

SerialMagic LC for PalmOS

SerialMagic LaserChamp Edition - Version 1.9

PalmOS 3.5-5.4

(Also available on OS X, Linux X11, Zaurus, Windows, Pocket PC)

Introduction

SerialMagic Pro will take serial data from a Bluetooth port, or the built-in RS232 serial port of a Palm device and enter it directly into virtually any Palm application that can accept Keypad or Graffiti input. This document describes how to use SerialMagic LC on Palm OS. It assumes only a very basic knowledge of using a Palm OS device.

Installation and Registration

Install SerialMagic Pro as you would any Palm application. From the desktop double-click the SerialMagic PRC file and this should bring up the "PalmOne Quick Install" dialog with the SerialMagic application showing. Insure the proper "User" is selected from the Quick Install list, then HotSync the PalmOne device to install the SerialMagic software.

Start SerialMagic and enter your registration name and registration code. Note: in the SerialMagic registration dialog the default "Reg Name:" field will be the same as the HotSync ID. Unless the PalmOne device has the same registration name and HotSync ID the "Reg Name:" field will need to be changed to the registered user name. If the registration code is not entered, every few scans will display "UNLICENSED SerialMagic

Main Dialog

The SerialMagic main dialog is where the controls are accessed. The view for Serial port mode is shown on the left, and Bluetooth mode is shown on the right.



Here is where you set the port parameters to match that of the barcode scanner, scale, or other device that sends ASCII data. Once configured, tap Start, and data received on the serial port will go to the application field that has input focus.

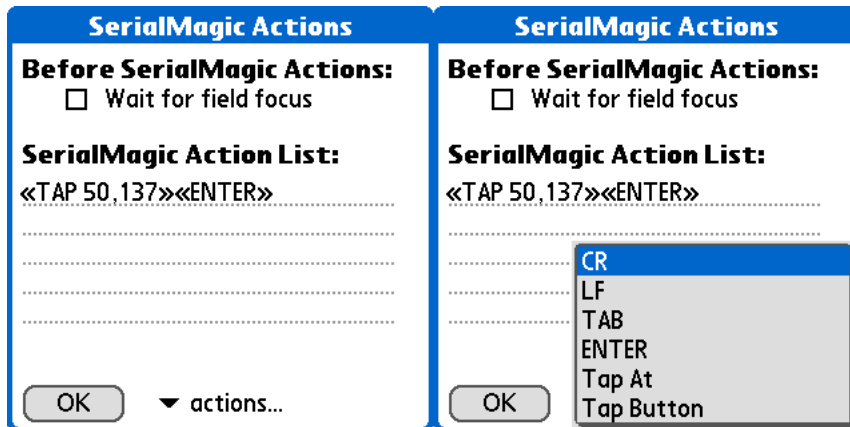
SerialMagic Actions (SMAs)

"SerialMagic Actions" are optional actions that can be performed based on the data received. For example after scanning in data, SerialMagic Actions can be defined to automatically 'tap' a button of the applications and perform a lookup on the data or some other processing function.

For Actions to work the input data must have a Carriage Return (CR) 'marker' to signify the end of the data packet. Virtually all barcode scanners (e.g. LaserChamp and Flic scanners) and scales that output ASCII data are designed with such a feature. Note: with some SerialMagic OEM developer options data packet end markers other than CR may be available.

Note that using "Tap Button" with the "Label Text" option only works for 'proper' application buttons. For some application buttons "Tap X,Y" will need to be used. If developer technical information is available for the "Control ID" of the button this may also be used. "SerialMagic Actions"

Important Note: In SerialMagic Pro the SMA "Serial data in" must be selected in order to get data into the target application.



In many cases the "Wait for field focus" should be set to insure that the data ends up where it should be. If this option is not selected, data will be sent to Palm OS immediately upon receipt. If the cursor is not in the proper form & field when this occurs, this may not have the desired affect.

Note: SerialMagic Actions are only supported for small packets of input data. (i.e. if a device like LaserChamp™ or Flic™ scanner are used, with many scans in memory, then Actions should not be used unless the device can be programmed with a sufficient delay between scans to perform the desired function.

Please see Appendix A for a description of SerialMagic Actions.

Note: SerialMagic Pro provides more extensive SerialMagic Actions (SMA) support than SerialMagic LC.

