

ULTRA-RUGGED FIELD PC

Reference Guide



ULTRA-RUGGED FIELD PC

Reference Guide

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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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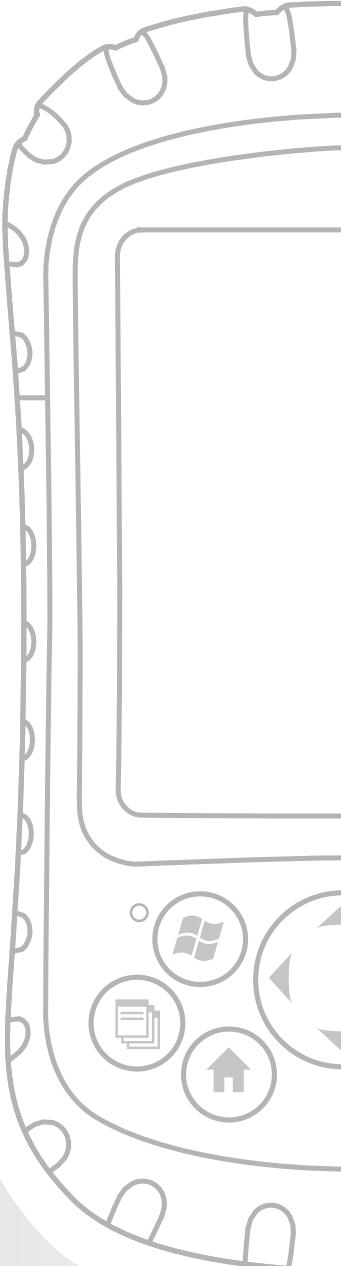
1

Introduction

Overview of Windows Mobile® 6

Using the documentation

The anatomy of the Field PC



Chapter 1

Introduction

This ultra-rugged Field PC—rock solid and field ready in the most extreme environments—is your reliable field companion. Designed for Microsoft® Windows Mobile® 6, your Field PC features a wide variety of application software and accessory choices. Use it to navigate, research, document, and communicate. Depend on it for your field information technology. It is ready for you.

Overview of Windows Mobile® 6

Your Field PC runs Microsoft® Windows Mobile® 6. This operating system, designed for mobile devices, provides you with familiar Microsoft programs to help you increase your productivity and manage information effectively. For example, Microsoft® Office Outlook® Mobile, similar to Microsoft® Outlook®, allows you to send and receive email, keep track of contacts, manage tasks, and take simple notes.

Many Windows® applications are already compatible with Windows Mobile®. You can use Windows Mobile to access Word, Excel®, and PowerPoint® files on your mobile device, or you can use Windows Mobile® to access your email messages and contacts from your Microsoft® Outlook account.

If you need help, the Field PC offers a variety of information through its fully featured on-device help system. More information about Windows Mobile® 6 can be found at:

<http://www.microsoft.com/windowsmobile/6-1/default.mspx>

Using the documentation

Your Field PC is equipped with several reference tools.

These tools include:

- Quick Start Guide
- Getting Started Disc from Microsoft®
- User Manual
- User Documentation CD (contains Quick Start Guide, Reference Guide, and License Agreement)
- On-device help files

Use the following chart to find the information you need.

What you want	Where to find it
Instructions for setting up the Field PC	Quick Start Guide, User Manual, this guide
ActiveSync® install for Windows® 2000 and Windows® XP users Windows® Mobile Device Center for Windows Vista™	Getting Started Disc
Instructions for using external devices with the Field PC	This guide
Instructions for basic tasks such as replacing battery packs, resetting the device, adjusting the backlight, or inserting memory cards	Quick Start Guide, this guide
Instructions for using programs installed on the Field PC	Help files located within individual programs on the Field PC

Note: For a more complete listing of topics in this reference guide, see the index.

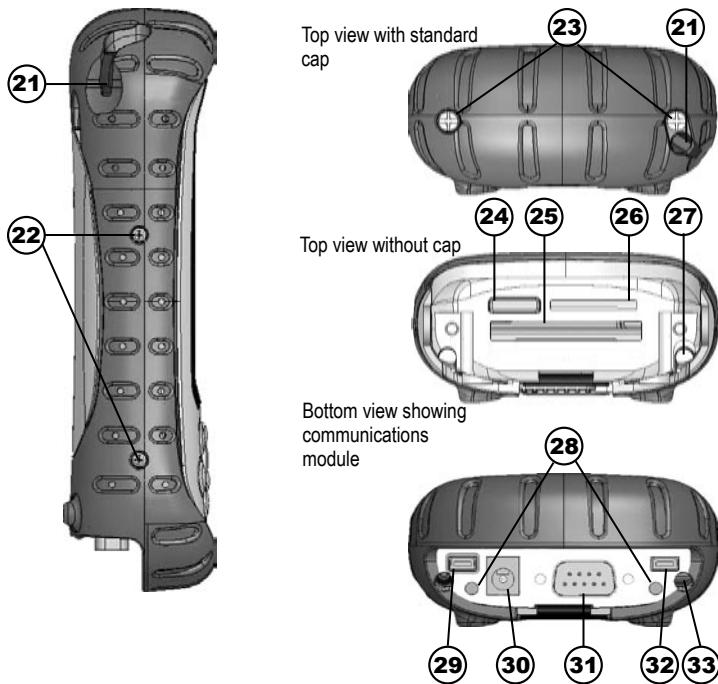
The anatomy of the Field PC

This section illustrates the different parts of the Field PC.
For instructions on using the hardware, see Chapter 3.
For instructions about caring for or cleaning the different parts, see Chapter 10.

- | | | | |
|-----------|--------------------------------|-----------|---|
| 1 | Elastomer overmold | 11 | Power button |
| 2 | Magnesium case front | 12 | Context menu button |
| 3 | Display bezel | 13 | Enter button |
| 4 | Charge LED | 14 | Notification LED |
| 5 | Start menu button | 15 | Touchscreen/display |
| 6 | Applications Manager
button | 16 | Accessory attachment
points (5 cm. center
to center 8-32 UNC
thread) |
| 7 | Microphone | 17 | Battery door latch |
| 8 | Today screen button | 18 | Hand strap |
| 9 | Speaker | 19 | Battery door |
| 10 | Four-way directional
button | 20 | Body molding |



Chapter 1: Introduction



- 21** Stylus
- 22** Body molding screws
- 23** Standard cap screws (captive)
- 24** Cover for optional Bluetooth® antenna
- 25** Compact Flash card slot
- 26** Secure Digital I/O card slot
- 27** Stylus slot
- 28** Accessory attachment points (5.3 cm. center to center
4-40 UNC thread)
- 29** USB Client (mini B)
- 30** 12V DC jack
- 31** 9-pin serial port
- 32** USB Host (mini A)
- 33** Cable routing channel

2

Getting Started

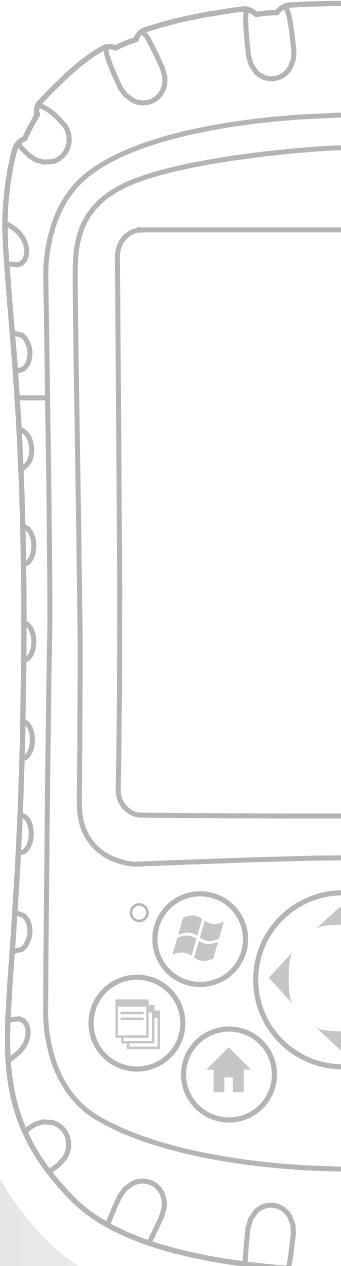
Install the battery pack

Charge the battery pack

Establish basic settings on the device

Connecting to a desktop computer

Creating a connection to a desktop computer



Chapter 2

Getting Started

This chapter repeats—with a few more details—the installation instructions that came in the Quick Start Guide and User Manual.

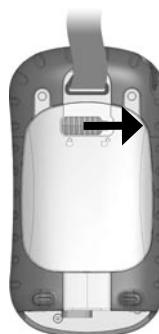
Step 1: Install the battery pack

1. Carefully unhook and lift up the bottom hook of the hand strap, as shown in the first picture.



WARNING! *Releasing the hand strap hook too quickly may result in injury or damage to the display. Use caution when undoing the hook or when holding the Field PC by its hand strap.*

2. Press on the battery door and slide the door latch to the right to unlock it, as shown in the second picture.
3. Remove the battery door.
4. Insert the battery pack so battery contacts match up.
5. Insert the tabs on the bottom of the battery door into the case slots. Close the battery door.
6. Press on the battery door. Slide the latch to the left to lock it.
7. Reattach the hand strap.



Step 2: Charge the battery pack

1. Mount the plug onto the wall charger (if it is not already assembled).
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. The device turns on after a few seconds, and a flashing red light signals the device is charging.
4. Charging the Field PC for 4.5 hours charges it up to 95%. Let the device charge for 6 hours to get a full charge. *Note: If the Field PC suspends and the flashing red LED turns off, the device keeps charging.*



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).

Step 3: Establish basic settings on the device

Using the stylus, follow the instructions on the screen to calibrate the device and establish basic settings.

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

To create a name, follow these steps:

1. Tap *Start > Settings*.
2. From the *System* tab, tap *About*.
3. Select the *Device ID* tab at the bottom of the screen.



4. Type in a device name. We recommend using "SN" (serial number) and the device serial number, which can be found by tapping *Start > Settings > System* and choosing *System Configuration*. An example of a device name appears below.



Your Field PC is now field ready.

Important: Read the following paragraph before moving on to Step 4.

If you have Microsoft Windows® Vista™, you already have basic file synchronization capability with your desktop computer without installing any additional software.

Chapter 2: Getting Started

You can skip Steps 4 and 5. To access these basic sync options, connect the Field PC to the desktop computer using a USB cable. For full synchronization support such as Microsoft Outlook® contacts, email, calendar, notes, and tasks, download and install Windows Mobile Device Center through Windows Update on the Start menu of your desktop computer.

If you have Windows® 2000 or Windows® XP, follow the next steps to install Microsoft® ActiveSync®, which allows you to install programs onto your device using a desktop computer.

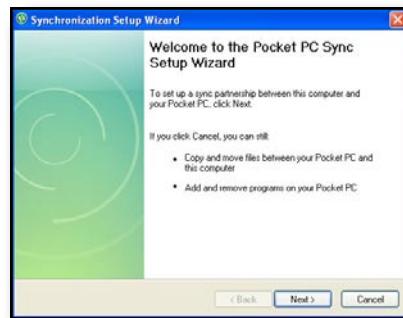
Step 4: Connecting to a desktop computer

Important: If you have Microsoft Windows Vista™, read the section above before beginning.

If you use Windows® 2000 or Windows® XP, Windows Mobile® 6 requires that you use Microsoft ActiveSync 4.1 or greater to connect to your desktop computer.

The Getting Started Disc installs ActiveSync 4.5 on your desktop computer.

1. Insert the Getting Started Disc into your desktop computer. A window appears on the display.



2. Select your language.
3. If ActiveSync 4.5 or greater has not been installed on your desktop computer, follow the directions on the screen to install it.

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

Step 5: Creating a connection to a desktop computer

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.

You are now ready to use your Field PC. See Chapter 6 for more details about using ActiveSync and Windows Mobile® Device Center.

3

Using the Hardware

Identifying button functions

Customizing button functions

Suspending, powering off, resetting,
and restoring defaults

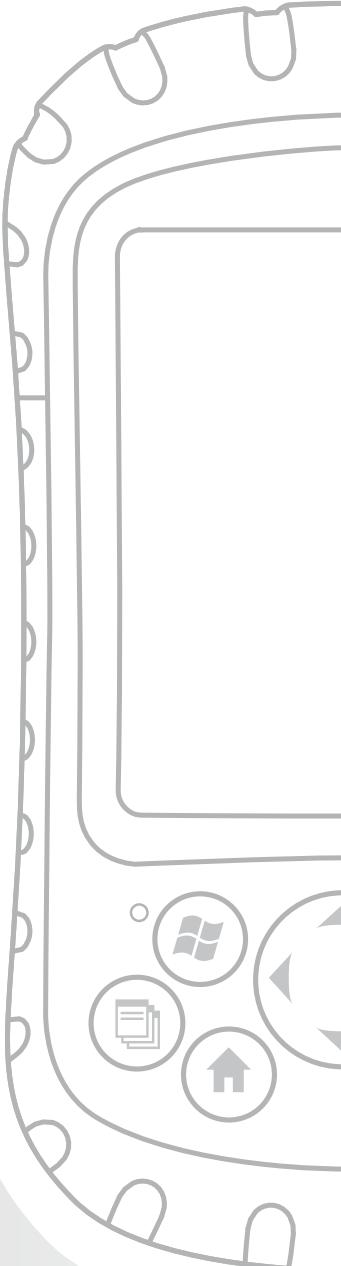
Using the stylus

Using the touchscreen

Understanding LED signals

Replacing the battery pack

Using peripheral devices such as
CF cards, SD cards, and
USB flash drives



Chapter 3

Using the Hardware

This chapter teaches you how to use the hardware components of the Field PC. Specifically, you learn how to:

- Identify button functions
- Customize button functions
- Use buttons to suspend, power off, and reset the device
- Use the stylus
- Use the touchscreen
- Replace the battery pack
- Understand LED signals
- Use peripheral devices (CF and SD cards and USB drives) with the device

Identifying button functions

The following chart shows you the names and functions of each button on the keyboard.

Button	Name	Function
	Start menu button	Provides a menu of applications.
	Applications Manager button	Lets you switch between or close running applications; allows you to view memory allocations.

	Home button	Returns you to the Today screen.
	Context menu button	Displays the context menu for the item selected (similar to a right-click on a desktop computer).
	Enter button	Enters the selected soft key or option.
	Power button	Turns the Field PC on and off, resets, suspends. (See more details in the Power button functions section in this chapter.)
	Four-way directional button	Allows you to navigate.

Customizing button functions

Each button performs a specific function. You can customize the function of the following four buttons to open programs or perform shortcuts:

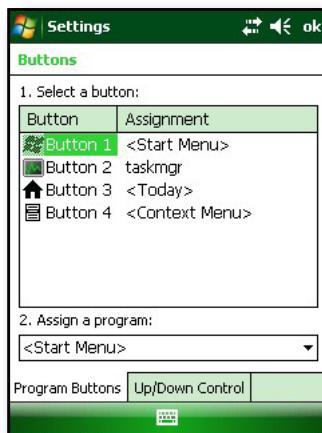
- Start menu button
- Applications Manager button

- Home button
- Context menu button

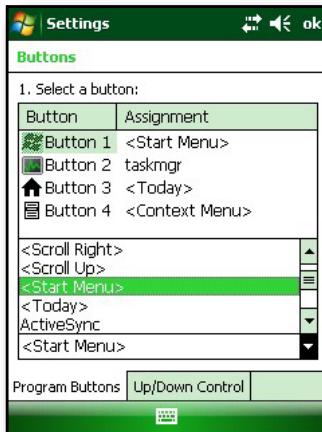
Note: The functions assigned to the Enter button, Power button, and Four-way directional button cannot be customized.

