



**ULTRA-RUGGED**  
**FIELD PC**  
**OWNER'S MANUAL**

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P/N 22544-00



**WARNING!** Text set off in this manner indicates that failure to follow directions could result in serious injury.



**CAUTION:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

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# 1

## Getting Started

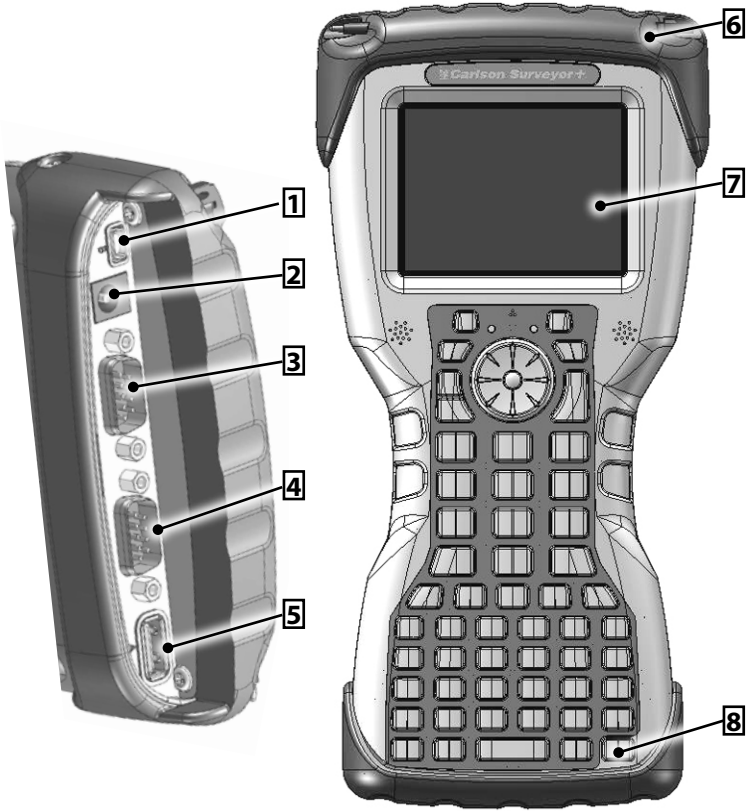
6 *The Anatomy of the Field PC*

7 *Getting Started*

The Field PC is a rugged handheld computer designed for data collection from multiple environments. Equipped with Windows Mobile 6 it features a wide variety of applications software and accessories.

### The Anatomy of the Field PC

The picture below shows some of the important parts on the Field PC.



**1** USB client (mini B)

**2** 12V DC jack

**3** 9 pin serial port (COM 2)

**4** 9 pin serial port (COM 1)

**5** USB host (full size A)

**6** Stylus

**7** Touchscreen/display

**8** Power button

## Getting Started

### Installing the Battery Packs

To get started, you first need to install the battery. The Field PC is equipped to handle two battery packs at a time. Both batteries are not needed for operation. Using two battery packs extends the operating time of the unit.

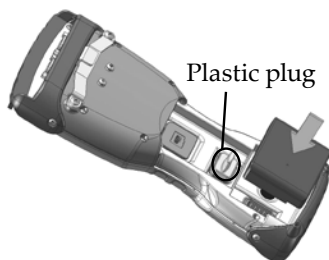
1. Use the edge of a key or a flat point screwdriver to open the two quarter turn latches that release the battery door from the unit.



2. Remove the battery door.

*Note: The hand strap is attached to the battery door and does not need to be removed to open battery compartment.*

3. Insert the battery pack(s) so battery contacts match up. The bottom slot is the main battery while the upper slot is the auxiliary battery. To use the upper slot, remove the plastic plug that protects the connectors.



*Note: When using one battery pack, the pack can be placed in either compartment. The unit feels more balanced if placed in the bottom slot.*

**⚠ CAUTION:** When not using a battery in the auxiliary slot, use the plastic plug for the auxiliary contacts. Failure to do so may cause corrosion on the auxiliary contacts.

4. Insert the tab on the top of the battery door into the case slots. Close the battery door.
5. Reattach the battery door of the unit.



### **Charge the Battery Packs**

Before using the Field PC for the first time, it is important to make sure the batteries are completely charged. Charge the battery/batteries while inside the unit. Complete the following steps to charge the batteries:

1. Attach the outlet adapter into the wall charger.
2. Plug the wall charger into an outlet.
3. Plug the other end of the wall charger into the DC jack on the Field PC.



4. Charge the Field PC at least 4 hours per battery to get a full charge.



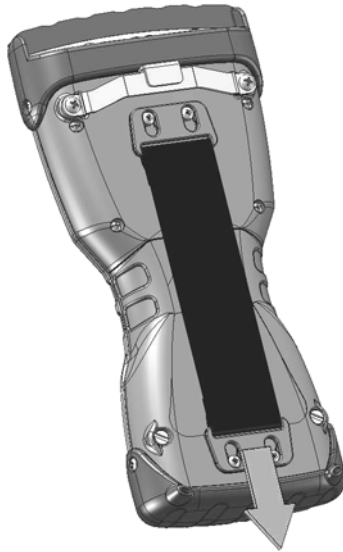
*Note: When charging two battery packs in the unit the charge time increases. The bottom battery charges first. The left LED light blinks while charging. When the unit is fully charged the LED is solid. The unit is not damaged if left connected to the wall charger for extended periods of time.*

### **Charging Temperatures**

Only charge your battery pack in temperatures between 32° F and 104° F (0° C and 40° C). For best results, charge the battery pack at room temperature (68° F or 20° C).

### **Field PC Hand Strap**

To remove the hand strap of the Field PC press the latch down toward the unit and then slide down. Either end of the hand strap can be removed.



*Note: The hand strap does not need to be removed to access the battery compartment.*





# 2

## **Communicating with a Desktop Computer**

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Desktop Computer*

The Field PC can connect to a Desktop PC using either ActiveSync® (for computers with Windows® 2000 and Windows® XP), or Windows Mobile® Device Center (for computers with Windows Vista™).

## Communicating with a Desktop PC

### Install ActiveSync® on a Desktop Computer (Windows® 2000 and Windows® XP)

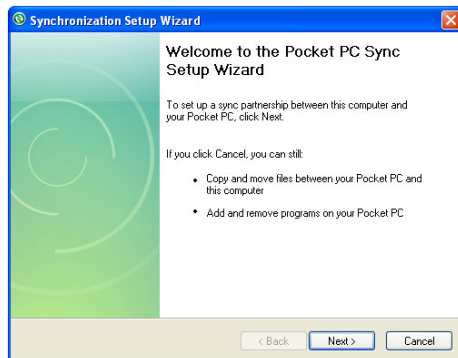
*Note: If you have Windows Vista™, see Install Windows Mobile Device® Center.*

1. Insert the Getting Started Disc into your desktop computer. A window appears on the display.
2. Select your language.
3. Follow the directions on the screen to install Windows® ActiveSync® 4.5.

*Note: Install ActiveSync® before attaching the USB cable to the desktop or Field PC.*

### Creating an ActiveSync® Connection

1. Plug USB Client end (mini B) of the USB communications cable into your Field PC.
2. Plug the USB Host end (full size A) of the USB communications cable into your desktop computer.
3. Establish an ActiveSync® partnership by following the instructions on the desktop computer screen.



## Install Windows Mobile® Device Center on a Desktop Computer (Windows Vista™)

To install the Windows Mobile® Device Center on a desktop PC with Windows Vista™ complete the following steps:

1. Connect your device to your desktop PC.
2. Download the Windows Mobile® Device Center Installer to your PC by clicking on the download link that appears in the pop-up window.
3. Select “Run this program from its current location” and click OK.
4. Follow the instructions on the screen.



### Creating Windows Mobile® Device Center Connection

Once Windows Mobile® Device Center has been installed, create a connection at any time by plugging one end of a USB cable into the computer and the other end into the Field PC. Windows Mobile® Device Center automatically opens. Follow the steps on the screen.

