

PocketDAQ *Pro* For Windows Mobile



Handheld Mobile Data acquisition made simple.

User Guide

(June 2008)



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Introduction

PocketDAQ^{pro}

Thank you for purchasing PocketDAQ Pro.

PocketDAQ Pro is a Windows Mobile application that allows users to collect and examine data in real-time, and with greater speed and accuracy from devices such as:

- barcode scanners
- GPS receivers
- sensor equipment
- other data loggers
- RFID instruments
- scales and balances

And a multitude of other instruments which can be connected to a Windows Mobile PDA using RS232 serial communications, infrared, or wireless Bluetooth.

It is easy to use and very intuitive. However, we do recommend that you read this manual carefully to ensure that you are familiar with all of its features and capabilities.



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Getting Help

User Guide

You should have received this User Guide document with your software. It is also available for download at www.AppliedPDA.com. The online version of this User Guide is always the most up-to-date version of this document.

Online Help

PocketDAQ Pro comes with some limited online help. To access the online help, tap the Windows Mobile Start icon to display the main menu, and then tap Help at the very bottom.



Contacting Technical Support

Applied PDA Software is well known for its outstanding technical support. If you have read this User Guide and still have questions, comments, or any suggestions, please contact our support department at support@appliedpda.com.



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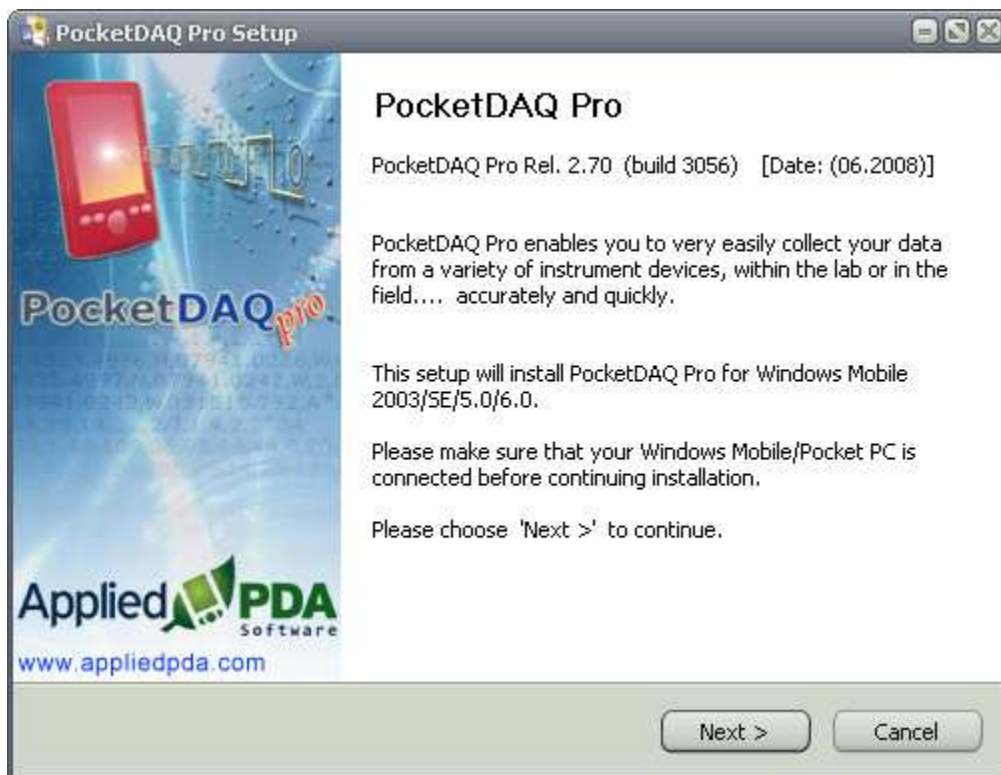
Installation

Installing PocketDAQ Pro



Once you have the [PocketDAQ Pro-v2.70.xxxx__setup.exe](#) file downloaded, connect your PDA to your PC or laptop computer and double click on the setup file.

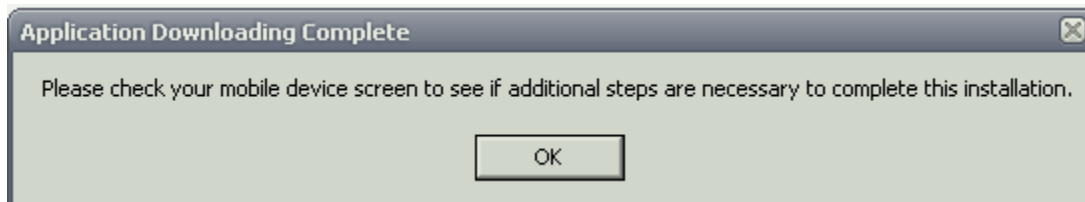
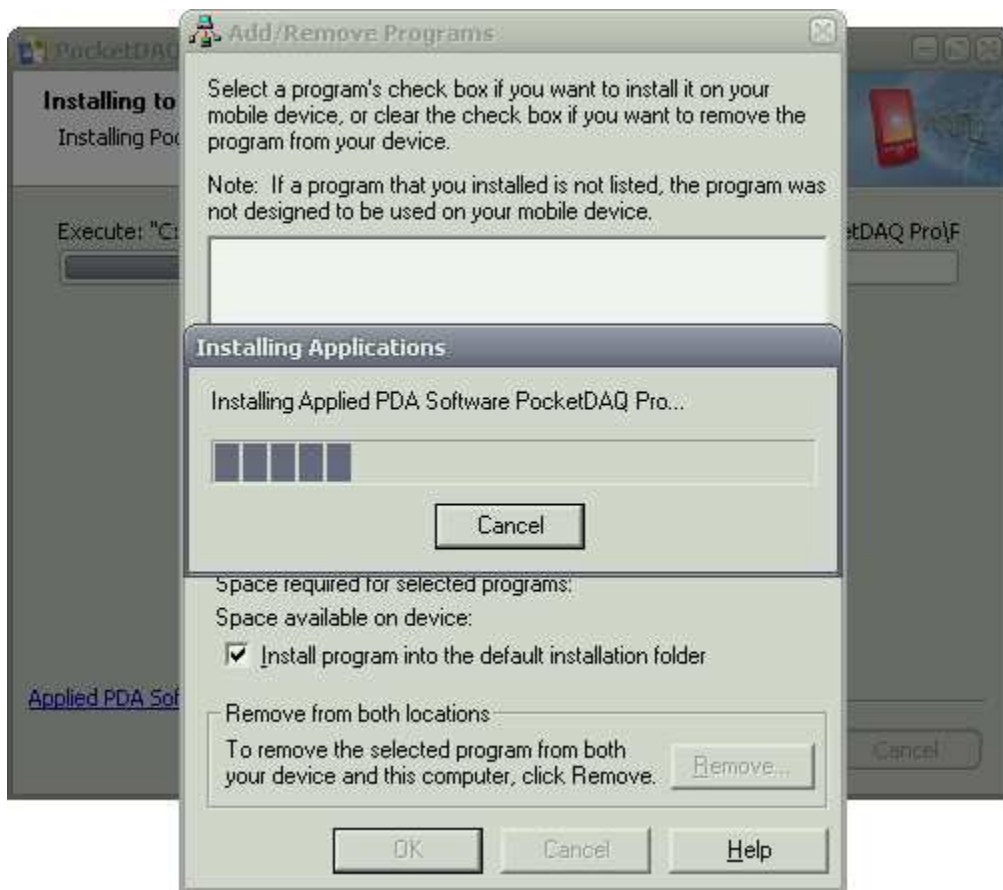
The PocketDAQ Pro installation program, shown below, will guide you through the installation process.



Upon purchasing the commercial version of PocketDAQ Pro, you will have received an email that contains your password to enable you to install PocketDAQ Pro.



After entering the correct password the installation will continue.



You may now safely click the **OK** button.



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The installation will then automatically finish on your Windows Mobile device.



Once complete, your Windows Mobile Programs folder will contain the PocketDAQ Pro program icon.

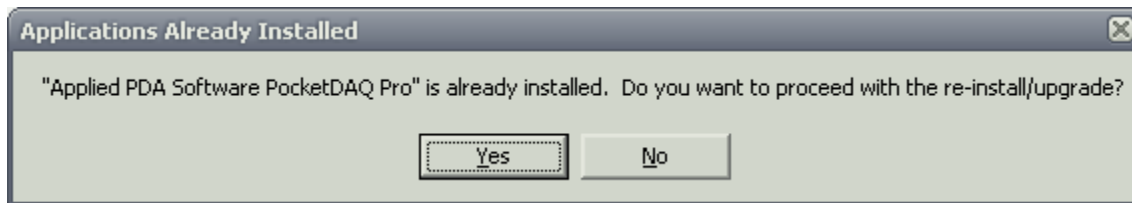


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Upgrading

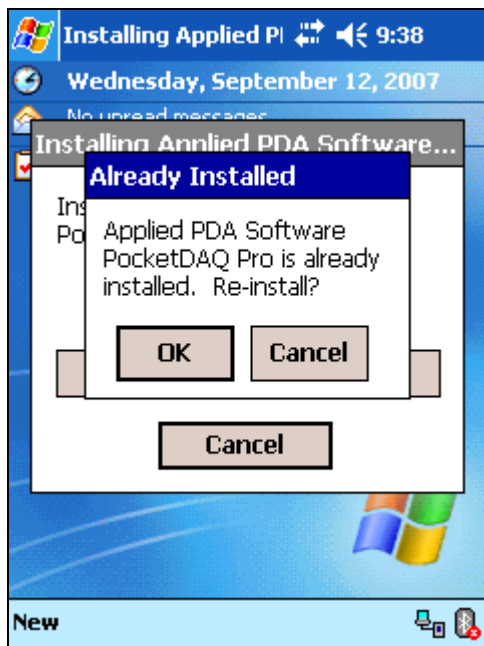
Installing PocketDAQ Pro over previous editions

If you are installing PocketDAQ Pro, while a previous version is already installed; the installer will display the following dialog:



It is safe to continue, and you may click **Yes**. The upgrade will simply overwrite any previous version.

The same can be done on your Windows Mobile.



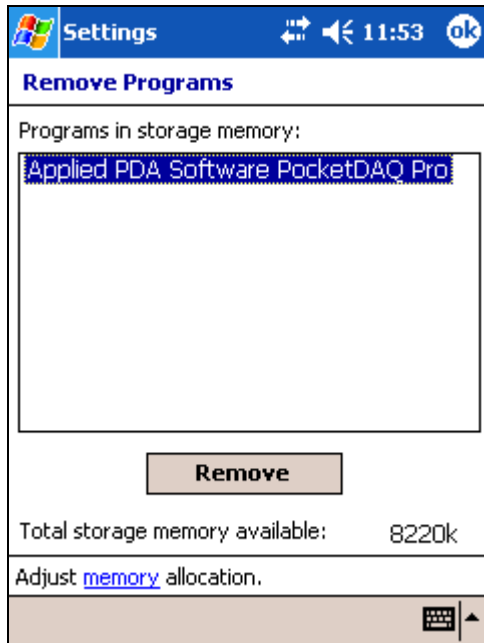
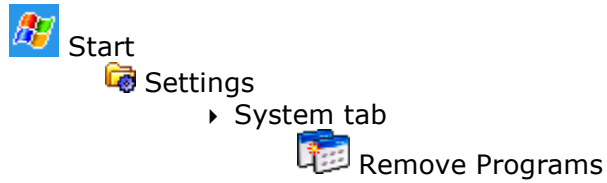
It is safe to tap the **OK** button, to complete the upgrade/re-install.



