

SmartPos SDK for Android

1.4.1

Date: Fri Sep 18 2026

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Chapter 1

Hierarchical Index

1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

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2.1 Data Structures

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Chapter 3

Data Structure Documentation

3.1 com.paydevice.smartpos.sdk.cashdrawer.CashDrawer Class Reference

Class of [CashDrawer](#) implement.

Static Public Member Functions

- static void [open](#) ()
Open cash drawer via built-in RJ11 port.
- static void [openEx](#) ()
Open cash drawer via USB-RJ11 converter.

3.1.1 Detailed Description

Class of [CashDrawer](#) implement.

3.1.2 Member Function Documentation

3.1.2.1 open()

```
static void com.paydevice.smartpos.sdk.cashdrawer.CashDrawer.open ( ) [static]
```

Open cash drawer via built-in RJ11 port.

Returns

3.1.2.2 openEx()

```
static void com.paydevice.smartpos.sdk.cashdrawer.CashDrawer.openEx ( ) [static]
```

Open cash drawer via USB-RJ11 converter.

Returns

The documentation for this class was generated from the following file:

- src/com/paydevice/smartpos/sdk/cashdrawer/CashDrawer.java

3.2 com.paydevice.smartpos.sdk.fingerprint.FingerPrintManager Class Reference

Class of [FingerPrintManager](#) implement.

Public Member Functions

- void [init](#) () throws SmartPosException
Initialize fingerprint.
- void [deinit](#) ()
Deinitialize fingerprint.
- int [getBitmapWidth](#) ()
To get the image width of the fingerprint.
- int [getBitmapHeight](#) ()
To get the image height of the fingerprint.
- byte[] [getBitmapBytes](#) () throws SmartPosException
To get fingerprint image(bitmap 256 level gray)
- byte[] [getMinutiae](#) () throws SmartPosException
- int [compare](#) (byte[] probe, byte[] candidate) throws SmartPosException
(TODO)1:1 comparison

Static Public Attributes

- static final int **FINGERPRINT_ERR_NO_INIT** = 1
- static final int **FINGERPRINT_ERR_INIT** = 2
- static final int **FINGERPRINT_ERR_DEINIT** = 3
- static final int **FINGERPRINT_ERR_ALREADY_INIT** = 4
- static final int **FINGERPRINT_ERR_NO_FINGER** = 7
- static final int **FINGERPRINT_ERR_IMAGE_UNCLEAR** = 8
- static final int **FINGERPRINT_ERR_IO** = 99
- static final int **FINGERPRINT_FINGER_PRESENT** = KeyEvent.KEYCODE_PROG_RED

3.2.1 Detailed Description

Class of [FingerPrintManager](#) implement.

3.2.2 Member Function Documentation

3.2.2.1 compare()

```
int com.paydevice.smartpos.sdk.fingerprint.FingerPrintManager.compare (
    byte[] probe,
    byte[] candidate ) throws SmartPosException
```

(TODO)1:1 comparison

Parameters

<i>probe</i>	
<i>candidate</i>	

Returns

3.2.2.2 deinit()

```
void com.paydevice.smartpos.sdk.fingerprint.FingerPrintManager.deinit ( )
```

Deinitialize fingerprint.

Returns

3.2.2.3 getBitmapBytes()

```
byte [] com.paydevice.smartpos.sdk.fingerprint.FingerPrintManager.getBitmapBytes ( ) throws
SmartPosException
```

To get fingerprint image(bitmap 256 level gray)

Returns

return image byte array(include bmp header,header size is 1078)

3.2.2.4 getBitmapHeight()

```
int com.paydevice.smartpos.sdk.fingerprint.FingerPrintManager.getBitmapHeight ( )
```

To get the image height of the fingerprint.

Returns

3.2.2.5 getBitmapWidth()

```
int com.paydevice.smartpos.sdk.fingerprint.FingerPrintManager.getBitmapWidth ( )
```

To get the image width of the fingerprint.

Returns

3.2.2.6 getMinutiae()

```
byte [] com.paydevice.smartpos.sdk.fingerprint.FingerPrintManager.getMinutiae ( ) throws SmartPosException
```

(TODO)Gets the fingerprint minutiae
refer to ISO/IEC 19794-2:2005

Returns

fingerprint minutiae or null

3.2.2.7 init()

```
void com.paydevice.smartpos.sdk.fingerprint.FingerPrintManager.init ( ) throws SmartPosException
```

Initialize fingerprint.

Returns

The documentation for this class was generated from the following file:

- src/com/paydevice/smartpos/sdk/fingerprint/FingerPrintManager.java

3.3 com.paydevice.smartpos.sdk.ImageUtils Class Reference

Data Structures

- enum **DitherType**

dithering algorithm: ATKINSON,BURKES,FLOYD_STEINBERG,JARVIS,SIERRA,STUCKI

Static Public Member Functions

- static Bitmap [bmpToGrayDithering](#) (Bitmap bmp, int threshold, boolean inverse, DitherType type)
Convert a bitmap to gray bitmap by dithering algorithm.
- static Bitmap [bmpToBlackWhite](#) (Bitmap bmp, int threshold, boolean inverse)
Convert a bitmap to black white bitmap.

3.3.1 Member Function Documentation

3.3.1.1 bmpToBlackWhite()

```
static Bitmap com.paydevice.smartpos.sdk.ImageUtils.bmpToBlackWhite (  
    Bitmap bmp,  
    int threshold,  
    boolean inverse ) [static]
```

Convert a bitmap to black white bitmap.

