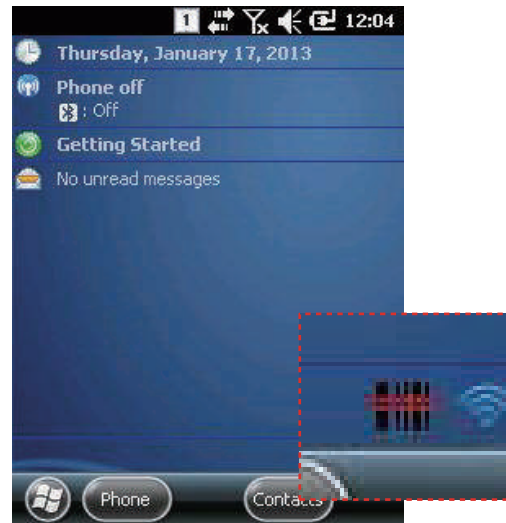




Press End button for termination of installation

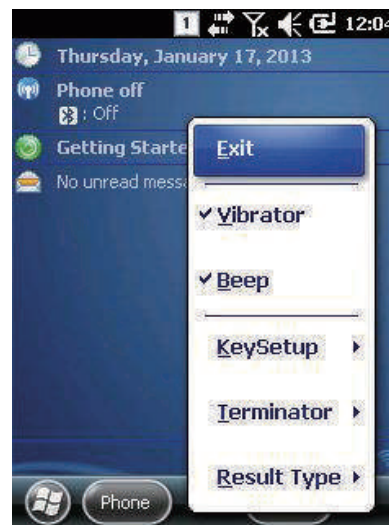
Application run complete.

Once the run is complete, the barcode icon on the bottom right of the screen is registered and can be scanned. When user clicks the barcode icon, a pop-up menu appears and settings can be changed.



Emulator Main Menu

- Exit : Exit the application
- Vibrator : Upon successful barcode scanning vibrator action
- Beep : success the barcode scanning and beep sound output
- Key Setup: set up the start barcode scan key
- Terminator : select barcode value to be added to the special Character
- Result Type : select how to output barcode value



Key Setup

Below keys can set multiple

F1 : Set up for starting when the F1 key is pressed

F2 : Set up for starting when the F2 key is pressed

F7 : Set up for starting when the F7 key is pressed

F8 : Set up for starting when the F8 key is pressed

SCAN : Set up for starting when the SCAN key is pressed

Gun Trigger : Set up for starting when the Gun Trigger is Pressed



Terminator

Set up the special character to add the output barcode value

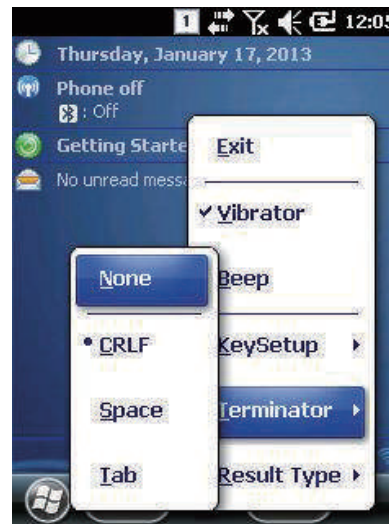
Select one of the values below value

None : Do not use the Terminator.

CRLF : Add Carriage Return/Line Feed at the end of the Barcode value

Space : Add the space at the end of the barcode value

Tab : Add the tab character at the end of the barcode value



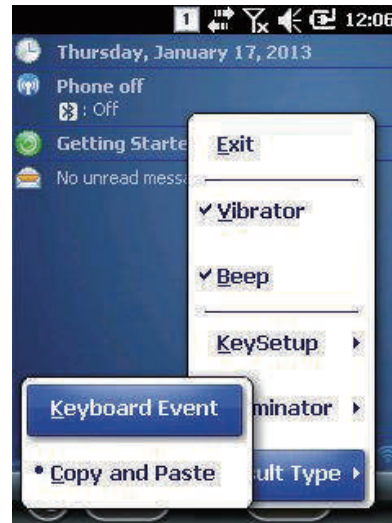
Result Type

Set output barcode form

Select the type of the one of the following types

Keyboard Event : Output barcode value on the screen by using
Keyboard Event.

Copy and Paste : Copy to clipboard and then copy to screen .



Warning!

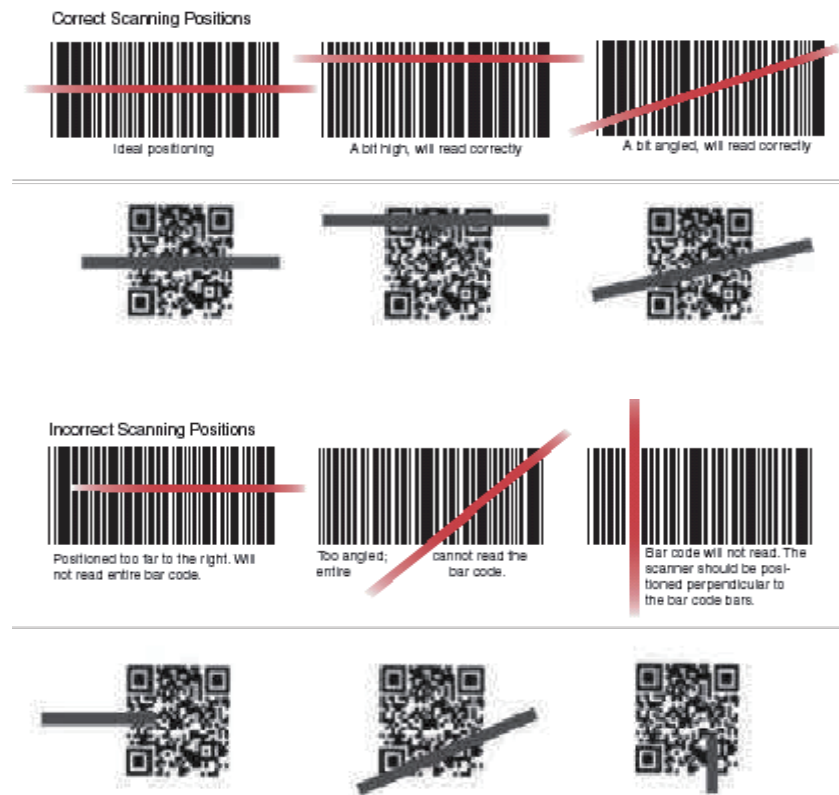
Please do not look directly into the laser beam of barcode, or it may do harm to your vision.

