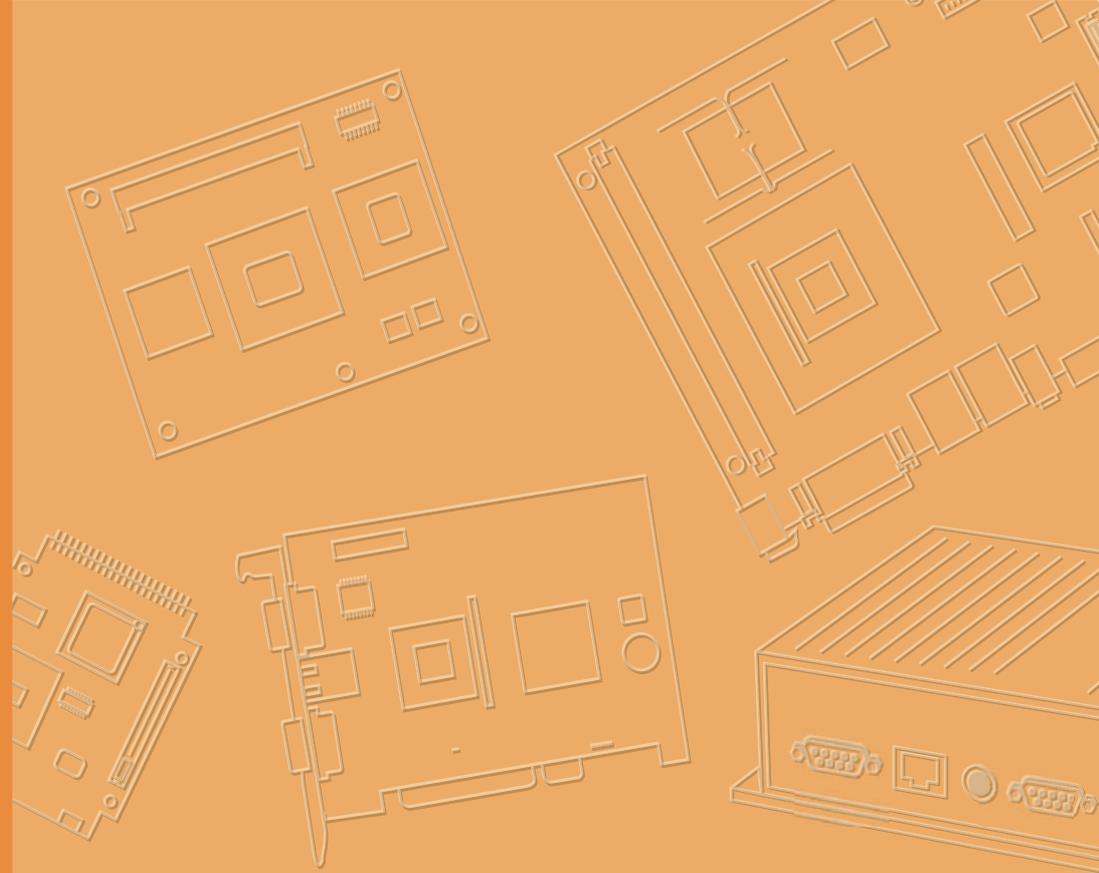


User Manual



PWS-440

Rugged PDA

ADVANTECH

Enabling an Intelligent Planet

About This Manual

This manual explains how to install, operate and maintain the PWS-440 Military PDA. No part of this publication may be reproduced or used in any form, or by any electrical or mechanical means, without permission in writing from the manufacturer. This includes electronic or mechanical means, such as photocopying, recording, or information storage and retrieval systems. The material in this manual is subject to change without notice.

Advantech has many years experience in designing computers to meet severe environmental applications. These applications include those found by military as well as industrial users. The PWS-440 has been designed to comply with the relevant requirements of MIL-STD-810G, MIL-STD-461E and IP67. These include EMC, EMI, temperature, Shock, vibration, humidity, dust and water. In addition the PWS-440 has been developed to be reliable under all operational conditions that may be encountered by military services throughout the world.

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Bluetooth is a registered trademark of Bluetooth SIG.

Microsoft, Windows and ActiveSync are either registered trademarks or trademarks of Microsoft Corporation.

Other product names mentioned in this manual may be trademarks or registered trademarks of their respective companies and are hereby acknowledged.

Regulatory Compliance Statements

FCC 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.

CAUTION! Exposure to Radio Frequency Radiation. The radiated output power of this device is far below the FCC radio frequency exposure limits. Nevertheless, the device shall be used in such a manner that the potential for human contact during normal operation is minimized. When connecting an external antenna to the device, the antenna shall be placed in such a manner to minimize the potential for human contact during normal operation. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.

Federal Communications Commission Notice

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.

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 and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the distance between the equipment and the receiver.
- Connect the equipment to 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.

The maximum SAR value reported is 0.119. => the SAR value to be define after SAR test

Canada-Industry Canada (IC)

The wireless radio of this device complies with RSS 139 & RSS 210 Industry Canada.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B conforme á la norme NMB003du Canada.

Europe-European Union Notice

Radio products with the CE alert marking comply with the R&TTE Directive (1999/5/EC) issued by the Commission of the European Community. Compliance with this directive implies conformity to the following European Norms (in brackets are the equivalent international standards).

- EN 60950-1 (IEC60950-1) - Product Safety
- EN 300 328 Technical requirement for radio equipment
- ETS 301 489 General EMC requirements for radio equipment.

Products that contain the radio transmitter are labeled with CE alert marking and may also carry the CE logo.

Safety

Use the following safety guidelines to help protect yourself and the PWS-440.

- Do not attempt to service the PWS-440 yourself. Always follow installation instructions closely.
- Be sure that nothing rests on the AC adapter's power cable and that the cable is not located where it can be tripped over or stepped on.
- Do not cover the AC adapter with papers or other items that will reduce cooling; also, do not use the AC adapter while it is inside a carrying case.
- Use only the AC adapter, power cord, and batteries that are approved for use with this PWS-440. Use of another type of battery or AC adapter may cause risk of fire or explosion.
- If you use an extension cable with the AC adapter, ensure that the total ampere rating of the products plugged in to the extension cable does not exceed the ampere rating of the extension cable.
- When you move the PWS-440 between environments with very different temperature and/or humidity ranges, condensation may form on or within the PWS-440. To avoid damaging the PWS-440, allow sufficient time for the moisture to evaporate before using the PWS-440.
- When you disconnect a cable, pull on its connector or on its strain relief loop, not on the cable itself. As you pull out the connector, keep it evenly aligned to avoid bending any connector pins. Also, before you connect a cable make sure both connectors are correctly oriented and aligned.

Battery Safety

- There is a risk of explosion if the battery is replaced by an incorrect type.
- Dispose of used batteries according to the instructions.
- Do not dispose of batteries in a fire. They may explode. Check with local authorities for disposal instructions.

Notices

This unit is equipped with a battery pack and backup battery. It is possible that the PDA may not power-on due to battery discharge as a result of storage.

In the above situation, insert the PDA into the cradle and connect the AC adapter. Recharge the unit for 3 hours in order to fully charge its battery. The backup battery will recharge from external power when the AC adapter is connected.

Battery charge notice

It is important to consider the environment temperature whenever you are charging the Lithium-Ion battery pack. The process is most efficient at normal room temperature or slightly cooler. It is essential that you charge batteries within the stated range of 0°C to 50°C. charging batteries outside of the specified range could damage the batteries and shorten their charging life cycle.

Storage and safety notice

Although charged Lithium-Ion batteries may be left unused for several months, their capacity may be depleted due to build up of internal resistance. If this happens they will require recharging prior to use. Lithium-Ion batteries may be stored at temperatures between -20°C to 50°C, however they may be depleted more rapidly at the high end of this range. It is recommended to store batteries within normal room temperature ranges.

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Chapter 1

Overview

1.1 Introduction

Thank you for purchasing the PWS-440 Military PDA.

The PWS-440 is an ultra rugged computer designed to military standards. The design incorporates the powerful Marvell PXA310 806MHz CPU with Microsoft Windows CE 6.0/ Embedded Handheld 6.5 operating system. The PWS-440 provides the highest performance and reliability whilst minimizing the Total Cost of Ownership (TCO). The PWS-440 incorporates a transfective LCD with touch-screen, keypad, Wifi, and Bluetooth communication capability. Currently available options include HSDPA (3.5G), and GPS.

To minimize the Total Cost of Ownership the PWS-440 is sealed to meet IP67 standards and complies with IEC 68-2-32 5 foot drop to concrete.

1.1.1 Features

The PWS-440 is a smart configurable handheld terminal which has been designed to meet the requirements of a wide range of applications including:

- Military & Law Enforcement
- Industrial & Manufacturing
- Emergency services and construction

PWS-440 been developed to comply with MIL-STD-461E, MIL-STD-810G and IP67 standards, the main specifications are as detailed below.