Parameters

<i>bmp</i>	android bitmap
<i>threshold</i>	black and white threshold
<i>inverse</i>	set black and white inverse

Returns

3.3.1.2 bmpToGrayDithering()

```
static Bitmap com.paydevice.smartpos.sdk.ImageUtils.bmpToGrayDithering (  
    Bitmap bmp,  
    int threshold,  
    boolean inverse,  
    DitherType type ) [static]
```

Convert a bitmap to gray bitmap by dithering algorithm.

Parameters

<i>bmp</i>	android bitmap
<i>threshold</i>	dithering threshold
<i>inverse</i>	set black and white inverse
<i>type</i>	dithering algorithm, DitherType enum

Returns

The documentation for this class was generated from the following file:

- src/com/paydevice/smartpos/sdk/ImageUtils.java

3.4 com.paydevice.smartpos.sdk.led.LedManager Class Reference

Public Member Functions

- void [setRedLed](#) (boolean on)
Sets red led.
- void [setGreenLed](#) (boolean on)
Sets green led.
- void [setBlueLed](#) (boolean on)
Sets blue led.

3.4.1 Member Function Documentation

3.4.1.1 setBlueLed()

```
void com.paydevice.smartpos.sdk.led.LedManager.setBlueLed (  
    boolean on )
```

Sets blue led.

Parameters

<i>on</i>	true: on false: off
-----------	---------------------

Returns

3.4.1.2 setGreenLed()

```
void com.paydevice.smartpos.sdk.led.LedManager.setGreenLed (
    boolean on )
```

Sets green led.

Parameters

<i>on</i>	true: on false: off
-----------	---------------------

Returns

3.4.1.3 setRedLed()

```
void com.paydevice.smartpos.sdk.led.LedManager.setRedLed (
    boolean on )
```

Sets red led.

Parameters

<i>on</i>	true: on false: off
-----------	---------------------

Returns

The documentation for this class was generated from the following file:

- src/com/paydevice/smartpos/sdk/led/LedManager.java

3.5 com.paydevice.smartpos.sdk.magneticcard.MagneticCardManager Class Reference

Class of [MagneticCardManager](#) (Magnetic Card Reader) implement.

Public Member Functions

- void [init](#) () throws SmartPosException
Initialize magneticcard reader.
- void [deinit](#) ()

Deinitialize magneticcard reader.

- int [query](#) () throws SmartPosException

To query the data status.

- byte[] [getTrack](#) (int trackId) throws SmartPosException

To get the track byte array by track id.

- int [getInterfaceType](#) () throws SmartPosException

To get the interface type of magnetic card reader.

Static Public Attributes

- static final int **MCR_TYPE_UART** = 0
- static final int **MCR_TYPE_SPI** = 1
- static final int **MCR_ERR_INIT** = 1
- static final int **MCR_ERR_DEINIT** = 2
- static final int **MCR_ERR_NO_INIT** = 3
- static final int **MCR_ERR_ALREADY_INIT** = 4
- static final int **MCR_ERR_PARAM** = 5
- static final int **MCR_TRACK_ID1** = 1
- static final int **MCR_TRACK_ID2** = 2
- static final int **MCR_TRACK_ID3** = 3
- static final int **MCR_ERR_CODE_PREAMBLE** = 0x51
- static final int **MCR_ERR_CODE_POSTAMBLE** = 0x52
- static final int **MCR_ERR_CODE_LRC** = 0x53
- static final int **MCR_ERR_CODE_PARITY** = 0x54
- static final int **MCR_ERR_CODE_BLANK_TRACK** = 0x55
- static final int **MCR_ERR_CODE_STX_ETX** = 0x61
- static final int **MCR_ERR_CODE_CLASS_FUNCTION** = 0x62
- static final int **MCR_ERR_CODE_BBC** = 0x63
- static final int **MCR_ERR_CODE_LENGTH** = 0x64
- static final int **MCR_ERR_CODE_NO_DATA** = 0x65
- static final int **MCR_ERR_CODE_OTP_WRITE_FULL** = 0x71
- static final int **MCR_ERR_CODE_OTP_WRITE** = 0x72
- static final int **MCR_ERR_CODE_OTP_CRC** = 0x73
- static final int **MCR_ERR_CODE_OTP_EMPTY** = 0x74
- static final int **MCR_SWIPE_CARD_PRESENT** = KeyEvent.KEYCODE_PROG_GREEN

3.5.1 Detailed Description

Class of [MagneticCardManager](#) (Magnetic Card Reader) implement.

3.5.2 Member Function Documentation

3.5.2.1 deinit()

```
void com.paydevice.smartpos.sdk.magneticcard.MagneticCardManager.deinit ( )
```

Deinitialize magneticcard reader.

Returns

3.5.2.2 getInterfaceType()

```
int com.paydevice.smartpos.sdk.magneticcard.MagneticCardManager.getInterfaceType ( ) throws  
SmartPosException
```

To get the interface type of magnetic card reader.

Returns

interface type

3.5.2.3 getTrack()

```
byte [ ] com.paydevice.smartpos.sdk.magneticcard.MagneticCardManager.getTrack (   
    int trackId ) throws SmartPosException
```

To get the track byte array by track id.

Parameters

<i>trackId</i>	track id
----------------	----------

Returns

track byte array

3.5.2.4 init()

```
void com.paydevice.smartpos.sdk.magneticcard.MagneticCardManager.init ( ) throws SmartPosException
```

Initialize magneticcard reader.