Barcode scanning

1. Remove the protective film from the window of barcode.
2. Executing the BarcodeDemo program.
3. Emit laser beam to the barcode.
 - Adjust the distance according to the size of barcode.
 - Barcode will stop automatically in five minutes if out of the Barcode reading range.

[Correct barcode reading]

1. The more small size of barcode, needs the more close to barcode. The effective scanning rang of is from 40 ~ 300mm. if failed to scan barcode, please try to adjust scan angle and distance.
2. The laser beam is a red thick line, when scanning a barcode.

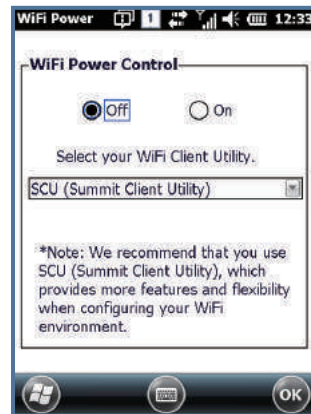


[Incorrect barcode reading]

1. The laser beam must cross the barcode.
2. It will couldn't scan barcode if the laser beam across only a fraction of barcode.

WiFi Power On /Off

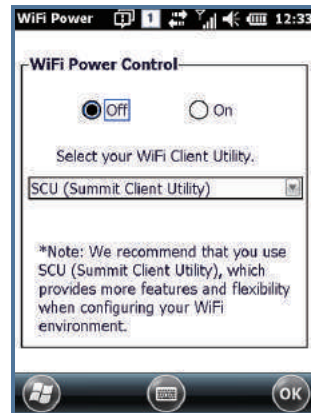
WiFi is turned off before its dispatch. Turn on the WiFi to use the WiFi.



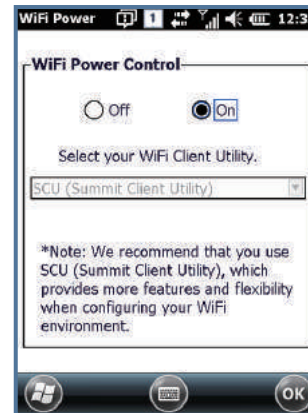
[Start button] -> [Setting]
-> [System] -> [WiFi POWER]
ON: WiFi ON
OFF: WiFi OFF

WiFi function On /Off

WiFi function can be set On/Off.
First, WiFi power needs to be on.



[Start button] -> [Setting]
-> [System] -> [WiFi POWER]
Wi-Fi Off, turns off WiFi function



Wi-Fi On, turns on WiFi function

How to connect AP (1)

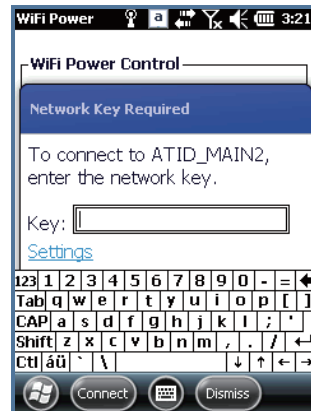
When you turn on Wi-Fi, AP list up automatically.



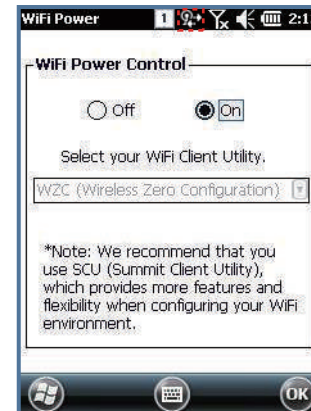
Choose the AP what you want to use and click



Click for connecting



Input the network key.

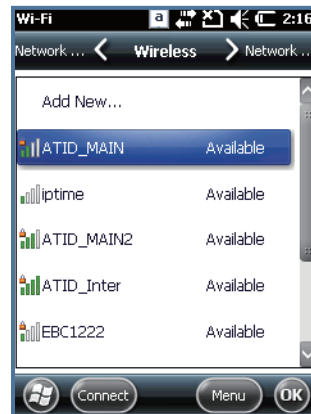


If it connect well you will be able to see mark as screen

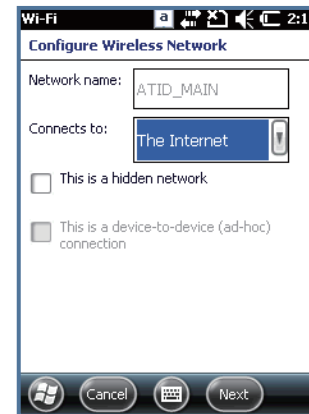
How to connect AP (2)