Table 1.1: PWS-440 Military PDA Specification

Items	Description
OS	Windows Embedded Handheld 6.5/ Windows CE 6.0
CPU	Marvell PXA310 806 MHz
Memory	256 MB SDRAM on board 1 GB Flash ROM on board
Display	3.7" transfective TFT LCD, VGA resolution (640 x 480)
Touch screen	4-wire Resistive touch screen
Audio System	AC-97, Internal microphone and one speaker (stereo supported via earphone jack)
Application Buttons	One power on/suspend button Navigation Key+ Function Key (4 function keys in front) One HW reset key located right side door One Button for backlight on/off (using power on/ suspend button)
Communication	802.11b/g WLAN module built-in with integral antenna Bluetooth class 2, v2.1 built-in with integral antenna GPS receiver module with antenna built-in GSM/GPRS/WCDMA/HSDPA(3.5G) internal module (for data transmission only)
Status Indicator	Power LED (two color LED x1) (at right side) LED on the upper side for lighting usage One LED for GPRS (wireless connection) (at left side)

Table 1.1: PWS-440 Military PDA Specification

I/O Ports	Two USB type A connectors, USB1.1 Host (** Two USB Type A at Left Side) One USB mini type B connector, USB1.1 Slave (at Right Side Door) One RS-232(full) One RS-232/422/485 (OPTION) One RJ-45 for 10/100M ethernet (USB type) One stereo headphone jack One microphone jack One DC-In connector (At the right side) One MicroSD Slot
Main Battery	Rechargeable Li-ion smart battery, 7.4V, 1880mAh, 2S1P, 59x38x25mm
Power Adapter	Universal AC 90V ~ 265V, 47~63Hz input, 12V, 3.5A output.
Physical	155 x 96 x 42mm, 650g
Environment	Operating Temperature: -20 to +50°C Storage Temperature -40 to +70°C Charging Temperature 0 to +50°C Operating Humidity 5% ~ 95% none condensing
Rugged Specification	IP67 5 ft drop to concrete MIL-STD-810G MIL-STD-461E
Certification	CE, FCC, CCC
Accessories	<ol style="list-style-type: none"> 1. Case: standard nylon (waterproof) case with belt loop; 2. elastic hand strap: prevent accidental drop 3. Stylus with tether kit 4. Power: DC-Adapter 12 V Vehicle charger with 12 V cable (option) 5. Cradle: 1 x RS-232, 2 x USB (1 x Type A; 1 x TypeB), 1 x DC-in 6. 4-IN-1 battery charger

1.1.2 Package Contents

The standard PWS-440 includes the following items:

- PWS-440 PDA unit
- Adapter
- Battery
- Stylus & string
- Hand strap

1.1.3 Optional Accessories

In addition the following optional accessories may be included:

- Cradle
- 4 IN 1 Battery Charger

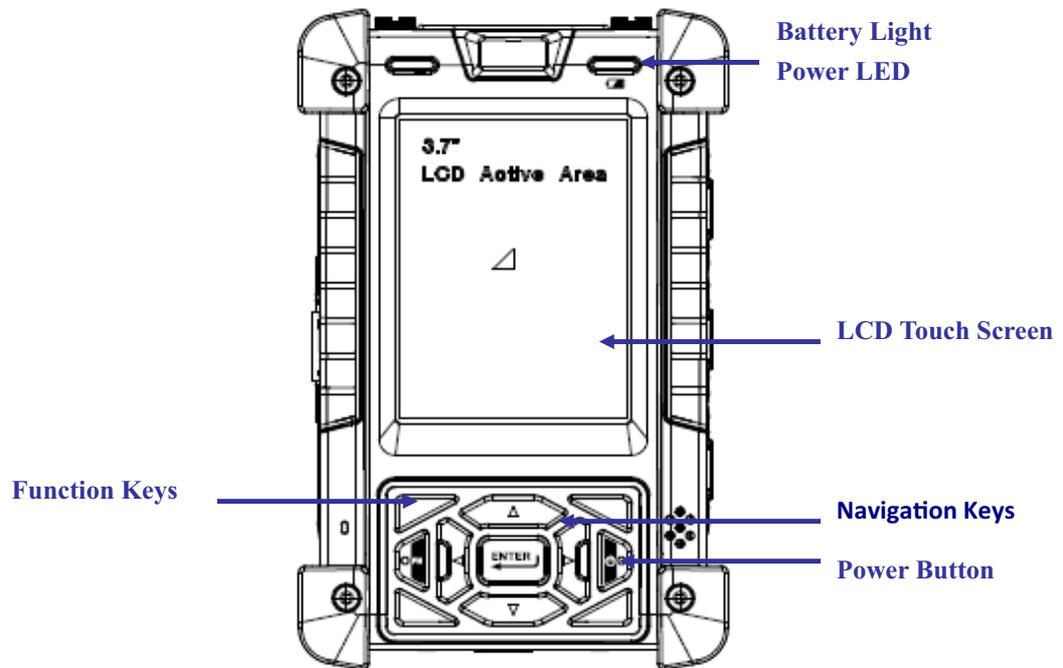
Please carefully check the delivery documents to ensure that all items are present.

In the unlikely event of a discrepancy please contact your supplier.

1.2 Familiarize with the PWS-440

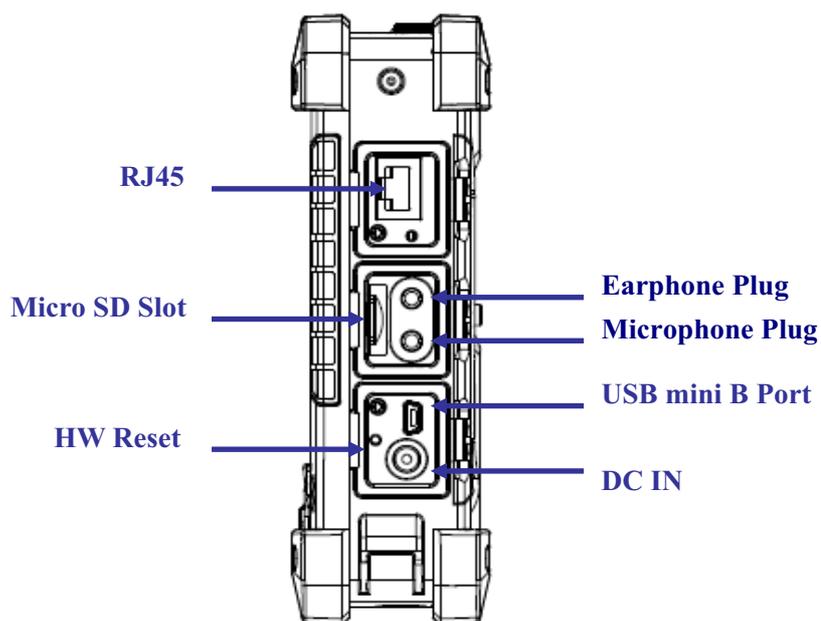
The following sections describe the main components and features of the PWS-440.

1.2.1 Front View



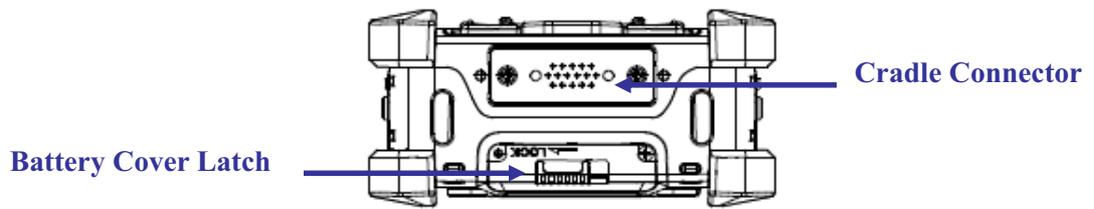
Item	Description
LCD touch screen	Displays the applications and data stored the PWS-440. It is a touch-sensitive screen and can be operated using the stylus or finger.
Navigation Keys	Press these keys to navigate in the PWS-440 interface.
Function Keys	Programmable keypad interface for controlling the PWS-440.
Power button	If the device is off, press this button to turn it on. When the unit is on, press this button for 3 seconds to turn the PWS-440 off.
Power LED	Indicates the battery charging power status. Green -Battery is fully charged or the device is running on battery power. When LED flashes, the battery charge is at 13%. The battery should be recharged immediately.

1.2.2 Right View



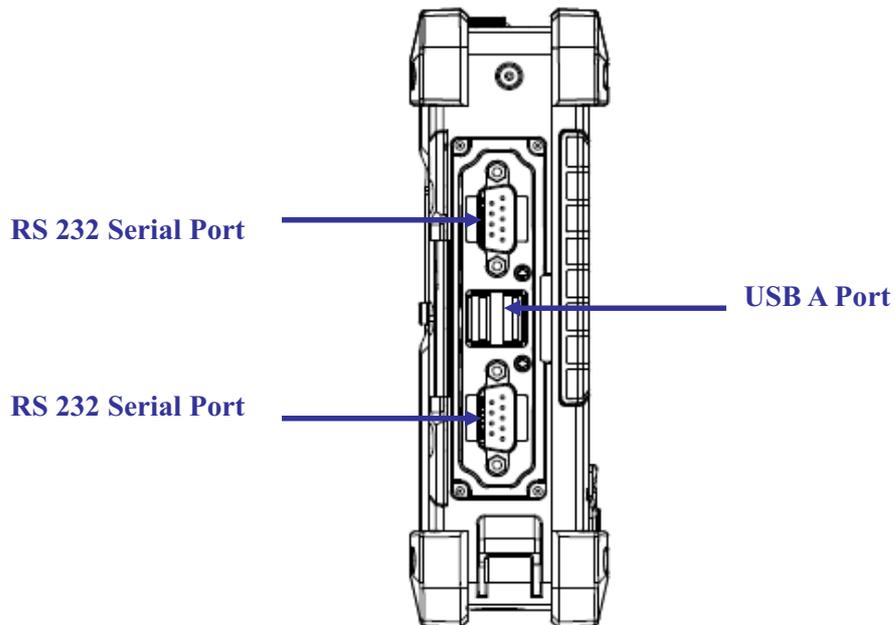
Item	Description
RJ45 Port	Connects to the LAN.
Earphone Plug	Connects to audio line-out devices (earphones or headphones) for use in noisy environments.
Microphone Plug	Enables the recording of voice using an external microphone
USB mini type B port	USB mini type B port (client).
Micro SD Slot	Accommodates Micro Secure Digital memory cards.
HW Reset Switch	Press the end of the stylus into the button to reset PWS-440.
DC IN Jack	Connect the AC adapter to this jack to supply power to charge the PWS-440 battery.