Uninstalling

Uninstalling PocketDAQ Pro

To uninstall PocketDAQ Pro from your Windows Mobile device, simply tap the following:

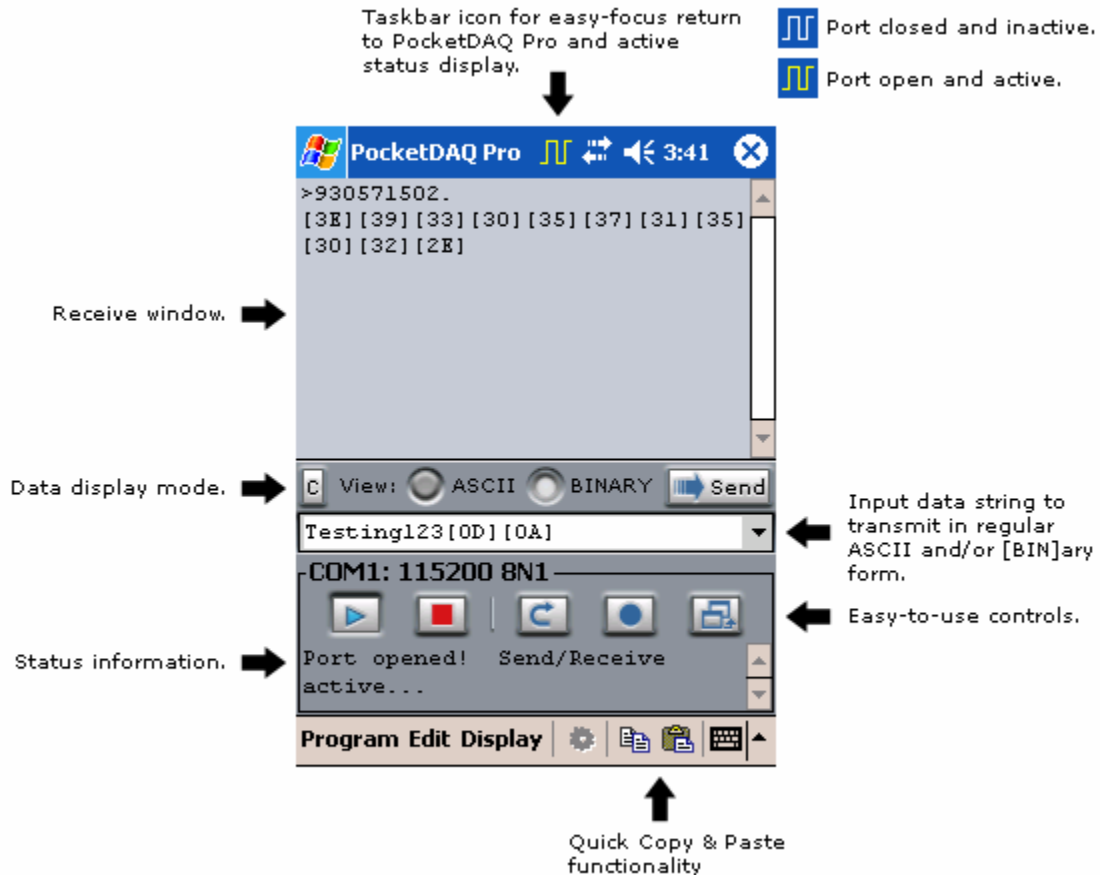


and select **Applied PDA Software PocketDAQ Pro** from the list of programs installed on your Windows Mobile. Tap the **Remove** button to complete the uninstall process.



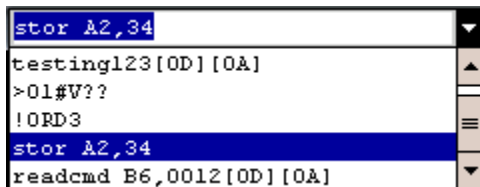
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Getting Started



Send input window

The send input window is where the data string to be transmitted must be entered. A user can enter ASCII, BINARY, and mixed (ASCII and BINARY) strings for transmission. PocketDAQ Pro will handle the translation of BINARY values to their proper character equivalent. The send input window also features a *Send History*. It will store up to 32 different entries, and then continue adding new entries, while removing the oldest. A drop-down, scrolling list will display all of the recently sent data strings.



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Button Controls



An **ASCII** view will display received data in *character* format.
For example: the letter '**A**' will be received and displayed as '**A**'

In **BINARY** view, the received data will be displayed in its *number* format.
For example: the letter '**A**' will be received and displayed as hex value [**41**]

This enables the user to examine the full spectrum of data, without the limitations that other standard terminal software may impose.

The **SEND** button is used to transmit a data string on the communications port to the connected device.





The **PLAY** button opens the user selected port and immediately allows incoming data to be received and displayed within the receive window. If no port is selected, then the Comm. Properties dialog is displayed.



The **STOP** button closes the user selected port. All receiving and sending of data will be immediately halted.



The **REPEAT** button enables the sending of data to be automatically looped. When the **REPEAT** button is depressed () , and the **SEND** button is used, it will remain down () , in effect repeating the transmission of data. Tapping the **SEND** button or the **REPEAT** button once more, stops the transmission loop. This feature is configurable within the Edit Menu ▶ Transmit Options ▶ Repeat tab.



The **RECORD** button begins logging all data within the receive window to a user specified file. This feature is configurable within the Edit Menu ▶ Receive Options ▶ Logging tab.



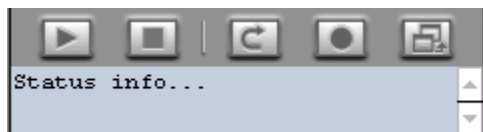
The **RELAY** button transmits the received data into another applications window, such as Pocket Excel for example. This is also known as *wedging*. This feature is configurable within the Edit Menu ▶ Receive Options ▶ Relay tab. It also has the capability to relay data to a network server over TCP/IP.



The tiny **CLEAR** button simply clears all data from within the Receive window.

Status Information

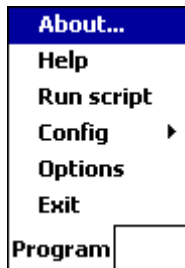
The status information area is where PocketDAQ Pro informs the user of its condition. This includes all transmitted data in ASCII format, feedback of features and buttons, and any errors or warnings that might occur.



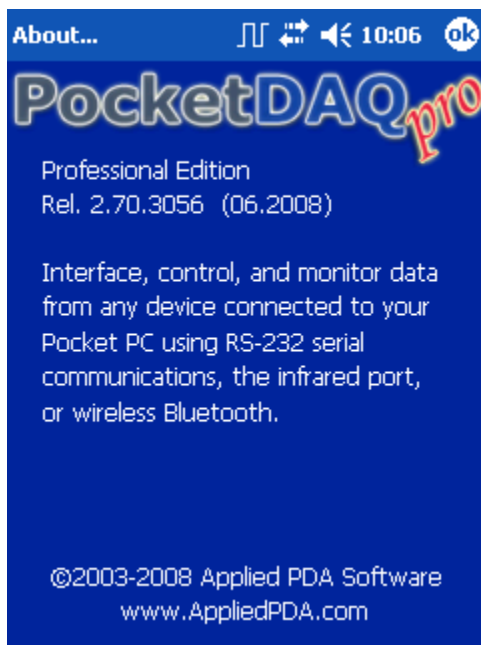
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Program menu

The following explains the options within the *Program* menu.



About...

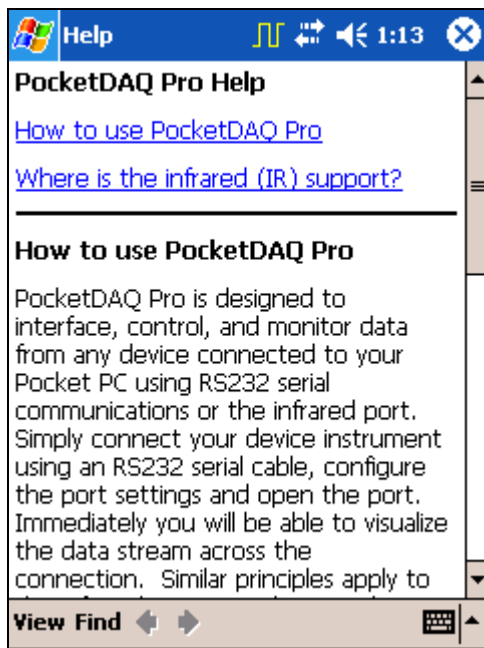


The *About...* menu option displays PocketDAQ Pro general description and its release version information. The version is important to recognize for support purposes and to verify that an updated operation was successful.



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Help

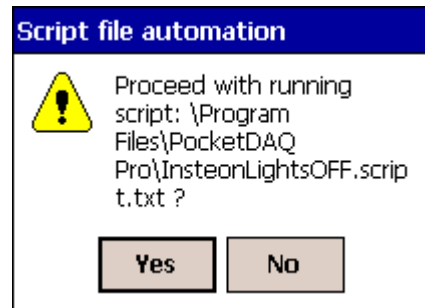
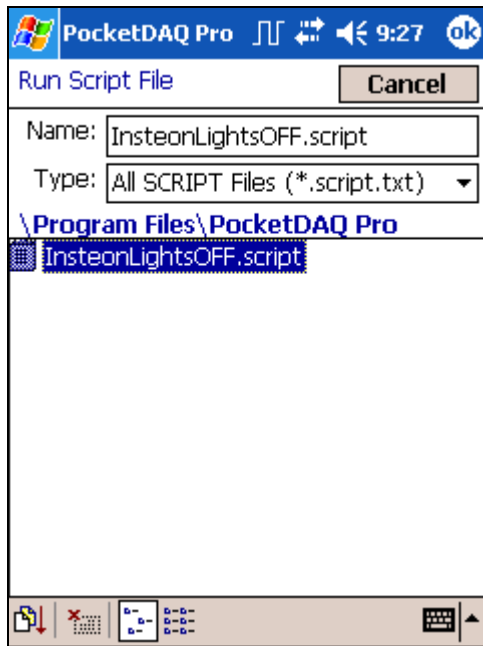


The *Help* menu option will display some very brief on-line help comments. For the most up-to-date information please refer to this user guide.



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Run Script



The *Run Script* feature enables the user to load and execute a proprietary script file made to automate simple operations within PocketDAQ Pro.

This feature is also available on the command-line.

Example:

```
"\\Program Files\\PocketDAQ Pro\\PocketDAQ Pro.exe" /script::InsteonLightsOFF.script /q /debugon
```

When a script file is loaded PocketDAQ Pro enters *Automation Mode*. The following explains each of the command-line options.

/SCRIPT::

Designates a script file to run.

Usage: **/SCRIPT::InsteonLightsOFF.script**

/Q

Quiet Mode. Prevents displaying any warnings to the user.

/NOGUI

Hides the application window. Without a visible window the program becomes a background process.

Warning: The Windows Mobile '*Running Programs*' application will also not see it. If PocketDAQ Pro does not exit due to an incorrect script, a Soft Rest will be required to terminate it. **Use carefully.**

/DEBUG

Turn ON runtime debugging.