To reassign a program or shortcut to a button, follow these steps:

1. Tap *Start > Settings > Personal tab > Buttons*. A list of buttons and their current assignments is displayed on the Program Buttons tab.
2. Tap the button you want to reassign, as shown here.



3. In the *Assign a program* box, tap the program or shortcut you want to assign to the button. In the example here, the user has selected Start Menu.
4. Tap *OK*.



Suspending, powering off, 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.

Suspending the device. Suspending the Field PC is different from powering it off:

- Suspending the device puts it to sleep, and when it is turned back on, the device remembers where it was. Some battery power is used.
- Powering off the device closes all programs and turns off all of the power. No battery power is used.

We recommend suspending your device if you plan to turn it off for less than two weeks.

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

Note: If you suspend the device while it is charging, the flashing red light disappears. However, the device continues to charge.

Powering off the Field PC. Powering off the device ends all programs and removes power from all system components except for the real-time clock. Unlike suspend mode, the device resets when it is powered on again.

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

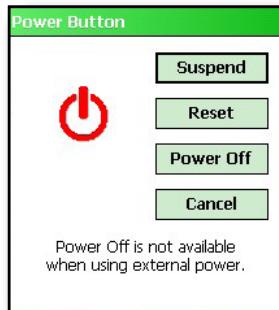
To power off the Field PC,

1. Save your open files and close any running programs. (For instructions on backing up files, see *Backing up data* in Chapter 5.)
2. Press the Power button until the Power Button menu appears, as shown here.

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

3. Tap *Power Off*. A warning dialog appears, as shown in the second picture. Tap *OK*.

Note: The keyboard backlight stays on for a few seconds after the device shuts off. The device cannot be powered back on until the keyboard backlight turns off.



To power on your Field PC, hold down the Power button until you see the green notification light appear.

Resetting the device. Some programs require you to reset your device during the installation process. Follow the steps below to reset the Field PC:

1. Save your open files and close any running programs. (For instructions on backing up files, see *Backing up data* in Chapter 5.)
2. Press 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 state. Follow the steps below to restore the user storage, settings, and icons on your Field PC to their original factory defaults.



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

1. Reset the device from the power button menu or by holding down the power button until the display goes dark.
2. When the green notification LED light appears on the front of the Field PC, simultaneously press and hold the following buttons for several seconds:
Clean Boot: Home, up arrow, Context   
Clean Storage: Task, up arrow, Return   
Clean Registry: Start, Context  
Clean All: Return, left arrow, Context   
3. Hold the buttons until the progress bar reaches the second tick mark and then disappears. Factory settings are restored automatically.

Using the stylus

The stylus is stored in an open slot at the top of the device. A hole in the stylus end allows you to attach a lanyard.

Like the left button on a desktop computer mouse, the stylus is a tool that lets you select or deselect items

and enter data. Like the right button, the stylus lets you perform shortcuts like cutting and pasting. Instructions for these tasks are listed in the chart below.

To do this . . .	Follow these steps
Select an item	Tap once.
Enter data	See <i>Entering Information</i> , a section in the next chapter about data entry options.
Open an item or file	Tap the item or file.
Cut or copy	<ol style="list-style-type: none">1. Tap and hold until the context menu appears.2. Select <i>Cut</i> or <i>Copy</i>.
Paste	<ol style="list-style-type: none">1. Tap and hold the area where you want to paste.2. Select <i>Paste</i> from the context menu that appears.
Open a context menu for an item	Tap and hold the item. The context menu appears.
Drag and drop	<ol style="list-style-type: none">1. Tap and drag the item to the destination.2. Lift up the stylus.
Select multiple items	Drag the stylus over the items.

For instructions on using the transcriber program on your Field PC, see *Entering Information* in Chapter 4.

Using the touchscreen

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

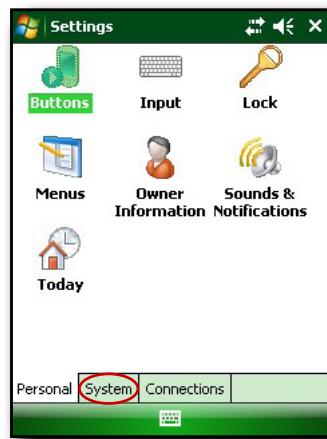
Protecting and cleaning the touchscreen. The touchscreen is sealed to protect your device against water and dust. To protect your touchscreen, we recommend that you apply a touchscreen protector to the screen. For instructions about applying a touchscreen protector or cleaning your touchscreen, see *Chapter 10: Caring for your Field PC*.

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

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, as shown here.
2. Select the *System* tab at the bottom of the display.
3. Scroll down and tap on the *Screen* icon, shown at right.
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.



Understanding LED signals

The Field PC signals events and processes using a charge LED and a notification LED.

Charge LED. This red light appears to the left of the Start menu button. A flashing light signals that the battery is currently charging; a solid light signals that the wall charger is connected but that the battery is fully charged. *Note:* When the device is suspended or powered off, the charge LED does not appear.

Notification LED. Appearing on the right side of the Enter button, the green notification LED appears briefly when you power on the unit after the device is reset or restored to factory defaults.

Replacing the battery pack

To replace the battery pack, follow these steps:

1. Close all running programs.
2. Suspend the device.

! **CAUTION:** *The device only stays on for about five seconds without a power source. Always suspend your device before replacing the battery pack.*

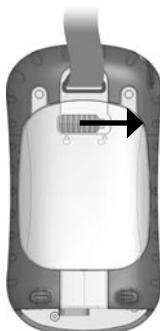
3. Carefully unhook and lift up the bottom hand strap hook.

! **CAUTION:** *Releasing the hand strap hook too quickly may result in injury or damage to the display. Use caution when undoing the hook or when holding the Field PC by its hand strap.*

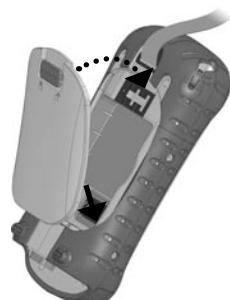


Chapter 3: Using the Hardware

4. Press on the battery door about 1/4" beneath the door latch and slide the door latch to the right.



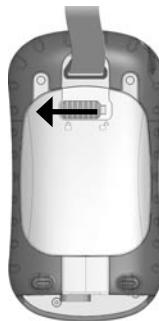
5. Remove the battery door. *Note: The door may make a noise while it is being removed, caused by the door scraping against the battery.* The sound is normal; no damage is done when you hear this sound.
6. Remove the old battery pack.
7. Make sure the battery contacts of the charged battery pack are clean and dry.
8. Insert the charged battery pack, lining up the battery contacts with the Field PC contacts.
9. Insert the tabs on the bottom of the battery door into the case slots.
10. Close the battery door, making sure the door latch is in the unlock position as the door meets the case.



11. With the door latch in the unlock position, press on the battery door just below the door latch and slide the latch to the left to lock it.
12. Reattach the hand strap.

Note: If you remove the battery pack from your device and the device is still attached to the wall charger, the battery icon still appears on the display. When the battery is replaced, charging resumes.

For instructions on installing or charging a battery pack, see *Chapter 2: Getting Started*. For instructions on maintaining and caring for your battery pack, see *Chapter 8: Caring for your Field PC*.



Using peripheral devices such as CF cards, SD cards, and USB flash drives

The Field PC accepts several peripheral devices. The USB Host (mini A) accepts devices like USB flash drives and keyboards; the Compact Flash (CF) and Secure Digital (SD) card slots accept memory cards and IO (Input/Output) cards such as GPS, modem, and Bluetooth cards.

Note: If your Field PC has integrated Bluetooth® technology, see Chapters 8-9 for more details about using peripheral devices with the Field PC. If you are using an extended cap for larger peripheral devices, see the extended cap installation instructions at the end of this guide.

This section explains how to:

- Install and operate USB accessories on the Field PC
- Remove the standard cap to access CF and SDIO card slots
- Install CF and SD cards
- Replace CF and SD cards
- Copy files from a CF or SD card or USB drive
- Reattach the standard cap

Installing and operating USB devices on the Field PC.

The USB Host accepts several USB devices, including keyboards and USB flash drives.

Note: To be compatible with Windows Mobile® 6, some USB serial devices require drivers. Refer to your USB device's manual or contact the manufacturer to determine compatibility.

To install a USB device, plug the mini end of a USB communications cable into the USB Host (labeled A on your device). You may need to use a USB mini-to-full size adapter.

Removing the standard cap to access CF and SDIO card slots. The removable standard cap on the Field PC is designed to protect peripheral devices (e.g., CF cards) when they are inserted into the Field PC and to protect the Field PC when no peripheral device is inserted.

To remove the standard cap, follow these steps:

1. Remove the stylus.
2. Unscrew the top screws until you can slide off the standard cap. The screws are designed to stay attached to the standard cap.



3. Pull off the standard cap.
4. Insert the CF or SD card.

Note: For instructions on replacing the standard cap, see the section in this chapter called Reattaching the standard cap.

Installing a CF or SD card. To operate a card, insert the card into the appropriate card slot, located under the standard cap of the Field PC. (See the instructions in the previous section for removing the standard cap.) The system should automatically detect and use the card.

However, if the card is not recognized, try the following:

1. Install an appropriate driver by following the directions on the device screen.
2. Operate the card by consulting the user's guide that came with the card.

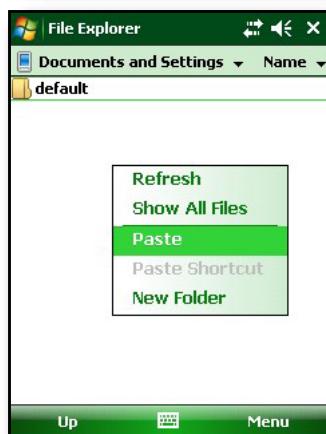
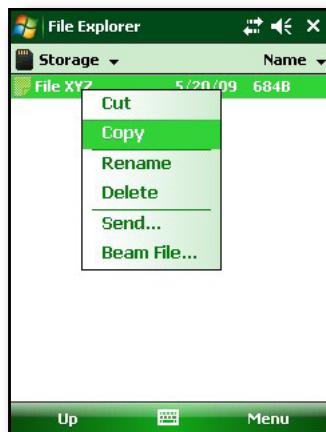
Reinserting or changing a CF or SD card. Whenever you remove or change a CF or SD card on the Field PC, wait at least 6 seconds before inserting another card into the slot. The Field PC needs this short time delay to properly identify and use the newly inserted card. If a card is re-inserted too quickly, the Field PC may need to reset. To avoid this problem, close all programs before changing or re-inserting a card.

Copying data from a CF card, SD card, or USB drive. You can run or copy data from a peripheral device onto your Field PC by following these steps:

1. On the Field PC, tap *Start > Programs > File Explorer*.

Chapter 3: Using the Hardware

2. Tap and hold the file you want to copy to your Field PC. A pop-up menu appears, as shown here.
Note: If you want to copy multiple files, tap and drag the stylus over the files.
Once the files are selected, tap and hold the stylus on the files until a pop-up menu appears.
3. Select *Copy*.
4. Open the destination folder where you want to place your copied file.
5. Tap and hold the stylus on the white space below the existing files until the pop-up menu appears again.
6. Select *Paste*. The file is copied and its name appears on the screen.



Reattaching the standard cap.

To reattach the standard cap, follow these steps:

1. Make sure the hand strap is attached to its top latch.
2. Place the standard cap over the case.
3. Use a screwdriver to turn the standard cap screws until they are firmly in place.

! **CAUTION:** Do not overtighten the screws. Tightening the screws over 12-in-lb (1.36 N-m) could result in a failure. The torque specs for the standard cap are 2-in-lb (0.23 N-m).

! **CAUTION:** When the standard cap is removed, the Field PC is not sealed. Avoid exposing the Field PC to moisture when the standard cap is removed, and tighten the standard cap screws firmly after you replace the standard cap. Failure to replace the standard cap properly may void your warranty.

4

Using the Field PC

Understanding the Today screen

Using the Start menu

Entering information

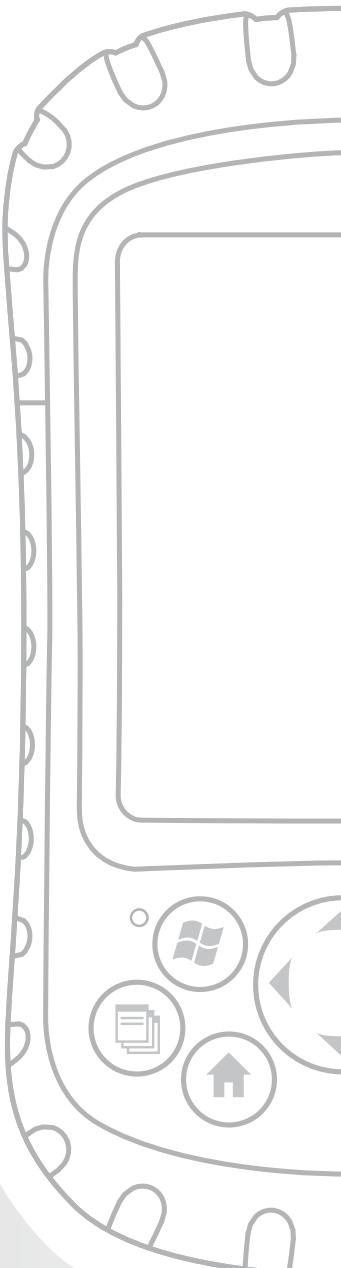
Recognizing status icons

Recognizing soft keys

Rotating the screen

Dimming or turning off the backlight

Adjusting the backlight timer



Chapter 4

Using the Field PC

Focusing on the interface elements of the Field PC, this chapter shows you how to:

- Understand the Today screen (the default display screen)
- Use the Start menu
- Enter information with the stylus
- Recognize status icons
- Recognize soft keys
- Change settings
- Rotate the screen
- Dim or turn off the backlight to save battery power
- Adjust the backlight timer

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.



Go to *Start > Settings > Today > Items* tab and select *Device Lock* to have the option appear on the Today screen.

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

Using the Start menu

The Start menu is the main access point to 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 keypad. The Start menu appears, giving you links to programs, settings, and menus.

Note: For a description of each item on the Start menu, see Chapter 7: Getting to Know Programs and Settings.



Entering information

At the bottom of the display is a data entry icon.  Tapping on the icon allows you to enter information 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 window. For ideas about how to use the transcribing program more effectively, we recommend Frank McPherson's book, How to Do Everything with Windows Mobile, published by McGraw-Hill Osborne Media.

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.  If the input selector arrow is not displayed, tap the input method icon.
2. The input method menu appears, as shown here. Tap the input method you want from the list of options.
3. 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.
	Applications Manager	Tap to switch or close running programs.