*Note: For more information about connecting to a PC using either ActiveSync® or Windows Mobile® Device center visit Microsoft's Windows Mobile® website.*





# 3

## Using the Hardware

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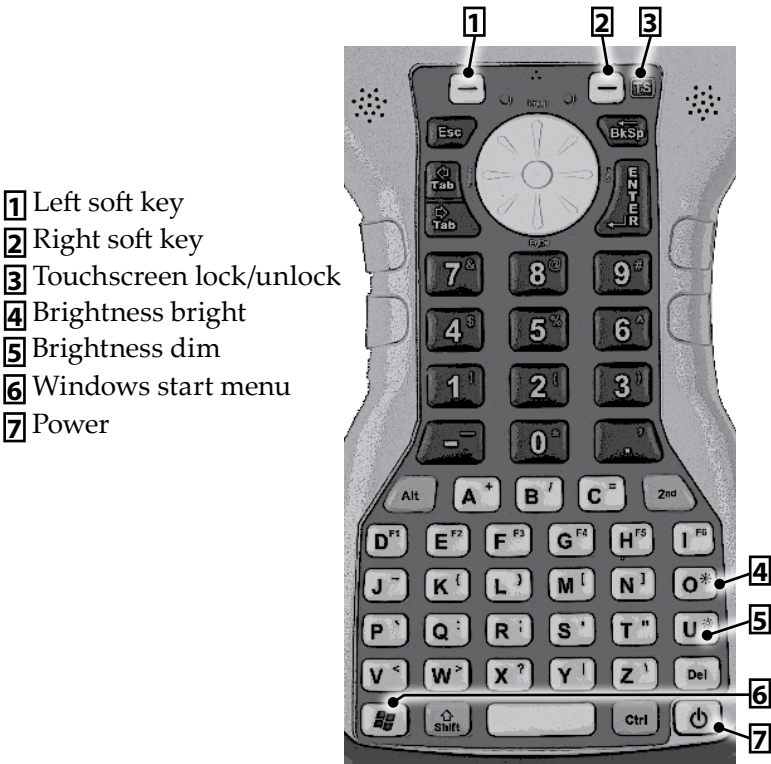
## Using the Hardware

This chapter discusses the hardware components of the Field PC. Specifically, you will learn about:

- Keyboard functions
- Suspending, powering off, and resetting the device
- Using the stylus
- Using the touchscreen

### Keyboard Features

Pictured below is a diagram of the Field PC keyboard.



- 1 Left soft key
- 2 Right soft key
- 3 Touchscreen lock/unlock
- 4 Brightness bright
- 5 Brightness dim
- 6 Windows start menu
- 7 Power



## Specialized Keyboard Keys

### Sticky Keys

The Shift, Alt, Ctrl, and 2nd keys are called sticky keys. Each sticky key has three modes: Next Key, ON, and OFF. The colored backlights indicate when a sticky key is on. The sticky key mode is determined as follows:

By default all sticky keys are OFF.

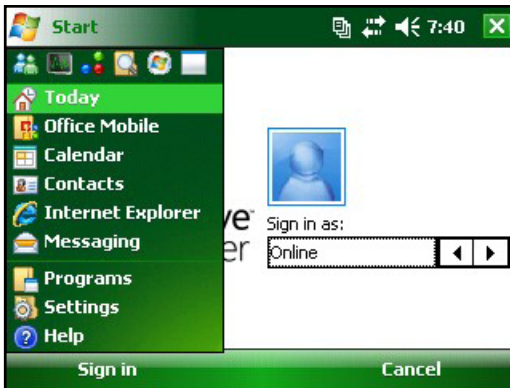
Pressing the sticky key once toggles the mode only for the Next Key pressed. For example, with shift mode OFF (lower case), pressing SHIFT then K displays an upper case K.

Double pressing the sticky key toggles and locks the sticky mode. For example, with the shift mode OFF, double tapping SHIFT locks the shift mode ON (caps lock). All subsequent non-sticky keys pressed are then upper case keys. With the shift mode ON, tapping SHIFT turns caps lock off and all non sticky key presses result in lower case characters.

If you hold down a sticky key it is on for every key stroke until the sticky key is released.

### Window Key

Press the Window Key to display the Start Menu regardless of the application running.



## Communication Ports

The Field PC has the following communication ports located at the top of the case:

- Two 9 pin serial port (COM 1 and COM 2)
- USB A (host) port
- USB B mini (client) port

## Powering Off, Suspending, Resetting, and Restoring Factory Defaults

The Power button allows you to suspend, power off, or reset the device. A series of keyboard actions also lets you restore the hard drive, settings, and icons to their original factory defaults. Below are instructions for each action.

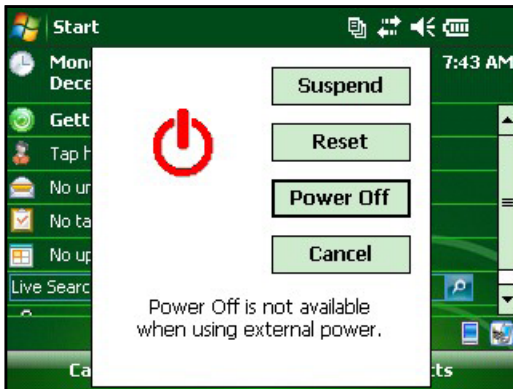
### Powering Off the Device

When the device is powered off, it closes all programs and powers down all system components except for the real-time clock. Unlike suspend mode, the device resets when it is powered on again. Any unsaved data will be lost.

To preserve battery power, we re/commend you power off the device if it will be left unused for two weeks or longer.

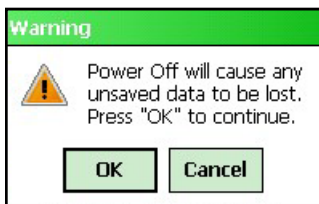
To power off the Field PC,

1. Save all open files and close any running programs.
2. Press and hold the Power button until the Power Button menu appears.



*Note: The device cannot be powered off while it is plugged into the wall charger.*

3. Tap *Power Off*. A warning dialog appears. Tap *OK*.



To power on your Field PC, hold down the Power button until you see the screen light up.

*Note: The Battery Settings screen will appear when you power on your Field PC.*

### **Suspending the Device**

Suspending the Field PC is different from powering it off. When the device is suspended it goes to sleep, and when it is turned back on, the device resumes where it was prior to suspending it. Some battery power is used.

We recommend suspending your device if you plan to turn it off for less than two weeks and if it is attached to a wall charger when it is not being used.

To suspend your device, press the Power button briefly and release. To resume the device from suspend mode, press the Power button again.

### **Resetting the Device**

Follow the steps below to reset the Field PC:

1. Save your open files and close any running programs.
2. Press and hold the Power button until the Power Button menu appears.
3. Choose *Reset*.

If your device locks up, you can reset the device by pressing the Power button for 10 seconds or until the screen goes dark. After a few seconds, the device turns on again.

## Restoring the Device to its Factory Settings

Follow the steps below to restore user storage, settings, and icons on your Field PC to their original factory defaults.

**CAUTION:** Restoring the Field PC to its original factory state will permanently erase data saved, any software you installed, and any changes you made on the Field PC, including settings changes.

To perform a clean boot, which restores everything but the “storage” folder, select *Reset* from the Power Button menu and immediately press and hold Ctrl + Alt + Del.

To perform a storage clean, which cleans the “storage” folder, select *Reset* from the Power Button menu and immediately press and hold down Ctrl + Alt + 2.

Perform both a clean boot and a storage clean for a complete reset to factory settings.

## Using the Stylus

Below are instructions for tasks using the stylus.

To do this . . .	Follow these steps
Select an item	Tap once.
Open an item or file	Tap the item or file twice.
Open a context menu for an item	Tap and hold the item. The context menu appears.
Cut or copy	Tap and hold until the context menu appears. Select <i>Cut</i> or <i>Copy</i> .
Paste	Tap and hold the area where you want to paste. Select <i>Paste</i> from the context menu that appears.
Drag and drop	Tap and drag the item to the destination. Lift up the stylus.
Select multiple items	Drag the stylus over the items.

## Using the Touchscreen

This section explains how to protect, calibrate, and disable the touchscreen.

## Protecting the Touchscreen

The touchscreen is sealed to protect your device against water and dust. To protect your touchscreen, we recommend that you apply a touchscreen protector.

