

Pocket PC Overview

FPcomPPC version 4 is a software program using a graphical user interface for Pocket PCs that provides the user with the very basic functions for operating a Flow Performance Basic System flow bench.

Your Pocket PC is turned on and off with the hardware button at the bottom of the Pocket PC.



When you receive your Pocket PC from Flow Performance, the hardware button that is labeled “FPcomPPC” in the picture above, has been programmed to start your FPcom software.

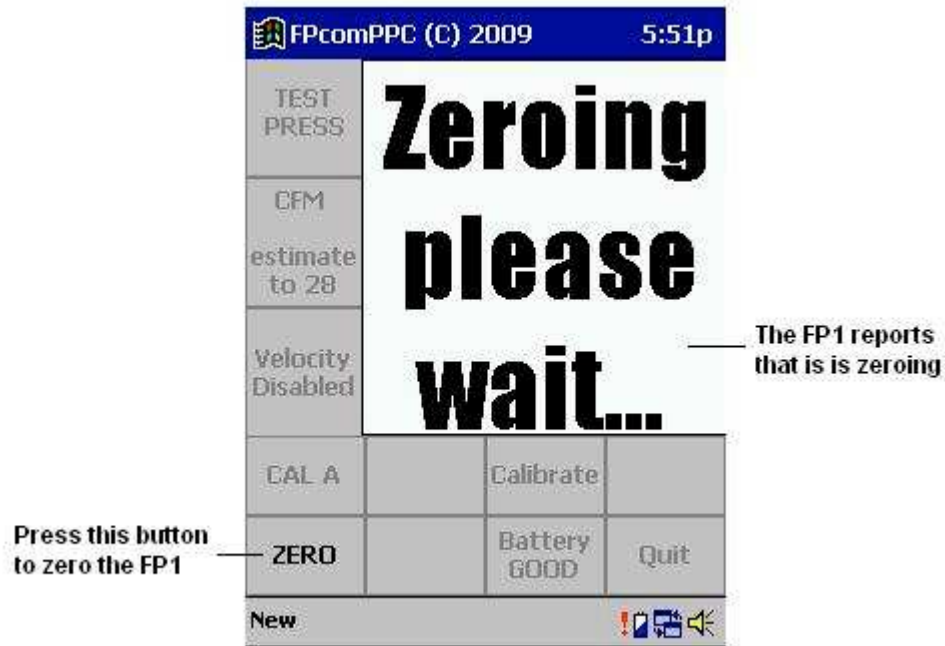
You usually do not need to turn on the Pocket PC to start FPcom from the right side hardware button. If this button does not start FPcom, try turning on the Pocket PC first, with the hardware button at the bottom of the Pocket PC. If you have turned on the Pocket PC and the right side hardware button still will not start FPcom, then you can start FPcom from the Pocket PC Start menu (Press “Start” at the upper left corner of the screen, then select FPcomPPC from the menu. You can reprogram the hardware button to start FPcom using instructions in this document.).



There is a reset button on the back of your Pocket PC. Press this button if your Pocket PC has stopped working, is not working properly or is working slowly.

Zeroing

When the FP1 is started, it is initially zeroed automatically. However, it should be re-zeroed shortly after startup, and it may need to be re-zeroed before a flow test session.

