# **Configuring Honeywell USB Scanners for MetrOPOS.**

This Whitepaper details the steps required to configure a USB scanner for use with the MetrOPOS driver. Unlike RS232 connected devices which can be programmed directly from the OPOS Administrator utility, USB devices need to be programmed in a different way.

MetrOPOS supports two USB modes depending on the interface type of the scanner - 'Full speed USB' (IBM-OEM or IBM SurePOS) mode or USB Serial (POS USB) which requires a bidirectional Windows driver.

Details of the interface type can be found on the scanner rating label. Note: A low speed USB scanner can only be programmed as USB Serial. This will be indicated as 'LS USB' and will have a '38' interface identification.

Both MetrOPOS and a USB serial driver can be downloaded from the Honeywell Scanning & Mobility website at http://www.honeywellaidc.com/en-GB/Downloads/Pages/default.aspx Select 'Software' and then select the required scanner to open its software page.

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$\langle$	Honeywell Scanning and Mobility (HSM) USB Serial Driver The Honeywell Scanning & Mobility (HSM) WHOL-certified USB Serial Driver connects an HSM scanner through a virtual COM port to a Microsoft Windows operating system and applications.	4MB
	MetroJPOS Driver The Honeywell Java POS driver (Java for Retail POS) provides a standard programming interface that allows POS hardware to be easily integrated into retail POS systems based on Microsoft Windows family of Operating Systems running Java. This release adheres to the UPOS 1.10 specificatione Retardin 1.26	ЗМВ
<	MetroPOS Driver The Honeywell OPOS driver (OLE for Retail POS) provides a standard programming interface that allows POS Hardware to be easily integrated into retail POS systems based on Microsoft Windows family of Operating Systems. This release adheres to the UPOS 1.8 specifications Revision 2: 2010 - 20	>
	MetroWEPOS Driver The Honeywell WEPOS driver provides a standard programming interface that allows POS Hardware to be easily integrated into retai POS systems based on Microsoft Windows Embedded for Pont of Service (WEPOS) operating system. This release adheres to the UPOS 1.8 specifications. Revision 1.2.1.0.	1MB
	Softwedge Softwedge.zip Format: .zip Modified: 5/14/2009 11:35:44 AM	2MB

Once downloaded, install MetrOPOS following the on screen prompts. If using USB serial, follow the installation guide provided with the USB serial driver and complete the installation.

### Full Speed USB connection.

This provides the most straightforward OPOS connection method as is utilises the HID driver which comes as part of the Windows operating system. It also requires no programming on the

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scanner side to provide the correct OPOS data formatting. If your device is full speed USB it is recommended to use this connection method.

To set up the scanner in this way start by creating a new profile, giving it the name of your choice. Click the 'New Profile' tab to begin.



RS232	~
RS232 Full Speed USB POS USB	
F0CUS/1690	~
None	~
	RS232 RS232 Full Speed USB POS USB Focus/1690 None

Select 'Full Speed USB' from the 'Interface' list. Select the 'Model Number' and then save the profile

To set up the scanner interface, scan the 'Load Integrated Full Speed USB Defaults' (999970) below. This code can also be found on page 15-1 of the 'Metro-select Single Line Configuration Guide' or page P1 of the 'Metro-select configuration guide'.

Load Integrated Full Speed USB IBM/OEM Defaults



7.

# USB Serial (POS-USB) connection.

Before a USB scanner configured for USB serial can work with OPOS it needs to be programmed with specific OPOS formatting. As mentioned previously RS232 scanners can be programmed directly from OPOS Administrator using the 'Program' button which will download the OPOS settings to the device.



For USB Serial however the scanner needs to be programmed manually. This can be done using Metroset if you know the required settings or by scanning the codes below in the numbered order.



Once the scanner is programmed, provided the USB driver is correctly installed, the scanner will automatically install and will appear in the 'Ports' section of Windows Device Manager as shown below.

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In MetrOPOS Administrator, click the 'New Profile' tab, enter a profile name of your choice and select the model.

H MetrOPOS™ Admin	nistrator Configuration	Utility v2.2.1.4				? ×
File Device Hel	р					
	New Profile			Modif	fy Profile	
Sim	ple Test	Vetailed Detailed	d Test		Device Information	L.
New Profile						
Device Class:	Scanner	•				
Profile Name:	MyScanner		0			
Interface:	POS USB	•		-		
COM Port:		•		1		
Model	Focus/1690	•	170			
Scale:	None	•				
		Prog	gra 🚺 💦 Cle	ar	Save	
Allow Contro	l Characters in Ba	ar Code				
				HO	neywe	•
Loaaina	lone 🔻					

A common question when using the bi-directional windows driver is: Should POS-USB be selected in OPOS or should RS232 be selected and then select the virtual com port assigned by the Windows driver?