**CAUTION:** If the screen protector is not replaced as often as the screen protector packaging directs the touchscreen may be damaged.

## Calibrating the Touchscreen

If the touchscreen is not responding accurately to stylus taps, try calibrating the touchscreen manually using the following steps:

1. Tap *Start* > *Settings*. The Settings window appears.
2. Select the *System* tab at the bottom of the display.



3. Scroll down and tap on the Screen icon.
4. When the Screen window appears, tap *Align Screen*.
5. Follow the directions on the display to calibrate the touchscreen.
6. After you calibrate the touchscreen, the Screen window appears again. Tap *OK* to exit the screen.

## Disabling the Touchscreen

The Field PC allows you to disable and enable the touchscreen to prevent extraneous entry of data when you are not using touchscreen data entry. To disable or enable the touchscreen, press the Touchscreen key.





# 4

## Programs and Settings

- 24 *Understanding the Today Screen*
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- 27 *Adjusting the Backlight*
- 28 *Performing Common Tasks on the TK-6000*
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- 36 *Information for Software Developers*

The Field PC runs Windows Mobile® 6 giving you the power, security, and seamless connectivity of the Windows Mobile operating system. This chapter explains how to use Windows Mobile® 6 functions.

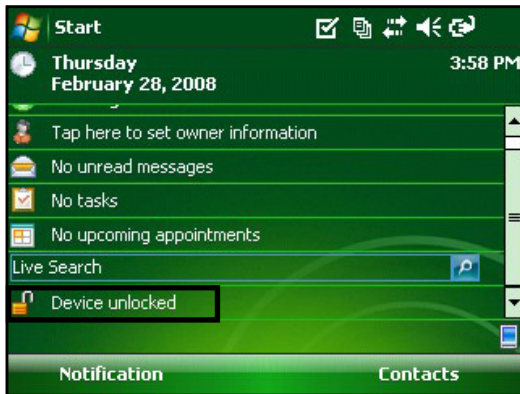
## Understanding the Today Screen

The Today screen is the default screen you see when your device powers on. From the Today screen you can view or select

- Today's date
- Owner information
- Messages
- Tasks
- Upcoming appointments

The Today screen also allows you to lock or unlock your device. Locking the device disables your screen for easy cleaning.

To lock the device, simply tap on the words "Device unlocked."  
To unlock the device, tap on the word "Unlock" on the next two screens that appear.

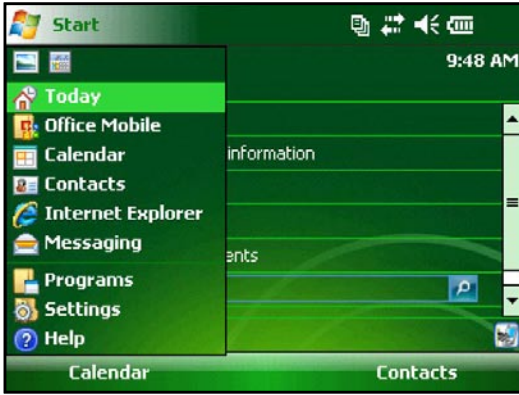


## Using the Start Menu

The Start menu is the main access point for all programs in Windows Mobile®. It allows you to access files, programs, or system settings.







To access the Start menu, tap the Start menu icon in the top left corner of your screen or press the Start menu button on the keyboard. The Start menu appears, giving you links to programs, settings, and menus.




## Entering Information

At the bottom of the display is a data entry icon. Tapping on the icon allows you to enter information via the touchscreen using the stylus. Specifically, you can choose to:

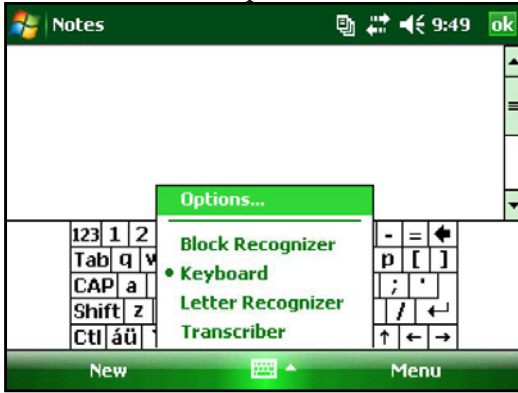
-  Select alphanumeric characters from the on-screen Keyboard utility (the default input method).
-  Use *Letter Recognizer*. This input method recognizes character strokes and gestures.
-  Enter text using *Block Recognizer*. This utility recognizes letters from single strokes.
-  Use *Transcriber*, a program that allows you to enter data using cursive, print, or mixed handwriting.

*Note: For more details about using each input method, go to Start > Settings > Input and choose the input method from the Input method window.*

When you are ready to enter text, you can switch from the default input method (keyboard) by following these steps:

1. On the bottom center of the screen, tap the arrow next to the input method icon (shown). If the input selector arrow is not displayed, tap the input method icon. 





- The input method menu appears. Tap the input method you want from the list of options.



- Using the selected input method, enter your text.

## Recognizing Status Icons


Status icons show the status of operations on the Field PC. Status icons and their functions are listed in the following chart.

Icon	Name	Function
	Charge indicator	Tells you when the device is charging.
	Speaker	Tap to control volume.
	Remaining battery capacity	Tap to see how much battery power remains in both battery packs.
	Touchscreen	Touch screen disabled.

For an additional list of icons and their functions, follow these steps:

- Tap *Start > Help*.
- Select Contents located in the bottom left corner.
- Tap on Start using your device.
- Tap on What do these icons indicate?

## Recognizing Soft Keys

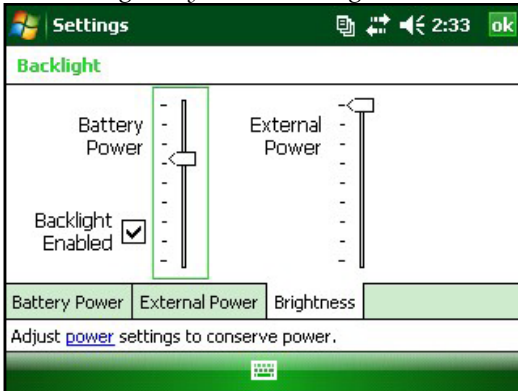
These context-sensitive keys appear as words, buttons, or tabs on the menu bar. Tap on these keys to perform actions or open menus. The  (right and left soft keys) located at the top of the keyboard can be used to select the soft keys.



## Adjusting the Backlight

Dimming or turning off the display backlight saves battery power when the device is running. To dim or turn off the backlight, follow these steps:

1. Tap *Start > Settings > System > Backlight*.

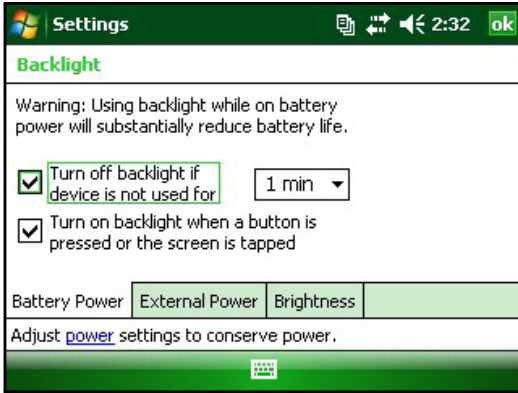


2. Select the *Brightness* tab. The Brightness window for battery power appears.
3. Drag the backlight slider slightly down to dim the backlight, and drag the slider up to brighten the backlight.

The Backlight Enabled checkbox applies when the device is running on battery power. To completely disable the backlight when on battery power, uncheck this checkbox.

### Adjusting the Backlight Timer

By default, the display backlight is set to turn off after one minute of inactivity. To adjust the time when the backlight turns off, follow these steps:



1. Tap *Start > Settings > System > Backlight*. The Backlight window appears. To change the timer for external power, tap the *External Power* tab.
2. Select or deselect the two options.
3. If the first checkbox is selected, choose the length of time before the backlight turns off.

### Adjusting the Contrast and Brightness

The screen on the Field PC has the option to control the brightness.

Press the 2nd key and then the U to dim, or O to brighten, the contrast or brightness.