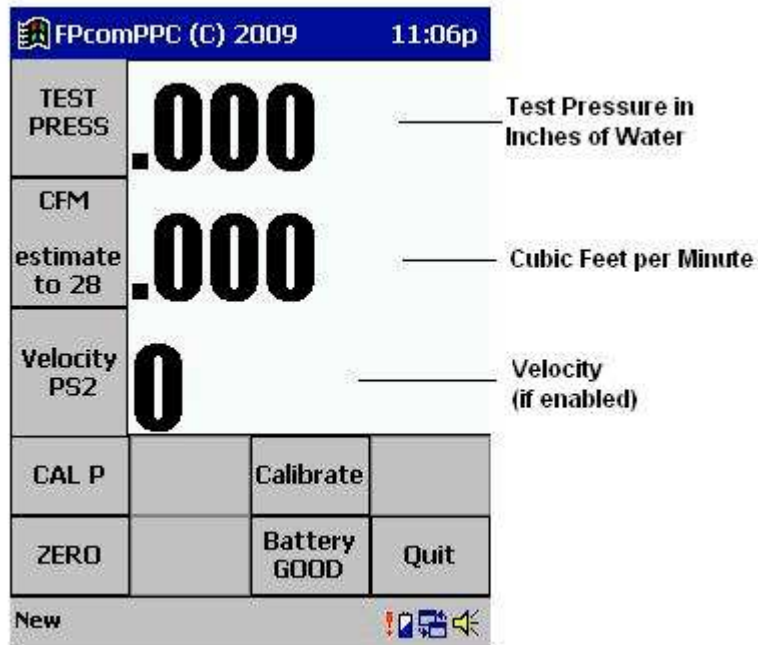


Always make sure that there is no airflow through the flow bench before zeroing the FP1. Also make sure that you do not move any of the tubes connecting the FP1 to the flow bench, velocity probes, or the FP1 itself while the FP1 is zeroing.

The readings should resume at near .000 after zeroing. Readings with no airflow (bench turned off) fluctuating to .003 is normal.

Data Display

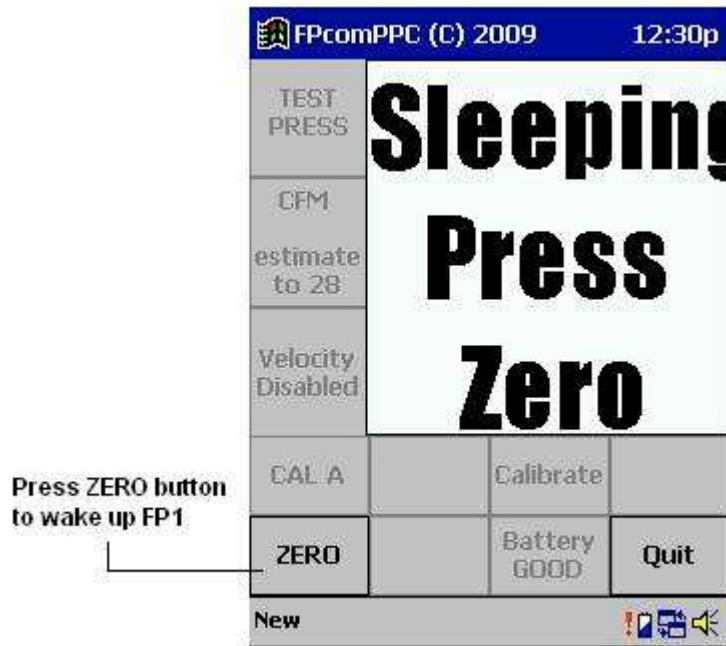
Flow bench data is displayed in the data display window as shown below.



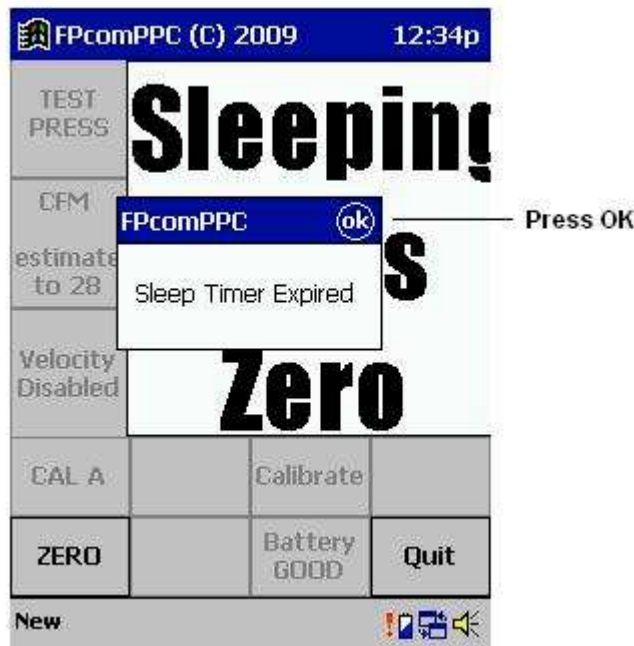
When there is no pressure applied to the FP1 sensors, the Test Pressure and CFM data assume a .001 resolution so that you can see the zero state of the FP1 sensors, and re-zero them if needed. A fluctuation of +/- .003 is acceptable. Zero the FP1 if readings exceeding +/- .004 while no pressure is being applied to the sensors.