The answer is that either will work but with one main difference. If you select RS232 and the

е		
s:	Scanner 🔹	
e:	MyScanner	
	POS USB 🔹	
	RS232 Full Speed USB	
	POS USB	
	None 💌	

relevant com port, OPOS will expect the device to always be available on that port. If someone plugs the device into a different USB port, a different com port number will more than likely be assigned to the device.

By selecting POS-USB in the OPOS Administrator this scenario can be prevented. If the device cannot be found on the com port it was last found on, OPOS will look on other com ports for the device. Once found the new com port will be saved into the device profile in the registry.

Interface:	RS232	~
<u>C</u> OM Port:	COM1	~
<u>M</u> odel Number:	COM15 COM16	~
Sc <u>a</u> le:	COM17 COM18	
	COM19	
	COM20	
	COM21	~

When you have completed the new profile click the 'Save' button to create the necessary Windows registry OPOS profile settings. If you selected POS-USB as the interface you will see the following message. Click OK to continue.



You can view the created profile by opening the registry and looking for the following (see the registry path/location ringed in the screenshot below). To open the registry click the Windows 'Start' button, select 'Run', type 'Regedit' into the prompt and click OK.

A IserviceOPOS		Name	Type	Data
D- 📙 Scale		(Default)	REG SZ	Metrolog
🛛 - 📜 Scanner		ab Allow Control Characters	REG SZ	0
		ab Description	REG SZ	Honevwe
		ab Display	REG SZ	0
		ab Model	REG SZ	Focus/169
		ab ScaleType	REG SZ	0
Generic		A Scanner Version	REG SZ	3
GenesisVR		ab Service	REG SZ	MetroSO.
Honevwell		ab Version	REG SZ	1.0.1.30
		(WeightUnit	REG SZ	0
UScanner				
Stratos2300				
Voyager				
Xenon/We	=			
Policies				
POSfor.NET				
- RegisteredApplications				
Research In Motion				
⊳ 🦺 RICOH				
▷ - L SafeBoot International				
D - L Samsung	*	< III		

Expand the folder view until you reach the scanner profile you created.

An OPOS application or the MetrOPOS test utilities will use the information in this registry profile when establishing a connection to the scanner. Providing the scanner always conforms to the profile, the scanner should always communicate with the host application correctly.

# Testing the connection.

MetrOPOS Administrator provides tools for testing the connection which utilise the same function calls that will be used in all OPOS based applications.

There are two test utilities available in MetrOPOS

'Simple test' combines a number of operations into two button presses – 'Begin Test and 'End Test'

'Detailed test' provides a more comprehensive set of commands to trigger individual operations each of which is testing a particular OPOS programming function call.

#### Simple Test.



Simply select the required scanner profile and click the 'Begin Test' button and scan a sample bar code.

The data should appear in blue along with the code type.

When testing is complete click the 'End Test' button.

### **Detailed test**

H MetrOPOS™ Administrator Configuration Utility v2.2.1.4			
File Device Help			
	New Profile		Modify Profile
Simple Test		Detailed Test	Device Information
Detailed Test	-		
Device Scanne	r 🔹	Result Closed (	101)
Profile MyScar	nner 🔹	State: Closed (	1)
Open Open Conce	Claim Enable elease Oisable	Clear Input	Retrieve Statistics Retrieve
Decode Data	Data Count:		
🗹 Data Event	Scan Data		
Always Enable	Scan Data:		
Auto-Disable	Scan Data		
E Fvents Frozen	Scan Data		
Logging None	-		Honeywe
None	-		

Select the 'Detailed Test' tab. Select the scanner profile and click the Open, Claim & Enable buttons in that order.

The 'Result' field should say 'Success' and the 'State' field should say 'Idle'.

Tick the boxes for 'Decode Data', 'Data Event' and 'Always Enable' and the scan a sample barcode. The data should appear as shown below in ASCII and hex formats and should include the barcode type details.