Returns

3.5.2.5 query()

```
int com.paydevice.smartpos.sdk.magneticcard.MagneticCardManager.query ( ) throws SmartPosException
```

To query the data status.

Returns

0:have data -1:not data or data format error

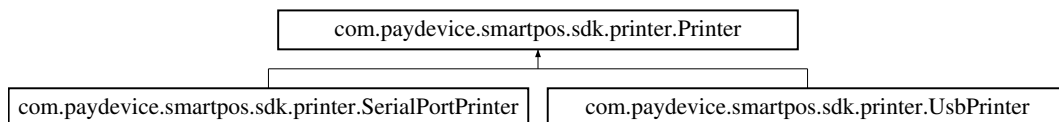
The documentation for this class was generated from the following file:

- src/com/paydevice/smartpos/sdk/magneticcard/MagneticCardManager.java

3.6 com.paydevice.smartpos.sdk.printer.Printer Interface Reference

[Printer](#) interface definition.

Inheritance diagram for com.paydevice.smartpos.sdk.printer.Printer:



Public Member Functions

- void **open** () throws SmartPosException
- void **close** () throws SmartPosException
- int **read** (byte[] buf, int len) throws SmartPosException
- void **write** (byte[] buf, int len) throws SmartPosException
- void **selectBuiltInPrinter** ()
- int **getType** ()

3.6.1 Detailed Description

[Printer](#) interface definition.

The documentation for this interface was generated from the following file:

- src/com/paydevice/smartpos/sdk/printer/Printer.java

3.7 com.paydevice.smartpos.sdk.printer.PrinterManager Class Reference

Class of [PrinterManager](#) implement.

Public Member Functions

- **PrinterManager** ([Printer](#) printer, int paperWidthType)
- int [getPrinterType](#) ()
Get the printer type.
- void [connect](#) () throws SmartPosException
Connect the printer and initialize.
- void [disconnect](#) () throws SmartPosException
Disconnect the printer(keep power for built-in serialport printer)
- void [disconnect](#) (boolean turnOff) throws SmartPosException
Disconnect and turn off the printer power, valid for built-in serialport printer.
- void [checkPaper](#) () throws SmartPosException
Check paper status.
- void [setStringEncoding](#) (String encoding) throws SmartPosException
Set default string encoding.
- synchronized void [sendData](#) (String data) throws SmartPosException
Send string data(use global encoding by setStringEncoding)
- synchronized void [sendData](#) (String data, String encoding) throws SmartPosException
Send string data by appoint encoding.
- synchronized void [sendCmd](#) (byte[] cmd) throws SmartPosException
Write command to printing buffer.
- void [cmdLineFeed](#) () throws SmartPosException
Print buffer and feeds one line.
- void [cmdLineFeed](#) (int n) throws SmartPosException
Print buffer and feeds n line. ESC2,ESC3 decide the line spacing.
- void [cmdJumpTab](#) () throws SmartPosException
Jump to next tab, position decide by cmdSetTable.
- void [cmdUnSetTable](#) () throws SmartPosException
Unset horizontal table position.
- void [cmdSetTable](#) (byte[] offset) throws SmartPosException
Sets horizontal table position.
- void [cmdSetDefaultLineSpacing](#) () throws SmartPosException
Set the line space to default value(32dots)
- void [cmdSetLineSpacing](#) (int dots) throws SmartPosException
Set the line space to n dots.
- void [cmdSetAlignMode](#) (int mode) throws SmartPosException
Set align mode.
- void [cmdSetPrintOffset](#) (int offset) throws SmartPosException
Set print offset(Only valid in current line)
- void [cmdSetPrintMode](#) (int mode) throws SmartPosException
Sets print mode for all characters.
- void [cmdSetUnderlineHeight](#) (int n) throws SmartPosException
Set the underline height.
- void [cmdSetFontScaleSize](#) (int scaleWidth, int scaleHeight) throws SmartPosException
Scale the font's width and height.
- void [cmdSetBarCodeStringPosition](#) (int mode) throws SmartPosException
Set the position of the bar code string.
- void [cmdSetBarCodeStringSize](#) (int size) throws SmartPosException
Sets the font size of the bar code string.
- void [cmdSetBarCodeHeight](#) (int n) throws SmartPosException
Set the bar code height.

- void `cmdSetBarCodeWidth` (int n) throws SmartPosException
Set the bar code width.
- void `cmdSetBarCodeLeftSpacing` (int n) throws SmartPosException
Sets the left blank dots for bar code.
- void `cmdBarCodePrint` (int type, String string) throws SmartPosException
Print bar code.
- void `cmdBarCodePrint` (int type, byte[] stringBytes) throws SmartPosException
Print bar code.
- void `cmdBitmapPrint` (Bitmap bitmap, int left, int top) throws SmartPosException
Print bitmap(Only valid when the printer buffer is empty)
- void `cmdBitmapPrintEx` (Bitmap bitmap, int left, int top) throws SmartPosException
Print bitmap(Only valid when the printer buffer is empty)
- void `cmdSetHeatingParam` (int dots, int time, int interval) throws SmartPosException
Adjust hearting param, some printer support this command.
- void `cmdSetPrintDensity` (int density, int delay) throws SmartPosException
Set the print density, some printer support this command.
- void `cmdSetCharacterSet` (int set) throws SmartPosException
Set the international character set.
- void `cmdSetPrinterLanguage` (int code) throws SmartPosException
Set the character code page.
- void `cmdQrCodePrint` (int version, int ecc, String data) throws SmartPosException
Print QR code.
- void `cmdPrintMultipleLines` (int lineCount, int[] lineStartPos, int[] lineEndPos) throws SmartPosException
print line segments
- void `cmdSaveBitmapToNVRAM` (Bitmap[] bmpArray) throws SmartPosException
Save bitmaps into NVRAM(control board's NVRAM, bitmaps always hold even after power off).
- void `cmdDeleteBitmapFromNVRAM` () throws SmartPosException
Delete all bitmaps form NVRAM.
- void `cmdPrintBitmapFromNVRAM` (int index, int zoom) throws SmartPosException
Print bitmap form NVRAM by index.
- void `cmdPrintTest` () throws SmartPosException
Print a test page, some printer support this command.
- void `cmdCutPaper` (int mode) throws SmartPosException
Select the cut mode to cut paper(Only valid for usb printer)
- void `fwUpdate` (AssetManager am, String name) throws SmartPosException
update firmware(Only valid for serialport printer)
- int `cmdGetPrinterModel` ()
Get printer model(Only valid for serialport printer)
- int `getDotsPerLine` ()
Get the dots per line.
- boolean `isBuiltInSlow` ()
If built-in printer is slow version(Only valid for serialport printer)