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Below is an example of a script file: **InsteonLightsOFF.script**

It illustrates all of the opcodes that are currently supported.

```
<comment> Load my COMM settings </comment>
<config>\Program Files\PocketDAQ Pro\Insteon1.cfg.txt</config>

<comment> Open the port </comment>
<play></play>

<comment> Setup Lights OFF for [04.97.3C] </comment>
<send>[02][40][01][A1][00][09][FE][22][01][0D][36][04][97][3C][05][13][00]</send>

<comment> Delay for 2500ms. </comment>
<delay>2500</delay>

<comment> Action! </comment>
<send>[02][46][01][42][10][9F]</send>

<comment> Delay for 5000ms. </comment>
<delay>5000</delay>

<comment> Action! </comment>
<send>[02][46][01][42][10][9F]</send>

<comment> Close the port </comment>
<stop></stop>

<exitprogram></exitprogram>
```

The above script simply loads a particular configuration file (*Insteon1.cfg.txt*), opens the port, sends some bytes out, and then closes the port. Then at the end it tells PocketDAQ Pro to exit (`<exitprogram></exitprogram>`).

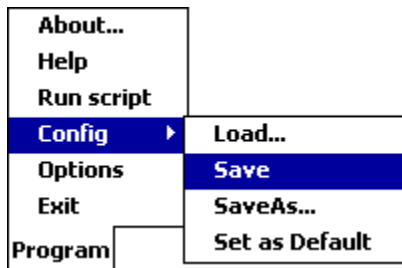
If the (`<exitprogram></exitprogram>`) opcode is not added, PocketDAQ Pro will remain running.

This basic scripting feature has made PocketDAQ Pro useful for simple home automation and control.



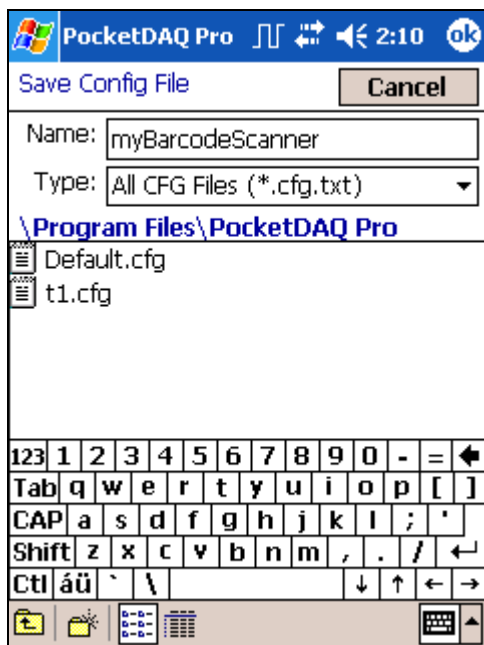
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Config ▾



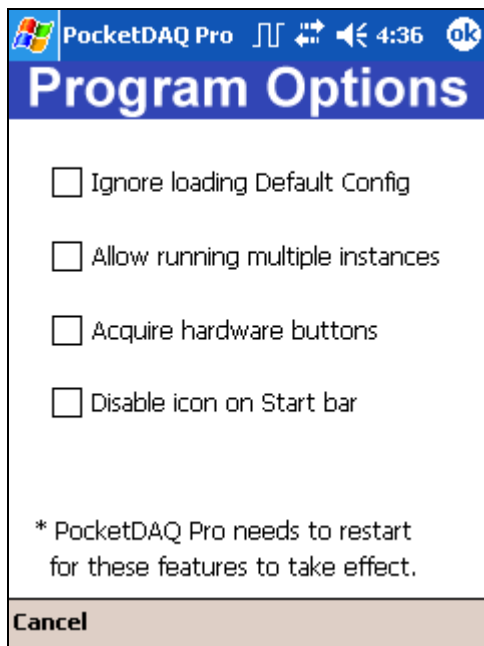
The *Config* menu option allows the user to Save/Load PocketDAQ Pro configuration settings. The *Set as Default* option allows PocketDAQ Pro to preserve its current settings, such that upon every restart of the application, this default configuration will be automatically set.

Example:



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Options



Ignore loading Default Config

This feature is helpful if you would like to preserve your Default config file, and start PocketDAQ Pro with a fresh reset of all options. It does exactly as it states: it will ignore the loading of a *Default configuration file* (assuming one exists).

This feature will only take effect upon restarting PocketDAQ Pro.

Allow running multiple instances

This feature is helpful if you intend to collect data from two or more communication ports at the same time.

PocketDAQ Pro by default allows only a single instance of the program to be running at any one time, i.e. focused on a single port at any one time. By turning ON this feature, multiple instances of PocketDAQ Pro can then execute, enabling you to collect more data from any remaining communication ports within your device. Each additional running copy will also be numbered accordingly with the next available digit.



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Acquire hardware buttons

This feature enables/disables PocketDAQ Pro to use the four (4) main hardware buttons on your PDA unit.



When enabled, it temporarily overrides any currently assigned task to the buttons, replacing it with the user's function within PocketDAQ Pro.

This feature will only take effect upon restarting PocketDAQ Pro.

Disable icon on Start bar

For users who do not prefer to see the PocketDAQ Pro status icon on the top of their Start bar, this feature will disable it.



The PocketDAQ Pro icon will still appear on the bottom Task Tray within the Today screen for easier access.



This feature will only take effect upon restarting PocketDAQ Pro.

Exit

The *Exit* menu option will shutdown PocketDAQ Pro.



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Edit Menu

Communication Properties

Receive Options
Transmit Options
Communication Properties
Edit

PocketDAQ Pro 1:12 ok

Comm. Properties

Available Ports:
Serial Cable on COM1:

Baud Rate (bps): 9600 Data Bits: 8

Parity: None Stop Bits: 1

Control:

XON / XOFF

RTS ON DTR ON

Advanced >>

Cancel

This dialog controls all of the properties for configuring a connection on a specific communications port. PocketDAQ Pro supports the following interfaces:

- RS232
- Infrared
- Bluetooth

PocketDAQ Pro scans the Windows Mobile device to locate available ports. An example of what is displayed, when all of the above interfaces have been found, looks similar to the following:

Available Ports:

Serial Cable on COM1:
Serial Cable on COM1:
Infrared Port
Bluetooth Serial Port COM5:
Bluetooth Serial Port COM8:



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PocketDAQ Pro defaults to support a wide list of the standard Baud Rates, Data Bits, Parity, and Stop Bits:

<u>Baud Rates</u>				<u>Data Bits</u>	<u>Parity</u>	<u>Stop Bits</u>
075	110	150	300	8	None	1
600	1200	1800	2400	7	Odd	1.5
4800	7200	9600	14400	6	Even	2
19200	38400	57600	115200	5	Mark Space	

PocketDAQ Pro provides support for the XON/XOFF flow control protocol. It also allows access to turn ON the outgoing RTS and DTR signal lines.

Control:

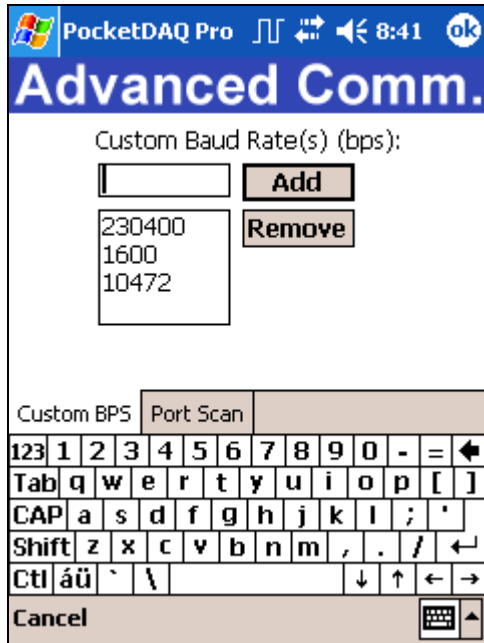
<input type="checkbox"/> XON / XOFF
<input type="checkbox"/> RTS ON <input type="checkbox"/> DTR ON

The RTS/DTR signal lines can be used to provide low-power to an instrument or for external triggering purposes.



Advanced ▶▶

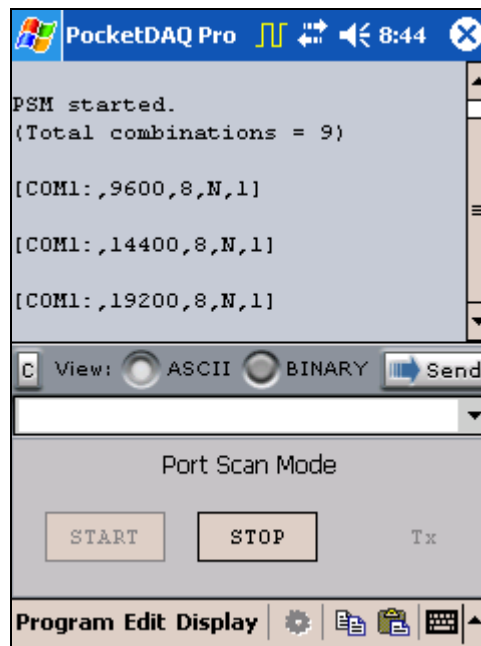
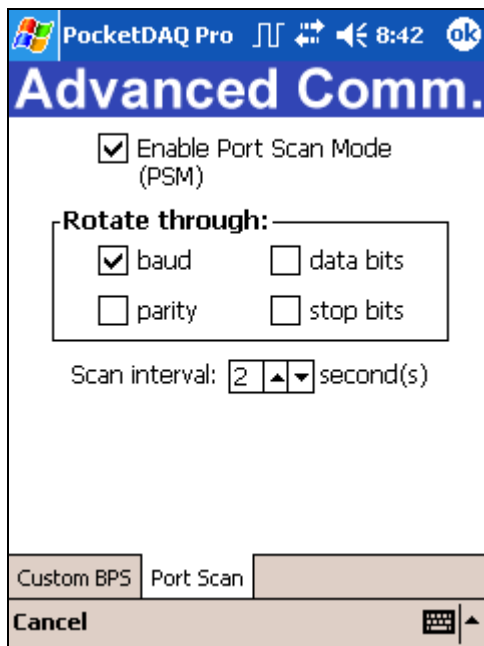
The *Advanced* button leads to the Advanced Comm. dialog window.



Custom BPS

Up to four (4) additional custom baud rates can be specified here, which will then become available within the standard Baud Rate list under Comm. Properties.

Note: Most Windows Mobile serial UART's are incapable of different baud rates, other than the defaults. But Compact Flash Serial I/O cards exist with more capability than the standard Windows Mobile UART, and **may** allow for greater custom baud rates, with higher speeds as well.



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Port Scan Mode (PSM)

PocketDAQ Pro has the ability to rotate through the various user specified COMM. settings for purposes where an attached device to your PDA needs to be interrogated regarding its communication port settings.

This allows the user to view and log all incoming data, at various intervals, and at various combinations of the port configurations. This automation saves much time and helps the user to determine which settings work best for the attached device, instead of manually trying every possible combination.

It allows you to scan a serial COM port that you don't know the settings to. As long as the device connected to the serial port in question is outputting data, PSM mode will rotate through all of the serial setting combinations you desire, and allow you to see which COM port configuration displays the data in a readable format. Saving time with deciphering the correct COM port settings for unknown devices.



