PARTNER

MF-2351

All in One Mobile Terminal

User's Manual

ENGLISH

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Preface

Copyright

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Bluetooth and the Bluetooth logo are trademarks owned by Bluetooth SIG, Inc.

All other products use in this device and trademarks mentioned herein are trademarks or registered trademarks of the respective owners.

Safety Information

Read the following safety information before using the device.

SAR compliance for body-worn operations requires at least 0 cm of separation between the device and the user's body

Request service for damaged products: Turn off the product, unplug it from the electrical outlet, and request service from a service partner under the following conditions:

- The power cord or plug is damaged
- Liquid has been spilled into the product
- An object has fallen into the product
- The product has been exposed to rain or water
- The product has been dropped or damaged
- The product does not operate normally by following the instructions in the user’s manual

Avoid hot areas: The product should be placed away from heat sources such as radiators, heat registers, stoves, and other products (such as amplifiers) that produce heat.

Allow the product to cool: Allow the product to cool before removing covers and touching internal components.

Avoid wet areas: Never use the product in a wet location.

Avoid inserting objects into product: Never insert objects of any kind into slots or other openings in the product.

Clean the product properly: Unplug the product from the wall outlet before cleaning it. Do not use liquid cleaners or aerosol cleaners. Use a soft cloth dampened with water for cleaning exterior components, but NEVER apply water directly to the product or to an LCD screen.

Use the product with approved equipment: Use the product only with the computers and accessories identified as suitable for use with the product.

Adjust the volume: Turn down the volume before using headphones or other audio devices.

Device Storage

When device will not be used for a long period of time, please remove the battery, place product in a dry box, and store both device and battery in a cool, dark, and dry place.

Batteries in storage need to be recharged at least once every three months to avoid degradation.

Battery Handling Precautions

Do not attempt to disassemble or reconstruct the packs. The battery has integrated protection circuits and safety functions to avoid danger. If battery is damaged, it may rupture, generate heat, or cause smoke and flame.

Do not short circuit battery. Neither short connect the positive terminal and negative terminal with metals, nor carry or store the battery with metal objects. If the battery is short circuited, excessive large current will flow and generate heat, rupture or flame will occur, and also it will cause heat generation for metals. Please cover the plug with waterproof cap when not using the battery.

Do not incinerate or heat the battery. This will cause the insulator to melt, damage the gas release vent, and cause loss of safety function, or electrolyte ignition. Above mentioned matters will cause battery to rupture, generate heat, or cause smoke and flame.

Do not use near high temperature areas. Do not use or leave battery near fire, stove or heated areas of more than 80°C, to avoid melting of the polymer separator which would cause internal short circuits to occur in individual cells, and cause the battery to rupture, generate heat, or cause smoke and flame.

Do not immerse the battery in water, seawater, or get it wet. This may cause internal short circuits to occur within individual cells, and cause the battery to rupture, generate heat, or cause smoke and flame.

Do not charge battery near fire or under the blazing sun. If the battery protection circuit does not function properly due to high temperature, or it is broken, the battery will be charged at an abnormal current, and abnormal chemical reaction may occur, causing the battery to rupture, generate heat, or cause smoke and flame.

Only use the official product charger and observe the charging requirement. If the battery is charged in unusual conditions, it will cause loss of safety functions, or abnormal chemical reactions, causing the battery to rupture, generate heat, or cause smoke and flame.

Do not try to damage the battery. Do not drive a nail into the battery, strike it with a hammer, or tread on it. The impact will cause leakage, causing the battery to rupture, generate heat, or cause smoke and flame.

Do not operate the device while it is being charged. This may cause unforeseen damage.

Do not attempt to solder anything onto the battery. This will cause the insulator to melt due to heat, or cause the gas release vent to break, causing the battery to rupture, generate heat, or cause smoke and flame.

Do not connect battery to a plug socket or car-cigarette plug. Connecting high voltage to the battery, means excessive current will flow in it, and cause the battery to rupture, generate heat, or cause smoke and flame.

Do not use battery for powering other equipment. If the battery is used for powering other equipment, it will deteriorate its performance and cycle-life. At worst, abnormal current will flow, and cause the battery to rupture, generate heat, or cause smoke and flame.

Do not touch a leaked battery directly. If battery leaks and hands touch leaked electrolyte, wash your hands with soap immediately. If leaked electrolyte gets into your eyes, do not rub them, and wash eyes immediately with fresh water. Consult a doctor immediately.

Do not continue to charge over specified time. If the battery has not finished charging over recommended time, let it stop charging. There is a possibility that the battery might be defective, and continued charging may cause the battery to deform, generate heat, or cause smoke or flame.

Do not insert battery into a microwave or high pressure container. This may cause battery to deform, generate heat, or cause smoke or flame, because of sudden heat, intense pressure, or damage to the sealing condition of the battery.

Do not put leaked battery near fire. If liquid leaks from the battery, or the battery gives out a bad smell, do not leave battery near flammable objects. Otherwise, the electrolyte leaked from battery will catch on fire.

Do not use an abnormal battery. If battery has a bad smell, changes color, deforms, or causes something wrong during usage, remove it from equipment or charger, and do not use. If an abnormal battery is used, it may cause battery to rupture, generate heat, or cause smoke and flame.

Regulatory Statement

SAR Information

THIS MOBILE DEVICE MEETS GUIDELINES FOR EXPOSURE TO RADIO WAVES. Your mobile device is a radio transmitter and receiver. It is designed not to exceed the limits for exposure to radio waves recommended by international guidelines. These guidelines were developed by the independent scientific organization ICNIRP and include safety margins designed to assure the protection of all persons, regardless of age and health.

The exposure guidelines for mobile devices employ a unit of measurement known as the Specific Absorption Rate or SAR. The SAR limit stated in the ICNIRP guidelines is 2.0 W/kg averaged over 10 grams of tissue. Tests for SAR are conducted using standard operating positions with the device transmitting at its highest certified power level in all tested frequency bands. The actual SAR level of an operating device can be below the maximum value because the device is designed to use only the power required to reach the network. That amount changes depending on a number of factors such as how close you are to a network base station. The highest SAR value under the ICNIRP guidelines for use of the device at the body is 0.423 W/kg. Use of device accessories and enhancements may result in different SAR values. SAR values may vary depending on national reporting and testing requirements and the network band. The device could be used with a separation distance of 0 cm to the human body.

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation if this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user‘s authority to operate the equipment.

RF Exposure Information (SAR)

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. The exposure standard employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the EUT transmitting at the specified power level in different channels.

The highest SAR value for the device as reported to the FCC is 0.32 W/kg when placed next to the body.

The FCC has granted an Equipment Authorization for this device with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this device is on file with the FCC and can be found under the Display Grant section of www.fcc.gov/oet/ea/fccid after searching on FCC ID: NDPMF2351.

This device is compliance with SAR for general population /uncontrolled exposure limits in ANSI/IEEE C95.1-1999 and had been tested in accordance with the measurement methods and procedures specified in OET Bulletin 65 Supplement C.

WEEE Notice

The WEEE logo on the product or on its box indicates that this product must not be disposed of or dumped with your other household waste. You are liable to dispose of all your electronic or electrical waste equipment by relocating over to the specified collection point for recycling of such hazardous waste. Isolated collection and proper recovery of your electronic and electrical waste equipment at the time of disposal will allow us to help conserve natural resources. Moreover, proper recycling of the electronic and electrical waste equipment will ensure safety of human health and environment. For more information about electronic and electrical waste equipment disposal, recovery, and collection points, please contact your local city center, household waste disposal service, shop from where you purchased the equipment, or manufacturer of the equipment.

FCC Regulations

15.19(a)(3):

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

15.105(b):

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help

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About this Manual

The content in this manual is as accurate as possible. However, due to continuous product improvements, some contents and specifications may have been changed since this manual was written. In this case, take the actual device as basis.

No part of this user manual may be reproduced, transmitted, stored in a retrieval system, or translated into any language, in any form or by any means, without a written permission from the manufacturer.

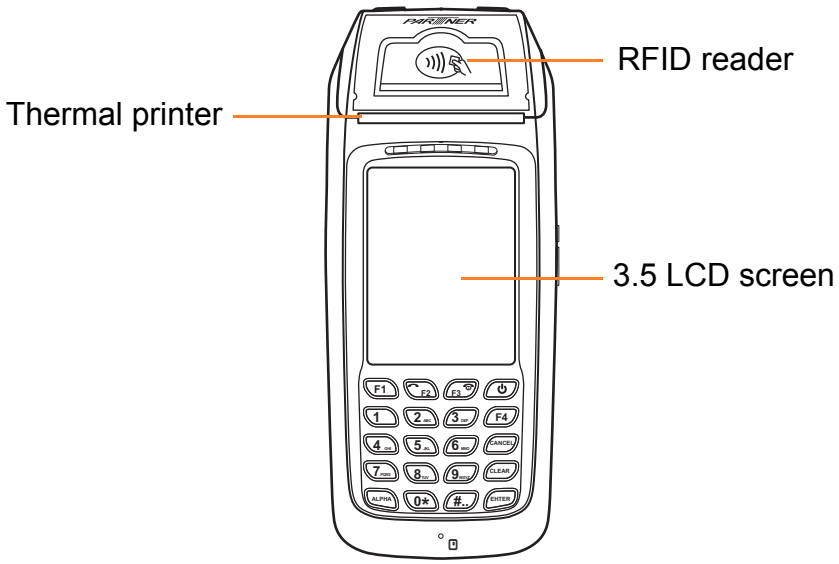
Information is subject to change without prior notice.

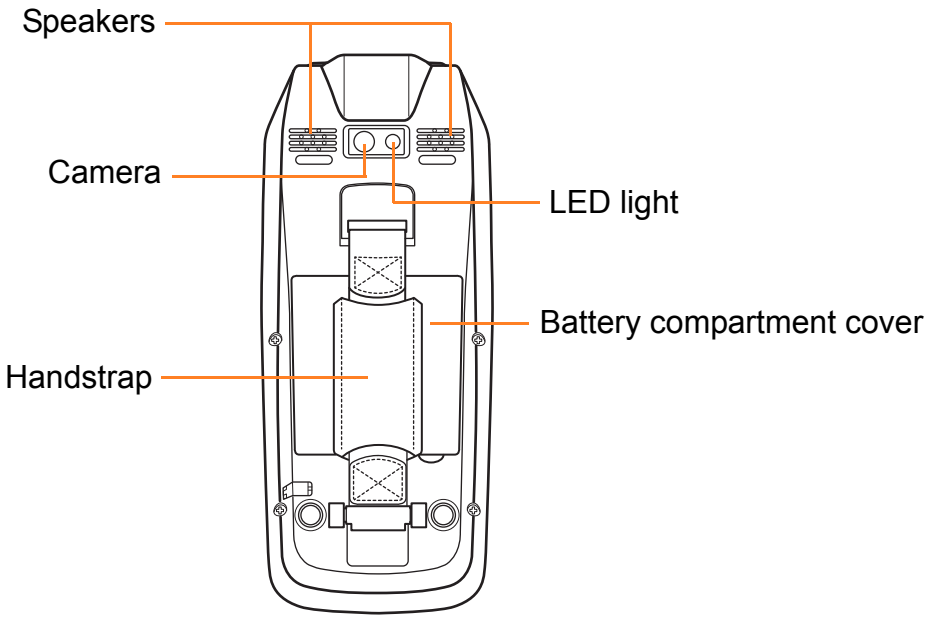
Introduction

MF-2351 is a handheld mobile terminal, offering high performance in a compact and slim full functional body. It includes a 2" thermal printer, wireless 802.11b/g, MSR (ISO7811 Track 1, 2, 3), and many optional functions such as barcode scanner, RFID, GPS, and Telecom standards (GPRS/WCDMA/CDMA2000).

