Star JavaPOS Driver

for mCollection

- *Software Manual* -

Rev. 1.0

Contents

Notice

- Windows is a registered trademark of Microsoft Corporation.
- Mac, MacOS, MacBook, iMac are trademarks of Apple Inc., registered in the U.S. and other countries.
- The Bluetooth® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc.
- Company and product names are trademarks or registered trademarks of their respective companies.
- Reproduction of any part of this documentation is prohibited.
- The contents of this documentation are subject to change without notice.
- We can assume no responsibility for any results which may come out of the usage instructed in this documentation.

1. Getting Started

Star JavaPOS driver offers full compliance with the JavaPOS Ver. 1.13.
This manual supports the following Star JavaPOS driver packages.

- starjavapos_mCollection_1.13.x*_windows_32bit.zip
- starjavapos_mCollection_1.13.x*_windows_64bit.zip
- starjavapos_mCollection_1.13.x*_linux_32bit.zip
- starjavapos_mCollection_1.13.x*_linux_64bit.zip
- starjavapos_mCollection_1.13.x*_mac.zip

* x : Version No.

This manual describes the setup procedures, specifications, and limitations of the Star JavaPOS driver, which is used to run Star mCollection printers and peripheral devices.

This manual is intended for developers who design application systems that use JavaPOS devices. The manual assumes that the reader is familiar with the following topics.

- General specifications of the JavaPOS 1.13.
- General specifications of the Star POS Printers.
- Java terminology and architecture.
- The host operating system.

◆ Target Model and Firmware Versions

Target Model	Printer F/W
MCP31LB, MCP31L	Ver 1.0 or later
MCP20, MCP20B	Ver 1.0 or later
MCP21LB	Ver 1.0 or later
POP10	Ver 1.0 or later

2. Operating Environment

2.1 Operating System

This software supports the following operating systems.

- Windows 10* 32-bit and 64-bit (except Windows 10 Mobile and Windows 10 IoT Core)
  Windows 8.1* 32-bit and 64-bit (except Windows RT 8.1)
  Windows 8 * 32-bit and 64-bit (except Windows RT)
  Windows 7 32-bit and 64-bit

  *** Limitation for Windows 8/8.1/**10

  - Windows UI (Modern UI) do not support.

- Linux 32-bit and 64-bit*

  - Red Hat Enterprise Linux
  - openSUSE
  - Fedora
  - ubuntu
  - CentOS

  ***The latest evaluation environment, please check the readme_en.txt .**

- macOS 10.13
  macOS 10.12
  Mac OS X 10.11
  Mac OS X 10.9

2.2 Java Operation Environment

This driver is compatible with Java Runtime Environment (JRE) Ver. 1.4.2 and later, but we recommend that you use Java Runtime Environment (JRE) Ver. 1.5 or later.

On Windows OS, set the PATH variable if you want to be able to conveniently run the JDK executables (javac.exe, java.exe, javadoc.exe, etc.) from any directory without having to type the full path of the command. To set the PATH permanently, add the full path of the following directory to the PATH variable.

<JDK installation directory>\bin

Example: C:\Program Files\Java\jdk1.6.0_18\bin

2.3 Supported Models

The driver supports the operating systems and interfaces listed below.

Models	Linux OS	Windows OS	Mac OS
MCP31LB (MCP31)	USB / Ethernet / Bluetooth[*1]	USB / Ethernet / Bluetooth[*1]	USB / Ethernet / Bluetooth[*1]
MCP31L (MCP31)	USB / Ethernet	USB / Ethernet	USB / Ethernet
MCP20 (MCP20)	USB / Ethernet	USB / Ethernet	Ethernet
MCP20B (MCP20)	USB / Ethernet / Bluetooth[*1]	USB / Ethernet / Bluetooth[*1]	Ethernet / Bluetooth[*1]
MCP21LB (MCP21)	USB / Ethernet / Bluetooth[*1]	USB / Ethernet / Bluetooth[*1]	USB / Ethernet / Bluetooth[*1]
POP10	USB / Bluetooth[*1]	USB / Bluetooth[*1]	USB / Bluetooth[*1]

[*1] The communication of Bluetooth interface is "SPP".

3. Installation

Install the 32-bit or 64-bit driver, whichever is appropriate for your Java runtime environment.

1. Uncompress this package.
2. Files which are existed in unzipped package is able to put on a particular place.

Files : "class libraries(jar file)"
"file of JavaPOS driver settings (jpos.xml)"]
"files which are related to test application(java , gif, dll file(Windows), dylib file(Mac))"

* If do not need to put on particular place, be able to place files at same package)

* Library file(dll, dylib) needs to put on a folder which exists test application or a folder which is added path environment.

ex. Particular place :

<Windows>
jar file - "C:\Program Files\JavaPOS\lib"
xml, java, gif, dll - "C:\Program Files\JavaPOS\bin"

<Linux> <Mac>
jar file - "/usr/local/javapos/lib"
xml, java, gif, dylib(Mac) - "/usr/local/javapos/bin"

* (Only Linux) Need to install StarIO. Run "install.sh" which is in "StarIOPort_Install_x32(64)" folder of the unzipped package by administrator authority. Refer to readme.txt for detail.

On 64-bit operating systems, you can use either the 32-bit or the 64-bit Java runtime environment. Install the appropriate version of the Star JavaPOS driver for your Java runtime environment.

