

Java POS
(Java for Retail POS)

README FILE for the
Wincor Nixdorf JavaPOS Package



Java for Retail POS Moduls - Version 1.7 - <05-08-04>

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++ Some advises for this version ++
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General

This package contains the JavaPOS software for Wincor Nixdorf's POS peripheral devices.

The software package follows the standard **JavaPOS version 1.7**.

The software will be delivered for the operating systems

- **LINUX** (*RedHat 7.2,8 ,9 - others on project base*)
- **Windows NT** (*on project base*)
- **Windows 2000**
- **Windows XP**

The software consists of two levels:

- **Device Controls**

The Device Controls represent the hardware-independant level that allows the access of Java applications to the POS peripheral devices in a hardware-independant manner. The JavaPOS working group has defined device categories which classifies the peripheral devices. The working group has made available a reference implementation with source code as template for Device Controls. Therefore, Wincor Nixdorf has extended those Device Controls and offers in this package Controls for all twenty-one defined device classes:

- | | |
|--|---|
| <ul style="list-style-type: none">■ POSPrinter■ Scanner (optical readers)■ CashDrawer■ LineDisplay (display bars)■ POSKeyboard■ Keylock■ MSR (Magnetical Swipe Reader)■ MICR (MagneticInkCharacterRecognition)■ Hard Totals■ Scale■ Tone Indicator | <ul style="list-style-type: none">■ BumpBar■ FiscalPrinter■ Remote Order Display■ PinPad■ Credit Authorization Terminal (CAT)■ POSPower■ PointCardRW■ Signature Capture■ Coin Dispenser■ CashChanger |
|--|---|

The concept of JavaPOS is to support Device Services from different POS peripheral vendors with a common interface for the application. Therefore, also the Wincor Nixdorf package allows to support POS peripheral devices from other vendors: The vendor of such a POS peripheral device has only to deliver a Device Service that follows the standardized JavaPOS specification. You can use the Wincor Nixdorf JavaPOS Device Controls with their additional facilities to enable a JavaPOS application the access to such devices. Following the concept, no change in the application is necessary: only in the open() call of the Device Control another name is to transfer. Then, the other JavaPOS Device Service is loaded and the POS peripheral device of the other vendor can be used. The Wincor Nixdorf Device Controls contain additional [Trace](#) and Runtime [Diagnostic](#) facilities.

- **Device Services**

The Device Service represent the hardware-dependant software layer that transforms the individual properties of a POS peripheral device in a manner that those can be used by the hardware-independent Device Controls and can be made available for a Java application. This JavaPOS package contains Device Services for the most important POS peripheral devices of Wincor Nixdorf. Please look [here](#):

If a POS peripheral device should follow the JavaPOS standard the vendor of such a device has to make available a JavaPOS Device Service.

The configuration of JavaPOS Device Services is currently not standardized and is therefore vendor-specific. However, XML is recommended but property files are still supported in this package.

More information

JavaPOS working group <http://www.javapos.com>

[Wincor Nixdorf JavaPOS page](#)

Reference literature and reference software download

This is list of internet addresses from April 30th 2004. It may be possible that some of those addresses are no longer valid. In such cases it is helpful to search for the corresponding key words in the available search engine to find the new addresses.

#	name	INTERNET address
[1]	Documentation JavaPOS interface version 1.7	http://www.javapos.com/public.app.guide.7.html (in UML notation) http://www.javapos.com/public.app.guide.6.html (latest version in Java notation)
[2]	Java VM Version 1.3	http://java.sun.com/j2se/1.3.1 Here you can download the version of the Java VM for Windows as well as for Linux.
	Java VM Version 1.4	http://java.sun.com/j2se/1.4.2 Here you can download the version of the Java VM for Windows as well as for Linux.
[3]	Java Native Interface: Documentation	http://java.sun.com/j2se/1.4.2/docs/guide/jni/index.html
[4]	JavaVM Version 1.2 for LINUX (blackdown porting team)	http://www.blackdown.org/