Product Overview

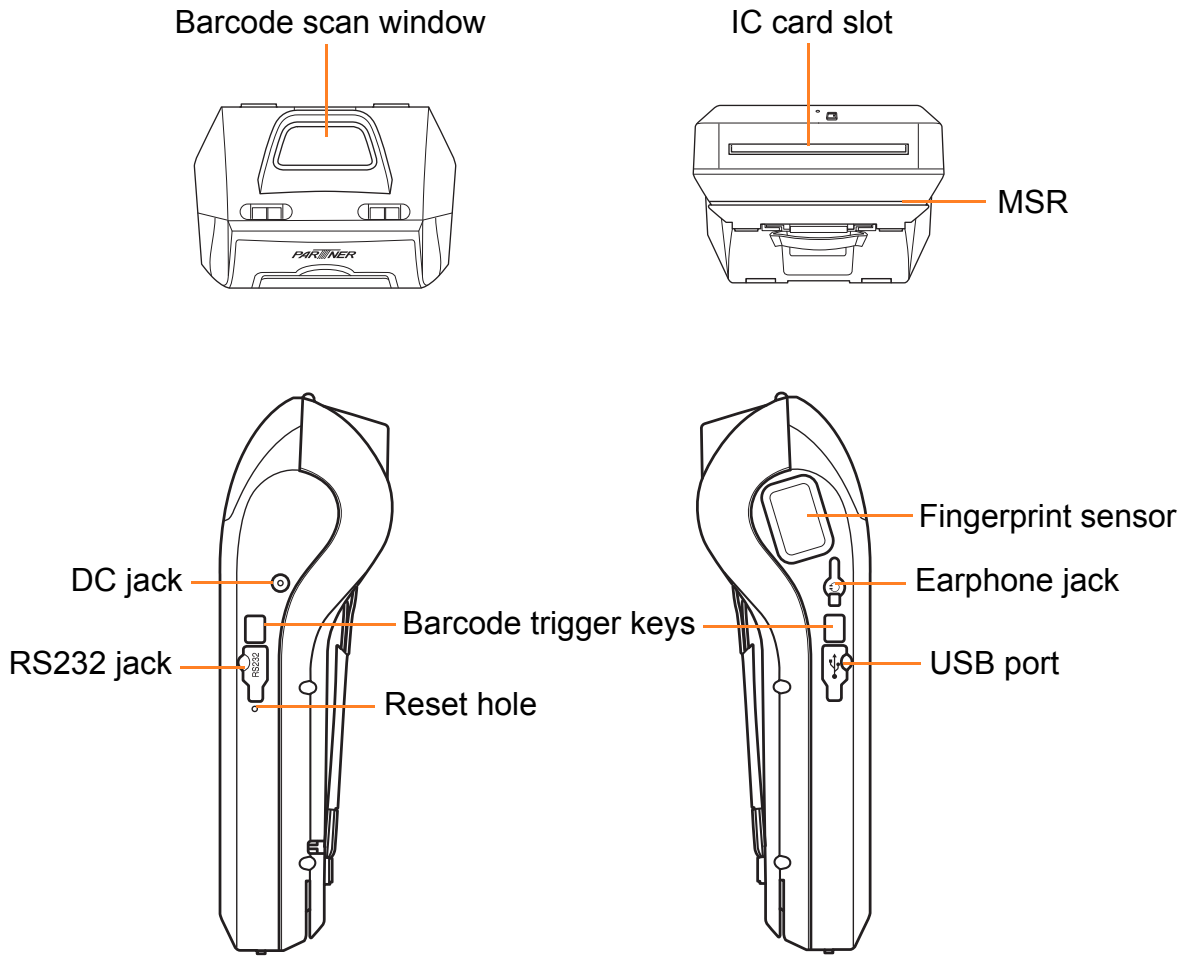
Front and Back





For more information, refer to “Specifications” on page 54 for details.

Top, Bottom, Left, and Right



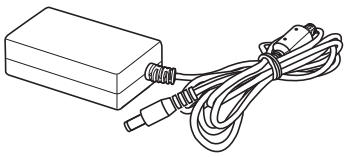
Features

This device includes the following features.

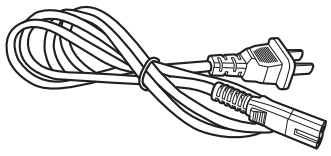
Standard Features	Optional Features
2” thermal printer	Barcode scanner 1D/2D
MSR ISO7811 Track 1, 2, 3 bi-directional	RFID ISO 14443 A/B
WLAN 802.11 b/g	GPRS/WCDMA/CDMA2000
microSD card reader	GPS
ISO7816-EMV2000 Level 1,2 IC card reader	Fingerprint sensor
3.1 megapixels autofocus camera	
DC jack, earphone+microphone jack, speaker, integrated microphone, vibrator motor, reset button	

Package Contents

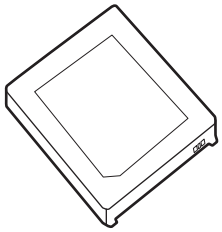
MF-2351 mobile terminal



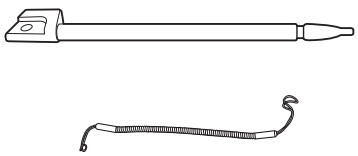
AC adaptor



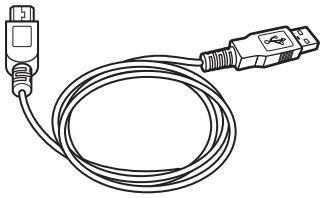
Power cord



Battery



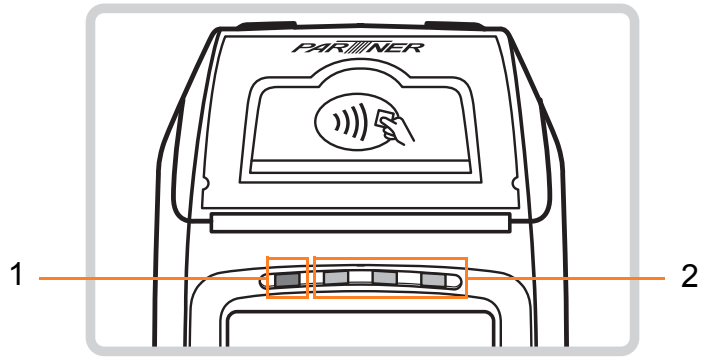
Stylus and strap



USB cable

LED Indicators

This device has four LED indicators.

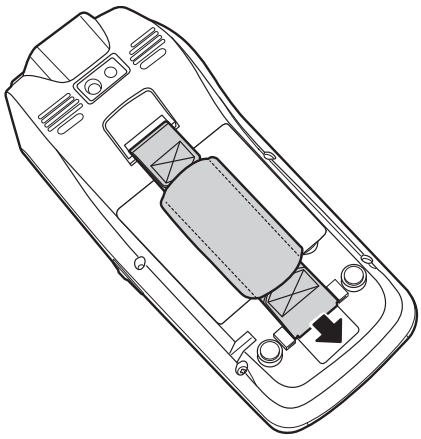


No.	Item	Description
1	Power LED	When the device is switched on: • Blinks Red when the battery is charging. • Lit Red when the battery is full. When the device is switched off: • Lit Red when the battery is charging. • The LED turns off when the battery is full.
2	Reserved LEDs	These 3 LEDs can be customized to suit your preferences. **NOTE:** Please contact the distributor for further details.

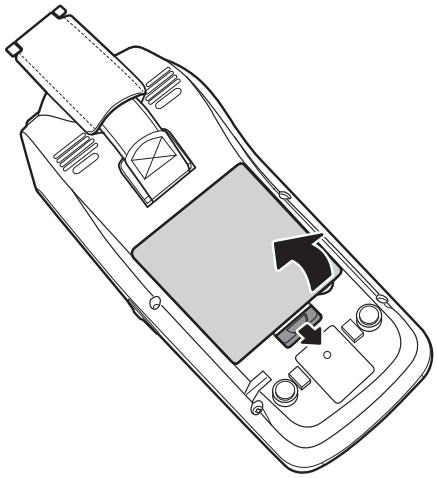
Getting Started

Installing the Battery

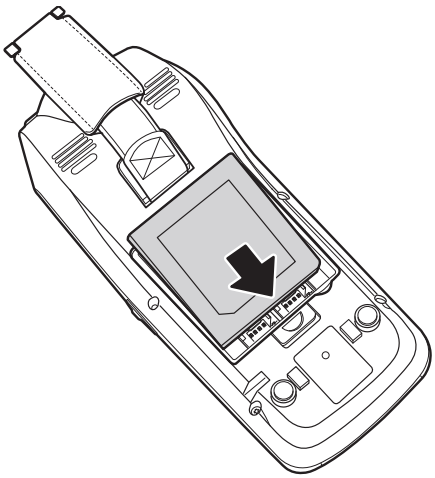
1. Move the center piece of the hand strap upwards. Release the strap by pulling the lower-end of the strap downward. Release the strap. Pull the lower-end of the strap downward.



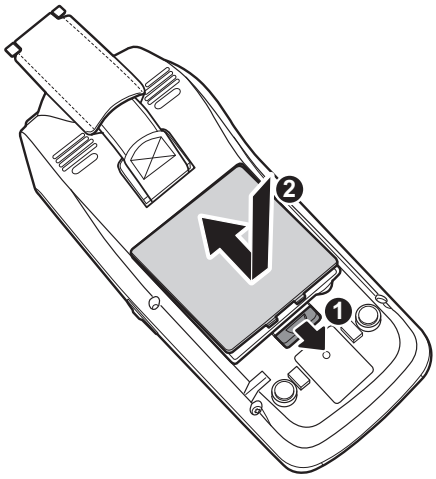
2. Pull down the battery latch and open the cover.



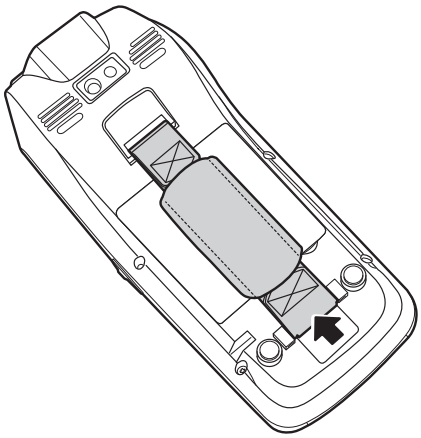
3. Insert the battery. Re-orient the battery contact side to the bottom. Push the battery down until it clicks into place.



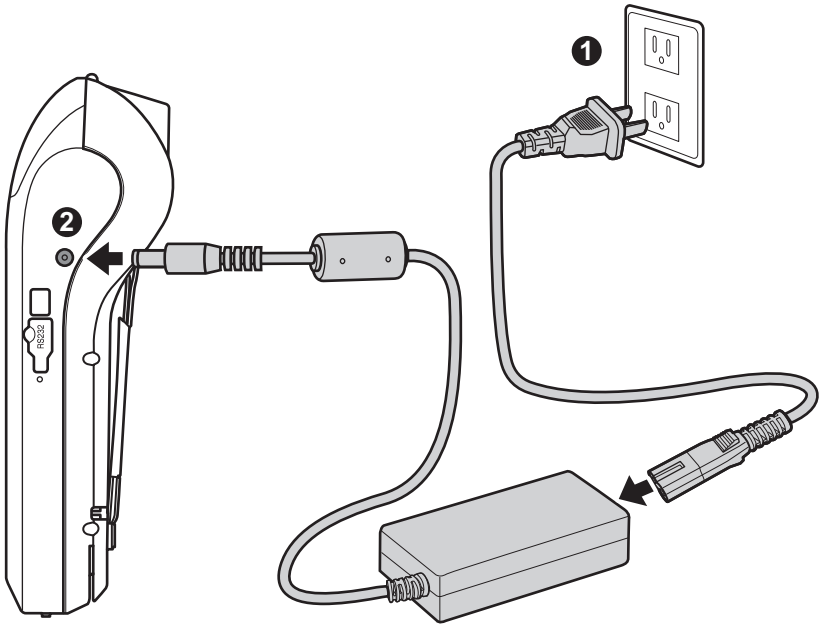
4. Pull down the battery latch and replace the cover.



5. Replace the hand strap.



Charging the Battery



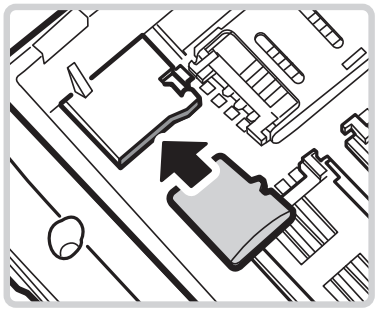
1. Connect the adapter and power connector.
2. Plug the power cord to a power outlet.
3. Plug the adapter into the DC jack, located at the right side of the device.

The Power LED indicator, refer to “LED Indicators” on page 10 for details.

Installing the Memory Card

The device internal space storage can be used to store user files such as snapshots from the camera module and various applications. This storage can be expanded with a microSD memory card sized up to 32GB.

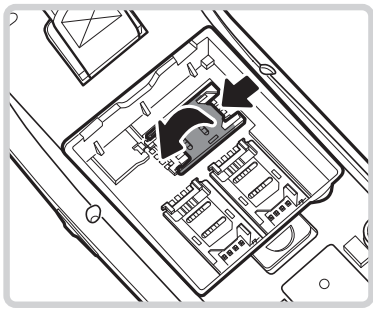
1. Open the battery compartment cover and remove the battery.
2. Insert the card into the memory card slot with contact side facing down, push it until it clicks into place.
3. Insert the battery and replace the battery compartment cover.



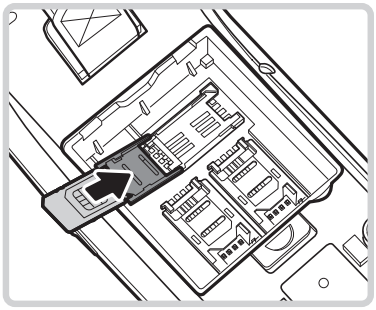
Installing the SIM Card

The device is equipped with a SIM card slot. SIM card is required for internet access.