Static Public Attributes

- static final int **PRINTER_ERR_OPEN** = 1
- static final int **PRINTER_ERR_CLOSE** = 2
- static final int **PRINTER_ERR_READ** = 3
- static final int **PRINTER_ERR_WRITE** = 4
- static final int **PRINTER_ERR_PARAM** = 5

- static final int **PRINTER_ERR_NO_PAPER** = 6
- static final int **PRINTER_ERR_UPDATE** = 7
- static final int **PRINTER_TYPE_USB** = 0x1
- static final int **PRINTER_TYPE_SERIAL** = 0x2
- static final int **PRINTER_TYPE_NETWORK** = 0x3
- static final int **PRINTER_TYPE_BLUETOOTH** = 0x4
- static final int **PRINTER_MODEL_UNKNOWN** = 0
- static final int **PRINTER_MODEL_PRN2103** = 1
- static final int **FULL_CUT** = 0
- static final int **HALF_CUT** = 1
- static final int **ALIGN_LEFT** = 0
- static final int **ALIGN_MIDDLE** = 1
- static final int **ALIGN_RIGHT** = 2
- static final int **FONT_DEFAULT** = 0
- static final int **FONT_SMALL** = 1<<0
- static final int **FONT_INVERSE** = 1<<1
- static final int **FONT_UPSIDE_DOWN** = 1<<2
- static final int **FONT_EMPHASIZED** = 1<<3
- static final int **FONT_DOUBLE_HEIGHT** = 1<<4
- static final int **FONT_DOUBLE_WIDTH** = 1<<5
- static final int **FONT_ROTATE** = 1<<6
- static final int **FONT_UNDERLINE** = 1<<7
- static final int **UNDERLINE_ZERO** = 0
- static final int **UNDERLINE_HIGH_1** = 1
- static final int **UNDERLINE_HIGH_2** = 2
- static final int **CODEBAR_STRING_MODE_NONE** = 0
- static final int **CODEBAR_STRING_MODE_ABOVE** = 1
- static final int **CODEBAR_STRING_MODE_BELOW** = 2
- static final int **CODEBAR_STRING_MODE_BOTH** = 3
- static final int **CODEBAR_STRING_FONT_A** = 0
- static final int **CODEBAR_STRING_FONT_B** = 1
- static final int **UPC_A** = 65
- static final int **UPC_E** = 66
- static final int **EAN13** = 67
- static final int **EAN8** = 68
- static final int **CODE39** = 69
- static final int **I25** = 70
- static final int **CODABAR** = 71
- static final int **CODE93** = 72
- static final int **CODE128** = 73
- static final int **CODE11** = 74
- static final int **MSI** = 75
- static final int **QR_ECC_LEVEL_L** = 1
- static final int **QR_ECC_LEVEL_M** = 2
- static final int **QR_ECC_LEVEL_Q** = 3
- static final int **QR_ECC_LEVEL_H** = 4
- static final int **CHAR_SET_USA** = 0
- static final int **CHAR_SET_FRANCE** = 1
- static final int **CHAR_SET_GERMANY** = 2
- static final int **CHAR_SET_ENGLAND** = 3
- static final int **CHAR_SET_DENMARK_I** = 4
- static final int **CHAR_SET_SWEDEN** = 5
- static final int **CHAR_SET_ITALY** = 6
- static final int **CHAR_SET_SPAIN_I** = 7
- static final int **CHAR_SET_JAPAN** = 8