You can connect using the wireless AP management program

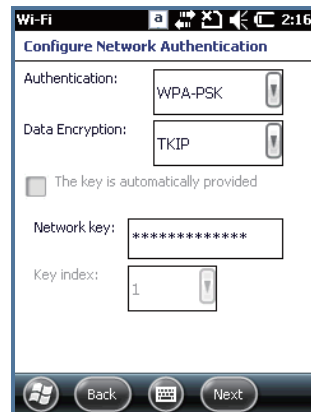
[Start button] -> [Setting] -> [Connections] -> [Network cards]



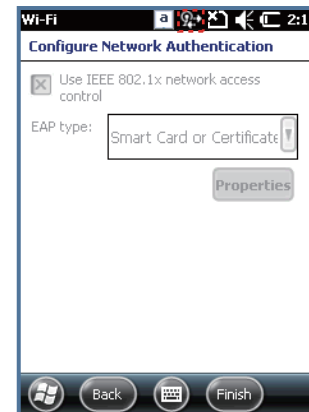
AP or Router captured automatically, Click on the appropriate device form the list



Click as picture



Input the Network key



You will be able to see connect Wireless

AT870N of Windows Mobile is designed to be able to use Bluetooth Stack Service.

The following part of the guide describes about Pairing and Disconnection of Bluetooth. In addition, Mobile Printer SPR-R203 of Bixolon is used for test demonstration.

** Pairing is possible with total of 6 devices, but COM port allocation of COM2 and COM7 is maximum limit.

Bluetooth connection and termination

[Start button] -> [Setting] -> [Bluetooth] -> [MODE]

1. Start Bluetooth function

Turn on the "Bluetooth"

: Depends on checking check box user can control the Bluetooth power.

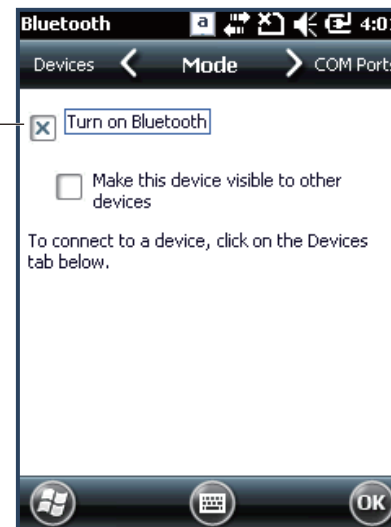
- Select : Bluetooth On
- No select : Bluetooth Off

Set up for searching this device by other devices

: Depends on checking check box, user can set up for Bluetooth

- Select: Allow to searching this device by other devices
- No select: Do not allow to searching this device by other devices.

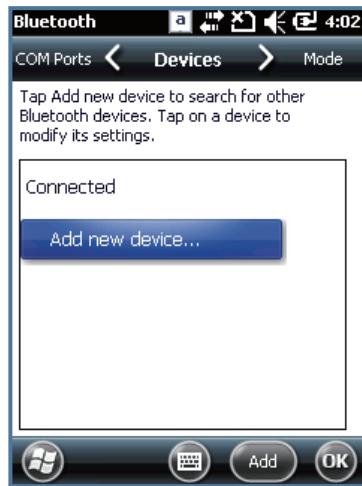
Checking



Bluetooth Pairing

After connecting each other through pairing way, Bluetooth devices could do its function properly.

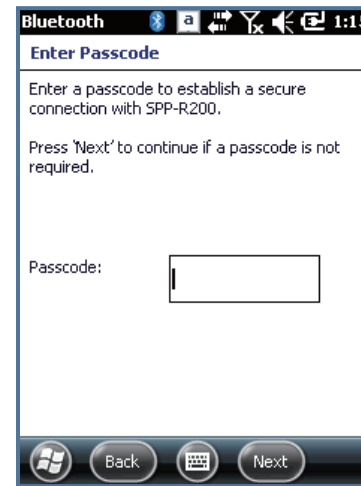
[Start button] -> [Setting] -> [Bluetooth] -> [Devices]



Press the 'Add new device' for searching devices which could pairing



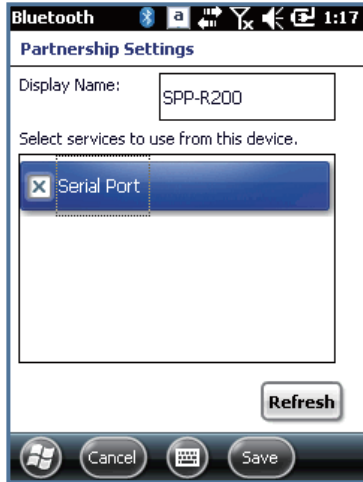
Choose the devices on searching list for pairing and click the next
Depending on the situation, maybe need to input password for some devices, then could



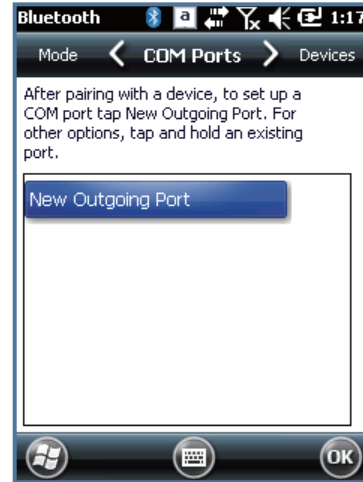
Input the PIN code and click the next button.
*Basically SPP-R200's printer pin code is "0000".