H MetrOPOS™	Administrator C	Configuration Utility v	2.2.1.4				? ×
File Device	Help						
	Ne	w Profile			Mc	odify Profile	
Se .	Simple Test	<b>*</b>	Detaile	ed Test		Device Informati	on
Detailed 1	ſest		2				
Device	Scanner	•	Result	Succe	ss (0)		
Profile	MyScanne	er 🔹	State:	Idle (	2)		
Open	Clai	m Enable		Direct I/O Clear Input	Retrieve Statistics	Retrieve	
Decode	Data	Data Count:	0				
🗹 Data Eve	ent	Scan Data	EAN	I/JAN 13	(104)		
🗹 Alwavs I	Fnable	Scan Data:	501	2594440	037		
Auto-Dis	sable	Scan Data	501	2594440	037		
Events F	rozen	Scan Data	53 4	18 49 50	53 57 52	52 52 48	
Loaaina	None	•			He	oneyw	e

When testing is complete, click the 'Disable', 'Release' & 'Close' buttons to close the OPOS connection.

Providing you have followed the setup steps provided in this document, the above tests should be successful.

Note: A successful setup and test with the OPOS administrator does not guarantee success when connecting with the customer's application but failure here will certainly result in failure further forward.

## **OPOS Diagnostics and Troubleshooting.**

To assist with OPOS diagnostics troubleshooting, there is a logging facility which can be enabled in the OPOS Administrator.

This is a hidden feature which requires a command line switch '-l' adding to the shortcut path as shown here.

	_
Function Data	*
	Function Data

When you re-open the Administrator program an additional drop down box at the foot of the screen will allow selection of different logging levels. 'Function Data' will provide the most verbosity in the log.



AetrOPOS M Administrator Properties 🛛 🛛 🔀					
General Shorto	ut Compatibility Security				
J. M	MetrOPOS <sup>**</sup> Administrator				
Target type:	Target type: Application				
Target:	ty\MetrOPOS <sup>***</sup> Administrator\OPOSAdmin.exe <sup>**</sup> •				
<u>S</u> tart in:					
Shortcut <u>k</u> ey:	None				
<u>B</u> un:	Normal window				
Comment:					
	OK Cancel Apply				

Log files will be saved in the location where your shortcut resides so if it's on the desktop that's where your file will be created.

📕 MetrOpos2, log - Notepad		
<u>File E</u> dit Format ⊻iew <u>H</u> elp		
03/25/2010 08:00:44:503 03/25/2010 08:00:44:503 03/25/2010 08:00:44:503 03/25/2010 08:00:44:503 03/25/2010 08:00:44:503 03/25/2010 08:00:44:503 03/25/2010 08:00:44:503 03/25/2010 08:00:44:503 03/25/2010 08:00:44:519 03/25/2010 08:00:44:519 03/25/2010 08:00:44:519 03/25/2010 08:00:44:519 03/25/2010 08:00:44:519 03/25/2010 08:00:44:519	3 CSCanner 4 CSCanner 4 CSCanner 4 CSCanner 5 CSCanner 4 CSCanner 5 CSCanner 4 CSCanner 5 CIbmUsbComm 4 CIbmUsbComm 4 CIbmUsbComm 4 CIbmUsbComm 4 CIbmUsbComm 4 CIbmUsbComm 4 CIbmUsbComm 5 CIbmUsbComm 5 CIbmUsbComm 5 CIbmUsbComm 5 CIbmUsbComm 5 CIbmUsbComm	<pre>&gt;&gt;&gt; OpenService   DeviceClass: Scanner DeviceName: Genesis_REM   ModelNumber: Genesis/7580   CommProtocol: IbmUsDProtocol &gt;&gt;&gt; UsDbeviceInfo::FindUsDbevice   DeviceType: 3   ModelNumber: Genesis/7580 &gt;&gt;&gt; UsDbeviceInfo::CheckDeviceType   DeviceName: \\\\hid#vid_Oc2e&amp;pid_0   ModelNumber: Genesis/7580   CheckDeviceType::DeviceCapabilities.   CheckDeviceType::VendorEnforcement i   CheckDeviceType::found Scanner! &lt;&lt;&lt; UsbbeviceInfo::CheckDeviceType</pre>

As a hidden feature, the logging feature should only be enabled by or under the supervision of an HSM representative.

To enable logging without using MetrOPOS Administrator, for example if testing an actual OPOS application, you can set a key in the registry.

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The LogVerbosity key controls the logging level and can be set with values of 0 to 4 which correspond to the logging levels available in the drop down list in OPOS Administrator. Setting 4 provides the most detailed logging and combines all the other levels.

Note: If you set the logging level in the registry and then open MetrOPOS Administrator without including the '-I' switch in the shortcut, the logging will be set back to '-1' which is the disabled state.

#### **Revision History**

Rev	Date	Changed by:	Details / Comments
V1.0	03/09/2011	Chris Ingram	Document created
V2.0	21/12/2011	Chris Ingram	Updated with more details