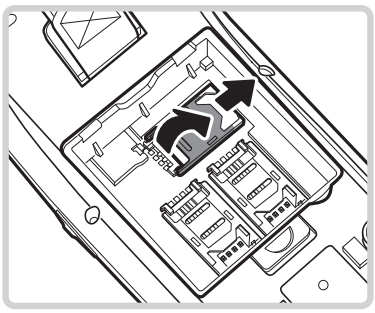
1. Open the battery compartment cover and remove the battery.
2. Lift the SIM card slot upward.



3. Slide the SIM card into the slot.



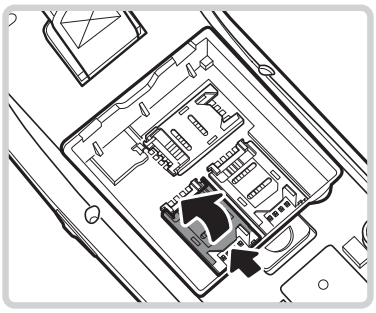
4. Gently place down the SIM card slot and push right until it clicks into place.
5. Insert the battery and replace the battery compartment cover.



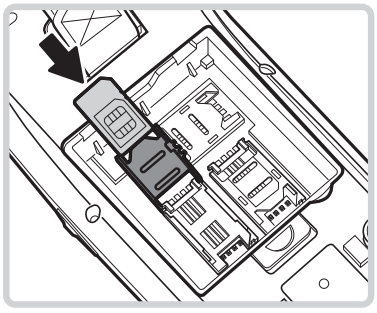
Installing the SAM Card(s)

Secure Access Module card is used for authentication purposes. It is commonly needed by devices performing secure transactions and payment applications.

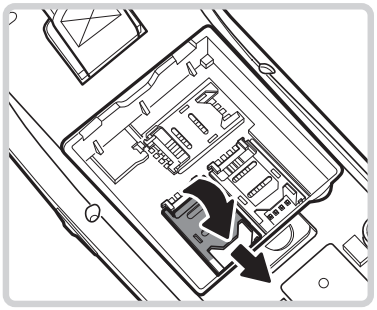
1. Open the battery compartment cover and remove the battery.
2. Lift the SAM card slot upward.



3. Slide the SAM card into the slot.



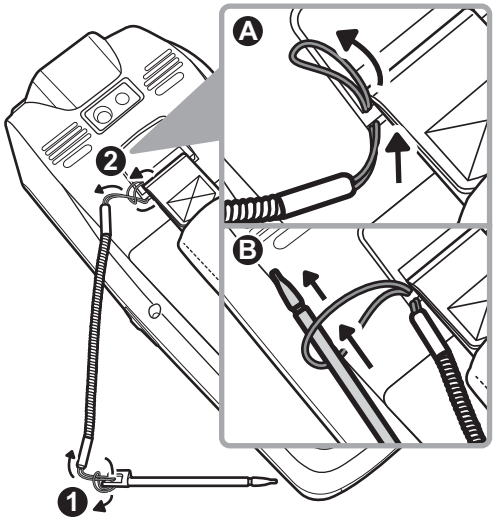
4. Gently place down the SAM card slot. Push to lock the slot.
5. Insert the battery and replace the battery compartment cover.



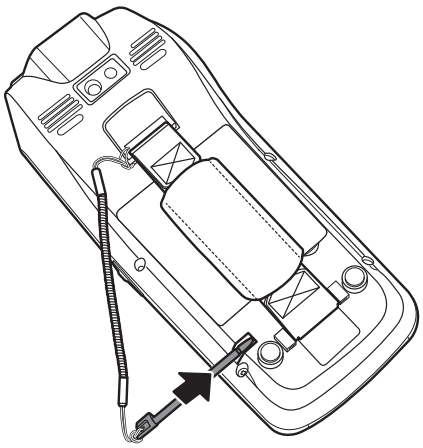
Attaching the Stylus

The stylus is the standard input tool to interact with the touch screen.

1. Fasten one end of the stylus strap to the stylus.
2. Fasten the other end of the stylus strap to the handstrap eyelet.



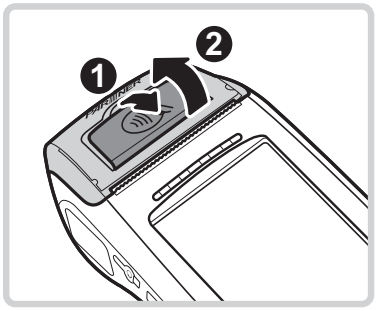
3. Insert the stylus into its slot when not in use.



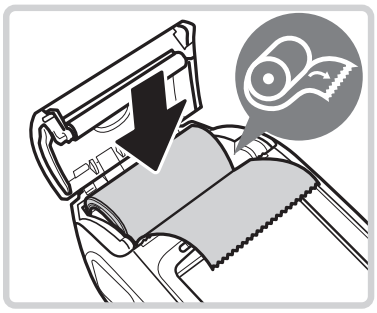
Installing the Paper Roll

The thermal printer module provides a means to print out data from applications.

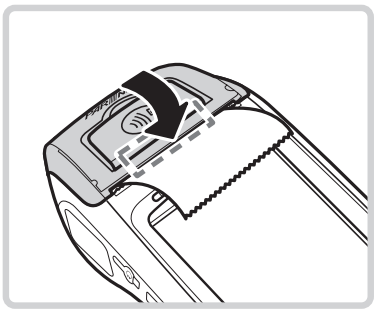
1. Carefully pull up the printer lever to open the printer cover.



2. Insert the paper roll into place as shown in the illustration.



3. Close the cover firmly. The easiest way to close the cover, press the printer lever at the marked area as shown in the illustration.



ENGLISH

Using the Terminal

Powering the Device On/Off

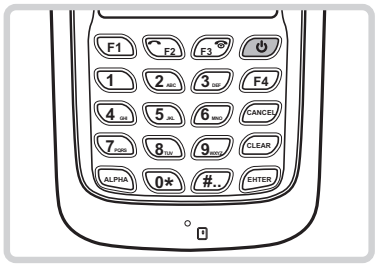
The device has three different power states: Off, Standby, and On.

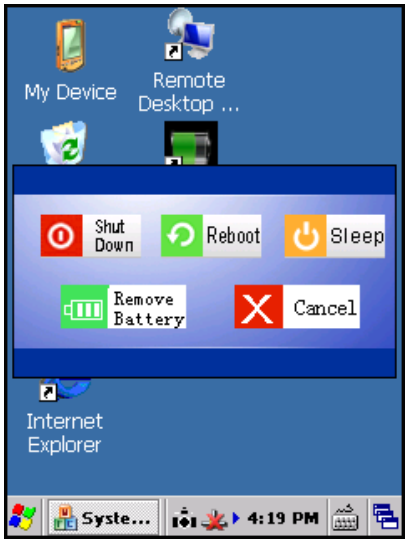
Refer to the table below on how to power on/off, enter **standby** mode, and wake-up from **standby** mode.

Power state	Procedure
Off → On	Press and hold **power** button for 3 seconds.
On → Off	Press and hold **power** button for 3 seconds. A dialog box appears and tap **Shutdown** to turn off the device.
On → Standby	Press **power** button.
Standby → On	Press **power** button.

Press and hold **power** button for 3 seconds.

A dialog box appears on the screen.





- **Shutdown**: Select to turn off the device.
- **Reboot**: Select to restart the operating system and clear the memory.
- **Sleep**: Select to switch the device status into **hibernate** mode and keep the memory state intact. The next power up will be faster compared to a reboot.
- **Remove Battery**: Select to switch the battery when the main battery power is critically low. The device enters **hibernate** mode and replace the new battery to resume operation.
- **Cancel**: Select to close the dialog box and return to normal operation.

Enabling Backup Battery

Backup battery is used to maintain **standby** mode data when main battery is empty or removed.

Backup battery can keep the information for 3 minutes.

Charging of the backup battery is automatically done via AC adaptor, or when main battery is present.

Hot Swap Main Battery

When backup battery is enabled, hot swap of the main battery is possible.

To perform the hot swap procedure:

1. Press and hold **power** button, then tap **Remove Battery** on the screen, or tap **Remove Battery** icon (

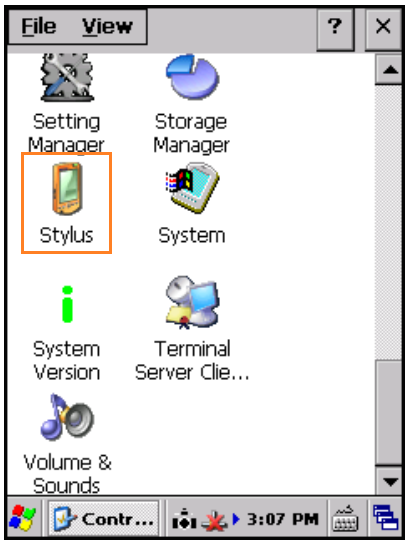
) directly on the desktop.
   The device enters **suspend** mode.
2. Switch the batteries by taking the main battery out of the battery compartment and inserting a newly charged battery into the device. Replace the battery compartment cover.
3. Press **power** button and wait for 2 seconds for the device to wake up.

Initial Setup

Calibrating the Touch Screen

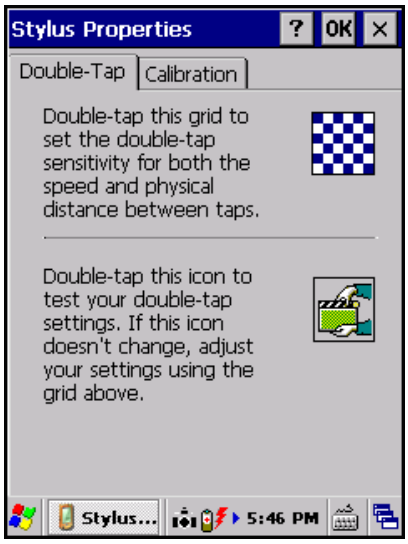
For first time use, the touch screen needs a calibration to match its input sensor with a particular stylus or any other tapping tool. It can be repeated many times as necessary whenever the tapping is becoming inaccurate.

1. Tap **Start** > **Settings** > **Control Panel**.
2. Double-tap **Stylus**.



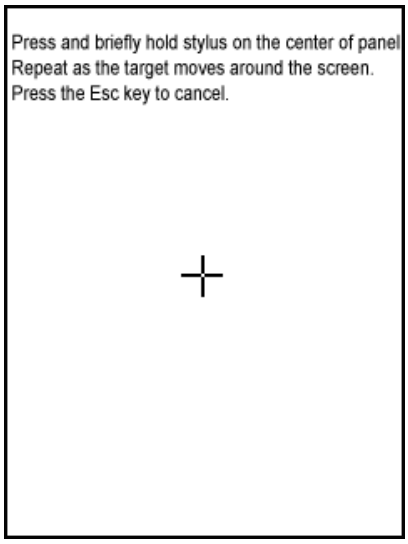
3. Double-tap on the grid ( ) to calibrate the double-tap sensitivity.

   Double-tap the icon to test the setting.

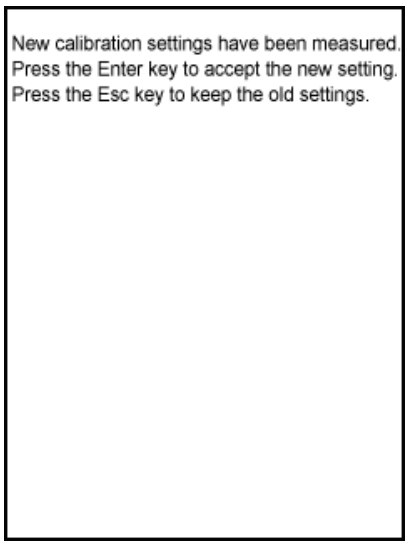


4. Tap **Calibration** tab to calibrate the screen.
5. To start the recalibration process, tap **Recalibrate**.

6. Using the stylus, tap the center of each target as it moves around the screen.



7. Press **Enter** to accept new settings or press **Esc** to keep the old settings.

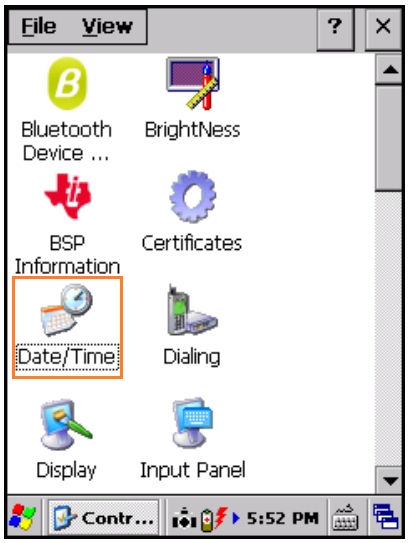


Setting the Date and Time

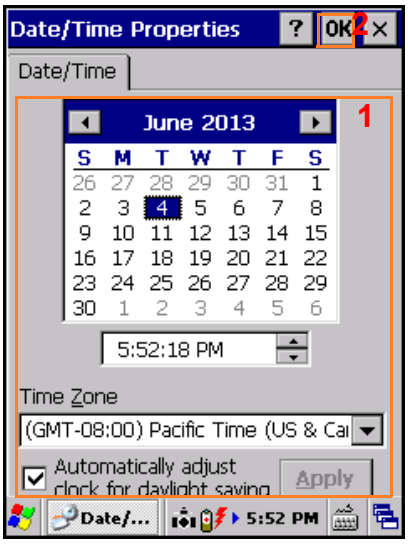
Adjust the date and time of the device to ensure accurate operation. The time zone can also be set accordingly.