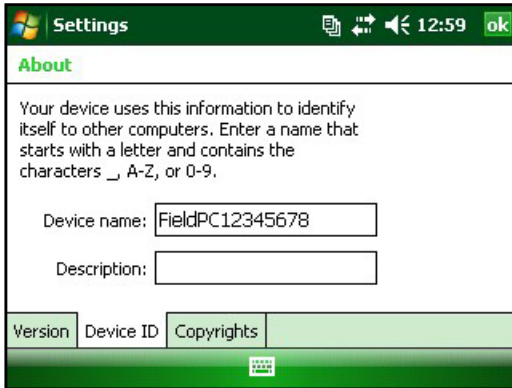
## Performing Common Tasks on the Field PC

### Creating a Name for the Field PC

We recommend creating a name for the Field PC so external devices like desktop computers or devices that use Bluetooth® technology can differentiate between devices.

To create a different name, follow these steps:

1. Tap *Start > Settings > Systems* tab.
2. Tap *About*.
3. Select the *Device ID* tab at the bottom of the screen.



4. Type in a new device name.

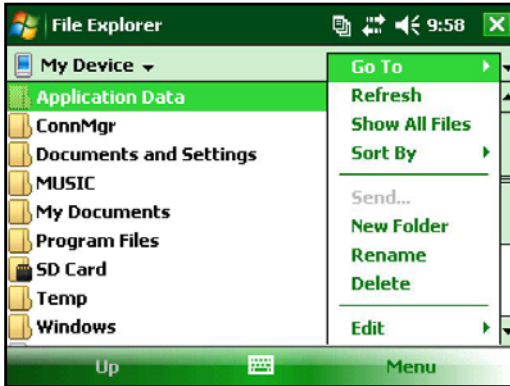
### Exploring Files

To explore files stored on the Field PC, follow these steps:

1. Tap *Start > Programs > File Explorer*. The File Explorer window appears.
2. If the drive does not already appear, tap on the drop-down menu in the top left to select it.



3. Navigate the file directory by tapping on the folders and files. To go up a level, tap on the *Up* soft key at the bottom of the screen.
4. Use the *Menu* soft key at the bottom of the screen to manipulate files.



## Applications and Task Manager

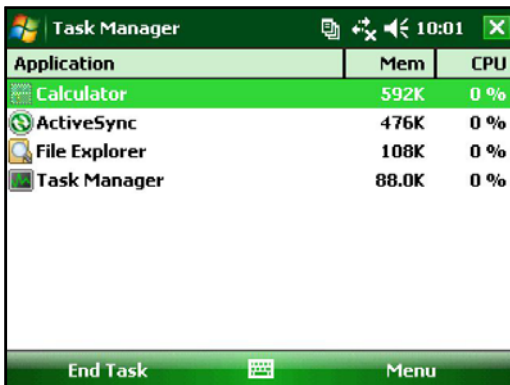
### Close Running Programs

The Task Manager can be used to close unused programs to free memory on the device. It is recommended to close any programs not used.

*Note: Tapping on the **X** in the top right corner of a program only minimizes the program; the program continues to run in the background.*

To close one or more running programs, follow these steps:

1. Go to *Start > Programs > Task Manager*.




2. Select the program(s) to close.
3. Tap *End Task*.

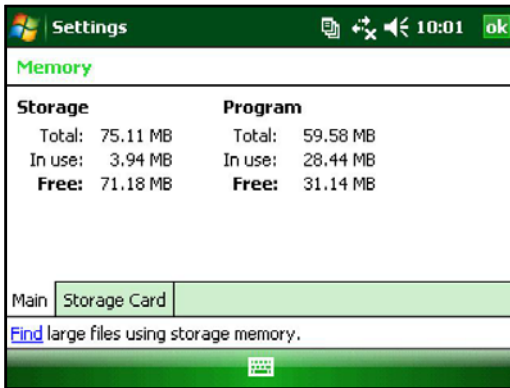
### Switching Between Running Programs

To switch between programs running on the Field PC, follow these steps within the applications manager:

1. Select the program to switch to.
2. Tap the *Menu* soft key and then *Switch To*. The program comes to the forefront.

### Viewing Memory Allocation for Programs

To see how much memory is available for programs and storage on the Field PC, go to the applications manager by either clicking the icon  at the top or going to *Start > Settings > System tab > Memory*. Tap the *Main* tab. Available memory for storage and programs screen appears.



### Using On-Device Help

Access electronic help files on the Field PC from each screen. Windows Mobile® provides help information that is context-sensitive; the help information that appears on the help screen is directly related to what is on the device.

To access help files, follow these steps:

1. Tap *Start > Help*.
2. Select an option from the help menu that appears.

*Note: If the topic is not listed, try one of these options:*

**Option 1:** Choose *Contents* at the bottom of the screen. A table of contents appears. Tap on the item.

**Option 2:** Choose *Search* at the bottom of the screen. Search allows searching for specific topics within set boundaries.

**Option 3:** To access help about a certain program on the device, open the program first, then tap *Start > Help*. The help menu items that appear are directly related to the application program.

*Note: If more assistance is needed than a help file provides, visit Microsoft's website at [www.microsoft.com/mobile](http://www.microsoft.com/mobile).*

## Backing Up Data

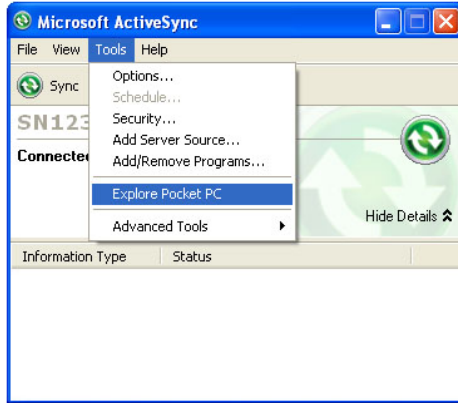
The Field PC is designed to protect important data. However, it is still a good idea to back up the data regularly by saving information to a desktop computer or to a SD or PC card.

### Backing Up to a Desktop Computer

To copy files from the Field PC to a desktop computer, follow these steps:

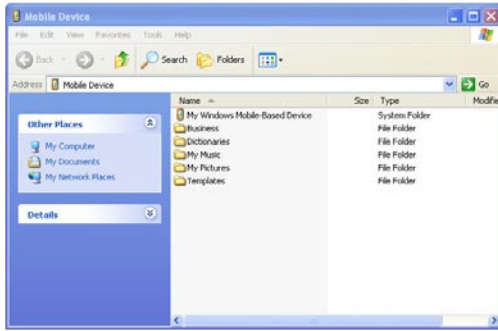
**Using ActiveSync® (Windows® 2000 and Windows® XP)**

1. Re-establish an ActiveSync® connection.
2. In the ActiveSync window on the desktop computer, click *Tools > Explore Pocket PC*.





3. A new window opens, showing the file directory for the Field PC.



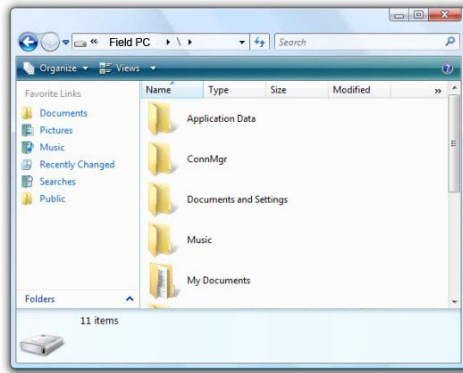
4. Select the files on the Field PC to copy.
5. Copy the files by choosing *Edit > Copy* or by right-clicking and choosing *Copy*.
6. Paste the files onto the desktop computer.

**Using Windows Mobile® Device Center (Windows Vista™)**

1. For Windows Vista™, re-establish a Windows Mobile® Device Center connection.
2. In the window on the desktop computer, click *File Management*.



