

SerialMagic Pro for PalmOS User Guide

SerialMagic™ Pro Edition - Version 2.7.5

PalmOS 3.5-5.4

(SerialMagic is also available on BlackBerry®, Symbian®, Windows®, & Windows Mobile®)

Introduction

SerialMagic Pro takes serial bar code data from a Bluetooth® port, or the built-in RS232 serial port on a Palm device, and enters it directly into many Palm applications as Keypad or Graffiti input. This document describes how to use SerialMagic Pro on Palm OS. It assumes only a very basic knowledge of using a Palm OS device.

Installation

SerialMagic can be installed using HotSync or by copying it to an SDIO card.

Install by HotSync

To install using HotSync, just 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. Make sure that the proper “User” is selected from the Quick Install list, then HotSync the PalmOne device to install the SerialMagic software.

Install by SDIO

Copy the SerialMagic Pro PRC file to the PALM/Launcher folder of the SD card.

Registration

Start SerialMagic and enter your registration name and registration code. To open the registration dialog use the Palm Menu option from the SerialMagic main dialog, then select “Enter Registration Code” option. If the registration code is not entered, every few scans will display "UNLICENSED SerialMagic".

Register by HotSync ID

In the registration field, the HotSync ID should be displayed. To obtain a registration key, provide the HotSync ID to your supplier along with the registered user name. Enter the registered user name in “Reg Name:” field then enter the registration key provided by your supplier in the “Reg Code:” field.

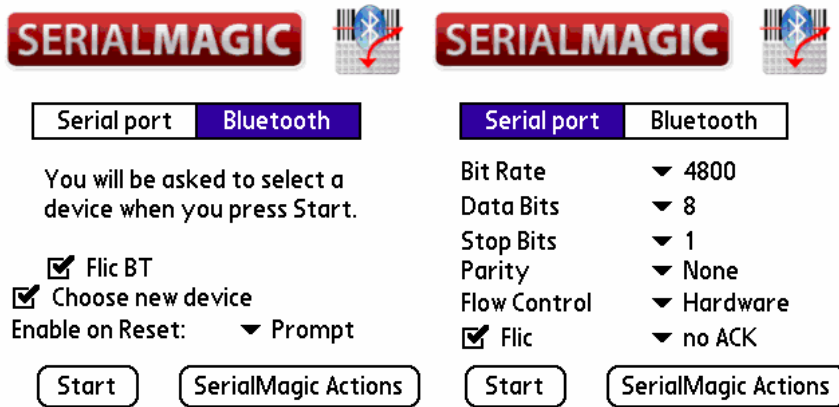
Register by Device ID

In the registration field, the Device ID should be displayed. To obtain a registration key, provide the Device ID to your supplier along with the registered user name. Enter the registered user name in “Reg Name:” field then enter the registration key provided by your supplier in the “Reg Code:” field.

Start SerialMagic

Press the Home button on the Palm device and go to Applications. In the upper right make sure that “All” is selected. Then scroll down to find the SerialMagic icon, and tap it. The SerialMagic main dialog should display as shown below. Be sure the Bluetooth mode is selected as shown below left.

When using SerialMagic with devices connected to the Palm devices serial port make sure that “Serial port” mode is selected as shown below right. Note that the factory defaults for the Microvision models 2122, and 2142 are Bit Rate of 4800, and Stop Bits 2.



For the Microvision Scanner with Bluetooth®, make sure that “Bluetooth” is highlighted. Make sure that “MVIS BT” is selected, and “Choose new device” is selected.

Tap Start. The Discovery Results dialog will be displayed, showing nearby devices. Activate the Bluetooth device, and then tap on "Find More". The image (below-left) shows adding a Microvision scanner as the first Bluetooth device to a Treo 700p. Select the Bluetooth device from the list and tap OK. You will be prompted to enter the Passkey for the device as shown below-center. Enter the passkey on the keypad, or using the soft keypad of the Palm. SerialMagic will then connect to the scanner and the “Start” button will change to “Stop” as shown below-right.