SerialMagic Action Examples for SheetToGo

Screen X,Y values for SerialMagic Action <<TAP X,Y>>

| Function | X,Y | Hi-Res (for reference) |
|------------------|---------|------------------------|
| Check (Enter) | 6,137 | (12,274) |
| Enter Data Field | 50,137 | (100,274) |
| Page Left | 58,151 | (116,302) |
| Page Right | 108,151 | (216,302) |
| Cell Left | 70,151 | (140,302) |
| Cell Right | 96,151 | (192,302) |
| Cell Up | 83,147 | (166,294) |
| Cell Down | 83,155 | (166,310) |
| Go Button | 150,153 | (300,306) |

Default SerialMagic Actions

The default SerialMagic Action file can be created to allow a simple way for SerialMagic to be quickly and easily configured for use on new Palm devices.

When the default SerialMagic Action file is present it will be automatically loaded.

To create the default SerialMagic Action file perform the following steps

- Create the desired SerialMagic Actions (SMAs)
- Open the Menu, select "Save Default Action File"
- HotSync the Palm
- Locate the file in the user's Palm Desktop directory – the file is named "SerialMagicDefaultAction.PDB"

The SerialMagic Action file can be loaded onto a new device as follows

- HotSync SerialMagic program PRC and the SerialMagicDefaultAction.PDB
- Start SerialMagic
- Tap "SerialMagic Actions"
- Open the menu and select "Load Default Action File" or tap the "Default" button. The "Default" button is only shown if there's a current default active.

Here is one SerialMagic Pro Action file can be used to scan data into SheetsToGo and have data be entered in the same column. Note “Wait for field focus” should NOT be enabled unless you want to force the user to tap on the SheetsToGo entry field to enter each scan.

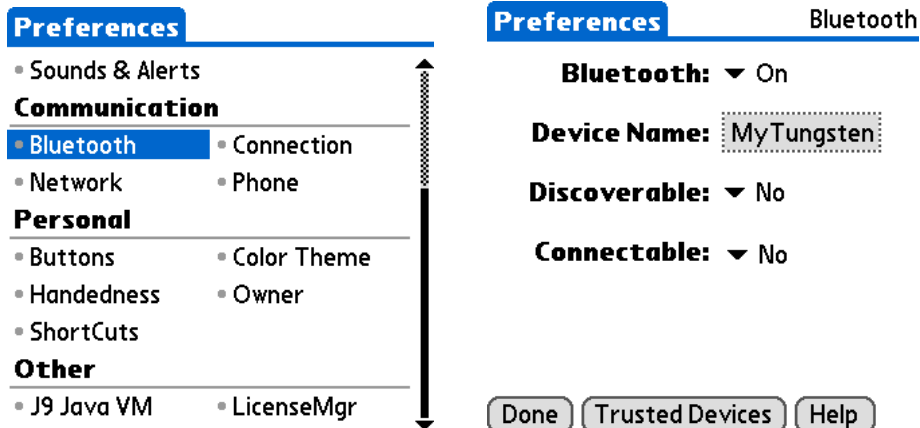
<<DATA-IN>><<ENTER>>

Note: SerialMagic Pro provides more extensive SerialMagic Actions (SMA) support than SerialMagic LC.

Pairing Trusted Devices

The following shows how to add a Bluetooth device to the list of trusted devices for Palm OS. Launch Palm OS Prefs app from the System category then tap on the Bluetooth option as shown below-left, this will bring up the dialog as shown below-right with the name of your Palm device.

Note: On Tungsten T3 & T5 this is also available by tapping the Bluetooth icon from the Status Bar. On the Treo 650 tapping the Bluetooth icon near the battery at the top of the Palm display is also a shortcut.



The Trusted Devices dialog will be displayed, showing all trusted devices. When the Palm OS device is new, the list will be empty. Activate the Bluetooth device, and then tap on "Add Device". The image (below-left) shows adding a LaserChamp scanner as the first Bluetooth device to a Tungsten T3. Select the Bluetooth device from the list and tap OK. A dialog like the one shown below-right will appear briefly.