3. A new window opens, showing the file directory for the Field PC.

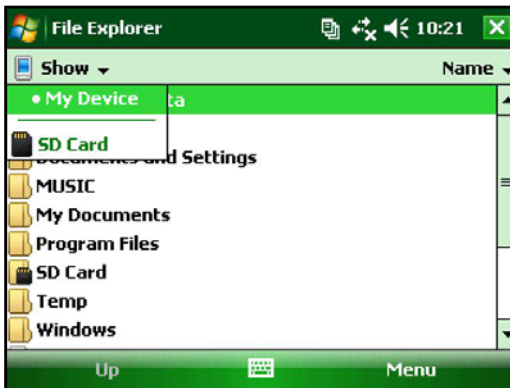


4. Select the files on the Field PC to copy.
5. Copy the files by choosing *Edit > Copy* or by right-clicking and choosing *Copy*.
6. Paste the files onto the desktop computer.

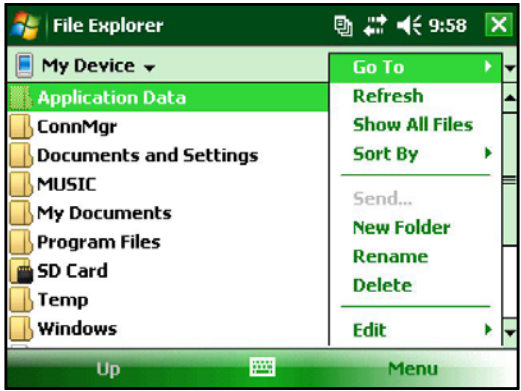
### Copying Data

To copy data from one directory to another (this includes to and from storage), follow these steps:

1. Select *Start > Programs > File Explorer*.
2. The drop-down menu in the top left is a list of file directories. Choose the directory where the files to copy are located.



3. Highlight the files to copy and tap on *Menu* in the lower right.



4. Tap the stylus on the *Edit* option.



5. Choose *Copy* from the sub menu.
6. Select the file directory to copy to.
7. To paste, tap the *Menu* soft key and choose *Edit > Paste*.
8. The files are now in both directories.

A USB drive can be inserted in the USB Host (Full size A) and used as a storage device.

## **Connecting to a PC**

### **Re-establishing an ActiveSync® Connection**

To re-establish an ActiveSync® connection, follow these steps:

*Note: The unit can charge while connected.*

1. Plug USB Client end (mini B) of the USB communications cable into the Field PC.
2. Plug the USB Host end (full size A) into the desktop computer. ActiveSync® automatically establishes a connection between the Field PC and the desktop computer.
3. Follow the instructions on the desktop computer screen.

*Note: Microsoft ActiveSync® version 4.5 or later is required to connect to the Field PC. Information can be found at our website, [www.junipersys.com](http://www.junipersys.com), for establishing other connections.*

### **Re-establishing Windows Mobile® Device Center Connection**

Complete the following steps to reestablish a Windows Mobile® Device Center connection.

1. Plug the USB Host (full sized A) into available port on the desktop computer.
2. Plug the other end, USB Client (mini B) into the Field PC. Windows Mobile Device® Center will automatically open.
3. Follow the steps on the screen.

## **Information for Software Developers**

This information can be located on our website at [www.junipersys.com](http://www.junipersys.com).



# 5

## **Bluetooth® Wireless Communications**

38 *Bluetooth® Drivers and Profiles*

This chapter explains how to setup a Bluetooth Partnership on the Field PC.

## Bluetooth® Drivers and Profiles

Microsoft® Bluetooth drivers are loaded onto the Field PC at the factory. These drivers support the following profiles: serial port, file transfer, audio/visual control, dial up networking, object push, human interface device, and advanced audio distribution.

Identify the power status of Bluetooth using Wireless Manager

To determine the power status of the Bluetooth tap *Start > Settings > Connections tab > Bluetooth > Mode tab*.

*Note: By default, Bluetooth is turned off. If the Bluetooth is turned on and then the device is suspend, the Bluetooth turns off while the Field PC is suspended to save battery power. When the Field PC resumes (turns on), Bluetooth turns on automatically.*



### Make the Field PC Discoverable to Another Device

To allow other devices that use Bluetooth wireless technology to detect the Field PC and communicate with it, make the device discoverable or establish a partnership with the other device.

Follow these steps to make the device discoverable:

1. Tap *Start > Settings > Connections* tab.
2. Tap *Bluetooth*.

3. Select the *Turn on Bluetooth* checkbox, and then select the checkbox to *Make this device discoverable to other devices*.

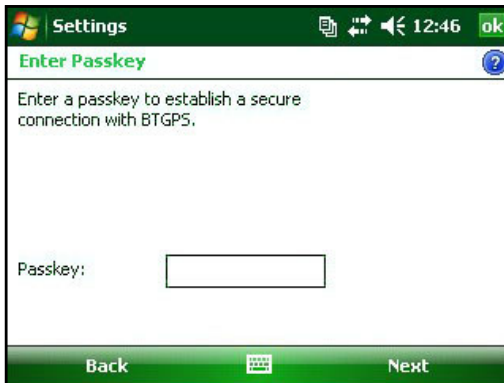
### Create a Bluetooth Partnership

A partnership is created between the Field PC and another device that uses Bluetooth wireless technology to help exchange information securely. Follow the steps below to create a partnership:

1. Make sure the two devices are turned on, discoverable, and within at least 30 feet of one another.
2. Tap *Start > Settings* and then tap the *Connections* tab.
3. Tap *Bluetooth > Devices tab > Add New Device*. The device searches for other devices with Bluetooth capabilities and displays them in the list.



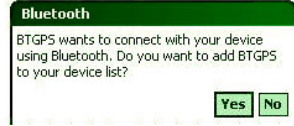
4. The name of the Bluetooth device appears. Tap the name, then tap *Next*.



5. If the Bluetooth device has an assigned passkey, enter the number. If the device has not already been assigned a passkey but requires one, enter an alphanumeric passkey on the Field PC between 1 and 16 characters. Tap *Next*.

*Note: If you are unsure whether your device requires a passkey and whether one has already been assigned to your Bluetooth device, see the user documentation that came with the Bluetooth device.*

**Important:** If the Bluetooth device does not use a passkey, leave the passkey blank and tap *Next*. A message appears, asking if you want to add the device to the device list. Choose *No* and skip to step 7.



*Note: It is important to choose No when you are asked whether you want to add to the device to the device list; choosing Yes sends you back to the passkey screen.*

6. Enter the same passkey on the other device.
7. In the Partnership Settings screen on the Field PC, you can assign a new name to the device in the *Display Name* option.
8. Select the service you want to use from the Services box, then tap *Finish*.

### **Bluetooth Virtual COM Ports**

Some application programs connect using a virtual COM port (serial port) when making a Bluetooth connection. To make a connection possible for such programs, you must first set up a virtual COM port on the Field PC. Once created, this virtual port can be used like any other COM port. For example, you can use a virtual COM port for programs that connect to a GPS receiver. You can also use it to connect to a printer that is enabled with Bluetooth technology.

When setting up a virtual COM port, you must specify if the COM port is an outgoing COM port or an incoming COM port.

An outgoing COM port means that the Field PC initiates communication with the other device. For example, when you are using a Bluetooth GPS receiver, the Field PC initiates the request for data; thus, the virtual COM port connecting with the receiver would be an outgoing COM port.



An incoming COM port means that the other device is initiating the communication with the Field PC. For example, a desktop computer might initiate a Bluetooth ActiveSync connection with the device via the virtual COM port.

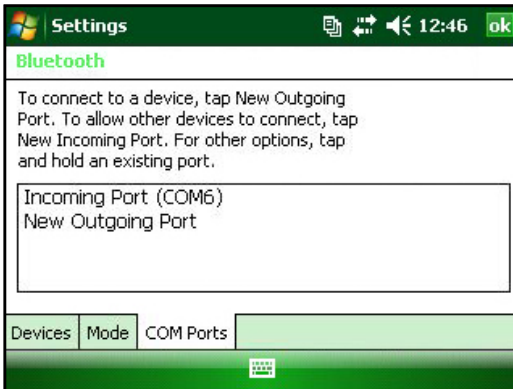
For more details about setting up outgoing and incoming COM Ports, read the following sections.