To set the date and time:

1. Tap **Start** > **Settings** > **Control Panel.**
2. Double-tap **Date/Time**.



3. Set the date and time accordingly.
4. Tap **OK** to save the changes.

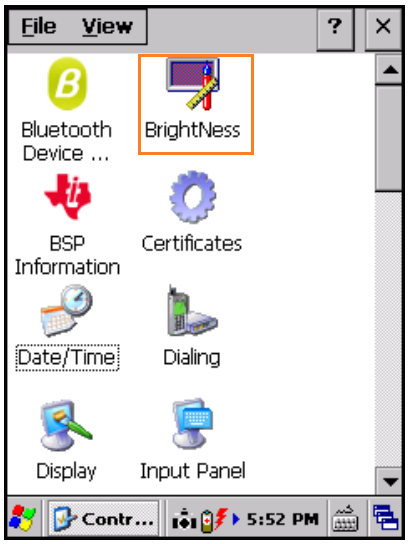


Adjusting the Screen Brightness

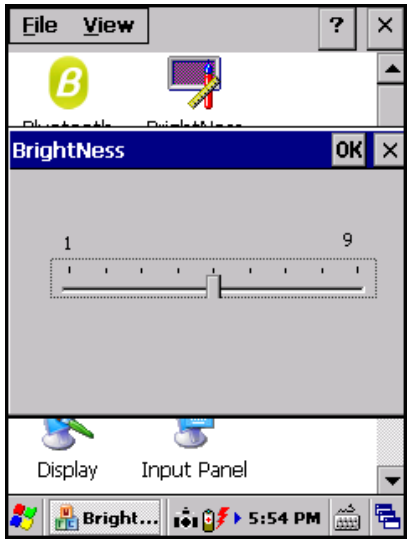
The screen brightness can be adjusted to suit the environment.

To adjust the screen brightness:

1. Tap **Start** > **Settings** > **Control Panel.**
2. Double-tap **BrightNess**.



3. Drag the slider to adjust the brightness setting.
4. Tap **OK** to save changes.



Configuring the Taskbar and Start Menu

Set the visual response and setting of the taskbar.

Tap **Start** > **Settings** > **Taskbar and Start Menu**.

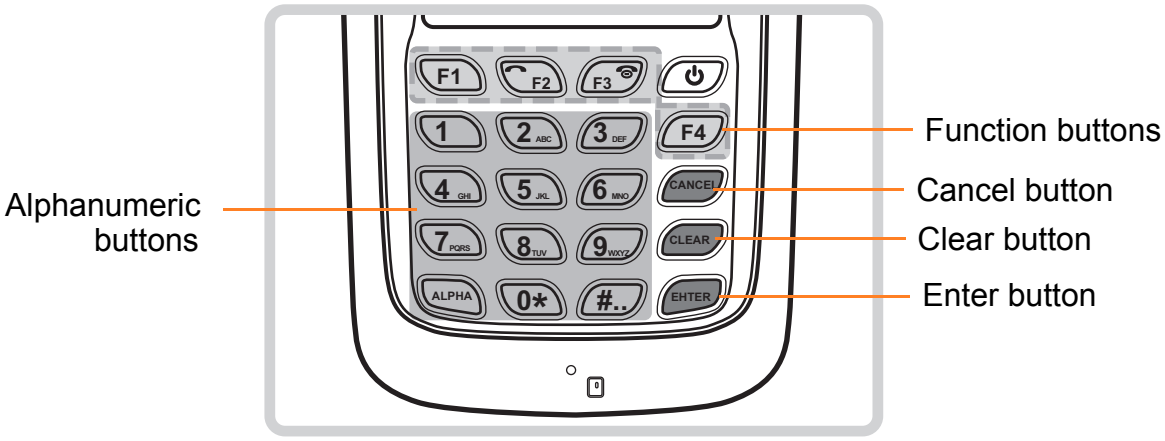
Available options are '**Always on top**', '**Auto hide**', and '**Show Clock**'.

- **Always on top**: Check the box to display the taskbar all the time. If disabled, running an application may block the taskbar.
- **Auto hide**: Check the box to hide the taskbar from view.
- **Show Clock**: Check the box to display the clock at the lower right corner.

Tap **OK** to save changes.

Using the Keypad

The keypad consists of numeric buttons 0-9, four function keys, Cancel, Clear, Alpha, #, and Enter buttons.



- **Function buttons**: Press to launch an application assigned to the respective button.
- **Cancel button**: Press to cancel current input.
- **Clear button**: Press to move the cursor left one character and erase any text.
- **Enter button**: Press to confirm and submit current input.
- **Alphanumeric buttons**: Press to input numbers. Press **ALPHA** once to input the letters. Press **ALPHA** again to input capital letters.

Using the Stylus

Using the stylus, tap and double-tap anywhere on the display.

Right click is emulated by holding the stylus tip, indicated by a dotted circle on the screen. Hold it until the circle is completed.

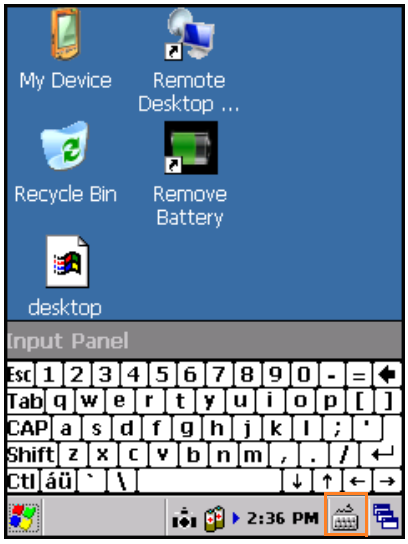
There are two modes of operation for the stylus: Keyboard and Transcriber.

Keyboard Mode

In **keyboard** mode, a mini keyboard will be displayed at the bottom of the screen. Typing is simply done by tapping the character on the mini keyboard.

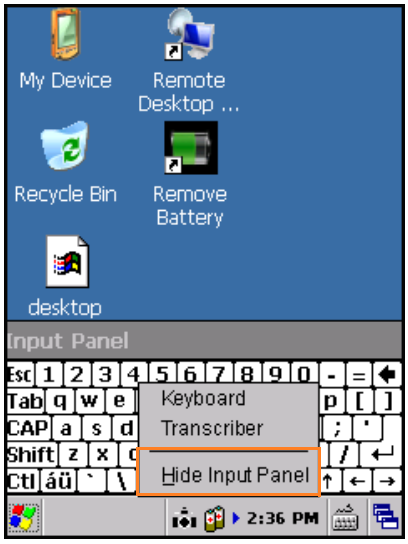
To activate this mode:

1. Tap the **Keyboard** icon ( ) on the taskbar.
2. Tap **Keyboard**.



To hide the input panel:

1. Tap the **Keyboard** icon ( ) on the taskbar.
2. Select **Hide Input Panel**.

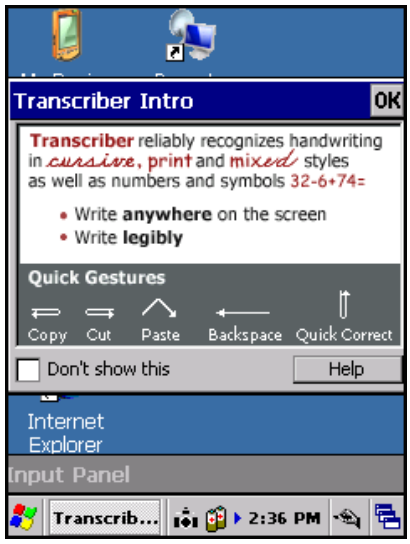


Transcriber Mode

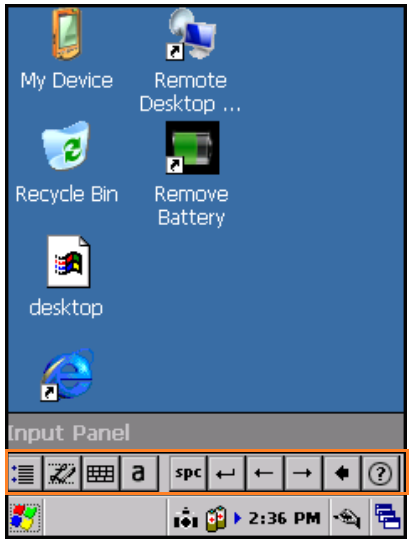
In **transcriber** mode, user can use the stylus to gesture handwriting directly on the screen.

To activate this mode:

1. Tap the **Keyboard** icon ( ) on the taskbar.
2. Tap **Transcriber**. A **Transcriber Intro** dialog box appears on the screen.

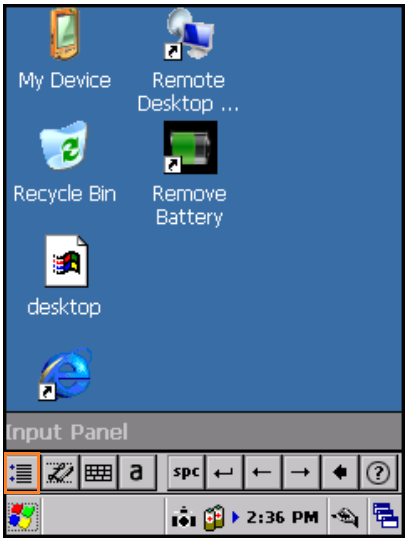


3. Tap **OK** to close the dialog box. The shortcut icons appear on the bottom of the screen.



Options

To configure the writing direction, inking, and shorthand, tap the **Option** icon ( ) and tap the respective tab to change the necessary settings.



- **Quick Settings** tab

  In *Writing Direction*, select a direction that represents the angle in the recognition process.

  - : Select to use the normal writing style.
  - : Select to use the writing style that slants up to the right.
  - : Select to use the writing style that slants down to the left.
  - : Select to use the writing style that depends on the screen orientation.

  Check **Intro screen** box to display the intro screen every time the **transcriber** mode is activated.

  Check **Sound** box to play the sound cue.

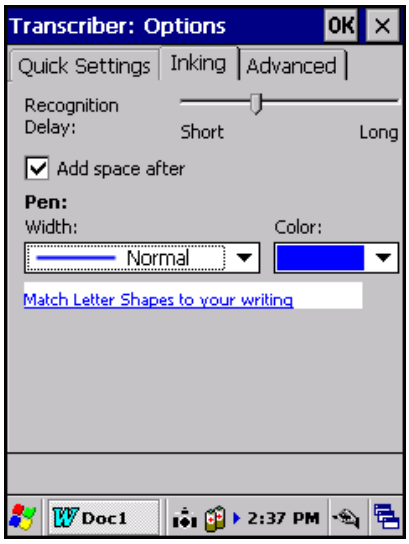
- **Inking** tab

  In *Recognition Delay*, drag the slider to set the delay for handwriting recognition.

  Check **Add space after** box to automatically add a space after recognition.

  In *Pen*, set the width and color of ink to be displayed on the screen during handwriting input.

  Tap ▼ to show more options.



- **Advanced** tab

  In *Shorthand*, tap **Settings** to create shortcuts to speed up your writing. When a short word is typed, Transcriber will automaticaly expand into a longer word.

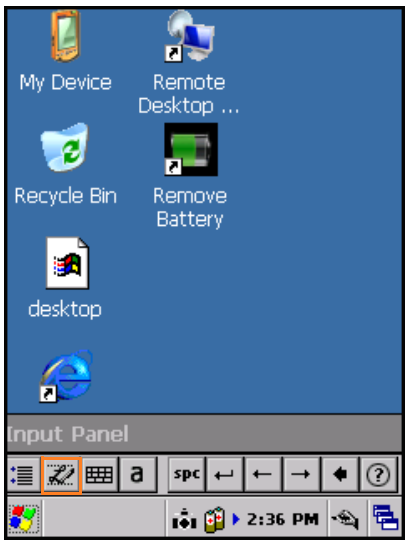
  In *Dictionaries*, tap **Settings** to add specialized dictionaries such as special terms used in medical, legal, or other professional fields.

Letter Shape Selector

To fine-tune the writing recognition to match a certain handwriting style and shorten the recognition process, and shorthand, tap the **Letter Shape Selector** icon ( ).