1.2.3 Bottom View



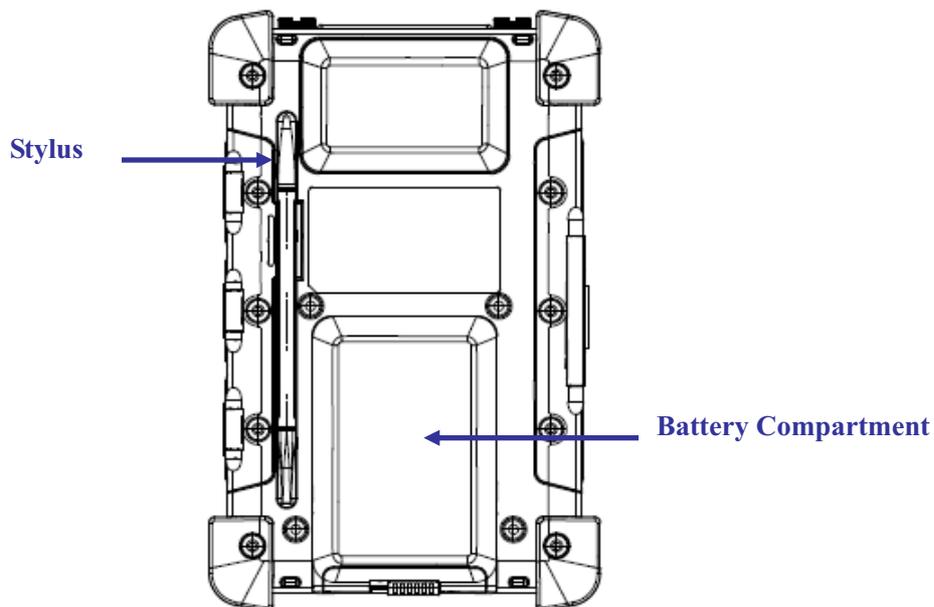
Item	Description
Cradle connector	Connects the PWS-440 to cradle, enabling battery charging also connects RS232, USBA and USB mini B).
Battery Cover Latch	Unlock the latch to open the battery compartment cover to place or remove battery.

1.2.4 Left View



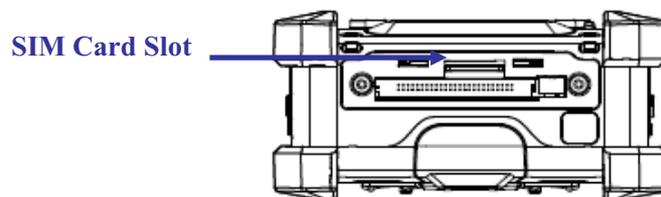
Item	Description
RS 232 Serial Port	Connects using a mini 9 way D type connector for this port for serial communications.
USB type A port	Connects to USB type A port (host) to this port.

1.2.5 Back View



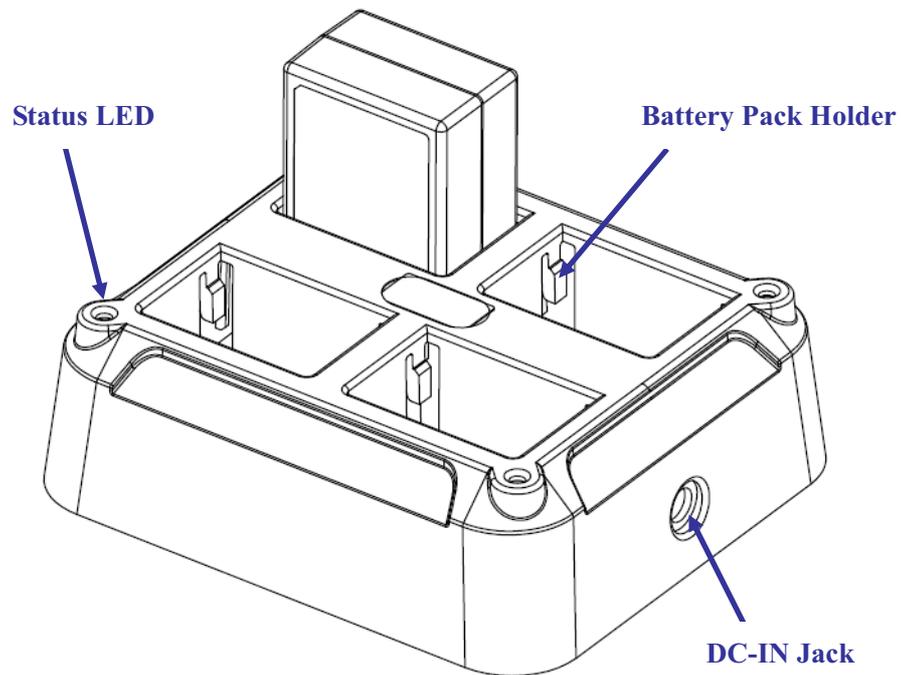
Item	Description
Stylus	Enables you to interact with the operating system. Remove the stylus from the holder and hold and use it the same way you would a pen or pencil. For use with the touch screen.
Battery Compartment	Houses the removable and rechargeable battery pack.

1.2.6 Top View



Item	Description
SIM Card Slot	Additional functionality can be provided by using SIM cards. Only with WAN module included.

1.3 4-In-1 Battery Charger (Optional)

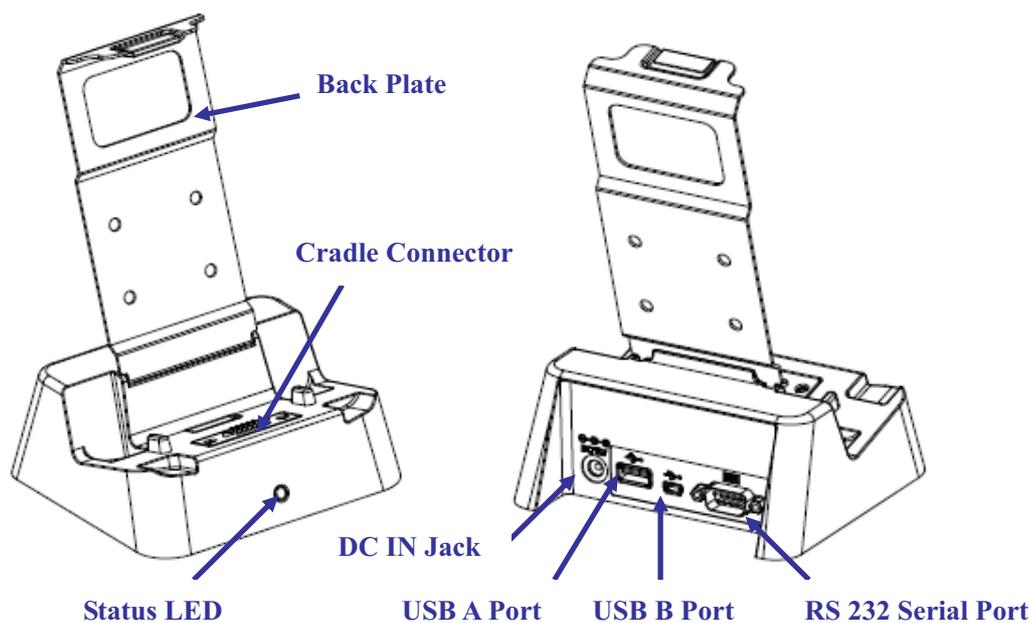


Item	Description
Battery Pack Holder	Lock Battery pack into position for Battery charging.
DC IN Jack	Connect the AC adapter to this jack to supply power to the charger and charge the PWS-440 Battery. *
Status LED	Indicates that power and the PWS-440 battery is charging. RED light - Battery is charging. No Light - No battery fitted. RED light Flash once - Power Adaptor connected, and ready for charging battery.

Warning! * Both Battery charger adaptor and PWS-440 power adaptor are the same, but they can NOT be interchanged with other adaptor.



1.4 Cradle (Optional)



Item	Description
Back Plate	Supports the PWS-440 into charging position
RS 232 Serial Port	Connects a serial cable.
USB type A port (host)	Connects a USB type A (host) cable.
Cradle connector	Connects the PWS-440 to the cradle, Provides connections for RS232, USB type A and mini USB type B.
USB mini type B port (client)	Connects a USB mini type B (client) cable.
DC IN Jack	Connects the AC adapter to provide power for the cradle*
Status LED	Indicates that power and the PWS-440 is charged. Green light - PWS-440 is charging, and connected. No Light - No PWS-440 fitted for charging.

Chapter 2

Getting Started

2.1 Getting Started

This chapter explains how to install and charge the battery, how to check the battery status, how to turn on the PWS-440, and how to calibrate the screen.

2.2 Connecting the PWS-440

2.2.1 Installing the battery

This part explains how to install the battery.

Warning! *There is a risk of fire and burns if the battery pack is handled improperly. DO NOT disassemble, crush, puncture, short external contacts, or dispose the battery pack in fire or water. DO NOT attempt to open or service the battery pack.*



Dispose of used batteries according to local recycling guidelines in your area. A backup battery cell is embedded into your device to prevent data loss in instances when the removable battery pack is removed or completely discharged. This backup battery cell will only support the system for a maximum of 3 minutes.

Status	Charging	Ready
Power OFF	*Red flashing light 	*Red light 
Power ON	*Amber flashing with Green light 	*Amber light 

1. Remove the battery compartment cover.



2. Align the battery contacts with the contacts in the compartment and place the battery in the compartment as shown below.



3. Replace the battery compartment cover, and lock the battery latch.



2.2.2 Charging the Battery

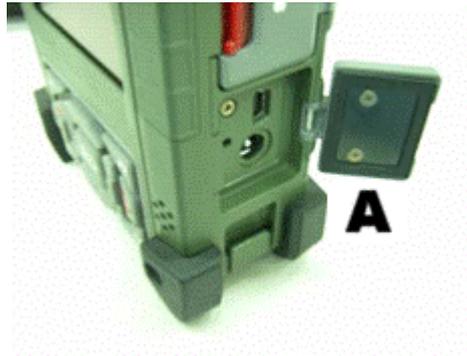
Before using the PWS-440 for the first time it will need charging for about 3 hours. The PWS-440 can be charged using the power adaptor or the Cradle.