FP1 Sleeping

The FP1 uses a sleep feature to prevent the FP1 battery from going dead if you forget to turn it off.



If the FP1 has not received any commands from the user and the test pressure remains near zero for about 5 minutes, the FP1 will go to sleep. Press the ZERO button to wake up the FP1 and resume normal operation

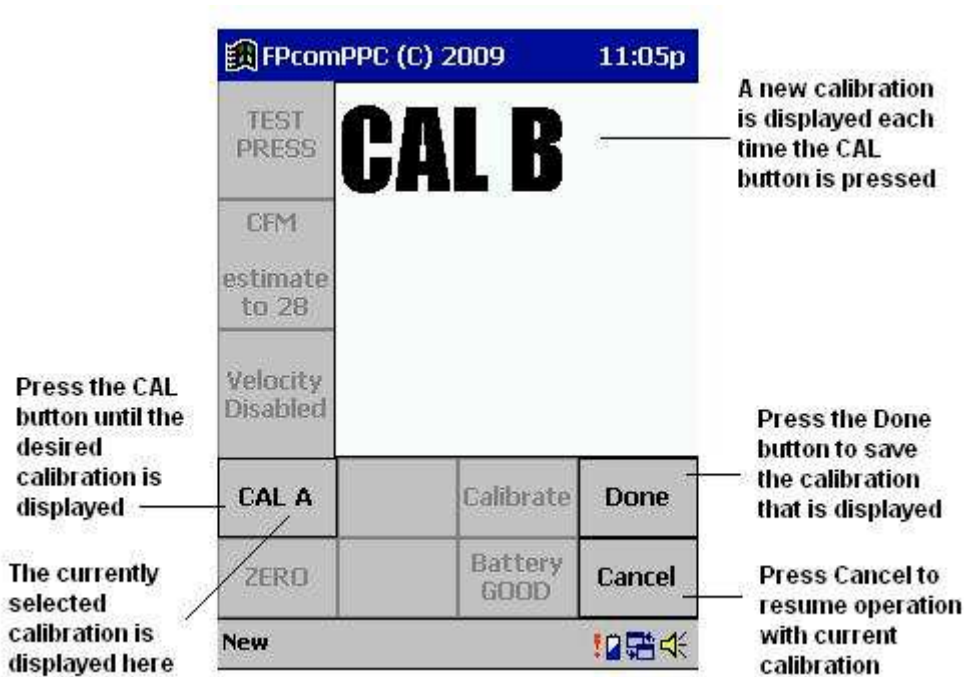


If the FP1 goes to sleep and the user does not wake up the FP1 for about 5 minutes, FPcom will turn off the FP1 and display the “Sleep Timer Expired” message. Press the OK icon in the message box to return to the FPcom screen. You will have to quit FPcom and restart it if the sleep timer has expired.

Selecting a Calibration

The FP1 allows separate calibrations for forward (intake, vacuum) and reverse (exhaust, positive pressure) airflow for the Flow Performance flow bench systems.

