JavaPOS Software Package

JavaPOS Software Package

1 Introduction

JavaPOS ADK is developed based on UPOS1.14.1 specification. Users can develop applications that are compatible with UPOS1.14.1 specification with JavaPOS ADK.

Software package installation guide

Configuration tool usage

JavaPOS programming guide

2 Functions

This installing program applies to install JavaPOS software on user's computer;

The configuration tool applies for user's configuration of printer and cash drawer;

The programming guide applies to instruct the programmer to make new programs based on JavaPOS system.

3 Version information

JavaPOS software package version:V1.0

History record:

- Primary issue, support the T-40 printer with firmware V1.000.01 or higher version.

Date:2018-03-20

4 Operating system

Support the operation systems as below:

Windows XP (32bit,64bit)

Windows vista (32bit,64bit)

Windows 7 (32bit,64bit)

Windows 8.1 (32bit,64bit)

SUSE Linux Enterprise 11 SP2 (32bit,64bit)

SUSE Linux Enterprise 11 SP3 (32bit,64bit)

Fedora 14 (32bit,64bit)

Ubuntu 10.04.2 (32bit,64bit)

Ubuntu 12.04 (32bit,64bit)

5 Java Virtual Machine

Java2 Standard Edition 1.7.0 and higher

JPOS Installation Steps

1 Install Java

Java must be installed on your system before you can run the installer. This can be downloaded from http://www.oracle.com/technetwork/java/javase/downloads/index.html

Users : Install the Java Runtime Environment (JRE) (32-bit only).

Developers : Install the Java Development Environment (JDK) (32-bit only).

2 Configure your environment(Windows)

Configuring the environment on Windows is only necessary for application developers.

Some environment variables need to be set on Window for application development. Note that the exact procedure for setting these variables depends on the version of windows that is being used.

1. Select the "Control Panel" from the "Start" menu.

2. Select "Performance and Maintenance".

3. Select "System".

4. Select the "Advanced" tab.

5. Press the "Environment Variables" button.

6. Search for "Path" in "System variables".

7. Select "Path" and press the "Edit" button. The "Edit System Variable" dialog is displayed.

8. Add the following path to the "Variable value:" field:

   <Your jdk or jre install folder>/bin

   (s.g. "c:\jdk1.7.0_75\bin" or "c:\jre1.7.0_75\bin")

9. Press the "OK" button to close the "Edit System Variable" dialog.

10. Press the "OK" button to close the "Environment Variables" dialog.

11. Press the "OK" button to close the "System Properties" dialog.

If you open a new Command Prompt window, these setting will be applied. After the environment variables are set, the java version can be confirmed by typing the following in a Command Prompt window:

```
java -version
```

3 Configure your environment(Linux)

1. Type the following at the command prompt to change to you home directory:

```
cd $HOME
```

2. Append the following lines to your “.bash_profile” file if you installed the JRE:

```
JAVA_HOME=/usr/java/jre1.7.0_75
PATH=$JAVA_HOME/bin/:$PATH
export JAVA_HOME PATH
```

Append the following lines to your “.bash_profile” file if you installed the JDK:

```
export JAVA_HOME=/usr/java/jdk1.7.0_75
export PATH=$JAVA_HOME/bin:$PATH
export CLASSPATH=.:$JAVA_HOME/lib/dt.jar:$JAVA_HOME/lib/tools.jar
```

3. Save the file.

4. These settings will take effect next time you login.

5. Logout and login again. Type the following command to confirm the java version:

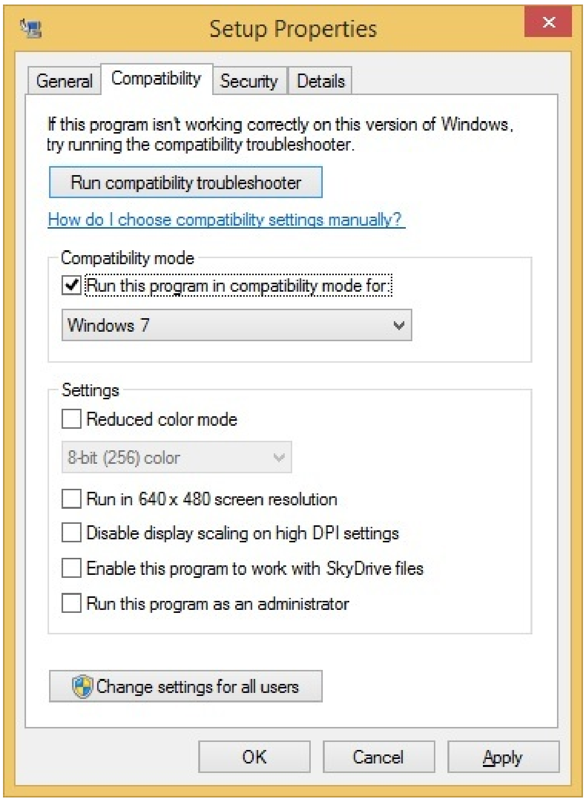
```
java –version
```

4 Installation(Windows)

Step 1: Save Setup.exe in a destination folder:

Step 2: Run Setup.exe shown as below:

In Windows 8.1, you should run Setup.exe as compatibility mode with Windows 7:


Setup Properties
General
Compatibility
Security
Details
Run compatibility troubleshooter
How do I choose compatibility settings manually?
Change settings for all users
OK
Cancel
Apply

If this program isn't working correctly on this version of Windows, try running the compatibility troubleshooter.

Compatibility mode

☑ Run this program in compatibility mode for:

Windows 7

Settings

□ Reduced color mode

8-bit (256) color

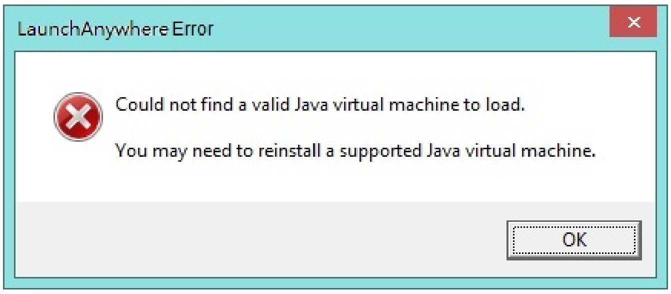
□ Run in 640 x 480 screen resolution

□ Disable display scaling on high DPI settings

□ Enable this program to work with SkyDrive files

□ Run this program as an administrator

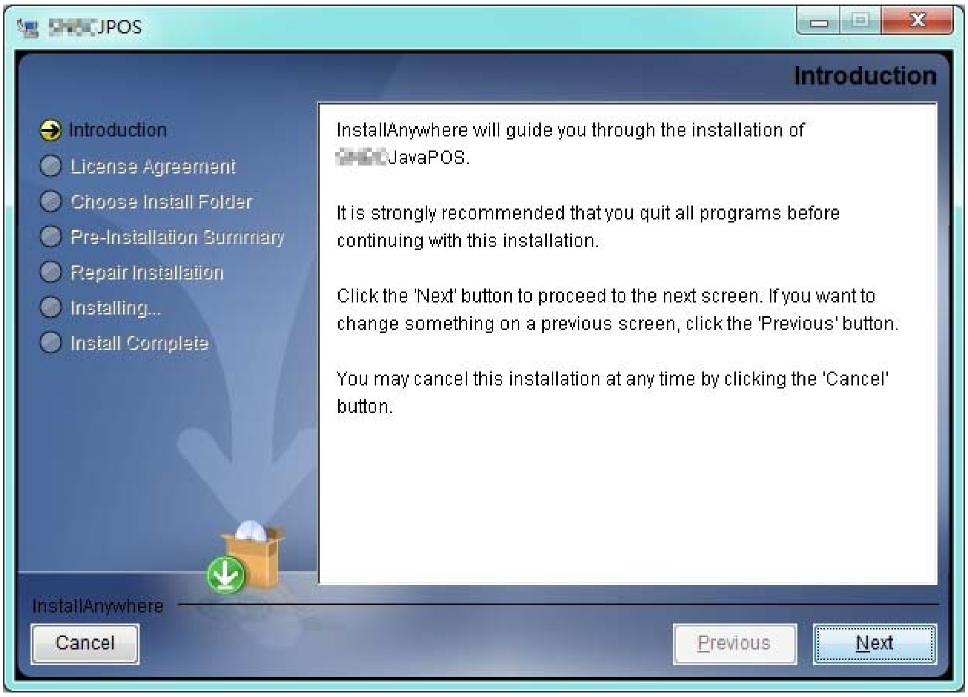
If there was no suitable JDK or JRE installed in your system, the error string will show in the terminal as follows:



Could not find a valid Java virtual machine to load.

You may need to reinstall a supported Java virtual machine.

Otherwise, the dialog will shown as follows:



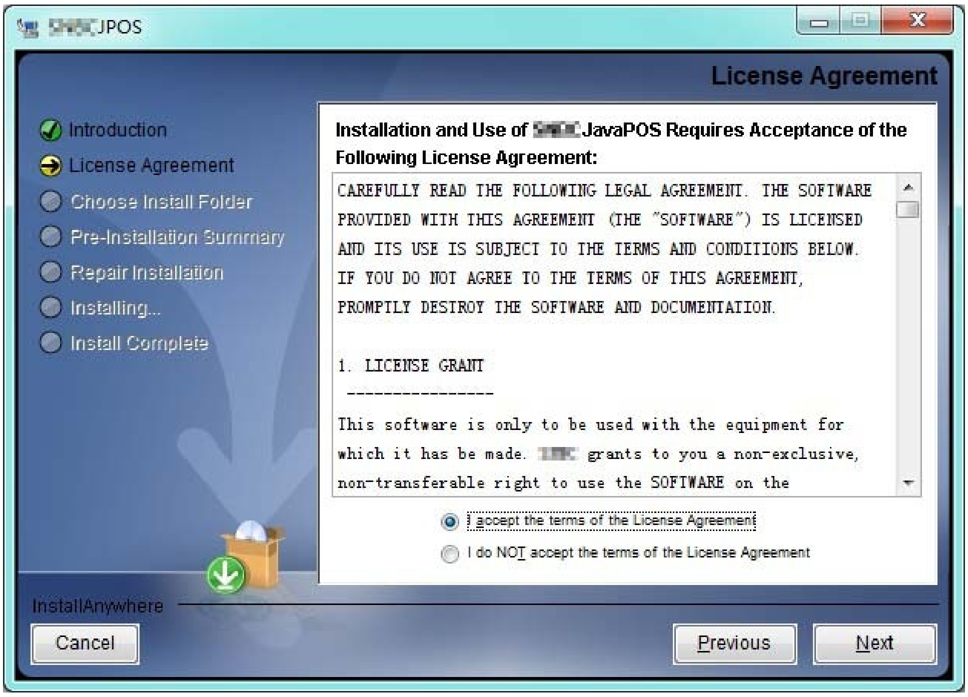
InstallAnywhere will guide you through the installation of [redacted]JavaPOS.

It is strongly recommended that you quit all programs before continuing with this installation.

Click the 'Next' button to proceed to the next screen. If you want to change something on a previous screen, click the 'Previous' button.

You may cancel this installation at any time by clicking the 'Cancel' button.

Click "Next";



Installation and Use of [redacted]JavaPOS Requires Acceptance of the Following License Agreement:

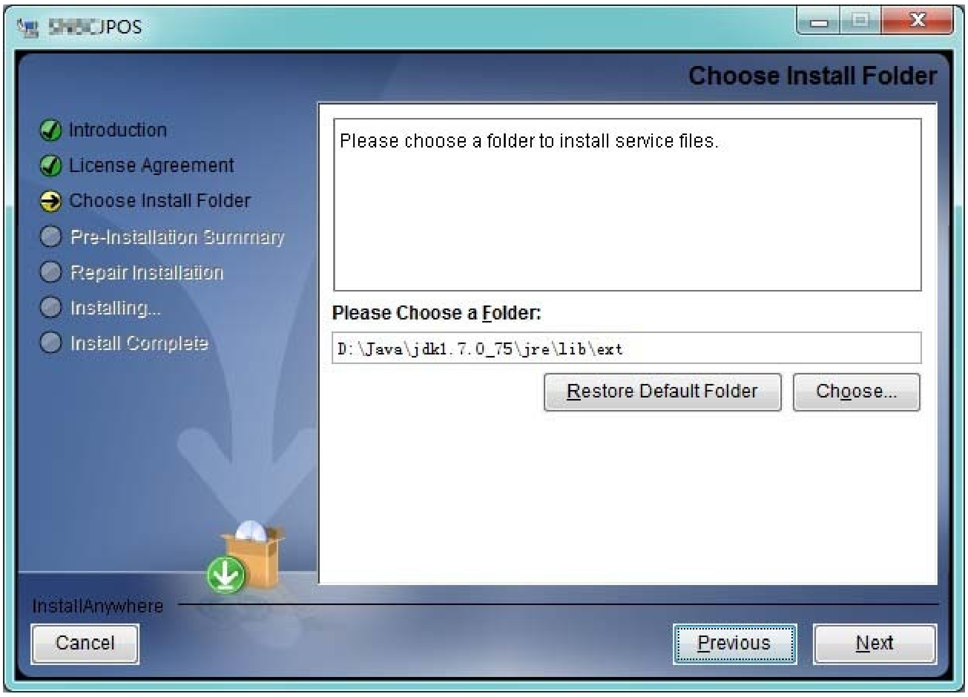
```
CAREFULLY READ THE FOLLOWING LEGAL AGREEMENT. THE SOFTWARE
PROVIDED WITH THIS AGREEMENT (THE "SOFTWARE") IS LICENSED
AND ITS USE IS SUBJECT TO THE TERMS AND CONDITIONS BELOW.
IF YOU DO NOT AGREE TO THE TERMS OF THIS AGREEMENT,
PROMPTLY DESTROY THE SOFTWARE AND DOCUMENTATION.

1. LICENSE GRANT
 ----------------
This software is only to be used with the equipment for
which it has be made. [redacted] grants to you a non-exclusive,
non-transferable right to use the SOFTWARE on the
```

● I accept the terms of the License Agreement

○ I do NOT accept the terms of the License Agreement

Read the license agreement of JavaPOS installation carefully. If you accept it, please click "I accept the terms of the License Agreement", click "Next";



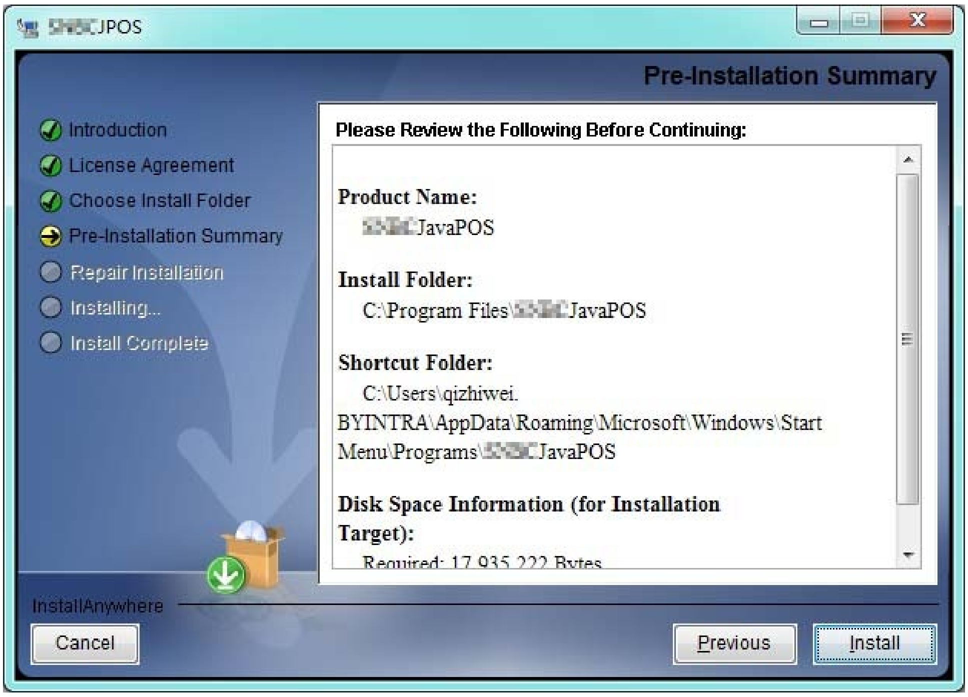
Choose Install Folder

Please choose a folder to install service files.

Please Choose a Folder:

```
D:\Java\jdk1.7.0_75\jre\lib\ext
```

Click "Choose..." button and set the access of JavaPOS software to be installed, but the install path can not contain the spaces and Chinese character, then click "Next" according to the interface prompt;



Pre-Installation Summary

Please Review the Following Before Continuing:

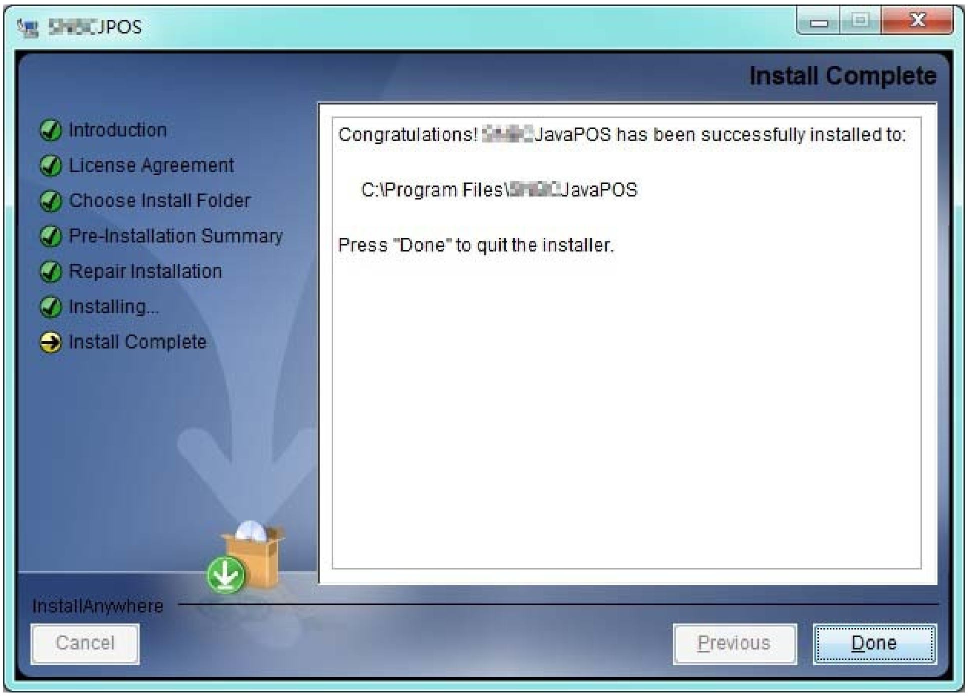
Product Name:
[redacted]JavaPOS

Install Folder:
C:\Program Files\[redacted]JavaPOS

Shortcut Folder:
C:\Users\qizhiwei.BYINTRA\AppData\Roaming\Microsoft\Windows\Start Menu\Programs\[redacted]JavaPOS

Disk Space Information (for Installation Target):
Required: 17,935,222 Bytes

Click "Install";



Congratulations! [redacted]JavaPOS has been successfully installed to:

C:\Program Files\[redacted]JavaPOS

Press "Done" to quit the installer.

Click "Done" then JavaPOS software is installed in users' computer.

5 Installation(Linux)

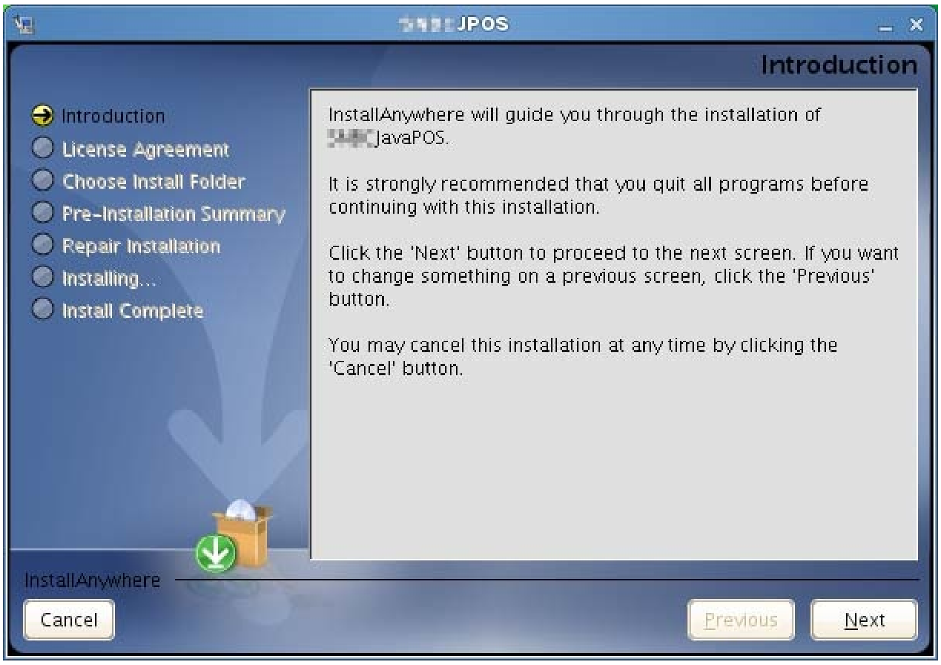
Step 1: Save Setup.bin in a destination folder:

Step 2: Run Setup.bin shown as below:

If there was no suitable JDK or JRE installed in your system, the error string will show in the terminal as follows:

```
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...
No Java virtual machine could be found from your PATH
environment variable. You must install a VM prior to
running this program.
```

Otherwise, the dialog will shown as follows:



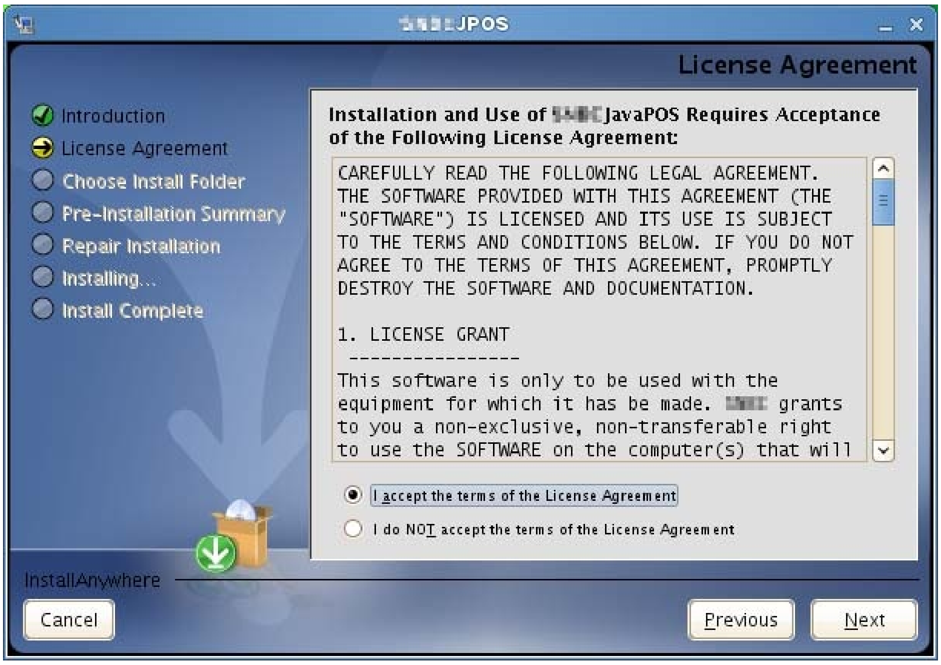
InstallAnywhere will guide you through the installation of [redacted] JavaPOS.

It is strongly recommended that you quit all programs before continuing with this installation.

Click the 'Next' button to proceed to the next screen. If you want to change something on a previous screen, click the 'Previous' button.

You may cancel this installation at any time by clicking the 'Cancel' button.