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Transmit Options

Receive Options
Transmit Options
Communication Properties

Edit

Transmit Options ▶ Repeat Tab

PocketDAQ Pro 8:56 ok

Transmit Options

Repeat Button


Delay between cycles (ms)

Number of times to cycle "Send" (0 = infinity)

Clear "Received" window at every "Send"

Repeat Filters Buttons

Cancel

This dialog configures the action of the REPEAT button () .

Delay between cycles (ms) specifies how many milliseconds to delay before repeating the transmission of data again. The maximum allowable delay is 900000 ms (~15 minutes).

Number of times to cycle "Send" specifies how many times to repeat the transmission. It can be any value ranging between 1-9999, with 0 allowing for infinite cycles.

Clear "Received" window at every "Send"

If this feature is selected, the receive window will be automatically cleared of all data upon every "Send" (transmit) action. This is useful in helping to examine new incoming data, without confusing it with older portions already on the screen.



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Transmit Options ▶ Buttons Tab

A very useful feature is the ability to program any combination of hardware and software buttons for quicker transmission of your most popular data strings.

The screenshot shows the 'Transmit Options' dialog box with the 'Hardware' radio button selected. The 'Configure Button' section contains a dropdown menu with the text 'qwerty[O&A][OD]' and a text field for 'Software button caption' containing 'Button01'. Below this are four circular icons labeled 'Button 1' through 'Button 4'. At the bottom, there are tabs for 'Repeat', 'Filters', and 'Buttons', and a 'Cancel' button.

Hardware:

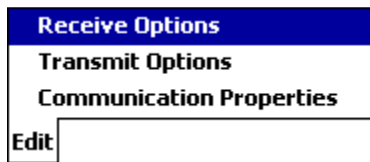
The screenshot shows the 'Transmit Options' dialog box with the 'Software' radio button selected. The 'Configure Button' section contains a dropdown menu with the text '123ab' and a text field for 'Software button caption' containing 'Button01'. Below this are six rectangular buttons labeled 'Button01' through 'Button06'. At the bottom, there are tabs for 'Repeat', 'Filters', and 'Buttons', and a 'Cancel' button.

Software:

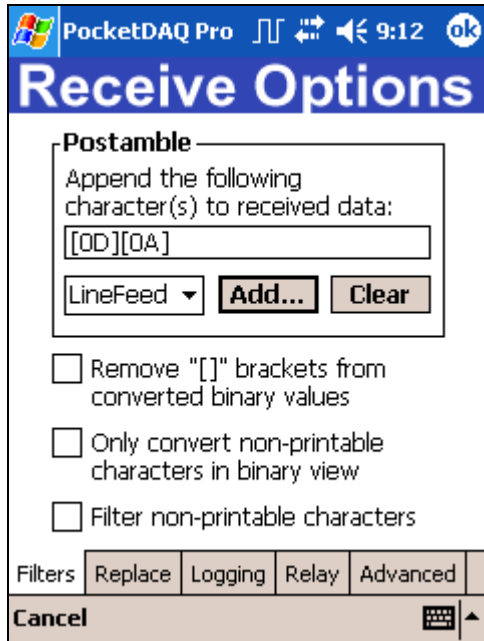
Additionally, the hardware buttons can also be configured to control a few program actions.

The screenshot shows a dropdown menu with the following options: {PLAY}, {STOP}, {CLEAR_RECEIVE_WINDOW}, and {EXIT_PROGRAM}.

Receive Options

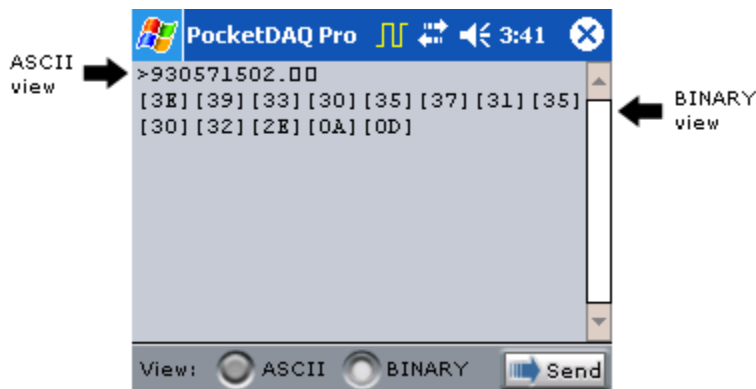


Receive Options ▶ Filters Tab



Filters

The following example illustrates a possible barcode scan input.



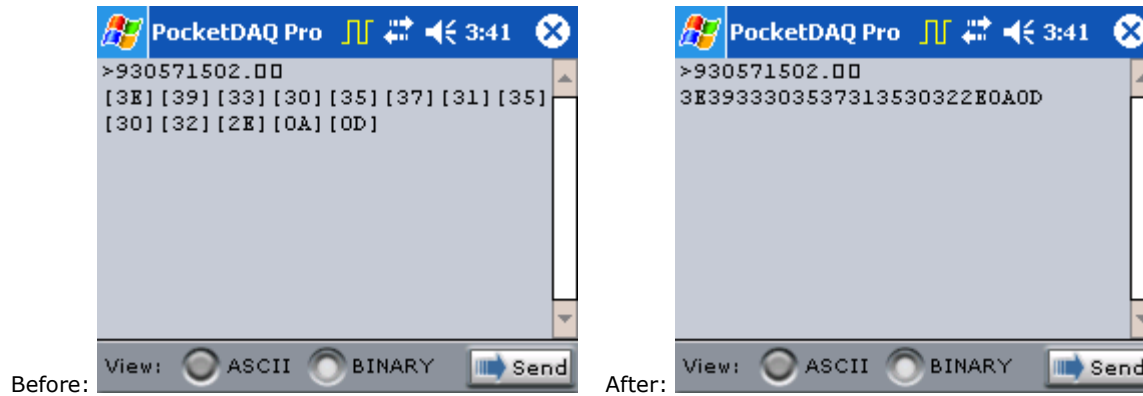
The first line is what the data looks like using the ASCII view mode; while the second line, is the equivalent data stream, but in BINARY view mode.



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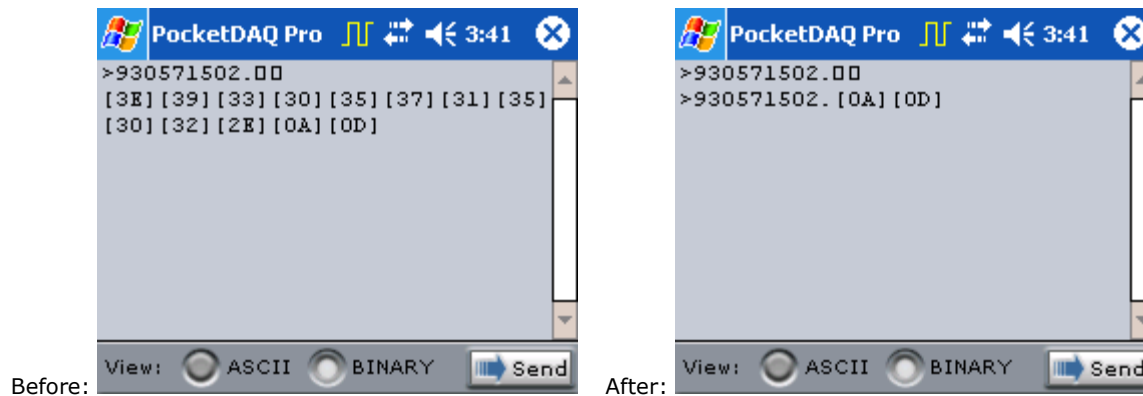
Remove “[]” brackets from converted binary values

This filter will remove the ‘[]’ brackets surrounding the separate binary characters.



Only convert non-printable characters in binary view

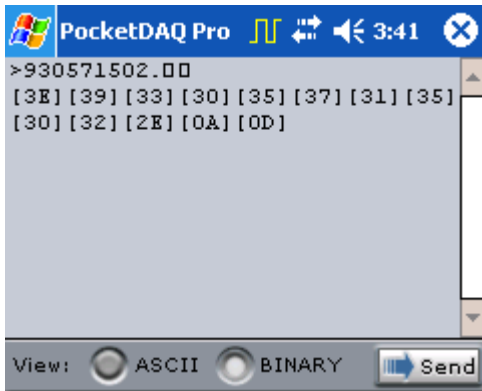
This filter will only display the binary values of those characters that are not easily printable. The valid printable ASCII range is from 20h-7Eh (32-126).



Filter non-printable characters

This filter removes all characters from the receiving data stream that fall into the non-printable range. Non-printable ASCII range: 00h-19h and 7Fh-FFh.





Before:



After:

Postamble

Postamble

Append the following character(s) to received data:

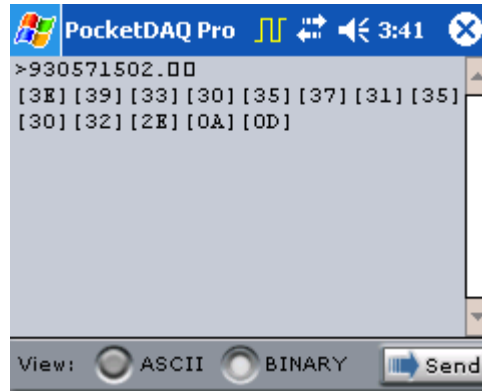
LineFeed ▾

There are moments when it is useful to be able to append an additional action to the received data stream. Most notably is during wedging (relaying) purposes. PocketDAQ Pro provides such functionality through this dialog.

For example, a newline command ($\backslash n = [0D][0A]$) or a Tab command ($[09]$), or the addition of a comma (,) character. This Postamble data will be incorporated within the incoming stream of characters and become visible in the received window.



Before:



After:



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Receive Options ▶ Replace Tab

PocketDAQ Pro 9:13 ok

Receive Options

Search and Replace

Search for: . 1 / 5

Replace with: [OA][OD]

Replace all

Replace first occurring

Replace last occurring

Disable Search and Replace

Filters Replace Logging Relay Advanced

Cancel

In addition to filtering, PocketDAQ Pro features the ability to *Search and Replace* data within the receiving stream of input. Through the above dialog, a user can specify the exact string of characters to seek out and replace, or have eliminated entirely by leaving the *Replace with:* input edit control empty.

The scope of the Search and Replace operation is controlled by one of three options:

- Replace all
- Replace first occurring
- Replace last occurring

Up to a maximum of 16 Search and Replace entries can be added. Empty entries will be ignored and removed automatically from the list. The list of entries is processed sequentially.