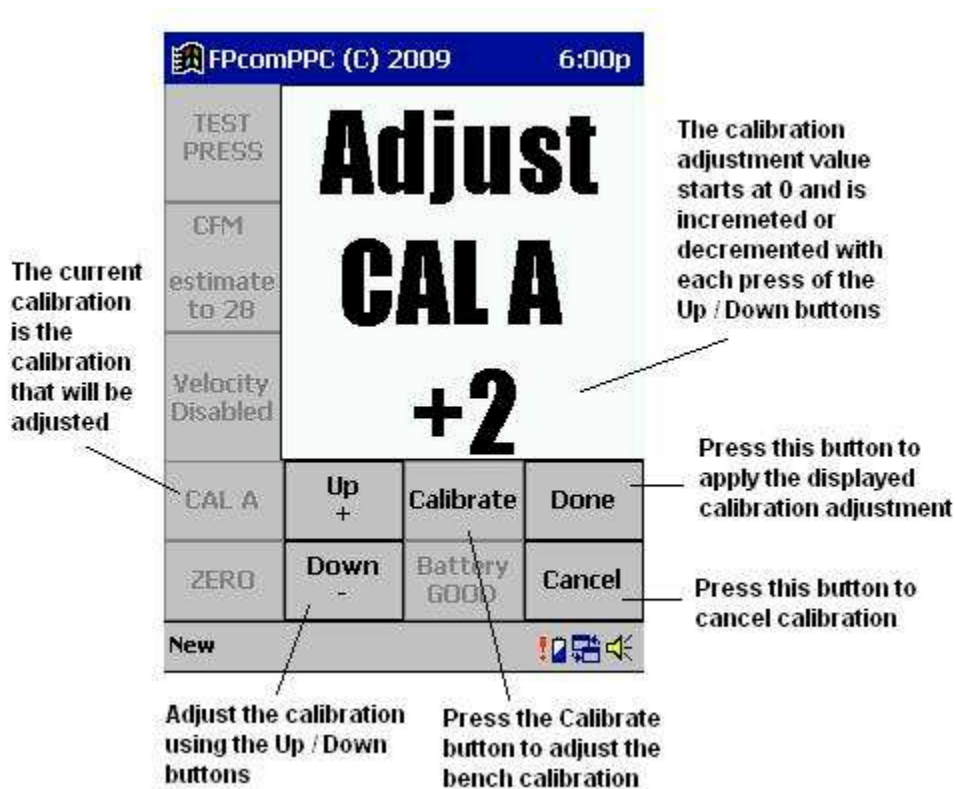
Flow Performance flow bench systems are usually initially calibrated using calibration A (CAL A) for forward airflow, and calibration B (CAL B) for reverse airflow. These calibrations can be selected using the CAL button.



Calibration P is used when a velocity probe is connected to PS2. If calibration P is selected as the current calibration, and the velocity probe input is disabled using the Velocity button, CAL A will be set as the current calibration automatically.

Flow Bench Calibration

You can adjust the calibration of your flow bench if needed. The Calibration button gives you the ability to make fast and easy changes to the bench calibration.



Normally you check your flow bench calibration after building your flow bench, and periodically to make sure it is operating correctly. This is done by flow testing a calibration piece (orifice in many cases) and adjusting the calibration until the flow bench CFM readings correspond to the value supplied with your calibration piece.

Flow Performance calibration orifices have a CFM value for 28"wc test pressure written on one of the corners of the orifice plate. Air should only enter the sharp edge side of the orifice.

Flow benches should not be calibrated with a cylinder bore adapter installed.

While the calibration piece is being flow tested, select the Calibration button. If the flow bench CFM readings are too low, press the Up button a few times and then press Done. Check the readings and repeat as needed to obtain CFM readings that are within 1%, or better, of the calibration piece. Note, for the Flow Performance Basic System, the change in CFM reading will be about .3 cfm times the adjustment value. So an adjustment value of 3 will adjust the CFM reading by about 1 CFM.

Flow Rate Estimation

The FP1 can estimate flow rates to a preset test pressure. Flow rates are estimated to the preset test pressure even though the test pressure is not the same as the preset test pressure. This feature is used on systems that do not regulate the test pressure, and/or cannot achieve the desired test pressure.

Press this button until the desired test pressure that you want the flow rate to be estimated is displayed. Test pressures are:
10"wc
25"wc
28"wc
36"wc
No estimate (Real CFM)

The current setting is displayed here.

Each time you press the CFM button, the test pressure changes to a higher value and is displayed here.