Click "Next";



Installation and Use of [redacted] JavaPOS Requires Acceptance of the Following License Agreement:

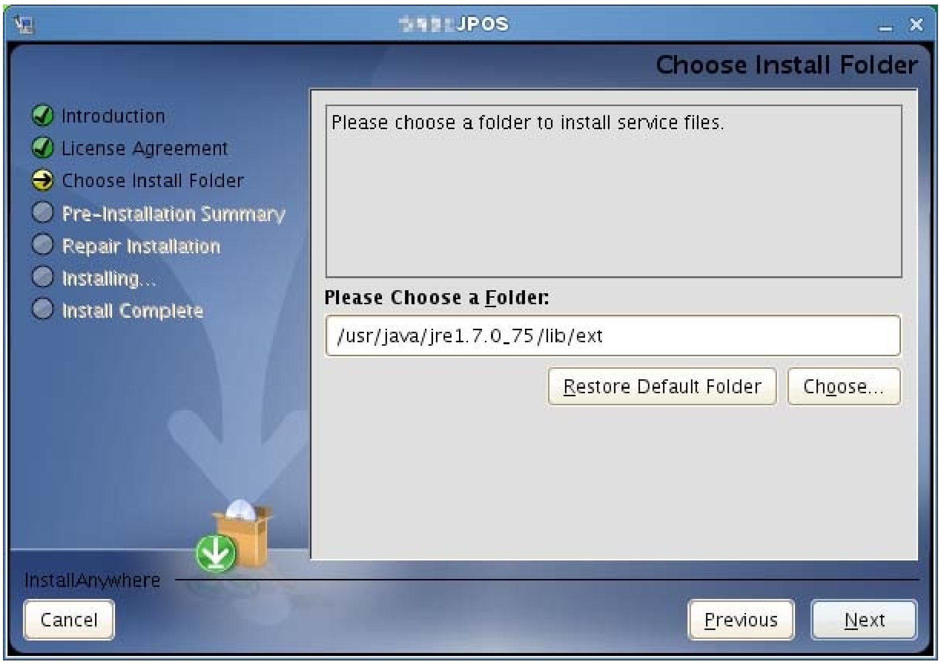
```
CAREFULLY READ THE FOLLOWING LEGAL AGREEMENT.
THE SOFTWARE PROVIDED WITH THIS AGREEMENT (THE
"SOFTWARE") IS LICENSED AND ITS USE IS SUBJECT
TO THE TERMS AND CONDITIONS BELOW. IF YOU DO NOT
AGREE TO THE TERMS OF THIS AGREEMENT, PROMPTLY
DESTROY THE SOFTWARE AND DOCUMENTATION.

1. LICENSE GRANT
 ----------------
This software is only to be used with the
equipment for which it has be made. [redacted] grants
to you a non-exclusive, non-transferable right
to use the SOFTWARE on the computer(s) that will
```

● I accept the terms of the License Agreement

○ I do NOT accept the terms of the License Agreement

Read the license agreement of JavaPOS installation carefully. If you accept it, please click "I accept the terms of the License Agreement", click "Next";

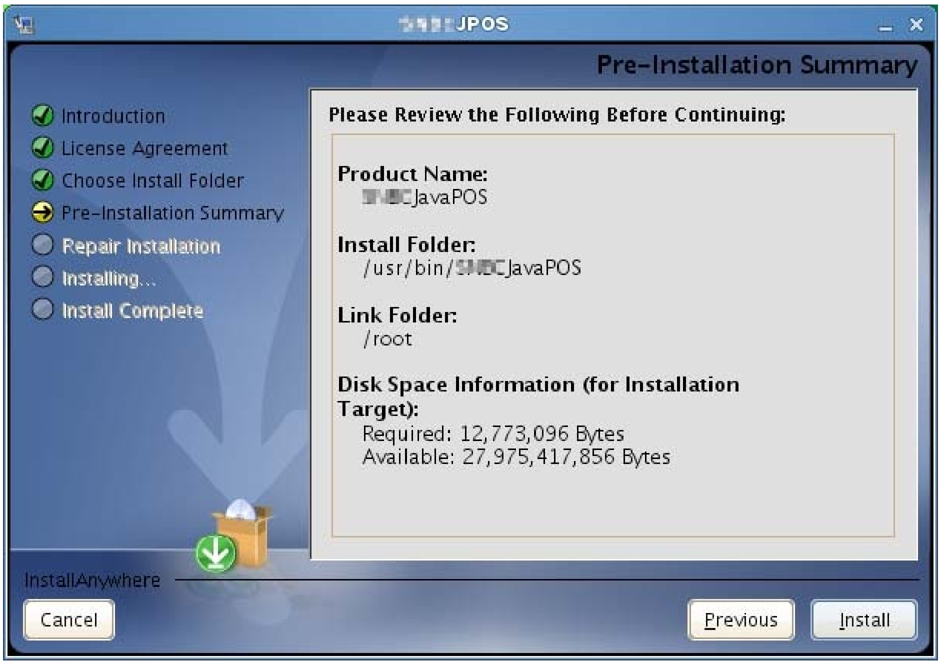


Choose Install Folder

Please choose a folder to install service files.

Please Choose a Folder:
/usr/java/jre1.7.0_75/lib/ext

Click "Choose..." button and set the access of JavaPOS software to be installed, but the install path can not contain the spaces and Chinese character, then click "Next" according to the interface prompt;



Pre-Installation Summary

Please Review the Following Before Continuing:

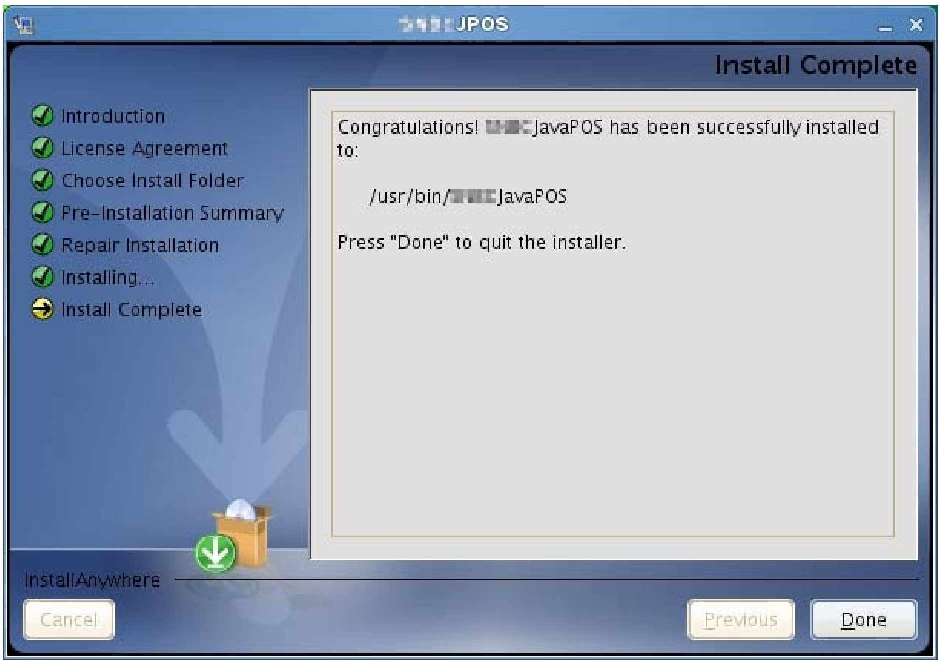
Product Name:
[redacted]JavaPOS

Install Folder:
/usr/bin/[redacted]JavaPOS

Link Folder:
/root

Disk Space Information (for Installation Target):
Required: 12,773,096 Bytes
Available: 27,975,417,856 Bytes

Click "Install";



Congratulations! [redacted]JavaPOS has been successfully installed to:

/usr/bin/[redacted]JavaPOS

Press "Done" to quit the installer.

Click "Done" then JavaPOS software is installed in users' computer.

6 Silent Installation/Uninstallation

Silent Installation Process:
Silent installation involves the following steps.

1. Preparing Information and Creating an Installation Script
2. Running Installation

Step 1: Preparing Information and Creating an Installation Script:

Using the command prompt, append "-r silent.properties" to the installer file and run it.

Example: Setup.exe -r D:\silent.properties (for Windows)
Example: ./Setup.bin -r /usr/silent.properties (for Linux)

Collect information is required to perform a silent installation. Use the following procedure to collect the information.
Refer to the "4 Installation(Windows)" or "5 Installation(Linux)" chapter to complete the whole installation process.

Modify the "silent.properties" file, add a line of content to the start of the file:
INSTALLER_UI=silent

To ensure the quiet installation of Step 2 is correct, please uninstall the JavaPOS software.

Step 2: Running Installation and Uninstallation:

To install: Using the command prompt, append "-f silent.properties" to the installer file and run it.

Example: Setup.exe -f D:\silent.properties (for Windows)
Example: ./Setup.bin -f /usr/silent.properties (for Linux)

To uninstall: Uninstallation runs silently if the installation was silent.

Example: Change SNBCJavaPOS Installation.exe (for Windows)
Example: ./Change SNBCJavaPOS Installation (for Linux)

Note: Before the next installation, please uninstall the JavaPOS software.The System where the

Silent installation needs to be performed has to be identical in terms of the software's installed with the system where Installation process was recorded and "Silent.Properties" is generated for Silent installation to work.

JavaPOS Configuration Tool

1 Introduction

JavaPOS configuration tool is used to configure printer and cash drawer component. The functions are enabled via visiting and modifying the XML File.

2 Functions

The application consists of 3 tabbed panes: “Printer(s)”, “Cash Drawer(s)” and “About”. The About tab provides version information for the configuration program and the JavaPOS.

3 Configuration tool installation

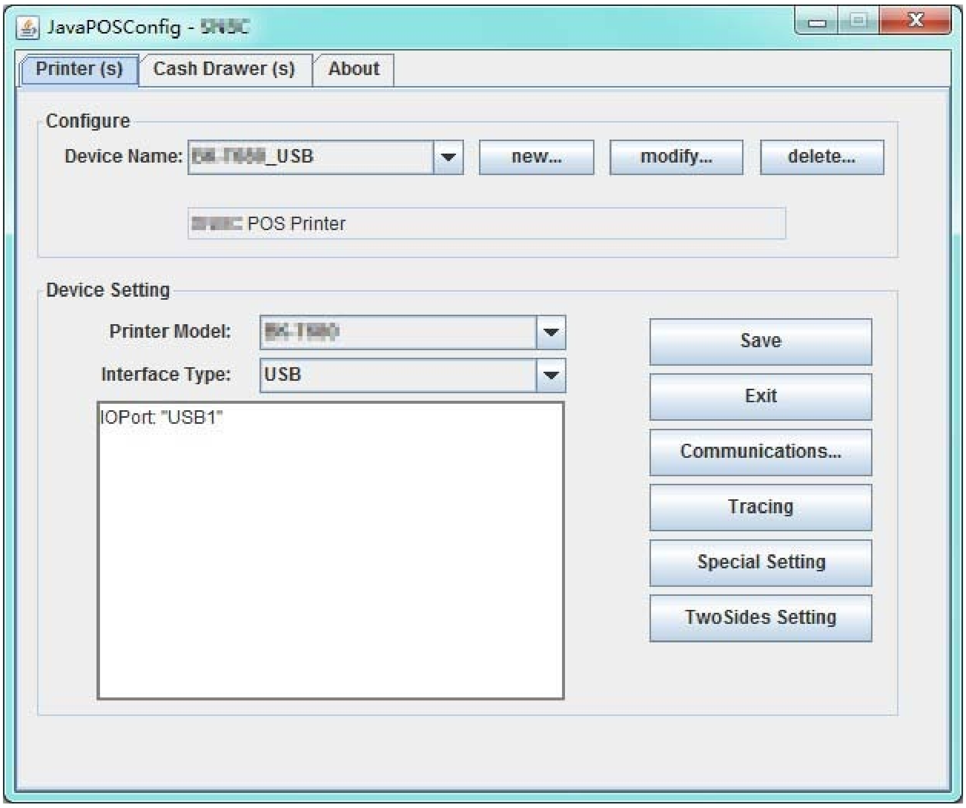
JavaPOS software package installation includes this tool program.

4 Configuration tool usage

4.1 Running

In windows, in start menu\program\JavaPOS, you can select the configuration tool (JavaPOS\JavaPOS_Configure.bat), and run it:

In linux, in the folder installed the JavaPOS, you can select the configuration tool (JavaPOS\JavaPOS_Configure.sh), and run it:



JavaPOSConfig - [redacted]

Device Name: [redacted]_USB

[redacted] POS Printer

Printer Model: [redacted]

Interface Type: USB

IOPort: "USB1"

(1)In order to make user configure device easily, a configuration tool is provides for user to configure device by calling JavaPOS_Configure.bat file, and copy the content produced in the file into configuration file existed (jpos.xml) or use the file as your configuration file.

(2)If configure file doesn't be created before installing JavaPOS software package. under "jdk1.7.0" platform, users only need to copy "jpos.xml" file into the directory "jdk1.7.0\jre\lib\ext". Then "jpos114.jar" will orient in the file automatically.
If it can't orient the file, firstly pls uncompress jpos114.jar file. secondly edit

"jpos.properties" file in the directory "jpos\res". Thirdly pls find and define the attributes of "jpos.config.populatorFile"
according to the below format:

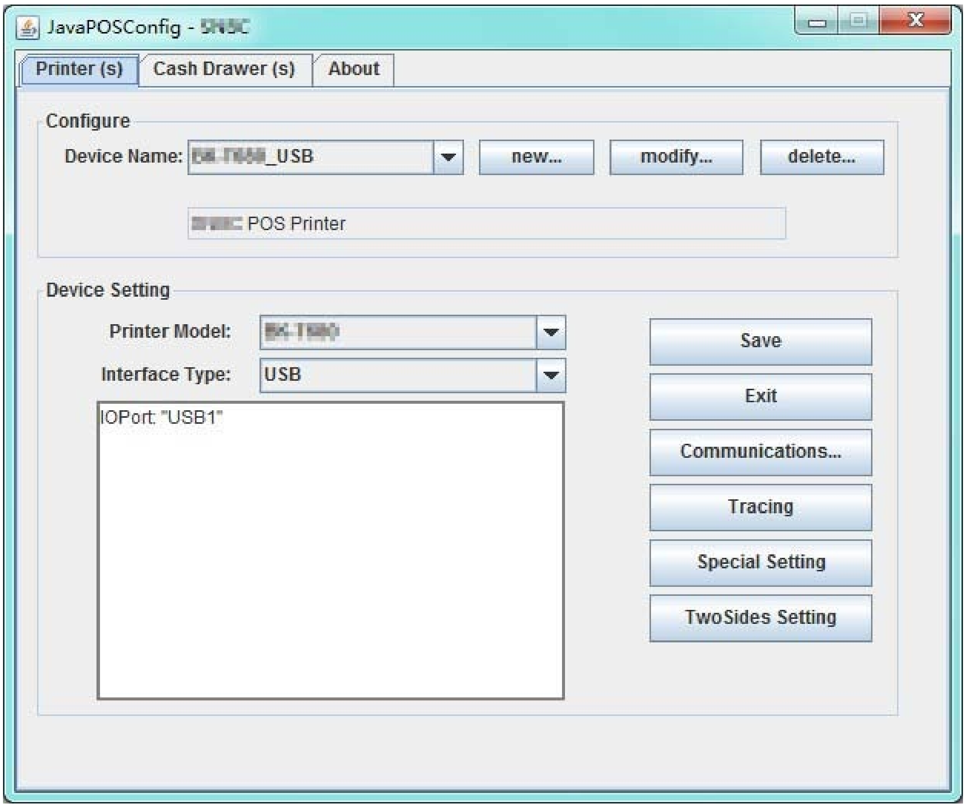
```
jpos.config.populatorFile=D\:\\Program Files\\JavaPOS\\SetupPOS\\jpos.xml
```

(3)Pls note the "jpos.config.populatorFile" value need to be modified to your own directory plus file name.
Then please repackage using command below:

```
jar -cvf jpos114.jar jpos
```

4.2 Printer Tab

Here is a sample screen shot of the printer tab:



JavaPOSConfig - [redacted]

Configure

Device Name: [redacted]_USB

[redacted] POS Printer

Device Setting

Printer Model: [redacted]

Interface Type: USB

IOPort: "USB1"

4.2.1 Configure Section

The following settings are available in the “Configure” section:

Device Name Click on the down arrow to show a list of the configured device names.

If you select a device name that refers to an printer, then you may view and update its settings, or run the service object’s interactive health check test.

If you select a device name that refers to another vendor’s printer, then you may only test it.

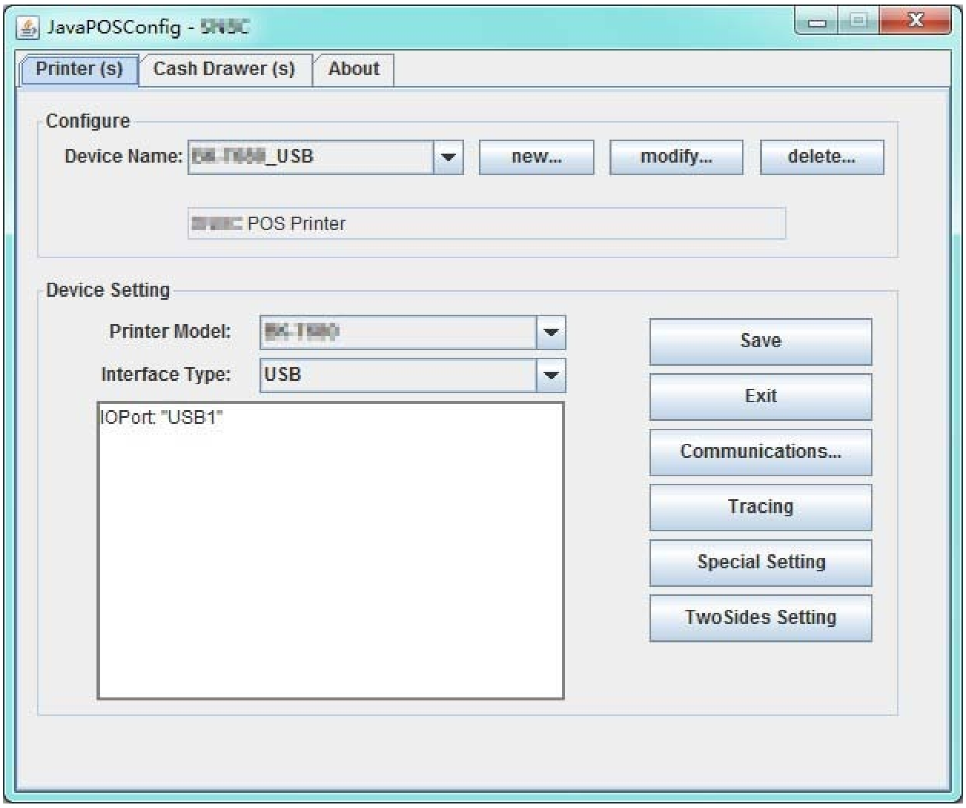
New... Click this button to add a new device name. A simple dialog will prompt for the name.

Delete... Click this button to delete the selected device name. A message box will ensure that you want to delete it before taking action.

4.2.2 Special Setting Section

There are some special settings as following in the “Special Setting” section when you click "Special

Setting" Button.



JavaPOSConfig - [redacted]

Configure

Device Name: [redacted]_USB

[redacted] POS Printer

Device Setting

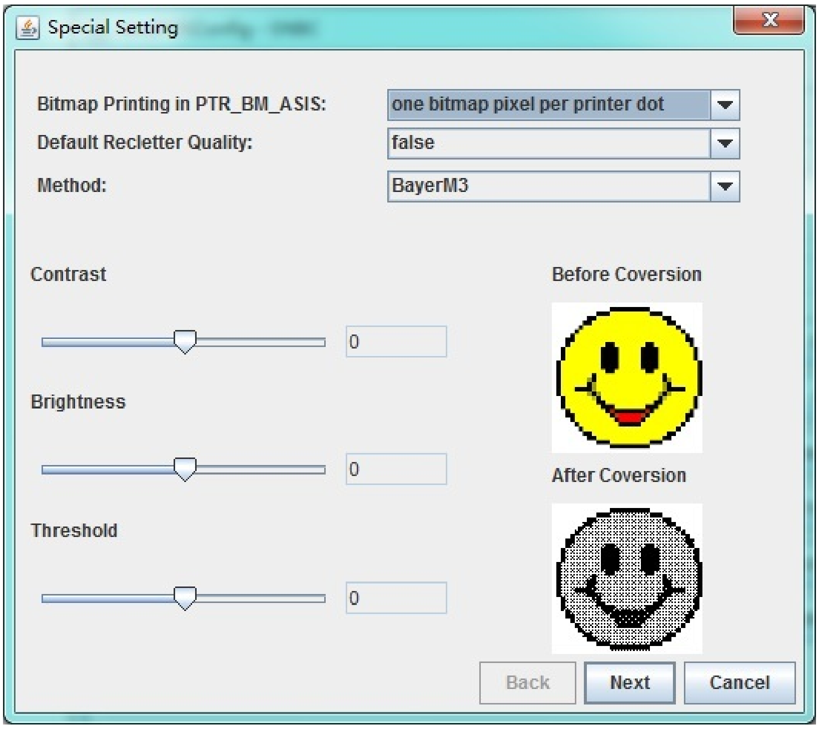
Printer Model: [redacted]

Interface Type: USB

IOPort: "USB1"

Then it will pop up a dialog as following:

The first Dialog is shown as following:



Special Setting [redacted]

Bitmap Printing in PTR_BM_ASIS: one bitmap pixel per printer dot

Default Recletter Quality: false

Method: BayerM3

Contrast 0

Brightness 0

Threshold 0

"Bitamp Printing in PTR_BM_ASIS " ComboBox:

When you select "one bitmap pixel per printer dot", if you use PrintBitmap or SetBitmap in PTR_BM_ASIS, then the bitmap file will be printed in normal size.

When you select "two bitmap pixel per printer dot", if you use PrintBitmap or SetBitmap in PTR_BM_ASIS, then the bitmap file will be printed in double-height-double-width size.

"Default RecLetterQuality" ComboBox:

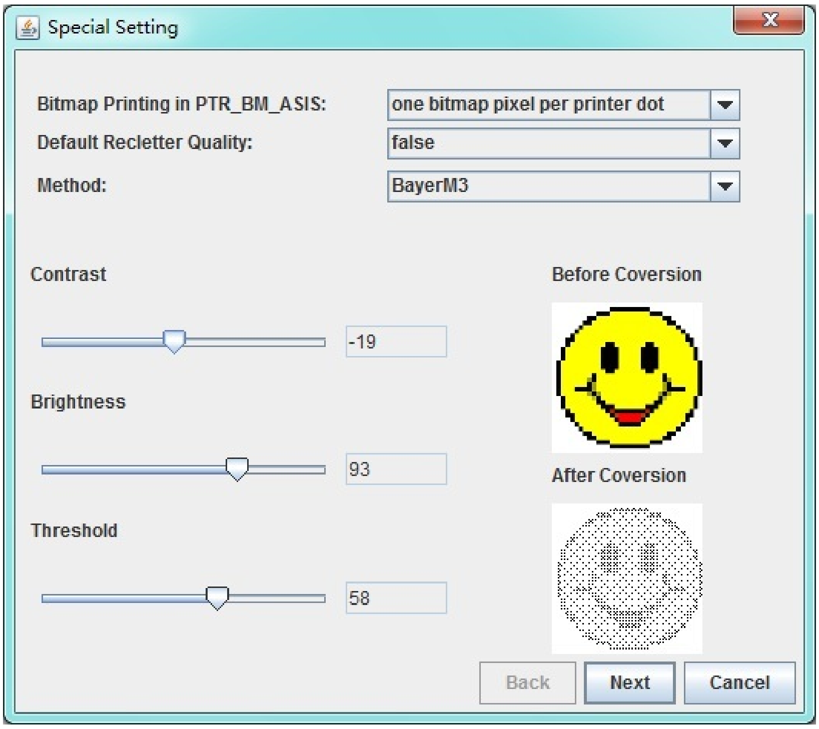
When you select "false", then the RecLetterQuality property will be set false in open method, and the bitmap will be print fast.

When you select "true", then the RecLetterQuality property will be set true in open method, and the bitmap will be print smoothly.

"Method" ComboBox, Contrast SliderCtrl, Brightness SliderCtrl,Threshold SliderCtrl:

They are uesd to change the color bitmaps which will be printing to binary format bitmaps, you can select a different value to change the format of bitmap.

For example: The "Before Coversion" is the source bitmap file, and the "After Coversion" is the dest bitmap file by translating.