Example :

When using the 32-bit Java runtime environment on a 32-bit OS:	Use the 32-bit driver.
When using the 32-bit Java runtime environment on a 64-bit OS:	Use the 32-bit driver.
When using the 64-bit Java runtime environment on a 64-bit OS:	Use the 64-bit driver.

4. JavaPOS Driver Settings

The Star JavaPOS Driver uses the JCL - Java Configuration Loader system for configuring the provided services. The file jpos.xml contained in this package has been prepared with device entries for Star's printer products.
Refer to the followings and adjust jpos.xml to fit the environment of use.

The following is a setting example of MCP31POSPrinter and CashDrawer.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE JposEntries PUBLIC "-//JavaPOS//DTD//EN" "jpos/res/jcl.dtd">
<JposEntries>
<JposEntry logicalName="POSPrinter_windows_Bluetooth">

<creation factoryClass="com.starmicronics.starjavapos.ServiceInstanceFactory"
serviceClass="com.starmicronics.starjavapos.POSPrinterService" />
<vendor name="Star Micronics" url="www.star-m.jp/eng/index.htm" />
<jpos category="POSPrinter" version="1.13" />
<product description="Star receipt printer">
name="Star Micronics POSPrinter controller"
url="www.star-m.jp/eng/index.htm" />

<prop name="model" type="String" value="MCP31" />                 ... ①
<prop name="portName" type="String" value="BT:COM10" />           ... ②
<prop name="portSettings" type="String" value="" />               ... ③
<prop name="ioTimeoutMillis" type="Integer" value="5000" />       ... ④

</JposEntry>

<JposEntry logicalName="CashDrawer_Windows_Bluetooth">

<creation factoryClass="com.starmicronics.starjavapos.ServiceInstanceFactory"
serviceClass="com.starmicronics.starjavapos.CashDrawerService" />
<vendor name="Star Micronics" url="www.star-m.jp/eng/index.htm" />
<jpos category="CashDrawer" version="1.13" />
<product description="Printer controlled cash drawer"
name="Star Micronics cash drawer controller"
url="www.star-m.jp/eng/index.htm" />

<prop name="portName" type="String" value="BT:COM10" />
<prop name="portSettings" type="String" value="" />
<prop name="capStatus" type="Boolean" value="True" />
<prop name="signalLevelHighWhenDrawerOpen" type="Boolean" value="True" />

</JposEntry>
</JposEntries>
```

4.1 Common Settings

Enter the following settings according to the connection method of your device.

■ Model Name Setting ... ①

ex.
```
<prop name="model" type="String" value="MCP31" />
```

Please input the appropriate model name which you would like to use.
Supported model names are as following.

MCP31, MCP20, MCP21, POP10

Note: You do not have to enter this property on cash drawer devices.

■ Port Name / Port Settings ... ②

ex.
```
<prop name="portName" type="String" value="usbprn:Star MCP31" />
<prop name="portSettings" type="String" value="" />
```

Enter the printer's port name and port settings that are appropriate for your operating system and interface.

【USB - Printer Class】

[portName]

Two different port name parameter forms are accepted.

1. Do not specify the port name
2. Specifying USB serial number ***Windows not supported**

The "1." is useful when you are using only one printer and your printer does not have a USB serial number set (which is the default setting). The "2." is useful when you are using multiple printers.

1. Do not specify the port name

<Windows>

The port name parameter is formed by combining "usbprn:" with your printer's Windows printer queue name. For the sample program attached, the printer queue name was created with 1 byte character however, two byte characters also can be used.

For example, when you want to specify a Windows queue name as "Star MCP31", you may create it as:

```
"usbprn:Star MCP31"
```

<Linux> <Mac>

The port name parameter is formed by combining "usbprn:" with your printer's model name.

For example, when you want to specify a model name as "MCP31", you may create it as:

```
"usbprn:MCP31"
```

2. Specifying USB serial number * Windows not supported.

"usbprn:XXXXXXXX"

"usbprn:" causes StarIO to open the printer with the serial number you've specified.

This is useful in two scenarios:

- To avoid new ports being created when the printer is connected to the computer's different USB ports.
- When you have multiple printers connected simultaneously, your printer can be identified.

> ***Note:*** Star's printers do not have USB serial numbers configured from the factory default. You will have to write a serial number into the device in order to use this functionality.

[portSettings]

The port settings parameter must be an empty string.

【 Ethernet 】

[portName]

The port name parameter is formed by combining "TCP:" with your printer's IP address.

For example, if your printer is established on the 192.168.1.102 address then you would pass

"tcp:192.168.1.102"

[portSettings]

The port settings parameter must be an empty string.

【 Bluetooth 】

Pairing with the printer device in advance. Also after pairing, make sure that as following.

<Windows>

Make sure that is showed the ”Standard Serial over Bluetooth link (COM X)”(X is number) at “Computer”(right click) > manage > Device Manager > “Ports (COM & LPT)”.

<Linux>

At “Terminal”, perform the following command.

hcitool scan (Search a Bluetooth Device, Check a MAC Adress of a Bluetooth Device)

As administrator authority, run the following commands.

rfcomm –S bind X <Bluetooth Device MAC Adress>
(Create a device file which is “/dev/rfcommX”)
chmod u+x /dev/rfcommX
chown <Owner name> /dev/rfcommX

> There is the possibility of unintended printing occurring after pairing with the printer.
> This is caused by ModemManager. Disable it or take other suitable action.

<Mac>

At “Terminal”, perform the following command.

ls /dev/ | grep “tty\.”
(Check a device file which is /dev/tty.XXXXXXXX-SPP(XXX is string.))

[portName]

Refer to above for how to determine a COM number.

<Windows>

Specifying the port name like “BT:COM10” or ”BT:COM11”.

<Linux>

Specifying the rfcomm port name like “/dev/rfcommX”(X is number).

<Mac>

Specifying the port name like “/dev/tty.XXXXXXX”.

[portSettings]

The port settings parameter must be an empty string.

> **Notes about using Bluetooth (Linux only)**
>
> Many Linux operating systems require administrator privileges to use Bluetooth devices.
> If you are logged on as a user without administrator privileges, perform the following configuration, to access a Star Bluetooth device.
>
> **1.** Open the file *49-starusbprn.rules* that is in the JavaPOS driver folder, and enter the user name for the *OWNER* parameter.
>
> **2.** Place this file in the */etc/udev/rules.d* directory.
>
> ***Note :*** 1) You may need administrator privileges to access the directory.
> 2) RHEL and CentOS do not support this method for using USB devices.

■ Communications Timeout Setting ... ③

ex. <prop name="ioTimeoutMillis" type="Integer" value="5000" />

The value set here establishes a timeout period used to affect communications within this software. If you do not specify this property, its default value (5000 ms) takes effect.

Adjust Communications Timeout Setting depending on your environment and amount of printing data.

4.2 POS Printer Connection Settings

■ ETB Counter Setting

ex. <prop name="doCheckedBlockPrinting" type="Boolean" value="True" />

By setting this property to "True," you can check whether print data is sent properly to the printer. If you do not specify this property, its default value (True) takes effect.

■ 2-byte Characters Setting

ex. <prop name="DBCS" type="String" value="SJIS" />

Setting for when 2-byte characters are used. The following values are available.

SJIS , GB2312 , GB18030 , Big5, EUC_KR

* Depending on the printer model that you are using, enable the memory switch's 2-byte character set property.

* If the 2-byte character set is enabled, you cannot change the code page to any character set other than the one that you are using.

■ NV Logo Print Setting

ex. <prop name="useNVBitImage" type="Boolean" value="True" />

By setting this property to "True," you can use NV Logo printing by escape sequence (ESC|#B). If you do not specify this property, its default value (False) takes effect.

■ CodePage Setting

ex. <prop name="codePage" type="Integer" value="437" />

Setting for when codePage is used. The following values are available.

437,737,852,855,857,858,860,861,862,863,864,865,866,869,874,928,932,998,999,1250,1251,1252

4.3 CashDrawer Connection Settings

If you do not specify these items, the default value is valid.

■ Configuration - CashDrawer Circuit

ex.

```
<prop name="controlPrimaryDrawer" type="Boolean" value="True" />
```

You can set the Cash Draw Circuit you want to use. To use peripheral drive 1 for connecting the cash drawer, set this property to "True". To use peripheral device 2, set this property to "False". The default value is ”True”.

■ Configuration - On Pulse Width

ex.

```
<prop name="firePulseWidth" type="Long" value="200" />
```

This property controls how long the "On pulse" is fired for. The default value is "200" milliseconds.

* The pulse width for Peripheral Unit 2 is fixed at 200 milliseconds.

■ Configuration - Off Pulse Width

ex.

```
<prop name="sleepPulseWidth" type="Long" value="200" />
```

This property controls how long of a pause there will be between pulses. The default value is "200" milliseconds.

* The pulse width for Peripheral Unit 2 is fixed at 200 milliseconds.

■ Configuration - Drawer Status

ex.

```
<prop name="capStatus" type="Boolean" value="True" />
```

If your cash drawer supports status reporting, you may get the drawer open/closed status reports by setting the option to 'True'. The default value is "False".

* This feature is only valid when the cash drawer that you are using supports an open-close detector switch.

■ Configuration - Status Signal

ex.

```
<prop name="signalLevelHighWhenDrawerOpen" type="Boolean" value="True" />
```

Configure the status signal according to the specification of your cash drawer.

'True':	Open/Close detection SW set to High when the cash drawer is open.
'False':	Open/Close detection SW set to Low when the cash drawer is open.

The default value is "True".

5. Sample Program

The sample program is available in "StarReceiptTest.java", "StarSlipTest.java", "StarCashDrawerTest.java" and "StarMICRTest.java".

Use them as references for developing your applications.
The following is the reference of "StarReceiptTest.java" for the print test.

1. Open the "StarReceiptTest.java". Specify "location of jpos.xml" at "System.setProperty method". The "location of jpos.xml" is "Full(Relative) Path + jpos.xml" or "jpos.xml" (if jpos.xml and running application are in the same package).

   ex. Full Path :

   <Windows>
   "C:\Program Files\JavaPOS\bin\jpos.xml"

   <Linux> <Mac>
   "/usr/local/javapos/bin/jpos.xml"

<StarReceiptTest.java>