- static final int **CHAR_SET_NORWAY** = 9
- static final int **CHAR_SET_DENMARK_II** = 10
- static final int **CHAR_SET_SPAIN_II** = 11
- static final int **CHAR_SET_LATIN_AMERICA** = 12
- static final int **CHAR_SET_KOREA** = 13
- static final int **CHAR_SET_CROATIA** = 14
- static final int **CHAR_SET_CHINA** = 15
- static final int **CODE_PAGE_CP437** = 0
- static final int **CODE_PAGE_KATAKANA** = 1
- static final int **CODE_PAGE_CP850** = 2
- static final int **CODE_PAGE_CP860** = 3
- static final int **CODE_PAGE_CP863** = 4
- static final int **CODE_PAGE_CP865** = 5
- static final int **CODE_PAGE_CP1251** = 6
- static final int **CODE_PAGE_CP866** = 7
- static final int **CODE_PAGE_MIK** = 8
- static final int **CODE_PAGE_CP755** = 9
- static final int **CODE_PAGE_IRAN** = 10
- static final int **CODE_PAGE_CP862** = 15
- static final int **CODE_PAGE_CP1252** = 16
- static final int **CODE_PAGE_CP1253** = 17
- static final int **CODE_PAGE_CP852** = 18
- static final int **CODE_PAGE_CP858** = 19
- static final int **CODE_PAGE_IRAN2** = 20
- static final int **CODE_PAGE_LATVIAN** = 21
- static final int **CODE_PAGE_CP864** = 22
- static final int **CODE_PAGE_ISO_8859_1** = 23
- static final int **CODE_PAGE_CP737** = 24
- static final int **CODE_PAGE_CP1257** = 25
- static final int **CODE_PAGE_THAI** = 26
- static final int **CODE_PAGE_CP720** = 27
- static final int **CODE_PAGE_CP855** = 28
- static final int **CODE_PAGE_CP857** = 29
- static final int **CODE_PAGE_CP1250** = 30
- static final int **CODE_PAGE_CP775** = 31
- static final int **CODE_PAGE_CP1254** = 32
- static final int **CODE_PAGE_CP1255** = 33
- static final int **CODE_PAGE_CP1256** = 34
- static final int **CODE_PAGE_CP1258** = 35
- static final int **CODE_PAGE_ISO_8859_2** = 36
- static final int **CODE_PAGE_ISO_8859_3** = 37
- static final int **CODE_PAGE_ISO_8859_4** = 38
- static final int **CODE_PAGE_ISO_8859_5** = 39
- static final int **CODE_PAGE_ISO_8859_6** = 40
- static final int **CODE_PAGE_ISO_8859_7** = 41
- static final int **CODE_PAGE_ISO_8859_8** = 42
- static final int **CODE_PAGE_ISO_8859_9** = 43
- static final int **CODE_PAGE_ISO_8859_15** = 44
- static final int **CODE_PAGE_THAI2** = 45
- static final int **CODE_PAGE_CP856** = 46
- static final int **CODE_PAGE_CP874** = 47
- static final int **CODE_PAGE_SHIFT_JIS** = 96
- static final int **CODE_PAGE_EUC_KR** = 97
- static final int **CODE_PAGE_BIG5** = 98
- static final int **CODE_PAGE_GB18030** = 99

- static final int **BITMAP_ZOOM_NONE** = 0
- static final int **BITMAP_ZOOM_WIDTH** = 1
- static final int **BITMAP_ZOOM_HEIGHT** = 2
- static final int **BITMAP_ZOOM_BOTH** = 3
- static final int **TYPE_PAPER_WIDTH_58MM** = 0
- static final int **TYPE_PAPER_WIDTH_80MM** = 1

3.7.1 Detailed Description

Class of [PrinterManager](#) implement.

3.7.2 Member Function Documentation

3.7.2.1 checkPaper()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.checkPaper ( ) throws SmartPosException
```

Check paper status.

Returns

3.7.2.2 cmdBarCodePrint() [1/2]

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdBarCodePrint (
    int type,
    byte[] stringBytes ) throws SmartPosException
```

Print bar code.

Parameters

<i>type</i>	bar code encoding type
<i>stringBytes</i>	bar code string bytes

Returns

3.7.2.3 cmdBarCodePrint() [2/2]

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdBarCodePrint (
    int type,
    String string ) throws SmartPosException
```

Print bar code.

Parameters

<i>type</i>	bar code encoding type
<i>string</i>	bar code string

Returns

3.7.2.4 cmdBitmapPrint()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdBitmapPrint (
    Bitmap bitmap,
    int left,
    int top ) throws SmartPosException
```

Print bitmap(Only valid when the printer buffer is empty)

Parameters

<i>bitmap</i>	android bitmap
<i>x</i>	left blank dots
<i>y</i>	top blank dots

Returns

3.7.2.5 cmdBitmapPrintEx()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdBitmapPrintEx (
    Bitmap bitmap,
    int left,
    int top ) throws SmartPosException
```

Print bitmap(Only valid when the printer buffer is empty)

Split the bitmap into multiple parts(height 24 dots) and print them one by one)
bitmap height must be an integer multiple of 8.

Parameters

<i>bitmap</i>	android bitmap
<i>left</i>	left blank dots
<i>top</i>	top blank dots

Returns

3.7.2.6 cmdCutPaper()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdCutPaper (
    int mode ) throws SmartPosException
```

Select the cut mode to cut paper(Only valid for usb printer)

Parameters

<i>mode</i>	
-------------	--

Returns

3.7.2.7 cmdDeleteBitmapFromNVRAM()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdDeleteBitmapFromNVRAM ( ) throws
SmartPosException
```

Delete all bitmaps form NVRAM.

Returns

3.7.2.8 cmdGetPrinterModel()

```
int com.paydevice.smartpos.sdk.printer.PrinterManager.cmdGetPrinterModel ( )
```

Get printer model(Only valid for serialport printer)

Returns

PRINTER_MODEL_XXX

3.7.2.9 cmdJumpTab()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdJumpTab ( ) throws SmartPosException
```

Jump to next tab, position decide by cmdSetTable.

Returns

3.7.2.10 cmdLineFeed() [1/2]

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdLineFeed ( ) throws SmartPosException
```

Print buffer and feeds one line.

Returns

3.7.2.11 cmdLineFeed() [2/2]

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdLineFeed (
    int n ) throws SmartPosException
```

Print buffer and feeds n line. ESC2,ESC3 decide the line spacing.