Technical information

Technical prerequisites for JavaPOS software

The Wincor-Nixdorf JavaPOS Package prerequisites that some additional software modules are already installed on the system:

- **JavaVM (Java Virtuelle Maschine):**
This is a software module that interprets the byte code included in the JavaPOS software and makes a Java application running. Such Java Virtual Machines are offered from several vendors, for example Microsoft , SUN [2], Borland Inprise, Sybase, Symantec.
To let the Wincor Nixdorf JavaPOS package running it is necessary that the JavaVM follows the Java specification **JRE , Version >= 1.3** and that the so-called **Java Native Interface** is supported (**JNI**, [3]).

Additionally the following software modules are necessary. However, those are included in the Wincor Nixdorf JavaPOS package.

- **KBDClaimer:**
This is a software component which allows to access the POS keyboard with its sub-devices keylock and magnetical swipe reader on an operating system from Java code running in the Java virtual machine.
- **PortIO:**
This software component allows to access hardware ports from Java code running in the Java virtual machine. It is used for cash drawers when connected at the BEETLE port.
- **CommAPI:**
This software allows to access the serial ports (COM ports) from Java code running in the Java virtual machine.
- **USBHIDHelper:**
This module allows JavaPOS to access for so-called USB HID devices the OS dependant kernel code. Such USB HID devices are HID scanners and displays.
- **POSUSB:**
This module allows JavaPOS to access for other USB devices such as USB printers the OS dependant kernel code.
- **POSPower:**
This module allows JavaPOS to access for a UPS implementation (POSPower device) the lower level OS dependant code.

Overview about the software modules:



- **Prerequisites under Windows NT/2000/XP**

- **Hardware**

- Memory: >= 128 Megabytes
 - Harddisk: approx. 10 MB
 - Processor: at least 486-DX2 (50 MHz)

- **Software**

- Operating system Windows NT since version 4.0 service pack 3
 - Java Virtuelle Machine JRE >=1.3 of SUN (see [2])
 - Java Virtuelle Machine since JRE >=1.3 of SUN (see [2])

- **Prerequisites under Linux**

- **Hardware**

- Memory: >= 128 Megabytes
 - Harddisk: approx. 10 MB
 - Processor: at least 486-DX2 (50 MHz)

- **Software**

- Operating system, RedHat distribution version 7.2, kernel 2.4.7
 - Java Virtuelle Machine JRE >=1.3 of SUN (see [2])
 - Java Virtuelle Machine since JRE >=1.3 of SUN (see [2])
 - C Libraries: since glibc-2.2.4-13

Note: The reference test of the package has been done with SUN Java VM >=1.3. Usually other implementations of JavaVMs should also work and can be supported on project base.

Installation of JavaPOS package

Installation and files under Windows

Installation

If for Windows a self-extractor as EXE program is delivered (x stands for a build level):

WN-JavaPOS-1.7.x.exe

This program is to be called. A dialog box appears and you can enter the directory where the software should be installed. The directory

C:\RETAIL\Software\JavaPOS

is suggested. (*Note: You may change the installation directory but then additional entries in the property files need to be changed.*)

The software is installed automatically.

After appearing a DOS box where you have to confirm a few questions the installation is completed.

If for Windows a ZIP file is is delivered (x stands for a build level):

WN-JavaPOS-1.7.x.zip

You need to unzip the file in the directory

C:\RETAIL\Software

Then, call the file INSTALL.BAT in the directory

C:\RETAIL\Software\javapos

After appearing a DOS box where you have to confirm a few questions the installation is completed.

Some remarks to the JavaPOS software under Windows

- On the desktop or in the startmenu of the operating system some icons are registered. The software can be uninstalled by selecting the uninstall icon in the menu.
- The system driver **WN-PortIO** (RSSUPIO) can be installed and deinstalled optionally: If already a Wincor Nixdorf OPOS package is installed, the driver should not be installed with the JavaPOS package because when the JavaPOS package is deinstalled also the driver would be deinstalled and the OPOS package would not continue to work properly.
- The driver **WNPOSUSB.SYS** will not be installed automatically. However, this driver can be downloaded from Wincor Nixdorf internet pages. The driver is needed to support USB printers by JavaPOS.