Press this button to select a new setting

Press this button to cancel a new setting

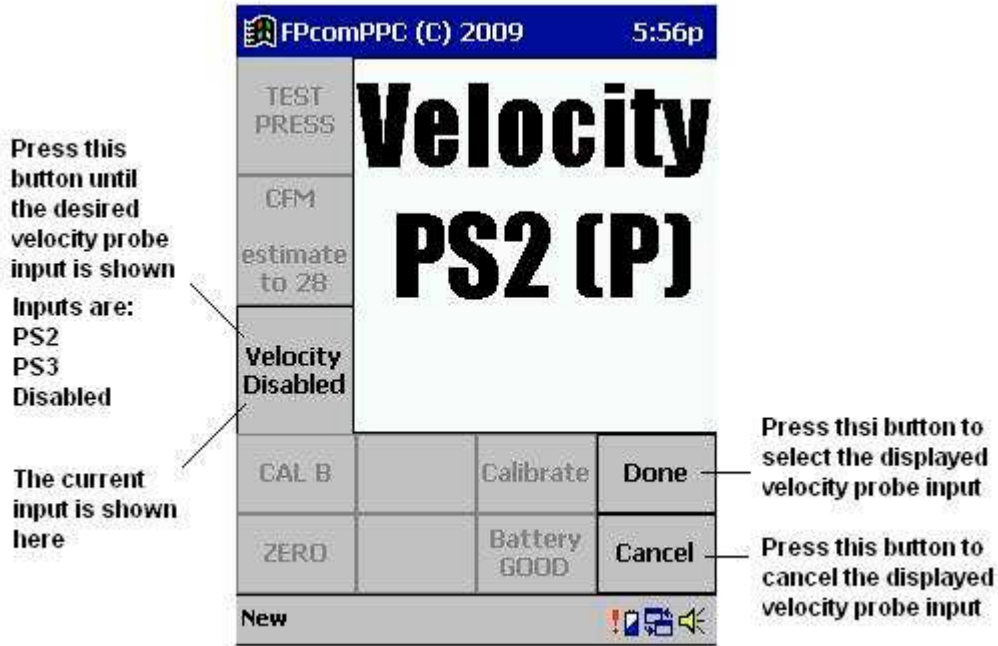
TEST PRESS	Estimate to 10		
CFM	estimate to 28		
Velocity Disabled			
CAL A	Calibrate	Done	
ZERO	Battery GOOD	Cancel	
New			

The most commonly used test pressure is 28" water column. You may occasionally find flow data that was obtained at 25"wc or 10"wc.

If you select "No Estimate", the CFM reading is the real CFM, which is proportional to the real test pressure.

Velocity Probe

The FP1 has 2 possible inputs for a velocity probe, Pressure Sensor 2 (PS2) or the optional Pressure Sensor 3 (PS3). Press the Velocity button to select input for a velocity probe.



When there is no input selected for a velocity probe, a velocity reading is not displayed.

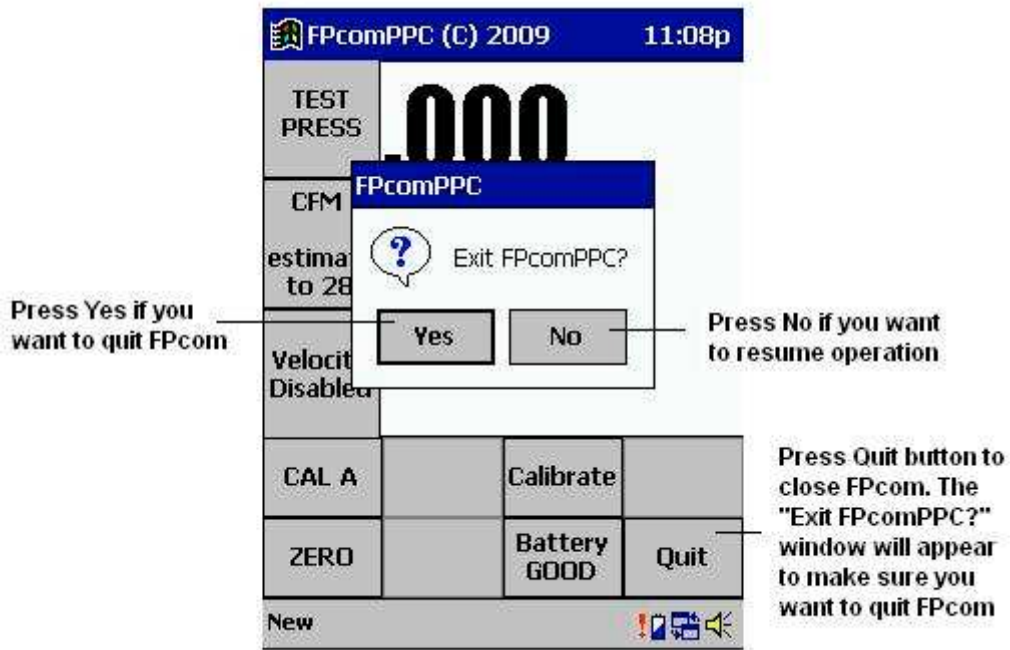
You can disconnect PS2 from your flow bench and connect a velocity probe to PS2 for velocity probe operation when you select PS2 as a velocity probe input. When PS2 is selected as a velocity probe input, the CFM readings will be relatively meaningless.