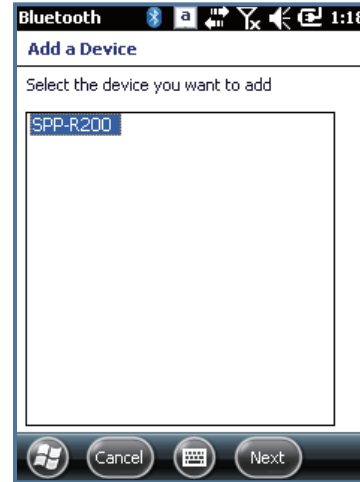
Click the SPP-R200 on the list



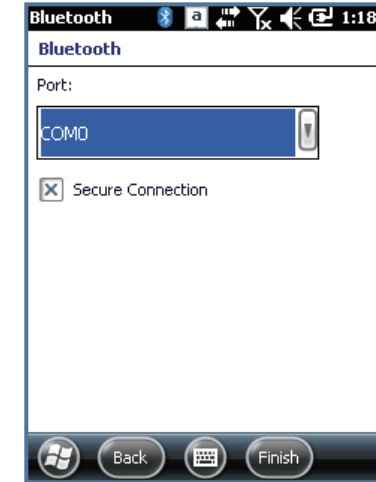
Choose the serial port.



"choose the"COM port" tap and click the new serial port



Click the SPP-R200 on the list.



Choose the communications Port (COM2), and then click the finish button.

After that it is possible to transmission and reception of data by COM2 port

*when you add a new device, the equipment information is not normally displayed
Please try again

* Password that should be used to Pairing (authentication code), the unit can be set by mutual

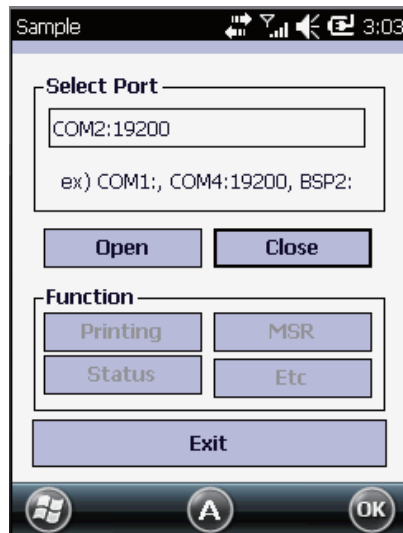
* After the paring is normally achieved, User can use SDK for Bluetooth service. The SDK should be by manufacture of the Bluetooth devices

Bixolon SPP-R200 Printer Demo

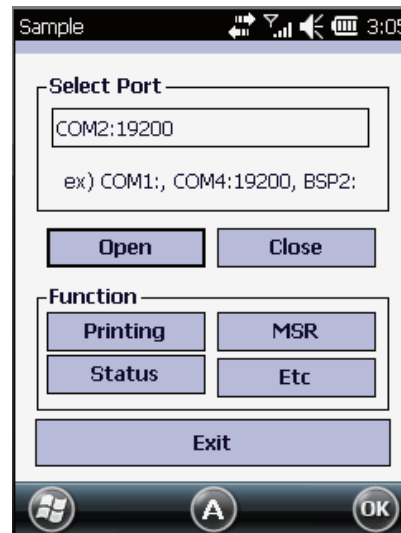
SPP-R200 is typical Mobile Printer of the Bixolon, you can using its App which get from Bixolon website to perform print through Bluetooth.

**the Printer program and SDK, which described in this User Guide is based on the 5th Aug, 2011, and it's would be a little different from homepage contents according to the Bixolon policy.

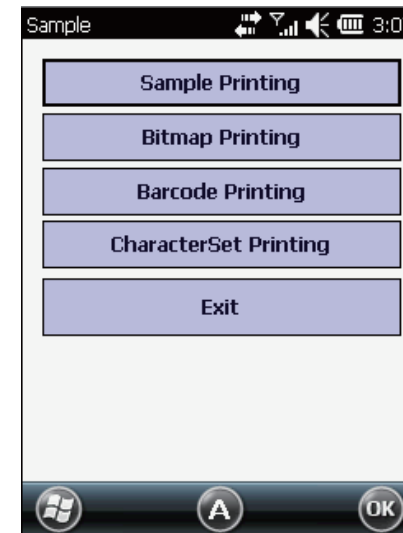
1. Download "SPP-R200 Windows SDK" from the Bixolon homepage (www.bixolon.com) to a suitable directory and unzip the file.
2. Bluetooth Power ON.
3. Executing "Bluetooth Device Properties" programs which located in Control Panel.
4. SPP-R200 printer power ON.
5. Setting the SPP-R200 printer to be in the status of pairing. (Please refer to the User Guide of SPP-R200 Printer)
6. Press "Scan Device" button to searching printer 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 had connected one time, maybe not show the message.)
9. Copy and paste the DLL and executable file, which located at bin\ce5\MobileCompia_M3Plus\ within the printer SDK, to AB700 Flash Disk.
10. Executing the Sample.exe program in the AB700 Flash Disk.
11. Change the COM8 to COM2, then press "Open" button to testing printer.
12. Please check to click Printing button and sample printing button. it is working well or not



COM8 -> COM2




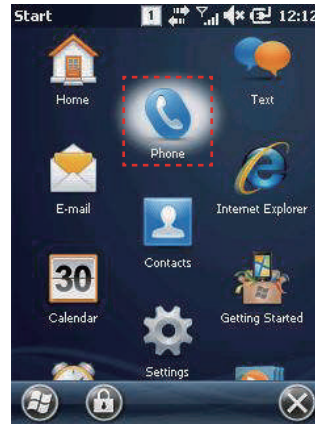
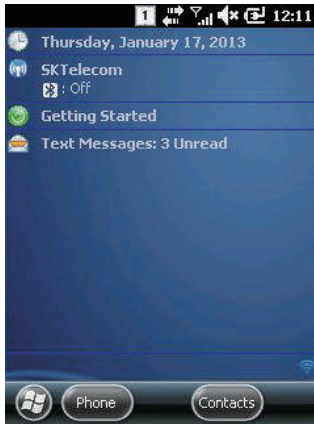
Select Open and then select Printing



Select Sample Printing

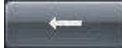



How to use Phone

1. [Home] -> [Phone]
2. [Start Button]->[Phone]
3. Press Keyboard  button.