Parameters

<i>n</i>	0-255
----------	-------

Returns

3.7.2.12 cmdPrintBitmapFromNVRAM()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdPrintBitmapFromNVRAM (
    int index,
    int zoom ) throws SmartPosException
```

Print bitmap form NVRAM by index.

Parameters

<i>index</i>	1~255
<i>zoom</i>	zoom print 0: original size 1: double width 2: double height 3: double width and double height

Returns

3.7.2.13 cmdPrintMultipleLines()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdPrintMultipleLines (
    int lineCount,
    int[] lineStartPos,
    int[] lineEndPos ) throws SmartPosException
```

print line segments

line segments can make lines or curves
you can used this function to print horizontal line or vertical line and even curve

Parameters

<i>lineCount</i>	count of the line segments
<i>lineStartPos</i>	start position of the line segments array 0-383
<i>lineEndPos</i>	end position of the line segments array 0-383

Returns

3.7.2.14 cmdPrintTest()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdPrintTest ( ) throws SmartPosException
```

Print a test page, some printer support this command.

Returns

3.7.2.15 cmdQrCodePrint()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdQrCodePrint (
    int version,
    int ecc,
    String data ) throws SmartPosException
```

Print QR code.

Parameters

<i>version</i>	QR version 0~16(n dots x n dots square)
<i>ecc</i>	QR correction level 1~4
<i>data</i>	QR string data

Returns

3.7.2.16 cmdSaveBitmapToNVRAM()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSaveBitmapToNVRAM (
    Bitmap[] bmpArray ) throws SmartPosException
```

Save bitmaps into NVRAM(control board's NVRAM, bitmaps always hold even after power off).

Total size of NVRAM is 64KB.Bitmap width and height must be an integer multiple of 8.
Warning: You should not write NVRAM often, it maybe cause NVRAM broken.
Recommended less than 10 times a day.
You should save bitmaps only once and then just print it every times.

Note: Usually, NVRAM used to save large bitmaps(or large area black area) which cannot print by [cmdPrintBitmap\(\)](#). This function will cause printer restore all parameter to default and also erase all bitmaps that

Parameters

<i>bmpArray</i>	bitmap array
-----------------	--------------

Returns

3.7.2.17 cmdSetAlignMode()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetAlignMode (
    int mode ) throws SmartPosException
```

Set align mode.

Parameters

<i>mode</i>	0:left 1:middle 2:right
-------------	-------------------------

Returns

3.7.2.18 cmdSetBarCodeHeight()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetBarCodeHeight (
    int n ) throws SmartPosException
```

Set the bar code height.

Parameters

<i>n</i>	1-255 default is 50
----------	---------------------

Returns

3.7.2.19 cmdSetBarCodeLeftSpacing()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetBarCodeLeftSpacing (
    int n ) throws SmartPosException
```

Sets the left blank dots for bar code.

Parameters

<i>n</i>	0-255
----------	-------

Returns

3.7.2.20 cmdSetBarCodeStringPosition()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetBarCodeStringPosition (
    int mode ) throws SmartPosException
```

Set the position of the bar code string.

Parameters

<i>mode</i>	0: not printed 1: above bar code 2: below bar code 3: botha below and above bar code
-------------	---

Returns**3.7.2.21 cmdSetBarCodeStringSize()**

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetBarCodeStringSize (
    int size ) throws SmartPosException
```

Sets the font size of the bar code string.

Parameters

<i>size</i>	0 (12x24), 1 (9x17)
-------------	---------------------

Returns**3.7.2.22 cmdSetBarCodeWidth()**

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetBarCodeWidth (
    int n ) throws SmartPosException
```

Set the bar code width.

Parameters

<i>n</i>	2-6 default is 2
----------	------------------

Returns

3.7.2.23 cmdSetCharacterSet()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetCharacterSet (
    int set ) throws SmartPosException
```

Set the international character set.

Parameters

<i>set</i>	
------------	--

Returns

3.7.2.24 cmdSetDefaultLineSpacing()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetDefaultLineSpacing ( ) throws
SmartPosException
```

Set the line space to default value(32dots)

Returns

3.7.2.25 cmdSetFontScaleSize()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetFontScaleSize (
    int scaleWidth,
    int scaleHeight ) throws SmartPosException
```

Scale the font's width and height.

But when the character is rotated 90° clockwise, the width and height are reversed

Parameters

<i>scaleWidth</i>	width multiple 0~7 (For usb printer 0~1)
<i>scaleHeight</i>	height multiple 0~7 (For usb printer 0~1)

Returns

3.7.2.26 cmdSetHeatingParam()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetHeatingParam (
    int dots,
    int time,
    int interval ) throws SmartPosException
```

Adjust heating param, some printer support this command.

Set max heating dots, heating time, heating interval
The more max heating dots, the more peak current will cost
when printing, the faster printing speed. The max heating dots is $8 \times (n1+1)$
The more heating time, the more density, but the slower printing
speed. If heating time is too short, blank page may occur.
The more heating interval, the more clear, but the slower printing speed.

Parameters

<i>dots</i>	0-255 Max printing dots,Unit(8dots),Default:7(64 dots)
<i>time</i>	Heating time,Unit(10us),Default:80(800us)
<i>interval</i>	Heating interval,Unit(10us),Default:2(20us)

Returns

3.7.2.27 cmdSetLineSpacing()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetLineSpacing (
    int dots ) throws SmartPosException
```

Set the line space to n dots.