### Set up an Outgoing Bluetooth COM Port

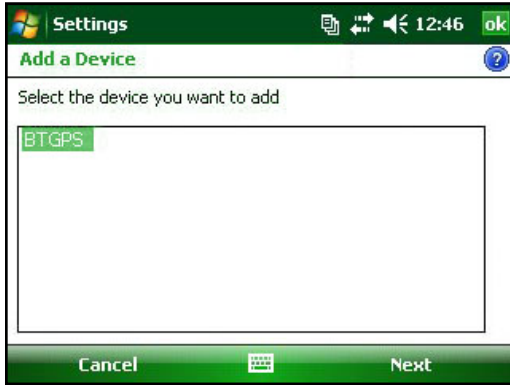
Use this option if you want to assign the virtual COM port as an outgoing COM port (*i.e.*, you want to use the Field PC to initiate communications with another device).

Follow the steps below to set up an outgoing Bluetooth COM port.

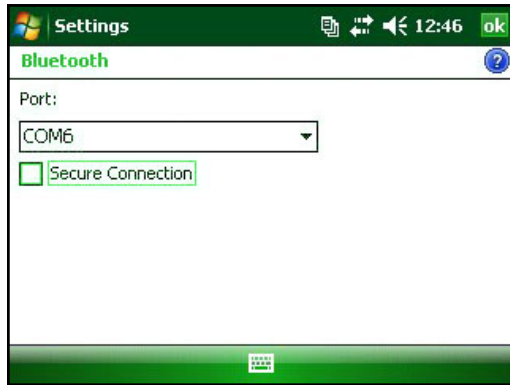
1. Make sure you have paired with the serial port device you want to communicate with. To do this, follow the steps in the section called *Create a Bluetooth partnership* in this chapter.
2. Select the COM Ports tab.
3. Tap *New Outgoing Port*, the second option shown.



4. The *Add a Device* screen appears. Tap on the name of the device you want to set up as an outgoing port.



5. Select a numbered COM port from the list of ports that appear. If the port cannot be created, it is in use. Select a different numbered port.



6. **Important:** Deselect the *Secure Connection* option below the list of COM ports, as shown above. Deselecting this option ensures that the device disconnects its Bluetooth connection only when you tell it to.
7. Tap *Finish*.

Once the virtual COM port is assigned using the outgoing Bluetooth COM port, specify the COM port assignment within your application as explained in the user documentation for the application. An example follows.

Suppose you are using a Bluetooth-enabled GPS receiver with the device and a navigation program on the Field PC. In this

example, assume you have set up a virtual COM port between the Field PC and the GPS receiver and that you assigned the outgoing COM port as COM 6. To assign the COM port in your navigation program, you would then follow these steps:

1. Locate the place in the navigation program where the COM port is chosen.
2. Select COM Port 6 as the COM port for the Bluetooth GPS receiver.

### **Set Up an Incoming Bluetooth COM Port**

Use this option if you want to assign the virtual COM port as an Incoming COM port (i.e., you want another device to initiate communications with the Field PC). If you are connected with a Bluetooth device that supports serial communications, follow these steps to set up the incoming Bluetooth COM port:

1. Press the *COM Ports* tab.
2. Tap on *New Incoming Port*.
3. Select a numbered COM port from the list.  
*Note: If the port cannot be created, it is in use. Select a different numbered port.*
4. **Important:** Deselect (clear) the *Secure Connection* checkbox. Deselecting this option ensures that the device disconnects its Bluetooth connection only when you tell it to.






# 6

## Wi-Fi Connections

46 *Wi-Fi Connections*

## Wi-Fi Connections

When the Field PC is connected through Wi-Fi, the icon  appears in the tool bar.

### Connecting to Wi-Fi Network

Many times when entering an access point a screen pops up asking if the network connects to the network or a private or corporate network. Choose the correct network and tap *Connect*. The choice will be stored in the Connection Manager for future use.

To actively look for a network connection complete the following steps:

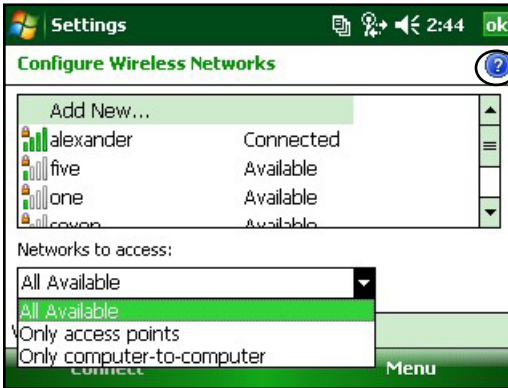
1. Activate Wi-Fi by going to *Start > Settings > Connections tab > Wireless Manager*.



2. Turning the Wi-Fi on automatically scans the area for available networks.



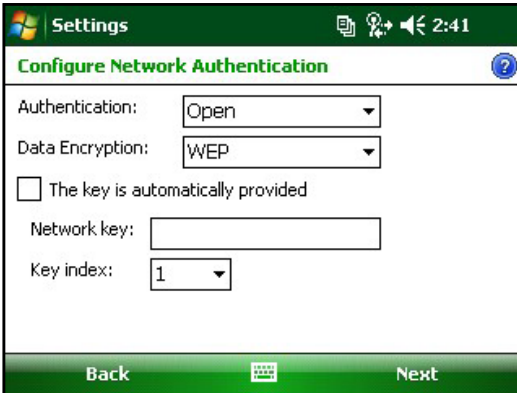
- When the Field PC completes the scan, a list of available networks and their strengths appears in *Start > Settings > Connections tab > Wi-Fi*



*Note: Click on this icon when you need help.*

- Tap on the desired network to connect.

*Note: If the network is password protected a window will appear for the password to be inserted.*



## Managing Connections

To adjust the Wi-Fi settings access the Managing Connections window go to *Start > Settings > Connections tab > Connections*.







# 7

## Care and Maintenance

50 *Caring for your Field PC*

This chapter explains how to store, clean, and protect your Field PC and battery pack.

## **Caring for Your Field PC**

### **Storing your Field PC and Battery Pack**

When the Field PC is not being charged and is suspended, it draws a small amount of power. This power draw is used to maintain the memory (RAM) of the Field PC in the same state it was when it was suspended. We recommend charging the Field PC each night or weekend when it is in suspend mode.

If the Field PC is not charged while in suspend mode and the battery reaches a low charge, the Field PC automatically powers off to prevent further drain on the battery.

Data and programs are secure as long as they have been saved, even if the battery pack becomes discharged. The Field PC does not depend on the battery to store the data for extended periods.

### **Storing the Field PC for Less Than Two Weeks**

To protect the files on your Field PC and the unit itself during storage periods of less than two weeks, complete the following steps:

1. Close all application programs.
2. Plug the Field PC into the AC wall adapter that was shipped with your Field PC.

*Note: Charging the Field PC while in not in use insures accurate battery gauging, and avoids discharging of the battery to low levels.*

### **Storing the Field PC for More than Two Weeks**

To protect the files on your Field PC and the unit itself during storage periods of two weeks or more, complete the following steps:

1. Charge the battery to full capacity (100%).
2. Close all running programs and turn off the Field PC.
3. Remove the battery pack(s).
4. Place the battery pack in a dry location.


## Taking your Field PC out of Extended Storage

While storing the battery pack, it naturally discharges slightly while being inactive. When you are ready to use your Field PC after storing it for an extended period of time, complete the following steps:

1. Insert the battery pack(s).
2. Turn on the Field PC.
3. Enter 10% on the Battery Settings pop up screen.
4. Tap on the Accept button to save the new setting.
5. Plug the Field PC into the external AC wall charger and charge the battery pack in the Field PC until the batteries are fully charged.

## Protecting the Touchscreen


Protect the touchscreen from impact, pressure, or abrasive substances that could damage it. To further protect the touchscreen, apply one of the screen protectors that came with the Field PC.

 **CAUTION:** Be sure to replace the screen protector as often as the screen protector packaging directs.

To apply a screen protector, follow the directions on the packaging.

## Cleaning the Field PC

In some environments, the Field PC is exposed to substances, such as pitch or tar, which require stronger cleaning supplies for removal.