Example:

Search and Replace

Search for: >

Replace with: BC1:

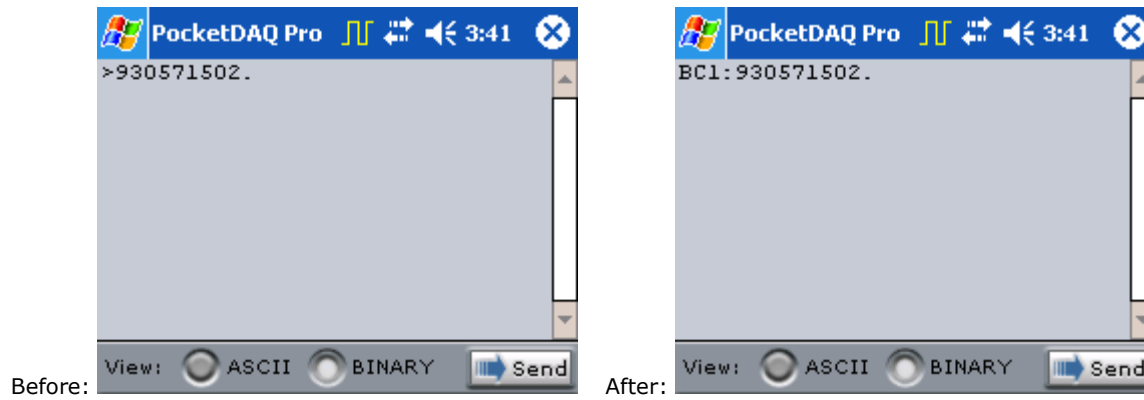
Replace all

Replace first occurring

Replace last occurring

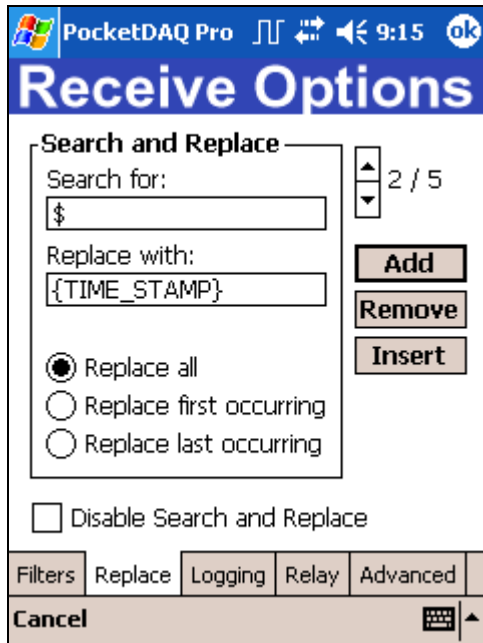
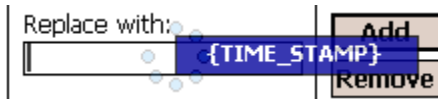


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{TIME_STAMP}

A Tap-and-Hold within the *Replace with:* input box will pop-up a menu to optionally insert the {TIME_STAMP} string. This special operation will perform a replacement of a search string with the current timestamp, using the configured format. (example: DD/MM/YYYY,HH:MM:SS)



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Disable Search and Replace

To quickly deactivate the Search and Replace actions on received data, simply select this check box.

PocketDAQ Pro 9:15

Receive Options

Search and Replace

Search for: \$ 2 / 5

Replace with: {TIME_STAMP}

Replace all
 Replace first occurring
 Replace last occurring

Disable Search and Replace


Buttons: Add, Remove, Insert

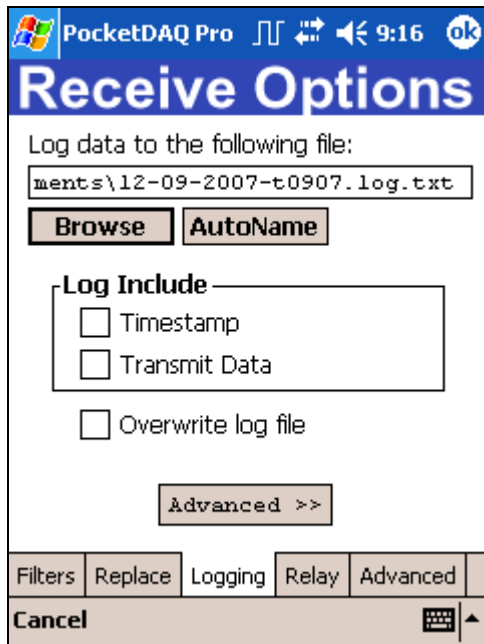
Bottom Bar: Filters, Replace, Logging, Relay, Advanced, Cancel, Keyboard icon

All items within the Search and Replace list will be preserved and can be reactivated at any time.

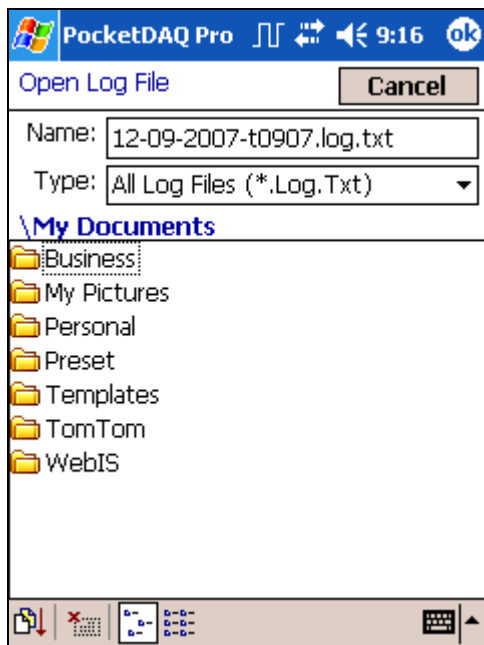
Receive Options ▶ Logging Tab

PocketDAQ Pro is able to log all incoming data by writing it to a file. What is seen within the main receive window, is exactly what is written.

This dialog configures the action of the RECORD button ()



The file size is only limited by the amount of storage space the Windows Mobile device has available.



PocketDAQ Pro can log to main memory, built-in storage, SD Card, Compact Flash, and any other type of accessible storage medium with a compatible file system.



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AutoName

The `AutoName` button automatically creates a filename string based on the current date and time. It is a quick aid when creating many log files and helps to organize them.

Filename Format: day-month-year-time(min,sec)

Example:

27-06-2005-t1352 = June 27, 2005 @ 1:52pm

Overwrite log file

By default, if an existing log file has been selected, the new data will be appended to what is already in that log file. By selecting this option, the existing log file will be cleared and overwritten with new data.

Log Include: Timestamp

Selecting this option instructs PocketDAQ Pro to include a timestamp with all incoming data that is to be logged.

Example:

Before:

```
[3E][39][33][30][35][37][31][35][30][32][2E][0A][0D]
```

After:

```
28/06/2005,15:23:06,Rx,[3E][39][33][30][35][37][31][35][30][32][2E][0A][0D]
```

The timestamp resolution is fixed at 1 second intervals.

Log Include: Transmit Data

Selecting this option instructs PocketDAQ Pro to include the transmit string(s) within the log file.

Example:

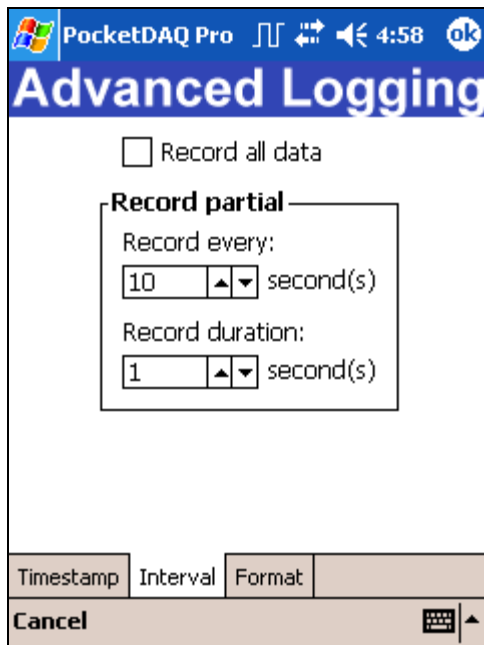
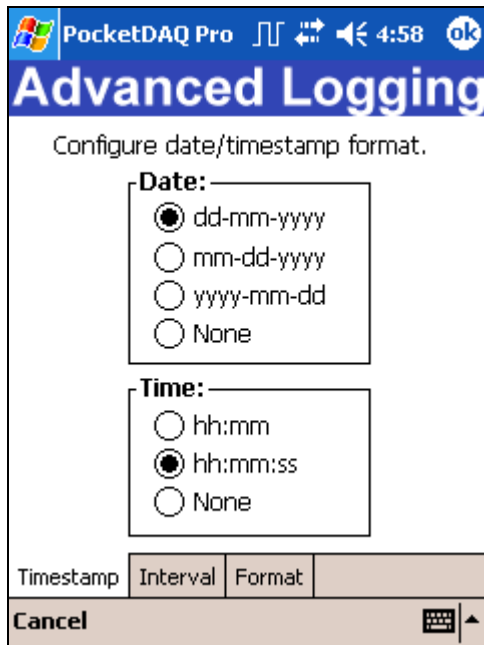
```
28/06/2005,15:27:51,Tx,!0RA0
28/06/2005,15:27:53,Rx,[3E][39][33][30][35][37][31][35][30][32][2E]
28/06/2005,15:27:54,Rx,[0A][0D]
28/06/2005,15:27:54,Tx,!0RA0
28/06/2005,15:27:55,Rx,[3E][39][33][30][35][37][31][35][30][32][2E]
28/06/2005,15:27:56,Rx,[0A][0D][0A][0D]
28/06/2005,15:27:57,Tx,!0RA0
```




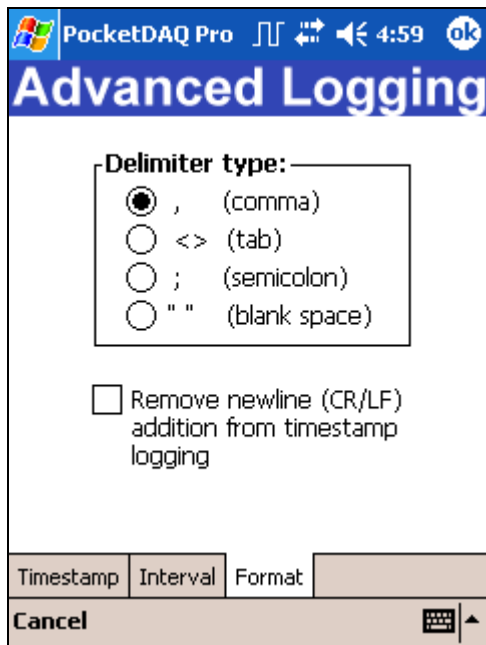
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Advanced ▶▶

The *Advanced* button leads to the Advanced Logging dialog window.




When interval logging is enabled, the RECORD button will change to a different colour to indicate this logging mode. ().

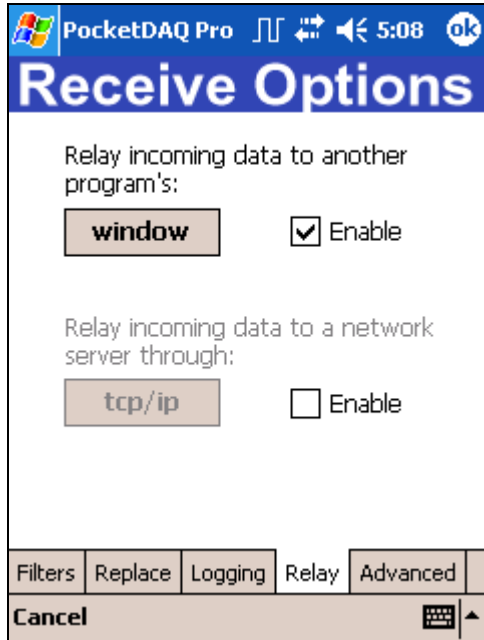


This dialog configures how the data should be separated within the output logging file.

By default PocketDAQ Pro separates each data input string on a separate line within the log file. If however, your incoming data already includes this separation then you might want to select the *'Remove newline (CR/LF) addition from timestamp logging'* feature, and avoid any double-spacing.

