

Release Notes

Version 2.1.3 of Windows Mobile® 5.0 Operating System for the Field PC

October 2007

These release notes describe improvements and other important information for Release 2.1.3 of Windows Mobile 5.0 for the Field PC. The improvements in Release 2.1.3 can be viewed in the Resolved Issues section starting on page 5.

Release 2.1.3 provides only minor improvements and no new features, so the list of features and changes made in Release 2.1.1 have been included due to the brief period of time between these releases.

You can download the latest release 2.1.3 from the following website:

<http://www.ultraruggedfieldpc.com>

Instructions for installing the new operating system are contained in the Field PC Release 2.1.3 Installation Instructions at <http://www.ultraruggedfieldpc.com/OS213InstallInstructions.pdf>.

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System Requirements

This software release installs on the Field PC. The release includes new features and addresses discrepancies identified in previous operating system versions.

The Field PC is the only device that accepts this update.

New Features

The following new features are introduced in Release 2.1.1 and higher operating systems for the Field PC.

- **Support for image update.** Operating system updates can now be performed using the image update feature.
- **Support for USB printing.** The Field PC can print to a USB printer when using an application that includes USB printing functionality.
- **Support for WPA 2.** This release adds support for WPA 2, enabling this security feature on WiFi adapters that support this feature.
- **Optional upgrade to internal Bluetooth.** Contact your sales account manager for details.
- **More options for backlight and keypad brightness.** The brightness controls let you more easily control the backlight and keypad brightness. Selecting lower levels of backlight brightness consumes less battery power.

New Field PCs with 2.1.1 and higher operating systems (requires newer hardware) also support:

- **Language provisioning.** This version of the OS supports several new languages. A language can be selected the first time the Field PC boots. When a language is selected, the other language files are erased from the Field PC. Language provisioning allows for a choice of these languages: Danish, Dutch, English, Finnish, French, German, Italian, Japanese, Korean, Norwegian, Portuguese, Russian, Spanish and Swedish.
- **Larger internal storage.** This release supports larger internal storage flash memory (256 MB and 512 MB).

Important Notes

- **OS cannot be downgraded.** A Field PC running 2.1.1 or higher cannot be downgraded to a previous release 1.03 or earlier version. [607]
- **Today screen may flicker or refresh.** This issue appears in Field PCs with no wireless (WiFi or Bluetooth) peripherals installed and that run a version of the OS that is based on AKU 3.x.

For a list of workarounds, see this issue under *Known Issues* in this document. [380]

- **New OS uses more storage.** The changes to this version of the OS have increased the size of the OS image. In previous versions, the OS image consumed approximately 29 MB, and this version of the OS image consumes 36 MB.

Newer Field PCs store the OS on a separate storage media than the user-accessible storage.

- **WiFi connection is disabled automatically when using ActiveSync® over a USB or serial connection.** This is a limitation of Microsoft Windows Mobile. [647]
- **Device drivers should be installed in the primary device storage.** When installing device drivers and applications, install them in the "Device" option on the Field PC, not in a secondary storage area. Installing them in another area may prevent the device driver or application from functioning properly.
- **SDIO and Compact Flash Bluetooth Cards are disabled with integrated Bluetooth.** A Field PC with integrated Bluetooth automatically disables the use of a Bluetooth card in the SDIO or Compact Flash card slots.
A utility is available for disabling the integrated Bluetooth if desired so that a Bluetooth card can be used.
- **Bluetooth and WiFi Adapters May Interfere.** Bluetooth technology and WiFi adapters that use 802.11b or 802.11g radios may interfere because they both operate in the 2.4 GHz frequency range. Interference problems can be resolved by disabling either Bluetooth or WiFi.
- **Battery pack may not appear fully charged [431].** In some circumstances the Field PC may show that a fully charged battery pack is only partially charged. This is a

calibration problem between the battery and the Field PC. The battery can be recalibrated by completely discharging and recharging the battery. For more details about this workaround, see this issue under *Known Issues* in this document.

- **Large executable files may cause File Explorer to temporarily freeze.** When File Explorer displays executable files, it searches the file for an icon. In large executable files, this can cause File Explorer to become unresponsive while it searches the file for the icon.
- **Newer Field PCs with 256 MB or 512 MB of storage retain files stored in the /Storage folder after a Clean Boot.** A Clean Boot will erase all files stored in the primary device storage on the Field PC; however, files stored in the /Storage folder remain.
- **CF Cards remain powered when they are inserted—even if they are not active.** This has little to no effect on CF card device operation. Also, due to the low power requirements of most CF peripherals when idle, the powered CF card typically has little impact on battery life. Power is removed from the CF card when the Field PC is turned off (suspended or powered off).
- **Language selection on initial boot only.** Newer Field PCs can only be provisioned for a different language the first time they are booted. If the wrong language was selected on the initial boot, it may be necessary to return the Field PC to a repair center for service. This service is not covered under the warranty.

