



Release Notes

Scanner SDK for Windows v3.6
October 2022

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Overview

The Zebra Scanner Software Developer Kit (SDK) for Windows providing a single programming interface across multiple programming languages (such as MS .NET, C++, Java) for all scanners communication variants (such as IBMHID, SNAPI, HIDKB, Nixdorf Mode B, etc.).

The Zebra Scanner SDK includes a suite of components that provides a unified software development framework.

The SDK installation package includes following components.

- Zebra Scanner SDK Core components and drivers (COM API, Imaging drivers)
- Scanner OPOS and JPOS Drivers
- Scale OPOS and JPOS Drivers
- TWAIN Imaging Driver



- Bluetooth support for Windows 7 and higher
- Remote Management Components
 - Scanner WMI Provider
 - Driver WMI Provider
- Web Link to latest Developer's Guide - Document(s) - <https://techdocs.zebra.com/dcs/scanners/sdk-windows/about/>
- Microsoft® Visual Studio Project Template for Zebra Scanner SDK
- Test & Sample utilities
 - Zebra Scanner SDK Sample Application (C++)
 - Zebra Scanner SDK Sample Application (Microsoft® C# .NET)
 - Scanner OPOS Driver Test Utility (C++)
 - Scale OPOS Driver Test Utility (C++)
 - Scanner/Scale JPOS Driver Test Utility (Java)
 - TWAIN Test Utility (C++)
 - Scanner WMI Provider Test Utility (Microsoft® C# .NET)
 - Driver WMI Provider Test Utility (Microsoft® C# .NET).
 - Web link to latest source codes for test & sample utilities - <https://github.com/zebra-technologies/Scanner-SDK-for-Windows>

With this SDK, you can read bar codes, manage scanner configurations, capture images/videos and selectively choose a list of scanners on which to work. While one application is in one programming language using a scanner or a set of scanners, another application in a different language can be used differently within the same system environment.

The SDK can build an application with complete control of its scanner's capabilities.

- Barcode data
 - Simulated HID Keyboard output
 - OPOS/JPOS output
 - SNAPI output
- Command and Control
 - LED and Beeper Control
 - Aim Control
- Imaging
 - Capture / Transfer of Images
 - View Video
 - Simultaneous capture barcode data and an image with one trigger pull using Intelligent Image Capture (IDC)
- Remote Scanner Management
 - Asset Tracking
 - Device Configuration (Get, Set and Store Scanner attributes)
 - Firmware Update
 - Scanner Communication Protocol Switching
 - Service to Automate Configuration / Firmware Upgrade Process

For the latest SDK updates, please visit [Zebra Scanner SDK](#)

For support, please visit <http://www.zebra.com/support>.



Device Compatibility

For the compatible devices list, please visit following page.

<https://www.zebra.com/us/en/support-downloads/software/developer-tools/scanner-sdk-for-windows.html>

Supported COM Protocols

SDK supported communication protocols include:

- IBM Table-Top USB
- IBM Hand-Held USB
- IBM OPOS - IBM Hand-held USB with Full Scan Disable
- HID Keyboard Emulation
- USB CDC Host
- Symbol Native API (SNAPI) with Imaging Interface
- Symbol Native API (SNAPI) without Imaging Interface
- Wincor-Nixdorf RS-232 Mode B
- Simple Serial Interface (SSI) over RS232
- Simple Serial Interface (SSI) over Bluetooth Classic

	Query Assets Information	Host Switching	Imaging and Video	Faster Firmware Update	Management and Firmware Update	Barcode	OPOS Driver	JPOS Driver
IBM Table-Top USB	X	X			X	X	X	X
IBM Hand-Held USB	X	X			X	X	X	X
IBM OPOS - IBM Hand-held USB with Full Scan Disable	X	X			X	X	X	X
HID Keyboard Emulation		X						
USB CDC Host		X						
Symbol Native API (SNAPI) with Imaging Interface	X	X	X	X	X	X	X	X
Symbol Native API (SNAPI) without Imaging Interface	X	X			X	X	X	X
Wincor-Nixdorf RS-232 Mode B						X	X	X



Simple Serial Interface (SSI) over RS232	X		X		X	X	X	X
Simple Serial Interface (SSI) over Bluetooth Classic	X		X		X	X	X	X
Simple Serial Interface (SSI) over Bluetooth Low-Energy (BLE)								
Simple Serial Interface (SSI) over MFI								

Version History

Version 3.06.0023 – 10/2022

1. Enhanced OPOS driver
 - a. Updated driver to meet newest GS1 specification: Scan Data Type displayed for GS1 Databar is now "SCAN_SDT_GS1DATABAR" and for GS1 Databar Expanded is now "SCAN_SDT_GS1DATABAR_E".
2. Enhanced JPOS driver
 - a. Enhanced driver to support NCR requested "HealthCheck" label IDs.
 - b. Bug fix – "Get Error Response" API now returns the correct error on Read Weight in Scale.
 - c. Bug fix - Deliver an error event with Error response, ER_CONTINUEINPUT, when all items of the queue are delivered and DataEvent is enabled.
 - d. Minor UI optimizations in the JPOS Sample Application for Windows.