Special Setting

Bitmap Printing in PTR_BM_ASIS: one bitmap pixel per printer dot

Default Recletter Quality: false

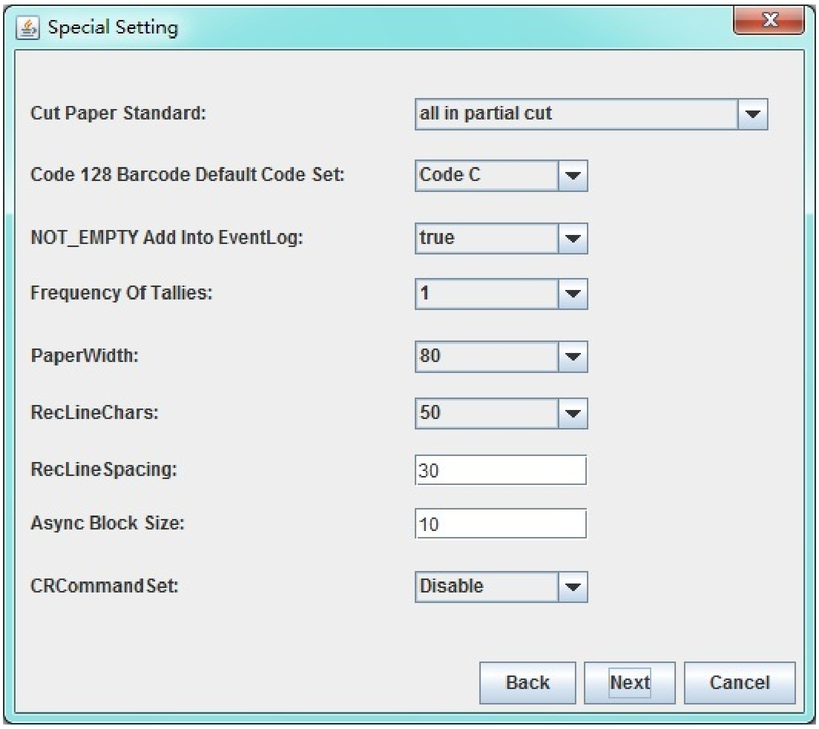
Method: BayerM3

Contrast: -19

Brightness: 93

Threshold: 58

If you click "Next" Button, the another Dialog will be pop up as following:



Cut Paper Standard:	all in partial cut
Code 128 Barcode Default Code Set:	Code C
NOT_EMPTY Add Into EventLog:	true
Frequency Of Tallies:	1
PaperWidth:	80
RecLineChars:	50
RecLineSpacing:	30
Async Block Size:	10
CRCommandSet:	Disable

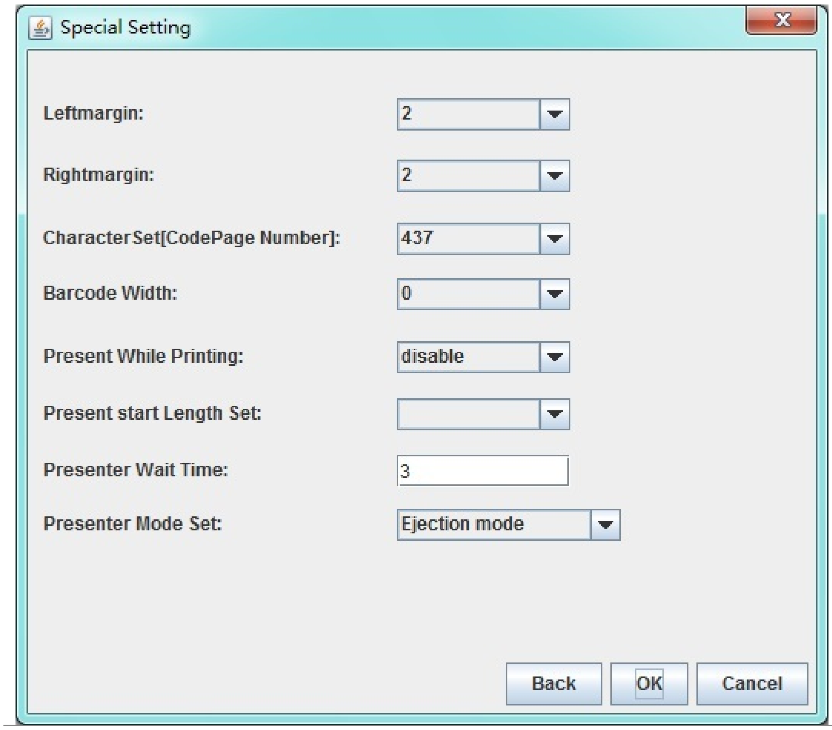
The second Dialog is "Cut Paper Standard" "Code128 Barcode Default Code Set" "NOT_EMPTY Add Into Event Log" "Frequency Of Tallies" "PaperWidth" "RecLineChars" "RecLineSpacing".

When you select "all in partial cut", if you use CutPaper or "Paper cut", "Feed and Paper cut", "Feed, Paper cut, and Stamp" Escape Sequences, then the printer will cut paper in partial cut mode.

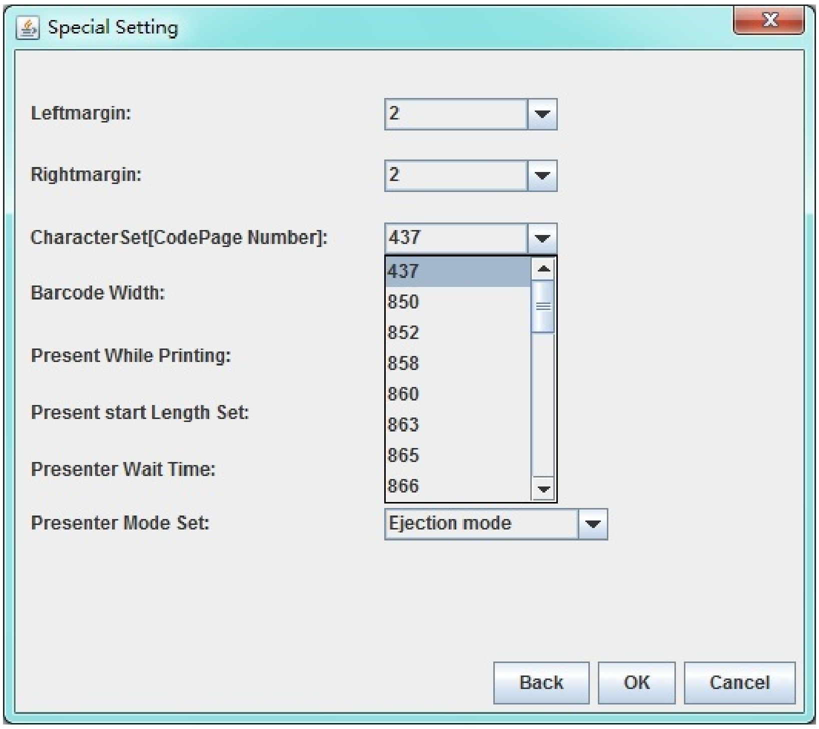
When you select "cut according to UPOS Specification", if you use CutPaper or "Paper cut", "Feed and Paper cut", "Feed, Paper cut, and Stamp" Escape Sequences, then the printer will cut paper according to UPOS Specification.

When you select "all in full cut", if you use CutPaper or "Paper cut", "Feed and Paper cut", "Feed, Paper cut, and Stamp" Escape Sequences, then the printer will cut paper in full cut mode.

If you click "Next" Button, the another Dialog will be pop up as following:



Leftmargin:	2
Rightmargin:	2
CharacterSet[CodePage Number]:	437
Barcode Width:	0
Present While Printing:	disable
Present start Length Set:	
Presenter Wait Time:	3
Presenter Mode Set:	Ejection mode



Special Setting

Leftmargin: 2

Rightmargin: 2

CharacterSet[CodePage Number]: 437

Barcode Width:

Present While Printing:

Present start Length Set:

Presenter Wait Time:

Presenter Mode Set: Ejection mode

The third Dialog is "LeftMargin" "RightMargin" "CharacterSet[CodePage Number]" "Barcode Width".

And you can select a special LeftMargin RightMargin and CharacterSet in Combobox. LeftMargin only set the character left margin, don't set the barcode and bitmap left margin. RightMargin only set the character right margin, don't set the barcode and bitmap right margin. The leftMargin and rightMargin of barcode and bitmap are consistent with the printer actual configuration.

The "Barcode Width" only set the width of Code128. When "Barcode With" set to 0, barcode printing width is the width parameter in printBarcode interface; otherwise, barcode printing width is the value of "Barcode Width".

And you must do Special Setting.

4.2.3 Device Settings Section

The following settings are available in the “Device Settings” section:

Printer Model Click on the down arrow to show a list of the valid printer models. Change the model by selecting the appropriate one from the list.

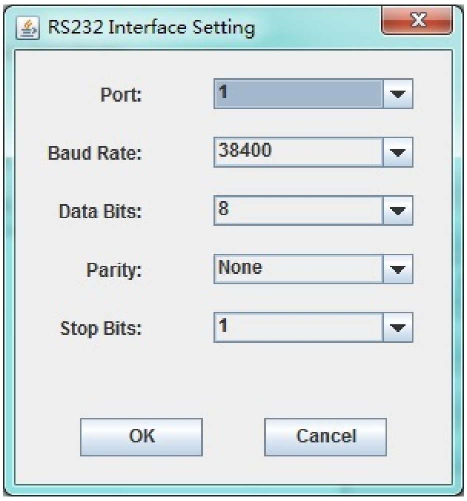
Interface Type Click on the down arrow to show a list of the available interfaces for the selected printer model. Change the interface by selecting the appropriate one from the list.

Save Click this button to save the changes that you have made. (The button will be disabled unless unsaved changes are pending.)

Exit Click this button to exit the program. If any unsaved changes are pending, you will be alerted by a message box before exiting.

Communications Click this button to view or change the communications settings for the selected interface. Here are example screen shots for the interfaces:

Select "RS232" in the "Interface Type" Combo Box, then you can change the RS232 Interface Settings.


RS232 Interface Setting

Port: 1

Baud Rate: 38400

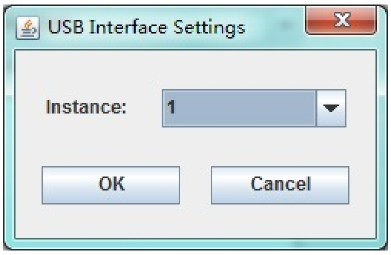
Data Bits: 8

Parity: None

Stop Bits: 1

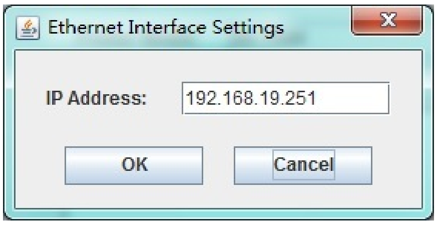
In this dialogue box, the parameter of serial port can be set. The self-test page is printed to show the current printer serial parameter (Please refer to "Print self-test page ").

Select "USB" in the "Interface Type" Combo Box, then you can change the USB Interface Settings.


USB Interface Settings

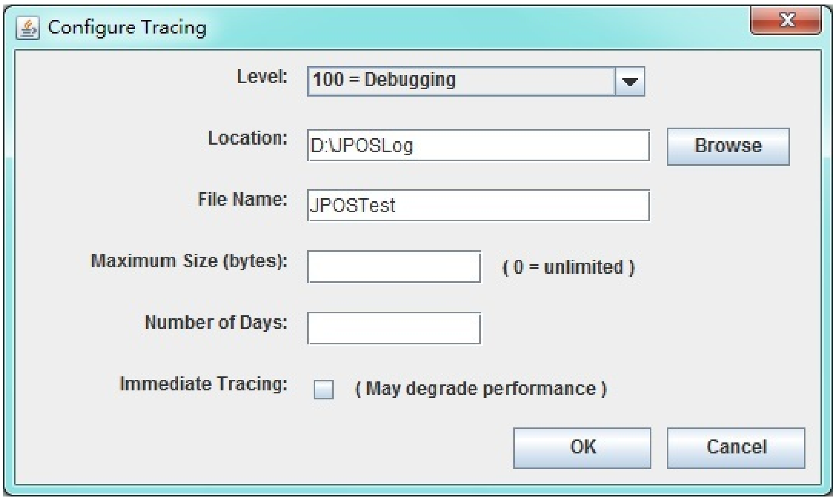
Instance: 1

Select "Ethernet" in the "Interface Type" Combo Box, then you can change the Ethernet Interface Settings.


Ethernet Interface Settings

IP Address: 192.168.19.251

Tracing Click the "Tracing..." button to view or change the trace settings for the selected device. Here is an example screen shot:


Configure Tracing

Level: 100 = Debugging

Location: D:\JPOSLog

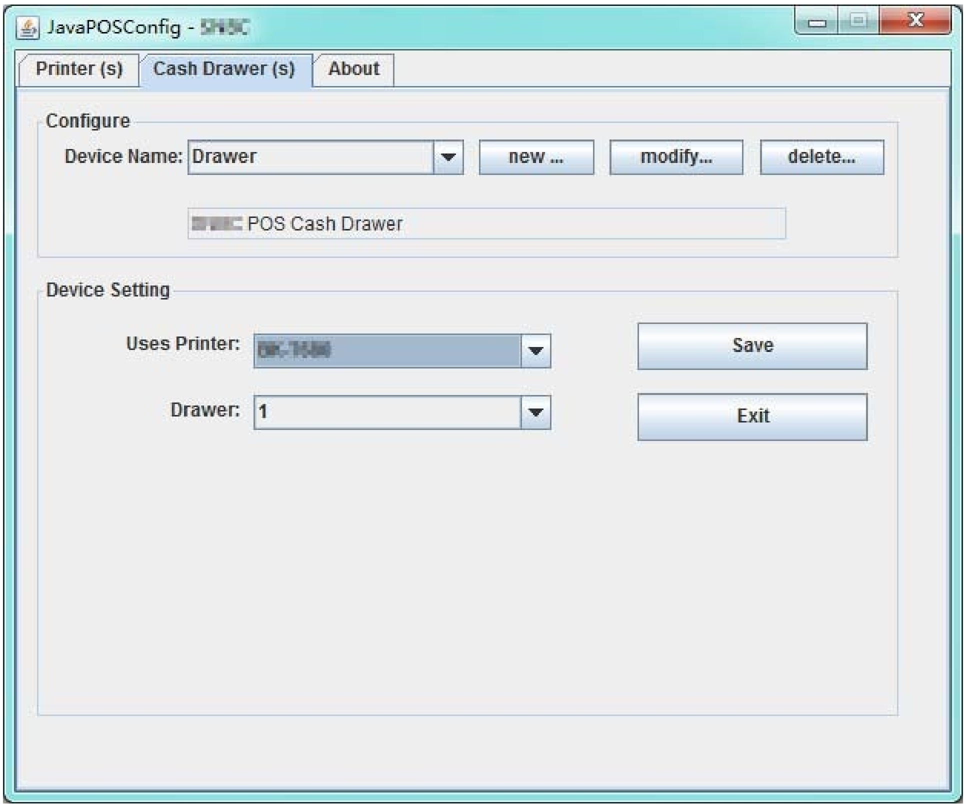
File Name: JPOSTest

Maximum Size (bytes): (0 = unlimited)

Number of Days:

Immediate Tracing: □ (May degrade performance)

4.3 Cash Drawer Tab



JavaPOSConfig - [redacted]

Configure

Device Name: Drawer

[redacted] POS Cash Drawer

Device Setting

Uses Printer: [redacted]

Drawer: 1

4.3.1 Configure Section

The following settings are available in the “Configure” section:

Device Name Click on the down arrow to show a list of the configured device names.

If you select a device name that refers to an cash drawer, then you may view and update its settings, or run the service object’s interactive health check test.

If you select a device name that refers to another vendor’s cash drawer, then you may only test it.

New... Click this button to add a new device name. A simple dialog will prompt for the name.

Modify... Click this button to modify the selected device name.

Delete... Click this button to delete the selected device name. A message box will ensure that you want to delete it before taking action.

4.3.2 Device Settings Section

The following settings are available in the “Device Settings” section:

Uses Printer A drawer must be associated with a configured printer; the printer configuration determines the model, interface, and tracing settings. Click on the down arrow to show a list of the configured printer device names. Change the associated

printer by selecting the appropriate one from the list.

Drawer Click on the down arrow to show a list of the available drawer numbers – 1 and 2. Change the drawer number by selecting the appropriate one from the list.

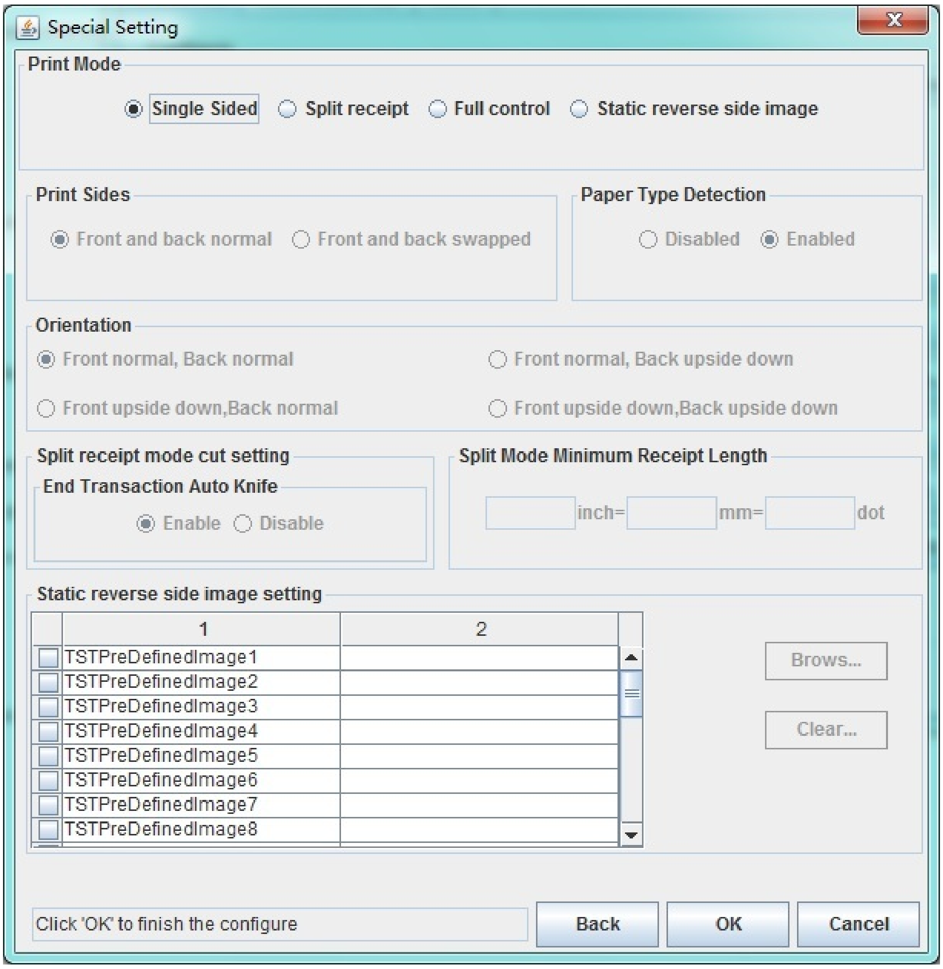
Save Click this button to save the changes that you have made. (The button will be disabled unless unsaved changes are pending.)

Exit Click this button to exit the program. If any unsaved changes are pending, you will be alerted by a message box before exiting.

4.4 2ST config

Then, you can config the 2ST function.

Step 1: Config the 2ST main function, and you should check the "TwoSides Setting" button then a windows as below will be appear:



Special Setting

Print Mode

● Single Sided ○ Split receipt ○ Full control ○ Static reverse side image

Print Sides

● Front and back normal ○ Front and back swapped

Paper Type Detection

○ Disabled ● Enabled

Orientation

● Front normal, Back normal ○ Front normal, Back upside down

○ Front upside down,Back normal ○ Front upside down,Back upside down

Split receipt mode cut setting

End Transaction Auto Knife

● Enable ○ Disable

Split Mode Minimum Receipt Length

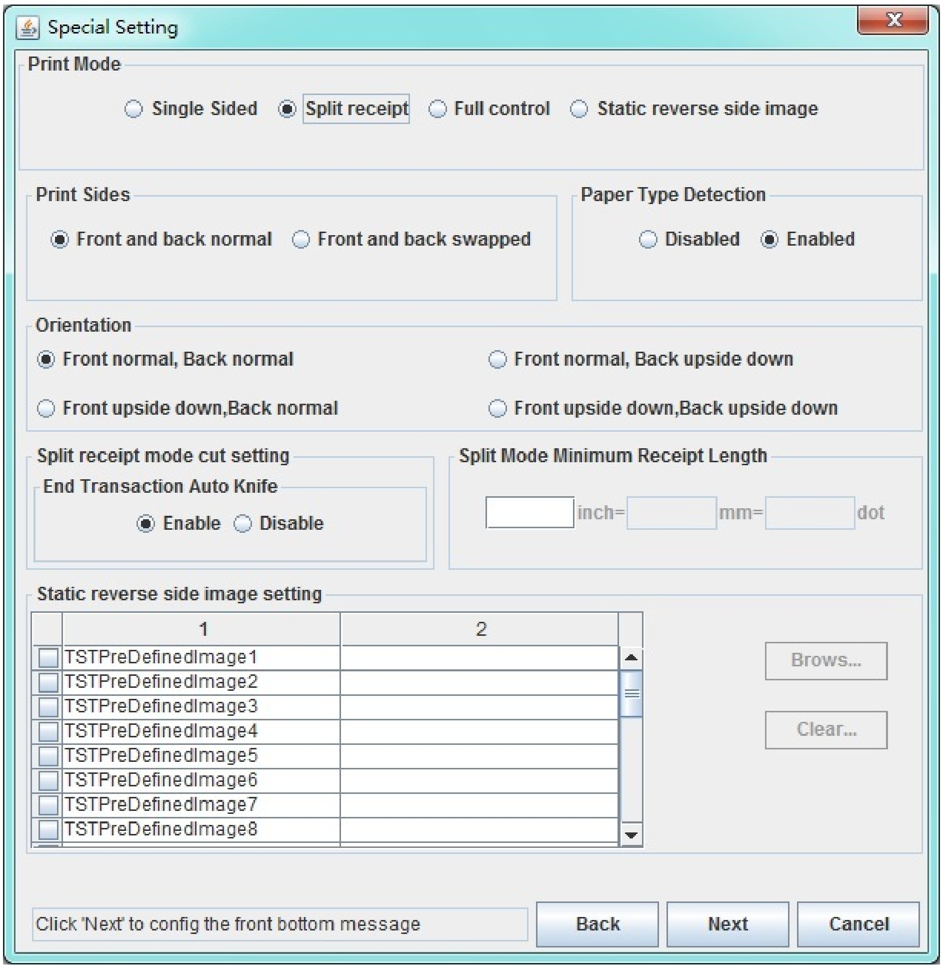
inch= mm= dot

Static reverse side image setting

	1	2
□	TSTPreDefinedImage1	
□	TSTPreDefinedImage2	
□	TSTPreDefinedImage3	
□	TSTPreDefinedImage4	
□	TSTPreDefinedImage5	
□	TSTPreDefinedImage6	
□	TSTPreDefinedImage7	
□	TSTPreDefinedImage8	

Click 'OK' to finish the configure

Step 2: You can select "Print Mode" as below:



Special Setting

Print Mode

○ Single Sided ● Split receipt ○ Full control ○ Static reverse side image

Print Sides

● Front and back normal ○ Front and back swapped

Paper Type Detection

○ Disabled ● Enabled

Orientation

● Front normal, Back normal ○ Front normal, Back upside down

○ Front upside down,Back normal ○ Front upside down,Back upside down

Split receipt mode cut setting

End Transaction Auto Knife

● Enable ○ Disable

Split Mode Minimum Receipt Length

inch= mm= dot

Static reverse side image setting

1	2
□ TSTPreDefinedImage1	
□ TSTPreDefinedImage2	
□ TSTPreDefinedImage3	
□ TSTPreDefinedImage4	
□ TSTPreDefinedImage5	
□ TSTPreDefinedImage6	
□ TSTPreDefinedImage7	
□ TSTPreDefinedImage8	

Click 'Next' to config the front bottom message

Note: four print modes:

The two-sided thermal print station has four modes of operation:

1) Single Sided Mode :The printer only prints on the front side of the paper.
2) Double Sided Mode with Single Side Command (Split Receipt) :Normal print operations are buffered at the printer, executed and split between front and back side when a knife cut is encountered.
3) Double Sided Mode with Double Side Command (Full Control) :The side desired to print on is selected, and the data to print are sent to it. After the data for both sides are defined, a begin print, or knife cut command is issued to print the two-sided receipt.
4) Double Sided Mode with Predefined Data (Static Reverse Image) :Data to print is sent to the printer. A predefined image is selected from previously-defined images. When a print command or knife cut is received, the data is printed on the front side, and the predefined image selected is printed on the back.