```
/*
 * If you want to place the jpos.xml file elsewhere on
 * system then uncomment the following line and specify
 * jpos.xml.
 *
 * If you want to place the jpos.xml file on a webserver for access over
 * the internet then uncomment the second System.setProperty line below
 * and specify the full URL to jpos.xml.
 */
System.setProperty(   JposPropertiesConst.JPOS_POPULATOR_FILE_PROP_NAME,  "jpos.xml");
```

"C:\Program Files\JavaPOS\bin\jpos.xml",
"/usr/local/javapos/bin/jpos.xml",
"../bin/jpos.xml",
"jpos.xml", etc...

2. Put the "logicalName" in "the jpos.xml" to the argument of "open method" in the "StarReceiptTest.java". Also "logicalName" can put any name.

<jpos.xml>

```
  <JposEntry logicalName="POSPrinter_windows_usb_printer_class">
    <creation factoryClass="com.starmicronics.starjavapos.ServiceInstanceFactory" serviceClass="
    <vendor name="Star Micronics" url="www.star-m.jp/eng/index.htm" />
```

<StarReceiptTest.java>

```
// open the printer object according to the entry names defined in jpos.xml
printer.open("POSPrinter_windows_usb_printer_class");
// claim exclusive usage of the printer object
printer.claim(1);
// enable the device for input and output
printer.setDeviceEnabled(true);
```

3. Save the StarReceiptTest.java. In Command Prompt(Terminal), run the following commands by administrator authority for checking a "sample receipt printing".

   *In this example, run the commands by administrator authority due to a place of directory.

   i) Change to the directory of running application.

   cd "Place of performing Java application"

   ii) The "javac" command compiles a "java file" and create a "class file".

   <Windows>

   javac –classpath .;jarFile1.jar;jarFile2.jar;...;jarFileN.jar StarReceiptTest.java

   <Linux><Mac>

   javac –classpath .:jarFile1.jar:jarFile2.jar:...:jarFileN.jar StarReceiptTest.java

   iii) The "java" command run the "class file".

   <Windows>

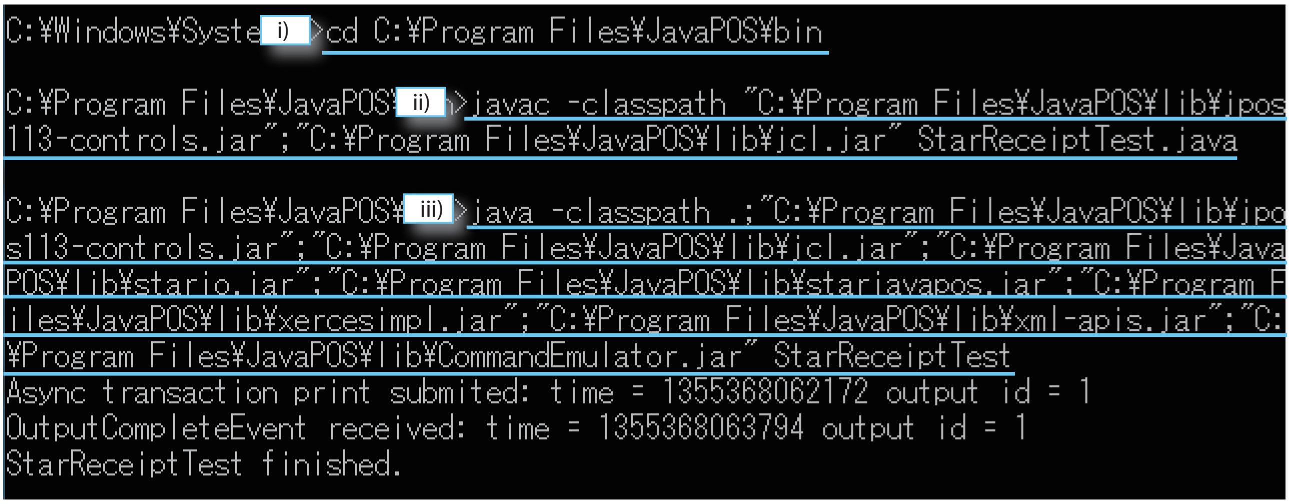
   java –classpath .;jarFile1.jar;jarFile2.jar;...;jarFileN.jar StarReceiptTest

   <Linux><Mac>

   java –classpath .:jarFile1.jar:jarFile2.jar:...:jarFileN.jar StarReceiptTest

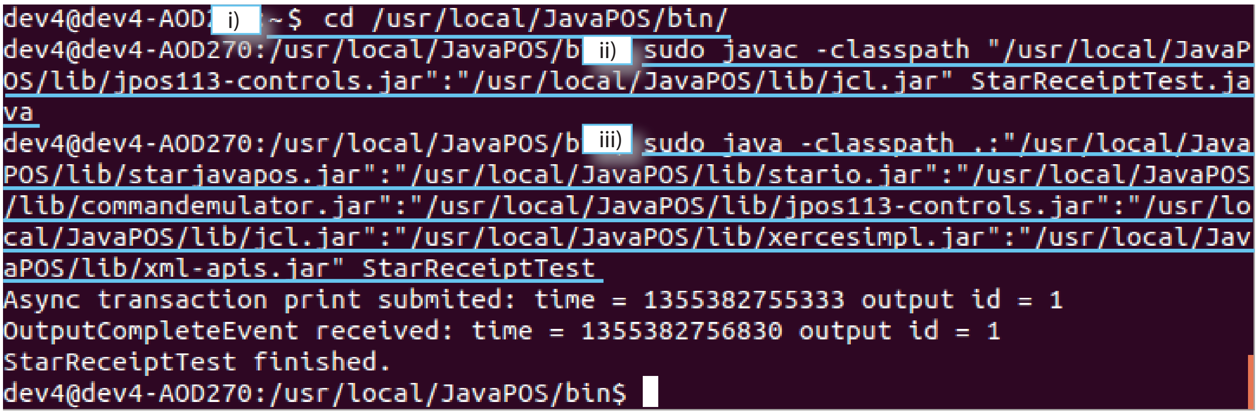
   *"jarFileN.jar" is "Full(Relative) Path + jar file name" or "jar file name".

   <Windows>



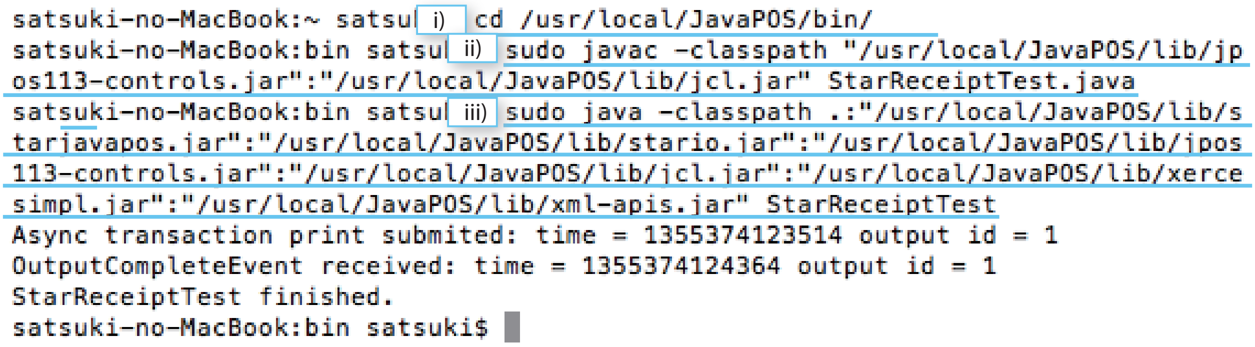
```
C:¥Windows¥Syste      >cd C:¥Program Files¥JavaPOS¥bin