You can then go to your target application and scan data.



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 Scanner" will appear. Activate the

Bluetooth scanner, Tap "Try Again" and enter the Passkey again to get the pairing connection to complete.

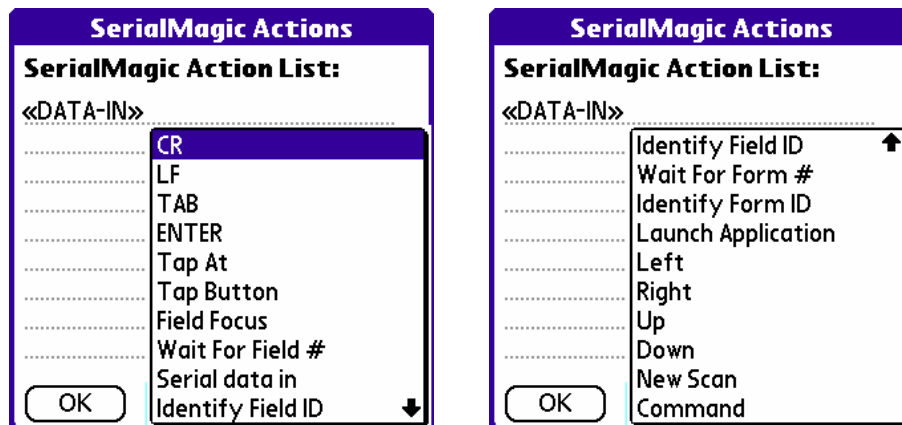
SerialMagic Action Profiles (SMAP)

"SerialMagic Actions Profiles" 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. Note: CR is the default setting for Microvision scanners but some SerialMagic OEM developer options data packet end markers other than CR may be available.

Note: Using the "Tap Button" with the "Label Text" option only works for 'proper' application buttons. For some application buttons, you must use "Tap X,Y". If developer technical information is available for the "Control ID" of the the mutton, this may be used, "SerialMagic Action". For more information on SMAs see Appendix A.

Important: In SerialMagic Pro the SMA "Serial data in" must be selected in order to get data into the target application. This shows up in the Action List as <<DATA-IN>>.



Note: SerialMagic Actions work with small packets of input data. Do not use Actions if there are many bar codes in scanner memory, unless you program a delay between scans. This delay allows the scanner to perform the desired SerialMagic Action.

Please see Appendix A for a description of SerialMagic Actions.

SerialMagic Action Examples for SheetToGo

This example shows how to configure SerialMagic so that an incoming data packet (e.g. bar code scan) will switch to the Palm SheetToGo application (Microsoft Excel compatible) and enter the data in the spreadsheet. When SerialMagic is installed, the default SMA is <<DATA-IN>>.

With SerialMagic Professional 2.6.8 and later, there are some default example SerialMagic Action Profiles (SMAPs). When SerialMagic Professional is installed it will create these SMAPs. If they have been deleted or don't show up due to a SerialMagic upgrade, then they can be restored with the "Restore Default Profiles" menu option from the SerialMagic Actions dialog.

To select a default SMAP from the SerialMagic Actions dialog, select “Load Action Profile”, and then select the profile that you want from the list.

“Sheet – 1 Column” puts successive scans in one column in the spreadsheet. The SheetToGo application must be active.

“Sheet with Auto-Launch” is the same as “Sheet – 1 Column” except Auto-Launch can switch to the SheetToGo application when another application gets the focus.

“Sheet – 2 Columns” switches to the SheetToGo application (when another application gets the focus) and puts successive scans into two columns.

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)

Named and Default SerialMagic Action (SMA) Files

You can create SerialMagic Action files that give you a simple way for SerialMagic to work with different applications and different device requirements. Action files can be sent to a new device using HotSync, which lets you quickly and easily configure SerialMagic on new Palm devices.