Single sided: default mode, When this setting is selected, the JavaPOS Service sets the printer to this mode at **Claim** time. None of the other two-sided configuration options is processed. Any two-sided proprietary escape sequences are ignored, except for the escape sequence that switches modes. In this mode, the printer functions the same as all previous thermal receipt printers.

Once a two-sided mode is entered, the application can ONLY print using the JavaPOS **transactionPrint** method. The reason for this restriction is due to error-handling. Because the printer has to buffer all data before printing, there is no way to determine errors on a line level. Due to this buffering, errors can only be recovered at a transaction level. Therefore we enforce the use of transaction printing only while in a two-sided mode.

two-sided mode as below:

Split receipt: Double Sided Mode with Single Side Command, When this mode of operation is selected, the printer buffers all print commands sent to it until a paper cut command is issued. At that time, it splits the receipt and prints it between the front and back. All of the two-sided escape sequences and settings are valid **except** for those that deal with a predefined back side image, or selecting a specific print side.

Full control: Double Sided Mode with Double Side Command, This mode of operation is the one that gives the application the most flexibility in two-sided printing. It allows the application to define and print anything they want on both sides of the paper dynamically. See Select Print Side Sequences under Data Characters and Escape Sequences for special ESC sequence only available in this mode.

Static reverse side image: Double Sided Mode with Predefined Data, As with all of the **TST2SideMode** settings, this mode is initiated at **Claim** time, or with the select mode escape sequence. At **Claim** time, the Service Object loads the predefined image file from the configuration setting of **"Image 1 Setting"** and enables the two-sided mode. If this mode is selected but the **TSTPreDefinedImage1** is not populated, then it will remain the default image in the printer. All of the two-sided escape sequences are valid for this mode of operation except for the "**Select Print Side**" sequence. The **ESC[2ST;3;n!v[directory / filename]** activates the predefined back side image and can be used to change the image that is being used for the back side of the paper. If this sequence is sent with n = 0 but no [directory / filename] parameter, it is assumed that the user wants to erase the existing predefined image and clears it. The above sequence is ONLY VALID after a knife cut, and before any other print operation is sent to the printer. If any other print operation is sent to the printer before this sequence, then it is ignored. See Data Characters and Escape Sequences for more information about escape sequences that control the two-sided functionality. Now this mode can only select one image.

Step 3: If you select 2ST mode (such as "Split receipt", "Full control" and "Static reverse side image"), you can select "Print Sides", "Paper Type Detection" and "Orientation" function:

Step 4: Print Sides setting:

Front and back normal: Front side faces toward front of the printer.

Front and back swapped: Front side faces away from the front of the printer.

Step 5: Paper Type Detection setting:

Disabled: don't check if you use a 2ST paper.

Enabled: check if you use a 2ST paper, when you don't use a 2ST paper, then the StatusUpdateEvent will be fired with the 92 status code. IF you change to a 2ST paper, then the StatusUpdateEvent will be fired with the 91 status code.

Step 6: Orientation:

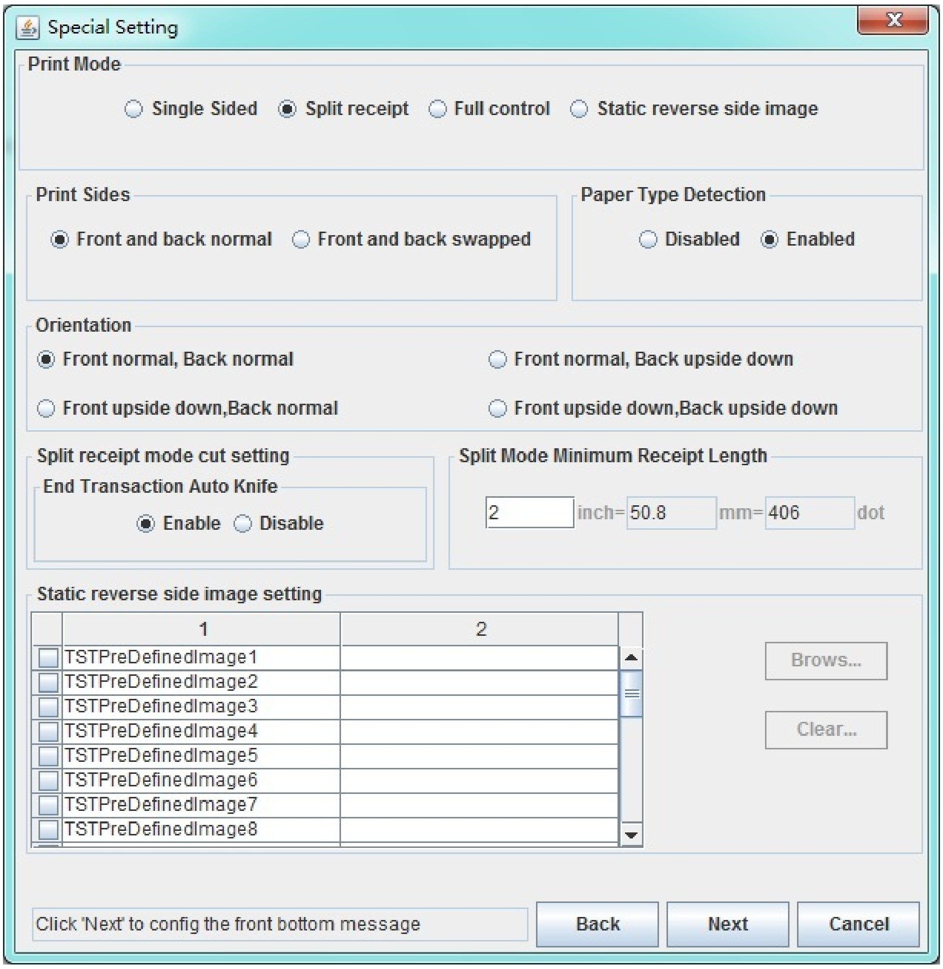
Front normal, Back normal: Default orientation.

Front normal, Back upside down: The back side will reverse 180 degree.

Front upside down, Back normal: The front side will reverse 180 degree.

Front upside down, Back upside down: The front side and back side will reverse 180 degree all.

Step 7: If you select "Split receipt" mode, then you can set "Split Mode Minimum Receipt Length". If you don't set, it will split the 2ST receipt default. If you set, the length of front side of the 2ST receipt will be the same with your setting.



Special Setting

Print Mode

○ Single Sided ● Split receipt ○ Full control ○ Static reverse side image

Print Sides

● Front and back normal ○ Front and back swapped

Paper Type Detection

○ Disabled ● Enabled

Orientation

● Front normal, Back normal ○ Front normal, Back upside down

○ Front upside down,Back normal ○ Front upside down,Back upside down

Split receipt mode cut setting

End Transaction Auto Knife

● Enable ○ Disable

Split Mode Minimum Receipt Length

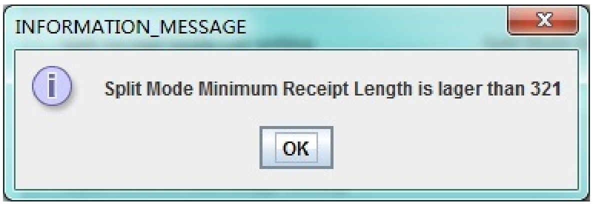
2 inch= 50.8 mm= 406 dot

Static reverse side image setting

	1	2
□	TSTPreDefinedImage1	
□	TSTPreDefinedImage2	
□	TSTPreDefinedImage3	
□	TSTPreDefinedImage4	
□	TSTPreDefinedImage5	
□	TSTPreDefinedImage6	
□	TSTPreDefinedImage7	
□	TSTPreDefinedImage8	

Click 'Next' to config the front bottom message

Note: The maximum of the length is 321 inch.



INFORMATION_MESSAGE

Split Mode Minimum Receipt Length is lager than 321

Step 8: Auto Cut Setting

If you select "Split receipt" mode or "Static reverse side image" mode, then you can set "Auto Cut Setting".

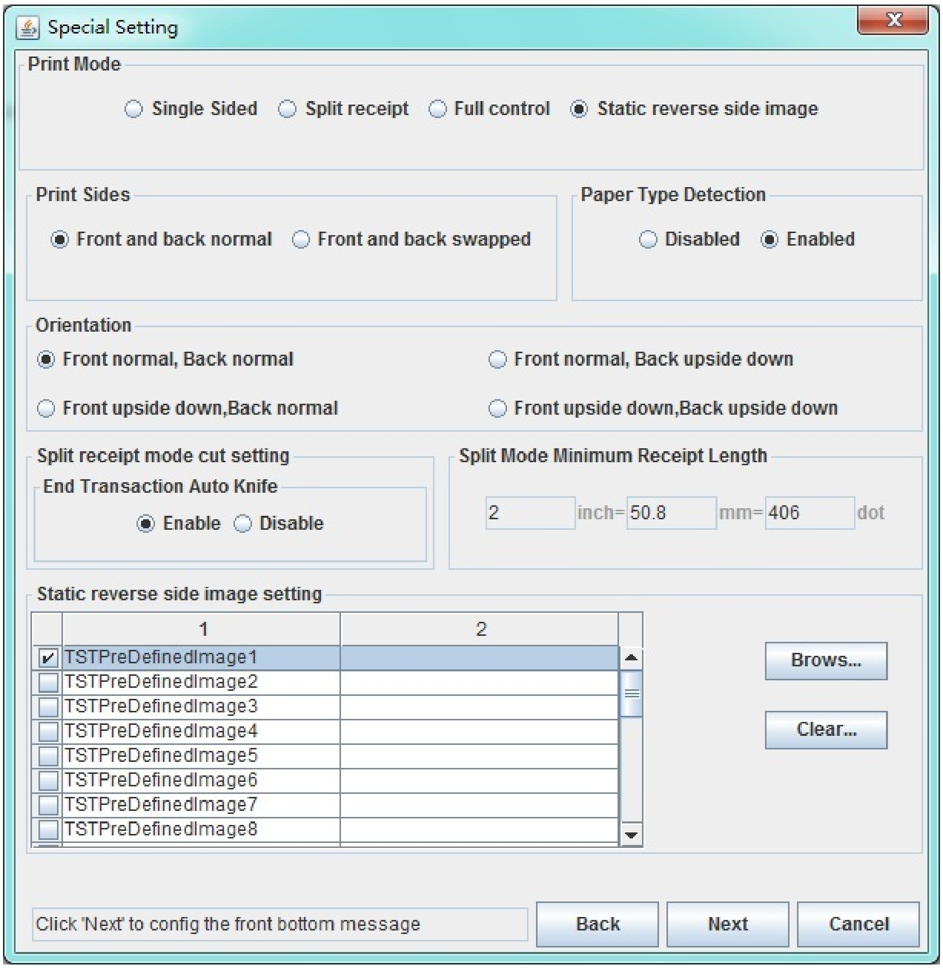
Enabled: JavaPOS Service Object issues a knife cut when the TransactionPrint method is called with a control parameter of PTR_TP_NORMAL .

Disabled: No cut is performed and nothing is printed when TransactionPrint method is called with a control parameter of PTR_TP_NORMAL .

Step 9: Image 1 Setting Redownload

The JavaPOS Service downloads a image data to FLASH at **enable** time.

You can select a "TSTPreDefinedImage" number and click "Browse..." button to select a mage data file which will be downloaded to FLASH.



Special Setting

Print Mode

○ Single Sided ○ Split receipt ○ Full control ● Static reverse side image

Print Sides

● Front and back normal ○ Front and back swapped

Paper Type Detection

○ Disabled ● Enabled

Orientation

● Front normal, Back normal ○ Front normal, Back upside down

○ Front upside down,Back normal ○ Front upside down,Back upside down

Split receipt mode cut setting

End Transaction Auto Knife

● Enable ○ Disable

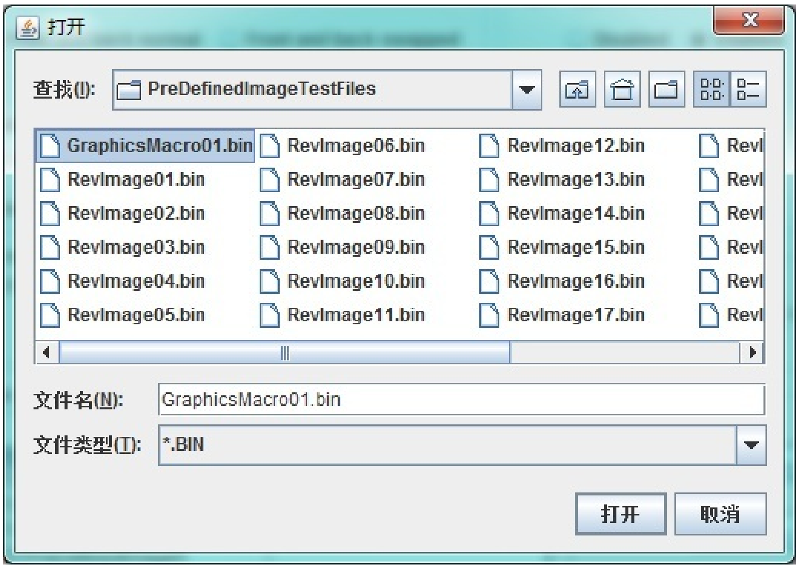
Split Mode Minimum Receipt Length

2 inch= 50.8 mm= 406 dot

Static reverse side image setting

	1	2
☑	TSTPreDefinedImage1	
□	TSTPreDefinedImage2	
□	TSTPreDefinedImage3	
□	TSTPreDefinedImage4	
□	TSTPreDefinedImage5	
□	TSTPreDefinedImage6	
□	TSTPreDefinedImage7	
□	TSTPreDefinedImage8	

Click 'Next' to config the front bottom message



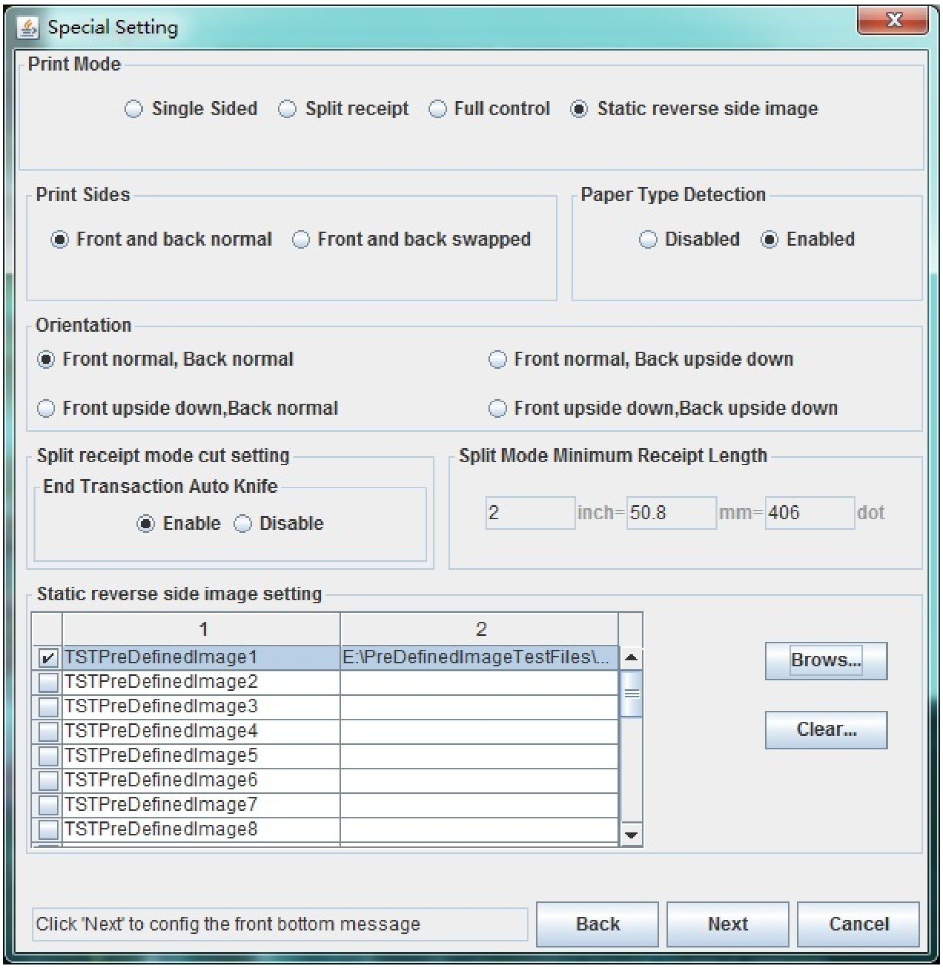
打开

查找(I): PreDefinedImageTestFiles

GraphicsMacro01.bin
RevImage01.bin
RevImage02.bin
RevImage03.bin
RevImage04.bin
RevImage05.bin
RevImage06.bin
RevImage07.bin
RevImage08.bin
RevImage09.bin
RevImage10.bin
RevImage11.bin
RevImage12.bin
RevImage13.bin
RevImage14.bin
RevImage15.bin
RevImage16.bin
RevImage17.bin
RevI
RevI
RevI
RevI
RevI
RevI

文件名(N): GraphicsMacro01.bin

文件类型(T): *.BIN



Special Setting

Print Mode

○ Single Sided ○ Split receipt ○ Full control ● Static reverse side image

Print Sides

● Front and back normal ○ Front and back swapped

Paper Type Detection

○ Disabled ● Enabled

Orientation

● Front normal, Back normal ○ Front normal, Back upside down

○ Front upside down,Back normal ○ Front upside down,Back upside down

Split receipt mode cut setting

End Transaction Auto Knife

● Enable ○ Disable

Split Mode Minimum Receipt Length

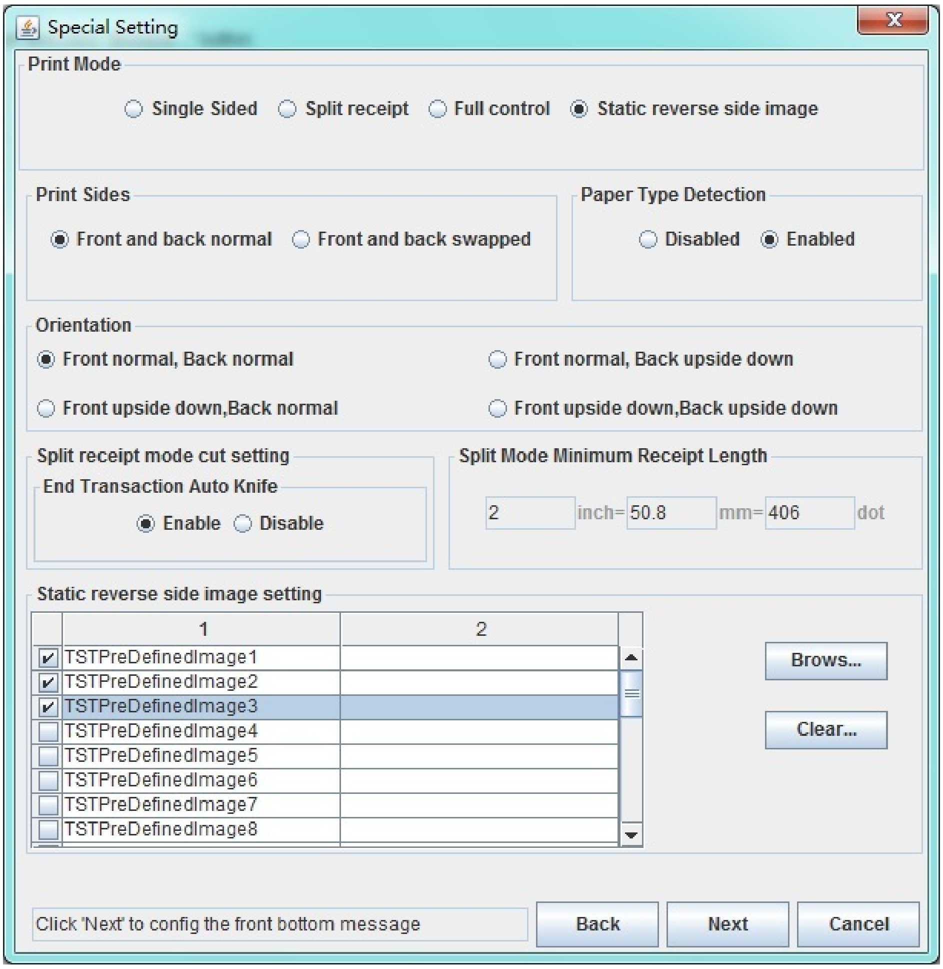
2 inch= 50.8 mm= 406 dot

Static reverse side image setting

	1	2
☑	TSTPreDefinedImage1	E:\PreDefinedImageTestFiles\...
□	TSTPreDefinedImage2	
□	TSTPreDefinedImage3	
□	TSTPreDefinedImage4	
□	TSTPreDefinedImage5	
□	TSTPreDefinedImage6	
□	TSTPreDefinedImage7	
□	TSTPreDefinedImage8	

Click 'Next' to config the front bottom message

You can also select more than one image data at a time, and you just need to select more than one "TSTPreDefinedImage" number and click "Browse..." button.