Resolved Issues

This section lists resolved issues for each new release version of the Field PC operating system.

Release 2.1.3

- Power Off feature fixed. Field PCs shipped from factory before November 17, 2007 may require bootloader update. Bootloader updates are only available at repair centers [254, 777]
- Memory usage optimized to reduce the amount of memory utilized by running applications [784]
- Some Field PCs upgraded to 2.1.1 incorrectly executed a Clean Reset when doing a normal Reset. This issue is corrected in 2.1.3 [743]
- Keypad can be used with Power Button menu (which appears after pressing and holding the Power Button for 5 seconds) [914]

Release 2.1.1

- Event LED now works [16]
- User is now prompted to set date and time on initial boot [38]
- Display brightness changes according to settings when switching between AC and battery power [56]
- ActiveSync file and notes synchronization now works [95,107]
- Multiple files can be deleted from an SD or CF card [179]
- File Explorer no longer becomes unusable after suspend during file write operation [183]
- Increased audio volume
- Pressing and holding the Power button now turns on the backlight when the Power button menu appears [189]
- Power off option no longer ends applications without first allowing open files to be saved [190]
- Adjusting backlight brightness to lowest level no longer dims keypad backlight [197]
- Keypad backlight level no longer changes during boot [198]
- Automatic word completion is now enabled [223]

- Field PC no longer automatically suspends while connected to the Internet via cell modem [227]
- There is no longer an error in the GMT time during DST [239]
- There is no longer a problem using ActiveSync on a PC with a VPN client [252]
- Field PC no longer resumes itself from suspend during the night [253]
- Field PC no longer powers on after using the Power Off feature (hardware fix on new Field PCs) [254]
- Field PC no longer loses integrated Bluetooth after reset [308]
- Socket Bluetooth SDIO now appears as expected after reset [333]
- Battery pack can charge up to 6 hours (previously 4.5 hours) [341]
- Field PC in suspend mode now shows blinking charge LED (hardware fix on new Field PCs) [370]
- Adjusting the keypad backlight to the lowest setting turns it off [377]
- Socket SDIO Bluetooth card is now recognized with Microsoft Bluetooth stack [388]
- Field PC now recognizes USB Bluetooth Dongle [398]
- Field PC now recognizes BrainBoxes CF Class I Bluetooth card [406]
- OS upgrade no longer results in a corrupted image on Field PC [412]
- File read and write times for files on the internal flash memory are improved [414]
- Security role for unsigned CAB file is now a known value [419]
- Daylight Saving Time is handled correctly for changes made in 2007 [405]
- LCD buffer strength control register changed to reduce EM emissions [458]
- Hardware revision display added/changed [518]
- Clock drift reduced [528]
- WiFi network and ActiveSync no longer stop working after a day [554]
- OS image size increased from 29MB to 36MB [604]
- RAPI security policy clarified in registry [605]

Known Issues

These issues are open in this version of the operating system.

Symptom or Issue	Workarounds	Issue
The Field PC has reduced battery life by morning when manually suspended and left overnight with auto-suspend timers disabled.	<p>Option 1: Re-enable the auto-suspend timers under Start > Settings > System tab > Power icon > Advanced tab.</p> <p>Option 2: Power Off the Field PC by pressing and holding the Power Button for 5 seconds, and select Power Off (may require latest OS and bootloader).</p>	71
The Bluetooth drivers from Microsoft® require you to enter a PIN for a Bluetooth device when the device needs no PIN.	<p>Option 1: If you are using a Bluetooth® CF or SD card from Socket Mobile®, load the Socket Bluetooth drivers for Windows Mobile® 5.0. After the drivers are loaded, you do not have to enter a PIN for devices that do not require a PIN.</p> <p>Option 2: When you are asked to enter a PIN, leave the PIN entry box blank and click <i>Next</i>. Choose <i>No</i> when you are asked whether you want to make the device available on the device list. See the Reference Guide for more details.</p>	140
If you go to <i>Start > Settings > Power</i> , the battery slider indicating battery strength does not match the milliamp hours displayed.	Recalibrate the battery pack by discharging and recharging it.	154
When the battery pack is removed and the Field PC is charged only by the wall charger, the charging icon appears instead of the “No battery” icon.	None	182
When on AC power, the system tray does not always show the AC plug icon.	None	184
Some USB flash drives do not work with the Field PC. Flash drives found not to work include the Gizmo® by Crucial, Inc.® and the Cruzer Titanium® 1.0 GB drive from SanDisk®.	Use a supported USB flash drive.	208