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

1. Tap *Start > Help > Contents*.
2. Select *Start Using Your Device* screen.
3. Tap on *What do those icons mean?*

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. Here you see soft keys on the Today screen.



Rotating the screen

The Field PC can show information in portrait or landscape view. Change the orientation by following these steps:

1. Select *Start* > *Settings* > *System* tab > *Screen*.
2. Choose from three screen orientations: Portrait, Landscape (right-handed), or Landscape (left-handed). The four-way directional button automatically adjusts for the screen orientation.



Dimming or turning off the backlight

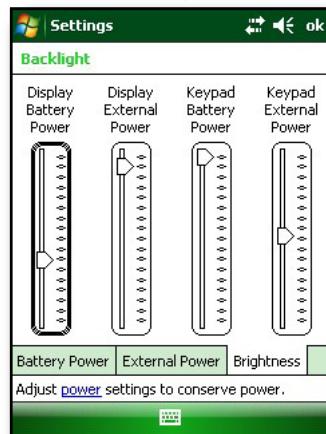
Dimming or turning off the display backlight saves battery power when the device is running on a battery pack. To dim or turn off the backlight, follow these steps:

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

2. Select the Brightness tab.

The Brightness window for battery power appears.

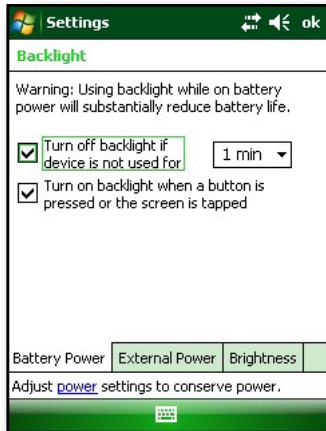
3. Drag the backlight slider downwards to dim the backlight. Drag the slider all the way down to turn the backlight off.



Adjusting the backlight timer

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

1. Tap *Start > Settings > System tab > 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 you selected the first checkbox, choose the length of time before the backlight turns off.



5

Performing Common Tasks on the Field PC

Suspending the device

Powering off the Field PC

Resetting the device

Exploring files

Closing running programs

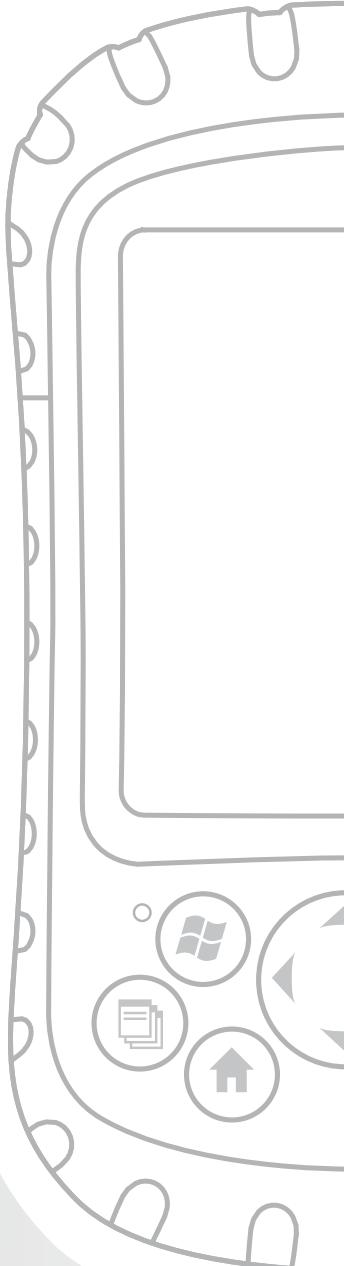
Switching between running programs

Changing settings

Using on-device help

Backing up data

Copying data from a peripheral device



Chapter 5

Performing Common Tasks on the Field PC

This chapter teaches you how to perform the following common tasks:

- Suspend the device
- Power off the device
- Reset the device
- Explore files
- Close programs that are running
- Switch between running programs
- Change settings
- Use on-device help
- Back up data
- Copy files from peripheral devices

Suspending the device

Suspending the Field PC is different from powering it off. During suspend mode, the device sleeps but remembers where it was when it is turned on again; when you power off the Field PC, it does a basic reset. We recommend suspending your device if you want to resume your task or if you plan to use the device on a daily basis.

To suspend your device, press the power button briefly and release. To resume the device, press the power button again briefly.

Note: If you suspend the device while it is charging, the flashing charge LED disappears. However, the device continues to charge.

Powering off the Field PC

Powering off the device ends all programs and removes power from all system components except for the real-time clock. Powering off your device saves power without draining the battery.

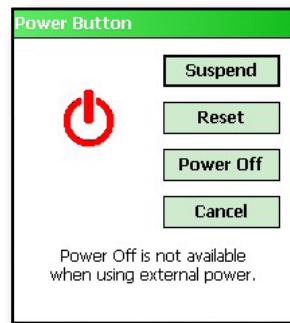
We recommend powering off the mobile device if it will be inactive for more than one week.

To power off the Field PC, follow these steps:

1. Save and close all applications. (For instructions on backing up your files, see the section in this chapter called *Backing up data*.)
2. Press the Power button until the Power Button menu appears, as shown here.
3. Tap *Power Off*, then *OK*.

Note: The keyboard backlight stays on for a few seconds after the device shuts off. Until the keyboard backlight turns off, the device cannot be powered on again.

To power on the device, hold the power button until the green notification LED appears. The device is now booting. This process takes about a minute.



Resetting the device

Some programs require you to reset your device when you install them. Follow the steps below to reset the Field PC:

1. Back up your files and close any open applications.
(For instructions on backing up files, see *Backing up data* in this chapter.)
2. Press the power button until the power button menu appears.
3. Choose *Reset*.

Note: If your device locks up, you can reset the device by pressing the power button for 10 seconds or until the screen goes dark. The device resets itself automatically after a few seconds.

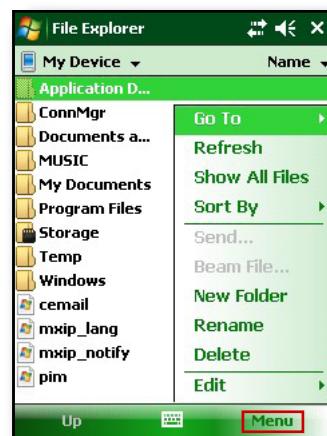
Exploring files

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 you want does not already appear, tap on the drop-down menu arrow to select it, as shown here.
3. Navigate the file directory by tapping on the folders and files you want. If you want 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.



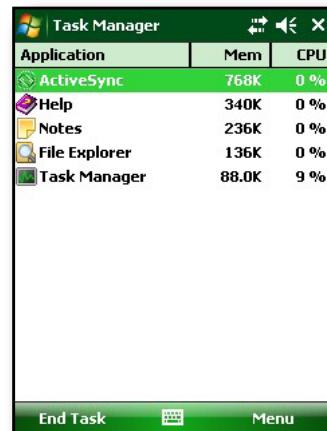
Closing running programs

Closing programs that are not being used frees memory and allows the device to run faster. We recommend closing any programs you are not using.

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. Press the Applications Manager button.  The screen at the right appears.
2. Select the program(s) you want to close.
3. Tap *End Task*.



Switching between running programs

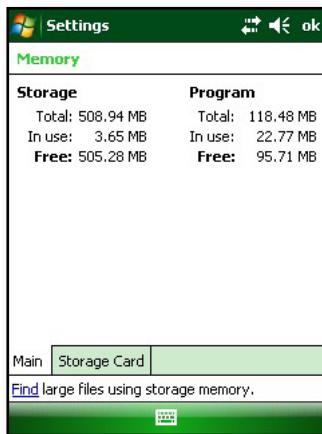
To switch between programs running on your Field PC, follow these steps:

1. Press the Applications Manager button.
2. Tap and hold program you want to switch to.
3. Tap *Switch To* from the pop up menu. 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, follow these steps:

1. Tap *Start > Settings > Memory*. A new window appears.



2. Select *Main* tab if is not already selected. Available memory for storage and programs appears.

Changing settings

To change settings on your device, follow these steps:

1. Tap *Start > Settings*. The Settings window appears.
2. Choose one of the tabs at the bottom of the screen.
Note: See Chapter 7 for a complete list of settings and their locations.
3. Tap on the setting you want to change.
4. Adjust the setting controls.

Using on-device help

You can access electronic help files on your 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 you are doing 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 you want 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 you want.
- **Option 2:** Choose *Search* at the bottom of the screen. Search allows you to search for specific topics within boundaries you set.
- **Option 3:** If you want help about a certain program on your mobile device, open the program first, then tap *Start > Help*. The help menu items that appear are directly related to the application program.

Backing up data

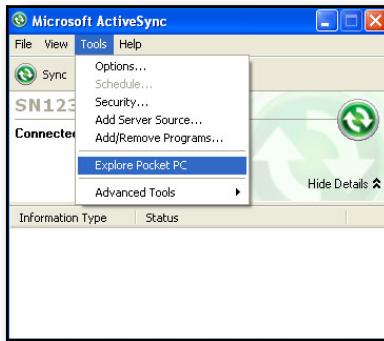
Your Field PC is designed to protect your data. However, it is still a good idea to back up your data regularly by saving information to a desktop computer or to a Compact Flash (CF) or Secure Digital (SD) card.

Backing up to a desktop computer. To copy files from your Field PC to a desktop computer, follow these steps:

1. If you have Windows® 2000 or Windows® XP, re-establish an ActiveSync® connection (see Chapter 6 for instructions) and continue with Steps 2-6.

Note: If you have Microsoft® Windows Vista™, we recommend installing Windows Mobile Device Center™ on your desktop computer from the Microsoft website or by selecting Start > Programs > Microsoft Update on your desktop computer. You can then sync your Field PC with your desktop computer. For more instructions about using Windows Vista, visit Microsoft's website.

2. In the ActiveSync window on your desktop computer, click Tools > Explore Pocket PC, as shown here.



3. A new window opens, showing the file directory for the Field PC.
4. Select the files on the Field PC you want 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.



Backing up to a CF or SD card. To save information to a card, follow these steps:

1. Select *File Explorer* from the Start menu. The File Explore window appears.
2. If *My device* does not already appear as the current directory, tap on the arrow next to the directory that appears, as shown in this image. When a drop-down menu appears, select *My device*.
3. A list of files appears. Highlight the files you want to back up and tap on *Menu* in the lower part of the display. A menu of options appears.



4. Tap and hold the stylus on the *Edit* option, as shown here.



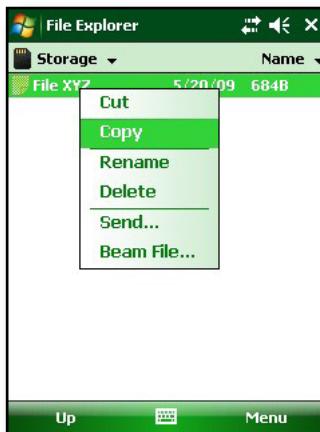
5. Choose *Copy* from the menu that appears.
6. Select the CF or SD card from the file directory.
7. To paste the files from your Field PC to the CF or SD card, tap the *Menu* soft key and choose *Edit > Paste*.
8. You can now remove the card.



Copying data from a peripheral device

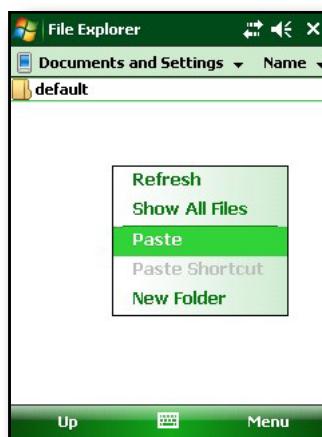
You can copy data from a CF card, SD card, or USB flash drive onto your Field PC by following these steps:

1. On the Field PC, tap *Start > Programs > File Explorer*.
2. Tap and hold the file you want to copy to your Field PC. A pop-up menu appears, as shown here. *Note: If you want to copy multiple files, tap and drag the stylus over the files. Once the files are selected, tap and hold the stylus on the files until a pop-up menu appears.*
3. Select *Copy* from the pop-up menu.



4. Open the destination folder where you want to place your file. (To copy the file to the device drive, select *My device*.)

5. Tap and hold the stylus on the white space below the list of existing files until a pop-up menu appears.
6. Select *Paste*. The copied file appears in the folder.



6

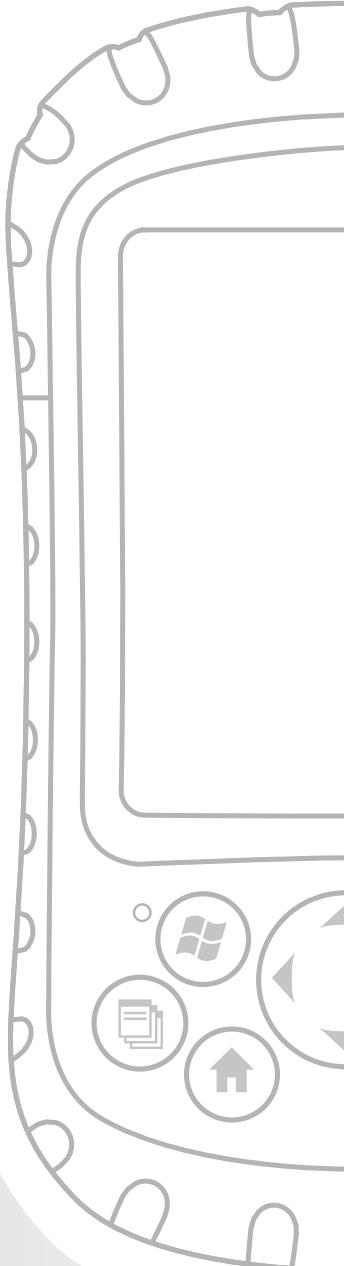
Communicating with a Desktop Computer

Install ActiveSync® on a desktop computer

Creating an ActiveSync® connection

Install Windows Mobile® Device Center on a desktop computer

Creating a Windows Mobile® Device center connection



Chapter 6

Communicating with a Desktop Computer

In Chapter 2, you learned how to create an ActiveSync® partnership between your Field PC and your desktop computer. In this chapter, learn how to—

- Install ActiveSync® on a desktop computer
- Create an ActiveSync® connection
- Install Windows Mobile® Device Center on a desktop computer
- Create a Windows Mobile® Device center connection

Install ActiveSync® on a desktop computer (Windows® 2000 and Windows® XP)

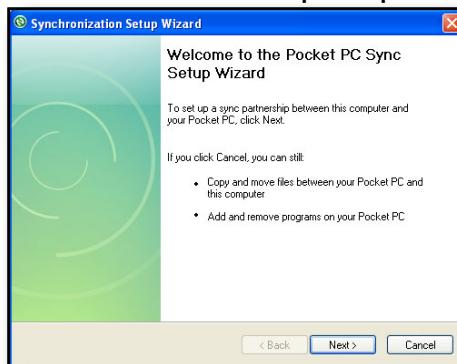
Note: If you have Windows Vista™, see Install Windows Mobile Device® Center.

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 computer with Windows Vista™ complete the following steps:

1. Connect your device to your desktop computer.
2. Download the Windows Mobile® Device Center Installer to your computer 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 computer using either ActiveSync® or Windows Mobile® Device center visit the Microsoft Windows Mobile® website.