Special Setting

Print Mode

○ Single Sided ○ Split receipt ○ Full control ● Static reverse side image

Print Sides

● Front and back normal ○ Front and back swapped

Paper Type Detection

○ Disabled ● Enabled

Orientation

● Front normal, Back normal ○ Front normal, Back upside down

○ Front upside down,Back normal ○ Front upside down,Back upside down

Split receipt mode cut setting

End Transaction Auto Knife

● Enable ○ Disable

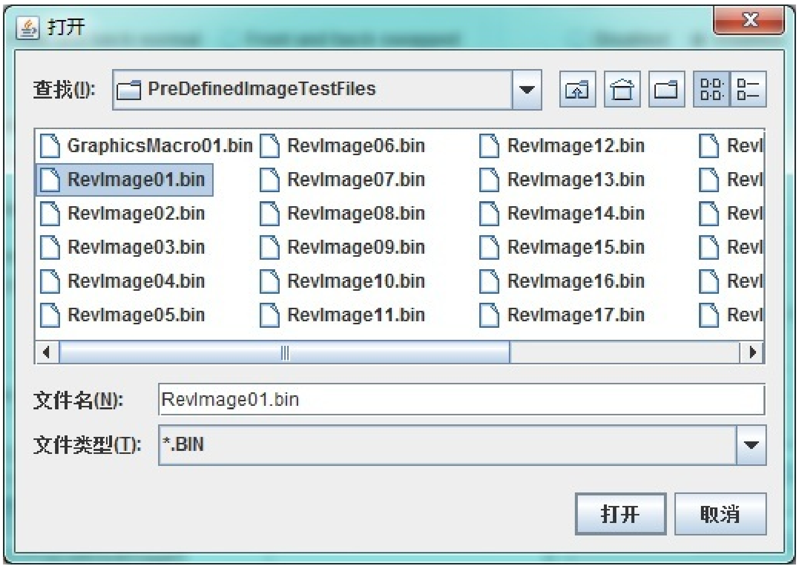
Split Mode Minimum Receipt Length

2 inch= 50.8 mm= 406 dot

Static reverse side image setting

	1	2
☑	TSTPreDefinedImage1	
☑	TSTPreDefinedImage2	
☑	TSTPreDefinedImage3	
□	TSTPreDefinedImage4	
□	TSTPreDefinedImage5	
□	TSTPreDefinedImage6	
□	TSTPreDefinedImage7	
□	TSTPreDefinedImage8	

Click 'Next' to config the front bottom message



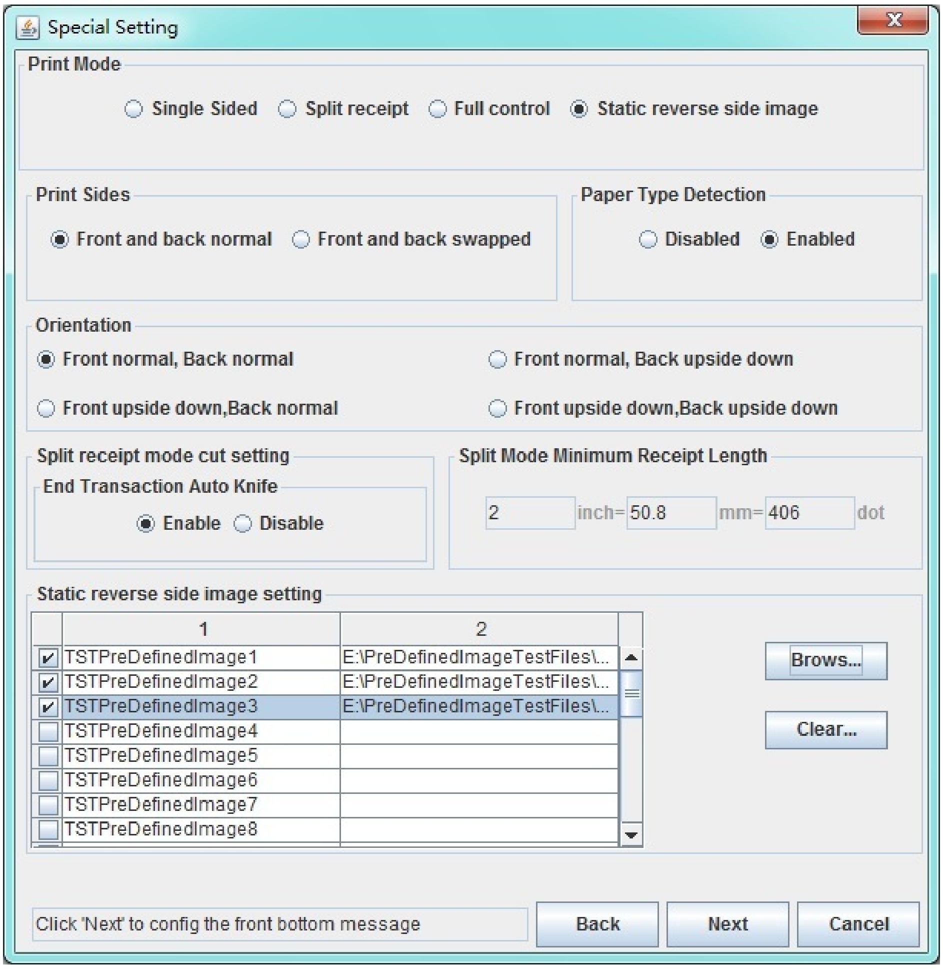
打开

查找(I): PreDefinedImageTestFiles

GraphicsMacro01.bin RevImage06.bin RevImage12.bin RevI
RevImage01.bin RevImage07.bin RevImage13.bin RevI
RevImage02.bin RevImage08.bin RevImage14.bin RevI
RevImage03.bin RevImage09.bin RevImage15.bin RevI
RevImage04.bin RevImage10.bin RevImage16.bin RevI
RevImage05.bin RevImage11.bin RevImage17.bin RevI

文件名(N): RevImage01.bin

文件类型(T): *.BIN



Special Setting

Print Mode

○ Single Sided ○ Split receipt ○ Full control ● Static reverse side image

Print Sides

● Front and back normal ○ Front and back swapped

Paper Type Detection

○ Disabled ● Enabled

Orientation

● Front normal, Back normal ○ Front normal, Back upside down

○ Front upside down,Back normal ○ Front upside down,Back upside down

Split receipt mode cut setting

End Transaction Auto Knife

● Enable ○ Disable

Split Mode Minimum Receipt Length

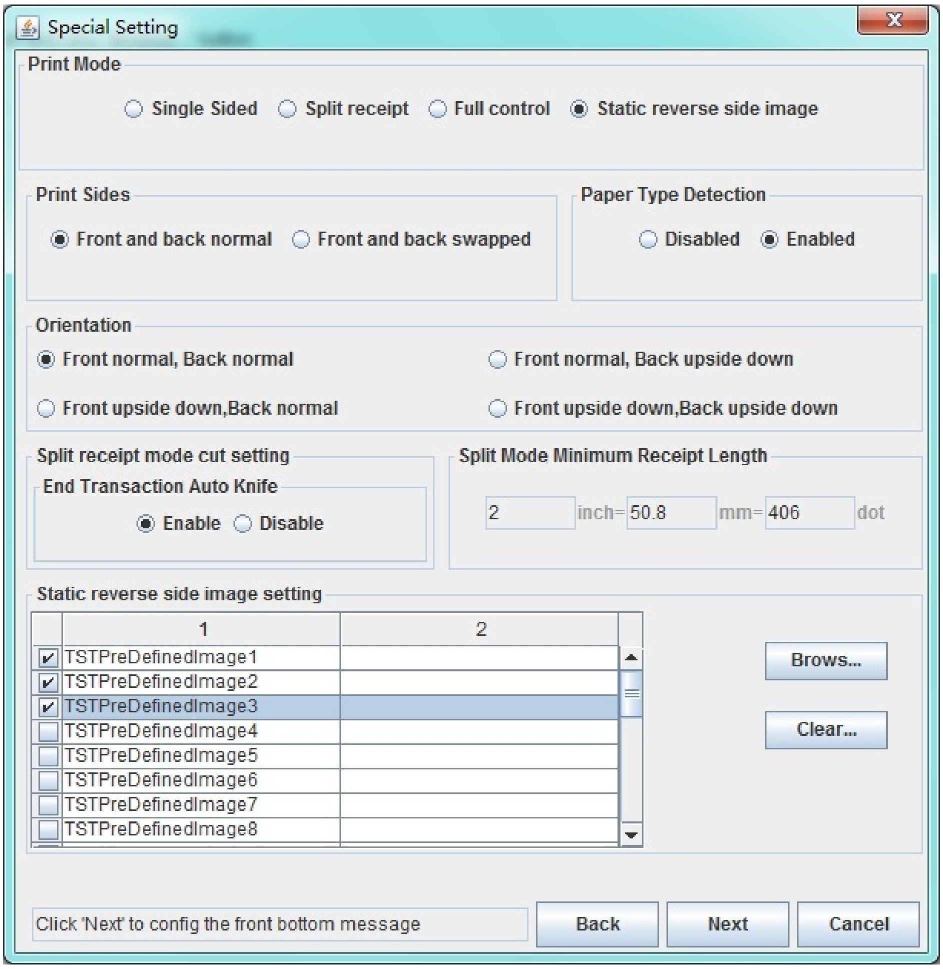
2 inch= 50.8 mm= 406 dot

Static reverse side image setting

	1	2
☑	TSTPreDefinedImage1	E:\PreDefinedImageTestFiles\...
☑	TSTPreDefinedImage2	E:\PreDefinedImageTestFiles\...
☑	TSTPreDefinedImage3	E:\PreDefinedImageTestFiles\...
□	TSTPreDefinedImage4	
□	TSTPreDefinedImage5	
□	TSTPreDefinedImage6	
□	TSTPreDefinedImage7	
□	TSTPreDefinedImage8	

Click 'Next' to config the front bottom message

If you want to clear them, you need to select them and click "Clear..." button.



Special Setting

Print Mode

○ Single Sided ○ Split receipt ○ Full control ● Static reverse side image

Print Sides

● Front and back normal ○ Front and back swapped

Paper Type Detection

○ Disabled ● Enabled

Orientation

● Front normal, Back normal ○ Front normal, Back upside down

○ Front upside down,Back normal ○ Front upside down,Back upside down

Split receipt mode cut setting

End Transaction Auto Knife

● Enable ○ Disable

Split Mode Minimum Receipt Length

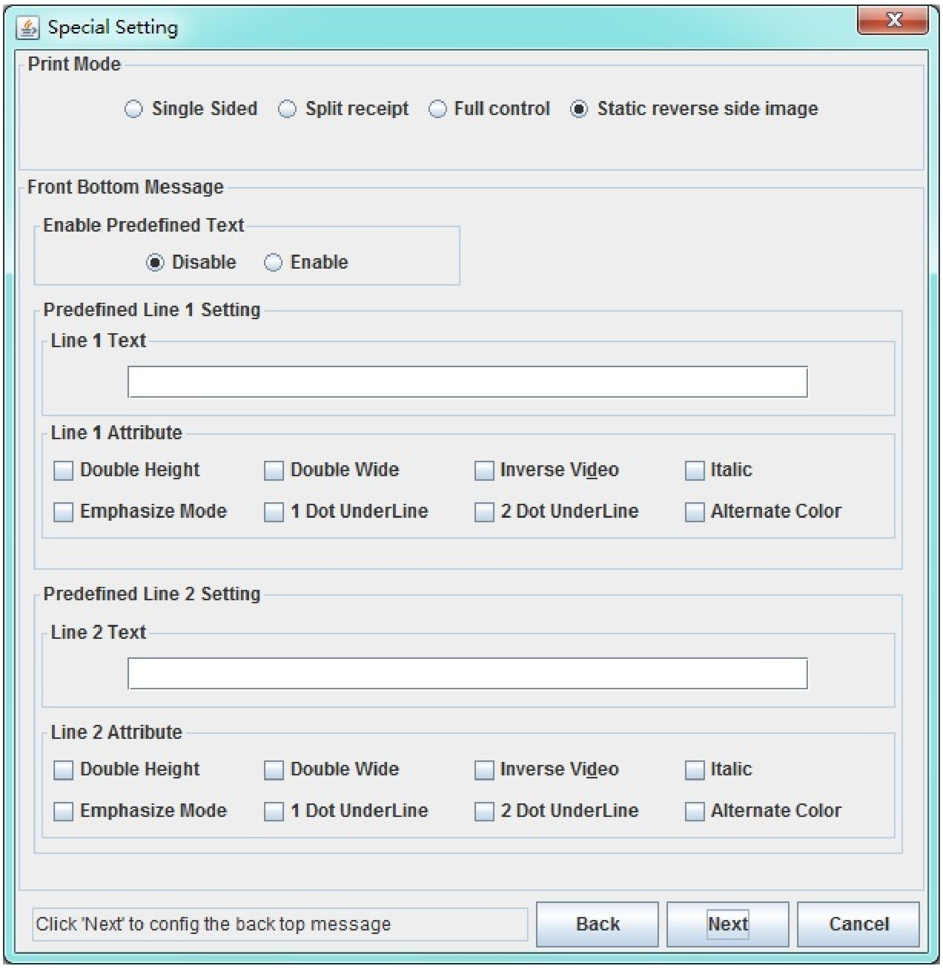
2 inch= 50.8 mm= 406 dot

Static reverse side image setting

	1	2
☑	TSTPreDefinedImage1	
☑	TSTPreDefinedImage2	
☑	TSTPreDefinedImage3	
□	TSTPreDefinedImage4	
□	TSTPreDefinedImage5	
□	TSTPreDefinedImage6	
□	TSTPreDefinedImage7	
□	TSTPreDefinedImage8	

Click 'Next' to config the front bottom message

Step 10: Config the 2ST predefined Bottom Front message function, and you should click the "Next" Button:



Special Setting

Print Mode

○ Single Sided ○ Split receipt ○ Full control ● Static reverse side image

Front Bottom Message

Enable Predefined Text

● Disable ○ Enable

Predefined Line 1 Setting

Line 1 Text

Line 1 Attribute

□ Double Height □ Double Wide □ Inverse Video □ Italic

□ Emphasize Mode □ 1 Dot UnderLine □ 2 Dot UnderLine □ Alternate Color

Predefined Line 2 Setting

Line 2 Text

Line 2 Attribute

□ Double Height □ Double Wide □ Inverse Video □ Italic

□ Emphasize Mode □ 1 Dot UnderLine □ 2 Dot UnderLine □ Alternate Color

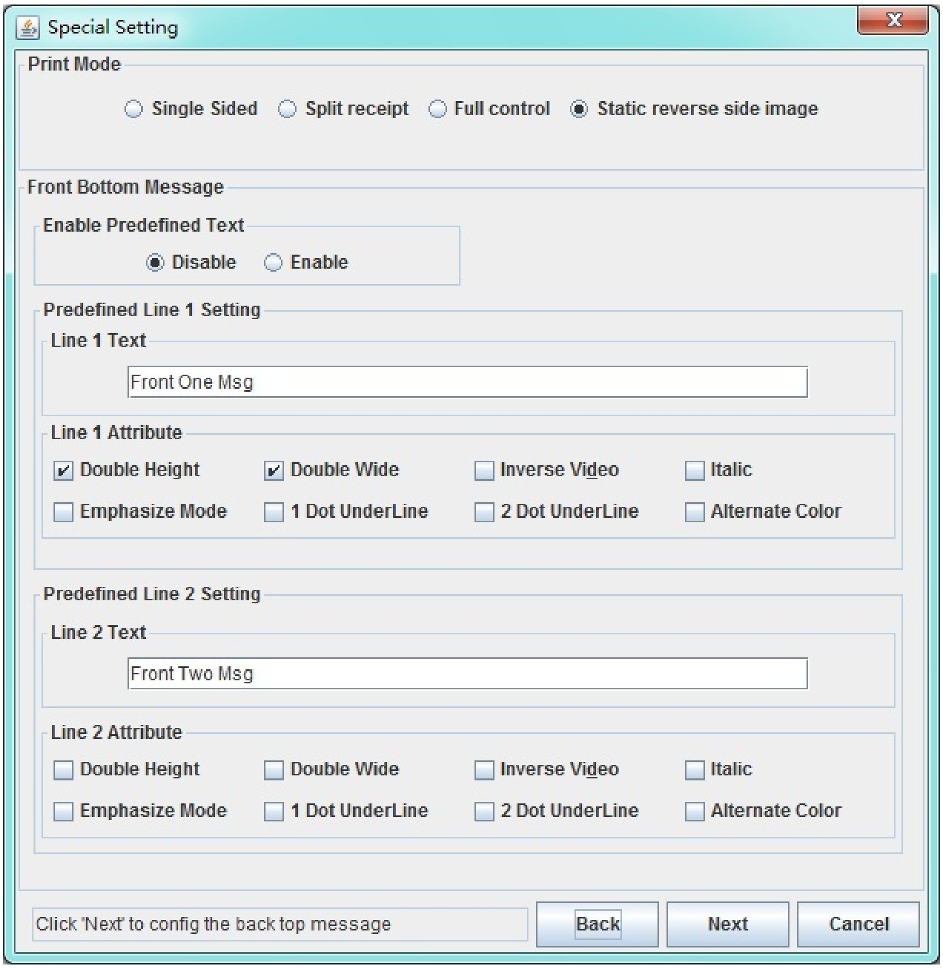
Click 'Next' to config the back top message

Step 11: Enable Predefined Bottom Front message:

Disabled: the Bottom Front message will be forbidden.

Enabled: the Bottom Front message will be fired.

Step 12: If you enable Predefined Bottom Front message, you can set the Bottom Front Lion one message and Bottom Front Lion two message text Attribute, for example, you can set the Bottom Front Lion one message text double height and double wide, and set the Bottom Front Lion two message text normal.



Special Setting

Print Mode

○ Single Sided ○ Split receipt ○ Full control ● Static reverse side image

Front Bottom Message

Enable Predefined Text

● Disable ○ Enable

Predefined Line 1 Setting

Line 1 Text

Front One Msg

Line 1 Attribute

☑ Double Height ☑ Double Wide □ Inverse Video □ Italic

□ Emphasize Mode □ 1 Dot UnderLine □ 2 Dot UnderLine □ Alternate Color

Predefined Line 2 Setting

Line 2 Text

Front Two Msg

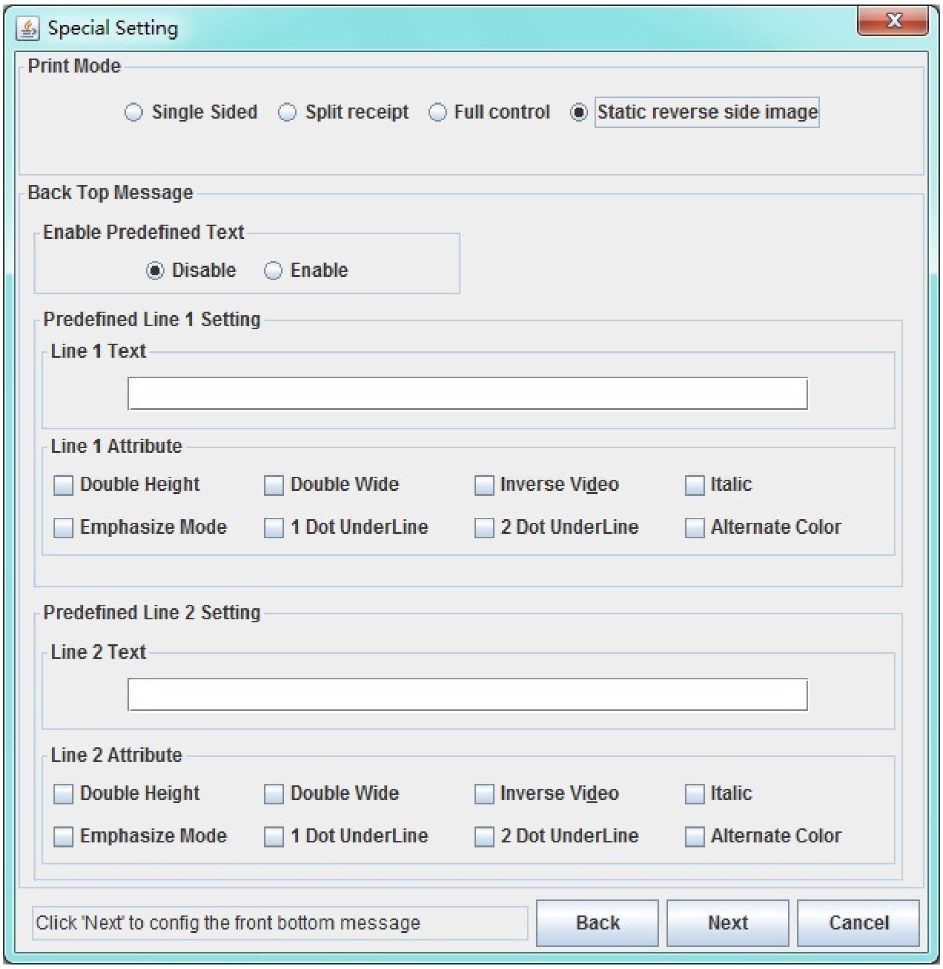
Line 2 Attribute

□ Double Height □ Double Wide □ Inverse Video □ Italic

□ Emphasize Mode □ 1 Dot UnderLine □ 2 Dot UnderLine □ Alternate Color

Click 'Next' to config the back top message

Step 13: Config the 2ST predefined Top Back message function, and you should click the "Next" Button:



Special Setting

Print Mode

○ Single Sided ○ Split receipt ○ Full control ● Static reverse side image

Back Top Message

Enable Predefined Text

● Disable ○ Enable

Predefined Line 1 Setting

Line 1 Text

Line 1 Attribute

□ Double Height □ Double Wide □ Inverse Video □ Italic

□ Emphasize Mode □ 1 Dot UnderLine □ 2 Dot UnderLine □ Alternate Color

Predefined Line 2 Setting

Line 2 Text

Line 2 Attribute

□ Double Height □ Double Wide □ Inverse Video □ Italic

□ Emphasize Mode □ 1 Dot UnderLine □ 2 Dot UnderLine □ Alternate Color

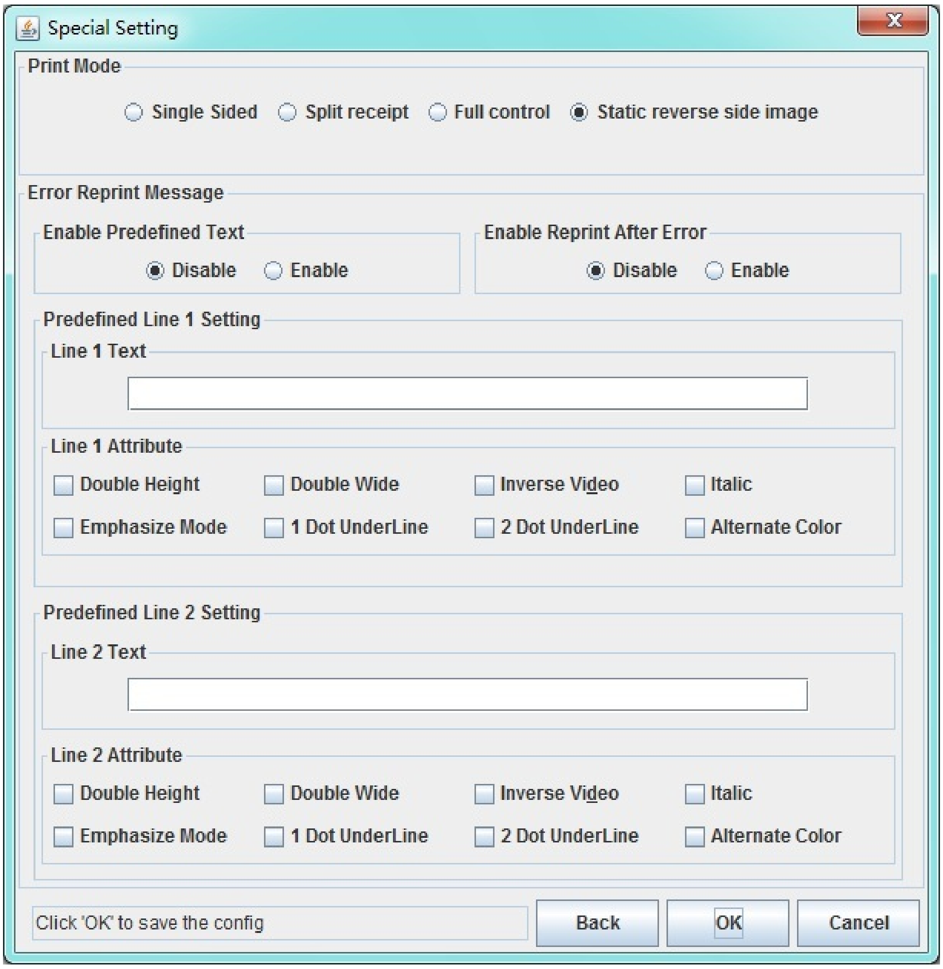
Click 'Next' to config the front bottom message

Step 14: Enable Predefined Top Back message:

Disabled: the Top Back message will be forbidden.

Enabled: the Top Back message will be fired.

Step 15: If you enable Predefined Top Back message, you can set the Top Back Lion one message and Top Back Lion two message text Attribute, for example, you can set the Top Back Lion one message text Emphasize Mode and 1 Dot UnderLine, and set the Top Back Lion two message text Inverse Video and Italic.