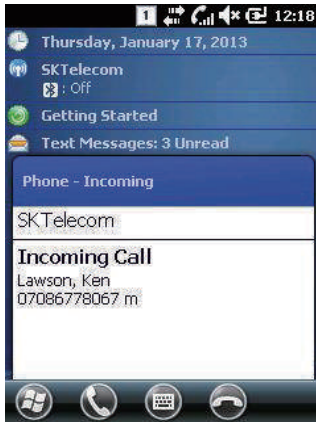
Dialing





Function Key	Descriptions
	Delete number one by one.
	Enable add/edit/delete/ speed dial number and make phone call. (Save maximum 98ea speed dial numbers.)
	Enable to looking for recent Call History.
	After input phone number, press "Talk" button to dialing.

- Press and hold relevent Speed Dial number for a while to make phone call, when you the speed dial number has been already registered.

Receiving Phone Call









Function Key	Descriptions
	Press this button to receive incoming phone call.
	Press this button to reject a phone call.

- Received message information may be different.

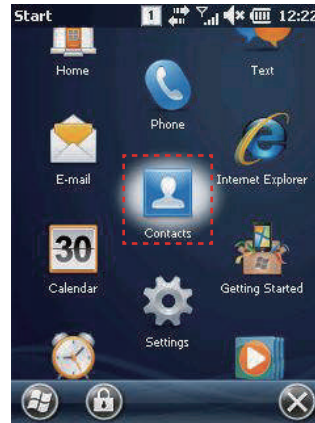
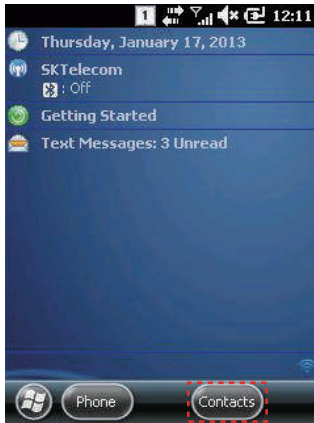
Hang off Phone Call



Function Key	Descriptions
	Communicate via Speaking Key.
	Mute microphone during a phone call.
	Switch active phone call on holding status.
	Switch on holding phone call to active status.
	Enable to Search/add/delete contacts. Enable to add a phone call while looking for contacts,
	End a phone call.

Contact List

1. [Home] -> [Contacts]



How to search a contact information



Enter the contacts number or name into the searching box.

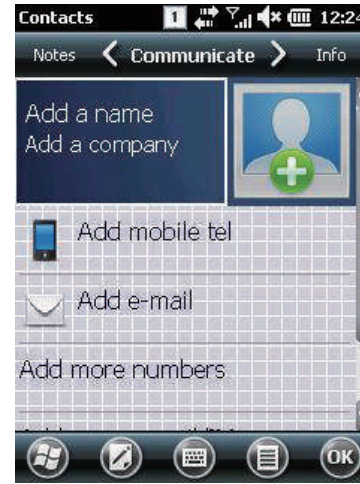
Add to contact list



Press this button to add a new contact information



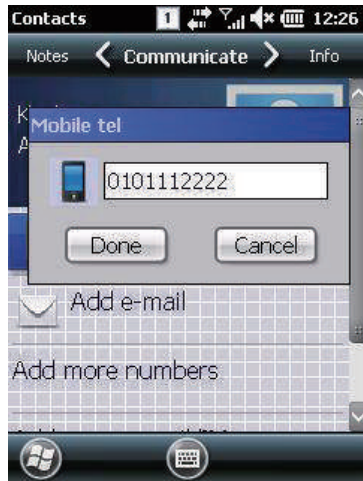
Select new contact information type.



Select items which will add new contact information.



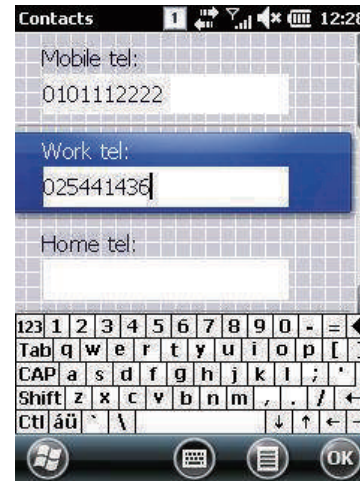
Enable to add name and company information.



Enable to add mobile phone number.



Enable to add new Email information.



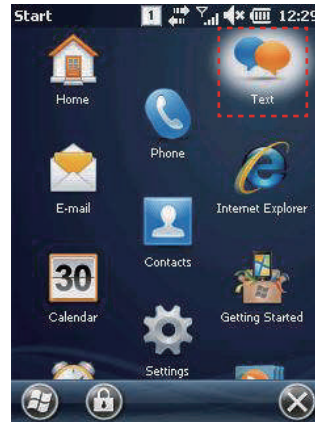
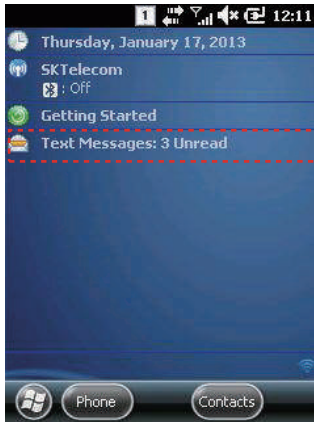
Except for mobile number, Enable to add other phone number.