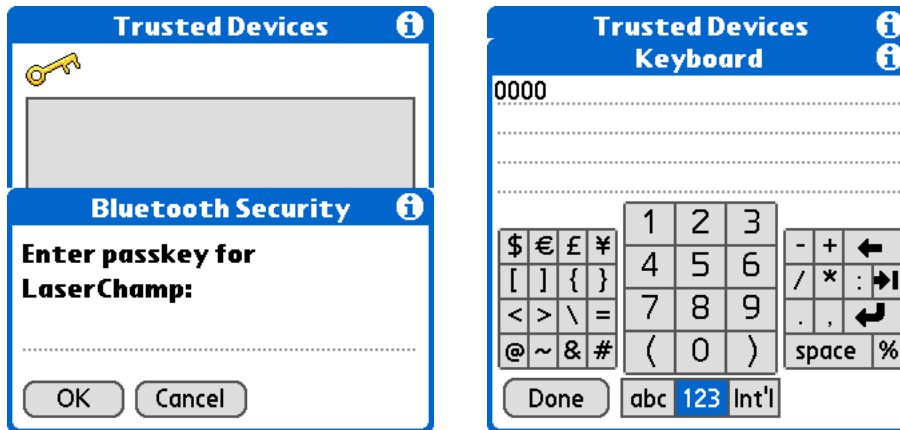
Note: When SerialMagic is active be sure that the Palm Bluetooth "Discoverable" option is set to "No" when used in the presence of a Bluetooth device that provides Bluetooth host side connectivity. For example a Bluetooth Access Point (BTAP). When the Palm Bluetooth "Discoverable" option is enabled the Palm may try to connect to the hosting device, preventing proper connection with the Bluetooth scanner.

Note on Tungsten T5, Tungsten E2, and Treo 650 devices: "Nearby Devices" is the equivalent to "Current Discovery" on the T3.



After the Bluetooth device is connected, you will be prompted to enter the Passkey for the device as shown below-left. The Passkey can be entered using the soft keypad by tapping the menu option and choosing "Keyboard", then tap the "123" button and tap 0 four times to get "0000" as shown below-right.

Tap "Done", on the soft Keyboard, and "Done" on the Bluetooth Security dialog. You should then see some dialogs briefly as the Bluetooth device is paired. The Trusted Bluetooth Device can now be used with SerialMagic.



LaserChamp & Flic Note: The scanner has a default connect time of 60 seconds. If the Bluetooth scanner becomes inactive before the Passkey is entered, a dialog showing "Unable to connect to LaserChamp" will appear. Activate the Bluetooth scanner, Tap "Try Again" and enter the Passkey again to get the pairing connection to complete.

Using a Trusted Device with SerialMagic

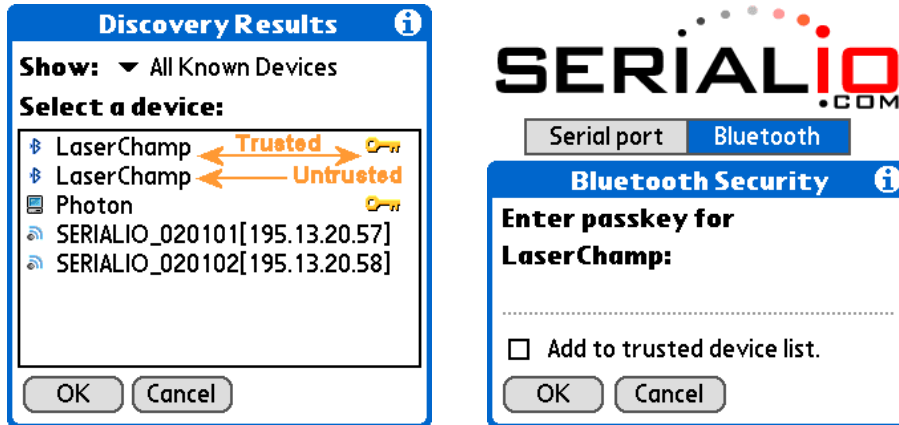
Once a device is trusted as described above, SerialMagic can now use the device. Run SerialMagic and insure "Bluetooth" mode is selected. Then tap "Start" and you will see the list of devices in the

Discovery Results dialog, (select "Current Discovery" or "Nearby devices" to select from active devices) and select the trusted device to connect to as shown below-left. Tap "OK" you should then see the SerialMagic connecting message as shown below-right.