Special Setting

Print Mode

○ Single Sided ○ Split receipt ○ Full control ● Static reverse side image

Error Reprint Message

Enable Predefined Text: ● Disable ○ Enable

Enable Reprint After Error: ● Disable ○ Enable

Predefined Line 1 Setting

Line 1 Text

Line 1 Attribute

□ Double Height □ Double Wide □ Inverse Video □ Italic

□ Emphasize Mode □ 1 Dot UnderLine □ 2 Dot UnderLine □ Alternate Color

Predefined Line 2 Setting

Line 2 Text

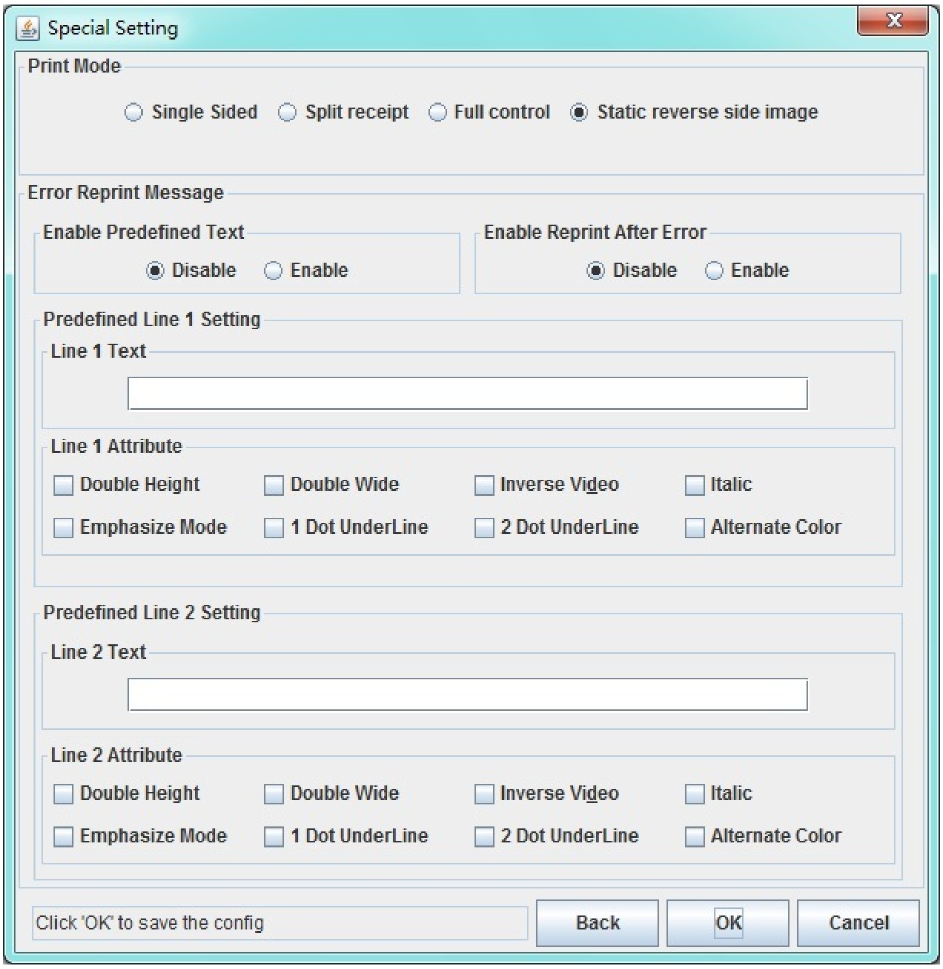
Line 2 Attribute

□ Double Height □ Double Wide □ Inverse Video □ Italic

□ Emphasize Mode □ 1 Dot UnderLine □ 2 Dot UnderLine □ Alternate Color

Click 'OK' to save the config

Step 16: Config the 2ST predefined Error Reprint message function, and you should check the click the "Next" Button:



Special Setting

Print Mode

○ Single Sided ○ Split receipt ○ Full control ● Static reverse side image

Error Reprint Message

Enable Predefined Text: ● Disable ○ Enable

Enable Reprint After Error: ● Disable ○ Enable

Predefined Line 1 Setting

Line 1 Text

Line 1 Attribute

□ Double Height □ Double Wide □ Inverse Video □ Italic

□ Emphasize Mode □ 1 Dot UnderLine □ 2 Dot UnderLine □ Alternate Color

Predefined Line 2 Setting

Line 2 Text

Line 2 Attribute

□ Double Height □ Double Wide □ Inverse Video □ Italic

□ Emphasize Mode □ 1 Dot UnderLine □ 2 Dot UnderLine □ Alternate Color

Click 'OK' to save the config

Step 17: Enable Reprint after error:

Disabled: the JavaPOS Service can't reprint the previous error receipt.

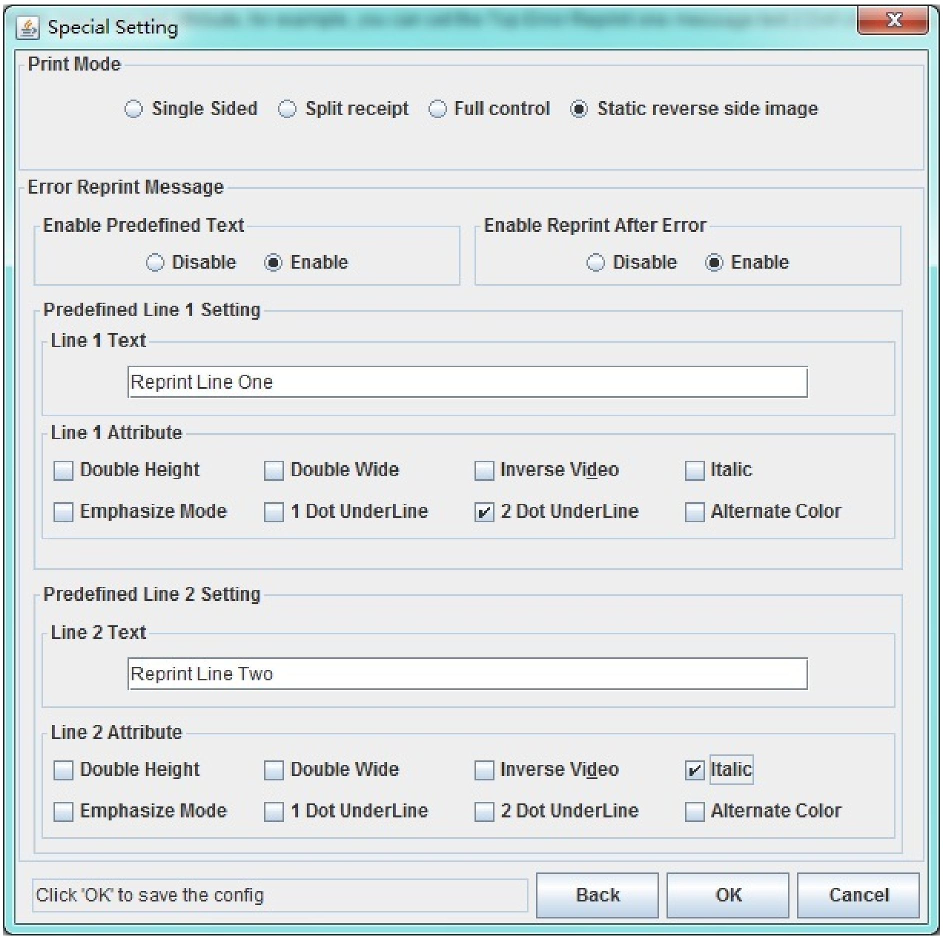
Enabled: the JavaPOS Service reprint the previous error receipt.

Step 18: Enable Predefined Error Reprint message:

Disabled: the Error Reprint message will be forbidden.

Enabled: the Error Reprint message will be fired.

Step 19: If you enable Predefined Error Reprint message, you can set the Error Reprint Lion one message and Error Reprint Lion two message text Attribute, for example, you can set the Top Error Reprint one message text 2 Dot UnderLine, and set the Top Back Lion two message text Italic.



Special Setting

Print Mode

○ Single Sided ○ Split receipt ○ Full control ● Static reverse side image

Error Reprint Message

Enable Predefined Text: ○ Disable ● Enable

Enable Reprint After Error: ○ Disable ● Enable

Predefined Line 1 Setting

Line 1 Text: Reprint Line One

Line 1 Attribute

□ Double Height □ Double Wide □ Inverse Video □ Italic

□ Emphasize Mode □ 1 Dot UnderLine ☑ 2 Dot UnderLine □ Alternate Color

Predefined Line 2 Setting

Line 2 Text: Reprint Line Two

Line 2 Attribute

□ Double Height □ Double Wide □ Inverse Video ☑ Italic

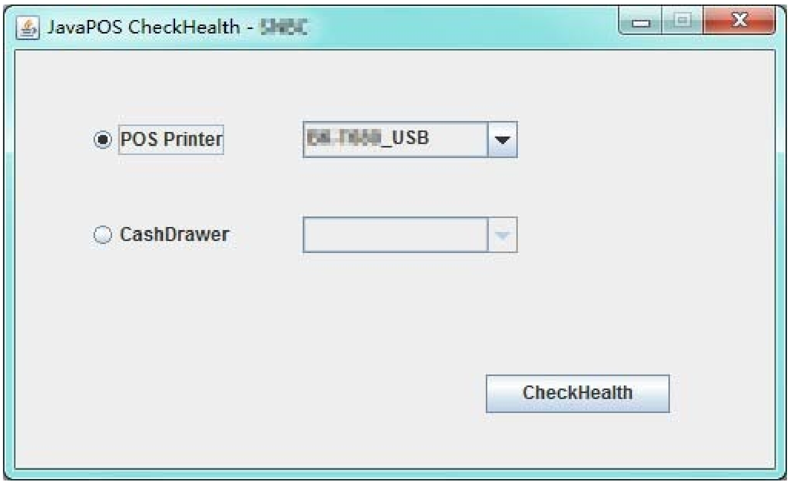
□ Emphasize Mode □ 1 Dot UnderLine □ 2 Dot UnderLine □ Alternate Color

Click 'OK' to save the config

Step 20: check the click the "OK" Button to finish your configuration.

5 CheckHealth Test

In start menu\program\JavaPOS, you can select the configuration tool (JavaPOS\JavaPOS_CheckHealth.bat), and run it:

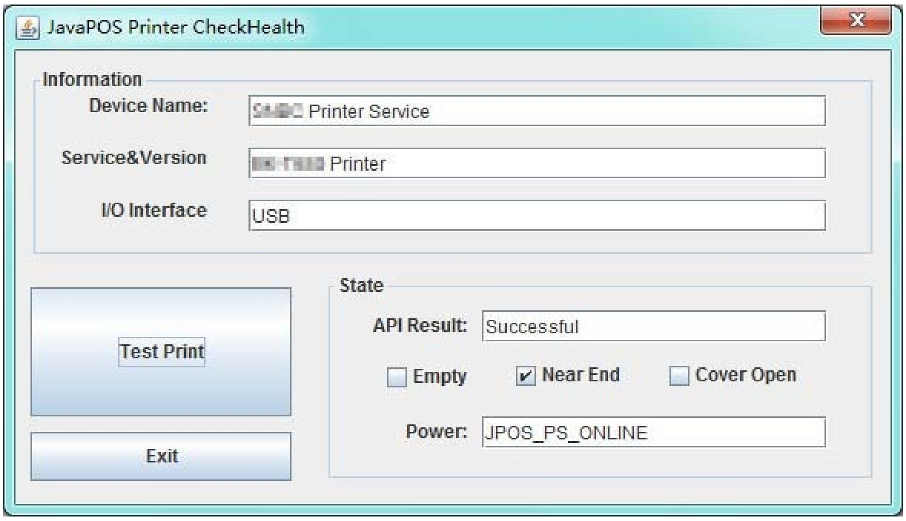


JavaPOS CheckHealth - [redacted]

● POS Printer [redacted]_USB

○ CashDrawer

Click the "CheckHealth" button to create an JavaPOS POSPrinter instance, open, claim, and enable it, then call its **CheckHealth** API for the interactive health check. The JavaPOS health check dialog will look similar to the following:



Information

Device Name: [redacted] Printer Service

Service&Version [redacted] Printer

I/O Interface USB

State

API Result: Successful

□ Empty ☑ Near End □ Cover Open

Power: JPOS_PS_ONLINE

6 Uninstall

In start menu\program\JavaPOS you can select uninstall JavaPOS software (JavaPOS\Change JavaPOS Installation), and click "Uninstall Product" to start the uninstall according to the prompt.

How to port Win32 application to JavaPOS

1 System introduction

This document describes how to port Win32/Win64 application to JavaPOS. Please notice JavaPOS cannot be led to JavaPOS in Win16 or DOS. Furthermore, the routine below is mainly written for Java programmer with a certain experience.

If users require developing based on JavaPOS, they have to install JavaPOS completely, while they also need one or more printer online. After installing JavaPOS software, first use JavaPOS configuration tools (JavaPOS_Configure.bat) to configure printer and cash drawer that can be used after the proper configuration (Refer to “Configuration Tool Usage").

Notice: In the case of programming based on JavaPOS, you should refer to Appendix and know JavaPOS software compliance for JavaPOS 1.14.1.

When programming JavaPOS, you should first know the basic conception and operation requirement of JavaPOS:

--JavaPOS is a standard programming interface for POS peripheral.

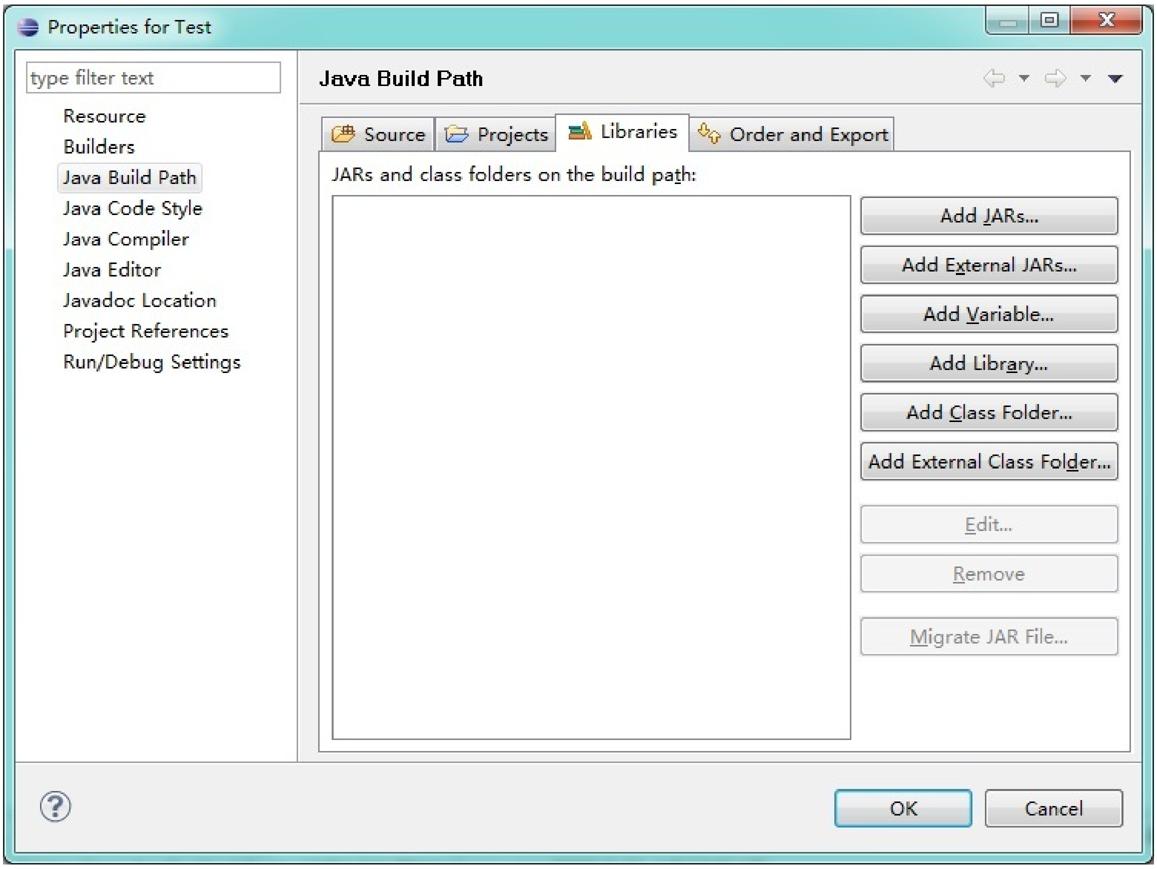
--JavaPOS can only operate under Win32/Win64/Linux system.

--JavaPOS offer properties, methods and events to its own complication. JavaPOS Device Control cannot be seen in operation. The application could control the peripheral via functioning JavaPOS Device Control and setting properties, and return the result to it via methods back value, JavaPOS Device Control properties and events.

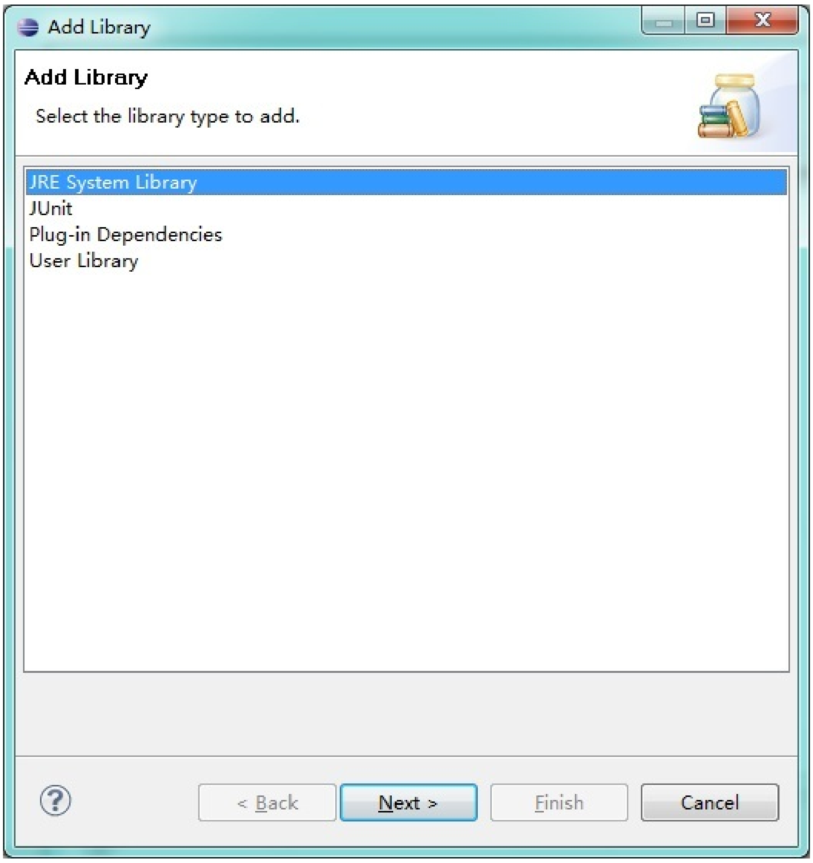
2 Programming introduction

Adding JavaPOS Device Control in project

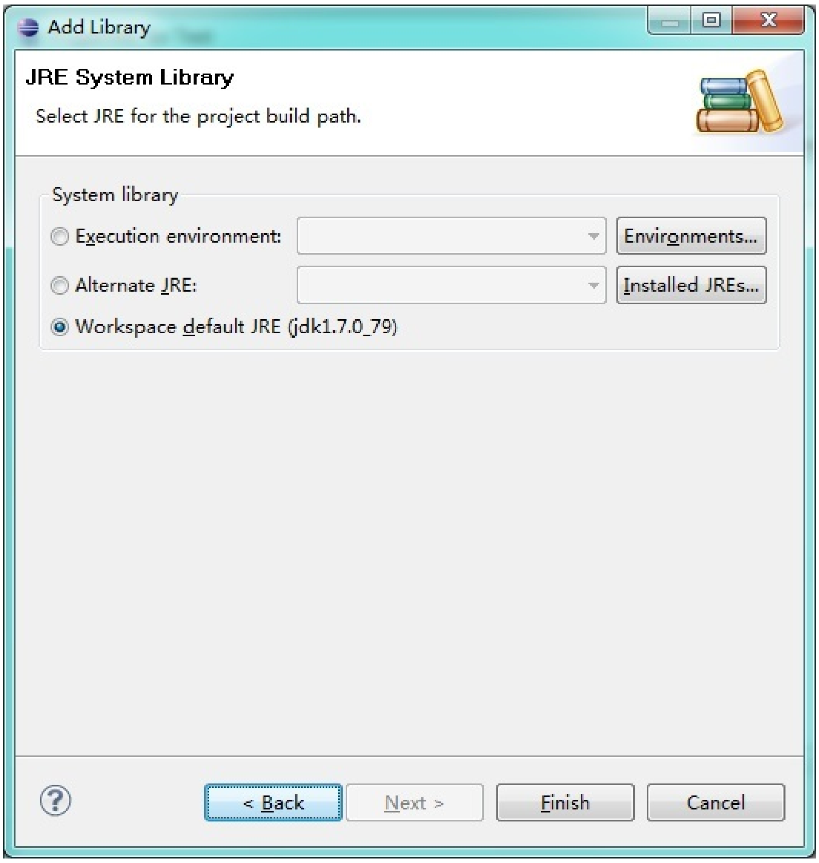
The first step is to add the Common JavaPOS Device Control to the project. This is done by selecting the menu item Project | Properties as below:



click "Add Library" to import jdk to project



select "JRE System Library" and click "Next"



Add Library

JRE System Library

Select JRE for the project build path.

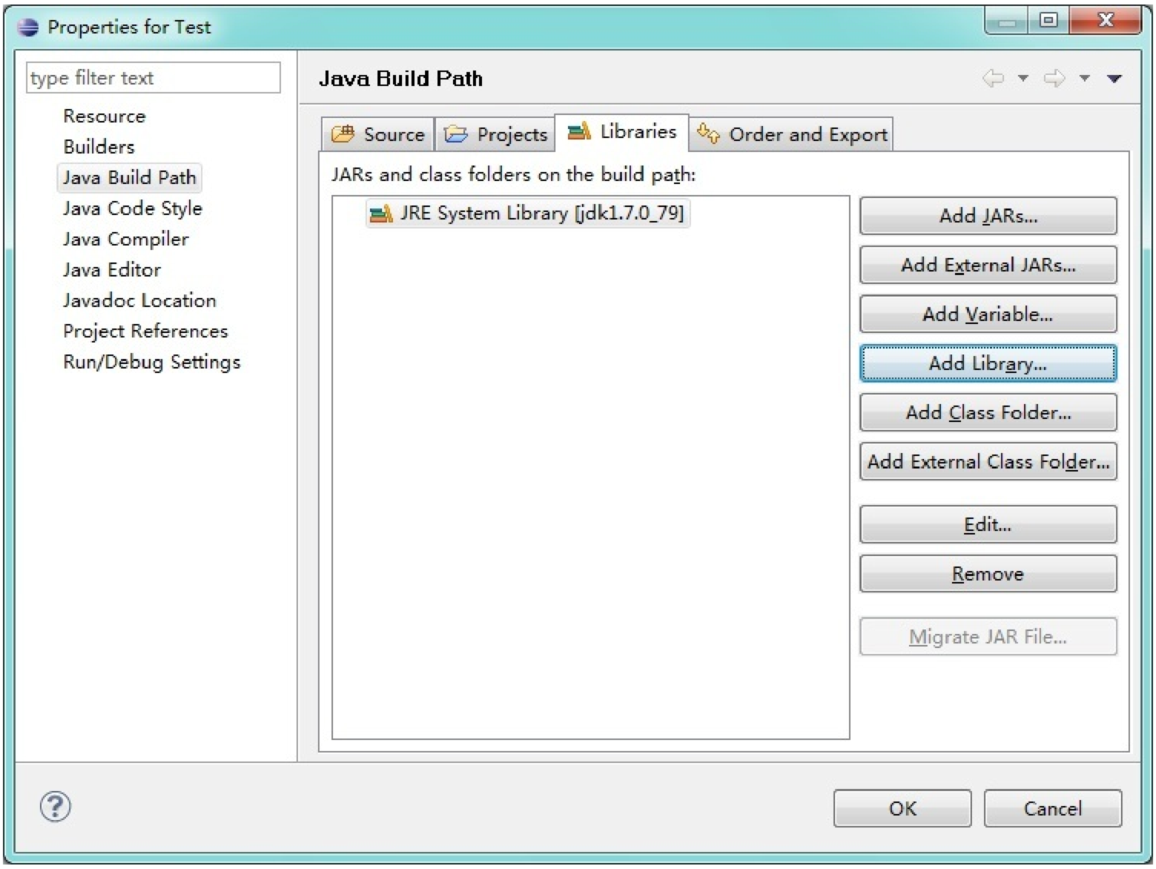
System library

○ Execution environment:

○ Alternate JRE:

● Workspace default JRE (jdk1.7.0_79)

select "Workspace default JRE" click "Finish"