C:¥Program Files¥JavaPOS¥     n>javac -classpath "C:¥Program Files¥JavaPOS¥lib¥jpos
113-controls.jar";"C:¥Program Files¥JavaPOS¥lib¥jcl.jar" StarReceiptTest.java

C:¥Program Files¥JavaPOS¥      >java -classpath .;"C:¥Program Files¥JavaPOS¥lib¥jpo
s113-controls.jar";"C:¥Program Files¥JavaPOS¥lib¥jcl.jar";"C:¥Program Files¥Java
POS¥lib¥stario.jar";"C:¥Program Files¥JavaPOS¥lib¥starjavapos.jar";"C:¥Program F
iles¥JavaPOS¥lib¥xercesimpl.jar";"C:¥Program Files¥JavaPOS¥lib¥xml-apis.jar";"C:
¥Program Files¥JavaPOS¥lib¥CommandEmulator.jar" StarReceiptTest
Async transaction print submited: time = 1355368062172 output id = 1
OutputCompleteEvent received: time = 1355368063794 output id = 1
StarReceiptTest finished.
```

<Linux>



```
dev4@dev4-AOD2 i) ~$ cd /usr/local/JavaPOS/bin/
dev4@dev4-AOD270:/usr/local/JavaPOS/b ii) sudo javac -classpath "/usr/local/JavaP
OS/lib/jpos113-controls.jar":"/usr/local/JavaPOS/lib/jcl.jar" StarReceiptTest.ja
va
dev4@dev4-AOD270:/usr/local/JavaPOS/b iii) sudo java -classpath .:"/usr/local/Java
POS/lib/starjavapos.jar":"/usr/local/JavaPOS/lib/stario.jar":"/usr/local/JavaPOS
/lib/commandemulator.jar":"/usr/local/JavaPOS/lib/jpos113-controls.jar":"/usr/lo
cal/JavaPOS/lib/jcl.jar":"/usr/local/JavaPOS/lib/xercesimpl.jar":"/usr/local/Jav
aPOS/lib/xml-apis.jar" StarReceiptTest
Async transaction print submited: time = 1355382755333 output id = 1
OutputCompleteEvent received: time = 1355382756830 output id = 1
StarReceiptTest finished.
dev4@dev4-AOD270:/usr/local/JavaPOS/bin$ █
```

<Mac>



```
satsuki-no-MacBook:~ satsu i) cd /usr/local/JavaPOS/bin/
satsuki-no-MacBook:bin satsu ii) sudo javac -classpath "/usr/local/JavaPOS/lib/jp
os113-controls.jar":"/usr/local/JavaPOS/lib/jcl.jar" StarReceiptTest.java
satsuki-no-MacBook:bin satsu iii) sudo java -classpath .:"/usr/local/JavaPOS/lib/s
tarjavapos.jar":"/usr/local/JavaPOS/lib/stario.jar":"/usr/local/JavaPOS/lib/jpos
113-controls.jar":"/usr/local/JavaPOS/lib/jcl.jar":"/usr/local/JavaPOS/lib/xerce
simpl.jar":"/usr/local/JavaPOS/lib/xml-apis.jar" StarReceiptTest
Async transaction print submited: time = 1355374123514 output id = 1
OutputCompleteEvent received: time = 1355374124364 output id = 1
StarReceiptTest finished.
satsuki-no-MacBook:bin satsuki$ █
```

*** About a "-classpath" option of "javac" or "java" command.**

At "-classpath", specify the required "jar files" to compile and run applications.
In addition to the above example, if there are in the same directory the "application executable file" (.class) and "jar files", can specify only "jar file name"(not need file path).

ex. Particular place :

<Windows>
jar file, xml, java, gif - "C:\Program Files\JavaPOS"

<Linux> <Mac>
jar file, xml, java, gif - "/usr/local/javapos"

Commands for a java application :

<Windows>