Version 3.06.0022 – 08/2022

1. Windows 11 support added.
2. Enhanced JPOS driver,
 - a. Enhanced driver to support Freeze Events in JPOS Scale.
 - b. Bug fix - ReadWeight events now reported correctly when DataEventEnabled is false and LiveWeight is true.

Version 3.06.0021 – 06/2022

1. Enhanced JPOS driver
 - a. Bug fix – ReadWeight events now reported correctly when DataEventEnabled is false and LiveWeight is true.
 - b. Enhanced driver to support all NCR requested "ScanData" label IDs
2. Enhanced OPOS driver
 - a. Enhanced driver to support all NCR requested "ScanData" label IDs

Version 3.06.0018 – 04/2022

1. Bug fix – ScanData property now populating in OPOS Scanner driver when compatibility mode is enabled.
2. Bug fix – Barcode data now passing properly through the CoreScanner Diver when the scanners connected in serial (RS-232) Nixdorf Mode B.
3. Enhanced Toshiba Global Commerce Solutions (TGCS) POS system support



- a. OPOS driver enhanced to supports System Management information calls from TGCS POS systems
 - i. CoreScanner enhanced to support TGCS' UPOS WMI = "UPOS_BarcodeScanner" queries
- b. JPOS driver enhanced to support System Management Information calls from TGCS POS systems
 - i. CoreScanner enhanced to support TGCS' CIM Service Provider = "UPOS_BarcodeScanner" queries

Version 3.06.0015 – 01/2022

- 1. Logging Agent renamed "IoT Connector".
- 2. Enhanced JPOS driver
 - a. Updated Windows JPOS sample application to support smaller/lower resolutions monitors.
 - b. Fixed rarely seen JPOS statistics retrieval issue.

Version 3.06.0013 – 10/2021

- 1. Enhanced JPOS driver
 - a. Added support to execute DirectIO commands without claiming the device.
 - b. JPOS sample application enhancement to display the "Live Weight" and the logs on live weight status update events.
 - c. Enhanced logging in JPOS driver including access to barcode data, power state, scale weight, and what API calls have been made.
- 2. Enhanced Logging Agent capabilities
 - a. Added support for logging of operating system environment variables like "host PC name". The environmental variable check is performed real time on each logging occurrence
 - b. Added support for real time logging via a JSON call to cloud-based consoles like Splunk.

Version 3.06.0010 – 08/2021

- 1. Enhanced options associated with the OPOS driver's "ScanData" property. Option now exists to only display scanned data (without displaying the communication protocol specific details).
- 2. Enhanced logging in JPOS driver including access to barcode data, scale weight, and what API calls have been made.
- 3. Fixed statistics and health parameters reporting from the parent scanner device in a cascaded device setup.

Version 3.06.0006 – 04/2021

- 1. Enhanced JPOS driver.
 - a. Add support for "extended error codes" for NCRDIO_SCALE_LIVE_WEIGHT DirectIO command in JPOS.
 - b. Add support for JPOS Scale status responses.
- 2. Fixed JPOS Scale Open command to enable the "DeviceEnabled" property to execute.



3. Fixed JPOS DirectIO RESET command.
4. Fixed JPOS Scanner Not of File Direct IO Command.
5. Fixed JPOS Sample application, which now shows the scale weight value when DirectIO NCR_LIVE_WEIGHT command executes.
6. Fixed Scale OPOS crash issue when retrieving Check Health Text after executing Check Health command.

Version 3.06.0003 – 01/2021

1. OPOS and JPOS enhancements
 - a. Added support for Scanner DirectIO RESET command.
 - b. Added support for custom MP7000 scale result codes for ErrorOverWeight, ErrorUnderZero and ErrorSameWeight.
2. Enhanced Logging Agent capabilities
 - a. Log agent can now retrieve Host/PC name and IP address
 - b. "Scan Avoidance" functionality renamed to "Non-Decode Event"
 - c. The reporting interval can be customized. Set unique programming interval by attribute. Note a small interval (less than 30 seconds) may impact POS system performance.