Parameters

<i>dots</i>	0-255
-------------	-------

Returns

3.7.2.28 cmdSetPrintDensity()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetPrintDensity (
    int density,
    int delay ) throws SmartPosException
```

Set the print density, some printer support this command.

Parameters

<i>density</i>	0-31
<i>delay</i>	0-7

Returns

3.7.2.29 cmdSetPrinterLanguage()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetPrinterLanguage (
    int code ) throws SmartPosException
```

Set the character code page.

Parameters

<i>code</i>	
-------------	--

Returns

3.7.2.30 cmdSetPrintMode()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetPrintMode (
    int mode ) throws SmartPosException
```

Sets print mode for all characters.

Note: the underline no effect if set rotated 90° clockwise or inverse

Parameters

<i>mode</i>	bit0: 0 default font (12x24), 1 small font (9x17) bit1: inverse bit2: upside down bit3: emphasized bit4: double height bit5: double width bit6: rotated 90° clockwise bit7: underline
-------------	--

Returns**3.7.2.31 cmdSetPrintOffset()**

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetPrintOffset (
    int offset ) throws SmartPosException
```

Set print offset(Only valid in current line)

Parameters

<i>offset</i>	x dots offset
---------------	---------------

Returns**3.7.2.32 cmdSetTable()**

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetTable (
    byte[] offset ) throws SmartPosException
```

Sets horizontal table position.

Parameters

<i>offset</i>	offset position array,array length 1-16. unit is 9dots for small font or 12dots for normal font. eg: 58mm printer(32*12=384dots), print table as follow <pre> item1 item2 item3 ----- item1 offset is 2 character(2*12 dots) item2 offset is 9 character(9*12 dots) item3 offset is 19 character(19*12 dots) code: cmdSetTable(new byte[] {2, 9, 19}); cmdJumpTab(); sendData("item1"); cmdJumpTab(); sendData("item2"); cmdJumpTab(); sendData("item3"); cmdUnSetTable(); </pre>
---------------	---

Returns

3.7.2.33 cmdSetUnderlineHeight()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdSetUnderlineHeight (
    int n ) throws SmartPosException
```

Set the underline height.

Parameters

<i>n</i>	0:no underline 1: height 1 dots 2: height 2 dots
----------	--

Returns

3.7.2.34 cmdUnSetTable()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.cmdUnSetTable ( ) throws SmartPosException
```

Unset horizontal table position.

Returns

3.7.2.35 connect()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.connect ( ) throws SmartPosException
```

Connect the printer and initialize.

Returns

3.7.2.36 disconnect() [1/2]

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.disconnect ( ) throws SmartPosException
```

Disconnect the printer(keep power for built-in serialport printer)

Returns

3.7.2.37 disconnect() [2/2]

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.disconnect (
    boolean turnOff ) throws SmartPosException
```

Disconnect and turn off the printer power, valid for built-in serialport printer.

Parameters

<i>turnOff</i>	If true, the printer will be powered off with a delay of a few seconds after printing is complete
----------------	---

Returns

3.7.2.38 fwUpdate()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.fwUpdate (
    AssetManager am,
    String name ) throws SmartPosException
```

update firmware(Only valid for serialport printer)

Parameters

<i>am</i>	
<i>name</i>	

Returns

3.7.2.39 getDotsPerLine()

```
int com.paydevice.smartpos.sdk.printer.PrinterManager.getDotsPerLine ( )
```

Get the dots per line.

Returns

dots count

3.7.2.40 getPrinterType()

```
int com.paydevice.smartpos.sdk.printer.PrinterManager.getPrinterType ( )
```

Get the printer type.

Returns

printer type

3.7.2.41 isBuiltInSlow()

```
boolean com.paydevice.smartpos.sdk.printer.PrinterManager.isBuiltInSlow ( )
```

If built-in printer is slow version(Only valid for serialport printer)

Returns

3.7.2.42 sendCmd()

```
synchronized void com.paydevice.smartpos.sdk.printer.PrinterManager.sendCmd (
    byte[] cmd ) throws SmartPosException
```

Write command to printing buffer.

Parameters

<i>cmd</i>	command byte array
------------	--------------------

Returns

3.7.2.43 sendData() [1/2]

```
synchronized void com.paydevice.smartpos.sdk.printer.PrinterManager.sendData (  
    String data ) throws SmartPosException
```

Send string data(use global encoding by setStringEncoding)

Parameters

<i>data</i>	string data you want print
-------------	----------------------------

Returns

3.7.2.44 sendData() [2/2]

```
synchronized void com.paydevice.smartpos.sdk.printer.PrinterManager.sendData (  
    String data,  
    String encoding ) throws SmartPosException
```

Send string data by appoint encoding.

Parameters

<i>data</i>	string data you want print
<i>encoding</i>	such as CP437,ISO-8859-1

Returns

3.7.2.45 setStringEncoding()