When PS2 is the selected velocity probe input, the calibration will be automatically set to P (CAL P).

The optional PS3 velocity probe input allows you to get meaningful CFM readings from your flow bench and operate a velocity probe at the same time.

Quitting FPcomPPC

When you want to quit FPcomPPC, you should press the Quit button. You should not turn off the Pocket PC while FPcom is still running.

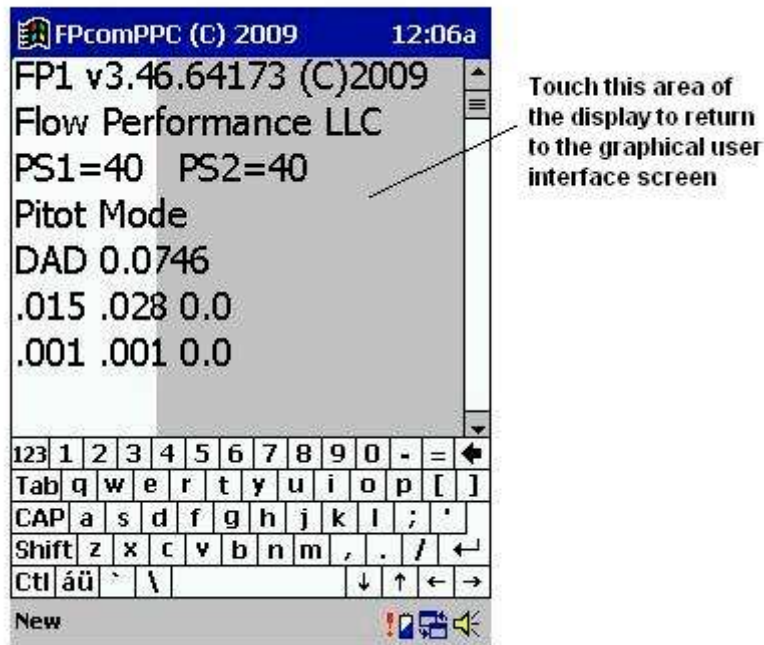


There may be a delay of a few seconds while FPcom closes down, do not do anything on your Pocket PC until FPcom is completely closed down.

When you quit FPcom, a copy text file of the FPcom text document is automatically saved in the Documents folder, named FPquit.txt Each time you quit FPcom, this file is overwritten by the new FPquit file.

Text Document Mode

If you touch the graphical user interface Data Display window, the Text Document Screen will appear. The Text Document shows you more information and gives you more control of the FP1.



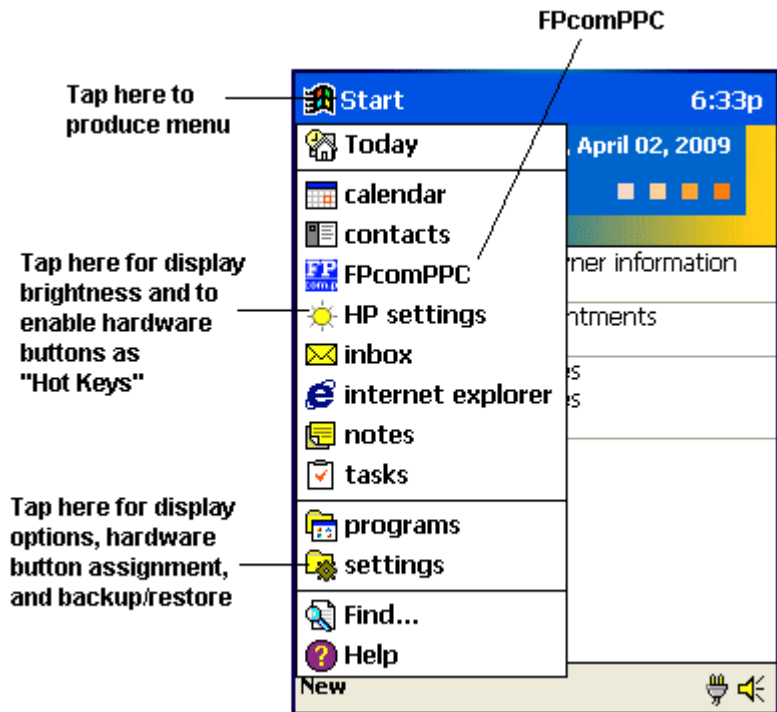
The Text Document mode of operation is almost identical to the FPcom text document screen for desktop and laptop PC's. Using the software keyboard, all the FP1 text commands are possible.

