

**Star JavaPOS Driver**  
**for Portable Printer**  
**- *Software Manual* -**

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# 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\_portable\_1.13.x\*\_windows\_32bit.zip
- starjavapos\_portable\_1.13.x\*\_windows\_64bit.zip
- starjavapos\_portable\_1.13.x\*\_mac.zip                      \* x : Version No.

Star JavaPOS driver is an implementation of JavaPOS providing POSPrinter and CashDrawer services for all Star portable printer products. This software provides a Java class framework through which applications can easily interface with Star printers.

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

## ◆ This is software of StarPRNT emulation exclusive use.

To use the StarPRNT emulation, use the printer with "StarPRNT".

## ◆ Target Model and Firmware Versions

| Target Model | Printer F/W      |
|--------------|------------------|
| SM-L200      | Ver 1.0 or later |
| SM-S220i     | Ver 3.0 or later |
| SM-S230i     | Ver 1.0 or later |
| SM-T300i     | Ver 3.0 or later |
| SM-T400i     | Ver 3.0 or later |
| SAC10        | Ver 1.0 or later |

## ◆ Simple method of switching over between ESC/POS and StarPRNT emulation modes

1. Turn the printer power and open the printer cover.
2. Press and hold the POWER button and the FEED button simultaneously. As soon as the ERROR lamp flashes five times, release the buttons. The emulation switchover takes place automatically.
3. After setting a paper, close the printer cover. The set emulation mode is printed out.

ESC/POS mode: EMU = ESC/POS

StarPRNT mode: EMU = StarPRNT

If the emulation mode is not switched correctly, repeat the above steps 1 to 3.

At that time, in step 2, make sure not to release the buttons until the lamp completes the 5th flash.

4. Please reboot the printer after switching the emulation between StarPRNT and ESC/POS.

\*It will be valid after rebooting the printer.

## 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**
  - **Modern UI do not support.**
- Mac OS X 10.11 / 10.10 / 10.9 / 10.8 / 10.7

### 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              | Windows OS                                  | Mac OS                                      |
|---------------------|---------------------------------------------|---------------------------------------------|
| SM-L200             | USB <sup>*3</sup> / Bluetooth <sup>*1</sup> | USB <sup>*3</sup> / Bluetooth <sup>*1</sup> |
| SM-S220i            | Serial / Bluetooth <sup>*1</sup>            | Bluetooth <sup>*1</sup>                     |
| SM-S230i            | USB                                         | USB                                         |
| SM-T300i            | Serial / Bluetooth <sup>*1</sup>            | Bluetooth <sup>*1</sup>                     |
| SM-T400i            | Serial / Bluetooth <sup>*1</sup>            | Bluetooth <sup>*1</sup>                     |
| SAC10 <sup>*2</sup> | Ethernet / Bluetooth <sup>*1</sup>          | Ethernet / Bluetooth <sup>*1</sup>          |

<sup>\*1</sup> The communication of Bluetooth interface is "SPP".

<sup>\*2</sup> "SAC10" is Cashdrawer device.

<sup>\*3</sup> USB communication will be supported with firmware version 2.0 or later.

### 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"

<Mac>

jar file - "/usr/local/javapos/lib"

xml, java, gif, dylib(Mac) - "/usr/local/javapos/bin"

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 SM-S230i Portable Printer and SAC10 CashDrawer.

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

  <JposEntry logicalName="PortablePrinter_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="SM-S230i" />           ... 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_sac10_windows_ethernet">

    <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:COM11" />
    <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="SM-T300i" />`

Please input the appropriate model name which you would like to use.

Supported model names are as following.

SM-T300i(same as SM-T301i), SM-T400i(same as SM-T401i),

SM-S210i(same as SM-S214i), SM-S220i,

SM-S230i(same as SM-S234i), SM-L200(same as SM-L204)

**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="COM1" />`  
           `<prop name="portSettings" type="String" value="" />`

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

#### 【 Serial 】

##### [portName]

<Windows>

Specifying the serial port name like "COM1" or "COM2".

##### [portSettings]

These fields are assembled with 'baudRate', 'parity', 'dataBits', 'stopBits', 'flowControl'.

Each fields are a comma-separated string described with 'baudRate', 'parity', 'dataBits', 'stopBits', 'flowControl'.

( For example: "57600,n,8,1,x")

**Baud rates:**

This field can be one of: "115200", "57600", "38400", "19200", "9600".

**Parity:**

This field can be one of: "n", "e", "o".

n : For none.

e : For even.

o : For odd.