Bluetooth Trusted Devices Note

Before a Bluetooth device can be used with Palm OS it must “paired” with Palm OS so the device is a “trusted device”. If the device is not trusted when SerialMagic starts, Palm OS will prompt for a passkey (shown below-right) however the pairing will fail. Note the “Enter passkey...” dialog can be misleading in that it seems to indicate that the device can be added to the trusted list from this prompt. This does not work due a bug in Palm OS (at least through version 5.4).



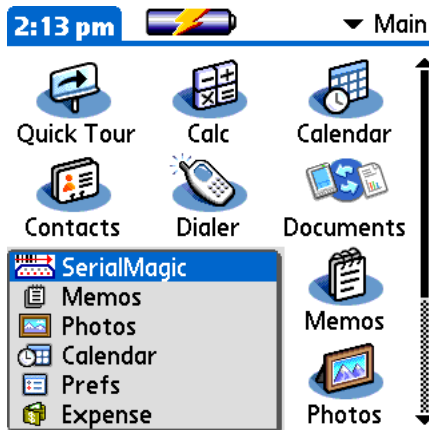
LaserChamp & Flic Note: When a scanner is paired to Palm as a trusted device, then later paired to another device, the trust relationship with the Palm will be broken. In this case the trusted device will have to be removed from list on the Palm, then added again. Please see the section on removing a trusted Bluetooth device.

After the SerialMagic connection is complete to the Bluetooth device, the SerialMagic "Start" button will change to "Stop". When the Bluetooth device goes inactive or out of range, the status message (to the right of the Start/Stop button) will read "(Disconnected)". As long SerialMagic is active in Bluetooth mode, it will continually attempt to connect to the last Bluetooth device that it had a connection with. During each connection attempt the status message will read "Reconnecting".

Note: If the Bluetooth device goes inactive, or out of range during the time the Palm device attempts to connect, the error "Failed to connect Bluetooth port to other device." will be displayed.

Switching To Target Application

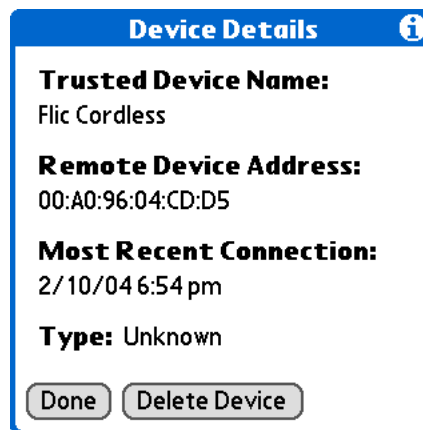
When SerialMagic is active and connected to the Bluetooth or tethered device, data sent by the device will go to the active field that has focus. Switch to the target application using the home button then selecting the application, or using the 'quick pick' menu if supported on the Palm device. The 'quick pick' menu from a Tungsten T3 is shown below. Once the target app is running, simply place the cursor in the desired field and scan the desired data into the application. If the proper SerialMagic Actions (SMA) are defined then you may not even need to place the cursor in the target field.



Remove Trusted Bluetooth Device

When a scanner is paired to Palm as a trusted device, and later paired to another device, the trust relationship with the Palm may be broken. In this case the trusted device will have to be removed from list on the Palm, then added again.

To remove trusted devices go to the Trusted Devices dialog as described in the section Pairing Trusted Devices. (Tap sequence: Prefs >> Bluetooth >> Trusted Devices). Select the Bluetooth device to delete as shown below-left, and tap "Details" to get the screen shown below-right.

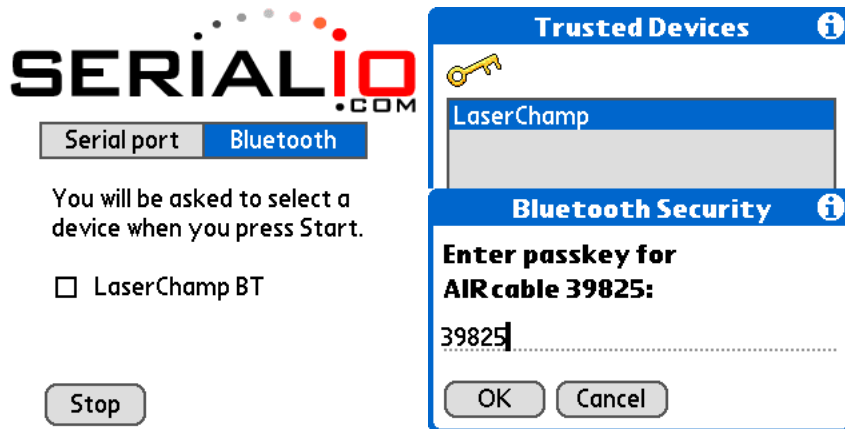


Tap "Delete Device", then tap "OK" when prompted "Are you sure you want to delete Flic Cordless from your trusted device list?" The device can then be added to the trusted devices list again as outlined in the "Pairing Trusted Devices" section of this document.