7

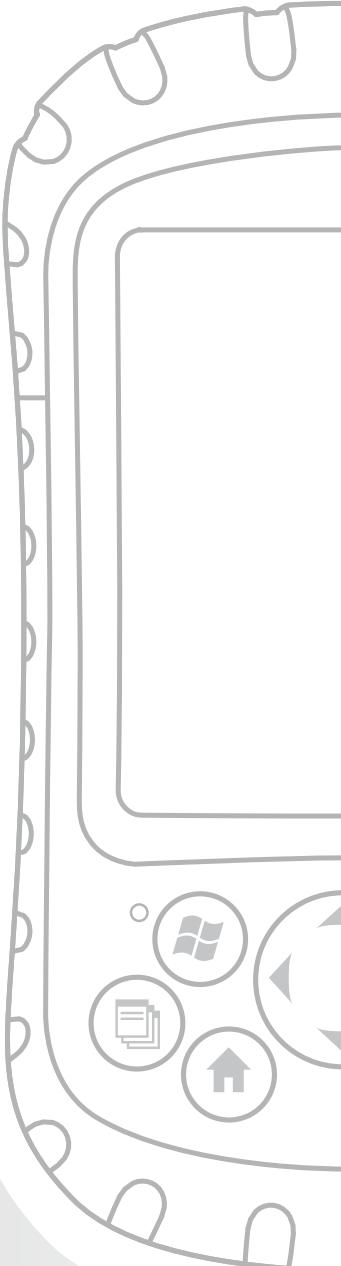
Getting to Know Programs and Settings

Understanding Start menu programs and utilities

Understanding applications in the Programs menu

Accessing programs on the Getting Started Disc

Finding settings



Chapter 7

Getting to Know Programs and Settings

This chapter describes

- Programs and utilities on the Start menu
- Applications on the Programs menu
- Programs available on the Getting Started Disc
- How to find settings on the Field PC

Understanding Start menu programs and utilities

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

To access the Start menu, tap the Start flag icon or press the Start menu button on the keypad. The Start menu appears, shown at right. A description of each Start menu option follows.

- **Today screen.** The default display of the Field PC. For a detailed description of this screen, see Chapter 4.



- **Calendar.** The Calendar tool shows the date and any appointments you scheduled for the day, week, or month. Use Calendar to enter your appointments and notify you of upcoming events.
- **Contacts.** Use this program to store the contact information of your associates.
- **Microsoft Internet Explorer®.** Internet browser.
- **Messaging.** This email client allows you to send and receive emails from Microsoft® Outlook® using ActiveSync® on your desktop computer. If you have a direct Internet connection on your Field PC, you can adjust Messaging to send emails directly from the Field PC.
- **Running programs.** If a program is running, it is listed on the Start menu. For example, in the picture of the Start menu shown, Notes and Microsoft® Office PowerPoint® Mobile are running on the Field PC, so they are listed in the Start menu. Tap on the program name to open the application.
- **Programs.** Tapping on *Programs* opens the Programs menu window. The Programs menu allows you to view and access any installed programs. For more details about Programs, see the next section, *Programs Menu Options*.
- **Settings.** Options for settings are divided between three main menus:
 - Personal settings
 - System settings
 - Connections settings

Note: For more details about settings, see the section in this chapter called Finding settings. To change your settings, see Chapter 4: Using the Field PC.

- **Help.** On-device help files are context-sensitive; the help information that appears on the help screen is directly related to what you are doing on the device.
Note: For more instructions on using help, see Chapter 5: Performing Common Tasks.

Understanding applications in the Programs menu

The Programs menu lists applications installed on your Field PC. To access the Programs menu, tap *Start > Programs*. Applications in the Programs menu are described below in the order they appear.

For on-device help instructions on how to use a program or for a more detailed description of a program, follow these steps:

1. Open the program.
2. Tap *Start > Help*.

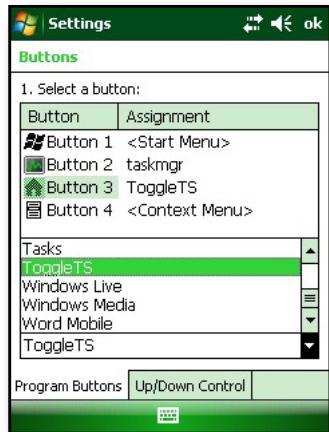
For more detailed instructions about using on-device help, see the section called *Using on-device help* in Chapter 5.

Applications comprise the following:

- **Games.** Choose from Bubble Breaker or Solitaire.
- **ActiveSync®.** Use this program to synchronize your Field PC with a desktop or laptop computer. You can also use ActiveSync to explore your Field PC and synchronize your contact information, calendar information, emails, and more.
- **Calculator.** This program simulates a calculator.

- **Download Agent.** Download Agent automates the process of downloading Field PC software updates directly to your Field PC. If you are connected through ActiveSync to a PC with an Internet connection or if you are connected to the Internet through a modem card such as a dial-up, Ethernet, Wi-Fi, cellular, or Bluetooth card, Download Agent automatically displays available updates to the Field PC. You must have a Microsoft Exchange Server set up to send software downloads to the Download Agent on a Field PC.
- **Microsoft® Office Excel® Mobile.** View and create charts using this program. Microsoft Excel and Excel Mobile are designed to be compatible. For example, you can open and edit a chart you created on your desktop computer using Microsoft Excel in Microsoft® Excel® Mobile on your Field PC.
- **File Explorer.** This utility lets you view, expand, and collapse the Field PC directory folders so you can locate files.
- **Notes.** Use this program to enter personal notes into the system or use the Voice Recorder option to record voice clips. Create stand-alone voice recordings or attach them to notes.
- **Pictures & Videos.** This viewer allows you to preview a picture or video without opening it.
- **Pocket MSN®.** This customizable program gives you quick access to your MSN Hotmail® Inbox and your MSN Messenger account.
- **Microsoft® Office PowerPoint® Mobile.** This viewer lets you view or rehearse PowerPoint presentations built on a desktop computer.

- **Search.** The search function helps you find files or programs.
- **Tasks.** Use this application to enter new tasks or to view and modify existing tasks.
- **Toggle TS.** Tap this icon to toggle the touch screen on and off. When the touch screen is turned off, navigate by using the directional buttons and shortcut buttons. Toggle TS can be applied to a button for easy access.



- **Microsoft® Office Word Mobile.** Use this program to create and edit documents with graphics while maintaining document formatting. Microsoft Word and Word Mobile are compatible. For example, you can open and edit a file you created on your desktop computer using Microsoft Word in Word Mobile on your Field PC.

Finding settings

To locate settings, tap *Start > Settings*. The Settings window appears, showing three menu tabs: *Personal*, *System*, and *Connections*. Use the following chart to identify the location of specific settings.

Setting	Personal	System	Connections
About		X	
Backlight		X	
Beam			X
Bluetooth			X
Buttons	X		
Backlight		X	
Certificates		X	
Clock and Alarms		X	
Connections			X
Error Reporting		X	
Input	X		
Lock	X		
Memory		X	
Menus	X		
Network cards			X
Owner Info	X		
Power		X	

Setting	Personal	System	Connections
Regional settings		X	
Remove programs		X	
Screen		X	
Sounds and notifications	X		
Today	X		

For instructions on changing settings, see the on-device help.

8

Using the Integrated Bluetooth® Option

Bluetooth® drivers and profiles

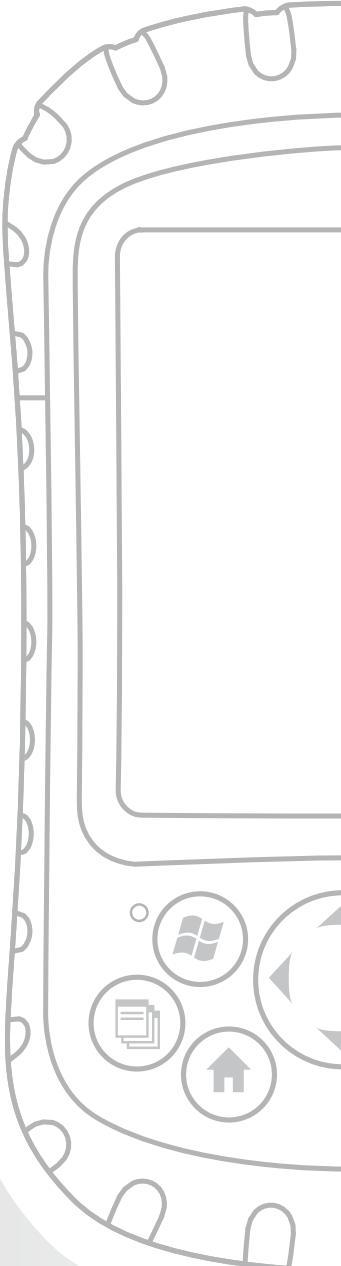
Identify the power status of Bluetooth

Create a Bluetooth partnership

Bluetooth virtual COM ports

Set up an outgoing Bluetooth COM port

Set up an incoming Bluetooth COM port



Chapter 8

Using the Integrated Bluetooth® Option

This section explains what you need to know about using integrated *Bluetooth* wireless technology with your Field PC. Learn how to—

- Identify the power status of Bluetooth
- Make the Field PC discoverable to other devices that use Bluetooth
- Determine the status of Bluetooth
- Create a Bluetooth partnership
- Set up an outgoing Bluetooth virtual COM port
- Specify a COM port within an application
- Set up an incoming Bluetooth virtual COM port

If your Field PC does not have integrated Bluetooth, you need an external Bluetooth card to use Bluetooth.

See the instructions associated with the card for details.

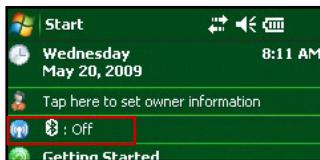
Note: If you have a device with integrated Bluetooth, the Field PC does not recognize a Bluetooth card.

Bluetooth drivers and profiles

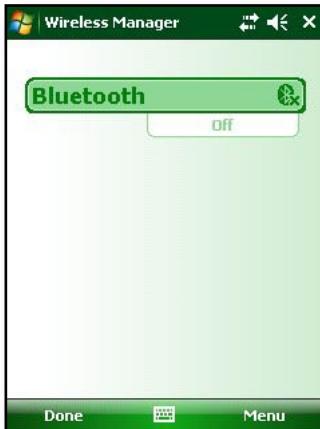
Microsoft Bluetooth drivers are loaded onto your Field PC at the factory. These drivers support the following profiles: serial devices, ActiveSync, object exchange (OBEX), dial-up networking, and human interface devices (e.g., keyboard or mouse). Profiles not supported include network access point and audio. Supported profiles are described in the next chapter.

Identify the power status of Bluetooth using Wireless Manager

A line on the Today Screen indicates whether *Bluetooth* is powered on or off, as shown here.

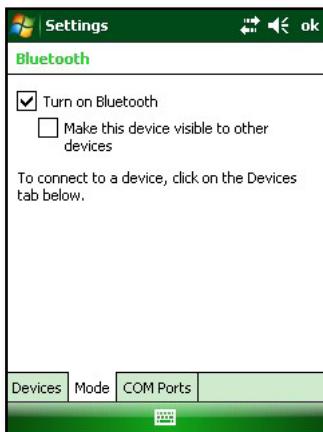


By tapping this line, you open Wireless Manager, a utility that controls *Bluetooth*. The default screen in Wireless Manager shows the power status, the Done soft key, and the Menu soft key (see the following figure).



The Bluetooth bar acts as a toggle switch, allowing you turn the device on or off easily. If you make the device discoverable, the toggle switches between *Off* and *Discoverable*. Tapping on the *Done* soft key closes the Wireless Manager screen.

Tapping on the *Menu* soft key takes you to the Bluetooth Settings screen, shown in the next image. From here, you can adjust Bluetooth settings, such as turning Bluetooth on or off and creating a Bluetooth partnership. See the following sections for more details.



Turn Bluetooth on and off

1. Tap *Start > Settings > Connections tab.*
2. Tap *Bluetooth.*
3. Select or clear the *Turn on Bluetooth* check box.
Selecting it turns *Bluetooth* on; clearing it turns it off.

Note: By default, Bluetooth is turned off. If you turn Bluetooth on and then suspend the device, Bluetooth turns off while the Field PC is suspended to save battery power. When you resume (turn on) the Field PC, 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, you must make your device discoverable or establish a partnership with the other device.

Follow these steps to make your 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*.

Tip: If you do not want the Field PC to be discoverable to other devices, deselect (clear) the Make this device discoverable to other devices checkbox.

Create a Bluetooth partnership

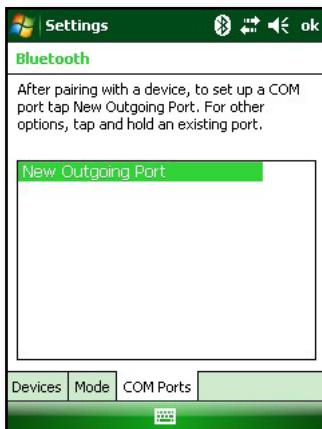
A partnership is a relationship you create between the Field PC and another device that uses *Bluetooth* wireless technology to help exchange information securely.

Follow the steps below to create a partnership between the Field PC and another device that uses *Bluetooth* technology:

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.*

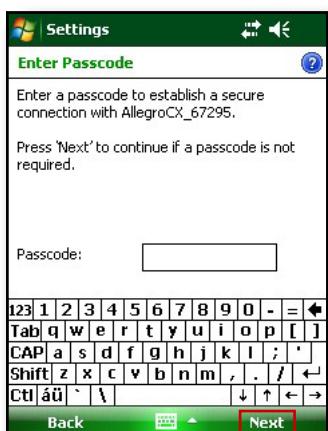
Your device searches for other devices with Bluetooth capabilities and displays them in the list, as shown here.



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

5. If the Bluetooth device has an assigned a 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 in the Passkey option. Tap *Next*.

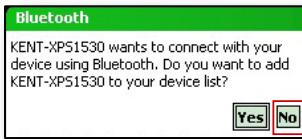
Note: If you are unsure whether your device requires a passkey and whether one has already been assigned to your Bluetooth device, see the user documentation that came with the device.



Important: If the Bluetooth device does not use a passkey, leave the passkey blank and tap *Next*, as shown in the first image below. 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.

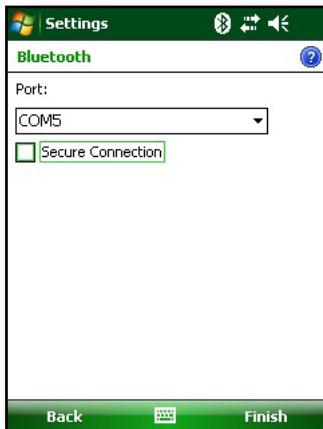
3. Tap *New Outgoing Port*, the second option.



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



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.
5. Tap *Finish*.

For more information about using Bluetooth to connect to other devices, see the next chapter, *Supported Bluetooth Profiles*.