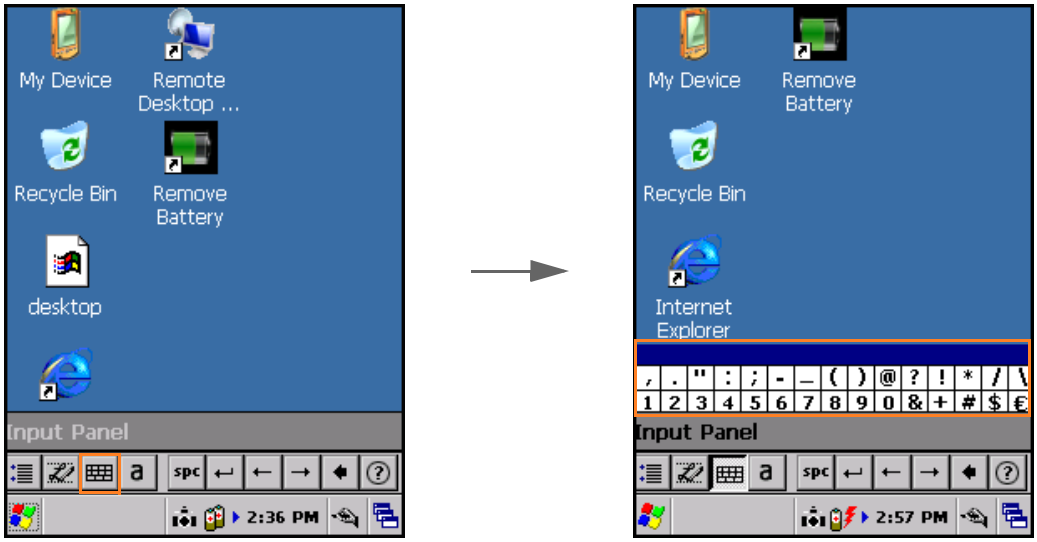
- To open a LSS (Letter Shape Selector) file, tap **File** > **Open**. Select the desired file and tap **OK**.
- To store the current profile, tap **File** > **Save**. Select the folder to store the profile. Then enter the profile name and specify the file type. Tap **OK** when finished.

NOTE: The default file type is “*.LSS”.



Mini Keyboard

To display the mini keyboard that allows quick input of numbers, punctuation, and other symbols, tap the **Mini Keyboard** icon ( ).



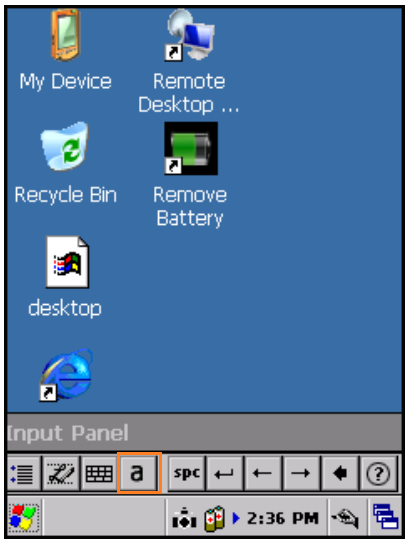
Recognition Mode

Freeform handwriting input method can be used as an alternative to the usual keyboard tapping. The device will recognize any character written with the stylus directly on the touch screen.

Tap the **Recognition Mode** icon (a) repeatedly to switch between modes.

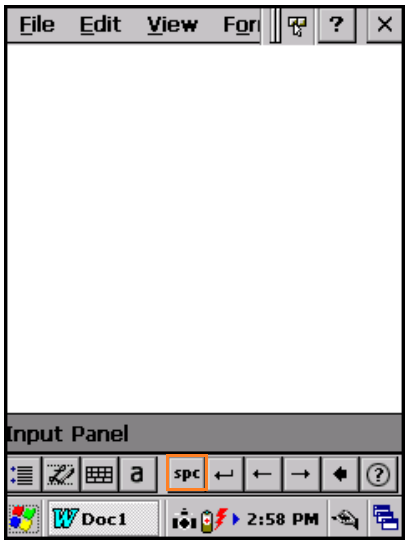
Available modes are:

- **a** (alpha mode): The optimum method for handwriting recognition.
- **123** (numeric mode): Numerals and some letters are allowed in this mode.
- **A** (uppercase mode): Automatically capitalizes all letters from input data.



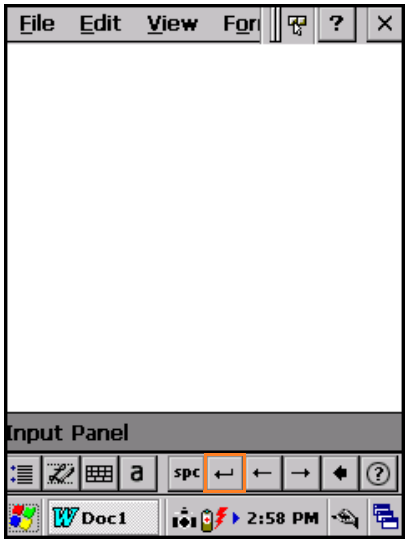
Space

To insert a space at the cursor position, tap the **Space** icon (spc).



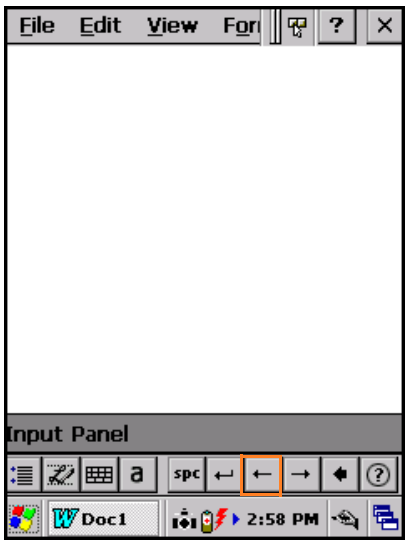
Enter

To insert a return character at the cursor position, tap the **Enter** icon (↵).



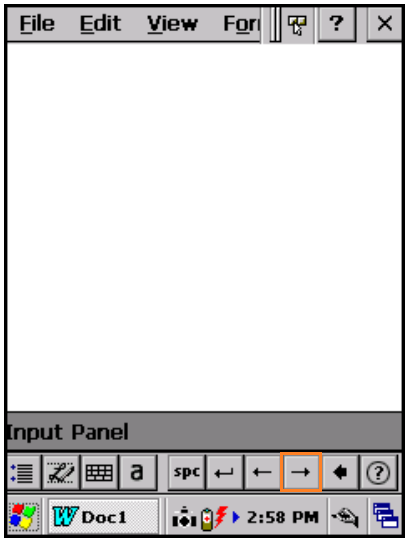
Left Arrow

To move the cursor one space to the left of the cursor position, tap the **Left Arrow** icon (←).



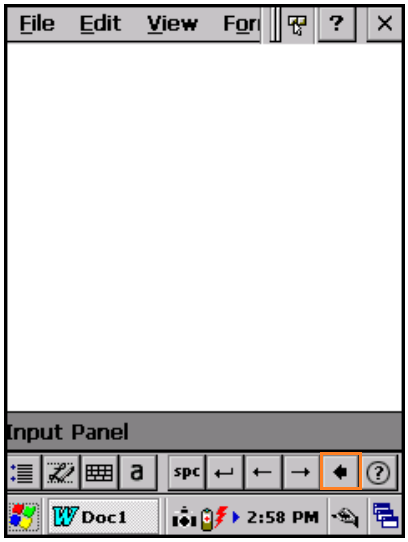
Right Arrow

To move the cursor one space to the right of the cursor position, tap the **Right Arrow** icon (→).



Backspace

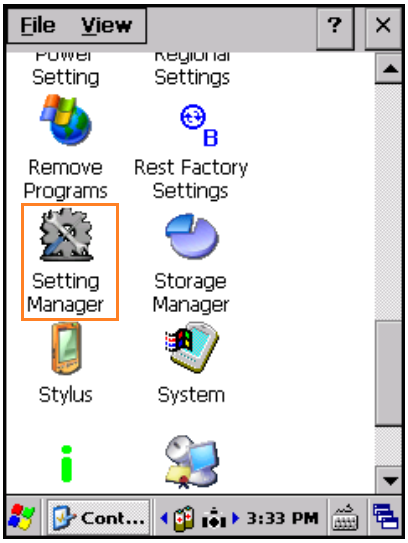
To move the cursor one space back and erase any character, tap the **Backspace** icon (←).



Configuring Utilities Settings

This device comes with several utility programs that can be used to test and configure the modules settings.

To access this utility, tap **Start** > **Settings** > **Control Panel** > **Setting Manager**.



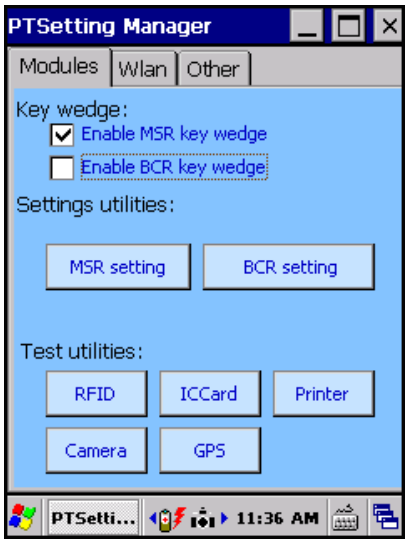
Modules Tab

MSR

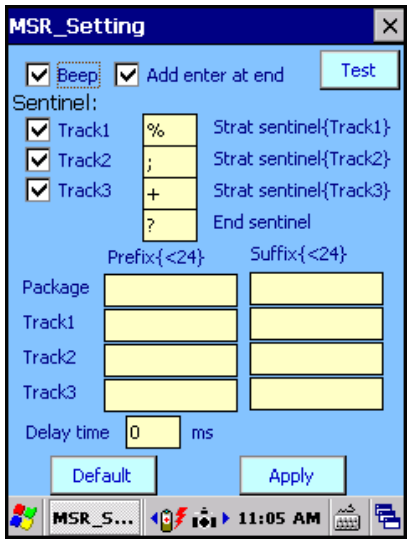
The Magnetic Stripe Reader module supports track 1, 2, and 3 covering all possible recording methods currently in use.

On the Setting Manager screen, tap **Modules** tab.

- In *Key Wedge*, check **Enable MSR key wedge** box to send the reading result from MSR module to the currently active application.



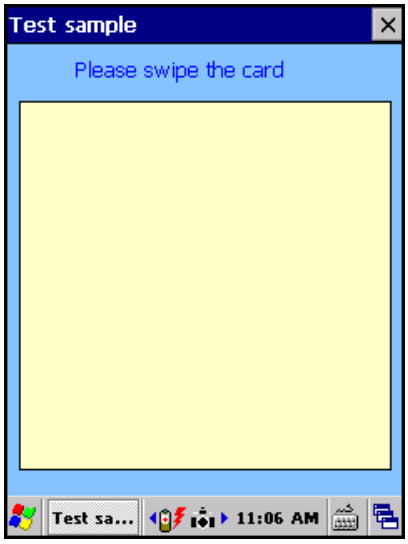
- Tap **MSR setting** in Settings Utilities to open MSR setting menu, do the following to configure MSR module settings:
  - Tap **Test** to test the MSR module.
  - Check **Beep** box to enable a beep sound when a data is read (after swiping a magnetic card).
  - Check **Add enter at end** box to automatically go to the next line after a data is read.
  - In Sentinel, check the desired track box and enter a symbol to mark the start sentinel for each track and the end sentinel.
  - In *Prefix*/*Suffix*, type a prefix / suffix to add at the beginning / ending of a 3-track data.
  - Tap **Default** to reset the configurations back to the factory default.



  - Tap **Apply** and **OK** to save the current configurations for the MSR module.

Testing the MSR Module

1. Tap **MSR setting** > **Test** to open the swipe test screen.
2. Swipe a magnetic stripe card with the magnetic stripe facing up through the MSR module.
3. Data appears on the screen if test is successful.

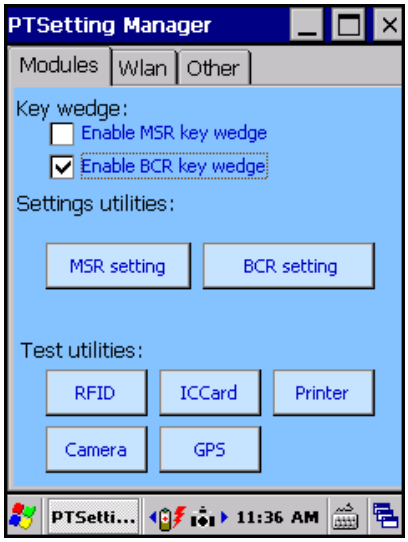


Barcode Scanner

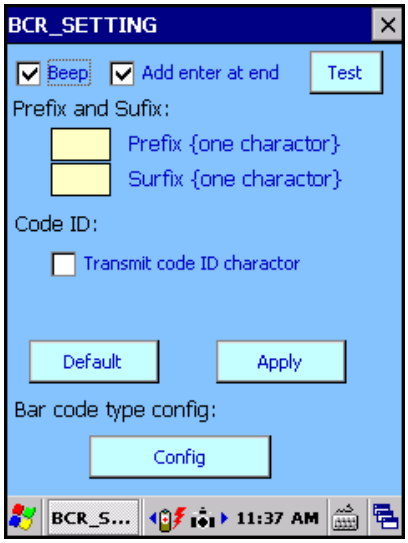
This device is equipped with a barcode scanner module which supports many of the popular barcode formats currently used worldwide.