Button backlights flash when the Field PC is suspended	None	222
Error with multiple USB devices in USB Host port	Limit the number of USB devices connected to the USB Host port.	235
GPS CF card can not be turned off once it's turned on	This issue does not affect the use of the card in software applications, and the increase in battery drain while idle is minimal.	271
Field PC Loses Audio Output Functionality	When the Field PC stops generating audio, hold the Power button and choose <i>Reset</i> . Normal audio functionality should resume.	275
Reset does not disable touchscreen lock	Unlock the touchscreen by tapping <i>Unlock</i> when it appears and then tap <i>Unlock</i> again.	305
Dismissing a reminder on the Field PC does not dismiss it on the desktop	None	312
Settings icons disappear	Option 1: Reset the device. Option 2: Restore factory settings to the device. (Not highly recommended)	330
Appointment deleted on Field PC is not deleted from desktop	Option 1: Click the Sync button in ActiveSync or Windows Mobile Device Center. Option 2: Disconnect the USB cable, then reconnect it to force a resync between the Field PC and the desktop computer.	336
Spectec® Photoview™ sometimes shows blank picture after suspend/resume	Change from picture to video mode and then return to picture mode. After changing modes, Photoview operates normally.	338
Field PC does not automatically use Bluetooth headphone after suspend/resume <i>Conditions:</i> This happens after pairing the Field PC with the headphones and then doing a suspend/resume. It also occurs	Go to <i>Wireless Manager > Menu > Bluetooth Settings > Devices tab</i> . Right click the Jabra BT620s and select <i>Set as Wireless Stereo</i> and/or <i>Set as Hands-Free</i> .	345

<p>when using the built-in Bluetooth stack (Microsoft) with a Socket CF Bluetooth card, and Jabra® BT620s headphones.</p>		
<p>Today screen flickers</p> <p>Conditions: This appears in Field PCs with no wireless (WiFi or Bluetooth) peripherals installed and that are running a version of the OS that is based on AKU 3.x.</p>	<p>The Today screen flicker can be eliminated by turning off the Wireless Today screen item under <i>Settings > Today > Items</i>. The Today screen flicker can also be resolved by installing a wireless peripheral.</p>	380
<p>Display appears faulty for several seconds after suspend/resume when used with File Explorer and SD Card</p>	<p>Wait a few seconds and the display will eventually be corrected.</p>	397
<p>USB device not recognized after reset</p>	<p>Disconnect and reconnect the USB device.</p>	400
<p>File Explorer fails to access shared network drive ("Cannot Connect" error message appears)</p> <p>Conditions: This happens when the Field PC has a WiFi network connection or when there is a wired network connection.</p>	<p>Open Internet Explorer and enter the name of the computer with the shared resource (e.g., \\test-computer).</p>	411
<p>Field PC battery pack does not appear to charge to full capacity</p> <p>Conditions: This issue sometimes appears when a new battery pack is inserted for the first time or after the Field PC has been operated in cold temperatures (below 32 degrees F or 0 degrees Celsius).</p>	<p>Step 1: Discharge the battery pack fully. To drain the battery pack, turn off all auto-suspend and auto-backlight off timers.</p> <p>Step 2: Charge the battery pack fully.</p> <p>Step 3: If the battery pack will still not charge to full, try repeating the full discharge and charge cycle a few more times.</p> <p>4. If the battery pack will still not charge to full, try using a different battery pack. You may need to use a different battery pack. To purchase an additional battery pack, see your sales account manager.</p>	431
<p>USB Host driver does not have power management capabilities</p> <p>Conditions: The USB Host Controller driver was ported directly from Windows CE and as such, does not have power management capabilities that other</p>	<p>None</p>	446