9

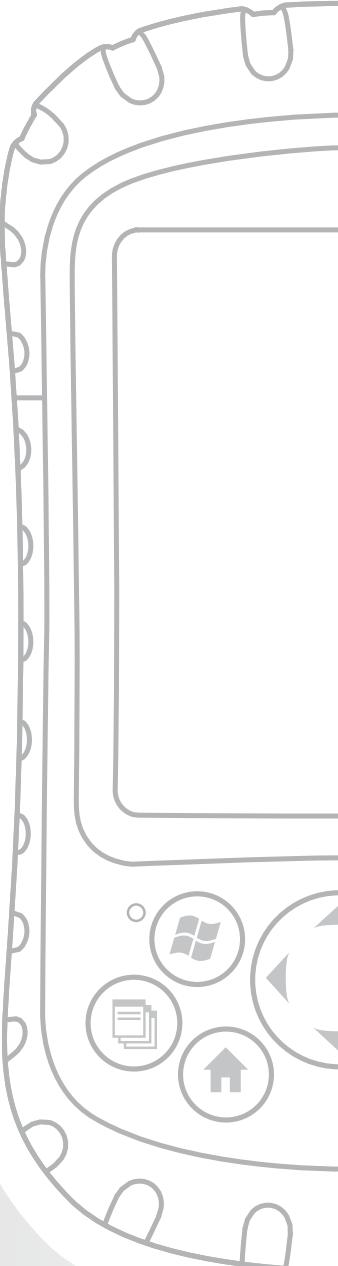
Supported Bluetooth® profiles

Serial Port Profile

Dial-Up Networking (DUN) Profile

Human Interface Device (HID) Profile

Object Push Profile (OPP)



Chapter 9

Supported Bluetooth® Profiles

This chapter describes the *Bluetooth®* profiles recognized by the Microsoft drivers installed on your Field PC. Drivers determine which devices your Field PC can communicate with. If you are using an external Bluetooth CF or SDIO card and you installed a new driver specific to this card (recommended), consult the documentation that came with the driver for instructions about its profiles.

Note: Bluetooth cards are not recognized by modules with integrated Bluetooth. For general instructions about using an integrated Bluetooth module, see Chapter 8.

This chapter is organized by Bluetooth profile, each of which is briefly described below. Instructions for using each profile to create Bluetooth partnerships follow.

- *Serial Port Profile (SPP)*. Similar to a serial cable, this profile acts as a liaison between two devices, such as the Field PC and a GPS receiver, using virtual ports. (These ports are described in the previous chapter.)
- *Dial-Up Networking (DUN)*. Lets you connect to a computer through a cell phone or a Bluetooth-enabled modem.
- *Human Interface Device (HID)*. Allows you to communicate between the Field PC and a Bluetooth keyboard or mouse.
- *Object Push Profile (OPP)*. This profile lets you exchange files like data, audio, business cards, appointments, and contacts. Similar to the well-known object exchange profile (OBEX).

Serial Port Profile (SPP)

This section explains how to:

- Communicate with another device using the Serial Port Profile
- Configure ActiveSync® to synchronize through the Serial Port Profile
- Connect to a desktop computer that has a Bluetooth dongle
- Print from the Field PC to a Bluetooth printer using the Serial Port Profile

Communicating with another device using the Serial Port Profile

Follow the instructions below to communicate with a device using the Serial Port Profile.

1. On the Field PC, tap on the Wireless Manager icon to make sure Bluetooth is on and that the Field PC is discoverable. (For instructions on doing this, see the previous chapter.)
2. In the Wireless Manager, tap *Menu > Bluetooth Settings > Device tab > New partnership*.
3. Select your target device and tap *Next* to create a Bluetooth partnership with the target device. *Note: After you have created a partnership with a device, the device automatically appears in the list of Bluetooth devices. You do not have to re-create a device partnership.*
4. Enter the passkey on the Field PC and on the device. (See the documentation for the device for details. If there is no passkey listed for the device, tap *Next*, then *No*.)
5. On the Field PC, select *Serial Port* and tap *Finish*.
6. The device appears on the list of partnerships.

7. Choose the COM Ports tab. Choose *New Outgoing Port* and tap *Next*. Select a COM port that is available.
8. **Important:** Deselect (clear) the *Secure Connection* checkbox. Deselecting this option ensures that the device disconnects the Bluetooth connection only when you tell it to.
9. Tap *Finish* to save the settings. Tap *OK* and *Done* to close the Wireless Manager application.

Configuring ActiveSync on a Bluetooth-enabled desktop computer to synchronize through the Serial Port Profile

1. Make sure ActiveSync is set up properly on your desktop computer.
2. Make sure there are no current ActiveSync connections on your desktop. *Note: If another device is already connected to the desktop, serial ports do not appear available. To fix this, unplug the connected device, then tap Refresh on the Field PC.*
3. On the Today screen of the Field PC, tap on the Wireless Manager icon and make sure Bluetooth is on or discoverable.
4. Within Wireless Manager, select *Menu* then tap *Bluetooth Settings*.
5. Select the *Devices* tab.
6. Tap *New Partnership*.
7. Tap on the name of the desktop computer, then tap *Next*.
8. Enter a passkey on the Field PC.
9. Enter the same passkey on your desktop computer.
10. Select *ActiveSync* on the Field PC. If no ActiveSync option appears in the list of available services on the Field PC, check the ActiveSync configuration on your

desktop.

11. Tap *Finish* to save the settings. Tap *OK* > *Done* to close the Wireless Manager application.
12. On the Field PC, tap *Start* > *Programs* > *ActiveSync*. Choose *Connect via Bluetooth*.

Connecting to a desktop computer using a Bluetooth dongle

1. Make the Field PC discoverable.
2. Select the *COM Ports* tab.
3. Choose *New Outgoing Port*.
4. Select the device and tap *Next*.
5. Select an available COM Port.
6. **Important:** Deselect (clear) the *Secure connection* option. Deselecting this option ensures that the device disconnects its Bluetooth connection only when you tell it to.
7. Tap *Finish* to save your settings.
8. On your desktop PC, right-click the Bluetooth icon on your menu bar.
9. Select *Add Bluetooth device*.
10. Select *Let me choose passkey*.
11. Type in a passkey.
12. On the Field PC, type in the same passkey.
13. Tap *Next*, *OK*, and *Done*.

Print from the Field PC to a Bluetooth printer using the Serial Port Profile

Currently, no built-in Windows Mobile 6 application supports printers. However, you can use third-party printing programs such as PrintBoy® to print data from the Field PC with a Bluetooth printer.

Before you set up a third-party print application, you

need to first discover the Bluetooth printer. To do so, follow these steps:

1. On the Field PC, make sure Bluetooth is on and that the Field PC is discoverable. (See the previous chapter for instructions.)
2. In the Wireless Manager, tap *Menu* then *Bluetooth Settings*.
3. From the *Devices* tab, select *New partnership*.
4. When the printer appears on the list of devices, select it.
5. Tap *Next*.
6. Enter the passkey and tap *Next*.
7. Select *Serial Port*.
8. From the COM Ports tab, tap *New Outgoing port*.
9. Select the printer.
10. Tap *New COM port*.
11. Deselect the *Secure Connection* option.

You can now print using a third-party print application you install on the Field PC. For details about using the application to print, see the documentation that came with the application.

Dial-Up Networking (DUN) Profile

This profile allows you to connect to the Internet using a cell phone dial-up connection or cordless modem. Instructions for partnering with both device types are described below.

Connecting to the Internet using a cell phone dial-up connection

1. Make your cell phone discoverable. (See the user

documentation that came with your cell phone for instructions.)

2. On the Field PC, tap on the Wireless Manager icon on the Today screen. (For more details, see the previous chapter.)
3. Tap *Menu > Bluetooth Settings*.
4. Select the *Turn on Bluetooth* checkbox and make sure *Make the device discoverable to other devices* is deselected.
5. In the Devices tab, choose *New Partnership*.
6. Select your cell phone from the list of devices and tap *Next*.
7. Enter any passkey on the Field PC.
8. Enter the same passkey and any other requested information on your cell phone.
9. On the Field PC, select *Dialup Networking*, then tap *Next*.
10. Tap *Start > Settings > Connections tab > Connections*.
11. Choose *Add a new modem connection*.
12. Enter a name for the connection and select *Bluetooth* as the modem.
13. Tap *Next*.
14. Select the name of your cell phone, then tap *Next*.
15. Enter the phone access number according to your phone carrier's specifications. Tap *Next*.
16. Enter a user name, password, and domain as specified by your network administrator.
17. Tap *Advanced*.
18. Fill in the remaining boxes as appropriate. Tap *OK* when you are done.
19. Tap *Finish*. Now you should be able to connect to the Internet on the Field PC through your phone's dialup

connection.

Connecting to the Internet using a cordless modem

To connect to the Internet using a cordless modem, follow the steps below:

1. Tap on the Bluetooth icon on the Today screen to open Wireless Manager. Make sure Bluetooth is on. (See the previous chapter for details.)
2. Tap *Menu > Bluetooth Settings*.
3. In the Mode tab, make sure *Turn on Bluetooth* is selected and that *Make the device discoverable to other devices* is deselected.
4. Open the Devices tab and choose *New Partnership*.
5. When the cordless modem device is found, tap on it.
6. Enter the passkey.
7. In the Partnership Settings screen, make sure *Serial Port* is not selected and that *Dialup Networking* is selected.
8. Tap *Save*.
9. Tap once on the device name to select it.
10. Tap *Start > Settings > Connections tab > Connections*.
11. Choose *Add a new modem connection*.
12. Enter a name.
13. Select *Bluetooth* as the modem.
14. Tap *Next*.
15. Select the name of the modem and tap *Next*.
16. Enter your ISP number as provided by your ISP provider and tap *Next*.
17. Type in a user name and password.
18. Choose *Advanced*.
19. Change the baud rate to 115200.
20. Fill in the remaining boxes as appropriate. Click *OK* when you're done.

21. Tap *Finish*.

Now that you have established a dial-up network connection, you can check email or look at a webpage using one of two methods. The first method is to let an application do the work. (This option is especially useful with cell phones.) The second method is to do the work yourself. Instructions for each method follow.

Method 1: Use an Internet browser or application

1. Open Internet Explorer®.
2. Fill in the network login boxes.

Method 2: Do it yourself

1. From the Today screen, tap *Start > Settings > Connections tab > Connections*.
2. Choose *Manage existing connections*.
3. Tap and hold on a connection and choose *Connect* from the menu that appears.

Human Interface Device (HID) Profile

This profile allows you to connect with Human Interface Devices like Bluetooth keyboards and mice. To make a connection, follow these steps:

1. Make sure Bluetooth is on or discoverable. Create a Bluetooth partnership with the device. (See the previous chapter for instructions on how to do these tasks.)
2. Make sure the HID is ready for pairing and select *New Partnership* to search for a Bluetooth device.
3. Select the name of the HID and tap *Next*.
4. If the device has an assigned passkey or accepts a passkey you give it, enter the passkey on the Field

PC and tap *Next*. If the device needs no passkey, leave the Passkey field blank, tap *Next*, and choose *No* when you are asked whether you want the device to be added to the device list.

Note: Saying No when you are asked whether you want to add the device to the device list allows you to proceed to the next screen; saying Yes returns you to the passkey screen.

5. If appropriate, enter the same passkey on the HID to establish a partnership.
6. Select *Input Device*.
7. Tap *Finish*. You now have a partnership with the HID.
Note: If no partnership appears for the HID on the Devices tab screen, try resetting your Field PC.

Object Push Profile (OPP) or beaming

Your Field PC uses Object Exchange File (OBEX) protocol to transfer or “push” electronic objects such as business cards from one Bluetooth-enabled device to another. For instructions, read on.

Transferring data from a Bluetooth-enabled device

To send data from a Bluetooth-enabled device to the Field PC, follow these steps:

1. Make sure the Field PC is discoverable. (See the previous chapter or the on-device help on the Field PC for instructions.)
2. On the Bluetooth-enabled device, tap and hold the stylus on the filename you want to beam. A menu

Chapter 9: Supported Bluetooth Profiles

appears.

3. Choose *Beam File*. The device finds the Field PC.
4. Send data from the device to the Field PC. The Field PC receives the data.

To send data from your Field PC to a Bluetooth device, follow these steps:

1. Make sure the device is discoverable. (For instructions, see the user documentation that came with your device.)
2. On the Field PC, make sure Bluetooth is on. (See the previous chapter for instructions.)
3. In File Explorer, tap and hold on the name of the file you want to transfer, then choose *Beam File* from the menu that appears.
4. When the name of the device becomes visible, tap on the name.
5. On the Bluetooth device, accept the file. The file is transferred.

10

Caring for Your Field PC

Storing the Field PC and battery packs

Protecting the touchscreen

Protecting the Field PC against mechanical shock

Battery pack warnings

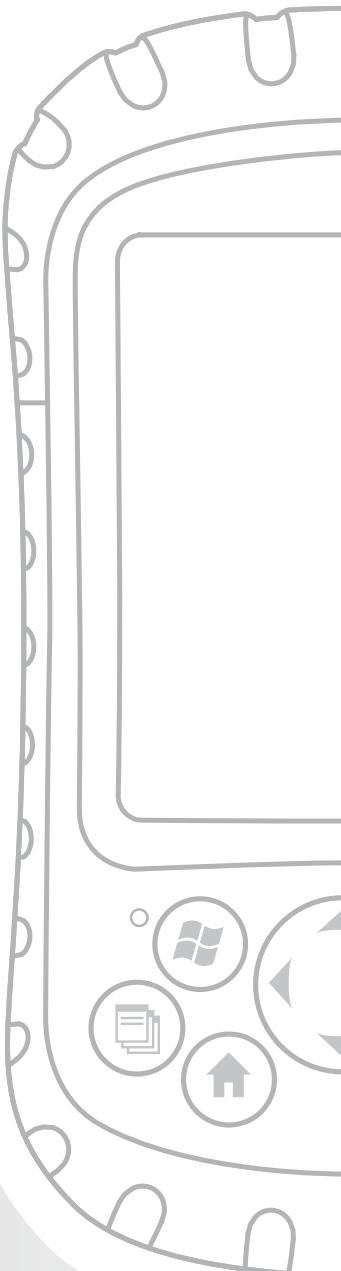
Equipment warnings

Using the Field PC in extreme temperatures

Cleaning the Field PC

Repairing the Field PC

Disposing of the Field PC and battery packs



Chapter 10

Caring for Your Field PC

This chapter explains how to store, clean, and protect your Field PC and battery packs. Specifically, it provides guidelines for—

- storing your Field PC and battery packs
- protecting the touchscreen
- protecting the Field PC against mechanical shock
- battery pack warning
- equipment warnings
- using the Field PC in extreme temperatures
- cleaning the Field PC
- repairing the Field PC
- disposing of the Field PC and battery packs

Storing your Field PC and battery packs

This section describes what you need to know about storing your device and battery packs, including

- the storage temperature range of the Field PC
- how to store the Field PC for less than two weeks
- how to store the device for more than two weeks
- how to take the Field PC out of extended storage

Storage temperature range of the Field PC. The Field PC can be stored at temperatures between -22° F and 140° F (-30° C to 60° C).

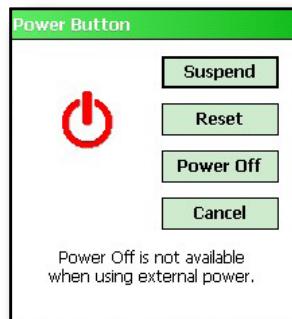
If possible, store your Field PC indoors. Doing so helps protect your device from extreme temperatures and helps your device run efficiently at startup.