**Data bit :**

This field can be one of "7" or "8".

**Stop bit :**

This field is set to "1".

**FlowControl :**

This field can be one of: "n", "x" or "c".

n : For no flow control.

x : For software flow control (Xon/Xoff).

c : For hardware flow control.

\* Do not set ASB function to "Enabled". (Keep default setting "Disabled")

**【USB - Printer Class】**

- Set to "USB Printer Class mode" as follows when you use these models.

Setting Printer DIP SW1      DIPSW 1-5 = on ( Factory Default )

**[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 SM-S230i", you may create it as:

"usbprn:Star SM-S230i"

**<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 "SM-S230i", you may create it as:

"usbprn:SM-S230i"

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 】**

- Set to "Ethernet mode" as follows when you use "SAC10".

Setting the SAC10 DIP SW1    DIPSW 1-1 = on

**[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 】**

- Set to "Ethernet mode" as follows when you use "SAC10".

Setting the SAC10 DIP SW1    DIPSW 1-1 = off

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)".

<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".

<Mac>

Specifying the port name like "/dev/tty.XXXXXXXX".

**[portSettings]**

The port settings parameter must be an empty string.

### ■ 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**

- \* 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.

## 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. (\*1)

'False': Open/Close detection SW set to Low when the cash drawer is open. (\*2)

The default value is "True".

\*1) In "SAC10", set to "DIPSW 2-3 = on".

\*2) In "SAC10", set to "DIPSW 2-3 = off".

## 5. Sample Program

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

<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="PortablePrinter_windows_bluetooth">
  <creation factoryClass="com.star-micronics.star.javapos.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("PortablePrinter_windows_bluetooth");
// 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

<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

<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\System32> cd C:\Program Files\Java\POS\bin
C:\Program Files\Java\POS\bin> javac -classpath "C:\Program Files\Java\POS\lib\ipos113-controls.jar";"C:\Program Files\Java\POS\lib\jcl.jar" StarReceiptTest.java
C:\Program Files\Java\POS\bin> java -classpath .;"C:\Program Files\Java\POS\lib\ipos113-controls.jar";"C:\Program Files\Java\POS\lib\jcl.jar";"C:\Program Files\Java\POS\lib\stario.jar";"C:\Program Files\Java\POS\lib\stariavapos.jar";"C:\Program Files\Java\POS\lib\xercesimpl.jar";"C:\Program Files\Java\POS\lib\xml-apis.jar";"C:\Program Files\Java\POS\lib\CommandEmulator.jar" StarReceiptTest
Async transaction print submitted: time = 1355368062172 output id = 1
OutputCompleteEvent received: time = 1355368063794 output id = 1
StarReceiptTest finished.
```

<Mac>

```
satsuki-no-MacBook:~ satsu i) cd /usr/local/JavaPOS/bin/
satsuki-no-MacBook:bin satsu ii) sudo javac -classpath "/usr/local/JavaPOS/lib/jpos113-controls.jar":"/usr/local/JavaPOS/lib/jcl.jar" StarReceiptTest.java
satsuki-no-MacBook:bin satsu iii) sudo java -classpath .:"/usr/local/JavaPOS/lib/starjavapos.jar":"/usr/local/JavaPOS/lib/stario.jar":"/usr/local/JavaPOS/lib/jpos113-controls.jar":"/usr/local/JavaPOS/lib/jcl.jar":"/usr/local/JavaPOS/lib/xercesimpl.jar":"/usr/local/JavaPOS/lib/xml-apis.jar" StarReceiptTest
Async transaction print submitted: 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"