Version 3.06.0002 – 10/2020

1. Updated Visual C++ redistributable package from 2017 to 2019. Note redistributable package for 2017 is no longer included with the SDK.
2. Add support for the scanner page motor action to the sample applications (C++ and C#).
3. JPOS driver update. Removed Apache Xerces XML parser dependency from the Zebra JPOS Service Object (SO).

Version 3.05.0005 – 07/2020

1. Logging Agent bundled with Windows SDK.
 - a. The Logging Agent allows a 3rd party management console, like Microsoft's SCCM, to track scanner information including the scanner's health by parsing a Logging Agent generated log file.
 - b. The Logging Agent will output a log file, one file per scanner/host.
 - c. The Logging Agent is configurable and can document one or all of the following information:
 - i. Asset information
 - ii. Statistics for example battery charge level or UPCs scanned
 - iii. Firmware failures and or firmware success
 - iv. Parameter value(s) changed. Achieved by tracking parameter 616 (config file name changed to "Modified")
 - v. Scanned barcode data (all scanned items)
 - vi. Scan avoidance for MP7000
 - d. The logging agent can have its output stored locally on its host PC or output to a network shared folder.
2. Added support for Data Parsing (supports UDI, GS1 Label Parsing and Blood Bag) symbology to sample applications (C++ and C#).



3. Added support for CDC switching on SDK sample applications (C++ and C#).
4. OPOS Scanner/Scale CCO update from version 1.14 to version 1.14.1.

Version 3.05.0003 – 04/2020

1. For NCR based retail POS customers- Added support for NCR Direct I/O command in OPOS and JPOS drivers (Scanner and Scale).
2. Faster wireless firmware update for select scanners over the Bluetooth Classic communication protocol. See 123Scan's release notes per scanner for product support details.
3. OPOS driver updated to comply with all Symbologies specified in the OPOS 1.14 specification.
4. JPOS driver update. JPOS driver now uses a common code base with the more mature Linux JPOS driver.
5. JPOS driver operation now also validated on OpenJDK 11, in addition to existing validation on the Oracle JDK.
6. Updated the version of Visual C++ redistributable package from 2012 to 2017. Note redistributable package for 2012 is no longer included with the SMS.
7. Removed Windows XP support.

Version 3.05.0001 – 01/2020

1. Enhanced the OPOS driver to comply with the OPOS 1.14 specification on supported Symbologies
2. JPOS Driver
 - a. Enhanced the JPOS driver to meet fully JPOS 1.14 specification compliance.
 - b. Enhanced JPOS demo app to display barcode data in HEX format.
 - c. Enhanced JPOS driver to support scanner configuration through a jpos.xml file.

Version 3.04.0011 – 10/2019

1. Fixed WMI agent enabling filtering of scanner(s) when the configuration name contained unreadable characters.
2. Fixed Windows 10 issue preventing scanner from returning barcode data in HIDKB mode after host PC logoff/logon or sleep mode event.
3. Fixed a conflict when CoreScanner installed and pairing Bluetooth devices by searching the host PC.

Version 3.04.0007 – 07/2019

1. Add support within OPOS driver for the following Symbologies: GS1 Data Matrix, QS1 QR and Grid Matrix.
2. Enhanced the C# demo application: Added a RFID tab with Scan Scan Write functionality.

Version 3.04.0002 – 04/2019

1. Added customizable logging module to CoreScanner. A user can now format the log file output to include parameters and layout from predefined options.



2. Simulated HID Keyboard output, now handles German by setting “Keyboard emulation/locale” to “Default”. Other languages supported include English and French.

Version 3.03.0016 - 02/2019

1. Fixed some bugs and improved stability in TWAIN driver.
2. Fixed an issue in Scanner WMI provider regarding firmware download events.
3. Fixed an issue with OPOS binary conversion.

Version 3.03.0013 – 11/2018

1. Fixed firmware update failure (low occurrence problem).
2. Updated SNAPI driver. It now includes a Microsoft signature.
3. Implemented Scale OPOS driver beep on good read weight. This is a custom feature implemented to address a customer issue which can be enable through Windows registry configurations.
4. Added support for NCR Direct IO command (DIO_NCR_SCAN_TONE)
5. Introduced support for barcodes encoded with Windows’ code pages like Russian and Korean.
6. Introduced registry entries
 - a. to control the value of the OPOS Power State property.
 - b. to configure scale behavior.
 - c. to configure Windows’ code pages.
7. Introduced support for the NCR direct I/O command to get the “Scale live weight” data.
8. Fixed a security vulnerability – Exe execution can no longer introduce a shell command injection via filename.
9. Fixed firmware update progress event missing issue with Scanner WMI provider.
10. Minor bug fixes.