Storing the Field PC for less than two weeks. If you plan to store your device for less than two weeks, suspend the device by following these steps:

1. As a precaution, back up your data onto a desktop computer or an external storage device such as a CF or SD card. (See *Chapter 3: Using the Hardware* for more instructions on backing up your data.)
2. Leave the battery pack in the device.
3. If you plan to store the device longer than a few days, it is a good idea to leave the device connected to the wall charger or to make sure the battery pack is fully charged.
4. Suspend the device.

Storing the Field PC for more than two weeks. To store the device safely for longer than two weeks, follow these steps:

1. Back up your data.
2. Press the Applications Manager button  to close all running application programs.
3. Charge the battery pack to full capacity (100%).
4. Unplug the wall charger.
5. Press the Power button until the Power Button menu appears.
6. Select *Power Off* from the menu, then tap *OK*.
7. Place the Field PC in a safe, dry place.



Taking the Field PC out of extended storage. The battery pack discharges slightly during extended storage periods. When you are ready to use your Field PC again, follow these steps so your battery pack runs efficiently:

1. Plug the Field PC into a charger.
2. Charge the battery pack. (To check the battery power status, tap on the battery icon at the top of the screen. ) Only charge the 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).

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 your Field PC.

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

To apply a screen protector, follow these steps:

1. Make sure the Field PC screen is free of oils and dirt. You can wipe it with a microfiber cloth.
2. Align bottom corners of the screen protector with the Field PC screen.
3. Smooth the screen protector while peeling back the liner, working out air bubbles as you go. Continue smoothing until the paper liner is removed.



Note: Some air bubbles may still be visible, but they fade away in a short time. You can use a credit card to gently push out any excess air.

Protecting the Field PC against mechanical shock

The Field PC is designed for protection from mechanical shock. It can be dropped from up to five feet (1.524m) onto concrete. Shock protection is guaranteed only when the top cap and body molding are securely in place.

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.

Follow these additional safety guidelines:

- Use only battery packs approved for use with this device.
- Do not store or leave your device or battery pack near a heat source such as a radiator, fireplace, stove, electric heater, or other heat-generating appliance, or otherwise expose it to temperatures in excess of 140° F (60° C).
- Do not try to open the battery pack.
- Do not carry a battery pack in your pocket, purse, or other container where metal objects (such as car keys or paper clips) could short-circuit the battery pack terminals.
- Keep the battery pack contacts clean. If they get dirty, wipe them off with a soft cloth.
- Dispose of the battery pack properly. See the section called *Disposing of the Field PC and battery packs* in this manual for instructions.

- Do not install the battery pack backwards so that the polarity is reversed.
- Do not connect the positive terminal and the negative terminal of the battery pack to each other with any metal object (such as wire).
- Do not solder directly onto the battery pack.
- Do not place the battery pack in direct sunshine.
- In the rare event that the battery pack leaks and fluid gets into the eye, do not rub the eye. Rinse well with water and immediately seek medical care.
- Dispose of the battery pack properly. See the section below, *Disposing of your Field PC and battery packs* for instructions.

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.

Using the Field PC in extreme temperatures

The Field PC operates in ranges from -22° F to 122° F (-30° C to 50° C). To help your device function properly, store the device indoors when possible.

Other tips:

- If the Field PC is exposed to temperatures below 14°F (-10°C), the device may slow down or the display backlight may become dim to reduce the load on the battery power.
- Extremely low or high temperatures may prevent the battery pack from charging. Charge the 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)

Cleaning the Field PC

This section explains how to clean

- the touchscreen
- the communications module (area housing the USB port, DC jack, and serial port)
- the speaker or microphone
- the stylus slot
- the display bezel

! **CAUTION:** Always make sure the top cap is on and screws are fitted tightly before you begin cleaning your Field PC.

Touchscreen. To clean the touchscreen, follow these steps:

1. Press the power button briefly to suspend the device.
2. If you applied a protector to the touchscreen, carefully remove it.
3. Apply water or a mild cleaning solution such as *Windex*® or *409*® to a microfiber cloth and gently wipe off the touchscreen. Other approved cleaners include *Citrus Wonder*® and *Citrus All Purpose Cleaner*®.

! **CAUTION:** Do not use tissues, paper towels, or harsh cleaning agents to clean the touchscreen.

4. If you used a cleaning solution, rinse the touchscreen with water and dry it with a microfiber cloth.
5. Press the power button to resume the device.

! **CAUTION:** Long exposure to the following solutions may damage your device:

- pine oil
- oil based paint
- automotive brake cleaner
- isopropyl alcohol
- carburetor cleaner

In case the device is exposed to one of these solutions, wipe it off with a mild cleaning solution.

Case overmolding. Clean the rubber-like overmolding that surrounds the case with a cloth and a mild cleaning solution like *409* or *Citrus Wonder*. After you are done cleaning, rinse the device with water.

Communications module (area housing the USB port, DC jack, serial port). To clean the communications module, run it under a faucet. Use a soft toothbrush or toothpick to clean out any remaining dirt.

Speaker and microphone. If debris gets in the speaker or microphone, use a soft bristle brush to remove it. Do not insert any object into the speaker or microphone holes.

Stylus slot. Rinse the stylus slot with water.

Display bezel. If the edge under the bezel gets dirty, use a microfiber cloth to remove the debris. Do not remove the bezel.

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.

Disposing of the Field PC and battery packs

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 lithium-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 or call 1-800-8-battery.

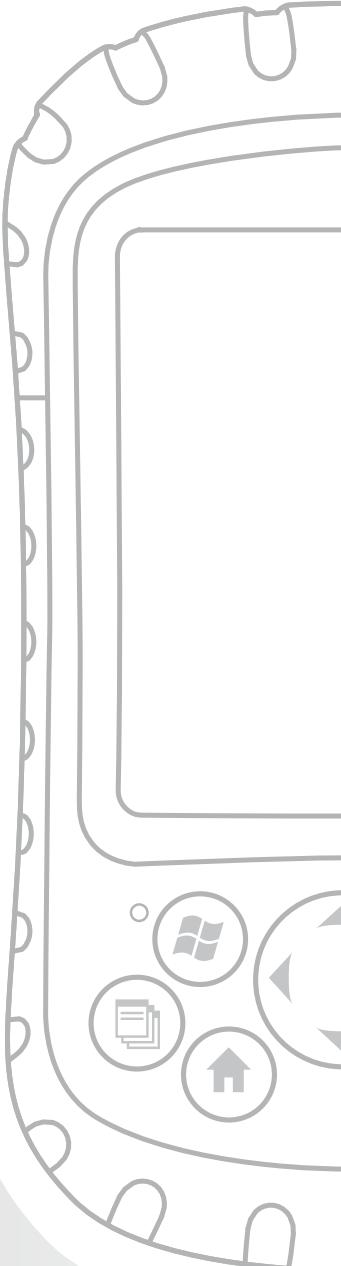
The Field PC contains no mercury or cadmium.

11

Troubleshooting and Service Tips

Troubleshooting tips

Preparing for a service center call



Chapter 11

Troubleshooting and Service Tips

This chapter includes some basic troubleshooting tips. It also explains what you need to do before you call your service center for a repair.

Answers to questions about Windows Mobile® may be available through the help files on your device or on the Windows Mobile website from Microsoft®. If you cannot find answers to your questions through these methods, contact your service center. (See the section in this chapter called *Preparing for a service center call*.)

Troubleshooting tips

This section provides solutions for the following issues:

1. The battery pack will not charge fully.
2. The touchscreen responds inaccurately to stylus taps.
3. The screen does not calibrate correctly or completely.
4. The Field PC runs slowly.
5. The Field PC drops its ActiveSync® connection.
6. The Field PC locks up.

Issue 1: The battery pack will not charge to 100% or to “0 mAh Consumed”.

Solutions: Try discharging the battery pack completely. You can turn off all auto-suspend and auto-backlight timers to drain the battery pack more quickly. Once the battery pack is fully discharged, try charging it again.

If the battery pack does not charge to full, try repeating

the full discharge and charge cycle a few more times.

If the battery pack still does not charge to full, try using a different battery pack to confirm that the problem is specific to the original battery pack.

Only charge the 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).

Issue 2: The touchscreen does not respond accurately to stylus taps.

Solutions: Try recalibrating the touchscreen. (See the section in Chapter 3 called *Using the touchscreen*.)

If the device is not responding to stylus taps at all and you are on the Today screen, look to see if the device is locked. To unlock the device, press the *Unlock* soft key on the screen.

If the device is unlocked but the stylus continues to respond inaccurately, close all open programs and reset the device. (See Chapter 5 for instructions.)

Issue 3: During calibration, the screen does not respond to stylus strokes or does not complete the calibration process.

Solutions: Check to see if there is something stuck underneath the bezel. Use a microfiber cloth to remove any excess debris. Also check to see if there is damage or wear on any area of the touchscreen. In case of damage, contact your service center.

Issue 4: The Field PC runs slowly.

Solutions: It is possible that you have too many programs running. Try closing any programs you are not using. To view and close running programs, follow these steps:

1. Press the Applications Manager button.  The Application Manager window appears.
2. Select the program(s) you want to close.
3. Tap *End Task*. This closes the program.

Issue 5: My Field PC quickly drops its ActiveSync connection to my desktop computer.

Solutions: Firewall programs sometimes cause ActiveSync connection problems. In these cases, the firewall sees the Field PC as a strange and possibly hostile computer and prevents the device from connecting to the desktop computer.

To allow the mobile device to connect to your desktop computer, follow these steps:

1. Use the serial cable to connect your device to the desktop computer. Follow the ActiveSync wizard instructions.
2. If your firewall application brings up a warning message asking whether you want to allow a connection, check the option to allow the connection and click "Yes".

Note: If the warning message above does not appear when you try to connect to the desktop computer but the device is still being dropped, contact your service center.

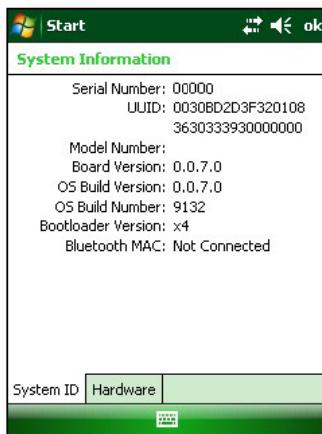
Issue 6: The Field PC locks up.

Solution: To reset the device, press and hold the Power button for 10 seconds or until the screen goes dark. The device turns on again after a few seconds.

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.



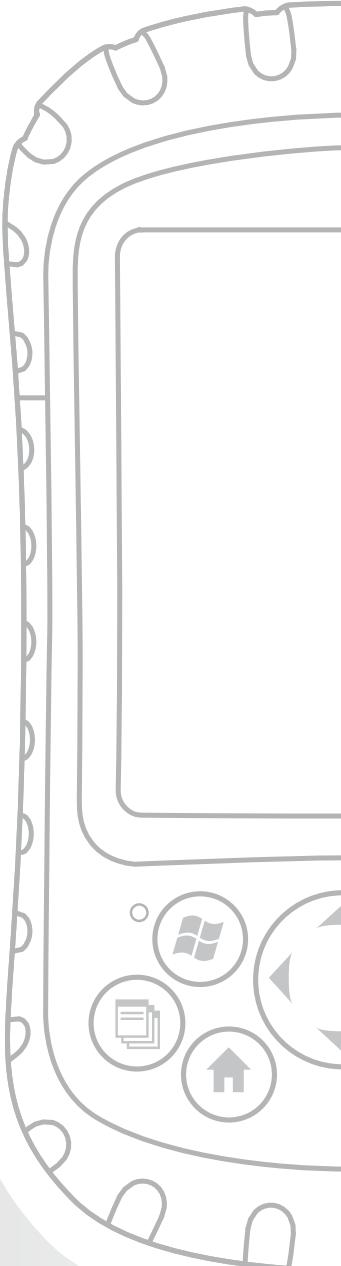
12

Information for Software Developers

Programming documentation

Software Development Kit (SDK)

Software development tools



Chapter 12

Information for Software Developers

Programming documentation

Documentation for programming Microsoft Windows Mobile® can be found at:

<http://msdn.microsoft.com/en-us/windowsmobile/default.aspx>. This website from Microsoft is designed for software programmers.

Software Development Kit (SDK)

Your Field PC uses the standard SDK Microsoft provides. More information about the Windows Mobile 6 SDK for Pocket PC devices can be found at:

<http://www.microsoft.com/downloads/details.aspx?familyid=06111A3A-A651-4745-88EF-3D48091A390B&displaylang=en>

Software development tools

Microsoft recommends Visual Studio® for Windows Mobile development. This tool gives users the ability to create “native” code so they can debug and test in a close relationship with the device. Older development tools allow you to compile applications, but they do not offer device connectivity options for more complete development and verification tasks.