When SerialMagic starts, it automatically uses the default Action file. You can create your own version of the default SerialMagic Action file.

1. Create the desired **SerialMagic Actions** (SMAs).
2. On the **Menu**, select **Save Default Action File**.
3. **HotSync** your Palm
4. In the user's Palm Desktop directory, find and select the file named **SerialMagicDefaultAction.PDB**. This is the Default Action file.

To load SerialMagic onto a new device:

1. **HotSync** SerialMagic program PRC and the **SerialMagicDefaultAction.PDB**
2. Start **SerialMagic**.
3. Tap **SerialMagic Actions**.
4. On the **Menu**, select **Load Default Action File**, or tap **Default**.

You can see the **Default** button only when a Default Action file is active.

The following is an example SerialMagic Pro Action file that you can use to scan data into SheetsToGo. The example also puts a time stamp in a column to the right of the bar code data columns.

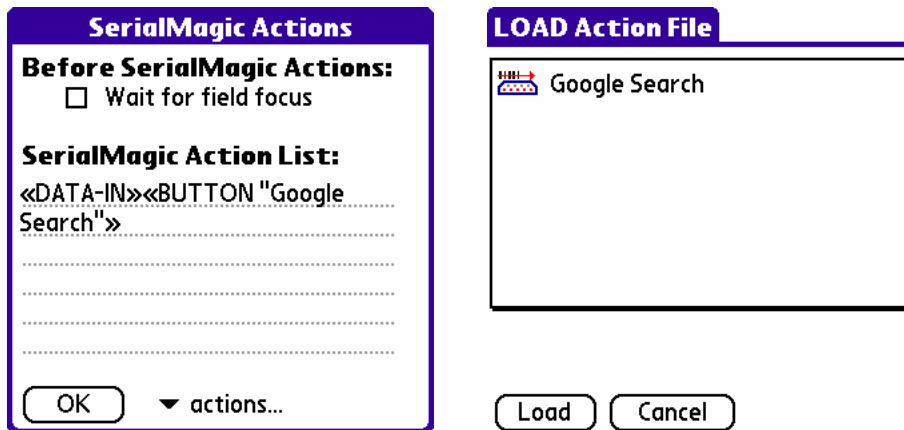
Note: The SMAs appear on two (2) lines when viewed in SerialMagic Pro).

```
<<DATA-IN>><<TAB>>=now()<<ENTER>><<LEFT>>
```

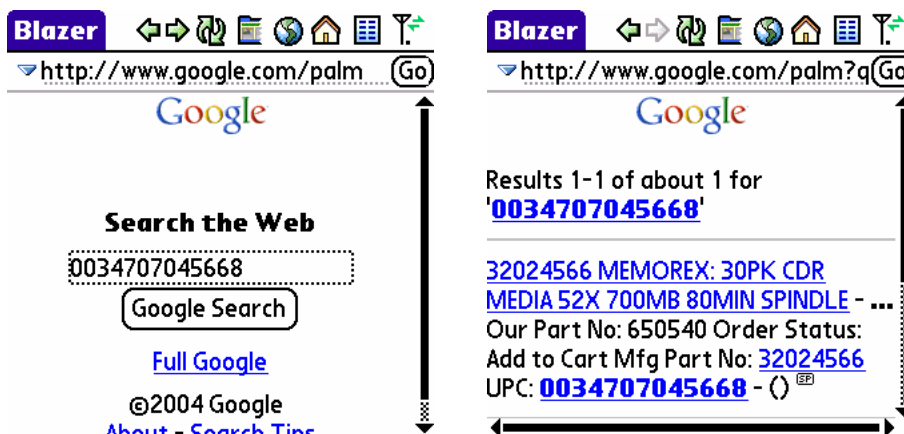
SerialMagic Actions (SMA) for Blazer Browser

SerialMagic Pro uses a powerful set of SerialMagic Actions that let you create solutions with almost any Palm OS application. There are many Palm OS applications and they do not all use the same methods of operation. For example, the Palm OS Memo application goes to the next line when it receives a LF (line feed) character. Other applications activate a form when they receive a CR (carriage return) character. Once you determine what a given application requires, you can configure SerialMagic Actions to provide the required input.