 **CAUTION:** Some of the available cleaning supplies/chemicals on the market will damage the case.

## Safe Cleaners to Use

The Field PC can be cleaned safely with the following cleaners:

- Greased Lightening Multi-Purpose Cleaner
- Orange Clean (Orange Glo International)
- Fantastik Oxypower (SC Johnson)
- Orange Cleaner Oil Eater (Kafko International, Ltd.)
- Chain Pro (Midwest Polychem, Ltd.)

## **Cleaning the Case**

To clean the case, we commonly recommend that you use warm water, mild detergent, and a toothbrush.

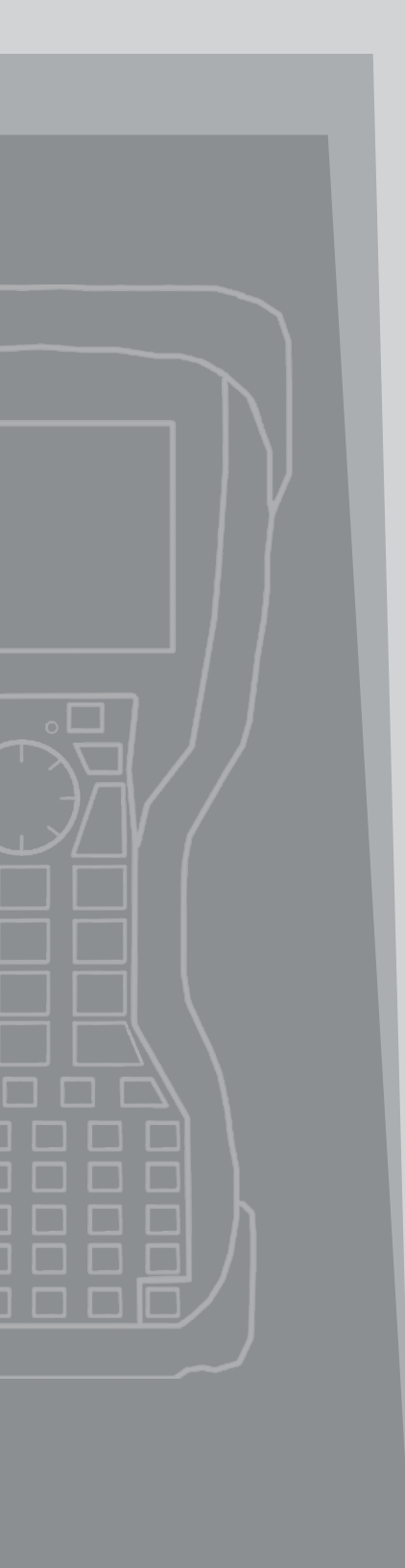
*Note: This method can also be used when cleaning the keyboard. Do not use the brush on the display, it could be scratched.*

This product must not be disposed of with municipal waste. It is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. If you cannot find a location, contact the manufacturer for information about disposal.

The Li-Ion battery packs for your Field PC are recyclable. Avoid placing them in the trash or municipal waste system.

To find the nearest battery recycling center in the USA, visit the Rechargeable Battery Recycling Corporation's website at [www.rbrc.org/call2recycle/index.html](http://www.rbrc.org/call2recycle/index.html) or call 1-800-8-battery.

The Field PC contains no mercury or cadmium.



# 8

## Service Information

54 *Repairing the Field PC*

54 *Preparing for a Service Center Call*

This chapter teaches you how to return and prepare your Field PC for repair. It also shows you where to find information you need when making a call to a service center.

## Repairing the Field PC

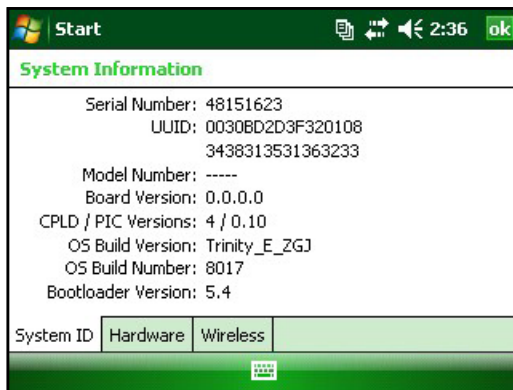
If the Field PC is in need of repair, call your service center for a Return Materials Authorization number (RMA).

**Important:** Do not attempt to service the device yourself. This action voids the warranty.

## Preparing for a Service Center Call

When you contact a service center, you are asked to identify your device. Your device serial number and other identification information can be found by following these steps:

1. Tap *Start* > *Settings*. The Settings window appears.
2. Tap the System tab.
3. Choose *System Config*. The System Configuration window appears, listing the information you need for the service center.





# **A**

## **Product Specifications and Warnings**

**56** *Product Specifications*

**57** *Battery Warnings*

**58** *Equipment Warnings*

## Product Specifications

Operating System	Microsoft® Windows Mobile® 6
Processor	Intel® XScale® PXA270, 624 MHz
Memory	128 MB RAM
Primary Storage	512 MB
Display	3.5" (89 mm) QVGA active matrix color TFT transfective LCD with LED backlight; 240 x 320 pixels
Touchscreen	Sealed, resistive, pressure sensitive, enable/disable
Micro SD Card Slots	Micro SD header 3.3 V; user accessible
Keyboard	Nine-way directional button, standard key functions
Operating Temperature	-4° to 122° F (-20° to 50° C)
Storage Temperature	-22° to 140° F (-30° to 60° C)
Battery Charging Temperature	32° to 104° F (0° to 40° C)
Dust proof, water proof rating	IP67 Sealed rating, waterproof and dustproof
Batteries	Intelligent, rechargeable Li-Ion battery pack,
I/O Module	Serial port 9-pin D-sub connector, USB Host (Full A), USB Client (Mini B), 12 VDC jack for power input and battery charging
COM 1 Port	9-pin D-sub connector; full modem control signals, 5 V @ 200 mA available on DTR pin 4; controlled by DTR signal; conformal coated
Current Limits	USB Host: 5 V; 9-pin D-sub connector: 5 V on DTR line; recommended maximum combined output current: 500 mA; short circuit protected



Power	Voltage +12 VDC; Range 10–20 VDC; Current: Max 12 V @ 850 mA; reverse polarity protection; over voltage protection; auto shut off
Wireless Communications	Integrated Bluetooth and Wi-Fi
Internal Clock	Battery-backed real time clock
Enunciators	External power/charge LED and notification LED; other enunciators on system tray

### **Battery Warnings**



**WARNING!** This device comes with a lithium ion rechargeable battery pack. To reduce the risk of fire or burns, do not disassemble, crush, puncture, short external contacts, or expose the battery pack to fire.

Do not disassemble or open crush, bend or deform, puncture or shred

Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, expose to fire, explosion or other hazard.

Only use the battery for the system for which it is specified

Only use the battery with a charging system that has been qualified with the system per this standard. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.

Do not short circuit a battery or allow metallic conductive objects to contact battery terminals.

Replace the battery only with another battery that has been qualified with the system per this standard, IEEE-Std-1725-200x. Use of an unqualified battery may present a risk of fire, explosion, leakage or other hazard.

Promptly dispose of used batteries in accordance with local regulations

Battery usage by children should be supervised.

Avoid dropping the battery. If the battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.

Improper battery use may result in a fire, explosion or other hazard.

The device shall only be connected to products that bear the USB-IF logo or have completed the USB-IF compliance program.



### **Equipment Warnings**

**WARNING!** To reduce the risk of personal injury, electrical shock, fire or damage to the equipment:

Plug the wall charger into an electrical outlet that is easily accessible at all times.

Disconnect power from the equipment by unplugging the wall charger from the electrical outlet or unplugging the synchronization cable from the host computer.

Do not place anything on the wall charger cord or any of the other cables. Arrange them so that no one may accidentally step on or trip over them.

Do not pull on a cord or cable. When unplugging the wall charger from the electrical outlet, pull on the plug, not the cord.

Use only wall chargers intended for the Field PC. Using any other external power source can damage your product and void your warranty.



# **B**

## **Certifications and Regulatory Information**

60 *Regulatory Information*

62 *Limited Product Warranty*

## Regulatory Information

This device complies with Part 15 of the FCC Rules. Operation of this equipment is subject to the following two conditions:

1. The device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

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 when the equipment is used in a commercial or residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not used in accordance with the Owner's manual, may cause harmful interference to radio communication. 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.