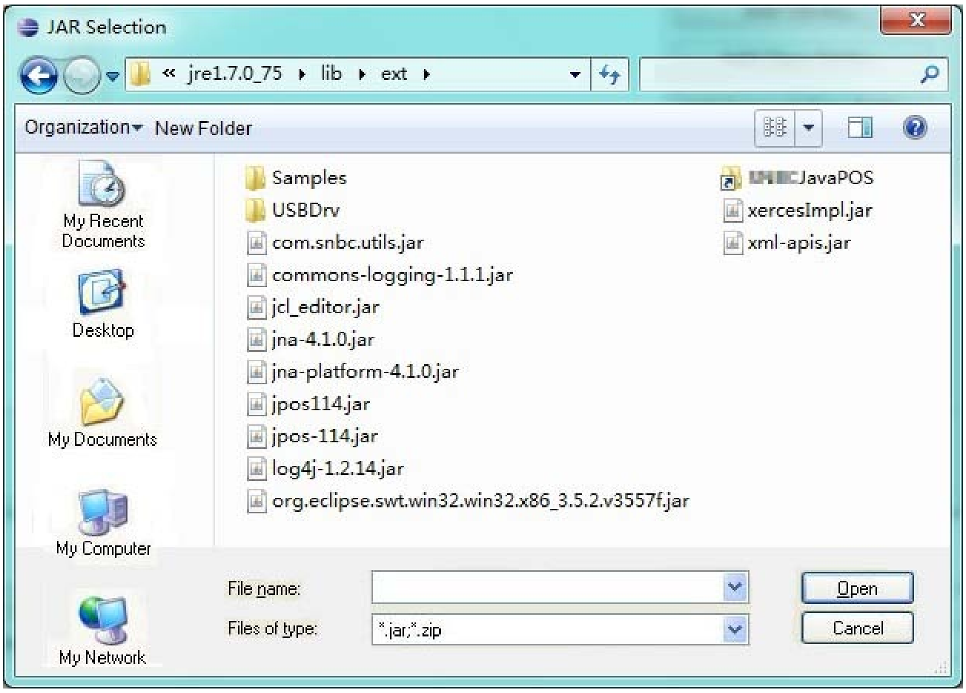
Properties for Test

Java Build Path

JARs and class folders on the build path:

JRE System Library [jdk1.7.0_79]

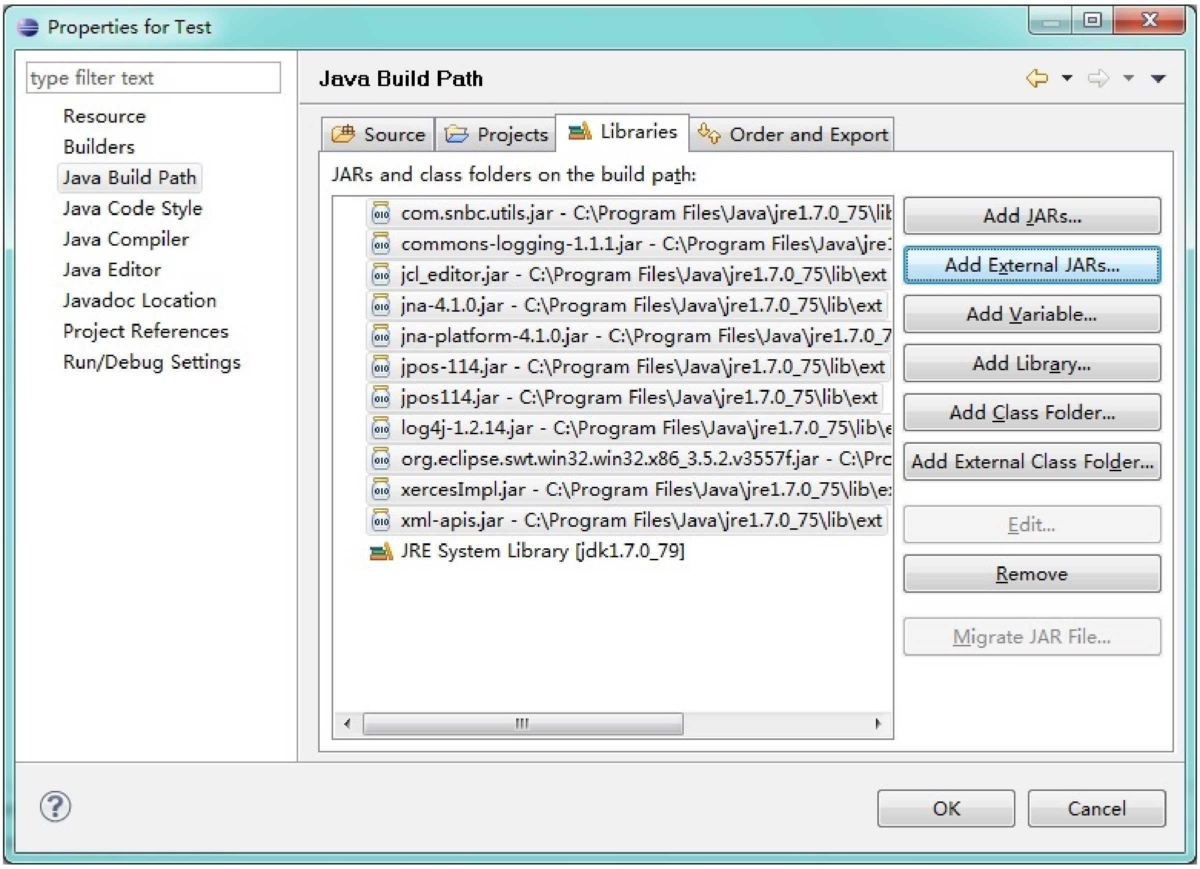
click "Add External JARs"



Samples
USBDrv
com.snbc.utils.jar
commons-logging-1.1.1.jar
jcl_editor.jar
jna-4.1.0.jar
jna-platform-4.1.0.jar
jpos114.jar
jpos-114.jar
log4j-1.2.14.jar
org.eclipse.swt.win32.win32.x86_3.5.2.v3557f.jar
[redacted]JavaPOS
xercesImpl.jar
xml-apis.jar

File name:
Files of type: *.jar;*.zip

select the catalog of JavaPOS and add all *.jar



JARs and class folders on the build path:

com.snbc.utils.jar - C:\Program Files\Java\jre1.7.0_75\lib
commons-logging-1.1.1.jar - C:\Program Files\Java\jre1
jcl_editor.jar - C:\Program Files\Java\jre1.7.0_75\lib\ext
jna-4.1.0.jar - C:\Program Files\Java\jre1.7.0_75\lib\ext
jna-platform-4.1.0.jar - C:\Program Files\Java\jre1.7.0_7
jpos-114.jar - C:\Program Files\Java\jre1.7.0_75\lib\ext
jpos114.jar - C:\Program Files\Java\jre1.7.0_75\lib\ext
log4j-1.2.14.jar - C:\Program Files\Java\jre1.7.0_75\lib\e
org.eclipse.swt.win32.win32.x86_3.5.2.v3557f.jar - C:\Prc
xercesImpl.jar - C:\Program Files\Java\jre1.7.0_75\lib\e
xml-apis.jar - C:\Program Files\Java\jre1.7.0_75\lib\ext
JRE System Library [jdk1.7.0_79]

click "OK" to finish

For more information , see :

Sample Program

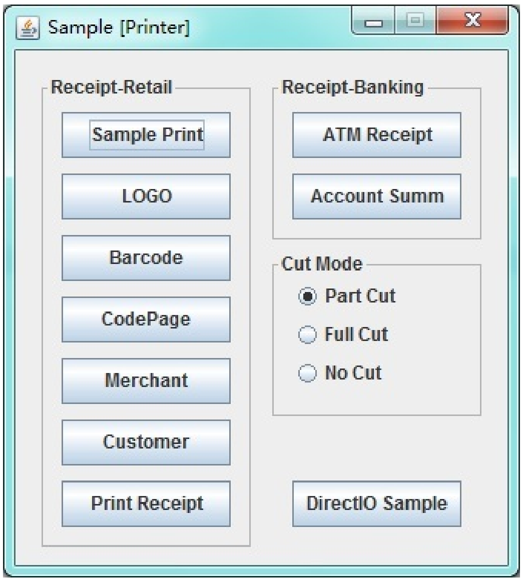
Data Characters and Escape Sequences

Application development guide

Sample Program

JavaPOS offers Sample Program for POS Printer and Cashdrawer in the path of "Samples".

Sample Program for POS Printer:



Initialize Dialog

function	Open device ,initialize printer
Method	open, claim, setDeviceEnabled, setMapMode, setBitmap

Sample Print

function	Samples print
Method	transactionPrint, printNormal, cutPaper

Logo/Barcode

function	Logo and Barcode print
Method	transactionPrint, printNormal(PTR_S_RECEIPT, ESC + "|1B")(Print the bitmap), printBarCode, printNormal, cutPaper

Merchant

function	Supermarket bill print sample
Method	transactionPrint, printNormal, cutPaper

Customer

function	Supermarket bill print sample and Barcode print
Method	transactionPrint, printNormal, printBarCode, cutPaper

Print Receipt

function	Rotate Print sample
Method	getCapRecPresent, getCapRecLeft90, setAsyncMode, rotatePrint, printNormal, setRecLineSpacing, printBarCode, cutPaper

ATM Receipt

function	ATM Print sample
Method	printNormal, cutPaper

Account Summ

function	Account Print sample and asynchronous print
Method	setAsyncMode, rotatePrint, printNormal, cutPaper

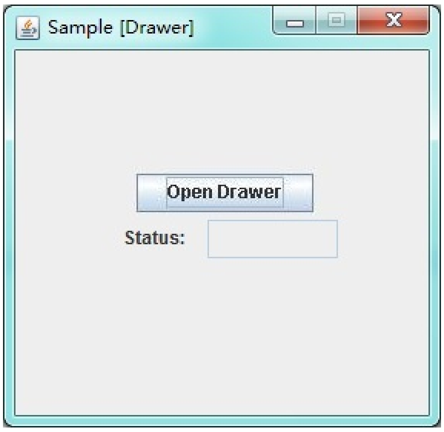
DirectIO Sample

function	DirectIO Sample,print data directly
Method	directIO, printNormal

Other Event

function	detect status of device.
Event	StatusUpdateEvent

Sample Program for Cashdrawer:



Initial Dialog

function	Claim device .
Method	open, claim, setDeviceEnabled.

Open Drawer

function	Open drawer
Method	openDrawer

Other Event

function	detect status of device.
Event	StatusUpdateEvent

For more information, see:

Programming introduction

Data Characters and Escape Sequences

Application development guide

Data Characters and Escape Sequences

The default character set of all POS printers is assumed to support at least the ASCII characters 0x20 through 0x7F, which include spaces, digits, uppercase, lowercase, and some special characters. If the printer does not support lowercase characters, then the Service may translate them to uppercase.

Every escape sequence begins with the escape character ESC, whose value is 27 decimal, followed by a vertical bar (|). This is followed by zero or more digits and/or lowercase alphabetic characters. The escape sequence is terminated by an uppercase alphabetic character.

If a sequence does not begin with ESC "|", or it begins with ESC "|" but is not a valid UnifiedPOS escape sequence, the Service will make a reasonable effort to pass it through to the printer. However, not all such sequences can be distinguished from printable data, so unexpected results may occur.

Starting with Release 1.11, the application can use the ESC|#E escape sequence to ensure more reliable handling of the amount of data to be passed through to the printer. Use of this escape sequence will make an application non-portable. The application may, however, maintain portability by performing Embedded Data Escape sequence calls within conditional code. This code may be based upon the value of the **DeviceServiceDescription**, the **PhysicalDeviceDescription**, or the **PhysicalDeviceName** property.

NOTE: This command sequence definition and the corresponding definition in the Point Card Reader Writer Chapter, are the only known deviations from preserving the interchangeability of devices defined in this specification. If an application finds it necessary to utilize this command sequence, please inform the UnifiedPOS Committee (www.nrfarts.org) with the details of its usage, so that a possible standard/generic Application Interface may be incorporated into a future release of the UnifiedPOS Standard. In order to preserve peripheral independence and interoperability at the Application level, it is the Committee's position that this command sequence should be used only as a "last resort".

The following escape sequences are recognized. If an escape sequence specifies an operation that is not supported by the printer station, then it is ignored.

Commands - Perform indicated action.

Name	Data	Remarks
Paper Cut replaced by an ASCII	ESC |#P	Cuts receipt paper. The character # is
		decimal string telling the percentage
cut desired. If # is		
		omitted, then a full cut is performed.
For example: The C string		
		"\x1B|75P" requests a 75% partial cut.
Feed and Paper cut paper by the	ESC |#fp	Cuts receipt paper, after feeding the
		RecLinesToPaperCut lines. The
character # is defined by		
		the "Paper cut" escape sequence.
Print bitmap	ESC |#B	Prints the pre-stored bitmap. The

		character # is replaced by the bitmap number. See setBitmap method.
Print top logo	ESC |tL	Prints the pre-stored top logo.
Print bottom logo	ESC |bL	Prints the pre-stored bottom logo.
Feed lines	ESC |#lF	Feed the paper forward by lines. The character # is replaced by an ASCII decimal string telling the number of lines to be fed. If # is omitted, then one line is fed.
Feed units	ESC |#uF	Feed the paper forward by mapping mode units. The character # is replaced by an ASCII decimal string telling the number of units to be fed. If # is omitted, then one unit is fed.
Pass through embedded data (**See "a" below**)	ESC |#E	Send the following # characters of data through to the hardware without modifying it. The character '#' is replaced by an ASCII decimal string telling the number of bytes following the escape sequence that should be passed through as-is to the hardware. **Restriction:** Due to implementation details the amount of data passed to the printer through this escape sequence is limited to 3.5K. In order to reach this maximum, this escape sequence must be the only command in the print request. If the amount of data exceeds 3.5K, then the data maybe corrupted by the JavaPOS Service Object inserting a buffered status request into

the data stream.

a. This escape sequence is only available in version 1.7 and later.

Print Mode - Characteristics that are remembered until explicitly changed.

Name	Data	Remarks

Font typeface selection	ESC |#fT	Selects a new typeface for the following data. Values for the character # are:
		0 = Default typeface.
		1 = Select first typeface from the FontTypefaceList property.
		2 = Select second typeface from the FontTypefaceList property. And so on.

Print Line - Characteristics that are reset at the end of each print method or by a "Normal" sequence.

Name	Data	Remarks
Bold	ESC |bC	Prints in bold or double-strike.
Underline	ESC |#uC	Prints with underline. The character # is replaced by an ASCII decimal string telling the thickness of the underline in printer dot units. If # is omitted, then a printer-specific default thickness is used.
Italic	ESC |iC	Prints in italics.
Alternate Color (Custom)	ESC |#rC	Prints using an alternate custom color. The character # is replaced by an ASCII decimal string indicating the desired color. The value of the decimal string is equal to the value of the cartridge constant used in the printer device properties. If # is omitted, then the secondary color

		(Custom Color 1) is selected. Custom Color 1 is usually red.
Reverse Video	ESC |rvC	Prints in a reverse video format.
Single high & wide	ESC |1C	Prints normal size.
Double wide	ESC |2C	Prints double-wide characters.
Double high	ESC |3C	Prints double-high characters.
Double high & wide	ESC |4C	Prints double-high/double-wide characters.
Scale horizontally	ESC |#hC	Prints with the width scaled # times the normal size, where # is replaced by an ASCII decimal string.
Scale vertically	ESC |#vC	Prints with the height scaled # times the normal size, where # is replaced by an ASCII decimal string.
Center	ESC |cA	Aligns following text in the center.
Right Justify	ESC |rA	Aligns following text at the right.
Normal	ESC |N	Restores printer characteristics to normal condition.

a. These escape sequence are only available in version 1.5 and later.

Escape Sequences to Control the Two-Sided Functionality within a Mode

The following escape sequences are used to control the two-sided functionality through JavaPOS. These escape sequences take advantage of the JavaPOS "Pass through embedded data" escape sequence. All of these escape sequences must be wrapped by this "Pass through embedded data **ESC|#E**" to be recognized.

The values set by these escape sequences are only valid for the current instance of the JavaPOS service. If the device is set to disabled, then the configured settings are restored on the next enable.

The functionality provided by these escape sequences depends on the current **TST2SideMode** configuration setting. For some settings, they may be ignored and have no effect. All numeric parameters are ASCII characters for numeric values.

Escape Sequence	Functionality	Possible Values
ESC [2ST; 1; 1; n !v	Sets the front side print orientation	n = 0 : No rotation of printing = 1 : 180-degree rotation (upside down)
ESC [2ST; 1; 2; n !v	Sets the back side print orientation	n = 0 : No rotation of printing = 1 : 180-degree rotation (upside down)
ESC [2ST; 1; 3; n !v	Switches Front / Back printing	n = 0 : Normal (front side faces toward front of the printer) = 1 : Swapped (front side faces away from the front of the printer)
ESC [2ST; 1; 4; n !v	Enables / disables predefined Reprint on Error message	n = 0 : Disable = 1 : Enable
ESC [2ST; 2; 1; n !v	Enables / disables predefined Bottom Front message	n = 0 : Disable = 1 : Enable
ESC [2ST; 2; 2; n !v	Enables / disables predefined Top Back message	n = 0 : Disable = 1 : Enable
ESC [2ST; 2; 3; x; y; z !v	Sets attributes for a predefined Bottom Front / Top Back / Reprint message	x = 0 : Front = 1 : Back = 2 : Reprint y = 1 : First Line = 2 : Second Line z = 0x1 : Double High 0x4 : Double Wide 0x10 : Emphasize Mode 0x40 : 1 Dot Underline Mode 0x100 : Inverse Video

		0x400 : Italic 0x1000 : 2 Dot Underline Mode 0x4000 : Alternate Color Adding all attribute values together would equal to 0x5555. **NOTE**: Parameter z is coded as ASCII characters, but they represent a Hex-based number.
ESC [2ST; 2; 4; x; y !v [text]	Sets the string for a predefined Bottom Front / Top Back / Reprint message	x = 0 : Front = 1 : Back = 2 : Reprint y = 1 : First Line = 2 : Second Line text = ASCII character to define pre-defined lines.
ESC [2ST; 3; n !v [directory/filename]	Download a specified image to back side	n = 0, and the directory/filename is NULL, Clear the back side image. n = 0, and the directory/filename is a existed image, download it to the back side.
ESC [2ST; 4; n !v [text]	Defines variable print data. it allows a dynamic string to assign to the variable. It only definition of predefined variables embedded in static images.	n = 1-50 : Corresponds to the variable to define text = ASCII allows a maximum of 57 characters. Characters beyond 57 are ignored.

The escape sequences defined above that set the 2ST modes and change the pre-defined text values must be sent in their own Transaction print. They should be sent either before any Receipt is printed or between Receipt Transaction prints. They should not be sent as part of a Receipt. This is because they do not take effect until the next Transaction print.

The only exception is the ESC [2ST; 4; n !v [text] which defines the dynamic data for pre-defined variables in reverse side images. This escape sequence is intended to define text to be printed as part of the current Receipt.

Special Escape Sequences to Switch between Modes

The following escape sequence is used to dynamically change the way JavaPOS handles two-sided printing. Because this sequence is changing the mode of operation, it is only valid under certain conditions. It sets the mode in the same manner as if the **Claim** had been performed with this mode configured in the **TST2SideMode** option.

Escape Sequence	Functionality	Possible Values
ESC [2ST; 5; n !v	Sets the printer's mode of	n = 0 : Single

Sided Mode

operation

This parameter

is only valid immediately after a knife cut,

before any

other print orientation is sent to the

printer. It is

ignored if the printer is already processing

data.

= 1 : Double

Sided Mode with Single Side Command

If in mode 0,

this is valid only if there are no

outstanding

print operations. If in a two-sided mode,

the same

restrictions as listed in mode 0 apply.

= 2 : Double

Sided Mode with Double Side

Command

If
in
mode
0,
this
is
valid
only

if there are no outstanding operations. If in a two-sided mode, the same restrictions in mode 0 apply.

= 3 : Double Sided Mode with Predefined Data

If in mode 0, this is valid only if there are no outstanding operations. If in a two-sided mode, the same restrictions in mode 0 apply.

Select Print Side Sequence

This special sequence is only valid when mode 2 (Double Sided Mode with Double Side Command) is selected. If any other mode is selected, it is ignored.

This escape sequence is used within a **transactionPrint** to designate which side of the thermal paper subsequent print operations are performed.

Escape Sequence	Functionality	Possible Values
ESC [2ST; 6; n !v	Selects the side to print data on	n = 0 : Send data to front side of paper = 1 : Send data to back side of paper

Once this command is issued, all print operations continue to be sent to that side of the paper until the sequence is sent again to change it, or until a **transactionPrint(PTR_TP_NORMAL)** is issued.

After transaction printing has completed, the current side is always reset to the front side of the paper.

Application development guide

Programming examples of how to use API functions relating to a POS Printer.

1. Printer Stations

The printer model defines three stations:

Journal ....PTR_S_JOURNAL

Receipt ....PTR_S_RECEIPT

Slip ....PTR_S_SLIP

JavaPOS supports Receipt station only.

Example:

```
if (ptr.getCapRecPresent() == true);         // Receipt functions are available

if (ptr.getCapRecPresent() == false);        // Receipt functions are not available
```

2.MapMode Settings

Holds the mapping mode of the printer. The mapping mode defines the unit of measure used for other properties, such as line heights and line spacing. It has one of the following values:

Value	Meaning
PTR_MM_DOTS	The printer’s dot width. This width may be different for each printer station.
PTR_MM_TWIPS	1/1440 of an inch.
PTR_MM_ENGLISH	0.001 inch
PTR_MM_METRIC	0.01 millimeter.

Setting this property may also change JrnLineHeight, JrnLineSpacing, JrnLineWidth, RecLineHeight, RecLineSpacing, RecLineWidth, SlpLineHeight, SlpLineSpacing, and SlpLineWidth.

```
ptr.setMapMode (POSPrinterConst.PTR_MM_DOTS) .

ptr.setMapMode (POSPrinterConst.PTR_MM_TWIPS) .

ptr.setMapMode (POSPrinterConst.PTR_MM_ENGLISH) .

ptr.setMapMode (POSPrinterConst.PTR_MM_METRIC) .
```

3.Line Information

Holds the number of characters that may be printed on a receipt line. Setting this property may also update RecLineWidth, RecLineHeight, and RecLineSpacing, since the character pitch or font may be changed.

RecLineChars ....The number of characters that can be printed on a single line can be browsed or set.

RecLineCharsList...The width of supported characters can be browsed or set.

RecLineHeight ....The height of a single line can be obtained.

RecLineSpacing.....The space between lines can be browsed or set.

RecLineWidth.........The width of a single line can be obtained.

If changed to a line character width that is less than or equal to the maximum value allowed for the printer, then the width is set to the specified value. If the exact width cannot be supported, then subsequent lines will be printed with a character size that most closely supports the specified characters per line. If the character width is greater than the maximum value allowed for the printer, then an exception is thrown.

4.AsyncMode Property

If true, then the print methods cutPaper, markFeed, printBarCode, printBitmap, printNormal, printTwoNormal, rotatePrint, and transactionPrint will be performed asynchronously.

If false, they will be printed synchronously.

Asynchronous Printing:

```
ptr.setAsyncMode(true);
ptr.printNormal(POSPrinterConst.PTR_S_RECEIPT, "Print Data\n");
```

Synchronous printing:

```
ptr.setAsyncMode(false);
ptr.printNormal(POSPrinterConst.PTR_S_RECEIPT, "Print Data\n");
```

5.Setting the Logo

Saves a data string as the top or bottom logo. A logo may then be printed by calling the printNormal, printTwoNormal, or printImmediate method with the print top logo or print bottom logo escape sequence in the print data.

Example:

```
ptr.setLogo(POSPrinterConst.PTR_L_TOP, "JAVAPOS LOGO TOP");
ptr.setLogo(POSPrinterConst.PTR_L_BOTTOM, "JAVAPOS LOGO BOTTOM");
ptr.printNormal(POSPrinterConst.PTR_S_RECEIPT, "\u001b|tL\n");
ptr.printNormal(POSPrinterConst.PTR_S_RECEIPT, "\u001b|bL\n");
```

The printed results of the above program are as follows.

```
JAVAPOS LOGO TOP
JAVAPOS LOGO BOTTOM
```

6.Bitmap Printing

Bitmaps can be printed on a station that supports bitmap printing. To use this function, check to see if the printer is able to print bitmaps, and if so send the data.

```
ptr.getCapRecBitmap() == true;      //Bitmaps can be printed.

ptr.getCapRecBitmap() == false;     //Bitmaps cannot be printed.
```

Example1:

```
 try{

   ptr.printBitmap(POSPrinterConst.PTR_S_RECEIPT, "Bitmap.bmp",
   POSPrinterConst.PTR_BM_ASIS,
   POSPrinterConst.PTR_BM_RIGHT);

}catch(JposException e){

    e.getStackTrace();

}
```

Example2:

```
ptr.setBitmap(1, POSPrinterConst.PTR_S_RECEIPT, "Bitmap.bmp",
POSPrinterConst.PTR_BM_ASIS, POSPrinterConst.PTR_BM_RIGHT);

ptr.printNormal(POSPrinterConst.PTR_S_RECEIPT, "\u001b|1B");
```

7.Printing Bar Codes

Prints a bar code on the specified printer station. This method is performed synchronously if AsyncMode is false, and asynchronously if AsyncMode is true. If RotateSpecial indicates that the bar code is to be rotated, then perform the rotation.