One popular SerialMagic Action is the Blazer Browser. It is included on many Palm OS devices. For example, you can scan data directly into the Blazer Browser and then search for that data on Google. After you scan the data, push of the **Google Search** button in the Blazer Browser. The images below show the proper SMA definition for a Google search, using the Blazer Browser running on a Treo 650. With SerialMagic Pro you can write the SMA definition to an SMA file for use at a future time.

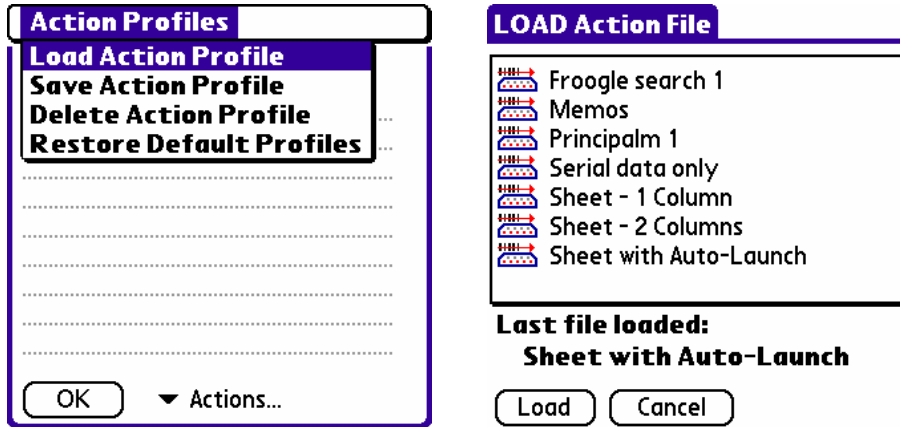


The images below show the results of the scan into the Google search field, and the search results for the UPC code that was scanned into the search field.



Working with Named SerialMagic Action (SMA) Files

You can use SerialMagic Pro to save, load or delete SerialMagic Action files by using SerialMagic menu options. You can see the the SMA menu options in the image below. You can see a list of action files, including the Sheet with Auto-Launch that was loaded last, in the SMA Load Action File dialog box image below.

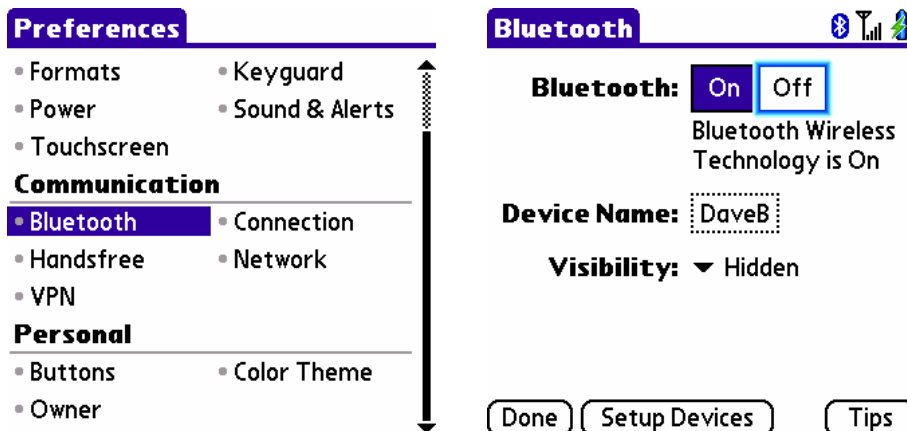


Pairing Trusted Devices

You must pair the Microvision Scanner with Bluetooth with the Palm OS so that the scanner becomes a trusted device. Before you pair the scanner and the Palm OS, make sure that SerialMagic is stopped. You must pair your Microvision scanner and Palm OS when using SerialMagic with all Palm devices except the Treo 700p, 680.