Note! *When the battery power is below 10%, the PWS-440 will enter suspend mode.*

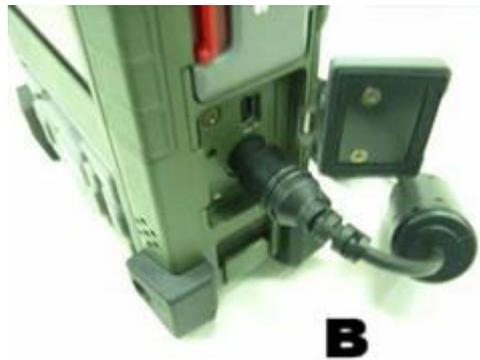


2.2.3 Charging the Battery with the Adapter Charger

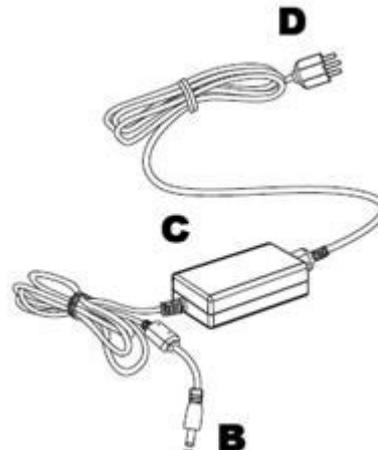
1. Open the side door on the right bottom of the PWS-440.



2. Plug the adapter charger (B) into the side door (A).



3. Plug the power cord into the AC adapter (C).
4. Plug the AC adapter (D) into an electrical outlet.



2.2.4 Charging the Battery with the Cradle

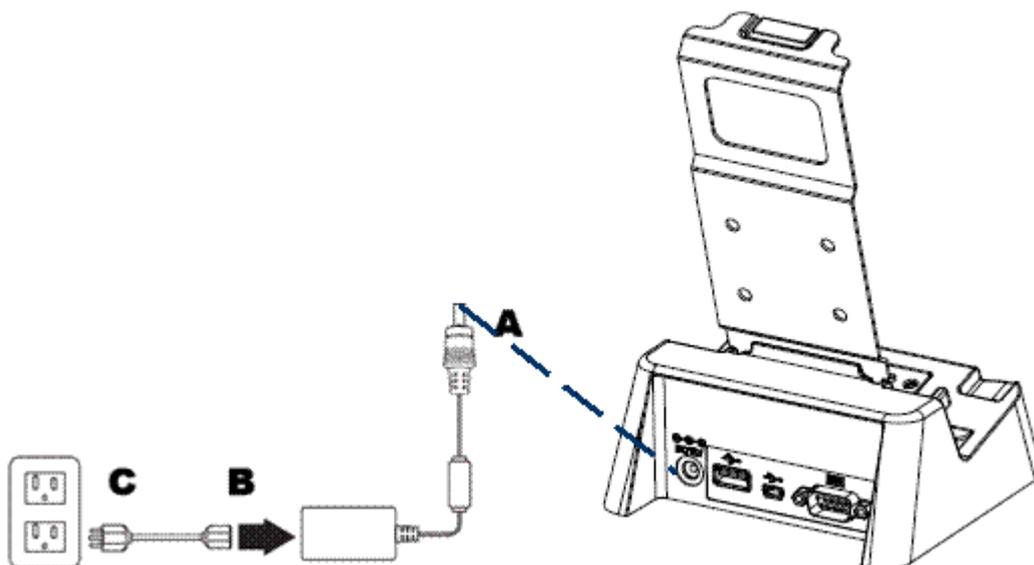
1. Slide the PWS-440 into the cradle until it clicks into place.



2. Plug the AC adapter cable into the power connector on the cradle (A).



3. Plug the power cable connector into the AC adapter (B), Plug the AC adapter into an electrical outlet (C).



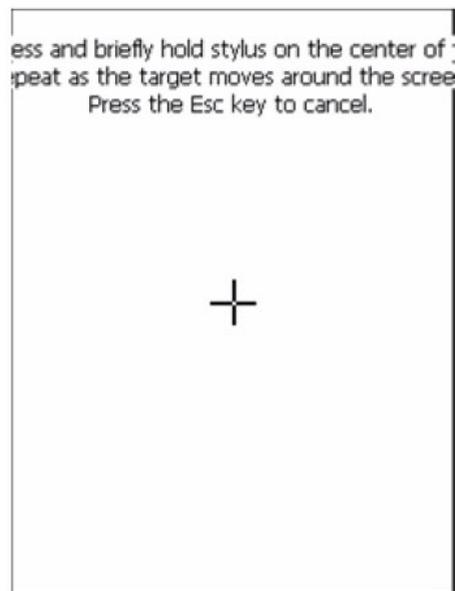
2.3 Powering up for the First Time

After you have charged the PWS-440 for about 3 hours the device is ready to be used. You can now start up the PWS-440 when you can calibrate the touch screen, practice with the stylus and set the date, time and zone. Turn on your device by pressing the power button on the front panel.

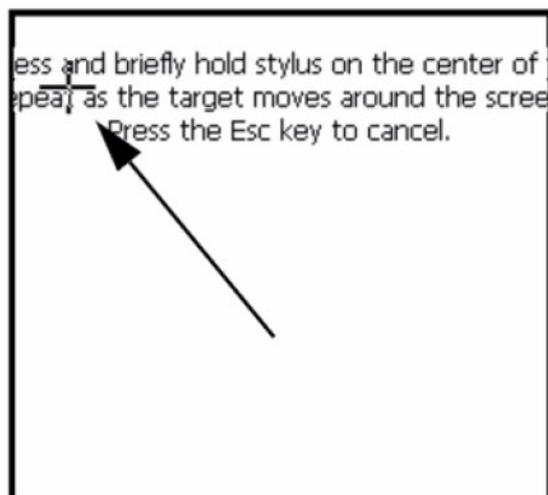
2.4 Calibrating the touch screen

The calibration screen automatically appears when the unit is powered on for the first time or after the system is reset.

1. Tap the center cross hair firmly and accurately with the stylus. The cross hair moves to the next location.

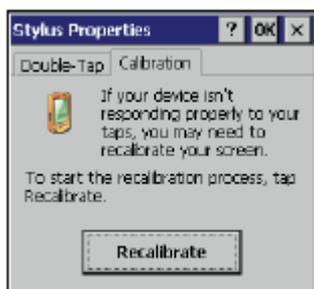


2. Follow the cross hair and continue tapping until the screen has been calibrated.



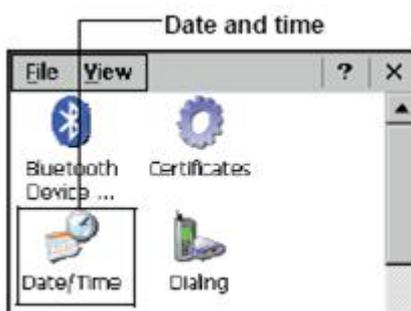
- After calibration is finished, press the Enter key to save the settings or press Esc to revert to the previous settings.

Note! To recalibrate the screen at any time, tap **Start -> Settings -> Control Panel**. Then double-tap **Stylus**. Tap the **Calibration** tab, and tap **Recalibrate**.

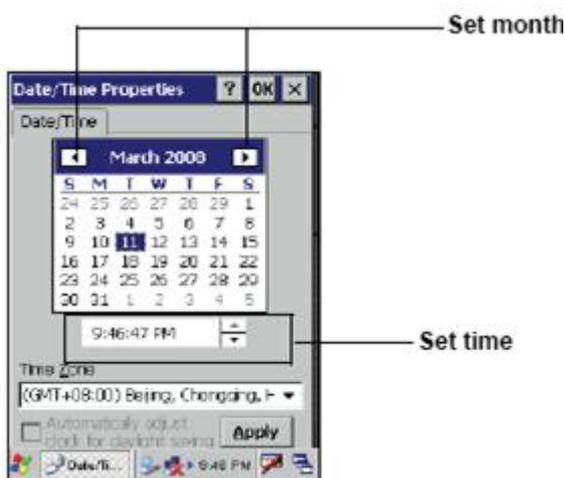


2.5 Setting the Time and Date

- Tap **Start -> Settings -> Control Panel**.



- Double-tap Date/Time.
- Tap the arrows next to the month to select the correct month.



- Select a field in the time box and tap the arrows next to the time to change the value of the field.

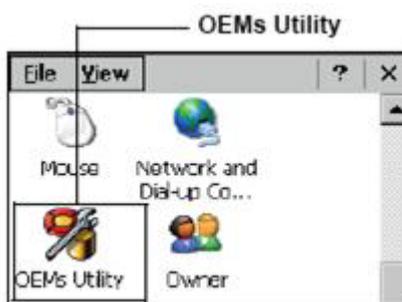
5. Tap the drop-down arrow next to Time Zone to select the correct time zone for your area.
6. Check the box next to **Automatically adjust...** to have the OS automatically update the time for daylight saving.



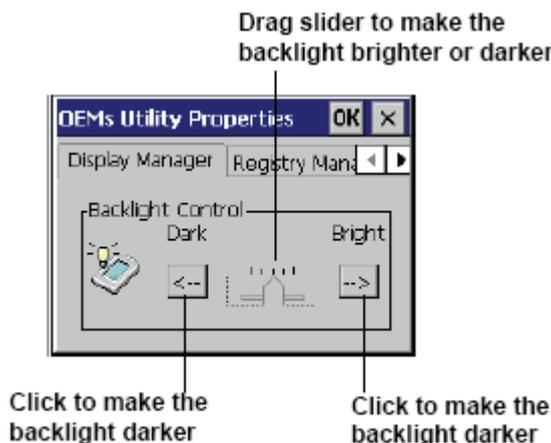
7. Tap **Apply** to save the settings.

2.6 Adjusting the Screen Brightness

1. Tap **Start ->Settings -> Control Panel**.



2. Double-tap **OEMs Utility**.
3. Click the **Display Manager** tab.
4. Under Backlight Control, click the **Dark** arrow to make the screen darker, or click the **Bright** arrow to make the screen brighter.



5. Click OK to save and exit the utility.

Chapter 3

Using the Hardware

3.1 Keypads and Function Buttons

The keypad enables you to both enter information and interact with the PWS-440 operating system.

3.1.1 Entering Characters with the Keypad

The operating system has an onscreen keyboard that enables you to enter alphanumeric characters with the stylus. Press the input panel icon  in the system tray to view the input panel menu. Tap **Keyboard** to view the onscreen keyboard.



Tap **Hide Input Panel** to close the keyboard.



The keyboard emulates a standard computer keyboard. Tap the onscreen keyboard to enter, edit, and delete text.