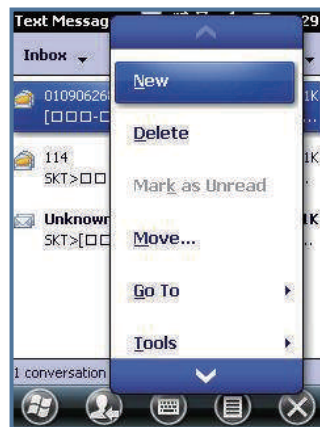
Except for basic e-mail address, enable to add other e-mail information.


How to use Text Message

1. [Home] -> [Text Message]
2. [Start Button]->[Text Message]




Sending Message




 Press this button to make a new message.

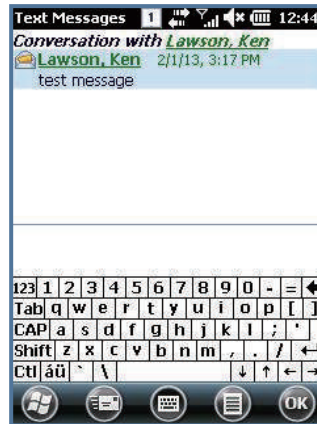


 Press this button to send a message.

Receiving Message



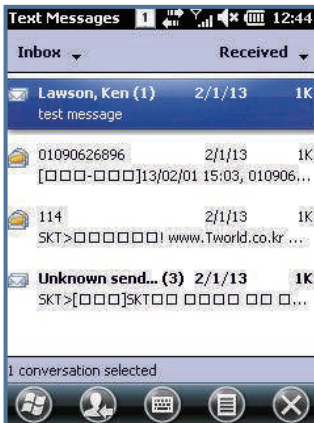
 Press this button to check new message.




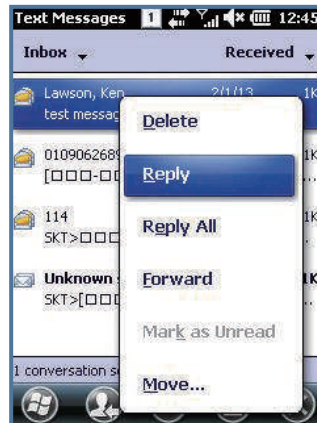
Check message in detail.

- Received message may expressed differently.

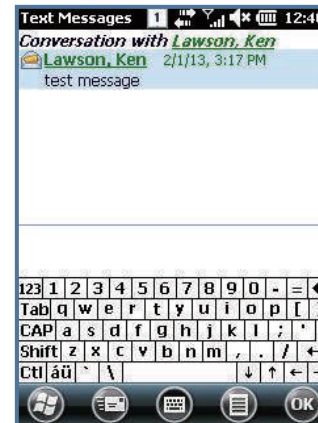
Replying Message




 Click the relevant message in received message box.



Press "Reply/Forward(R)" button and then choose Reply(R) item.



 Press this button to send reply message, after done text.

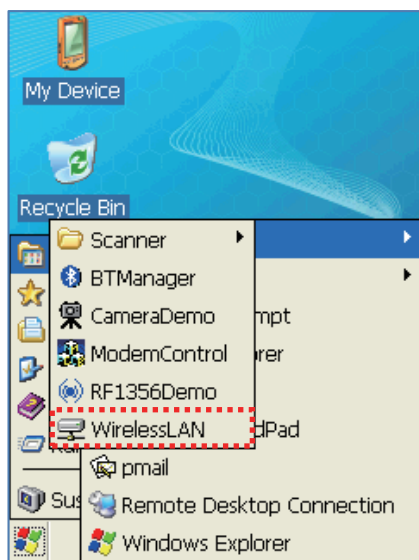
2. WiFi Connection

AT870N enable to explain wireless communication including APN since it can communicate through 802.11 b/g radio. AT870N supports the TCP/IP network protocol and AT870N directly uses the TCP/IP and host computer at this protocol

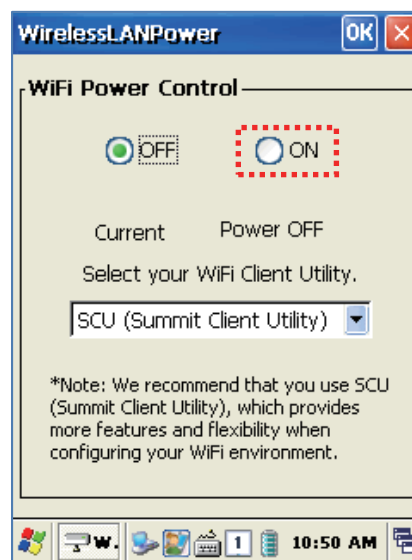
Device will be started as OFF state at the beginning

2.1 WiFi Connection and Termination

[Start] -> [Program] -> [Wireless Lan]



Click the Wireless Lan

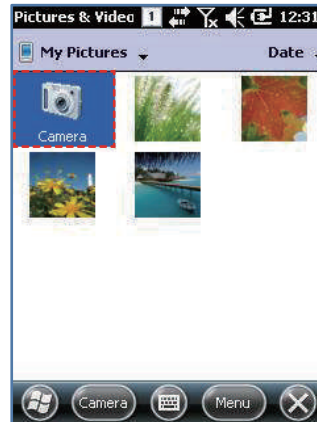


Select the ON and then, click the OK button

This product comes out with 3.0 Mega pixel camera with flash and enable to adjust screen brightness, resolution, screenshot capture, and record video and so on functions.

Use of camera

[Start Button] -> [Pictures&Videos] -> [Camera]



Execute **Camera** Application.



Main Window button description :

Thumb... : end the main window and switch to Pictures&Videos screen.