Receive Options ▶ Relay Tab

This dialog configures the action of the RELAY button ()



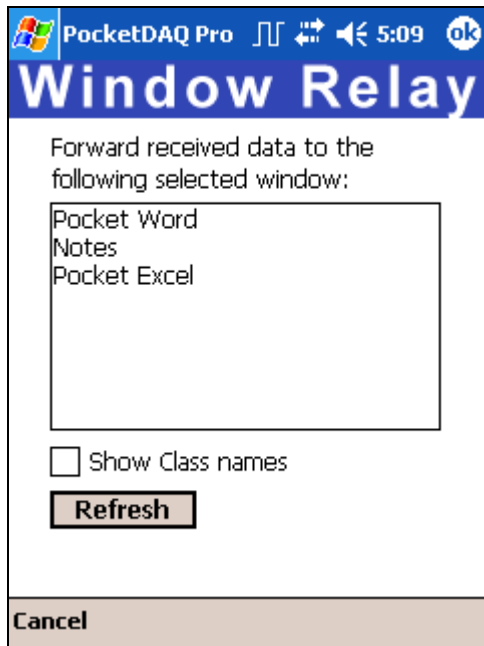
The feature of the RELAY '*window*' button is identical to the concept of software-wedging.

Software-Wedging, is the term used to define an application that is positioned (wedged) in between two software programs, or one software program and a hardware component. The wedged application intercepts incoming data and allows it to be first manipulated, before being relayed into the desired software program it was intended for.

PocketDAQ Pro has the capability to receive incoming data from a communications port (hardware/software driver), apply various filtering and data handling, and then *relay* that data once again to another running applications' window, such as Pocket Excel for example.

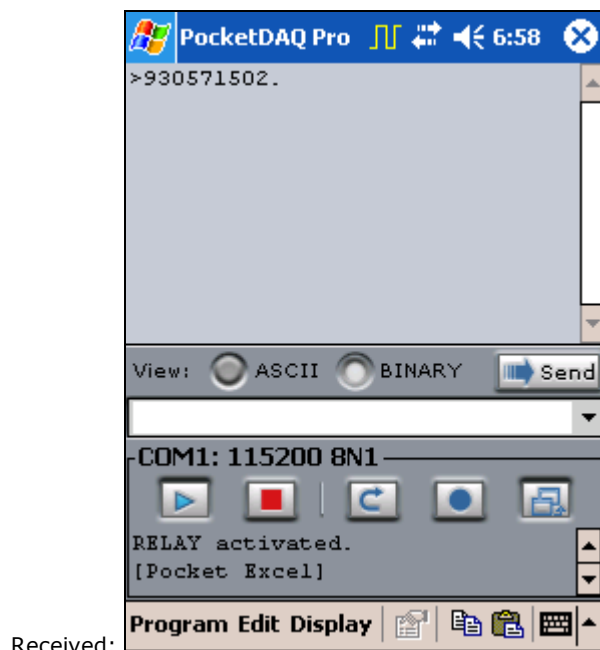


The Relay 'window' button provides a list of detected running applications. Any of the running applications can be targeted with forwarding received data to.

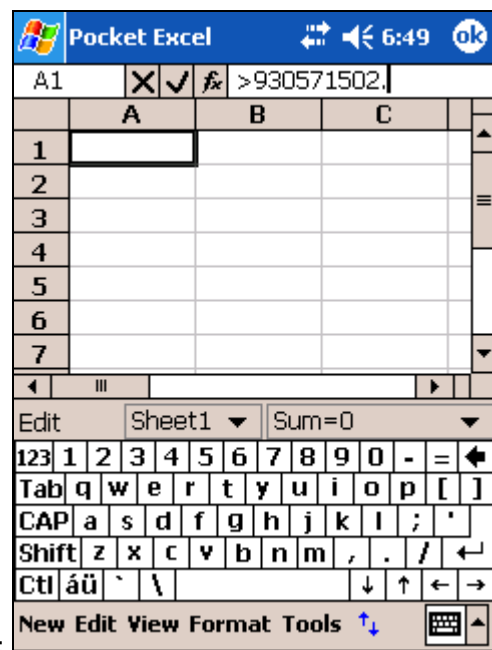


The application to receive the relayed data *must* already be running to become detected, and only one application can be selected for relaying data to.

Example:



Received:



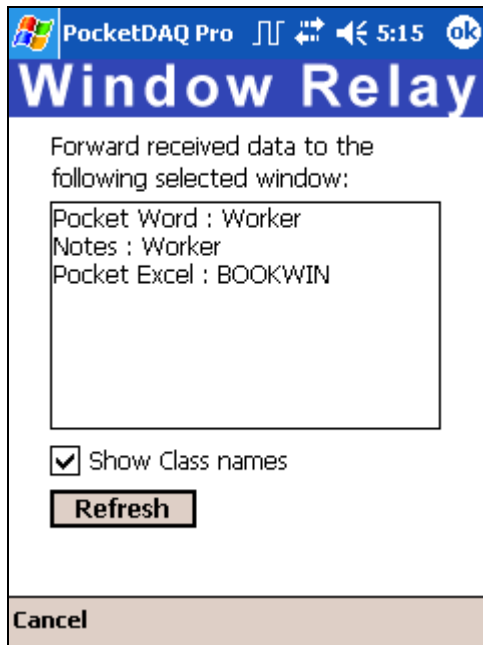
Relayed:



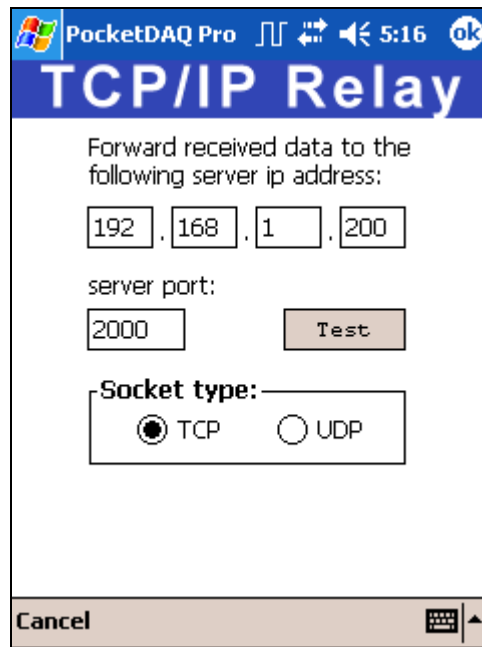
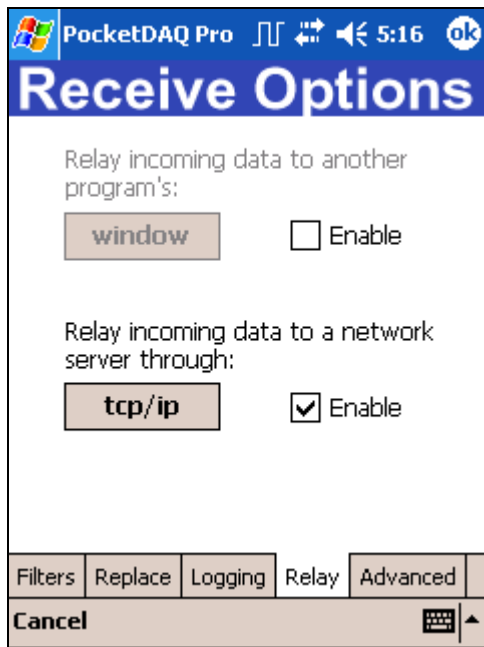
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Show Class names

Sometimes an application can have multiple windows associated with it. To help determine which window should receive the relayed data, the `Show Class names` option can be set to provide more information about the listed program windows.

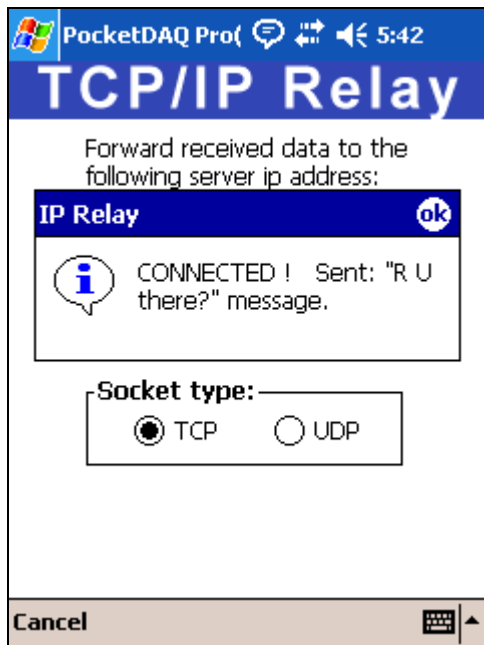


TCP/IP Relay



The feature of the RELAY *'tcp/ip'* button is similar to the *'window'* version, with the exception that instead of relaying incoming data to another application, PocketDAQ Pro relays the data to a network server over a tcp/ip connection.

Once the **ip address** and **port number** are configured, the user can press the **Test** button to verify connectivity with the server.

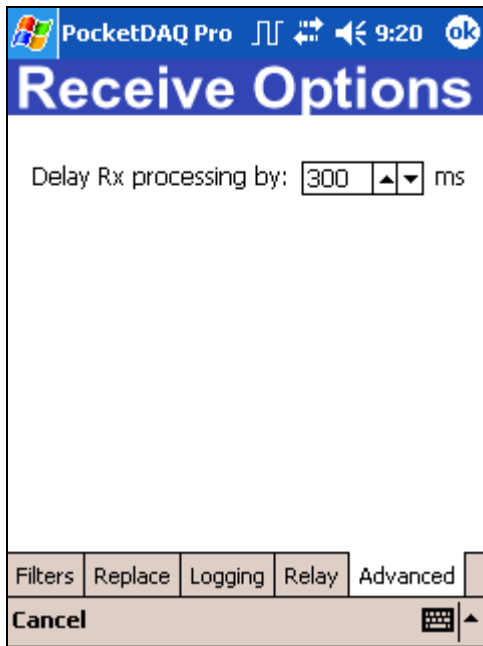


Note: Relaying through tcp/ip shuts down any running Activesync connections.



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Receive Options ▶ Advanced Tab



Advanced

The 'Advanced' tab contains features that control the internal processing operations of transmit and receive (Tx/Rx).

Delay Rx processing by: xxxx ms

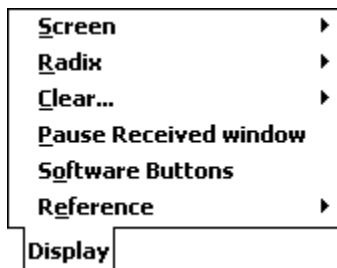
Adjusting this value introduces a delay within the receiving thread when reading the input serial stream i/o buffer. It is useful for instruments that take a long time to send their entire packet of data. By delaying the Rx processing, the input Rx buffer has more time to collect incoming data, and allow for more complete strings to arrive within a single packet.



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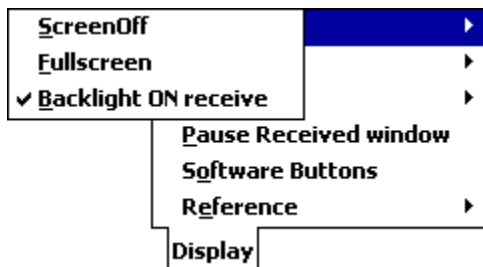
Display menu

The following explains the options within the *Display* menu.