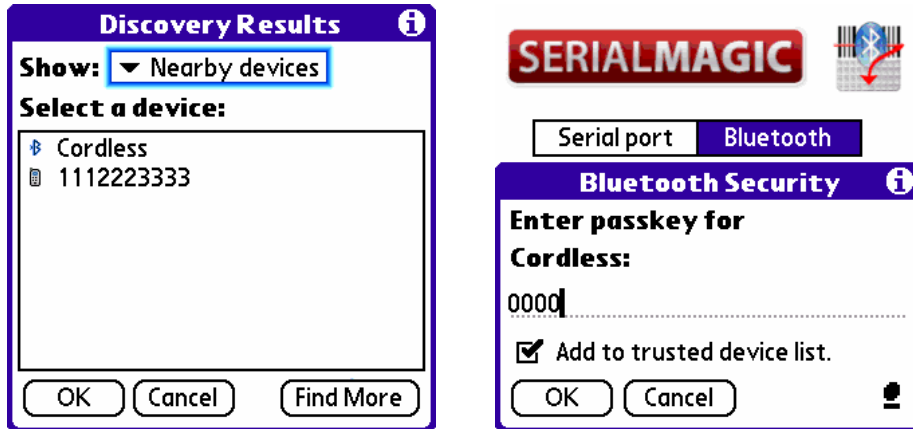
Start the Palm OS Prefs application from the System category, then tap on the Bluetooth option as shown below, which opens dialog shown below that includes the name of your Palm device.

Note: On the Treo 700p, 680, 650, you can use a shortcut by tapping the Bluetooth icon near the battery at the top of the Palm display. On Tungsten T3 & T5, you can tap the Bluetooth icon from the Status Bar.



When the Discovery Results dialog appears, it shows nearby devices. Start the Microvision Scanner with Bluetooth and then tap "Find More". The image below shows adding a Microvision scanner as the first Bluetooth device to a Treo 700p. Select **Cordless** from the list and then tap **OK**.

After the Bluetooth device is connected, you are prompted to enter the Passkey for the device. Enter the passkey on the keypad, or using the soft keypad of the Palm.



Note: On the Palm T3 the "Current Discovery" is the equivalent to "Nearby Devices" on Treo 700, 680, 650, TX, LifeDrive, Tungsten T5, Tungsten E2 devices

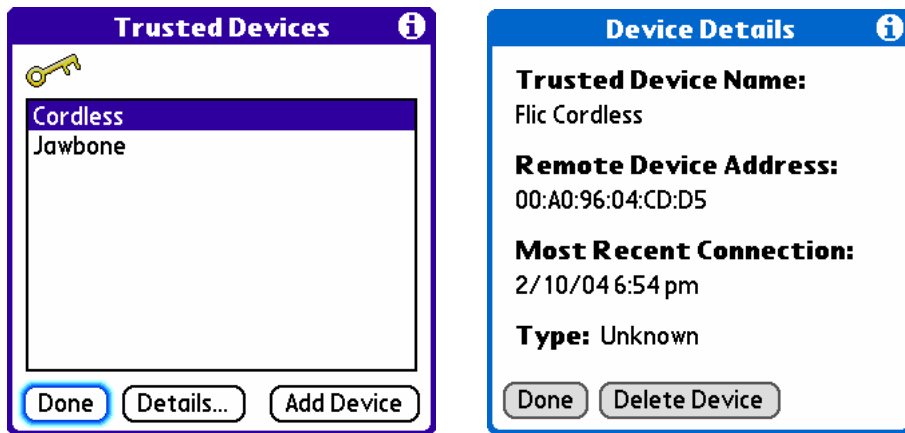
The default connect time for Microvision Scanner with Bluetooth is 60 seconds. If the scanner goes to sleep before you enter the Passkey, the message "Unable to connect to MVIS" appears. Activate the scanner, Tap "Try Again", and enter the Passkey again to complete pairing the scanner and Palm OS.