<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
```

<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      | ○                 | 1013008                                            |                                                                                                                   |
| 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       | <input type="radio"/> | FALSE           |                  |
| CapJrnCartridgeSensor | <input type="radio"/> | 0               |                  |
| CapJrnColor           | <input type="radio"/> | 0               |                  |
| CapRecPresent         | <input type="radio"/> | TRUE            |                  |
| CapRec2Color          | <input type="radio"/> |                 | Model dependence |
| CapRecBarCode         | <input type="radio"/> |                 |                  |
| CapRecBitmap          | <input type="radio"/> | TRUE            |                  |
| CapRecBold            | <input type="radio"/> | TRUE            |                  |
| CapRecDhigh           | <input type="radio"/> | TRUE            |                  |
| CapRecDwide           | <input type="radio"/> | TRUE            |                  |
| CapRecDwideDhigh      | <input type="radio"/> | TRUE            |                  |
| CapRecEmptySensor     | <input type="radio"/> | TRUE            |                  |
| CapRecItalic          | <input type="radio"/> | FALSE           |                  |
| CapRecLeft90          | <input type="radio"/> | FALSE           |                  |
| CapRecNearEndSensor   | <input type="radio"/> |                 | Model dependence |
| CapRecPapercut        | <input type="radio"/> |                 | Model dependence |
| CapRecRight90         | <input type="radio"/> | FALSE           |                  |
| CapRecRotate180       | <input type="radio"/> | TRUE            |                  |
| CapRecStamp           | <input type="radio"/> | FALSE           |                  |
| CapRecUnderline       | <input type="radio"/> | TRUE            |                  |
| CapRecCartridgeSensor | <input type="radio"/> | 0               |                  |
| CapRecColor           | <input type="radio"/> |                 | Model dependence |
| CapRecMarkFeed        | <input type="radio"/> | 0               |                  |
| CapRecPageMode        | <input type="radio"/> | FALSE           |                  |
| CapRecRuledLine       | <input type="radio"/> | 0               |                  |
| CapSlpPresent         | <input type="radio"/> | FALSE           |                  |
| CapSlpFullslip        | <input type="radio"/> | FALSE           |                  |
| CapSlp2Color          | <input type="radio"/> | FALSE           |                  |
| CapSlpBarCode         | <input type="radio"/> | FALSE           |                  |
| CapSlpBitmap          | <input type="radio"/> | FALSE           |                  |
| CapSlpBold            | <input type="radio"/> | FALSE           |                  |
| CapSlpDhigh           | <input type="radio"/> | FALSE           |                  |
| CapSlpDwide           | <input type="radio"/> | FALSE           |                  |
| CapSlpDwideDhigh      | <input type="radio"/> | FALSE           |                  |
| CapSlpEmptySensor     | <input type="radio"/> | FALSE           |                  |
| CapSlpItalic          | <input type="radio"/> | FALSE           |                  |
| CapSlpLeft90          | <input type="radio"/> | FALSE           |                  |
| CapSlpNearEndSensor   | <input type="radio"/> | FALSE           |                  |
| CapSlpRight90         | <input type="radio"/> | FALSE           |                  |
| CapSlpRotate180       | <input type="radio"/> | FALSE           |                  |
| CapSlpUnderline       | <input type="radio"/> | FALSE           |                  |
| CapSlpBothSidesPrint  | <input type="radio"/> | FALSE           |                  |
| CapSlpCartridgeSensor | <input type="radio"/> | 0               |                  |
| CapSlpColor           | <input type="radio"/> | 0               |                  |
| CapSlpPageMode        | <input type="radio"/> | FALSE           |                  |
| CapSlpRuledLine       | <input type="radio"/> | 0               |                  |
| AsyncMode             | <input type="radio"/> |                 |                  |
| CartridgeNotify       | <input type="radio"/> | PTR_CN_DISABLED |                  |
| CharacterSet          | <input type="radio"/> |                 |                  |
| CharacterSetList      | <input type="radio"/> |                 |                  |
| CoverOpen             | <input type="radio"/> |                 |                  |

| 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                   | ○                 | TRUE             |                  |
| 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   | <input type="radio"/> | 0                |         |
| SlpBarcodeRotationList | <input type="radio"/> | ""               |         |
| SlpBitmapRotationList  | <input type="radio"/> | ""               |         |
| SlpPrintSide           | <input type="radio"/> | PTR_PS_UNKNOWN   |         |
| SlpCartridgeState      | <input type="radio"/> | PTR_CART_UNKNOWN |         |
| SlpCurrentCartridge    | <input type="radio"/> | 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
- 2) The height parameter can be set to the following values.  
1 to 255 ( When the MapMode property is set to PTR\_MM\_DOTS )

## ■ 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<br>(Refer to "4.2 PortablePrinter Connection Settings")                                                                                             |
| ESC tL          | Print top logo             | ○                 |                                                                                                                                                                           |
| ESC bL          | Print bottom logo          | ○                 |                                                                                                                                                                           |
| ESC [#]IF       | Feed lines                 | ○                 |                                                                                                                                                                           |
| ESC [#]uF       | Feed units                 | ○                 | [#] can be set to the following values in unit of dots.<br>StarLine Thermal Printer : 1 - 127 dots<br>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 2 times                                                                                                                                                             |
| ESC #vC         | Scale vertically           | ○                 | Up to 2 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             | ○                 | 1013008                                            |                           |
| 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 | Mar. 2016        | First edition. |
|          |                  |                |
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