Screen ▶

The *Screen* menu option contains the following list of features:



ScreenOff

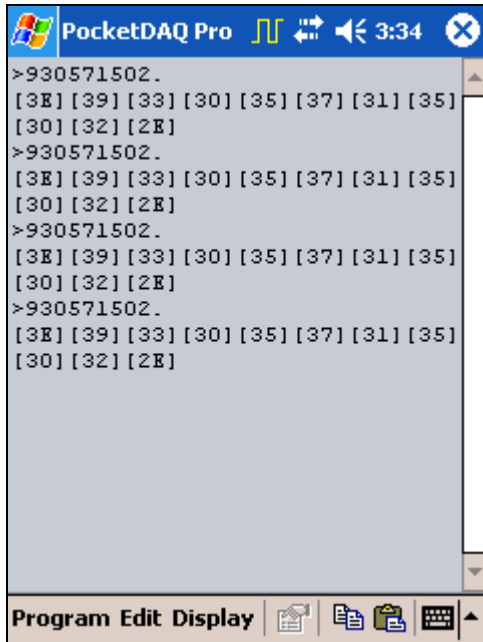
This will power OFF the LCD display. A hardware button press will then power ON the LCD display once again. By having the LCD screen OFF, this feature conserves battery power and enables the Windows Mobile device to remain in operation for a longer time; for example, in data logging applications.

Backlight ON receive

By default, a Windows Mobile device turns OFF its backlight when its screen has not been tapped within a certain period of time. The *Backlight ON receive* feature will *turn ON* the backlight upon receiving data. This makes it easier to leave the Windows Mobile device unattended when PocketDAQ Pro is running, yet still be notified, and able to read incoming data within the receive window.

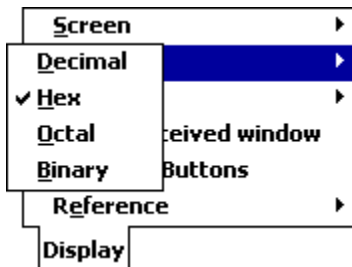
Fullscreen

This extends the receive window to use the full LCD screen of the Windows Mobile device, allowing for more data to be displayed at once.



Radix ▶

The *Radix* menu option configures the number base of which to display received data in, and to translate binary data bytes within a transmit string. This feature is used mostly within the *BINARY* View.



Decimal

Base 10 : [000 - 255]

Hex

Base 2 : [00 - FF]

Octal

Base 8 : [000 - 377]

Binary

Base 2 : [00000000 - 11111111]



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Example

Received character data: 'A'

Can be displayed as one of the following (depending on radix setting)

Decimal = [065]

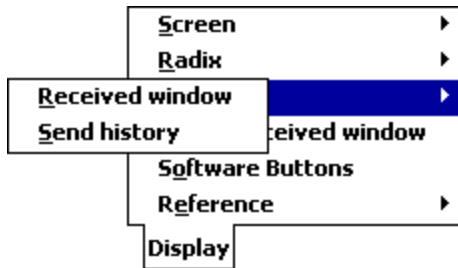
Hex = [41]

Octal = [101]

Binary = [01000001]

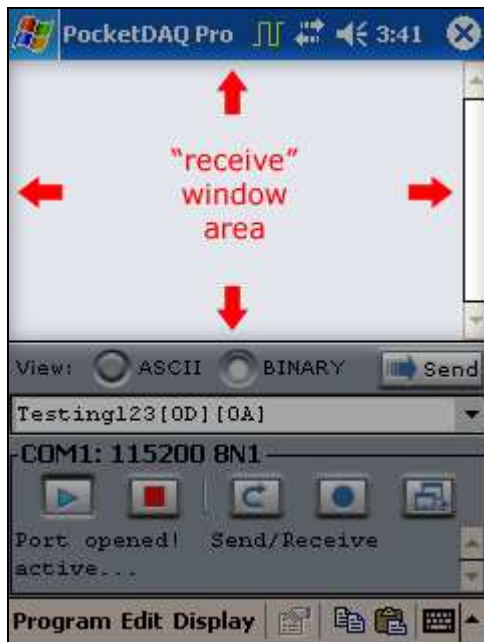
Clear... ▸

The *Clear...* menu option allows a user to remove data from the receive window and the send window.



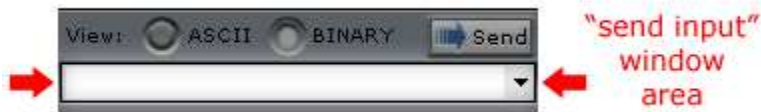
Received window

Clear all received data within the receive window.



Send history

Clear all send data (current and cached) strings from the send input window.

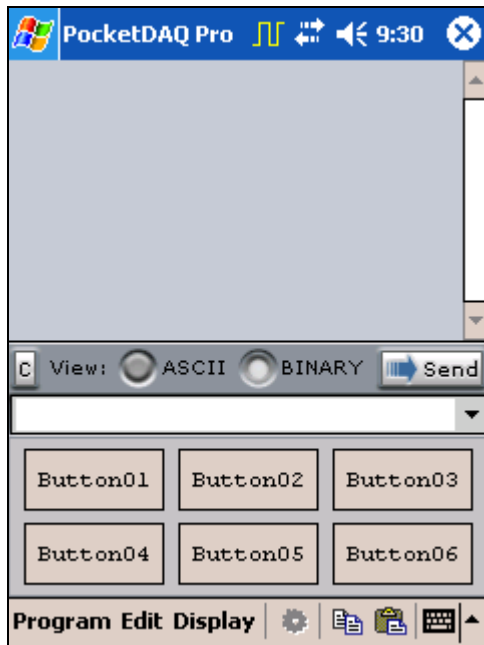


Pause Received window

The *Pause Received window* menu option suspends the display update of data to the receive window. All other operations are still active.

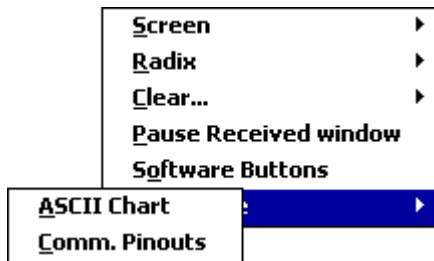
Software Buttons

The *Software Buttons* menu option displays six (6) virtual buttons on-screen. Each button can be programmed with a custom transmit data string for easier and quicker control of an instrument.



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Reference ▶



ASCII Chart

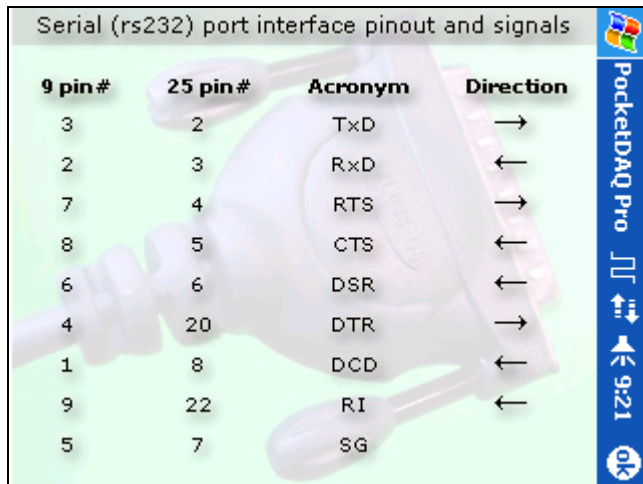
The *ASCII Chart* menu option displays a reference dialog of simple conversions between characters, decimal, hex, and some industry standard naming.

A screenshot of the 'ASCII Chart' dialog box in the 'PocketDAQ Pro' software. The dialog has a title bar with the Windows logo, 'PocketDAQ Pro', and a clock showing 5:08. The main content is a table with four columns: 'Char', 'Dec#', 'Hex#', and 'Name'. The table lists characters from 000 to 015. Each row has a small square checkbox in the 'Char' column. The table is scrollable, with a vertical scrollbar on the right side.

Char	Dec#	Hex#	Name
<input type="checkbox"/>	000	00	NUL
<input type="checkbox"/>	001	01	SOH
<input type="checkbox"/>	002	02	STX
<input type="checkbox"/>	003	03	ETX
<input type="checkbox"/>	004	04	EOT
<input type="checkbox"/>	005	05	ENQ
<input type="checkbox"/>	006	06	ACK
<input type="checkbox"/>	007	07	BEL
<input type="checkbox"/>	008	08	BS
<input type="checkbox"/>	009	09	HT
<input type="checkbox"/>	010	0A	LF
<input type="checkbox"/>	011	0B	VT
<input type="checkbox"/>	012	0C	FF
<input type="checkbox"/>	013	0D	CR
<input type="checkbox"/>	014	0E	SO
<input type="checkbox"/>	015	0F	SI

Comm. Pinouts

The *Comm. Pinouts* menu option displays a reference dialog detailing the proper wire connections for serial cable types. It is helpful for diagnostic purposes and when constructing a custom serial cable.

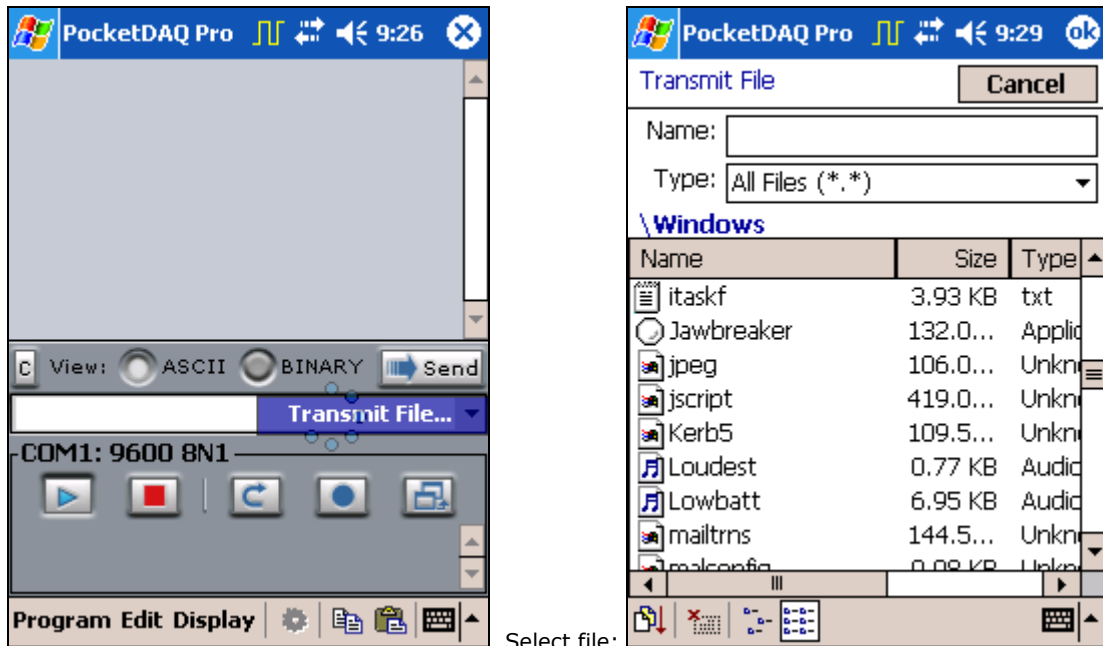


9 pin #	25 pin #	Acronym	Direction
3	2	TxD	→
2	3	RxD	←
7	4	RTS	→
8	5	CTS	←
6	6	DSR	←
4	20	DTR	→
1	8	DCD	←
9	22	RI	←
5	7	SG	

Transmit File

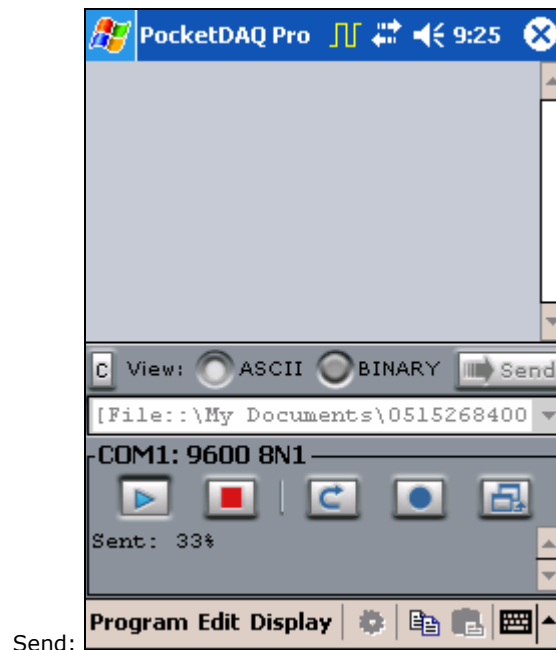
To transmit the full contents of a file, simply Tap-and-Hold within the send input window. A tiny pop-up menu will appear to allow the selection of **Transmit File...**. Use the file dialog to navigate and select any file to be transmitted.