Changing Bluetooth Trusted Devices

When a scanner is used with another device and is then subsequently used with a Palm device, the trust relationship with the Palm may be broken. In some cases the Palm OS prompts you for a passkey. However, the pairing works properly only on Treo 700p, and Treo 680 devices. There is a bug in previous Palm OS devices that require you to first delete the device, and then add the device to the trusted device list of the Palm using the Palm Bluetooth Manager.

Remove Trusted Bluetooth Device

To remove a trusted device, tap **Prefs** >> **Bluetooth** >> **Trusted Devices** to go to the Trusted Devices dialog. Select the Bluetooth device you want to delete, and then tap **Details**.



Tap **Delete Device**, and then tap **OK**. The device can then be added to the trusted devices list.

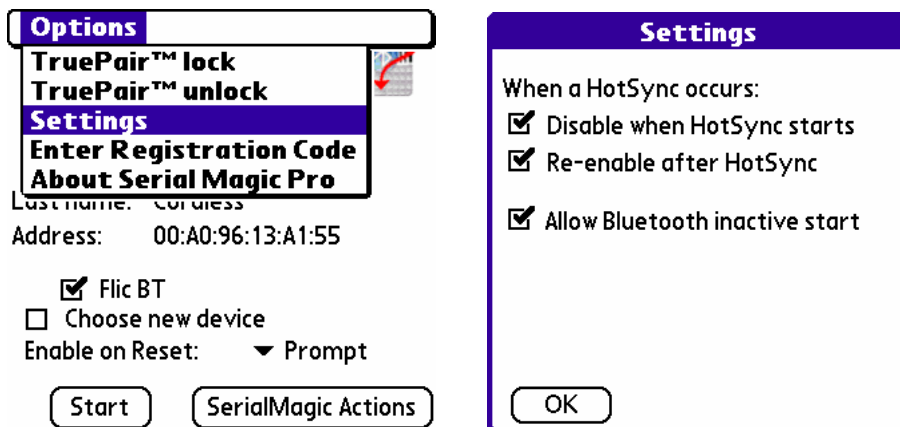
Important: When adding a new trusted Bluetooth device such as the Microvision scanner to a Palm OS device that currently has SerialMagic running, **be sure SerialMagic is stopped**. Failure to do this may cause the Palm to need a reset, or prevent new devices from properly being discovered.

SerialMagic Pro and HotSync

SerialMagic is designed to operate transparently and send data to applications. This transparency can make you forget that SerialMagic is running.

Because of the Palm OS design, SerialMagic cannot be operating when you perform a HotSync. Consequently, you must disable SerialMagic before you perform a HotSync. You can set up SerialMagic Pro so that it automatically starts after a HotSync. You use the Options menu to access the Settings dialog box from the SerialMagic Options menu.

Important: The default SerialMagic Pro installation automatically disables SerialMagic Pro when a HotSync is performed, but does not automatically restart SerialMagic Pro unless you select the **Re-enable after HotSync** setting.



SerialMagic Pro “Enable on Reset”

You can use this setting to control when SerialMagic starts after a reset of the Palm OS device. You can select **Off**, **On**, and **Prompt**. Prompt is the default; it displays a control dialog after reset that lets you start SerialMagic.

Note: Some Palm OS games use a similar feature to restrict program functionality, and they can conflict with this feature of SerialMagic. If a problem occurs after the Palm OS program demo expires, make sure that you contact the manufacture for instructions on how to remove their program completely.

SerialMagic Pro “Allow Bluetooth inactive start”

This option lets SerialMagic Pro start when the last connected Bluetooth device is inactive or not in range. If this option is not selected, an error occurs if SerialMagic Pro does not find the last connected Bluetooth device after Start is selected. Use the setting that works best for you.