On the Setting Manager screen, tap **Modules** tab.

- In *Key Wedge*, check **Enable BCR key wedge** box to send the reading result from barcode module to the currently active application.



- Tap **BCR setting** to open barcode setting menu, do the following to configure barcode module settings:
  - Tap **Test** to test the barcode module.
  - Check **Beep** box to enable a beep sound when a barcode is read.
  - Check **Add enter at end** box to automatically go to the next line after a barcode is read.
  - In *Prefix*, type to add a prefix at the beginning of a barcode
  - In *Suffix*, type to add a suffix at the end of a barcode.
  - In *Code ID*, check the box to transmit the code ID character.
  - Tap **Config** to select the type of barcode to read.
  - Tap **Default** to reset the configuration to factory setting.
  - Tap **Apply** to save the current configuration.

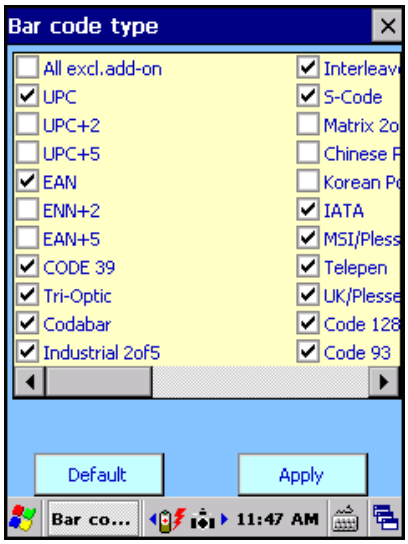


Selecting the Barcode Type

If necessary, set the type of barcodes to scan. To do this, perform the following:

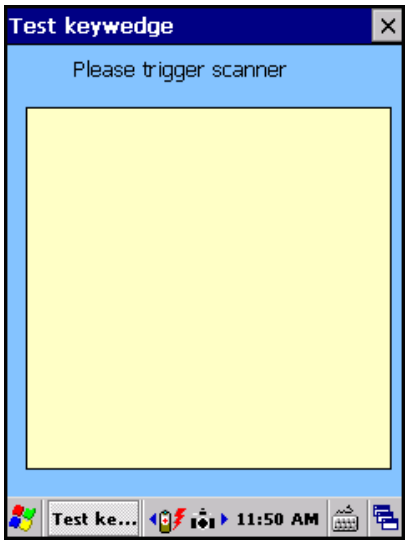
1. On the Setting Manager screen, tap **Modules** tab.
2. Tap **BCR setting** > **Config** to open the barcode type screen.
3. Check the desired barcode box.
4. Tap **Apply** to save the current setting.

   Tap **Default** to reset the configuration to factory setting.

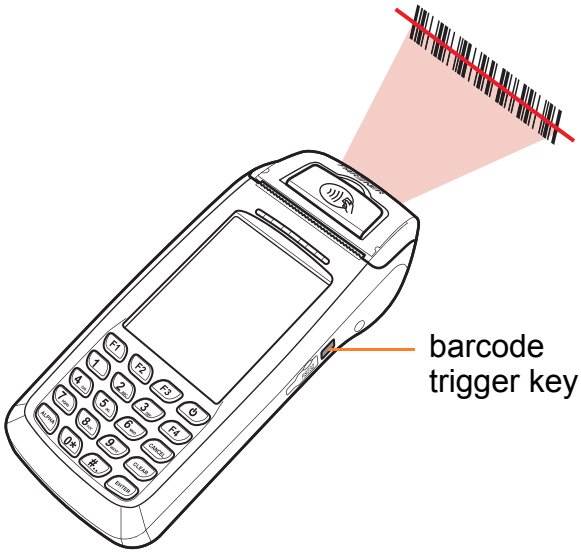


Testing the 1D Barcode Scanner Module

1. On the Setting Manager screen, tap **Modules** tab.
2. Tap **BCR setting** > **Test** to open the scanner test screen.



3. Press and release the **Barcode Trigger** key on the right.
4. Aim the scanning beam at a barcode.

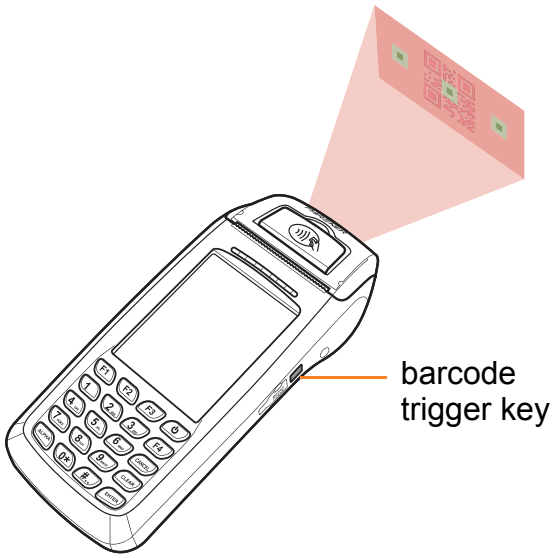


NOTE: The ideal distance between a barcode and its reader is 7cm.

5. The scanned data appears on the screen if test is successful.

Testing the 2D Barcode Scanner Module

1. On the Setting Manager screen, tap **Modules** tab.
2. Tap **BCR setting** > **Test** to open the scanner test screen.
3. Press and hold the **Barcode Trigger** key on the right.
4. Aim the scanning beam at a barcode.



NOTE: The ideal distance between a barcode and its reader is 7cm.

5. The scanned data appears on the screen if test is successful.
6. Release the **Barcode Trigger** key.

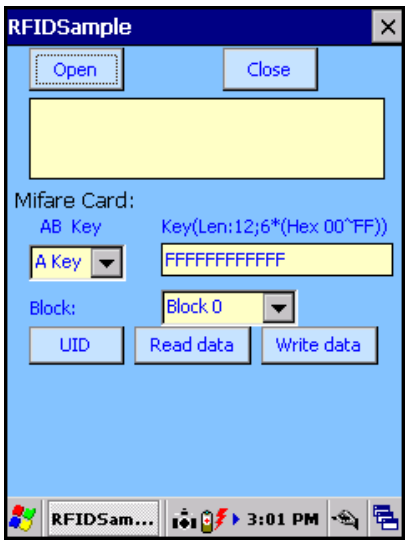
RFID

The RFID (Radio Frequency Identification) Reader module complies with the ISO 14443 A/B standard.

NOTE: The following on-screen image is for demo purpose only. Actual screen may vary depending on the RFID card specifications.

On the Setting Manager screen, tap **Modules** tab.

- Tap **RFID** to open RFID setting menu, do the following to configure RFID module settings:
  - Tap **Open** to start the RFID reader operation.
  - Tap **Close** to end the RFID reader operation.
  - In *AB Key*, choose the type of key to access between A and B for Mifare cards.
  - In *Key*, enter the key value (in Hex format).
  - In *Block*, select the block to access.
  - Tap **UID** to scan the RFID tag identification.



Testing RFID Read/Write Tag

To read data, perform the following:

1. In *Block*, choose the block of key to read.
2. In *AB Key*, choose the type of key to read.
3. Tap **Read**. The store data is displayed on the dialog box.

To write data, perform the following:

1. In *Block*, choose the block of key to write.

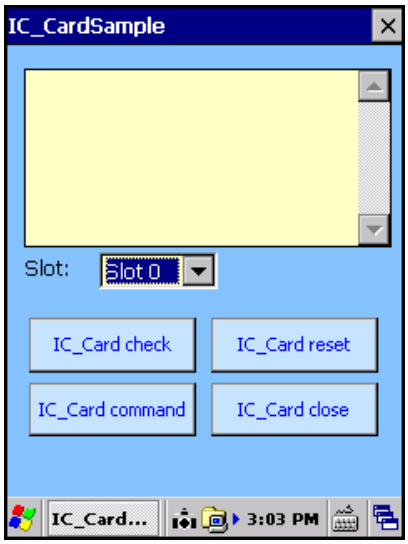
   NOTE: Take note that some blocks cannot be modified. Check the RFID tag specifications for more information.
2. In *AB Key*, choose the type of key to write.
3. Tap the **Key** box and type the date to store on the key.
4. Close the on-screen keyboard.
5. Tap **Write** to save data.

IC Card Reader

The IC Card Reader module complies with ISO7816-EMV2000 Level 1 and 2.

On the Setting Manager screen, tap **Modules** tab.

- Tap **ICCard** to open IC Card setting menu, do the following to configure IC Card module settings:
  - In *Slot*, choose the slot to access.
  - Tap **IC Card check** to check the selected IC card. The result will be displayed on the dialog box.
  - Tap **IC Card reset** to reset the selected IC card.
  - Tap **IC Card command** to send command to IC card for various tasks specific to the selected IC card. The results will be displayed on the dialog box.
  - Tap **IC Card close** to close the access to the currently selected IC card.



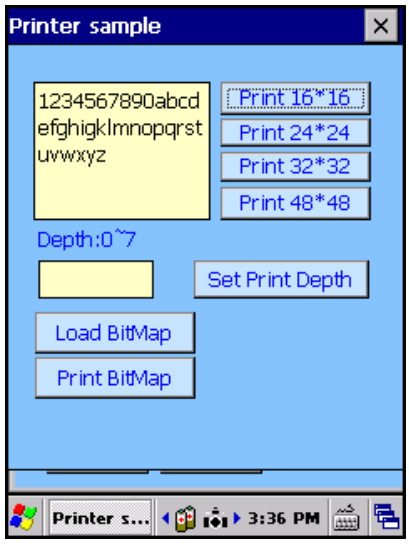
Printer

Printer sample utility program controls the thermal printer module.

Before starting any printing test, be sure to install a paper roll into the device. Refer to “Installing the Paper Roll” on page 17 for further details.

On the Setting Manager screen, tap **Modules** tab.

- Tap **Printer** to open Printer setting menu, do the following to configure Printer module settings:
  - Tap **Print 16*16**, **Print 24*24**, **Print 32*32**, or **Print 48*48** to set the printout density.
  - In *Depth*, type in the desired print-head depth in the field, then tap **Set Print Depth**. This will affect the printout saturation.
  - Tap **Load Bitmap** to prepare a bitmap file.
  - Tap **Print Bitmap** to print a bitmap file.

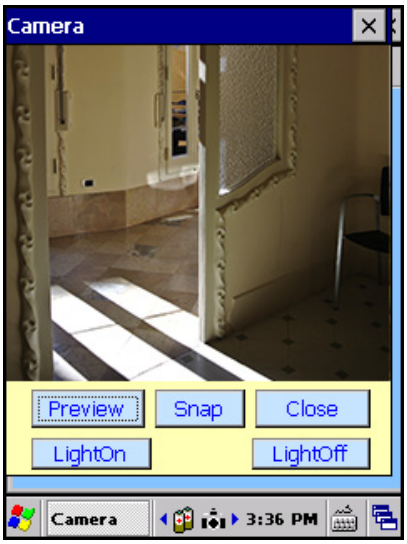


Camera

This device is equipped with a 3.1 Megapixels rear camera to take photos.

On the Setting Manager screen, tap **Modules** tab.

- Tap **Camera** to open Camera setting menu, perform the following to take a photo or configure Camera module settings:
  - Tap **Preview** to display the preview screen.
  - Tap **Snap** to take a snapshot.
  - Tap **Close** to close the camera window and return to the Setting Manager.
  - Tap **LightOn** to turn on the LED light to provide additional lighting in darker ambience.
  - Tap **LightOff** to turn off the LED light.

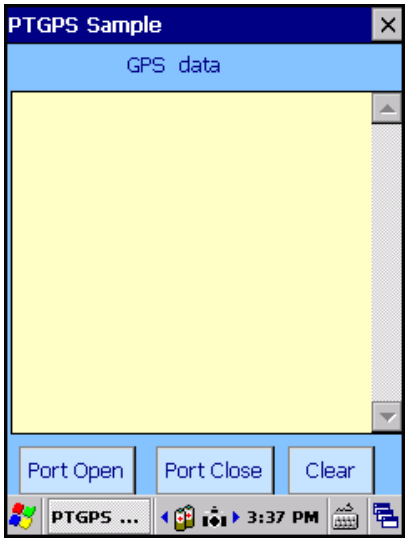


GPS

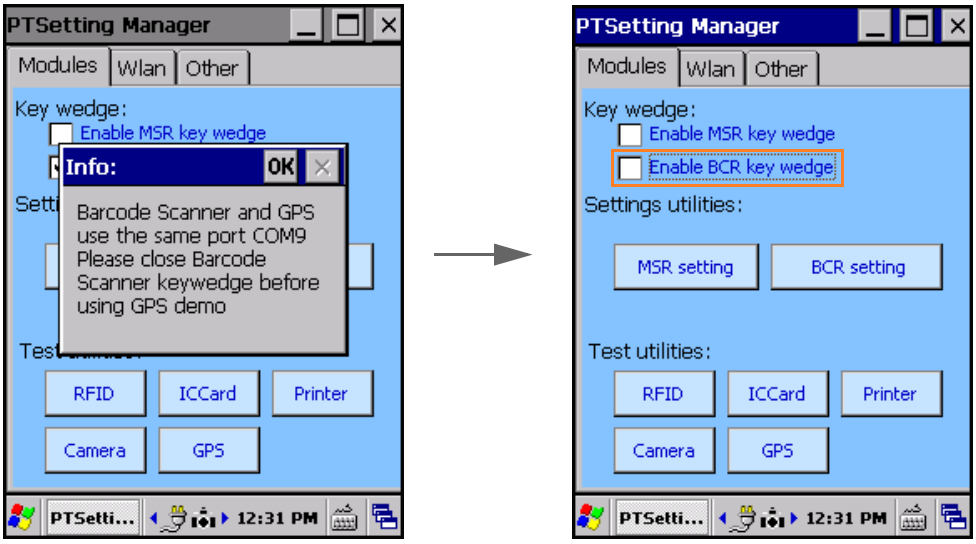
GPS (Global Positioning System) module shows the current location of this device.