Caveat. When adding a new trusted Bluetooth device such as the LaserChamp or Flic to a Palm OS device that currently has SerialMagic running, **be sure SerialMagic is stopped.** Failure to do this may cause the Palm to need a reset, or prevent new devices from properly being discovered.

Using SerialMagic with AirCable™

SerialMagic LC can be used in conjunction with the AirCable to connect the Palm device to RS-232 serial devices without a cable. When using the AirCable, there are two differences from the above instructions that outline using SerialMagic with the LaserChamp and Flic scanners. The first difference is the "LaserChamp BT" option in SerialMagic must not be checked (see image below-left). The second difference is when making a trusted device connection, the passkey to use is the number shown in the AirCable name (see image below-right).



Input Device Notes

Some devices may send data too fast for slower versions of Palm devices to handle. This will typically only affect Palm devices with slower processors. It will generally not affect faster Palms like the Tungsten T2, and Tungsten C.

For example: If a LaserChamp™ (aka Flic™) barcode scanner with a *large number of scans in memory*, to a slower Palm device the Palm typically can't keep up with the data flow. In this case, configure the Flic with the *Delay* feature, and a small delay will occur between each scan, allowing the full contents of memory to download without problems.

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Flic is a trademark of Microvision, Inc.

AirCable is a trademark of Wireless Cables, Inc.

Contact US

If you have questions or comments please contact us.
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Appendix A

SerialMagic Actions (SMAs)

SerialMagic Pro provides the following SMAs

Serial data in – This is required to get the data into the application.

CR – Send Carriage Return character.

LF – Send Line Feed character. Use this in applications such as Memo to create a new line entry for each data packet.

TAB – Send Tab character. Use this in applications such as SheetToGo, or Excel to move to the next cell.

ENTER – Send Enter character.

Tap At – Tap at a screen location. Note that this location is based on a 160 x 160 display. When using a high resolution display such as the 320 x 320 Tungsten T3 the bottom right of the display is 160,160. When using a high resolution display such as the 320 x 480 Tungsten T5 (or the T3 in 'DIA' mode) the bottom right is 160,240.

Tap Button – Tap a button by name (Label Text) or by Control ID. Some applications do not properly respond to the name, so button Control ID is provided. Check with application provider if you wish to use the Control ID.

Note: SerialMagic Pro provides more extensive SerialMagic Actions (SMA) support than SerialMagic LC.

Appendix B

Troubleshooting

Bluetooth connections

Sometimes there may be issues with setting up a Bluetooth connection. This sections outlines the most common resolutions for Bluetooth connectivity. This section assumes the user is working with the LaserChamp Bluetooth wireless barcode scanner, but it applies equally to other device types that SerialMagic supports.

The most common reason a Bluetooth connection will occur is Bluetooth pairing with the LaserChamp has not been done per the per the instructions in the “**Pairing Trusted Devices**” section. This will most commonly be reflected when the SerialMagic “Start” button is tapped, and the Bluetooth dialog will prompt the user to “Enter Passkey...”. Please note there is a bug in Palm OS that prevents the passkey from working properly when entered from this dialog.

The second most common Bluetooth connectivity issue is due to the LaserChamp having been paired to the Palm device, but then was paired with another computer after this. This will require the trusted device to be **first deleted** and then added again per the instructions in the “**Pairing Trusted Devices**” section.

The second most common problem is due to a Bluetooth radio configuration issue. Scanning RESET FACTORY DEFAULTS barcode will most frequently fix this problem.

Lastly, on rare occasions it may be required to reset the Palm device by pressing the Palm devices reset button.

LaserChamp & Flic Bluetooth Scanner Batteries

Although not related to software, weak batteries in the LaserChamp Bluetooth wireless barcode scanner can affect connectivity. If the Bluetooth connection constantly connects and disconnects, put new batteries in the LaserChamp scanner this could well be the problem.