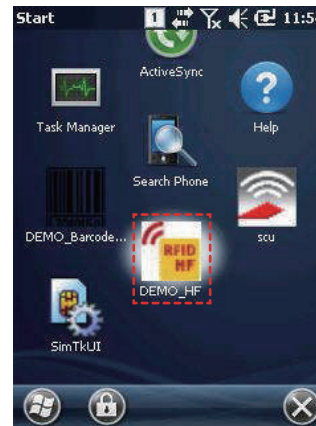
Menu : main Menu list

press "Enter" button to save current screen picture.

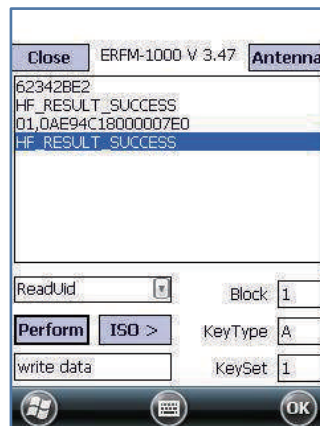
This product comes out with internal type of HF13.56Mhz reader as optional item, and card reading distance around 3~8.5cm compliant with ISO Standards, and in the case of Mifare tag, the reading distance around between 1~3.5cm.

HF13.56 demo application execution

[Start Button] -> [DEMO_HF]



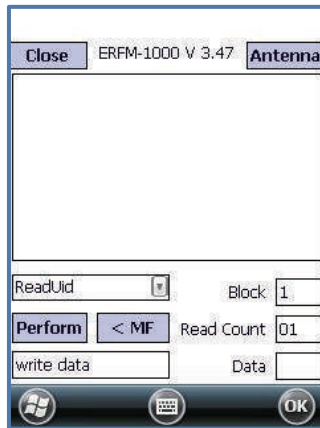
Mifare tag recognition



Mifare:

- Open : Open HF device
- Close : Close HF device
- Antenna : Stop emit antenna power.
- Perform : Send command which selected from above combo box.
- ISO > : Switch ISO-15693 command screen.
- Block : Block number which will be accessed
- Key Type : Key type of block which will be accessed.
- Key Set : Key set of block which will be accessed.

ISO15693 tag recognition



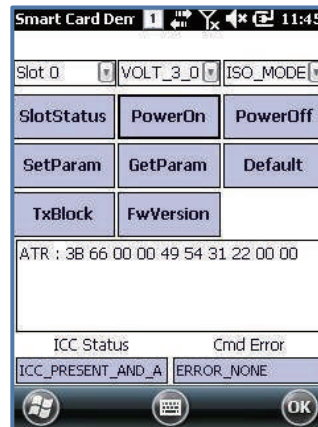
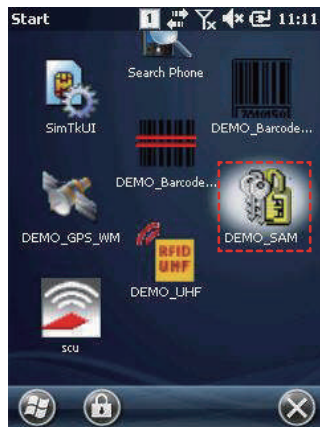
ISO15693:

< MF : switch to Mifare command window.
 Block : start number of block which will be accessed.
 Read Count : number of block which be accessed.

This product enable to communicate with IC Card which compliant with ISO-7816.

SmartCard demo application execution

[Start Button] -> [DEMO_SAM]



Main window button description :

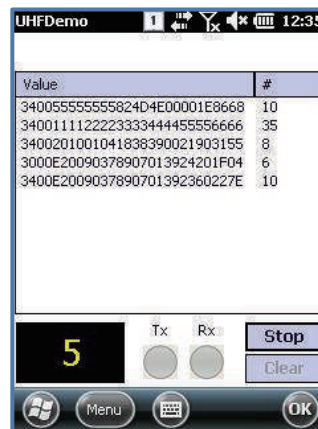
- Slot Status : check card status whether inserted into slot.
- PowerOn : power on IC Card reader module.
- PowerOff : power off IC Card reader module.
- SetParam : set or change Card reader's protocol type, clock rate, bit rate and so on data.
- GetParam : get Card reader's protocol type, clock rate, bit rate and so on data.
- Default : initialize Card reader's set value to default values.
- TxBlock : send APDU Command to Card reader.
- FwVersion : get the firmware version of Card reader.

This product enable to install UHF module as optional item, and read&write RFID tag based on GEN2, ISO/IEC 18000-6C Protocol, performance frequency CE 865~868MHz, FCC 902~928MHz



UHF 900Mhz demo application execution

[Start Button] -> [DEMO_UHF]

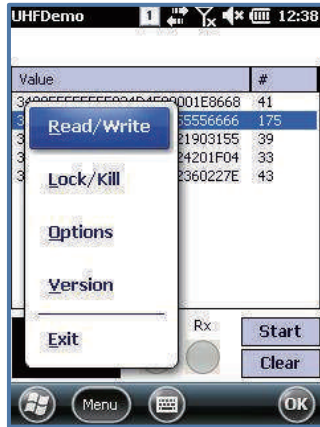


Demo Main window button description :
 Select a tag that will perform "Access" command.

Start : press Start button to perform "Inventory",
 and button changed into "Stop" icon.

Clear : delete all tag values on the screen.

Menu : Main Menu



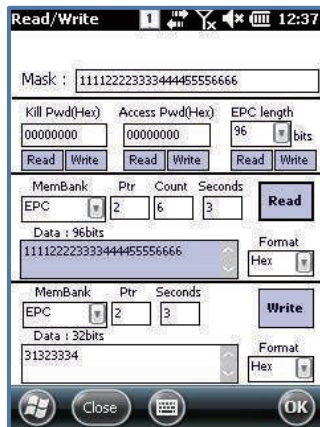
Demo Application optional Menu :

Read/Write : Read/Write tag.