On the Setting Manager screen, tap **Modules** tab.

- Tap **GPS** to open GPS setting menu, perform the following steps to configure GPS module settings:
  - Tap **Port Open** to start the GPS module operation.
  - Tap **Port Close** to close the GPS module operation.
  - Tap **Clear** to clear the screen of the dialog box.



NOTE: If the dialog box below appears on the screen, tap **OK** and uncheck **Enable BCR key wedge** box.

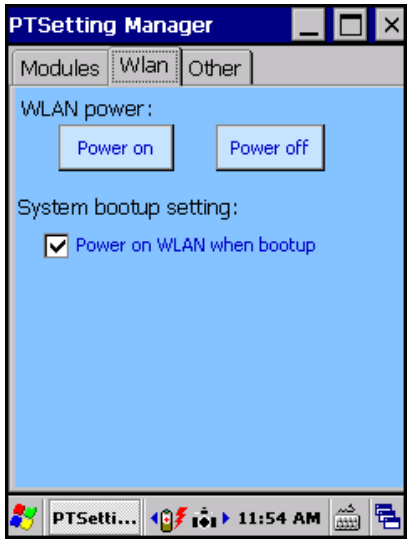


WLAN Tab

WLAN

WLAN stands for Wireless LAN, providing connection wirelessly and letting users roam freely within the coverage of the wireless local network. This module complies to the 802.11b/g standard.

On the Setting Manager screen, tap **Wlan** tab.

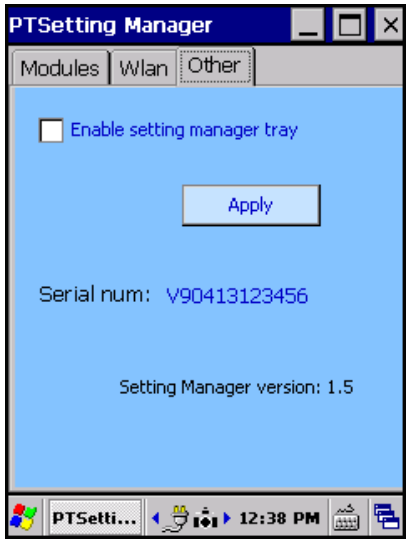


- To configure WLAN module settings, perform the following:
  - Tap **Power On** to activate the WLAN module.
  - Tap **Power Off** to disactivate the WLAN module.
  - In *System bootup setting*, check the box to automatically activate the WLAN module when the system restarts.

Other Tab

This menu displays the general setting and additional information such as OS version and serial number.

On the Setting Manager screen, tap **Other** tab.



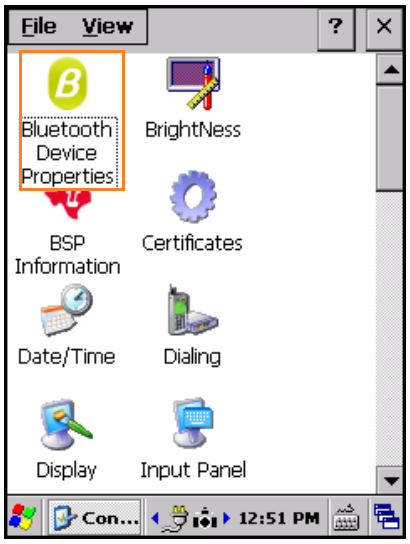
- To configure the general setting, perform the following:
  - Check **Enable setting manager tray** box to display the Setting Manager icon on the Taskbar for easy access.
  - Tap **Apply** to save the changes.
  - The setting manager icon now should appear on the taskbar.

Bluetooth

This device can connect to other Bluetooth-enabled devices through Bluetooth connection.

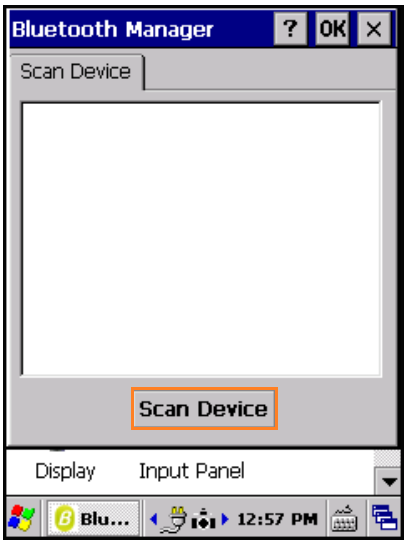
To pair with a Bluetooth-enabled device, please follow the steps below:

1. Tap **Start** > **Settings** > **Control Panel** > **Bluetooth Device Properties**.

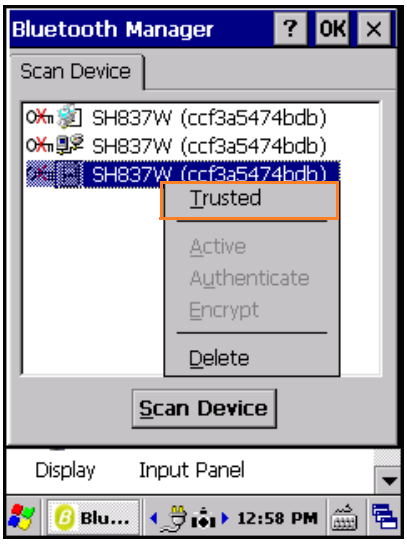


2. Tap **Scan Device** to start scanning the nearby Bluetooth connection.

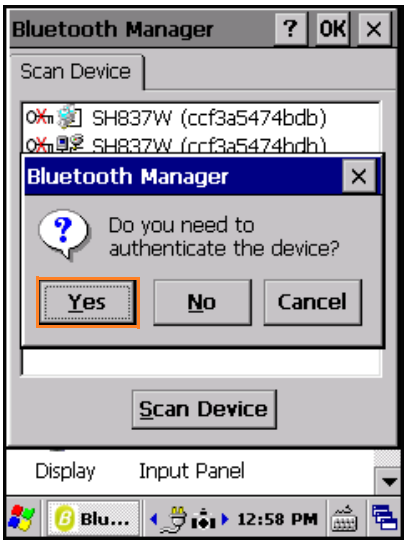
   Available Bluetooth connection(s) will appear.



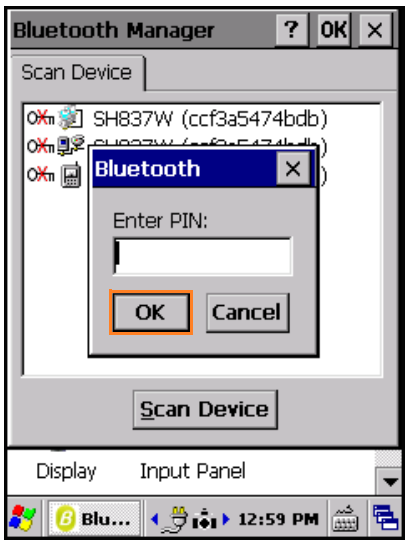
3. Double tap the device to connect, and tap **Trusted**.



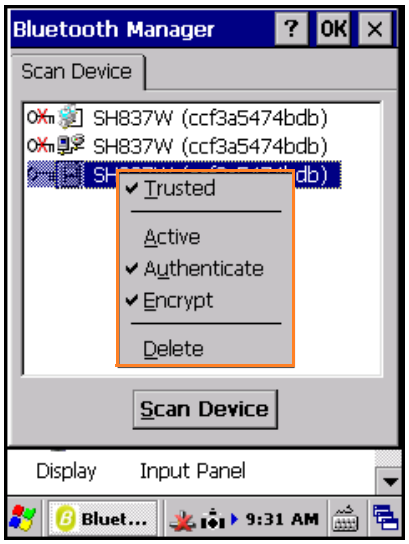
4. Tap **Yes** to connect with a password protected connection.



5. Enter the pin code to connect and tap **OK**.
   The pin code must be the same pin code on the other device.



6. Once the pairing process is complete, the following dialog box will appear when double tapping the paired device.

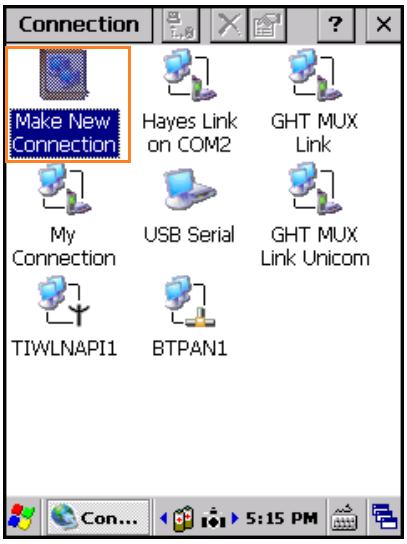


WCDMA

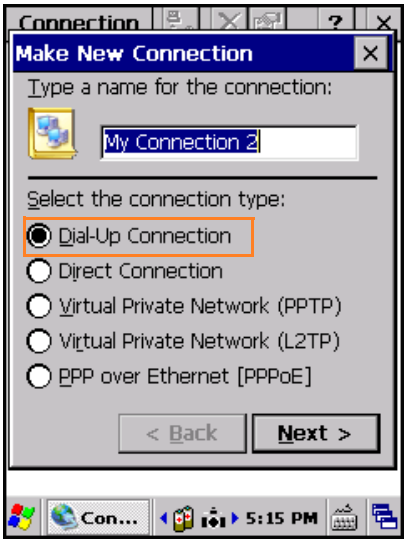
This device can establish an internet connection through a WCDMA service.

To create an internet connection using WCDMA service:

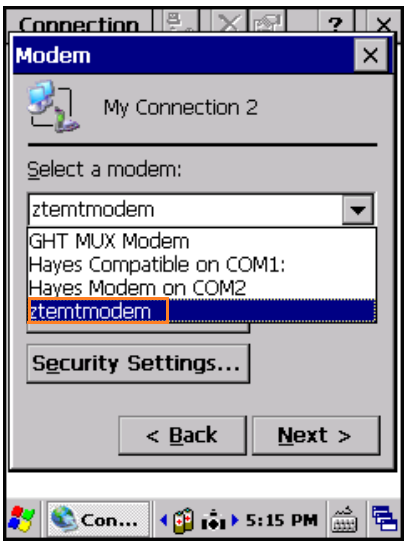
1. Tap **Start** > **Settings** > **Network and Dial-up Connections**.
2. Double tap **Make New Connection**.



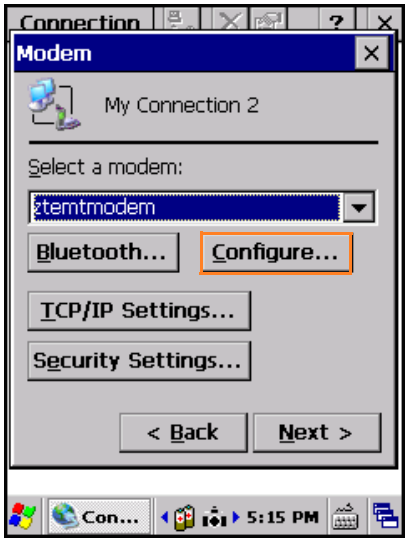
3. Enter the name for the connection, and select **Dial-Up Connection**. Tap **Next** to continue.



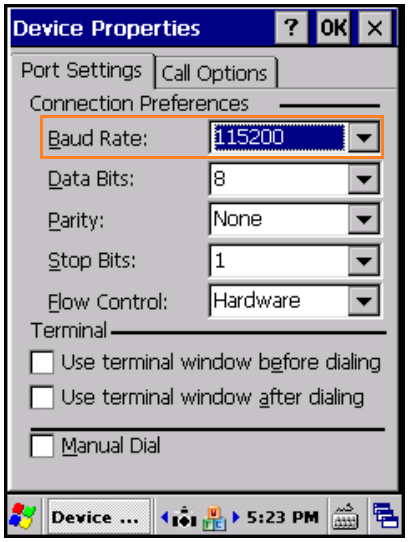
4. In *Select a modem*, select **ztemtmodem**.