3.2 Using the Stylus

Caution! Never use anything other than the PWS-440 stylus on the screen. Using another object as a stylus could cause permanent damage. You can use your finger to interact with the screen as well.



1. Remove the stylus from its holder.
2. Hold the stylus as you would a pencil.
3. To make a selection from a menu, lightly tap the tip of the stylus on that item.

Adjusting the Double-Tap Rate

Set the stylus double-tap rate as follows.

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



4. Double-tap on the checkerboard graphic to set your double tap rate.

3.3 Inserting an Micro SD Memory Card

The PWS-440 has a SD card slot compatible with a wide range of Micro SD cards, which are primarily used to back up or transfer files and data. The slot also supports SDHC cards.

To insert a Micro SD card into the Micro SD slot.

1. Open the right centre door.



2. Insert the Micro SD card with the notched corner as oriented as shown below.



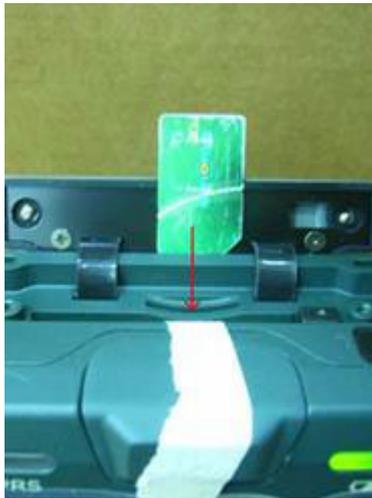
3. Press the card into the slot. The card is secure when it is flush with the slot.
4. Close and lock the door.

3.4 Removing a Storage Card

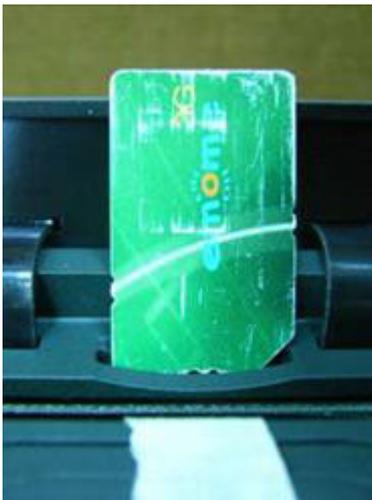
1. Open the right centre door.
2. Press the card in and release. The card pops out.
3. Remove the card from the slot.
4. Close and lock the door.

3.5 GPRS SIM Card Set Up

1. Remove the two hand screws on the top of the PWS-440.
2. Insert the SIM Card into the SIM Card slot as shown.



3. Push the card into the slot. The card is secure when it is flush with the slot.



3.6 Connecting Devices to the PWS-440

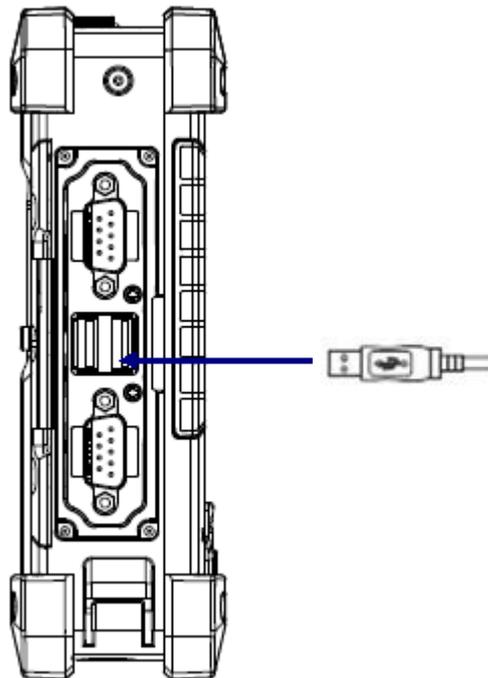
This section describes how to connect devices to the PWS-440. Connection can be made directly to the PWS-440 or using the cradle.

3.6.1 Connecting USB

The PWS-440 can accommodate both USB Type A and USB mini Type B.

Connecting a USB Type A

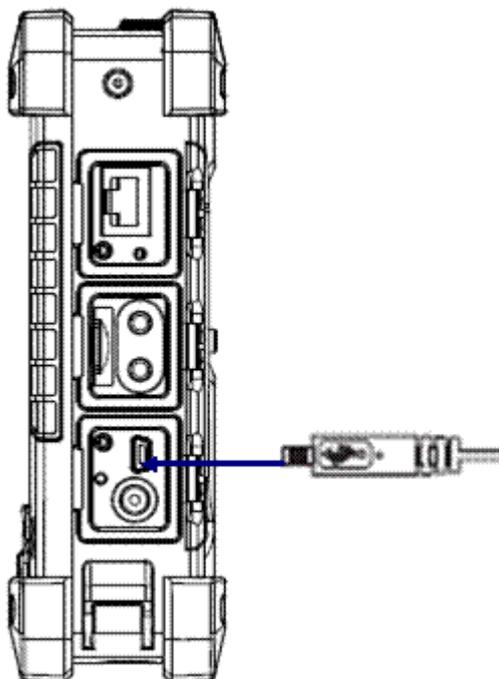
The illustration below shows how to connect a USB type A device to the PWS-440. The connector can only go in one way. If it does not go in smoothly, check the orientation and try again.



Connecting a MINI USB Type B

The illustration below shows how to connect a mini USB type B cable to the PWS-440.

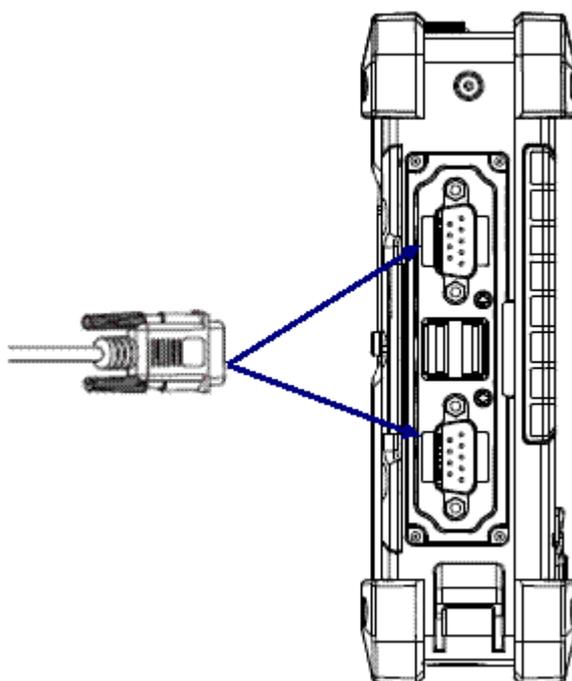
The connector is keyed to only go in one way. If it does not go in smoothly, check the orientation and try again.



3.6.2 Connecting a Serial Device

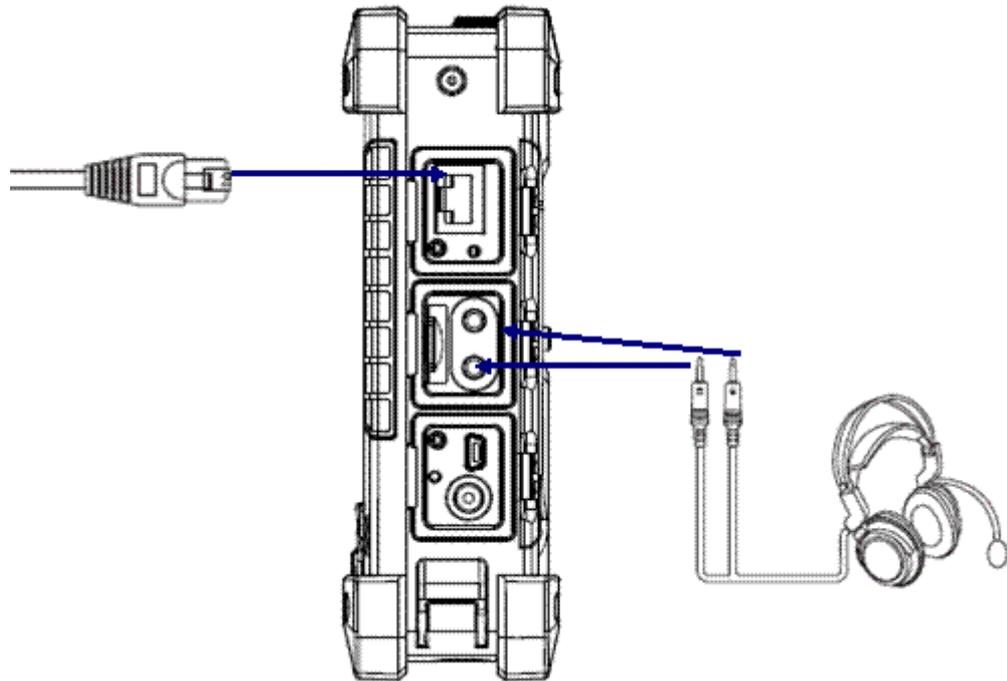
Connect a serial device to the PWS-440 to perform serial communications.

Please see below illustration



3.6.3 Connection to a LAN

The PWS-440 is connected using a RJ-45 connector. See below:

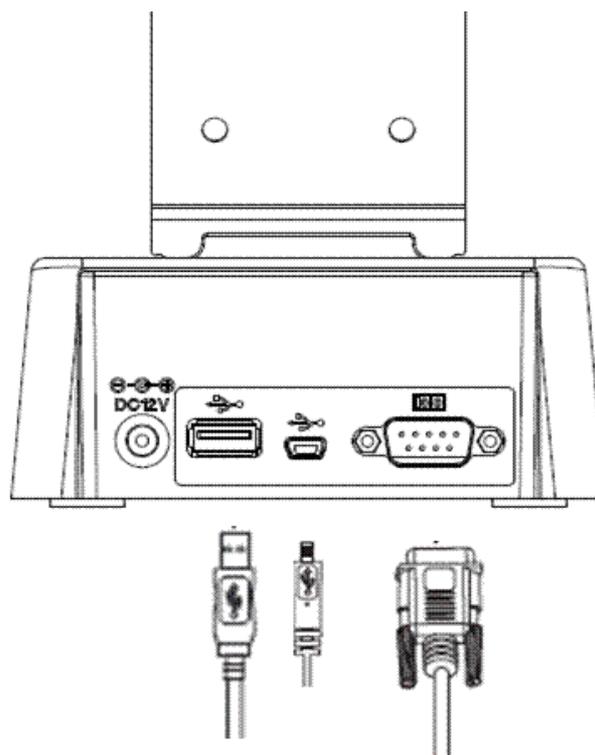


3.6.4 Connecting Headphones and a Microphone

The PWS-440 utilizes an external microphone and speaker. A headset and microphone can be used in noisy environments. See the illustration above.