Version 3.02.0000 – 08/2017

1. Updated JPOS sample application to demonstrate Direct I/O functionality.

Version 3.01.0000 – 09/2016

1. Bluetooth support for cordless scanners without a cradle on Windows 7, 8 and 10 using Microsoft’s Bluetooth stack.
2. OPOS support for “Not On File Beep” NCR capability.
3. Source codes of Sample Applications updated to support Microsoft Visual Studio 2010 and above.

Version 3.00.0000 – 03/2016

1. Rebranded Scanner SDK from Motorola to Zebra.
2. Supports Windows 10 (32 and 64 bit).

Version 2.06.0000 – 11/2015

1. Support for RFD8500 firmware update.



Version 2.05.0000 – 07/2015

1. Support for new MP6000 firmware features.
2. Stability enhancements.

Version 2.04.0000 – 08/2014

1. OPOS Direct IO support.
2. JPOS supports both 64bit and 32bit JVMs on 64bit platforms.
3. Added support for 32bit OPOS drivers on 64bit platforms.
4. Bug fixes.
5. Security enhancements to address potential security vulnerabilities.

Version 2.03.0000 – 05/2014

1. Driver ADF support.
2. MP6000 Scale Live Weight Event support.
3. Microsoft® Visual Studio Project Template provided for Zebra Scanner SDK.
4. Bug fixes.

Version 2.02.0000 – 12/2013

1. Supports Windows 8/8.1 (32 and 64 bit).
2. Bug fixes.

Version 2.01.0000 – 08/2013

1. Inter key delay feature in HID Keyboard emulation.
2. Bug fixes.

Version 2.00.0000 – 06/2013

1. Optimized log file operation.
2. IBM Table Top host interface support.
3. MP6000 scale commands added.
4. MP6000 scale support for OPOS and JPOS.
5. DWORD attribute support.
6. Unsolicited scanner events (Topology changes and Decode data) support (Scanner firmware support required).
7. Statistics support (Scanner firmware support required).

Version 1.02.0000 – 08/2012

1. Codeless scanner plug-n-play events added (Require Firmware update, check scanner PRGs for firmware support availability).
2. Simple Data Formatting feature added for emulated keyboard data.
3. TWAIN Custom capabilities added.
4. SNAPI scanner support added to Scanner WMI Provider.
5. Enhanced InstallShield with more custom installation options.
6. OPOS driver modified to support Multi-threaded apartment (in-proc/out-proc) POS applications (clients).
7. Host variant switching support added for scanners with NULL synapse buffer



Version 1.01.0000 – 03/2012

1. 64-bit Windows 7 support added.
2. TWAIN imaging interface supported.
3. USB-CDC Serial Emulation mode supported. Com protocol switching partially supported – able to programmatically switch into USB-CDC host mode but not exist.

Version 1.00.0000 – 07/2011

1. Supports Windows XP SP3 (32-bit) and Windows 7 (32-bit)
2. RSM 2.0 Scanner Support
3. SNAPI faster firmware download support
4. Programmatic Host Variant Switching support
5. HID Keyboard Emulation support for English and French language keyboards

Components

If the default install location is not changed, the components are installed in the following folders:

Component	Location
Common Components	%ProgramFiles%\Zebra Technologies\Barcode Scanners\Common
Scanner SDK	%ProgramFiles%\Zebra Technologies\Barcode Scanners\Scanner SDK
Scanner OPOS Driver	%ProgramFiles%\Zebra Technologies\Barcode Scanners\Scanner SDK\OPOS
Scanner JPOS Driver	%ProgramFiles%\Zebra Technologies\Barcode Scanners\Scanner SDK\JPOS
Scanner WMI Provider	%ProgramFiles%\Zebra Technologies\Barcode Scanners\Scanner SDK\WMI Provider Scanner
Driver WMI Provider	%ProgramFiles%\Zebra Technologies\Barcode Scanners\Scanner SDK\WMI Provider Driver
TWAIN Driver	%WinDir%\twain_32\Zebra – On 32/64bit version %WinDir%\twain_64\Zebra – On 64bit version

Component specific binaries, Sample applications, Sample Application source (code) projects will be installed under components base folders.

Installation

Installation of a new release replaces previous versions of Zebra Scanner SDK and common components.

Supported operating systems:



- Windows 10 32bit and 64bit

Microsoft .Net framework and/or Java JDK/JRE, will not be installed with this installation package. Users are advised to install both the components independently.

External Dependencies

1. C# .Net Sample Applications require .NET framework be available on the target computer.
2. JPOS requires JRE/JDK 1.6 or above to be available on the target computer.