It is not recommended that you change any FP1 settings through the text document unless you are familiar with the FP1 text commands and the effects they may have on the graphical user interface screen.

A copy of the text document is automatically saved in the Documents folder of your Pocket PC every time you quit FPcom. This file is named FPquit.txt, and it can be viewed with any text editor including the Word program in your Pocket PC.

Pocket PC Settings

Your Pocket PC must be configured to work well with FPcomPPC.



Restore If your Pocket PC battery becomes completely drained, FPcomPPC, all data in memory and your Pocket PC settings will be lost. You can restore your Pocket PC using the restore program.

To restore your Pocket PC:

- Make sure the CompactFlash card that was installed in your Pocket PC when you received it from Flow Performance is installed.
- Plug in your Pocket PC to the wall power adapter and make sure the battery is fully charged. Leave your Pocket PC plugged into the charger until restored.
- Press the reset button on the back of your Pocket PC.
- Produce the menu by tapping the upper left corner of the screen, then select "Settings".
- Tap the "System" tab.
- Tap the HP Backup icon.
- Tap the Restore tab.
- Tap the "Restore all data" button.
- Tap the "All Backup" file name.
- Tap "Yes" to "Proceed with restore".
- When restore is complete, press the reset button on the back of your Pocket PC.

Restore will not make the right hardware button a hot key, and the record button will be a hot key. You will need to reassign these keys manually.

Record button disable The record button is very easy to press and it should be disabled to keep the recorder from being activated unintentionally.

- Produce the menu by tapping the upper left corner of the screen, then select "Settings".
- Tap "HP settings"
- Tap "Preferences" tab
- Check "Disable Record button" check box.

Pocket PC Settings

Assign Hardware Buttons as Hot Keys Hardware buttons can be set so that you can launch applications like FPcomPPC without the Pocket PC being turned on. To enable hardware buttons as hot keys:

- Produce the menu by tapping the upper left corner of the screen, then select “Settings”.
- Tap “HP settings”
- Tap “Preferences” tab
- Uncheck “Disable HP hot keys” check box..

Screen backlight auto-dim The screen backlight can be set to dim itself after a set time. You can disable this feature so that you will not be inconvenienced by the screen backlight dimming.

- Produce the menu by tapping the upper left corner of the screen, then select “Settings”.
- Tap “System” tab
- Tap Backlight icon.
- Uncheck the checkbox labeled “Dim backlight if device is not used for” .

Power auto-off The Pocket PC can be set to turn off the power if not used for a while on battery power. This can be very annoying when using FPcom. To disable this feature:

- Produce the menu by tapping the upper left corner of the screen, then select “Settings”.
- Tap “System” tab
- Tap Power icon.
- Under “On Battery Power” Uncheck the checkbox labeled “Turn off device if not used for” .
- Under “On External Power” Uncheck the checkbox labeled “Turn off device if not used for” .

Screen Brightness and Contrast You can adjust screen brightness and contrast:

- Produce the menu by tapping the upper left corner of the screen, then select “HP settings”.
- Tap “Settings” tab
- Move slide controls to make adjustments.

Stopping Applications Pocket PC applications do not stop running when you launch them. They continue to run in the background even after you exit them. This causes your Pocket PC to run slowly or erratically if too many programs are running at one time. You can stop these programs by pressing the reset button on the back of your Pocket PC. Or:

- Produce the menu by tapping the upper left corner of the screen, then select “settings”.
- Tap the “System” tab
- Tap the “Memory” tab
- Tap the “Running Programs” tab
- Tap the “Stop All” button.

Hardware button assignments When you receive your Pocket PC from Flow Performance, the right side hardware button has been assigned to launch FPcomPPC when pressed. You can assign FPcom to another button or reassign any of the hardware buttons to other applications:

- Produce the menu by tapping the upper left corner of the screen, then select “settings”.
- Tap the Buttons icon.
- The left-most button is Hot key 1 and the right-most button is Hot key 4. Tap the button to assign.
- Tap the bar under “Button assignment” and tap the application from the list.
- Tap “OK” at the top right corner of the screen.