Example:



Tap'n Hold:

Select file:



Send:



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Technical Specifications

Supported PDA Operating Systems

Windows Mobile 2003
Windows Mobile 2003 Second Edition
Windows Mobile 5.0
Windows Mobile 6.0/6.1

Supported PDA Processors

Any ARM/XSCALE compatible CPU

Supported Displays

240x240
240x320 QVGA (Portrait and Landscape modes)

Supported Communications Interface

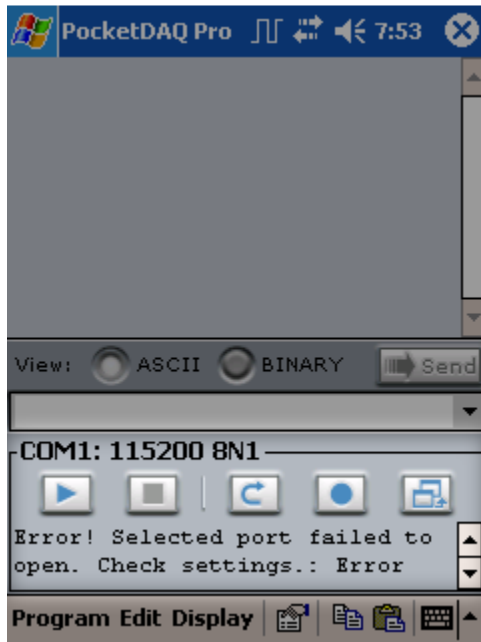
RS232 (built-in or through a CF+ adapter)
Infrared
Bluetooth
TCP/IP (data relay only)



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Frequently Asked Questions [F.A.Q]

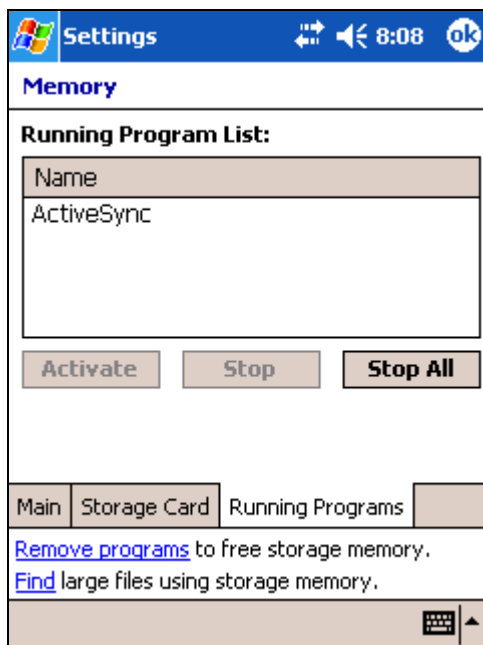
My selected COM port does not want to open. Why?



Another running program on your PDA might have already taken control of your desired serial port. For example, *Microsoft ActiveSync* is one such program that can do this.

It is suggested to shutdown all other applications to help ensure that they do not interfere with PocketDAQ Pro. The following is the best method to accomplish this:

 Start ▶  Settings ▶ System tab ▶  Memory ▶ Running Programs tab



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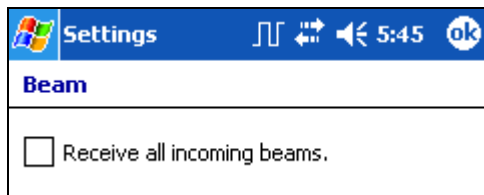
Next, tap on the **Stop All** button to have the operating system terminate all running programs. This will also free up more memory for PocketDAQ Pro to use.

Where is my infrared (IR) support?

By default, a Windows Mobile device has its IR port occupied by another program. To relinquish control and allow PocketDAQ Pro to use it, follow these steps:



Disable the "Receive all incoming beams" checkbox, and tap OK.



Now PocketDAQ Pro will be able to open the IR port.

I disabled "Receive all incoming beams" and my infrared port still doesn't work. Why?

Sometimes the infrared port seems to hang for no good reason. The best solution for this is to do a *Soft Rest* off your Windows Mobile. This will reinitialize the infrared hardware and it should then immediately work fine.

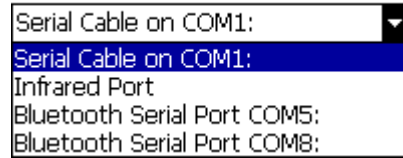


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Why does *Comm. Properties* display two (2) COM ports for Bluetooth?

The following is an example of PocketDAQ Pro listing support for Bluetooth.

Available Ports:

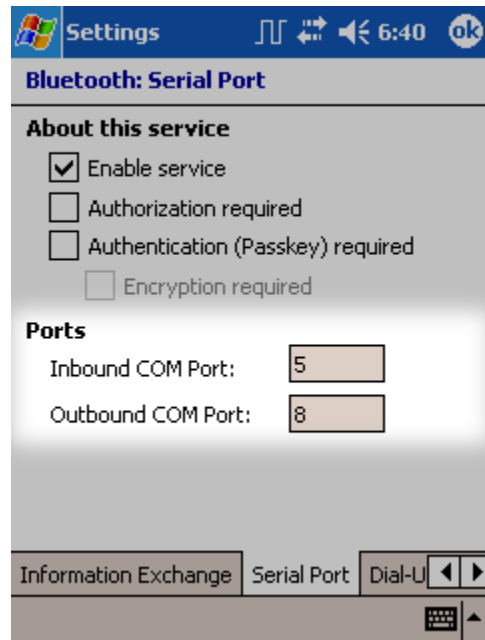


The Bluetooth interface on Windows Mobile devices has been designed to use two (2) COM ports. The difference between these ports is whether the Windows Mobile instigates a Bluetooth connection to the instrument (Outbound COM8:), or whether an instrument connects to it, making the Windows Mobile side simply waiting for a connection from the other end (Inbound COM5:).

To determine which COM ports your Bluetooth enabled Windows Mobile device has configured for Outbound and Inbound, follow these steps:



Tap through the tabs until you encounter "Serial Port". You should then see the following dialog which identifies the two COM ports for Inbound and Outbound access.



Another way to identify Inbound/Outbound access is through trial-and-error. Simply select either port and have PocketDAQ Pro try and open it. If the Bluetooth Manager comes up, then it is an outbound port. If it doesn't, and the port opened successfully, then it is the inbound port.

It is safe to try both if you are unsure. Either way, one side will eventually make the connection, and PocketDAQ Pro will then display its data.



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My Bluetooth still does not want to connect. Why?

Ensure that the Bluetooth hardware on your device is enabled.

Turn Bluetooth ON



How do I send Binary data strings?

Binary representations of any value can be sent by surrounding it with square brackets **[]**. By default, PocketDAQ Pro is in hex mode. So for example, to send a binary hex value of FF (255 decimal), you would simply enter [FF], and tap 'Send'.

The "Enter" key (a.k.a Carriage Return) for example is binary equivalent to hex value 0D. So to send the Carriage Return at the end of your send string, you would append [0D] to the end.

For example: `mystring[0D]`

PocketDAQ Pro translates the hex value to its appropriate character representation and sends it out.



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How do I connect instruments to my Windows Mobile PDA?

Connecting instruments to a Windows Mobile is relatively easy. PocketDAQ Pro supports connections over standard serial cable (rs232), infrared (IrDA), and wireless Bluetooth communications.

Serial (rs232)

Connecting a Windows Mobile to an instruments' standard serial port requires a dedicated serial cable for your specific PDA unit and possibly a NULL adapter. If your Windows Mobile has a built-in serial port, then it is likely that the manufacturer of your PDA also makes a serial (rs232) cable adapter for it as well. The serial cable will make available a 9-pin connector, with which you can then connect to another devices' serial port.

NOTE!

By default, the serial cable for your PDA is hardwired internally as a NULL configuration. Some instruments expect this and can operate fine, while others will not. If the instrument you are connecting to requires a straight-through serial connection, then a NULL adapter will also be necessary, in addition to the serial cable, to swap the proper communication lines.

If PocketDAQ Pro is not seeing any incoming data, then please verify your connection cabling, as this may be the cause during initial communications.

The serial cables are labeled as Serial AutoSync Cable, and can be found for most devices at Expansy.com; including a [Mini Null Modem Adapter](#).

If you have a Socket Communications [Serial I/O CF Card](#), then a straight-through cable should already be included with it.



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Infrared (IrDA)

PocketDAQ is also able to use the Windows Mobile infrared port, also known as the IrDA port, to transmit and receive data from any device that emits a compatible infrared signal. An important detail to be aware of is that the communication link relies on line-of-sight between both devices. Both units must face each other without any obstruction to maintain proper data transfer.



Bluetooth

With the development of PocketDAQ Pro, you can now connect and acquire data from any Bluetooth enabled instrument. Being wireless means that you do not need any additional cables or accessories to collect your data from those devices that support this type of connection. Please refer to our online F.A.Q for more details regarding Bluetooth connectivity.

Optionally, you can also now Bluetooth enable any serial instruments through the use of Socket Communications [Cordless Serial Adapter with Bluetooth® Wireless Technology](#).



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Why is my PDA constantly sending the string "CLIENT" to my PC terminal?

If you connect your Windows Mobile PDA to your PC through a serial port, then ActiveSync might detect the cable connection and try to initiate sync; and part of its protocol is seeking out the SERVER side connection by transmitting through your serial port the data string 'CLIENT'.

The technique to avoiding this is in the sequence of operations. To avoid ActiveSync jumping in first and taking control of the serial COM port, simply start PocketDAQ Pro and open the port first, ***before*** connecting the serial cable.



Acknowledgements

The following is a list of people who deserve much acclaim in regards to their various support with helping make Applied PDA Software possible.

Bill Bird

For providing necessary hardware and software to the company.

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For documentation review.

gsgetfile

By: Green Software

Thanks to: Y.Nagamidori

HouMing (hou_ming_2@yahoo.co.jp)

Testers

You know who you are, and we greatly thank you for your feedback.

Final Word...

If you have any questions, please [contact us](#). Your feedback is the single most important driver behind new features and improvements in our products.

Thank you for your support.