3.6.5 Connecting to the Cradle (Optional)

The cradle allows for charging the batteries as well as connecting USB and serial devices.



Connecting USB

There is one USB Type A connector on the back which supports both USB keyboard and mouse. In addition there is one Mini Type B USB port next to the Type A USB connector. See the above illustration

Connecting a Serial Cable

A serial cable can be connected the PWS-440 cradle. See the above illustration

Chapter 4

Getting Connected

4.1 Installing Microsoft ActiveSync

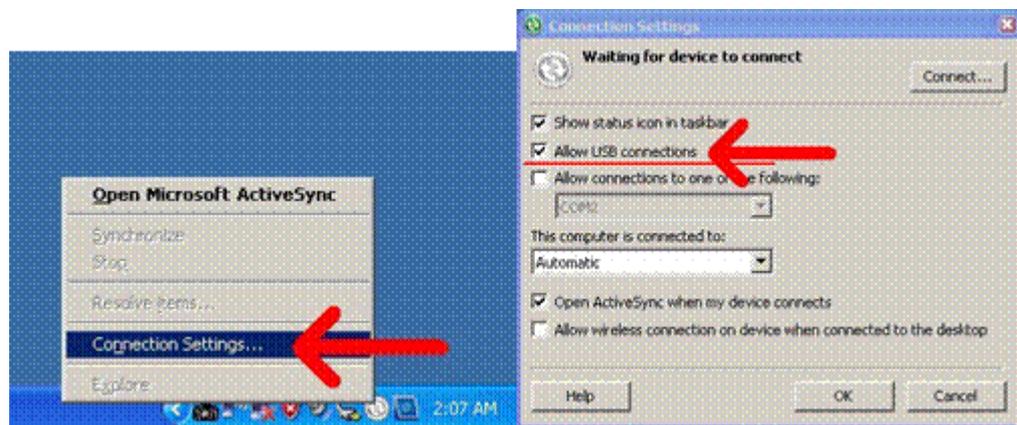
In order to exchange data between your computer and the PWS-440 and install extra applications or utilities to the PWS-440, Microsoft ActiveSync must be installed on your computer. Connect the PWS-440 to a PC using a USB type B cable. Download the latest version of Microsoft ActiveSync from the Microsoft website.

Note! *If you have a previous version of the Microsoft ActiveSync installed in your computer, uninstall it first before installing the latest version of Microsoft ActiveSync.*



4.1.1 Connecting to Your Computer

1. After ActiveSync has been installed, connect the USB B cable to the USB port on your PWS-440.



2. Plug the other end of the USB cable into a USB port on your computer.



3. Turn the device on.
4. ActiveSync starts automatically and configure the USB port to work with the PWS-440.

The New Partnership setup wizard will automatically start.

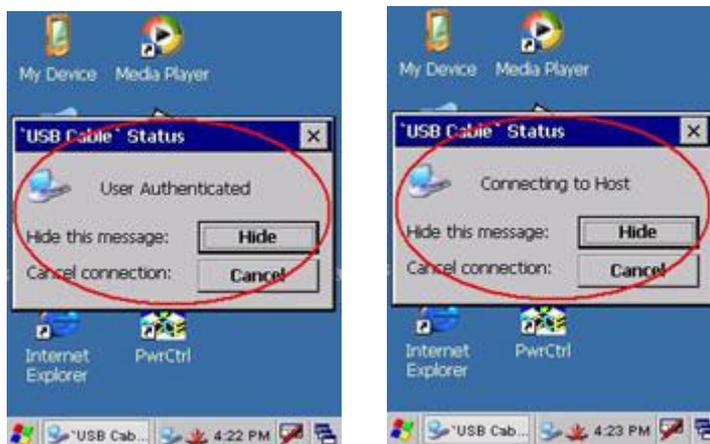
Note! *If ActiveSync doesn't start automatically, click **Start -> Programs -> Microsoft***



ActiveSync.

If a message appears indicating that it is unable to detect a connection, click the **Cancel** button and manually configure the communication settings.

1. Follow the onscreen instructions.



2. When the configuration process is complete, the ActiveSync window appears.



3. Synchronization will be initialized and will take place if you've chosen to synchronize periodically or upon connection.
4. ActiveSync detects the PWS-440 and establishes a connection.

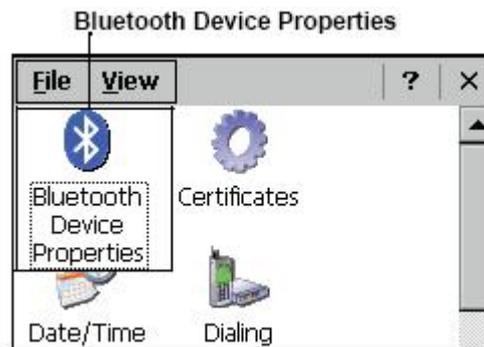


5. Click **No**, and then click **Next**.

4.2 Connecting with Bluetooth

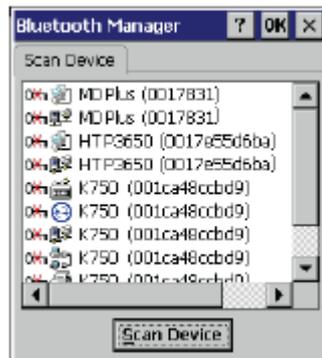
Your device is equipped with Bluetooth wireless technology that you can use to synchronize information with a computer equipped with a Bluetooth adapter or access point. Bluetooth wireless technology allows you to communicate with the computer whenever it is within range. Follow these instructions to set up a Bluetooth connection.

1. Tap **Start ->Settings -> Control Panel** and double-tap **Bluetooth Device Properties**.



The Bluetooth Manager opens.

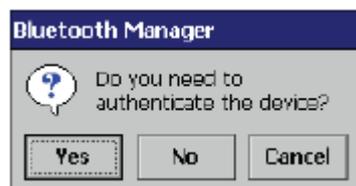
2. Tap Scan Device. Bluetooth Manager scans for local Bluetooth devices and displays a list of all Bluetooth enabled devices within range.



3. Double tap a device in the list to display a context menu.



4. Tap Trusted to add the device to the trusted Bluetooth devices list. You are prompted to authenticate the device. If you want to authenticate the device now, go to step 5. Otherwise, go to step 7.



5. Tap Yes to authenticate the device. You are prompted for the device's pin code. Enabling trusted devices to the Bluetooth manager's list. You can mark the device as trusted without authenticating the device by tapping No when prompted to authenticate the device.



6. Enter the pin code and tap OK to authenticate the device. Tap No to cancel authentication.

Note! *If you enter the wrong pin code, an authentication fail message appears. The red X disappears on the entry's key icon, and the context menu's additional options become available. The additional options are described as follows:*



Trusted: Tap to add or remove the device from the trusted device list. When checked, the red X on the key next to the device is removed.



Active: Tap to make the device active or inactive.

Authenticate: Tap to authenticate the device and add the device to the trusted devices list.

Encrypt: Tap to enable or disable encryption of data transferred between the PWS-440

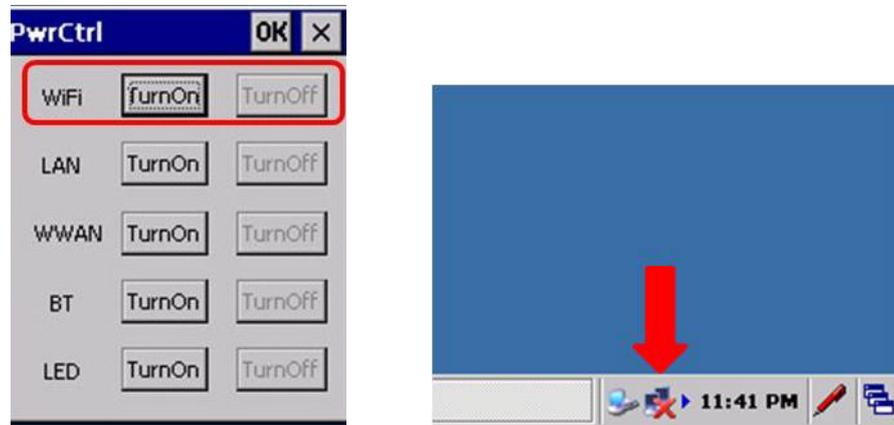
and a Bluetooth device.