```
javac -classpath jpos113-controls.jar;jcl.jar StarReceiptTest.java
java -classpath .;starjavapos.jar;stario.jar;jpos113-controls.jar;
   jcl.jar;xercesimpl.jar;xml-apis.jar StarReceiptTest
```

<Linux>

```
javac -classpath jpos113-controls.jar:jcl.jar StarReceiptTest.java
java -classpath .:starjavapos.jar:stario.jar:commandemulator.jar:
   jpos113-controls.jar:jcl.jar:xercesimpl.jar:xml-apis.jar StarReceiptTest
```

<Mac>

```
javac -classpath jpos113-controls.jar:jcl.jar StarReceiptTest.java
java -classpath .:starjavapos.jar:stario.jar:jpos113-controls.jar:
   jcl.jar:xercesimpl.jar:xml-apis.jar StarReceiptTest
```

* About commands for running, if files are in the same folder, refer to the beginning of the StarReceiptTest.java.

6. Service Objects

The following tables list this driver's supporting status of JavaPOS service objects.
Please refer to the ***Java for Retail POS Programming Guide*** about the specifications of the Service Objects.

6.1 POS Printer

The Service Objects of POSPrinter is supported in StarPRNT Mode.

■ Properties

Property	Supporting status		Remarks
AutoDisable	-		Not applicable JavaPOS
CapCompareFirmwareVersion	○	FALSE	
CapPowerReporting	○		StarPRNT : JPOS_PR_ADVANCED
CapStatisticsReporting	○	FALSE	
CapUpdateFirmware	○	FALSE	
CapUpdateStatistics	○	FALSE	
CheckHealthText	○		
Claimed	○		
DataCount	-		Not applicable JavaPOS
DataEventEnabled	-		Not applicable JavaPOS
DeviceEnabled	○		
FreezeEvents	○		
OutputID	○		The initial value is zero. The value is incremented for every asynchronous output. The value range is 1 to 10000.
PowerNotify	○		
PowerState	○		
State	○		
DeviceControlDescription	○		
DeviceControlVersion	○	1013000	
DeviceServiceDescription	○	"Star Micronics JavaPOS POSPrinter Service Driver"	
DeviceServiceVersion	○	1013010	
PhysicalDeviceDescription	○	"Star Micronics ****** (Model Name)"	
PhysicalDeviceName	○	"Star Micronics single station thermal printer"	
CapCharacterSet	○	PTR_CCS_ASCII	
CapConcurrentJrnRec	○	FALSE	
CapConcurrentJrnSlp	○	FALSE	
CapConcurrentPageMode	○	FALSE	
CapConcurrentRecSlp	○	FALSE	
CapCoverSensor	○		
CapMapCharacterSet	○	FALSE	
CapTransaction	○	TRUE	
CapJrnPresent	○	FALSE	
CapJrn2Color	○	FALSE	
CapJrnBold	○	FALSE	
CapJrnDhigh	○	FALSE	
CapJrnDwide	○	FALSE	
CapJrnDwideDhigh	○	FALSE	
CapJrnEmptySensor	○	FALSE	
CapJrnItalic	○	FALSE	
CapJrnNearEndSensor	○	FALSE	

Property	Supporting status		Remarks
CapJrnUnderline	○	FALSE	
CapJrnCartridgeSensor	○	0	
CapJrnColor	○	0	
CapRecPresent	○	TRUE	
CapRec2Color	○	FALSE	
CapRecBarCode	○		
CapRecBitmap	○	TRUE	
CapRecBold	○	TRUE	
CapRecDhigh	○	TRUE	
CapRecDwide	○	TRUE	
CapRecDwideDhigh	○	TRUE	
CapRecEmptySensor	○	TRUE	
CapRecItalic	○	FALSE	
CapRecLeft90	○	FALSE	
CapRecNearEndSensor	○		Model dependence
CapRecPapercut	○	TRUE	
CapRecRight90	○	FALSE	
CapRecRotate180	○	TRUE	
CapRecStamp	○	FALSE	
CapRecUnderline	○	TRUE	
CapRecCartridgeSensor	○	0	
CapRecColor	○		Model dependence
CapRecMarkFeed	○	0	
CapRecPageMode	○	FALSE	
CapRecRuledLine	○	0	
CapSlpPresent	○	FALSE	
CapSlpFullslip	○	FALSE	
CapSlp2Color	○	FALSE	
CapSlpBarCode	○	FALSE	
CapSlpBitmap	○	FALSE	
CapSlpBold	○	FALSE	
CapSlpDhigh	○	FALSE	
CapSlpDwide	○	FALSE	
CapSlpDwideDhigh	○	FALSE	
CapSlpEmptySensor	○	FALSE	
CapSlpItalic	○	FALSE	
CapSlpLeft90	○	FALSE	
CapSlpNearEndSensor	○	FALSE	
CapSlpRight90	○	FALSE	
CapSlpRotate180	○	FALSE	
CapSlpUnderline	○	FALSE	
CapSlpBothSidesPrint	○	FALSE	
CapSlpCartridgeSensor	○	0	
CapSlpColor	○	0	
CapSlpPageMode	○	FALSE	
CapSlpRuledLine	○	0	
AsyncMode	○		
CartridgeNotify	○	PTR_CN_DISABLED	
CharacterSet	○		
CharacterSetList	○		
CoverOpen	○		

Property	Supporting status		Remarks