Windows Mobile drivers have.		
Bluetooth range may be limited Conditions: The Bluetooth range of a Field PC with integrated Bluetooth may be affected by different alignment configurations, especially when combined with an Optical or Universal Extended Cap.	Consult your sales account manager for the best Bluetooth and Extended Cap configuration for your Bluetooth range needs.	500
Mouse pointer is not visible	The mouse pointer is not visible by design. However, you can buy third-party applications that may make the pointer visible.	517
When memory is full, Field PC may close a program	None	529
ActiveSync connection disables WiFi connection	None	547
Spectec SD camera is not compatible with WM5 camera drivers and API in Windows Mobile 5.0	Third-party software workarounds may be available.	560
Serial USB ActiveSync connection fails when WiFi card is enabled Symptom: The desktop computer plays the ActiveSync connection sound and the green circle in the status bar spins, but no connection is established. Conditions: This issue occurs when both of these conditions exist: a WiFi card is active and the option to <i>Enable advanced network functionality</i> is unchecked. This option is found under <i>Start > Settings > Connections > USB to PC</i> .	Step 1: Select the option to <i>Enable advanced network functionality</i> that is found under <i>Start > Settings > Connections > USB to PC</i> . Step 2: Remove the WiFi card.	566
Cannot load previous version of OS after upgrade to OS 2.1.1 Symptoms: The Field PC will not boot past the splash screen. Conditions: This happens after downgrading OS 2.1.1 to 1.03.	None. Contact your sales account manager for assistance.	607

Field PC emits a series of screen tap sounds when powered down Conditions: The sounds occur if the screen tap sounds are enabled on the Field PC	Disable screen tap sounds on the Field PC by going to <i>Start > Settings > Sounds & Notifications</i> . Deselect <i>Screen taps</i> .	636
Socket CF Bluetooth card does not always resume after suspend/resume	Use the Socket Bluetooth stack.	641
Field PC Integrated Bluetooth Randomly Turns Off Conditions: This can happen if the Field PC reaches a high CPU rate while it is connected to a Bluetooth GPS receiver.	A software workaround may be available. Contact your sales account manager for assistance.	642
Socket Bluetooth card disconnects every 1-1/2 to 3 hours Conditions: This can happen when there is high CPU utilization while being connected to a Bluetooth GPS receiver.	A software workaround may be available. Contact your sales account manager for assistance.	653

Appendix A: SD and SDIO Cards

These cards have been tested for interoperability with the Field PC and are supported in OS version 1.03 and higher.

Manufacturer	Device Type	Model	Top Cap
Socket Communications	Bluetooth Radio Class II	SD-BLUETOOTH2	Communication
Socket Communications	WiFi – 802.11	E300 & P300	Communication
Spectec	Camera	SDC-003A	Optical

Notes:

- *All tested flash memory SD cards up to 4GB have been found to work with the Field PC. The newer SDHC card format is not yet supported.*
- *Flash memory SD cards can be used with the standard cap and all extended caps.*

- *The chart below lists the maximum SD card heights for the Field PC standard cap and each of the extended caps.*

Field PC Cap	Maximum SD Card Height
Standard top cap	1.26 in. (32 mm)
Communications Extended Cap	2.75 in. (70 mm)
Universal Extended Cap	3.8 in. (96.5 mm)
Optical Extended Cap	3.5 in. (89 mm)
Data Acquisition Extended Cap	1.43 in. (36.4 mm)

Appendix B: CF Cards

These cards have been tested for interoperability with the Field PC and are supported in OS version 1.03 and higher.

Manufacturer	Device Type	Model	Top Cap
Socket Communications®	Bluetooth Radio Class II	BL4538-641	Standard
Trimble®	GPS	Pathfinder XC	Universal
GlobalSat®	CF GPS SiRF III	BC-337	Universal
Holux®	CF GPS SiRFIII	GR-271	Universal
Socket Communications	RFID Reader	RF5400-542	Universal
Socket Communications	RFID Reader & Barcode Scanner	RF5405-632	Optical
Socket Communications	Barcode Scanner	IS5026-610	Optical
Socket Communications	WiFi -802.11	E500 & P500	Communication
Enfora®	GSM/GPRS	GSM0110	Communication
Socket Communications	High Speed Serial	SL2703-138	Universal
National Instruments®	Data Acquisition	CF-6004	Data Acquisition

Notes:

- *All tested CF memory cards have been found to work with the Field PC (FAT16 format recommended). CF memory cards can be used with the standard cap and all extended caps.*
- *Below is a list of the maximum CF card heights for each of the Field PC caps.*

Field PC Cap	Maximum CF Card Height
Standard top cap	1.43 in. (36.4 mm)
Communications Extended Cap	2.75 in. (70 mm)
Universal Extended Cap	3.8 in. (96.5 mm)
Optical Extended Cap	3.5 in. (89 mm)
Data Acquisition Extended Cap	1.43 in. (36.4 mm)

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