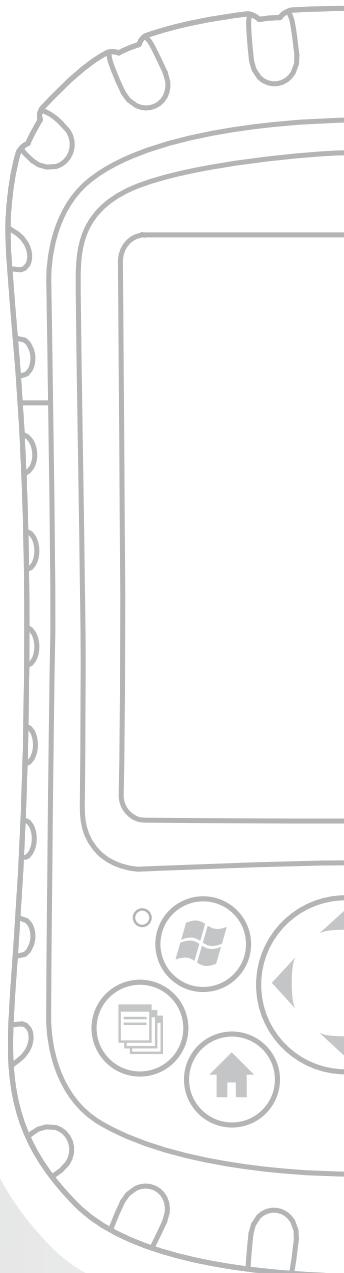
Appendix

A

Product Specifications

Product Specifications

9-Pin Serial Port Pinouts



Appendix A

Product Specifications

Features	Your Field PC
Operating System	Microsoft® Windows Mobile® 6
Processor	Intel® XScale® PXA270, 520 MHz
Memory	128 MB low-power RAM
Primary Storage	Internal solid-state 512 MB Flash
Secondary Storage	Internal solid-state 128 MB Flash (portion reserved for OS)
Display	3.5" (89 mm) QVGA active matrix color TFT transreflective LCD with LED backlight; 240 x 320 pixels
Touchscreen	Sealed, resistive, pressure sensitive
CF and SD Card Slots	Compact Flash (Type I or Type II), Secure Digital (SD or SDIO); each card slot provides 3.3 V; user accessible, sealed
Keyboard	Four-way directional button, standard key functions, LED backlit keys
Physical	6.5" length x 3.5" wide x 1.7" thick (165 x 89 x 43 mm), 17 oz (482 g); magnesium case with elastomer overmold

Appendix A: Product Specifications and Pinouts

Features	Your Field PC
Operating Temperature for Devices without Internal Bluetooth	-22° to 122°F (-30° to 50°C)
Operating Temperature for Devices with Internal Bluetooth	-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)
IP67	Sealed rating, waterproof and dustproof
MIL-STD-810F	Water, humidity, sand and dust, vibration, altitude, shock, high temperature, low temperature, temperature shock
Shock Absorbency	Multiple drops onto concrete from 5 ft (1.5 m) through temperatures ranging from -22 to 122° F (-30 to 50° C)
Batteries	Intelligent, rechargeable Li-Ion battery pack, 14 W-hr (nom.)
Communications Module	Serial port 9-pin D-sub connector, USB Host (Mini A), USB Client (Mini B), 12 VDC jack for power input and battery charging

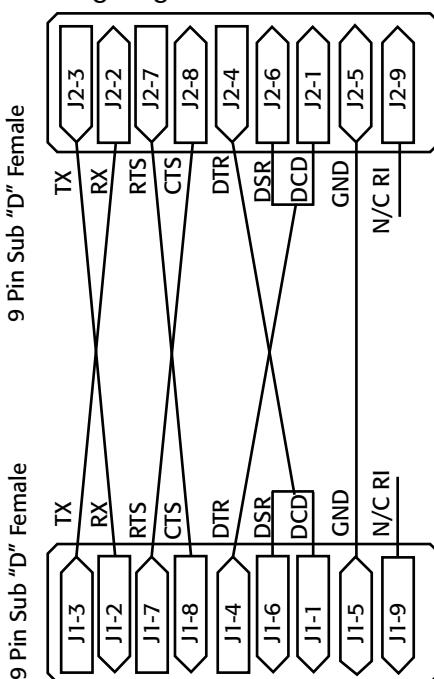
Features	Your Field PC
COM 1 Port	9-pin D-sub connector; full modem control signals, 5 V @ 200 mA available on DTR pin 4; controlled by DTR signal; conformal coated
Current Limits	CF card slot: 3.3 V; SD card slot: 3.3 V; USB Host: 5 V; 9-pin D-sub connector: 5 V on DTR line; recommended maximum combined output current: 500 mA; short circuit protected
Power	Voltage +12 VDC; Range +10 10-20 VDC; Current: Max 12 V @ 850 mA; reverse polarity protection; over voltage protection; auto shut off
Wireless Communication Options	Integrated Bluetooth or Bluetooth-supported with CF or SD Bluetooth card; Wi-Fi supported; wireless cellular modem
Internal Clock	Battery-backed real time clock
Enunciators	External power/charge LED and notification LED; other enunciators on system tray
Certifications	FCC Class B, European CE Mark
EMI	Meets FCC class B requirements

9-pin serial port pinouts

Pin #	Description
1	Data Carrier Detect (DCD) Input
2	Receive Data (RCD) Input
3	Transmit Data (TXD) Output
4	Data Terminal Ready (DTR) Output
5	Ground (GND)
6	Data Set Ready (DSR) Input
7	Request To Send (RTS) Output
8	Clear To Send (CTS) Input
9	Ring Indicator (RI) Input

- | | |
|---|----------------------------------|
| 1 | Data Carrier Detect (DCD) Input |
| 2 | Receive Data (RCD) Input |
| 3 | Transmit Data (TXD) Output |
| 4 | Data Terminal Ready (DTR) Output |
| 5 | Ground (GND) |
| 6 | Data Set Ready (DSR) Input |
| 7 | Request To Send (RTS) Output |
| 8 | Clear To Send (CTS) Input |
| 9 | Ring Indicator (RI) Input |

A wiring diagram is shown below.



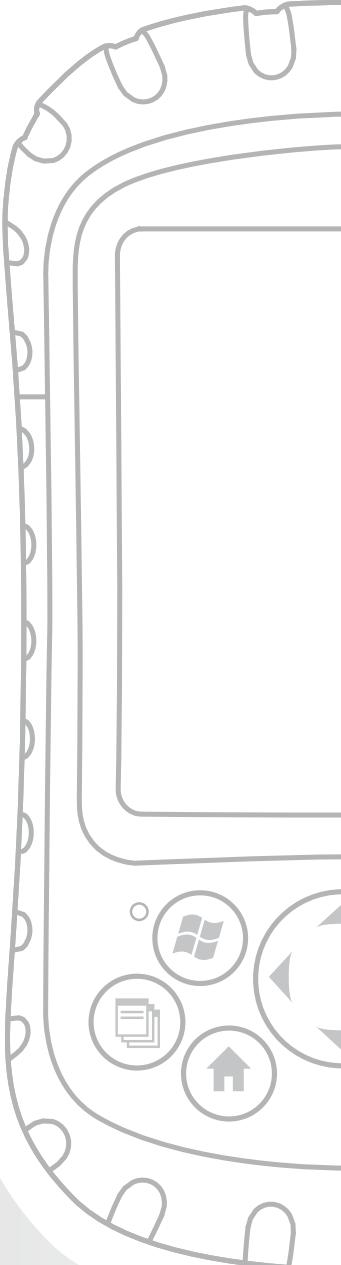
Appendix

B

Certifications and Regulatory Information

Regulatory Information

CE marking



Appendix B

Certifications and Regulatory Information

Regulatory information

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 reference guide, 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.

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.

! **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.

! **CAUTION:** Although the radiated output power of this device is below the FCC radio frequency exposure limits, the device should be used in ways that minimize the potential for human contact during normal operation.

This device must not be co-located or operating in conjunction with any other antenna or transmitter.

Industry Canada Notice for Class B Digital Apparatus

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 EMC Directive (2004/108/EC), the R&TTE Directive (1999/5/EC), and the Low Voltage Directive (2006/95/EC) 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 61000-3-2 (IEC 61000-3-2)—Power Line Harmonics
- EN 61000-3-3 (IEC 61000-3-3)—Power Line Flicker
- EN 60950 (IEC 60950)—Product Safety
- ETSI EN 300 328—Technical Requirements for 2.4 GHz Radio Equipment
- ETSI EN 301 489-1, -17—General EMC Requirements for Radio Equipment

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.

Environmental Hazards

The product complies with international RoHS regulations.

This product complies with international regulations for Restriction on Hazardous Substances Directive (RoHS)



FM Approved Class I Div 2

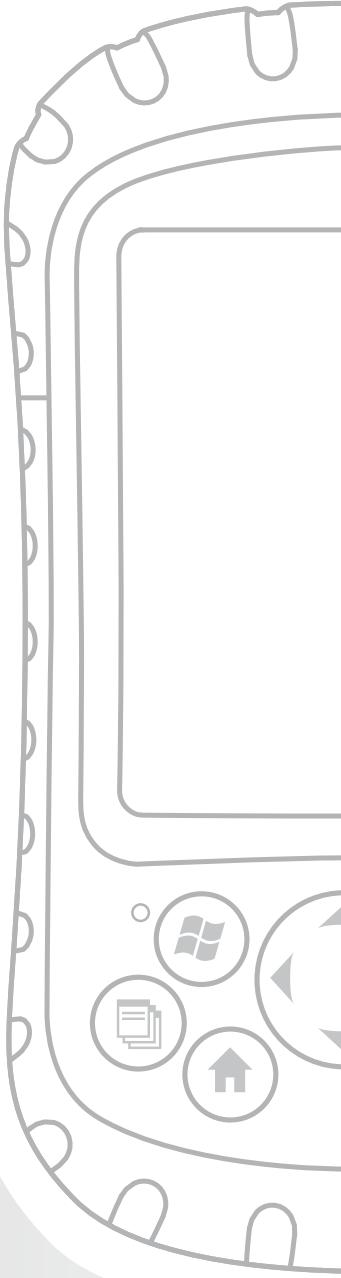
The FM approved Class I Div 2 Field PC should be used with caution when operating the equipment in a Division 2 location.



Appendix

C

Standard Warranty Terms and Conditions



Appendix C

Standard Warranty Terms and Conditions

Limited Product Warranty

Juniper Systems, Inc. ("JS") warrants that the Field PC/Field PCs 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 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. JS will return the repaired equipment by the same method it was received with costs of shipping prepaid.

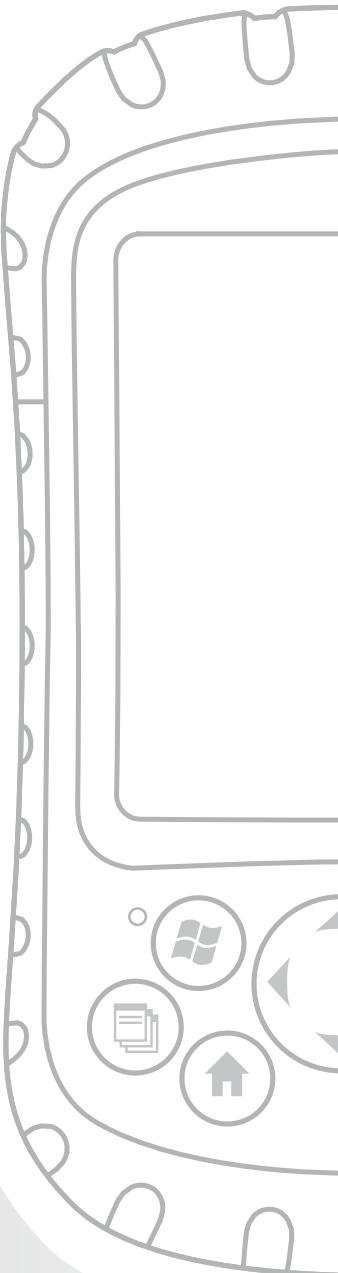
Governing Law

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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Installation Instructions

Ultra-Rugged Field PC Extended Caps

Our extended caps maintain the full ruggedness of the Field PC while allowing you to use CF or SD peripheral devices. This booklet explains how to install each cap and also how to mount an external device like a GPS receiver on your Field PC.

Before You Begin

- Maximum card lengths for each cap are listed on page 3. To avoid damaging your Field PC, refer to them before inserting a card.
- See the Table of Contents to find instructions for installing your specific extended cap.

Package Contents

Communication Cap:

- Foam pads in different sizes

Universal, Optical, and Data Acquisition

(DAQ) Caps:

- Foam pads in different sizes
- Seal adapter plate and screws
- Card pull tabs
- Clear CF card spacer

Required Tools

- #1 Phillips screwdriver
- If you are mounting an external device, you need a razor blade or sharp knife

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Maximum Card Lengths

The maximum total card length for each cap is listed below.

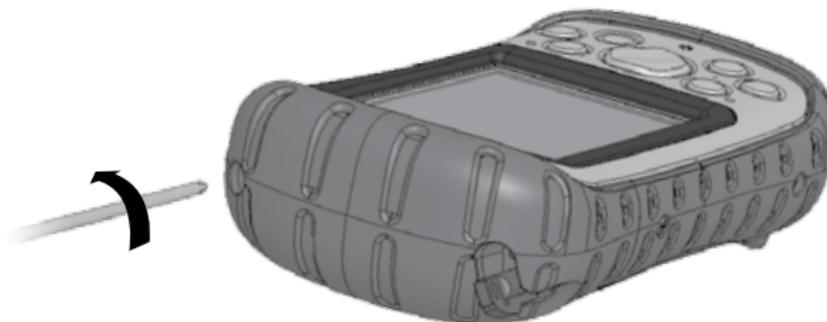
CAUTION: Using cards that exceed the maximum lengths listed above may damage your Field PC and void the warranty.

Communication Cap	2.75 inches (70 mm)
Universal Cap	3.8 inches (96.5 mm)
Optical Cap	3.5 inches (89 mm)
Data Acquisition Cap	1.43 inches (36.4 mm)

Communication Cap

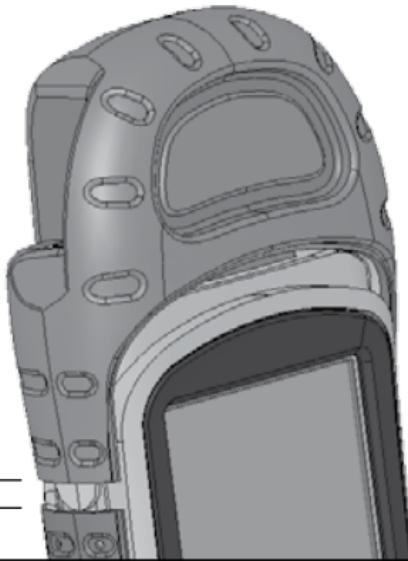
This section explains how to install the Communication Cap. For instructions on installing the Universal, Optical, and Data Acquisition (DAQ) caps, see the next section.

1. Use a #1 Phillips screwdriver to loosen the captured top screws on the Field PC. Remove the standard cap.



- 2.** Insert your card. To keep your card securely in its slot, cushion it by placing small or medium-sized foam pieces inside the top of the cap. Insert enough foam into the cap so that when you slide the cap back onto the Field PC with little pressure, a $\frac{1}{4}$ inch (6 mm) gap remains between the cap and the Field PC, as shown.

$\frac{1}{4}$ in. (6 mm) gap



- 3.** Tighten the Communication Cap screws until they are firmly in place. To properly seal the cap, apply an extra $\frac{1}{4}$ to $\frac{1}{2}$ turn after the screws become hard to turn.

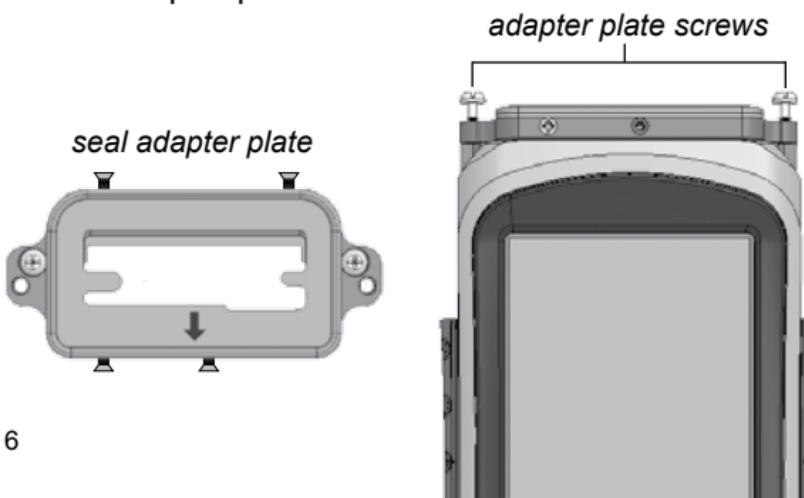


Universal, Optical, and DAQ Caps

1. Use a #1 Phillips screwdriver to loosen the captured top screws on the Field PC. Remove the standard cap.



2. Place the seal adapter plate onto the Field PC with the arrow pointing towards the display. Tighten the two adapter plate screws.