Using the modules in a Java application

In the directory:

C:\RETAIL\Software\JavaPOS\bin

is a program "startjava". When calling "**startjava wntestxml2**" some sample programs appear and allow to test the defined peripherals. Look [here](#) for more information on the startjava tool.

Files

Under Windows the files as follows are installed (the directories are relative to the installation directory of the JavaPOS package; a blue entry means that those files need to be changed if another installation directory was selected):

All files are in the installation directory with one exception:

<WINDIR>\SYSTEM32\DRIVERS	Here are all Windows NT system drivers
RSSUPIO.SYS	System driver for port access under Windows NT
WNPOSUSB.SYS	System driver for accessing POSPrinters connected via USB (not part of this package; WNPOSUSB-Selfextracter needed)

Deinstallation

In the installation directory (default: C:\RETAIL\Software\JavaPOS) is a BATCH file

UNINSTALL.BAT

to be called. This uninstalls the JavaPOS package and you need to remove by hand the directory C:\RETAIL\Software\JavaPOS.

Another possibility is to select the **Uninstall Icon** under the menu "Wincor Nixdorf JavaPOS" in the start menu. Also then, you may remove by hand the directory C:\RETAIL\Software\JavaPOS.

Installation and Files under Linux

Installation

To allow a successful installation of JavaPOS it must be ensured that the RPMpackage is installed on the system - which is usually the case.

For the Wincor Nixdorf JavaPOS Package under LINUX since version **1.5.8** a RPM file is delivered which can be installed with the tool **rpm**.

The name of the file is: WNJavaPOS-<version>-1.i486.rpm ; for example WNJavaPOS-1.5.8-1.i486.rpm. The first two digits specify the JavaPOS version to which the implementation follows. The third digit defines a build-level. A higher build-level indicates a newer software. The fourth digits is usually equal to one - but may be incremented if the package is an update package.

Call (example):

```
rpm -i WNJavaPOS-1.7.x-x.i486.rpm
```

This command installs the JavaPOS software to the directory /usr/local/javapos/wn .

The package can be uninstalled with

```
rpm -e WNJavaPOS
```

Notes:

- If you only want to install the runtime-package without documentation you can use the option "**--excludedocs**".
Example for installation without documentation:
`rpm -i --excludedocs WNJavaPOS-1.5.8-1.i486.rpm`

NOTE:

If the package is delivered as ZIP file, then unextract the package in the directory `/usr/local/javapos` and just call there `./install.sh install`

Files

All files are located under `/usr/local/javapos/wn`.

Calling the Java Virtual Machine

As reference the Java Virtual Machine of SUN is used and the description of the calling options refers to this Virtual Machine.

To use the JavaPOS package in the Virtual Machine go into the directory **`/usr/local/javapos`** and just call **`./startjava wntestxml2`**. Look [here](#) for more information on the startjava tool.

Deinstallation

The package must be uninstalled with

```
rpm -e WNJavaPOS
```

NOTE:

If the package had been delivered as ZIP file, then go into the directory `/usr/local/javapos` and just call `./install.sh uninstall`
Then you may remove the whole tree by entering `rm -rf /usr/local/javapos`

Trace facility of JavaPOS modules

To support the Java application development the JavaPOS modules contain a Trace facility that can protocol all JavaPOS calls from the application and can be activated optionally. In the test phase and for searching for errors this can be helpful.

More information: [TraceContent.html](#)

Runtime Diagnostic of JavaPOS modules

The JavaPOS package supports runtime-diagnostic. The diagnostic protocols all errors which can occur in a live installation in the JavaPOS package or which are messages by the underlying hardware. Additionally it is possible to read this entries remote with an HTML browser. The runtime-diagnostic is implemented in the Wincor Nixdorf Device Controls. Therefore, they can also be used for JavaPOS Devices Services of other vendors.

More information: [DiagnosticContent.html](#)