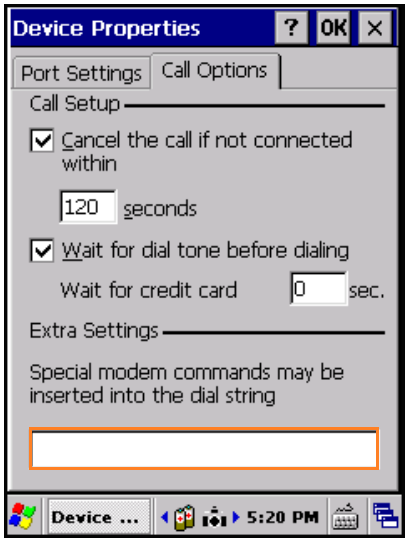
5. Tap **Configure**.



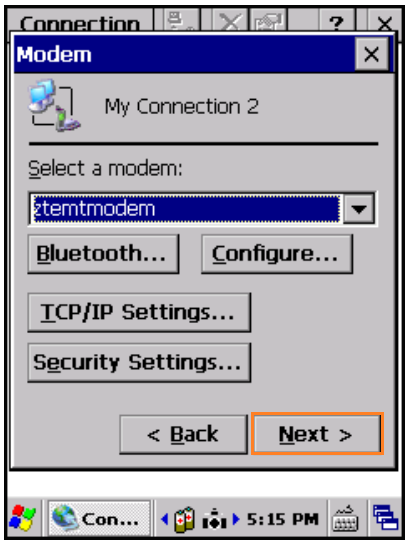
6. Set **Baud Rate** to 115200.



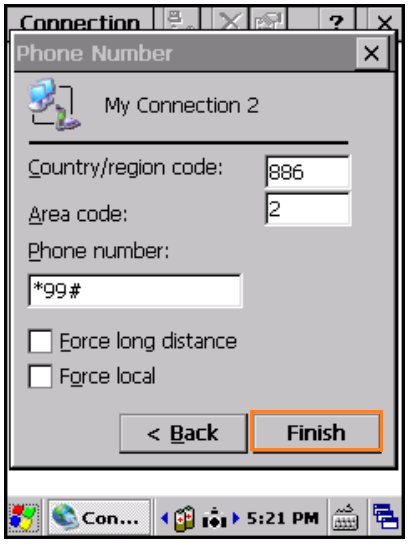
7. Tap **Call Options**.
8. On *Extra Settings*, insert this command: +cdgcont=1,"ip","internet"
9. Tap **OK** to complete the *Call Options* settings.



10. Tap **Next** to continue.

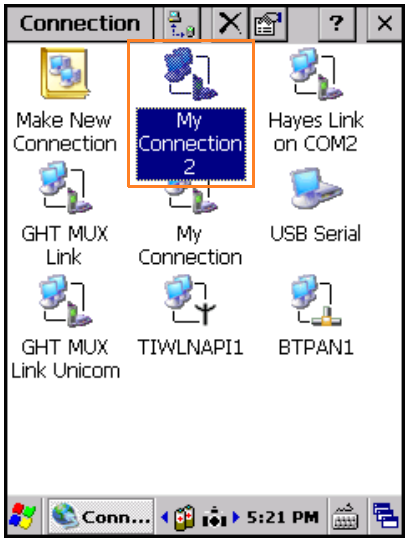


11. Enter the following parameters to configure the *Phone Number* settings:
    - **Country**: 886
    - **Area code**: 2
    - **Phone number**: *99#
12. Tap **Finish**.



To establish an internet connection using WCDMA service:

1. Double tap on the newly created *WCDMA* connection.



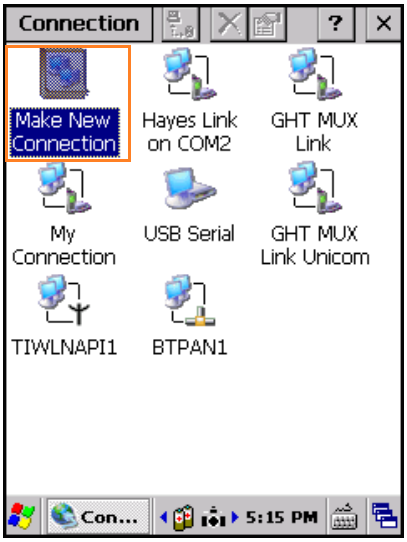
2. Enter the login information then tap **Connect**.

GPRS

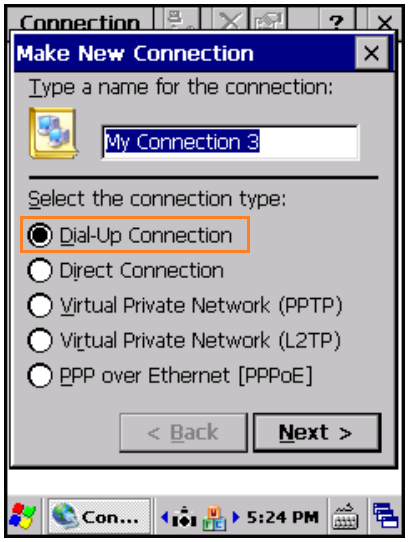
This device can establish an internet connection through a GPRS (General Packet Radio Service) service.

To create an internet connection using GPRS service:

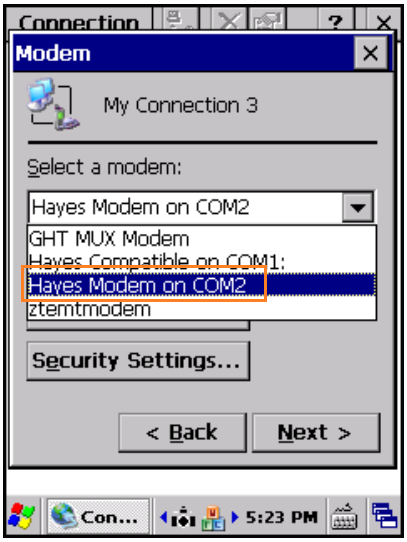
1. Tap **Start** > **Settings** > **Network and Dial-up Connections**.
2. Double tap **Make New Connection**.



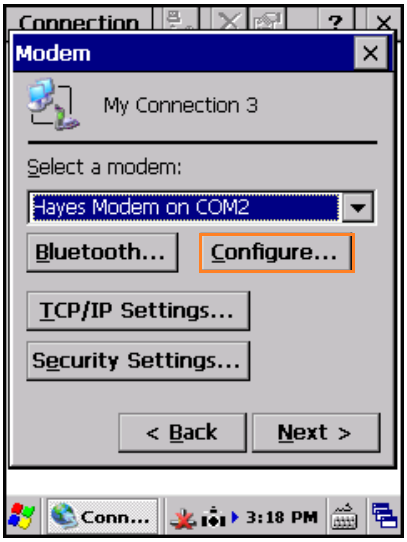
3. Enter the name for the connection, and select **Dial-Up Connection**. Tap **Next** to continue.



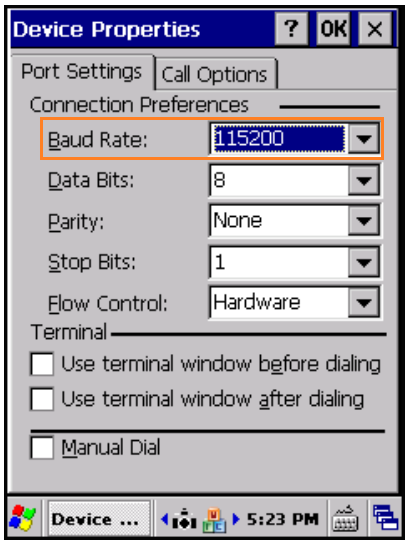
4. In *Select a modem*, select **Hayes Modem on COM2**.



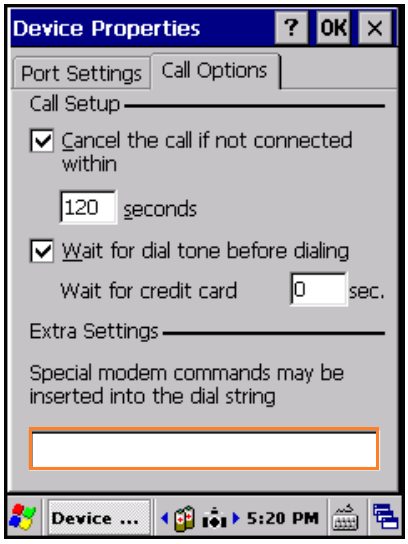
5. Tap **Configure**.



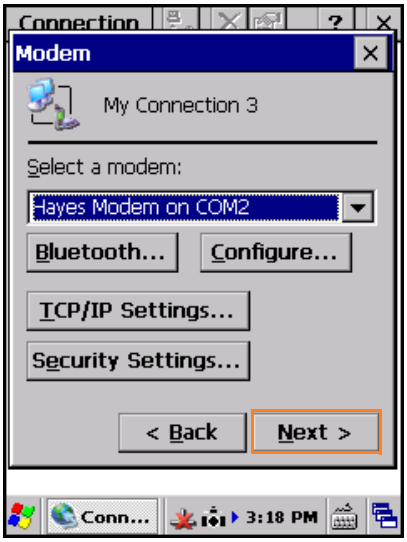
6. Set **Baud Rate** to **115200**.



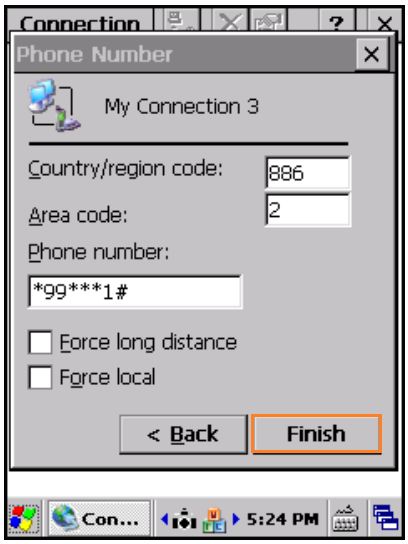
7. Tap **Call Options**.
8. On *Extra Settings*, insert this command:
   +cdgcont=1,ip,internet
9. Tap **OK** to complete the *Call Options* settings.



10. Tap **Next** to continue the setting.

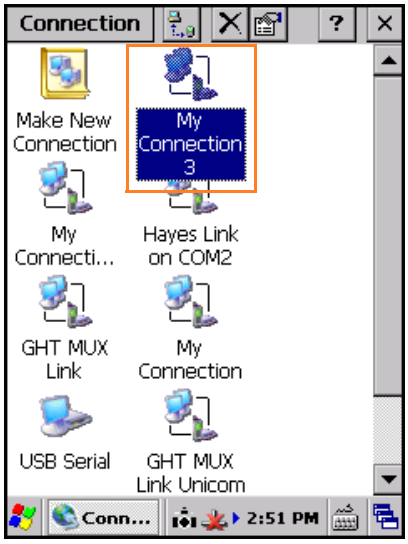


11. Enter the following parameters to configure the *Phone Number* settings:
    - **Country**: 886
    - **Area code**: 2
    - **Phone number**: *99***1#
12. Tap **Finish**.



To establish an internet connection using GPRS service:

1. Double tap on the newly created *GPRS* connection.



2. Enter the login information then tap **Connect**.

Specifications

Item	Specification
CPU	TI OMAP 3715 1GHz Cortex A8
Operating System	Windows CE 6.0
Display	3.5” TFT LCD with resistive touch screen 240 x 320
Memory	DDR 256 MB SDRAM / Flash 512 MB
Communication	WLAN 802.11 b/g
Printer	2” thermal printer roll ∅30
Camera	3.1 Megapixels autofocus with light
IC Card	ISO7816-EMV2000 Level 1, 2 certified
MSR	ISO7811-Track 1, 2, 3 support (Bi-directional)
Extension Slot	microSD card
I/O Interface	1 x USB 2.0 OTG (Client & Host) 1 x RS-232 Port 1 x SIM Card Slot 2 x SAM Card Slots 1 x DC Jack 1 x Earphone/Microphone Jack
Keypad	Alphanumeric
Battery	Main: rechargeable li-ion battery 7.4V 2000mAh Hotswap: rechargeable polymer battery 3.7V 100mAh
Environmental Temperature	Operating temperature: 0 to 40°C Storage temperature: -20 to 70°C
Dimensions	85.5 mm (H) x 208 mm (W) x 38mm (D)
Weight	Approx. 550g (with battery cell)
Accessories	Hand strap Stylus Carrying case with shoulder strap (optional) Single battery charging cradle 5 in 1 battery charging cradle
Certification	PCI 3.0, EMV2000 Level 1 & 2 CE, FCC, CCC, BSMI, VCCI

Optional Features

Item	Specifications
Barcode	1D / 2D
RFID	ISO 14443 A/B
Telecom Standards	GPRS / WCDMA / CDMA2000
GPS	Channels: 50 Frequency: L1 Signals: GPS C/A Code
Fingerprint Sensor	Image sensor 256 x 360 sensors array format 508 DPI

* Design and specifications are subject to change without prior notice.

PARTNER