**ⓘ CAUTION:** Only approved accessories may be used with this equipment. In general, all cables must be high quality, shielded, correctly terminated, and normally restricted to two meters in length. Wall chargers approved for this product employ special provisions to avoid radio interference and should not be altered or substituted.

**ⓘ CAUTION:** Changes or modifications to the Field PC that are not expressly approved by the manufacturer could void the user's authority to operate the equipment.


To comply with FCC and other national RF exposure safety requirements this device may not be operated in conjunction with, or co-located with, other transmitting devices. The product is designed for handheld use and with a separation distance of at least 20 cm from the head/body.

## Industry Canada

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

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

### CE marking

 Products bearing the CE marking comply with the 2004/108/EC (EMC Directive), 1999/5/EC (R&TTE Directive), 2006/95/EC (Low Voltage Directive) issued by the Commission of the European Community.

CE compliance of this device is valid only if powered with/by a CE-marked wall charger provided by the manufacturer. Compliance with these directives implies conformity to the following European Norms (in parentheses are the equivalent international standards and regulations):

- EN 55022 (CISPR 22)—Electromagnetic Interference
- EN 55024 (IEC 61000-4-2, 3, 4, 5, 6, 8, 11)— Electromagnetic Immunity
- EN 60950 (IEC 60950)—Product Safety

### European Union

The telecommunication functions of this device may be used in the following EU and EFTA countries: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovak Republic, Romania, Slovenia, Spain, Sweden, Switzerland, and United Kingdom.

Restrictions apply to the operation of the 802.11b/g radio in this device. Use of channel 14 is outside of the band of frequencies permitted in the European Union and should not be used.

### France

Restrictions apply to the operation of the Bluetooth radio in this device. This equipment may be used indoors. Due to the potential that this radio may transmit in excess of 10mW in the band 2454 to 2483.5 MHz, outdoor operation is restricted.

Restrictions apply to the operation of the 802.11b/g radio in this device. This equipment may be used indoors on channels 1 to 13. Outdoor operation is permitted on channels 1 to 8, as transmit power in the band 2454 to 2483.5 MHz is limited to 10 mW. The latest requirements may be found at: <http://www.art-telecom.fr>

## Limited Product Warranty

Juniper Systems, Inc. ("JS") warrants that the Field PC shall be free from defects in materials and workmanship, under normal intended use, for a period of 12 months from the date of shipment. The Field PC can be warranted up to 5 years (including the standard warranty period) through the purchase of an extended warranty. JS warrants that the following items shall be free from defects in materials and workmanship, under normal intended use, for a period of ninety (90) days from the date of shipment:

- battery packs,
- media containing the Field PC programs,
- desktop computer programs,
- user documentation, and
- accessories.

Extended warranties apply only to the Field PC, not battery packs, media containing the Field PC programs, desktop computer programs, user documentation, and accessories. Parts that are excessively worn are not covered under the Gold extended warranty plan. These may include, but are not limited to, the keyboard elastomer and switch matrix, hand straps, touchscreens, and connector modules.

## Warranty Exclusions

This warranty shall not apply if:

- (i) the product has been set up improperly or has been improperly installed or calibrated,
- (ii) the product is operated in a manner that is not in accordance with the user documentation,
- (iii) the product is used for a purpose other than for which it was designed,

- (iv) the product has been used in environmental conditions outside of those specified for the product,
- (v) the product has been subject to any modification, alteration, or change by or on behalf of customer (except and unless modified, changed or altered by JS or under direct supervision of JS),
- (vi) the defect or malfunction results from misuse or accident,
- (vii) the serial number on the product has been tampered with or removed, or
- (viii) the product has been opened or tampered with in any way.

This warranty is exclusive and JS will not assume and hereby expressly disclaims any further warranties, whether express or implied, including, without limitation, any warranty as to merchantability, fitness for a particular purpose, non-infringement or any warranties arising from the course of performance, dealing, or usage of trade. JS specifically makes no warranties as to the suitability of its products for any particular application. JS makes no warranties that

- its products will meet your requirements or will work in combination with any hardware or applications software products provided by third parties,
- the operation of its products will be uninterrupted or error free, or
- all defects in the product will be corrected.

JS shall not be responsible for software, firmware, information, or memory data contained in, stored on, or integrated with any products returned to JS for repair, whether under warranty or not.

### **Remedy**

In the event a defect in materials or workmanship is discovered and reported to JS within the specified warranty period, JS will, at its option, repair the defect or replace the defective part or product. Replacement products may be new or reconditioned. JS warrants any replaced or repaired product for a period of ninety (90) days from the date of return shipment, or through the end of the original warranty period, whichever is longer.

### **Limitation of Liability**

To the fullest extent allowed by law, the obligation of JS shall be limited to the repair or replacement of the product. JS shall in no event be liable for special, incidental, or consequential, indirect, special or punitive damages of any kind, or for loss of revenue or profits, loss of business, loss of information or data, or other financial loss arising out of or in connection with the sale, installation, maintenance, use, performance, failure, or interruption of any product. Any responsibility and/or liability of JS shall, in connection with a warranted product, be limited in the maximum amount to the original purchase price.

### **Warranty Repairs**

To obtain repair or service on the Field PC, contact your authorized repair center within the applicable warranty period to receive a Return Material Authorization (RMA) number. Repairs returned without proper authorization may acquire an additional handling fee and/or delay in the repair. The customer is responsible to prepay all shipping costs when sending equipment to a repair center. The repair center will return the repaired equipment by the same method it was received with costs of shipping prepaid.

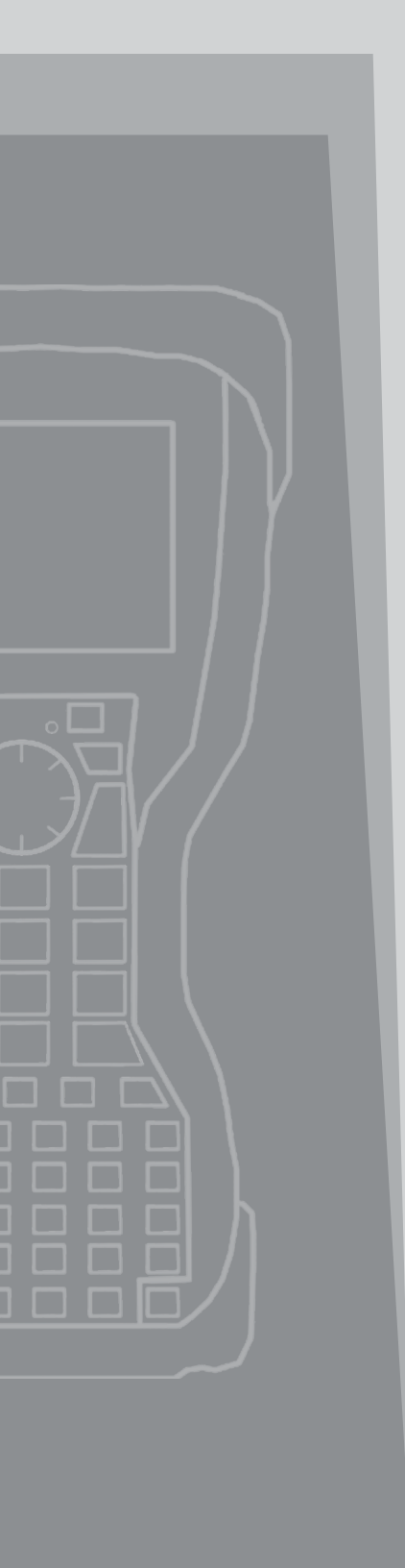
### **Governing Law**

This warranty is governed by the laws of Utah, and excludes the United Nations Convention on Contracts for the International Sale of Goods. The courts of Utah shall have exclusive personal jurisdiction in case of any disputes arising out of or in connection with this warranty.

### **Services and Materials Provided Under Warranty**

- Analysis of problem by service technician
- Labor and materials required to fix defective parts
- Functional analysis performed after repair
- Repair turnaround within 10 working days of receipt unless special circumstances exist
- Shipping costs to return device to customer





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