ErrorLevel	○	○	
ErrorStation	○	○	
ErrorString	○	○	
FontTypefaceList	○	""	
FlagWhenIdle	○	○	
MapCharacterSet	○	FALSE	
MapMode	○		
PageModeArea	○	""	
PageModeDescriptor	○	0	
PageModeHorizontalPosition	○	0	
PageModePrintArea	○	""	
PageModePrintDirection	○	0	
PageModeStation	○	0	
PageModeVerticalPosition	○	0	
RotateSpecial	○		
JrnLineChars	○	0	
JrnLineCharsList	○	""	
JrnLineHeight	○	0	
JrnLineSpacing	○	0	
JrnLineWidth	○	0	
JrnLetterQuality	○		
JrnEmpty	○	FALSE	
JrnNearEnd	○	FALSE	
JrnCartridgeState	○	PTR_CART_UNKNOWN	
JrnCurrentCartridge	○	0	
RecLineChars	○		
RecLineCharsList	○		
RecLineHeight	○		
RecLineSpacing	○		
RecLineWidth	○		
RecLetterQuality	○		
RecEmpty	○		
RecNearEnd	○		Model dependence
RecSidewaysMaxLines	○	0	
RecSidewaysMaxChars	○	0	
RecLinesToPaperCut	○		
RecBarCodeRotationList	○	0,180	
RecBitmapRotationList	○	0,180	
RecCartridgeState	○	PTR_CART_UNKNOWN	
RecCurrentCartridge	○	0	
SlpLineChars	○	0	
SlpLineCharsList	○	""	
SlpLineHeight	○	0	
SlpLineSpacing	○	0	
SlpLineWidth	○	0	
SlpLetterQuality	○		
SlpEmpty	○	FALSE	
SlpNearEnd	○	FALSE	
SlpSidewaysMaxLines	○	0	
SlpSidewaysMaxChars	○	0	
SlpMaxLines	○	0	

Property	Supporting status		Remarks
SlpLinesNearEndToEnd	○	0	
SlpBarCodeRotationList	○	""	
SlpBitmapRotationList	○	""	
SlpPrintSide	○	PTR_PS_UNKNOWN	
SlpCartridgeState	○	PTR_CART_UNKNOWN	
SlpCurrentCartridge	○	0	

■ Methods

Method	Supporting status		Remarks
Open	○		
Close	○		
Claim	○		
Release	○		
CheckHealth	○		
ClearInput	-		Not applicable JavaPOS
ClearInputProperties	-		Not applicable JavaPOS
ClearOutput	○		
CompareFirmwareVersion	×		
DirectIO	×		
ResetStatistics	×		
RetrieveStatistics	×		
UpdateFirmware	×		
UpdateStatistics	×		
PrintNormal	○		
PrintTwoNormal	×		
PrintImmediate	○		
BeginInsertion	○		
EndInsertion	○		
BeginRemoval	○		
EndRemoval	○		
CutPaper	○		
RotatePrint	○		
PrintBarCode	○		Refer to the following Note
PrintBitmap	○		
TransactionPrint	○		
ValidateData	○		
SetBitmap	○		
SetLogo	○		
ChangePrintSide	×		
MarkFeed	×		
ClearPrintArea	×		
PageModePrint	×		
PrintMemoryBitmap	×		
DrawRuledLine	×		

PrintBarCode Method Notes :

1） The symbology parameter can be set to the following values (supported barcodes).

PTR_BCS_UPCA, PTR_BCS_UPCE, PTR_BCS_JAN8, PTR_BCS_JAN13, PTR_BCS_ITF, PTR_BCS_Codabar, PTR_BCS_Code39, PTR_BCS_Code93, PTR_BCS_Code128, PTR_BCS_Code128_Parsed, PTR_BCS_QRCODE*, PTR_BCS_PDF417*

* For details on 2D codes, refer to **3).**

2) The height parameter can be set to the following values.

1 to 255 (When the MapMode property is set to PTR_MM_DOTS)

3) Parameter settings for 2D codes (QR code, PDF417).

ex.

printer.printBarCode(POSPrinterConst.PTR_S_RECEIPT, "http://StarMicronics.com", POSPrinterConst.PTR_BCS_QRCODE, 10 * 100, 60 * 100, POSPrinterConst.PTR_BC_CENTER, POSPrinterConst.PTR_BC_TEXT_BELOW);"

Settable parameters (*Symbology*)

QR code .... PTR_BCS_QRCODE

PDF417 .... PTR_BCS_PDF417

* When printing 2D codes, the *Height* , *Width* and *TextPosition* parameters are ignored.

For setting the parameters of 2D codes, include the following properties for jpos.xml.
If properties are not included, the printer driver will operate using the default command specifications.

<prop name="PDF417Line" type="Integer" value="0" />	Set PDF417 number of lines [0, 3 ～ 90]
<prop name="PDF417Column" type="Integer" value="0" />	Set PDF417 number of columns [0, 1 ～ 30]
<prop name="PDF417Ecc" type="Integer" value="1" />	Set PDF417 ECC (security level) [0 ～ 8]
<prop name="PDF417ModuleXdim" type="Integer" value="2" />	Set PDF417 module X direction size [1 ～ 10]
<prop name="PDF417Aspect" type="Integer" value="3" />	Set PDF417 module aspect ratio [1 ～ 10]

