

# Release Notes

## Version 2.1.1 of Windows Mobile® 5.0 Operating System for the Field PC

July 2007

These release notes describe features and other important information for Release 2.1.1 of Windows Mobile 5.0 for the Field PC. You can download this release from the following website:

<http://www.ultraruggedfieldpc.com>

Instructions for installing the new operating system are contained in the Field PC Release 2.1.1 Installation Instructions at <http://www.ultraruggedfieldpc.com/OS211InstallInstructions.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.

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## New Features

The following new features are introduced in Release 2.1.1 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 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).
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## Important Notes

- **OS cannot be downgraded.** A Field PC running 2.1.1 cannot be downgraded to a previous 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.
- **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.
- **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.
- **Field PCs with 256 MB or 512 MB of storage retain files stored in the */Storage* folder after a clean reset.** A clean reset 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.** Due to the low power requirements of most CF peripherals, the powered CF card typically has little impact on battery life.
- **Language selection is only supported on new Field PCs.** Field PCs can only be provisioned for a different language the first time they are booted. If the wrong language was selected on the Field PC, it may be necessary to return the device to the factory for service. This service is not covered under the warranty.

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## Resolved Issues

This section lists resolved issues for this version of the Field PC operating system.

- 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 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 Communications®, 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 need 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 &gt; Settings &gt; 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   |

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| 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 different 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 battery drainage 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.<br><br>Option 2: Restore factory settings to the device. (Not highly recommended)                       | 330 |

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| <p>Appointment deleted on Field PC is not deleted from desktop</p>   | <p>Option 1: Click the Sync button in ActiveSync or Windows Mobile Device Center.</p> <p>Option 2: Disconnect the USB cable, then reconnect it to force a resync between the Field PC and the desktop computer.</p>             | <p>336</p> |
| <p>Spectec® Photoview™ sometimes shows blank picture after suspend/resume</p>  | <p>Change from picture to video mode and then return to picture mode. After changing modes, Photoview operates normally.</p>  | <p>338</p> |
| <p>Field PC does not automatically use Bluetooth headphone after suspend/resume</p> <p><i>Conditions:</i> This happens after pairing the Field PC with the headphones and then doing a suspend/resume. It also occurs when using the built-in Bluetooth stack (Microsoft) with a Socket CF Bluetooth card, and Jabra® BT620s headphones.</p> | <p>Go to <i>Wireless Manager &gt; Menu &gt; Bluetooth Settings &gt; Devices tab</i>. Right click the Jabra BT620s and select <i>Set as Wireless Stereo</i> and/or <i>Set as Hands-Free</i>.</p>                                 | <p>345</p> |
| <p>Today screen flickers</p> <p><i>Conditions:</i> 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 &gt; Today &gt; Items</i>. The Today screen flicker can also be resolved by installing a wireless peripheral.</p> | <p>380</p> |
| <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>   | <p>397</p> |
| <p>USB device not recognized after reset</p>   | <p>Disconnect and reconnect the USB device.</p>   | <p>400</p> |
| <p>File Explorer fails to access shared network drive (“Cannot Connect” error message appears)</p> <p><i>Conditions:</i> 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>  | <p>411</p> |



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| <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> | <p>431</p> |
| <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 Windows Mobile drivers have.</p>                              | <p>None</p>   | <p>446</p> |
| <p>Bluetooth range may be limited</p> <p>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.</p>  | <p>Consult your sales account manager for the best Bluetooth and Extended Cap configuration for your Bluetooth range needs.</p>   | <p>500</p> |
| <p>Mouse pointer is not visible</p>  | <p>The mouse pointer is not visible by design. However, you can buy third-party applications that may make the pointer visible.</p>   | <p>517</p> |
| <p>When memory is full, Field PC may close a program</p>   | <p>None</p>   | <p>529</p> |
| <p>ActiveSync connection disables WiFi connection</p>  | <p>None</p>   | <p>547</p> |

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| <p>Spectec SD camera is not compatible with WM5 camera drivers and API in Windows Mobile 5.0</p>   | <p>Third-party software workarounds may be available.</p>   | <p>560</p> |
| <p>Serial USB ActiveSync connection fails when WiFi card is enabled</p> <p>Symptom: The desktop computer plays the ActiveSync connection sound and the green circle in the status bar spins, but no connection is established.</p> <p>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 &gt; Settings &gt; Connections &gt; USB to PC</i>.</p> | <p>Step 1: Select the option to <i>Enable advanced network functionality</i> that is found under <i>Start &gt; Settings &gt; Connections &gt; USB to PC</i>.</p> <p>Step 2: Remove the WiFi card.</p> | <p>566</p> |
| <p>Cannot load previous version of OS after upgrade to OS 2.1.1</p> <p>Symptoms: The Field PC will not boot past the splash screen.</p> <p>Conditions: This happens after downgrading OS 2.1.1 to 1.03.</p>  | <p>None. Contact your sales account manager for assistance.</p>   | <p>607</p> |
| <p>Field PC emits a series of screen tap sounds when powered down</p> <p>Conditions: The sounds occur if the screen tap sounds are enabled on the Field PC</p>   | <p>Disable screen tap sounds on the Field PC by going to <i>Start &gt; Settings &gt; Sounds &amp; Notifications</i>. Deselect <i>Screen taps</i>.</p>   | <p>636</p> |
| <p>Socket CF Bluetooth card does not always resume after suspend/resume</p>  | <p>Use the Socket Bluetooth stack.</p>  | <p>641</p> |
| <p>Field PC Integrated Bluetooth Randomly Turns Off</p> <p>Conditions: This can happen if the Field PC reaches a high CPU rate while it is connected to a Bluetooth GPS receiver.</p>  | <p>A software workaround may be available. Contact your sales account manager for assistance.</p>   | <p>642</p> |

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.

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## 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 SiRF III               | 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.*

| <b>Field PC Cap</b>           | <b>Maximum CF Card Height</b> |
|-------------------------------|-------------------------------|
| 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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