Lock/Kill : Lock/Kill tag.

Option : Application option.

Version : Version information.



Read/Write window button description :

Mask : if selected a tag value on main window, then the tag value also showed on Read/Write window, and used as masking pattern while performing Read/Write tag.

It means even there are a great many of tags around the reader,

Read/Write command only apply those tag that set as masking pattern,

Kill Pwd, Access Pwd : Read/Write tag's Kill password, access

EPC length : Read/Write Tag's EPC length.

Even though using 128bits tag, but if EPC length set as 96bits, then only identify 96bits if performance Inventory command.

Please refer to EPC Class1 Gen2 specification for further information.

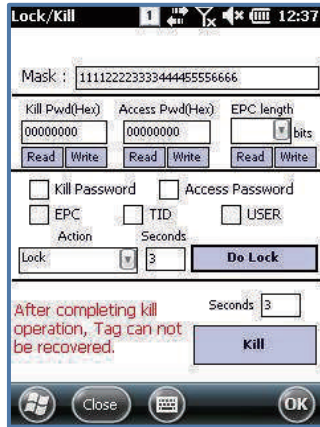
Read/Write : Read/Write tag to designated Memory Bank.

MemBank : read/write target memory bank.

Ptr : Memory Bank offset which would be read/write.

Seconds : read/write time(seconds)

Format : read/write data format.



Lock/Kill window button description :

Mask : if selected a tag value on main window, then the tag value also showed on Read/Write window and used as masking pattern while performing Lock/Kill tag.

It means even there are a great many of tags around the reader,

Lock/Kill tag command only apply those tag that set as masking pattern.

Kill Pwd, Access Pwd : Read/Write tag's Kill password, access password.

EPC length : Read/Write Tag's EPC length.

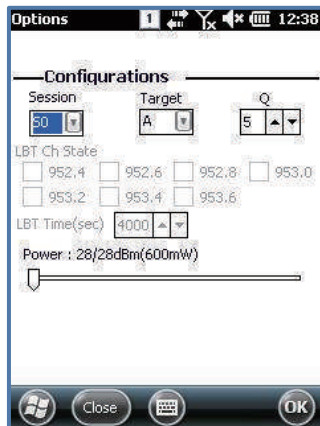
Even though using 128bits tag, but if EPC length set as 96bits,

then only identify 96bits if performance Inventory command.

Please refer to EPC Class1 Gen2 specification for further information.

Do Lock : performance command according to check marks on box.

Kill : Kill tag. The tag will be never restore if kill a tag, please think twice before perform kill tag.



Options Window button description :

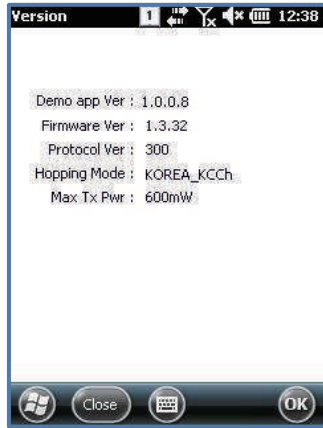
Session : change Session when operating Tag.

Target : change target when operating tag.

Q : change Q in Tag operation

LBT Ch State/Time : change LBT option for Europe, Japan type(forbidden)

Power : change Tx Power level of Reader.



Version Window button description :

Demo app Ver : Demo application Version.
Firmware Ver : UHF module firmware Version.
Protocol Ver : UHF module library Version.
Hopping Mode : UHF module country Version.
Max Tx Pwr : UHF module maximum output.

Appendix

Product specification

PHYSICAL CHARACTERISTICS	
Dimensions(L x W x H)	148mm(L) X 76mm(W) X 26 (30.5)mm(H)
Weight	250g (PDA only, without battery)
Operating Temp.	-20°C ~ 60°C
Storage Temp.	-30°C ~ 70°C
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	ROM 512MB / RAM 512MB
Display	3.5" QVGA with Backlight, TFT LCD, 240 X 320Pixel, 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	1Micro SD Slot (SDHC), 1SIM Slot
Notification	Vibrator and LED, Speaker
BATTERY SUPPLY	
Main Battery	Lithium Polymer 3.7V 2,960mAh (Rechargeable)
Backup Battery	Lithium Polymer 3.7V 80mAh (Rechargeable)
Power Adapter	Input AC110V ~ 240V / Output DC 5V 3A

NETWORK CHARACTERISTICS	
wWAN	GSM / GPRS / EDGE / WCDMA / HSPA+
wLAN	IEEE 802.11 a/b/g/n* Compliant
PAN	Bluetooth 2.0 + SPP Only
GPS	GPS + Glonass with internal Antenna
DATA CAPTURE & DATA PROCESSING DEVICE	
Barcode Engine	1D Laser or 2D Imager Barcode Scanner
Camera	3.0 Mega Pixel Auto Focus with Flash
UHF 900MHZ RFID READER/WRITER	
Frequency	CE 865MHz ~ 868MHz FCC 902MHz ~ 928MHz
Reading range	0M ~ 5M (According to Tag & Environment)
Writing range	0M ~ 0.5M (According to Tag & Environment)
RF output	1W (MAX)
Protocol	GEN2, ISO/IEC 18000-6C
Special function	Anti-Collision
HF 13.56MHZ RFID READER/WRITER	
Applied RFID Tag	ISO15693, MIFARE, ISO14443 A/B*
Reading range	According to Tag : 0Cm ~ 5Cm (Internal or External)
ACCESSORIES*	
Gun Handle Grip (Pistol Grip)	Body, UHF / HF Available
Gun Handle Battery	Lithium-Ion 3.7V 5,200mAh (Rechargeable)*

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