Delete: Deletes the device from the Bluetooth Manager list

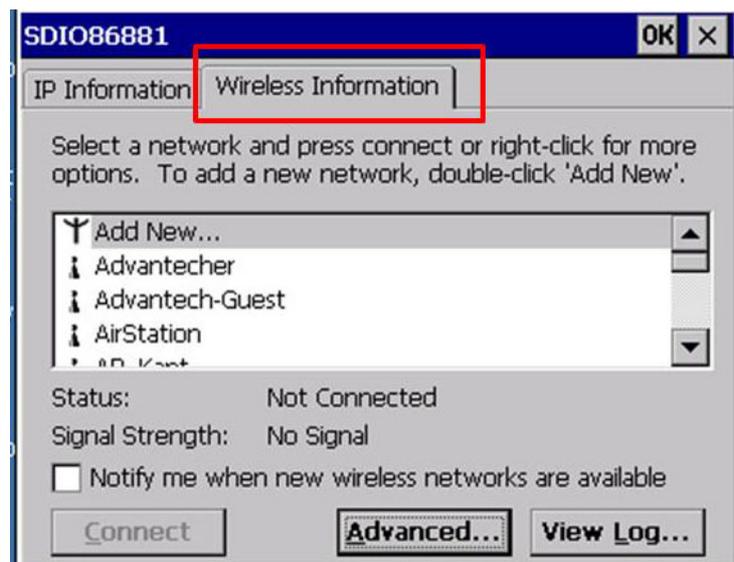
4.3 Connecting to a WLAN (WiFi)

Through a WiFi (wireless) connection you can add a new network, connect to an existing network, change the advanced wireless settings and view wireless networking log information. To establish a WiFi connection, follow the steps below:

1. From **START -> PROGRAM -> Utility -> "PwrCtrl"**, and choose **WLAN "ON"**. Then, click on the **WiFi** icon.

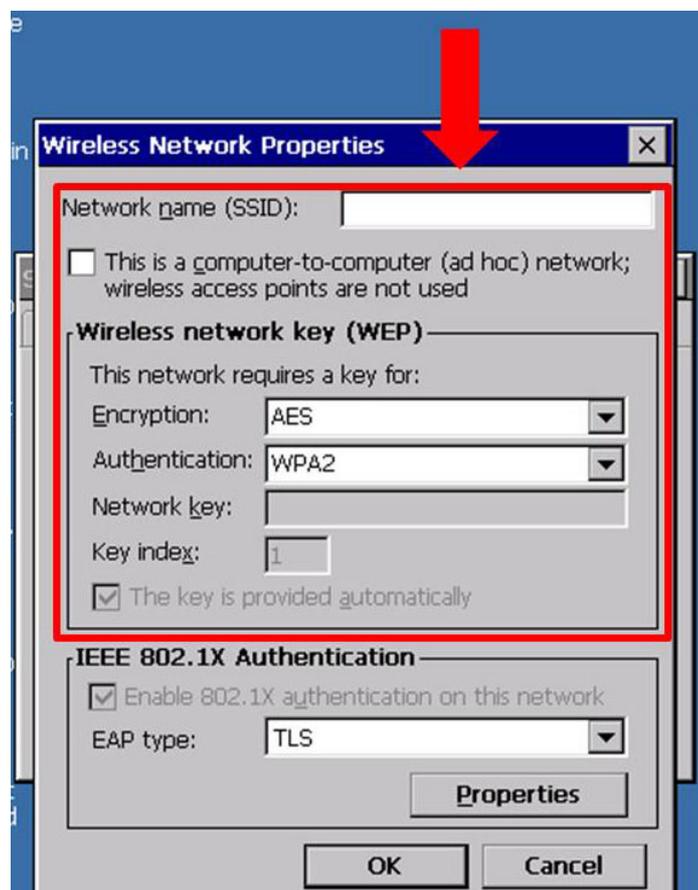
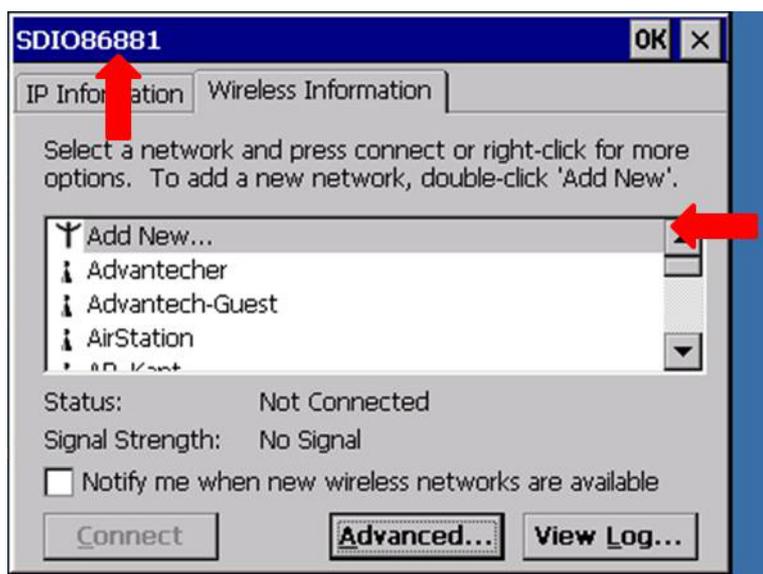


2. Select the **Wireless Information** tab to display the available options.



4.3.1 Add a New Network

1. To add a new network, double-click **Add New**.



2. When the following screen displays, input the required parameters as explained in the following table:

Parameter	Description
Network name (SSID)	Input the wireless network name.
This is an ad hoc network	Tick the box if required.
Encryption	Select from the drop-down list.
Authentication	Select from the drop-down list.
Network key	Input the network key (if required).
Key index	Input the key index (if required).
EAP type	Select the EAP type.

3. Click **OK** to connect.

4.3.2 Connect to an Existing Network

1. Select a network from the list and press **Connect** or right-click for more options.

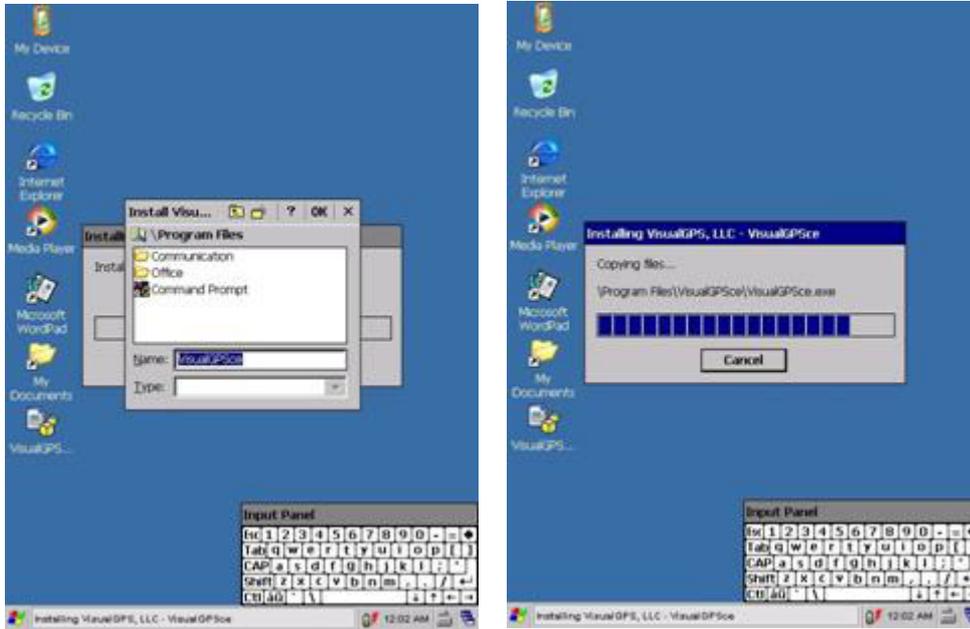


2. Click **OK** to connect.

4.4 Connecting GPS

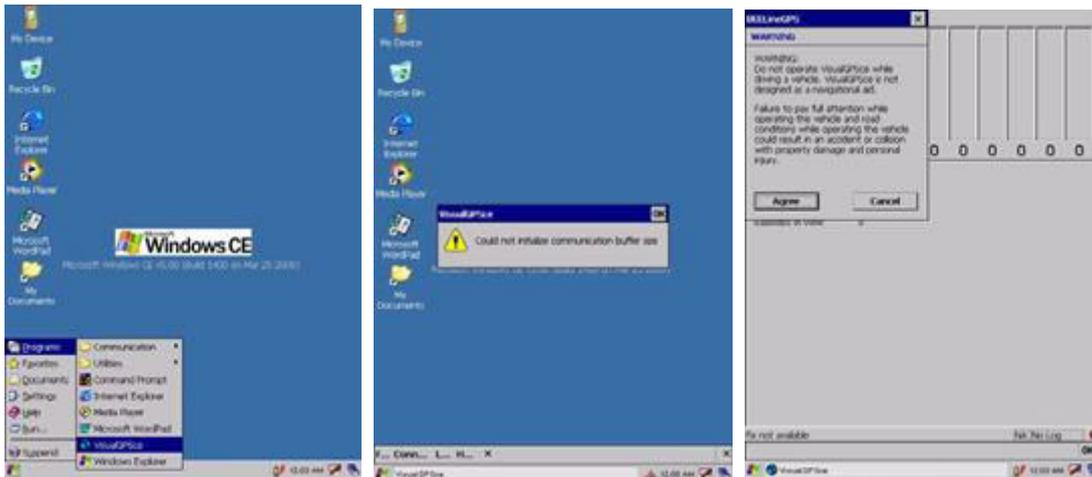
To run GPS Demo program, it need to download VisualGPS from internet. Copy this program onto Deskonchip1 to save, and double tag to install VisualGPS as follow instruction.

Copy “visualGPSceinstall.CAB” to PWS-440 @C Desktop, and execute “visualGPS-ceinstall.CAB” on desktop.

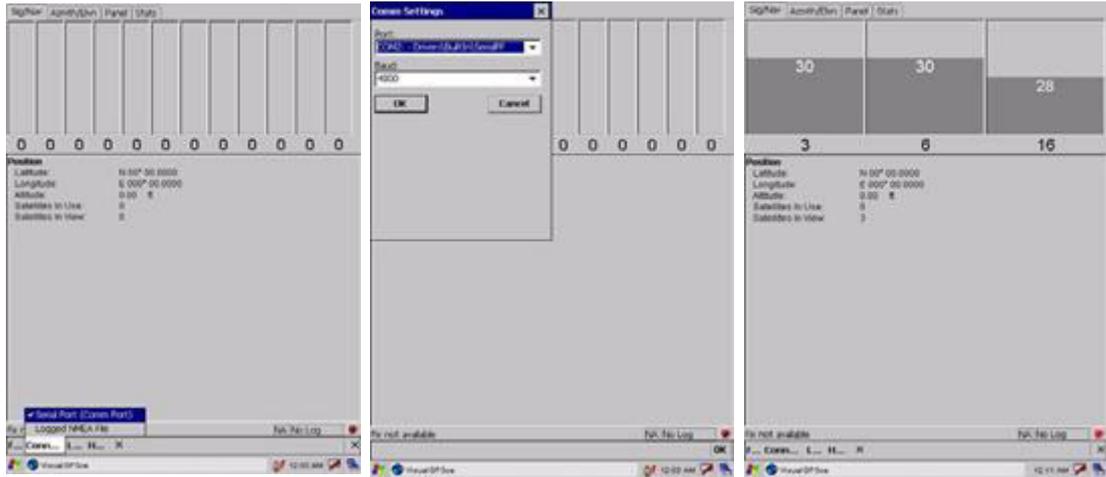


Follow these instructions to set up a GPS connection.