Bar codes can be printed on a station if the printer supports bar code printing.

printBarCode (station, data, symbology , height , width, alignment:, textPosition):

Parameter	Value	Description
station	PTR_S_RECEIPT or PTR_S_SLIP	The printer station to be used, JavaPOS fixed to PTR_S_RECEIPT
data	Character string to be bar coded.	Character string to be bar coded.
symbology	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,	Bar code symbol type to use. The values on the left are supported by JavaPOS.
height	Bar code height. Expressed in the unit of measure given by MapMode.	Bar code height. Expressed in the unit of measure given by MapMode.
width	Bar code width. Expressed in the unit of measure given by MapMode.	Bar code width. Expressed in the unit of measure given by MapMode.
alignment	PTR_BC_LEFT, PTR_BC_CENTER, PTR_BC_RIGHT	Placement of the bar code. See values below.
textPosition	PTR_BC_TEXT_NONE ,PTR_BC_TEXT_ABOVE, PTR_BC_TEXT_BELOW	Placement of the readable character string.

Example:

```
try{

    ptr.printBarCode(POSPrinterConst.PTR_S_RECEIPT, "12345678",

    POSPrinterConst.PTR_BCS_EAN8, ptr.getRecLineHeight() * 2,

    ptr.getRecLineWidth() / 2, POSPrinterConst.PTR_BC_CENTER,

    POSPrinterConst.PTR_BC_TEXT_BELOW);

}catch(JposException e){

    e.getStackTrace();

}
```

8.Rotated Printing

Printed data can be turned 90-degree or 180-degree with the method of rotatePrint .

Example:

```
ptr.rotatePrint(POSPrinterConst.PTR_S_RECEIPT,
POSPrinterConst.PTR_RP_BITMAP
| POSPrinterConst.PTR_RP_LEFT90);
ptr.printNormal(POSPrinterConst.PTR_S_RECEIPT, "Left 90 Print\n");
ptr.rotatePrint(POSPrinterConst.PTR_S_RECEIPT,
POSPrinterConst.PTR_RP_NORMAL);
```

9.Immediate Printing

This method tries to print its data immediately-that is, as the very next printer operation. It may be called when asynchronous output is outstanding. This method is primarily intended for use in exception conditions when asynchronous output is outstanding, such as within an error event handler.

printImmediate (station, data):

Parameter	Value	Description
station	PTR_S_JOURNAL, PTR_S_RECEIPT or PTR_S_SLIP.	The printer station to be used, JavaPOS fixed to PTR_S_RECEIPT
data	data be printed.	Refer to UPOS Specifications.

Example:

```
ptr.printImmediate(POSPrinterConst.PTR_S_RECEIPT,"Welcome come again\n");
```

10.Transaction Printing

Enters or exits transaction mode. If control is PTR_TP_TRANSACTION, then transaction mode is entered. Subsequent calls to printNormal, cutPaper, rotatePrint, printBarCode, and printBitmap will buffer the print data (either at the printer or the Service, depending on the printer capabilities) until transactionPrint is called with the control parameter set to PTR_TP_NORMAL.

If control is PTR_TP_NORMAL, then transaction mode is exited. If some data was buffered by calls to the methods printNormal, cutPaper, rotatePrint, printBarCode, and printBitmap, then the buffered data is printed. The entire transaction is treated as one message. This method is performed synchronously if AsyncMode is false, and asynchronously if AsyncMode is true.

transactionPrint (station, control)

Parameter	Value	Description
station	PTR_S_JOURNAL, PTR_S_RECEIPT or PTR_S_SLIP.	The printer station to be used, JavaPOS fixed to PTR_S_RECEIPT
control	PTR_TP_TRANSACTION, PTR_TP_NORMAL	Begin a transaction and End a transaction by printing the buffered data.

Example:

```
ptr.setAsyncMode(true);

ptr.printImmediate(
POSPrinterConst.PTR_S_RECEIPT,
"\n"
+ "enter Trasanction model, printNormal, cutPaper, rotatePrint, printBarCode, and printBitmap will only buffer the data"
+ "\n");

ptr.transactionPrint(POSPrinterConst.PTR_S_RECEIPT,
POSPrinterConst.PTR_TP_TRANSACTION);

ptr.printNormal(POSPrinterConst.PTR_S_RECEIPT, "Welcome to JavaPOS !"
+ "\n");

ptr.rotatePrint(POSPrinterConst.PTR_S_RECEIPT,
POSPrinterConst.PTR_RP_ROTATE180);

ptr.printNormal(POSPrinterConst.PTR_S_RECEIPT, "Welcome to JavaPOS !"
+ "\n");

ptr.setBitmap(1, POSPrinterConst.PTR_S_RECEIPT, "Bitmap.bmp",
POSPrinterConst.PTR_BM_ASIS, POSPrinterConst.PTR_BM_LEFT);

ptr.printNormal(POSPrinterConst.PTR_S_RECEIPT, "\u001b|1B");

ptr.transactionPrint(POSPrinterConst.PTR_S_RECEIPT,
POSPrinterConst.PTR_TP_NORMAL);
```

11.Paper Cutting

Cuts the receipt paper, This method is performed synchronously if AsyncMode is false, and asynchronously if AsyncMode is true. Many printers with paper cut capability can perform both full and partial cuts.

cutPaper (percentage)

percentage: The percentage of paper to cut, if percentage equals to 100, printer perform Full cut, if percentage less than 100, printers perform partial cuts.

Example1 :

```
ptr.cutPaper(100);
```

Example 2:

```
ptr.printNormal(POSPrinterConst.PTR_S_RECEIPT, "\u001b|P");
```

12.Checking the Printer State

The state of the printer can be checked through properties supported by the printer as well as be checked by firing a StatusUpdateEvent.

Example :

```
if (ptr.getCoverOpen())
;// Cover is open

ptr.addStatusUpdateListener(new StatusUpdateListener() {

public void statusUpdateOccurred(StatusUpdateEvent event) {
if (event.getStatus() == POSPrinterConst.PTR_SUE_COVER_OK) {

}
}
});
```

Notifies the application that a printer has had an operation status change. This event contains the following attribute (Supported by JavaPOS) :

Value	Description
PTR_SUE_COVER_OPEN	Printer cover is open.
PTR_SUE_COVER_OK	Printer cover is closed.
PTR_SUE_REC_EMPTY	No receipt paper.
PTR_SUE_REC_NEAREMPTY	Receipt paper is low.
PTR_SUE_REC_PAPEROK	Receipt paper is ready.
JPOS_SUE_POWER_ONLINE	Receipt paper is powered on.
JPOS_SUE_POWER_OFF	Receipt paper is powered off.
PTR_SUE_IDLE	CO State is IDLE

13.Color Printing

As referring to the CapRec2Color property, supported colors can be confirmed. After confirming the available colors, color printing can be done using ESC |#rC or ESC |rC.

Example:

```
if (ptr.getCapRec2Color()) {

    ptr.printNormal(POSPrinterConst.PTR_S_RECEIPT, "u001b|2rC"
    + "Color Printint Test" + "\n" + "Welcome to JavaPOS"+ "\n");
}
```

For more information , see:

Programming introduction

Sample Program

Data Characters and Escape Sequences

JavaPOS1.14.1 Compliance List

1 General properties, methods and events

Properties					
Name	**Version**	**Type**	**Access**	**MayUseAfter**	**Compliance**
AutoDisable	1.2	boolean	R/W	Not Supported	Unsupported
CapPowerReporting	1.3	int	R	open	OK
CheckHealthText	1	String	R	open	OK
claimed	1	boolean	R	open	OK
DataCount	1.2	int	R	Not Supported	Unsupported
DataEventEnabled	1	boolean	R/W	Not Supported	Unsupported
DeviceEnabled	1	boolean	R/W	open&claim	OK
FreezeEvents	1	boolean	R/W	open	OK
OutputID	1	int	R	open	OK
PowerNotify	1.3	int	R/W	open	OK
PowerState	1.3	int	R	open	OK
State	1	int	R		OK
DeviceControlDescription	1	String	R		OK
DeviceControlVersion	1	int	R		OK
DeviceServiceDescription	1	String	R	open	OK
DeviceServiceVersion	1	int	R	open	OK
PhysicalDeviceDescription	1	String	R	open	OK
PhysicalDeviceName	1	String	R	open	OK
CapCompareFirmwareVersion	1.9	boolean	R	open	Unsupported
CapStatisticsReporting	1.8	boolean	R	open	Unsupported
CapUpdateFirmware	1.9	boolean	R	open	Unsupported
CapUpdateStatistics	1.8	boolean	R	open	Unsupported

Methods			
Name	**Version**	**MayUseAfter**	**Compliance**
open	1.4		OK
close	1.4	open	OK
claim	1.4	open	OK
release	1.4	open,claim	OK
checkHealth	1.4	open,claim,& enable	OK
clearInput	1.4	Not supported	Unsupported
clearOutput	1.4	open,claim,& enable	OK
directIO	1.4	open	OK
compareFirmwareVersion	1.9	open,claim,& enable	OK
updateStatistics	1.8	open,claim,& enable>	Unsupported
updateFirmware	1.9	open,claim,& enable	Unsupported
retrieveStatistics	1.8	open,claim,& enable	Unsupported
resetStatistics	1.8	open,claim,& enable	Unsupported
clearInputProperties	1.10	Not supported	Unsupported

2 Special properties, methods and events of printer

2.1 Special properties

Name	Version	Type	Access	MayUseAfter	Compliance
CoverOpen	1	boolean	R	open,claim& enable	OK
ErrorLevel	1.1	int	R	open	OK
ErrorStation	1	int	R	open	OK
ErrorString	1.1	String	R	open	Fixed Blank String
FontTypefaceList	1.1	String	R	open	Fixed Blank String
FlagWhenIdle	1	boolean	R/W	open	OK
MapMode	1	int	R/W	open	OK
MapCharacterSet	1.7	boolean	R/W	open	OK

RotateSpecial	1.1	int	R/W	open	OK
JrnLineChars	1	int	R/W	open,claim,& enable	Fixed 0
JrnLineCharsList	1	String	R	open	Fixed Blank String
JrnLineHeight	1	int	R/W	open,claim,& enable	Fixed 0
JrnLineSpacing	1	int	R/W	open,claim,& enable	Fixed 0
JrnLineWidth	1	int	R	open,claim,& enable	Fixed 0
JrnLetterQuality	1	boolean	R/W	open,claim,& enable	Fixed As False
JrnEmpty	1	boolean	R	open,claim,& enable	Fixed As False
JrnNearEnd	1	boolean	R	open,claim,& enable	Fixed As False
JrnCartridgeState	1.5	int	R	open,claim,& enable	OK
JrnCurrentCartridge	1.5	int	R/W	open,claim,& enable	Fixed 0
RecLineChars	1	String	R	open	OK
RecLineCharsList	1	String	R	open	OK
RecLineHeight	1	int	R/W	open,claim,& enable	Unsupported
RecLineSpacing	1	int	R/W	open,claim,& enable	OK
RecLineWidth	1	int	R	open,claim,& enable	OK
RecLetterQuality	1	boolean	R/W	open,claim,& enable	Unsupported
RecEmpty	1	boolean	R	open,claim,& enable	OK
RecNearEnd	1	boolean	R	open,claim,& enable	OK
RecSidewaysMaxLines	1	int	R	open,claim,& enable	OK
RecSidewaysMaxChars	1	int	R	open,claim,& enable	OK
RecLinesToPaperCut	1	int	R	open,claim,& enable	OK
RecBitmapRotateList	1.7	String	R	open	"0,R90,L90,180"
RecBarCodeRotationList	1.1	String	R	open	"0,R90,L90,180"
RecCartridgeState	1.5	int	R	open,claim,& enable	Unsupported
RecCurrentCartridge	1.5	int	R/W	open,claim,& enable	Unsupported
CapCharacterSet	1.1	int	R	open	OK
CapMapCharacterSet	1.7	boolean	R	open	OK
CapConcurrentJrnRec	1	boolean	R	open	Fixed As False
CapConcurrentJrnSlp	1	boolean	R	open	Fixed As False
CapConcurrentRecSlp	1	boolean	R	open	Fixed As False
CapConcurrentPageMode	1.9	boolean	R	open	Fixed As False
CapCoverSensor	1	boolean	R	open	OK
CapTransaction	1.1	boolean	R	open	OK
CapJrnPresent	1	boolean	R	open	Fixed As False
CapJrn2Color	1	boolean	R	open	Fixed As False
CapJrnBold	1	boolean	R	open	Fixed As False
CapJrnCartridgeSensor	1.5	int	R	open	Fixed 0
CapJrnColor	1.5	int	R	open	Fixed 0
CapJrnDhigh	1	boolean	R	open	Fixed As False
CapJrnDwide	1	boolean	R	open	Fixed As False
CapJrnDwideDhigh	1	boolean	R	open	Fixed As False
CapJrnEmptySensor	1	boolean	R	open	Fixed As False
CapJrnItalic	1	boolean	R	open	Fixed As False
CapJrnNearEndSensor	1	boolean	R	open	Fixed As False
CapJrnUnderline	1	boolean	R	open	Fixed As False
CapRec2Color	1	boolean	R	open	OK
CapRecBarCode	1	boolean	R	open	OK
CapRecBitmap	1	boolean	R	open	OK
CapRecBold	1	boolean	R	open	OK
CapRecCartridgeSensor	1.5	int	R	open	Fixed 0
CapRecColor	1.5	int	R	open	Fixed 0
CapRecDhigh	1	boolean	R	open	OK
CapRecDwide	1	boolean	R	open	OK
CapRecDwideDhigh	1	boolean	R	open	OK
CapRecEmptySensor	1	boolean	R	open	OK
CapRecItalic	1	boolean	R	open	OK
CapRecLeft90	1	boolean	R	open	OK
CapRecMarkFeed	1.5	int	R	open	OK
CapRecNearEndSensor	1	boolean	R	open	OK

CapRecPapercut	1	boolean	R	open	OK
CapRecRight90	1	boolean	R	open	OK
CapRecRotate180	1	boolean	R	open	OK
CapRecStamp	1	boolean	R	open	Fixed As False
CapRecUnderline	1	boolean	R	open	OK
CapRecPresent	1	boolean	R	open	OK
CapSlpPresent	1	boolean	R	open	Fixed As False
CapSlpFullslip	1	boolean	R	open	Fixed As False
CapSlp2Color	1	boolean	R	open	Fixed As False
CapSlpBarCode	1	boolean	R	open	Fixed As False
CapSlpBitmap	1	boolean	R	open	Fixed As False
CapSlpBold	1	boolean	R	open	Fixed As False
CapSlpBothSidesPrint	1.5	boolean	R	open	Fixed As False
CapSlpCartridgeSensor	1.5	int	R	open	Fixed 0
CapSlpColor	1.5	int	R	open	Fixed 0
CapSlpDhigh	1	boolean	R	open	Fixed As False
CapSlpDwide	1	boolean	R	open	Fixed As False
CapSlpDwideDhigh	1	boolean	R	open	Fixed As False
CapSlpEmptySensor	1	boolean	R	open	Fixed As False
CapSlpItalic	1	boolean	R	open	Fixed As False
CapSlpLeft90	1	boolean	R	open	Fixed As False
CapSlpNearEndSensor	1	boolean	R	open	Fixed As False
CapSlpRight90	1	boolean	R	open	Fixed As False
CapSlpRotate180	1	boolean	R	open	Fixed As False
CapSlpUnderline	1	boolean	R	open	Fixed As False
AsyncMode	1	boolean	R/W	open	OK
CartridgeNotify	1.5	int	R/W	open	Fixed 0
CharacterSet	1	int	R/W	open,claim, Enable	CharacterSetList.
CharacterSetList	1	String	R	open	OK
SlpLineChars	1	int	R/W	open,claim,& enable	Unsupported
SlpLineCharsList	1	String	R	open	Unsupported
SlpLineHeight	1	int	R/W	open,claim,& enable	Unsupported
SlpLineSpacing	1	int	R/W	open,claim,& enable	Unsupported
SlpLineWidth	1	int	R	open,claim,& enable	Unsupported
SlpLetterQuality	1	boolean	R/W	open,claim,& enable	Unsupported
SlpEmpty	1	boolean	R	open,claim,& enable	Unsupported
SlpNearEnd	1	boolean	R	open,claim,& enable	Unsupported
SlpSidewaysMaxLines	1	int	R	open,claim,& enable	Unsupported
SlpSidewaysMaxChars	1	int	R	open,claim,& enable	Unsupported
SlpMaxLines	1	int	R	open,claim,& enable	Unsupported
SlpLinesNearEndToEnd	1	int	R	open,claim,& enable	Unsupported
SlpBarCodeRotationList	1.1	String	R	open	Unsupported
SlpPrintSide	1.5	int	R	open,claim,& enable	Unsupported
SlpCartridgeState	1.5	int	R	open,claim,& enable	Unsupported
SlpCurrentCartridge	1.5	int	R/W	open,claim,& enable	Unsupported
CapRecPageMode	1.9	boolean	R	open	Unsupported
PageModeArea	1.9	String	R	open	Unsupported
PageModeDescriptor	1.9	int	R	open	Unsupported
PageModePrintArea	1.9	String	R/W	open	Unsupported
PageModeVerticalPosition	1.9	int	R/W	open	Unsupported
PageModeStation	1.9	int	R/W	open	Unsupported
PageModePrintDirection	1.9	int	R/W	open	Unsupported
PageModeHorizontalPosition	1.9	int	R/W	open	Unsupported
CapSlpPageMode	1.9	boolean	R	open	Fixed As False
CapRecRuledLine	1.13	int	R	open	Unsupported
CapSlpRuledLine	1.13	int	R	open	Unsupported

2.2 Special methods

Specific Methods

Name	Version	MayUseAfter	Compliance
printNormal	1	open,claim,& enable	OK
printTwoNormal	1	open,claim,& enable	Unsupported
printImmediate	1	open,claim,& enable	OK
beginInsertion	1	open,claim,& enable	Unsupported
endInsertion	1	open,claim,& enable	Unsupported
beginRemoval	1	open,claim,& enable	Unsupported
endRemoval	1	open,claim,& enable	Unsupported
cutPaper	1	open,claim,& enable	OK
rotatePrint	1	open,claim,& enable	OK
printBarCode	1	open,claim,& enable	OK
printBitmap	1	open,claim,& enable	OK
transactionPrint	1.1	open,claim,& enable	OK
validateData	1.1	open,claim,& enable	Unsupported
setBitmap	1	open,claim,& enable	OK
setLogo	1	open,claim,& enable	OK
markFeed	1.5	open,claim,& enable	Unsupported
clearPrintArea	1.9	open,claim,& enable	OK
pageModePrint	1.9	open,claim,& enable	Unsupported
printMemoryBitmap	1.10	open,claim,& enable	Unsupported
drawRuledLine	1.13	open,claim,& enable	Unsupported

3 Special properties, methods and events of cashdrawer

Specific			
Name	**Version**	**MayUseAfter**	**Compliance**
Properties			
CapStatus	1	open	Ok
CapStatusMultiDrawerDetect	1.5	open	Unsupported
DrawerOpened	1	open & enable	Ok
Methods			
openDrawer	1	open-Enabled	OK
waitForDrawerClose	1	open-Enabled	OK
Events			
DirectIOEvent	1		Unsupported
StatusUpdateEvent	1		OK

4 Printer Error

ResultCodeExtended	Meanings	Remedy
JPOS_SUCCESS	Operation successful.	OK
JPOS_E_CLOSED	Not opened.	Open
JPOS_E_CLAIMED	Another instance is claimed on the same device.	Release the device that is making a claim in another process.
JPOS_E_NOTCLAIMED	Not claimed.	Claim
JPOS_E_NOSERVICE	No service.	Check the device name of the parameter of the Open method. Install the software again.
JPOS_E_DISABLED	DeviceEnabled is FALSE.	Set DeviceEnabled to TRUE.
JPOS_E_ILLEGAL	An illegal parameter,function is specified.	Execute the method using normal parameter or set the properties.

		Check the status of the printer, and place it in the status in which commands can be executed.
JPOS_E_NOHARDWARE	Power is OFF or unconnected.	Turn ON the power. Check the connections.
JPOS_E_OFFLINE	The printer is offline.	Make online.
JPOS_E_NOEXIST	File does not exist.	Check the filename and the name of registry key. Install and register the software again.
JPOS_E_FAILURE	Hardware failure.	In the case of a recoverable error, eliminate the reason for the error, and then use the ESC/POS command to recover the error, or execute ClearOutput. If this error occurs frequently, please contact the hardware manufacturer.
JPOS_E_BUSY	The current Service Object state does not allow this request. For example, if asynchronous output is in progress, certain methods are not allowed.	Wait for the asynchronous output to finish, and then execute the processing again.
JPOS_EPTR_COVER_OPEN	Cover is opened.	Close the cover.
JPOS_EPTR_REC_EMPTY	Receipt station is out of paper.	Load receipt paper.

FAQ

A.1 The printout of serial printer is messy code, how to settle it?

The main reasons caused messy code is that no correct serial parameter is configured. First print the self-test page to confirm serial parameter of the current printer (refer to the attachment "Pint self-test page ");Based on the serial parameter indicated in the self-test page, you can ensure serial printer runs normally.

A.2 Why cannot connect two or more than two units of USB printer having same internal name to the host?

Because USB print is identified via internal name of the printer, in case that two units or over two units of the printer having same name are connected to the host, only one unit which joint with the host at last can work normally. Therefore when you find that the result cannot be sent to the specified printer, please confirm if same name printer is connected into the system. To obtain printers' internal name is referred to the attachment “Print self-test page ” which contain this information.

A.3 How to use the configuration tool and JPOS SO for a non-administrator?

In using the configuration tool, the operator as an administrator can be allowed to log in for the add, change and deletion of printer, serial or parallel number settings If you operate as a non-administrator, only the added printer or cashdrawer could be viewed without any other operation.

In using JPOS SO, neither an administrator nor a non-administrator for logging in doesn't effect the functions of the added printer or cashdrawer as the print, query and etc.

A.4 Why Cannot Find a new Device When Connecting with USB I/F Printer?

The causes that result the failure to find a new device are shown as below:

- Check if the driver of USB I/F printer is installed;
- Check if only one USB I/F printer is online;
- Check if the printer type selected in ConfigureTool is same with the USB I/F printer connected already;
- Check if the quantity of added USB I/F printers reaches 8 units. If 8 units of USB I/F printer are configured in the tool, please confirm if all of them are still in use; If yes, a new USB I/F printer cannot be added, otherwise please delete the USB port not in use in configuration tool.

A.5 Why cannot run my program in X64 OS?

Check if the driver of USB is USBDriver_x64.
To make sure, the jdk is 32bits.

A.6 How to open the log function of the software?

Set the log level and output format,by modifying the configuration file. "ConfigureToolLog.properties" is used to configure the log of Configure Tool. "PosPrinterLog.properties" is used to configure the log of Printer. "CashDrawerLog.properties" is used to configure the log of Cash Drawer.
The log output format is Console, DailyRollingFile, RollingFile. The log level is FATAL, ERROR, WARN, INFO, DEBUG.
You can set "log4j.rootLogger" property to set log level and output format, and by default is "log4j.rootLogger=FATAL,ROLLING_FILE".
You can set "log4j.appender.CONSOLE.Threshold" property to set Console log level.
You can set "log4j.appender.D.Threshold" property to set DailyRollingFile log level.
You can set "log4j.appender.ROLLING_FILE.Threshold" property to set RollingFile log level.

Print Self-test Page

The way to print a self-test page:

1) Connect with printer power. If the printer is already turned on, please first turn off the power.

2) Press down paper feed button of printer and also turn on the power, then the printer shall output a self-test page.

3) Press paper feed button to continue the print for further information or turn off power to end the print.