TruePair™ ‘Paired Locking’ with Microvision Scanner with Bluetooth

The “Lock Scanner to Handheld” and “Unlock Scanner from Handheld” options allow strong pairing of Microvision Scanner with Bluetooth to Palm OS devices using TruePair™ technology. You can use this option in an environment where Bluetooth Access Points that support the Bluetooth SerialPort Profile (Spp) are available. Some Bluetooth Access Points, like the Serialio.com BtSnap (Bluetooth Scanner Network Access Point), can be configured to auto-connect with a Microvision scanner. When the pairing with the Palm device is broken; it requires the Bluetooth scanner to be re-paired with the Palm device. SerialMagic Pro uses TruePair™ technology to prevent ‘broken trust’ by ‘locking’ the scanner to the Palm device. Note: once a Bluetooth scanner is ‘locked’ it must be unlocked using the same device, or the scanner must be completely reset to remove the lock.

Input Devices

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

For example, if a Microvision bar code scanner with a large number of scans in memory downloads bar codes to a slower Palm device, and the device cannot keep up with the data flow, configure the scanner using the **Delay** feature. The short delay between each scan lets the full contents of scanner memory to download.

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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. Serial data in has several options.

-As Scanned: Displays data as it comes directly from the scanner

-Hex: Displays data in hexadecimal format

-Dec: Displays data in decimal format

ISBN Conversion

Converts Bookland EAN-13 code to a 10-digit ISBN number.

Note: The scanner must be in AIM mode in order to use this option. If using a Microvision scanner, scan the following configuration bar codes:

ROV Bar Codes



Symbology Identifier Type is AIM



Decode Supplemental Bar Codes is False

Flic Bar Codes



AIM Identifiers Enable



Disable Supplemental Codes

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 LifeDrive, 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.

Field Focus – Wait for any Field to have focus before sending data. This can be used to specify which field gets the data. Example, in this case the desire is to have SerialMagic enter data into an ‘ITEM ID’ field, however the user must enter a password to get to that field. If <<FIELDFOCUS>> is used, AND the scanner has a pending scan, then the scan would be entered into the password field which is not where it is needed. Wait for Field # can be used to provide the data to the proper field.

Wait for Field # – Wait for the given Field # has focus before sending data. This can be used to specify which field gets the data. Example, in this case the desire is to have SerialMagic enter data into an ‘ITEM ID’ field, however the user must enter a password to get to that field. If <<FIELDFOCUS>> is used, AND the scanner has a pending scan, then the scan would be entered into the password field which is not where it is needed. Wait for Field # can be used to provide the data to the proper field.

Identify Field ID – Can be used to find the Field ID for use with the Wait for Field # SMA.

Wait for Form # – Similar to Wait for Field # except that the Palm OS form # is used instead of the field number. Some palm applications use forms to place data into instead of fields.

Identify Form ID – Can be used to find the Form ID for use with the Wait for Form # SMA.

Launch Application – Launch the desired application.

Left – Left direction button. Can be used with SheetToGo or Excel to move focus to the cell to the left.

New Scan – This action will tell SerialMagic Pro to look for a new data packet from the Bluetooth device. This action is useful for putting data in columns in a spreadsheet or table.

Command – This action will tell SerialMagic Pro to perform the given Palm OS Command. For example <<COMMAND>>N when issued in FileMaker Mobile will create a new record.

If / Action – This action will allow you to filter the data input to SerialMagic. Options are

“If this condition is true:”

 “Duplicate scan”

 “Scan data length”

 “is less than”

 “is less than or equal to”

 “is equal to”

 “is greater than or equal to”

 “is greater than”

 “is equal to”

“Do this action:”

 “Restart Action List”

 “Get New Scan (until test false)”

Date / Time Stamp – This action will insert the current date & time. The format is *MM/DD/YY HH:MM:SS mm* e.g. 09/06/05 05:39:16 pm

Appendix B

Troubleshooting

Bluetooth connections

Sometimes there may be issues with setting up a Bluetooth connection. This section outlines the most common resolutions for Bluetooth connectivity. This section assumes the user is working with Microvision Scanner with Bluetooth bar code scanner.