<prop name="QRCodeModel" type="Integer" value="2" />	Set QR code model [1, 2]
<prop name="QRCodeEcc" type="Integer" value="0" />	Set QR code mistake correction level [0 ～ 3]
<prop name="QRCodeCellSize" type="Integer" value="3" />	Set QR code cell size [1 ～ 8]

■ Events

Event	Supporting status		Remarks
DataEvent	-		Not applicable JavaPOS
DirectIOEvent	×		
ErrorEvent	○		
OutputCompleteEvent	○		
StatusUpdateEvent	○		

■ Escape Sequences

Escape Sequence		Supporting status	Remarks
ESC|[#]P	Paper cut	○	
ESC|[#]fP	Feed and paper cut	○	Valid only when this is performed at the beginning of a line
ESC|sP	Feed, Paper cut, and Stamp	×	
ESC|sL	Fire stamp	×	
ESC|#B	Print bitmap	○	Can use NV Logo Print (Refer to "4.2 POS Printer Connection Settings")
ESC|tL	Print top logo	○	
ESC|bL	Print bottom logo	○	
ESC|[#]lF	Feed lines	○	
ESC|[#]uF	Feed units	○	[#] can be set to the following values in unit of dots. StarLine Thermal Printer : 1 - 127 dots If any other value is set, ValidateData will return JPOS_E_ILLEGAL.
ESC|[#]rF	Feed reverse	△	Model dependence
ESC |#E	Pass through embedded data	○	
ESC |#R	Print in-line barcode	△	Model dependence
ESC|#dL	Print in-line ruled line	×	
ESC|#fT	Font typeface selection	×	
ESC|[!]bC	Bold	○	
ESC|[!][#]uC	Underline	○	
ESC|[!]iC	Italic	×	
ESC |[#]rC	Alternate color(Custom)	×	
ESC|[!]rvC	Reverse video	○	
ESC |[#]sC	Shading	×	
ESC |1C	Single high and wide	○	
ESC |2C	Double wide	○	
ESC |3C	Double high	○	
ESC |4C	Double high and wide	○	
ESC |#hC	Scale horizontally	○	Up to 6 times
ESC |#vC	Scale vertically	○	Up to 6 times
ESC |[#]fC	RGB Color	×	
ESC |[!]tbC	SubScript	×	
ESC |[!]tpC	SuperScript	×	
ESC |cA	Center	○	
ESC |rA	Right justify	○	If PTR_RP_ROTATE180 is set, the alignment will be reversed.
ESC |lA	Left justify	○	If PTR_RP_ROTATE180 is set, the alignment will be reversed.
ESC |[!][#]stC	Strike-through	×	
ESC |N	Normal	○	

6.2 Cash Drawer

The Service Objects of Cash Drawer is supported in StarPRNT Mode.

■ Properties

Property	Supporting status		Remarks
AutoDisable	-		Not applicable JavaPOS
CapCompareFirmwareVersion	○	FALSE	
CapPowerReporting	○		StarPRNT : OS_PR_ADVANCED
CapStatisticsReporting	○	FALSE	
CapUpdateFirmware	○	FALSE	
CapUpdateStatistics	○	FALSE	
CheckHealthText	○		
Claimed	○		
DataCount	-		Not applicable JavaPOS
DataEventEnabled	-		Not applicable JavaPOS
DeviceEnabled	○		
FreezeEvents	○		
OutputID	-		Not applicable JavaPOS
PowerNotify	○		
PowerState	○		
State	○		
DeviceControlDescription	○	"JavaPOS CashDrawer Device Control"	
DeviceControlVersion	○	1013000	
PhysicalDeviceServiceDescription	○	"Star Micronics JavaPOS CashDrawer Service Driver"	
DeviceServiceVersion	○	1013010	
PhysicalDeviceDescription	○	"Printer controlled cash drawer"	
PhysicalDeviceName	○	"Star Micronics Cash Drawer Controller"	
CapStatus	○		
CapStatusMultiDrawerDetect	○	FALSE	
DrawerOpened	○		

■ Methods

Method	Supporting status		Remarks
Open	○		
Close	○		
ClaimDevice	○		
Release	○		
CheckHealth	○		
ClearInput	-		Not applicable JavaPOS
ClearInputProperties	-		Not applicable JavaPOS
ClearOutput	-		Not applicable JavaPOS
CompareFirmwareVersion	×		
DirectIO	×		
ResetStatistics	×		
RetrieveStatistics	×		
UpdateFirmware	×		
UpdateStatistics	×		
OpenDrawer	○		
WaitForDrawerClose	○		

■ Events

Event	Supporting status		Remarks
DataEvent	-		Not applicable JavaPOS
DirectIOEvent	×		
ErrorEvent	-		Not applicable JavaPOS
OutputCompleteEvent	-		Not applicable JavaPOS
StatusUpdateEvent	○		

7. Version History

Rev. No.	Date of Revision	Changes
Rev. 1.0	Jun. 2018	First edition.

URL: http://www.starmicronics.com/support/