1. Tap Start -> Program -> VisualGPS.



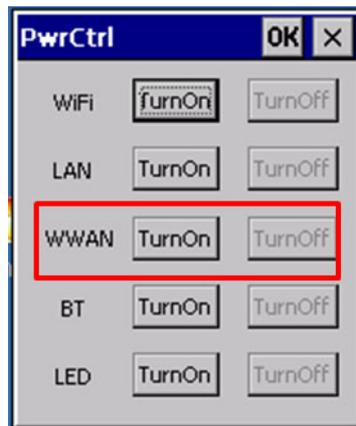
2. Click **COM5** and Baudrate **9600**. Then, **OPEN GPS** to start the “GPS”.



3. When GPS is active, click GPS status to display the satellite status.
4. Allow approximately 60 seconds (very first time) for GPS longitude and latitude display. Note: GPS display approximately time depend on the environment.

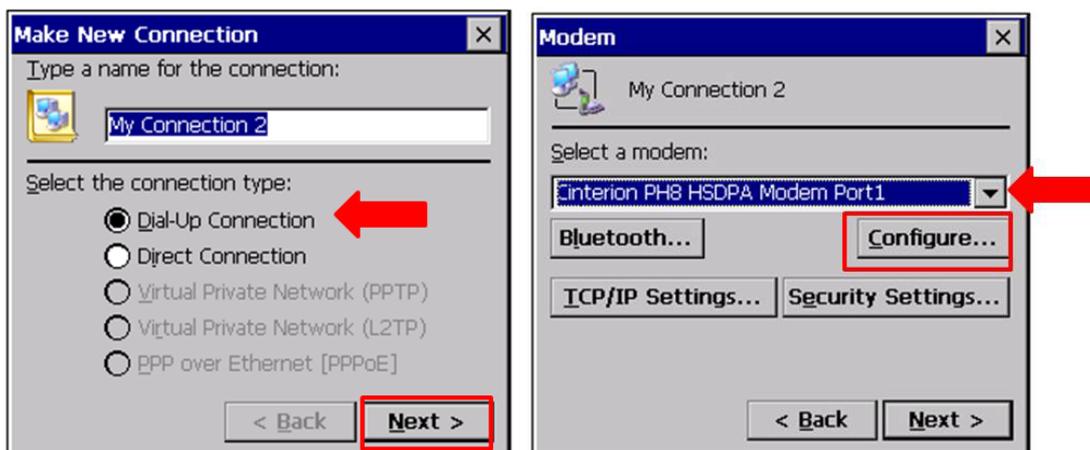
4.5 Connecting GPRS

1. From **START -> PROGRAM -> Utility -> “PwrCtrl”**, and choose GPRS “ON”.

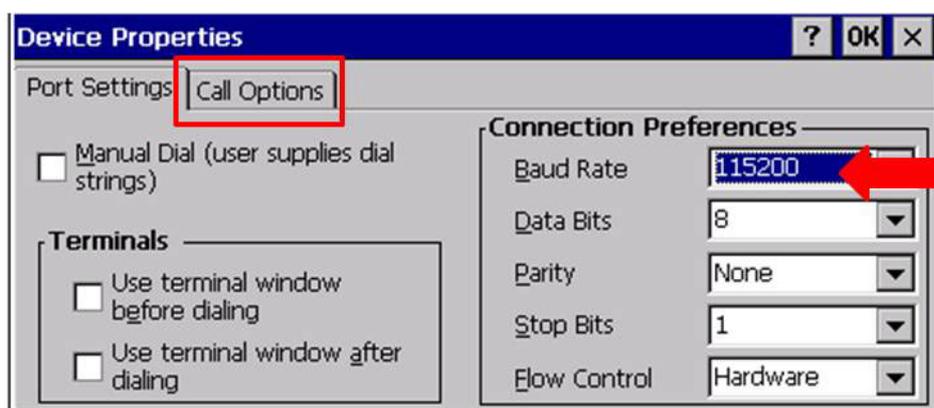


2. Chose **Start -> Settings -> Control Panel -> Network and Dial-up** connections.

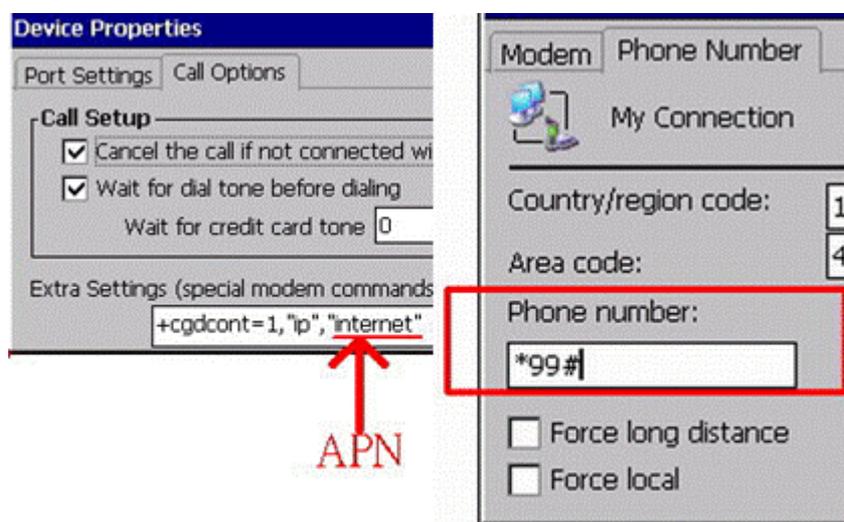
3. Tap **Make New Connection** -> **Dial-Up Connection** -> [**Cinterion PH8 HSDPA Modem Port1**] -> [**Configure**].



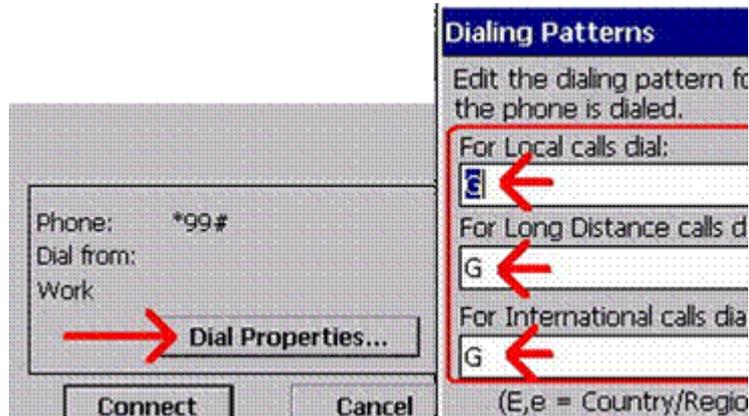
4. Set **Baud Rate** 115200, then choose **Call Options** to set up APN



5. Input AT Command **+cgdcont=1,"ip", "internet"**, and Phone Number input ***99#**. Then, click OK.



6. Click **Control Panel** then **Network** and **Dial-up Connections**. Click My Connection 2.
7. Click **Dial Properties...** and **Dialing Patterns**. Then, place “**G**” into each blank as follow:



8. Connection is successful when the **Status** screen displays **Connected**.



4.6 COM Port list

Below is reference for COM Port list.

COM No.	Indicate
0	Cradle
1	RS232
2	RS232 / 422(Optional) /485 (Optional)
3	Virtual COM port
4	Virtual COM port
5	GPS (baud:9600)
6	BT (baud:921600)
7	ActiveSync
8	Visual COM port
9	Visual COM port

Chapter 5

Advance Settings

5.1 Checking the Battery Status

This section describes how to view the power level for both the main and backup battery and how to set power saving options. To check the main and backup battery status:

1. Open Power Properties. Tap **Start -> Settings -> Control Panel**. Then double-tap **Power**.
The Power screen appears.



2. The battery menu item displays the status of the main and backup batteries.

Note! *It is necessary to charge the battery when the battery charge reaches below 13%. If the battery does not accept a charge, contact Technical Support.*



5.2 Optimizing Battery Life

You can extend the PWS-440 battery life by doing either of the following:

- Change the automatic power settings
- Minimize the use of the backlight

5.2.1 Changing the Automatic Power Settings

To change the automatic power settings:

1. In the Power Properties screen tap the Schemes tab.
2. Tap the arrow next to the Power Scheme and select Battery Power.
3. Tap the arrows next to the following three power saving scenarios and select the desired time out for each item.



- **Switch state to User Idle:** PWS-440 enters power saving mode when there is no user input after the selected time-out. The backlight brightness is reduced. The backlight resumes normal brightness when the LCD is Touched.
 - **Switch state to System Idle:** PWS-440 enters power saving mode when there is no system activity after the selected time-out. The backlight is turned off. The backlight turns on when the LCD is touched.
 - **Switch state to Suspend:** PWS-440 enters suspend mode when there is no user input or system activity after the selected time-out.
- Time out values range from Never, and 4/5/10/30 minutes.

5.2.2 Adjusting Backlight Settings

The power consumption of the LCD backlight may be high, turn off the backlight function if it is not necessary. If a backlight is required, set “automatically turn off the backlight” function.

To change backlight settings:

1. Tap **Start -> Settings -> Control Panel**.
2. Tap **OEMs Utility**.
3. Select Display Manager, and tap the arrow next to Dark or drag the slider to the left to reduce the screen brightness.



5.3 Performing a System Reset

You may need to perform a reset if the device freezes (i.e., device no longer responds to the buttons on the screen). A reset allows your device to get a fresh start, similar to rebooting a computer. This will restart your device and adjust memory allocation. All records and entries are retained after a reset. Unsaved data in open programs may in some cases be lost.



Performing a Hardware reset

1. Remove the stylus from its holder.
2. Lightly press the tip of the stylus to the reset button located on the PWS-440.



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