The most common reason a Bluetooth connection fails is that the Bluetooth pairing with the Microvision scanner has not been completed correctly. Make sure that you complete the instructions as shown in the Pairing Trusted Devices section. This occurs most often when you tap the SerialMagic “Start” button and the Bluetooth dialog prompts you to “Enter Passkey...”.

Note: There is a bug in Palm OS that prevents the passkey from working properly when entered from this dialog. For details see “Bluetooth Trusted Devices Note” section

The second most common Bluetooth connectivity issue occurs because the Microvision scanner is paired to the Palm device, but is then subsequently paired with another computer. This requires the trusted device to be first deleted and then added again according to the instructions in the “Pairing Trusted Devices” section.

Another common problem is a Bluetooth radio configuration issue. Scanning the RESET FACTORY DEFAULTS bar code usually fixes this problem. In some cases the trusted device may need to be removed and added again using the Palm Bluetooth Manager after scanning the RESET bar code.

On some occasions it may be necessary to soft reset the Palm device by pressing the Palm devices reset button.

On rare occasions it may be necessary to hard reset the Palm device per the device instructions to remove the offending configuration problem.

Also on rare occasions it may be required to hard reset the Microvision scanner. This can be done by holding down the **Scan** button for about 10 seconds, until you hear the scanner make three (3) beeps.

Microvision Bluetooth Scanner Batteries

Although not related to software, weak batteries in the Microvision Bluetooth wireless bar code scanner can affect connectivity. If the Bluetooth connection constantly connects and disconnects, try putting new batteries in the Microvision scanner.

Microvision Scanner with Bluetooth Radio Connection

The Microvision Scanner with Bluetooth connects to the Bluetooth radio using the metal conductors on the PCB (Printed Circuit Board) on the scanner battery door. There should be eight (8) of these metal ‘fingers’ to connect to the 8 metal ‘pads’ of the scanner. If the fingers or the pads are dirty, this can prevent proper connectivity. Caution should be taken when handling the battery door so as not to touch the metal ‘fingers’ or ‘pads’ as oil and dirt from human contact can reduce the proper electrical connection between the Microvision scanner and the Bluetooth radio.

Common Bluetooth Symptoms with Microvision

The Microvision Scanner with Bluetooth can be paired with Palm Bluetooth Manager but does not connect when starting SerialMagic, or connects and disconnects continuously.

- Make sure that the scanner batteries are in good condition.
- Remove scanner from trusted device list using Palm Bluetooth Manager.
- Scan RESET FACTORY DEFAULTS bar code.
- Make sure that SerialMagic is stopped, and then add the Microvision scanner to trusted device list using Palm Bluetooth Manager.

Note: After tapping the Stop button in SerialMagic, it can take up to 20 seconds for SerialMagic to stop. You should see the “SerialMagic Actions” button to the right of the “Start” button when SerialMagic is stopped.

Note: The Palm Bluetooth Manager should only be used when SerialMagic is stopped.

- Add the scanner to trusted device list using Palm Bluetooth Manager.
- Start SerialMagic.

If the scanner does not Bluetooth connect to the Palm device after performing the above sequence, soft reset the Palm device first, then perform the above steps.

Hard reset the Palm device, this will remove all data and programs from the Palm.

Add ONLY the SerialMagic application to the Palm device. This can be done by creating a temporary HotSync ID, if the same HotSync ID is used as previously, all the data and software will be loaded back onto the Palm device.

Follow the steps above. If the scanner does not Bluetooth connect to the Palm device using SerialMagic after performing the above sequence, it is likely there is a faulty Bluetooth radio in the Palm device.