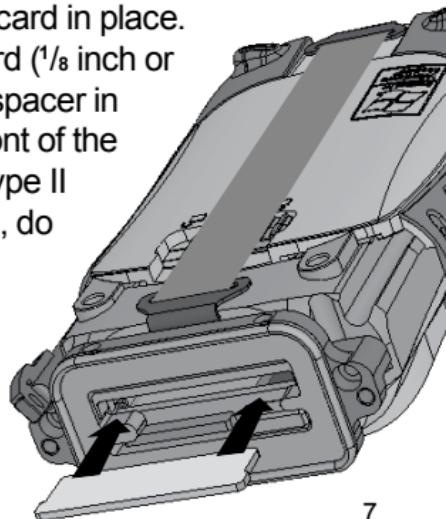
This section tells you how to insert your card(s) properly. For memory cards, see step 3. For medium or large CF cards, see step 4. For any other card types, insert your card(s) and skip to step 5.

CAUTION: Before inserting a card, make sure the four side screws on the seal adapter plate are backed out $\frac{1}{8}$ inch as shown in the first image in step 2.

3. If you are inserting an SD or CF memory card, make it easier to remove by first placing a card pull tab onto the card. Insert the card.

4. A Type I CF card is thinner than a Type II card, so it needs a spacer to keep the card in place. Before you insert a Type I CF card ($\frac{1}{8}$ inch or 3 mm thick), first insert the card spacer in the CF card slot closest to the front of the Field PC. If you are inserting a Type II CF card ($\frac{1}{4}$ inch or 5.5 mm thick), do not insert the spacer card. Insert the card.

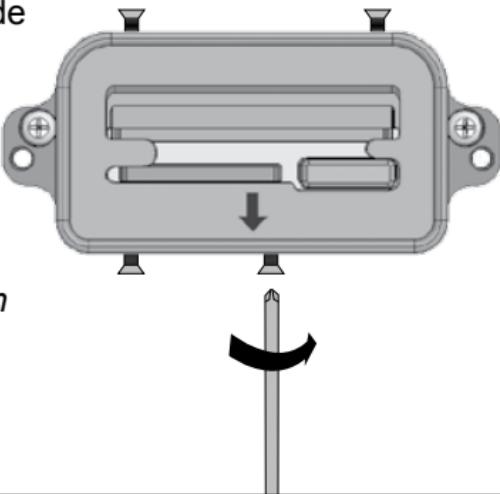
Type I CF card spacer



- Once you have inserted your card(s), tighten the four small side screws until the top of each screw is flush with the outside of the gasket piece.

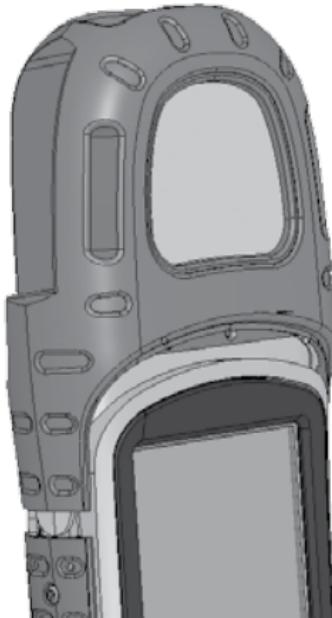
CAUTION:

Before removing an inserted card, loosen the four small side screws by $\frac{1}{8}$ inch (3 mm).

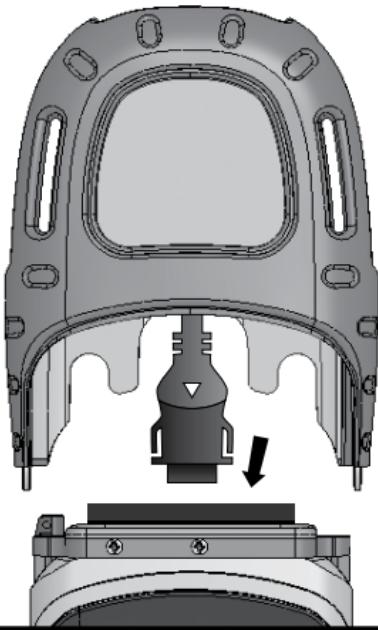


- If you inserted a camera SD card, insert large foam pieces inside the top of the cap to keep the camera in place. Stack enough foam in the top of the cap so that when you slide the cap into place with little pressure, a $\frac{1}{4}$ inch (6 mm) gap remains between the cap and the Field PC. This gap closes when you secure the cap in step 8.

$\frac{1}{4}$ inch (6 mm) gap



7. If you are using the Data Acquisition (DAQ) Cap, plug the wiring harness into the inserted Data Acquisition CF card.



8. Tighten the cap screws until they are firmly in place. If you inserted foam into the cap in step 6, first press down on the cap so the screws engage. To properly seal the cap, apply an extra $\frac{1}{4}$ or $\frac{1}{2}$ turn after the screws become hard to turn.

Note: Even if a small gap remains between the extended cap and the body molding, the Field PC is fully sealed.



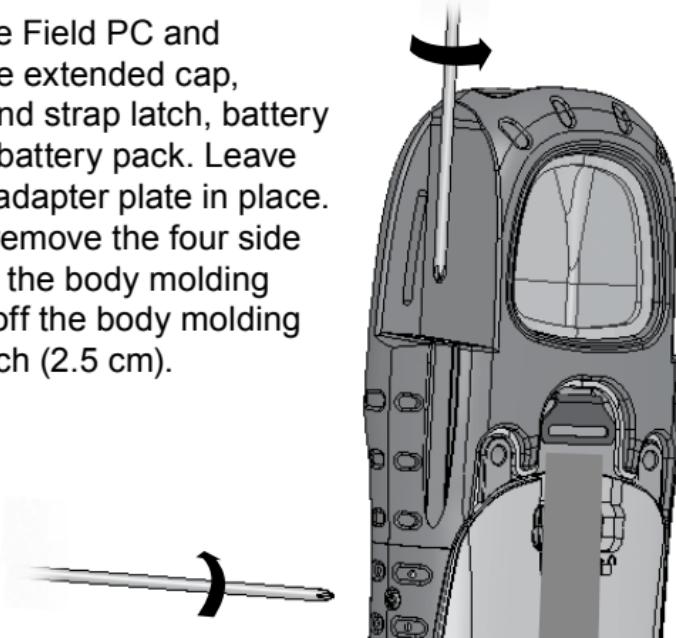
Mounting an External Device

Overview

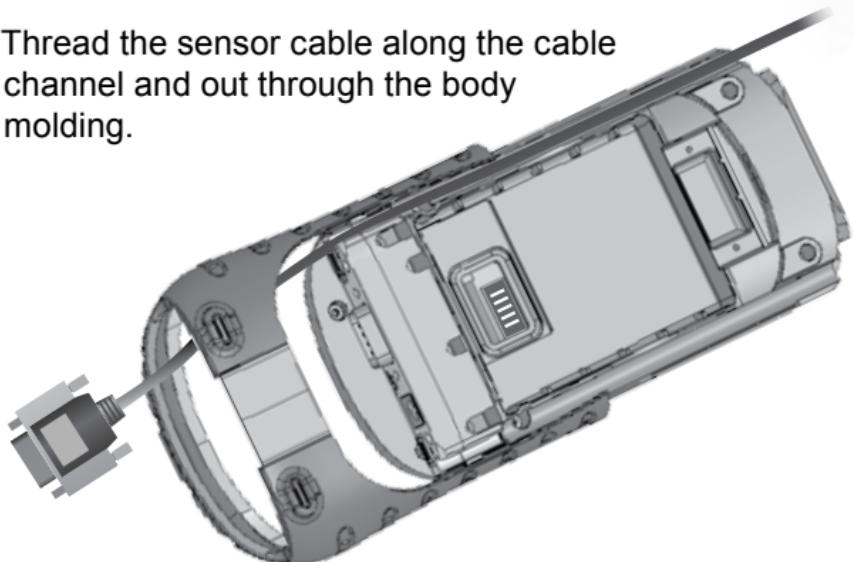
The Field PC features a convenient cable channel that hides cables attached to an external device you mount on the Universal, Optical, or Data Acquisition Caps. External devices might include an external RS-232 sensor (such as a GPS receiver) or a USB device.

This section explains how to insert a cable in the cable channel and how to mount the external device onto the extended cap. These instructions assume you have already installed your extended cap onto the Field PC.

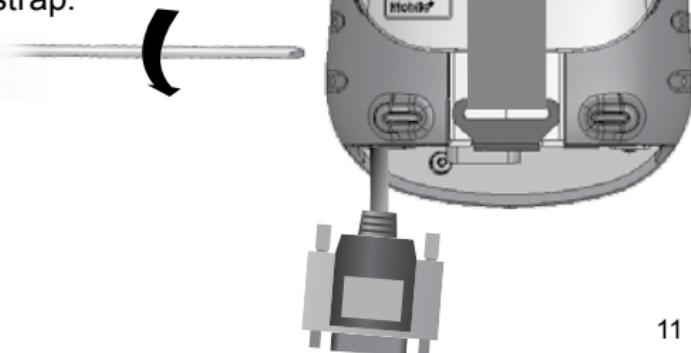
1. Turn off the Field PC and remove the extended cap, bottom hand strap latch, battery door, and battery pack. Leave the serial adapter plate in place. Carefully remove the four side screws on the body molding and slide off the body molding about 1 inch (2.5 cm).



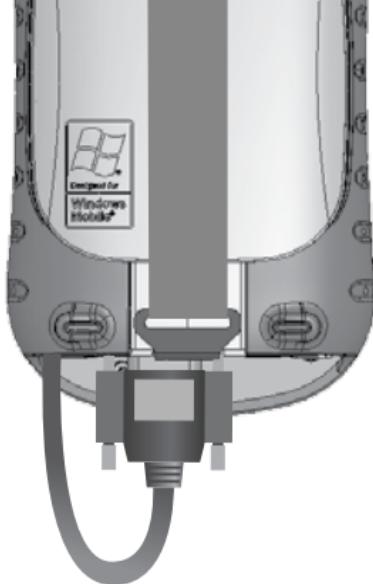
- 2.** Thread the sensor cable along the cable channel and out through the body molding.



- 3.** With the cable in place, slide the body molding into place and tighten the four side screws. Replace the battery pack, battery door, and hand strap.



4. Connect the sensor connector to the 9-pin serial port or USB host port.

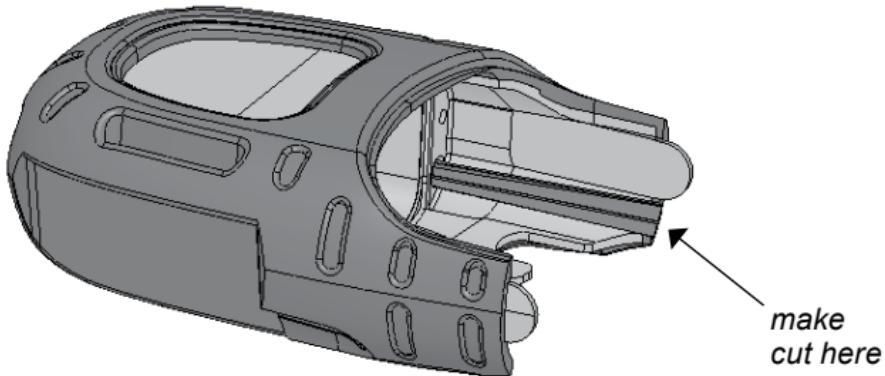


5. Make sure the seal adapter plate is properly installed.

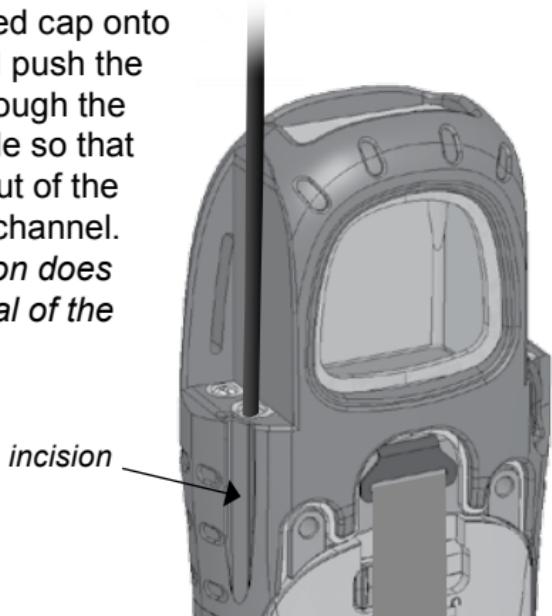
CAUTION: The seal adapter plate must be installed to seal the Field PC.

If you have not already installed the seal adapter plate onto your Field PC, see steps 2–4 of the previous section for instructions.

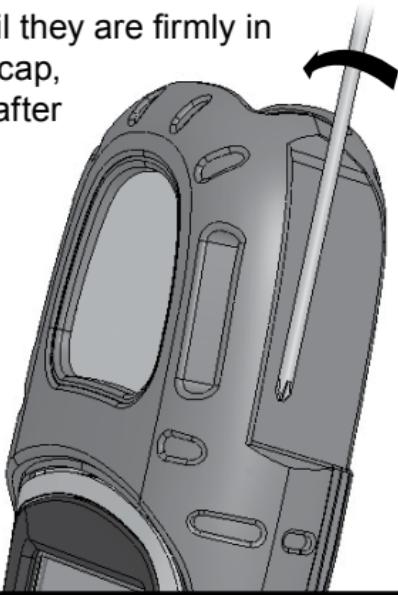
6. To give the cable an exit through the extended cap, cut the thin rubber overmolding on the extended cap along the entire scribe line using a razor blade or sharp knife.



7. Slide the extended cap onto the Field PC and push the sensor cable through the incision you made so that the cable exits out of the top of the cable channel.
Note: The incision does not affect the seal of the Field PC.

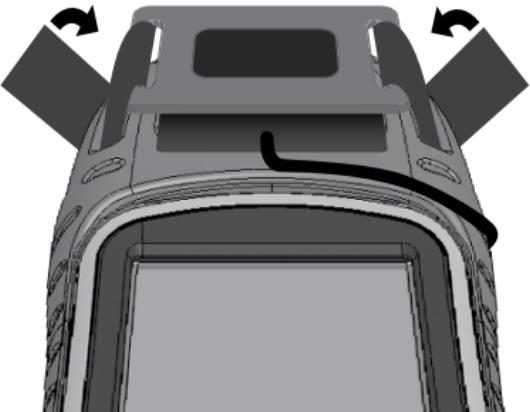


8. Tighten the cap screws until they are firmly in place. To properly seal the cap, apply an extra $\frac{1}{4}$ to $\frac{1}{2}$ turn after the screws become hard to turn.



9. Mount the sensor on the front of the extended cap and secure it with a strap. **Note:** An optional sensor mounting strap is available for purchase.

The figure here shows a GPS antenna mounted on the Universal Cap and secured with the sensor mounting strap.



Selection Chart

CF & SDIO cards

	COMMUNICATION	UNIVERSAL	OPTICAL	DATA ACQUISITION
Wi-Fi	X	X	X	
Cellular Modem	X	X	X	
Bluetooth (Class 1 or 2)	X	X	X	
Digital Camera		X	X	
GPS Receiver		X		
Bar Code Scanner			X	
RFID Scanner		X	X	
NI CF-6004				X
CF Memory Card	X	X	X	
SDIO Memory Card	X	X	X	X

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