```
void com.paydevice.smartpos.sdk.printer.PrinterManager.setStringEncoding (
    String encoding ) throws SmartPosException
```

Set default string encoding.

Parameters

<i>encoding</i>	
-----------------	--

Returns

The documentation for this class was generated from the following file:

- src/com/paydevice/smartpos/sdk/printer/PrinterManager.java

3.8 com.paydevice.smartpos.sdk.samcard.SamCardManager Class Reference

Class of [SamCardManager](#) (Secure Access Module) implement.

Public Member Functions

- int [init](#) ()
initialize card reader
- void [deinit](#) ()
de-initialize card reader
- int [cardOpen](#) (int slot, int config, byte[] atr)
power up and reset card
- void [cardClose](#) (int slot)
power down card, the reader always close card after card removed
- int [cardDetect](#) (int slot)
check if card inserted
- int [cardExchange](#) (int slot, byte[] command, int cmdLen, byte[] response, int respLen, int timeoutMs)
- void [enableDebugLog](#) (boolean enable)
enable lowlevel debug log, default disabled

Static Public Attributes

- static final int **CARD_SEND_MAX_LEN** = 8208
- static final int **CARD_RESP_MAX_LEN** = 8194
- static final int **CARD_TYPE_T0** = 0
- static final int **CARD_TYPE_T1** = 1
- static final int **CARD_SLOT_1** = 1
- static final int **CARD_SLOT_2** = 2
- static final int **CARD_PARAMS_DEFAULT** = 0
- static final int **CARD_VOLTAGE_1V8** = (1<<0)
- static final int **CARD_VOLTAGE_3V0** = (2<<0)
- static final int **CARD_VOLTAGE_5V0** = (3<<0)
- static final int **CARD_PPS_NOSUPPORT** = (0<<2)
- static final int **CARD_PPS_SUPPORT** = (1<<2)
- static final int **CARD_PPS_ENFORCE** = (2<<2)
- static final int **CARD_BPS_9600** = (0<<4)
- static final int **CARD_BPS_19200** = (1<<4)
- static final int **CARD_BPS_38400** = (2<<4)
- static final int **CARD_EMV_SPEC** = (0<<6)
- static final int **CARD_ISO_SPEC** = (1<<6)
- static final int **CARD_NOCHECK_SPEC** = (2<<6)
- static final int **ERR_NODEV** = -1000
- static final int **ERR_PARAM** = -1001
- static final int **ERR_NOINIT** = -1002
- static final int **ERR_SLOT** = -1003
- static final int **ERR_WRITE** = -1004
- static final int **ERR_READ** = -1005
- static final int **ERR_OOM** = -1006
- static final int **ERR_RESPONSE** = -1007
- static final int **ERR_RESPONSE_SUM** = -1008
- static final int **ERR_CARD_DETECT** = -1010
- static final int **ERR_CARD_OPEN** = -1011
- static final int **ERR_CARD_EXCHANGE** = -1012

3.8.1 Detailed Description

Class of [SamCardManager](#) (Secure Access Module) implement.

operation flow:

```

init()           //required once
↓
cardDetect()     //optional
↓
cardOpen()       //invoke once
↓
cardExchange()   //loop invoke to complete the transaction
↓
cardClose()      //invoke once
↓
deinit()         //invoke once

```

3.8.2 Member Function Documentation

3.8.2.1 cardClose()

```
void com.paydevice.smartpos.sdk.samcard.SamCardManager.cardClose (
    int slot )
```

power down card, the reader always close card after card removed

Parameters

<i>slot</i>	card slot
-------------	-----------

Returns

3.8.2.2 cardDetect()

```
int com.paydevice.smartpos.sdk.samcard.SamCardManager.cardDetect (
    int slot )
```

check if card inserted

Parameters

<i>slot</i>	card slot
-------------	-----------

Returns

0 is card inserted, otherwise error code

3.8.2.3 cardExchange()

```
int com.paydevice.smartpos.sdk.samcard.SamCardManager.cardExchange (
    int slot,
    byte[] command,
    int cmdLen,
    byte[] response,
    int respLen,
    int timeoutMs )
```

Parameters

<i>slot</i>	card slot
<i>command</i>	APDU command
<i>cmdLen</i>	APDU command length
<i>response</i>	APDU response
<i>respLen</i>	APDU response length
<i>timeoutMs</i>	APDU response timeout in millisecond

Returns

response length, otherwise is error

response format:

1.data + sw1 + sw2 example: send '00 84 00 00 04' response '3F A5 81 62 90 00'. data field=

2.sw1 + sw2 example: response '6E 00'. no data field and sw1=6E,sw2=00

sometimes the card response is '61 XX', means normal processing.

more data bytes are available (XX indicates a number of extra data bytes still available by s
for details to see ISO7816-3 section 12.2.1 and ISO7816-4 section 7.6.1

timeout:

response speed limited by read and card. the more larger response, the longer timeout.

3.8.2.4 cardOpen()

```
int com.paydevice.smartpos.sdk.samcard.SamCardManager.cardOpen (
    int slot,
    int config,
    byte[] atr )
```

power up and reset card

Parameters

<i>slot</i>	card slot
<i>config</i>	special card config, bit0-1 is card voltage, bit2-3 is pps config, bit4-5 is card bps, bit6-7 is card spec
<i>atr</i>	card ATR(Answer To Reset) byte array, format is 2byte lenght(MSB) + ATR bytes

Returns

0 is card protocl T=0, 1 is card protocl T=1, otherwise error code

3.8.2.5 deinit()

```
void com.paydevice.smartpos.sdk.samcard.SamCardManager.deinit ( )
```

de-initialize card reader

Returns**3.8.2.6 enableDebugLog()**

```
void com.paydevice.smartpos.sdk.samcard.SamCardManager.enableDebugLog (
    boolean enable )
```

enable lowlevel debug log, default disabled

Parameters

<code>enable</code>	true is enable, false is disable
---------------------	----------------------------------

Returns

3.8.2.7 init()

```
int com.paydevice.smartpos.sdk.samcard.SamCardManager.init ( )
```

initialize card reader

Returns

0 is success, otherwise error code

The documentation for this class was generated from the following file:

- src/com/paydevice/smartpos/sdk/samcard/SamCardManager.java

3.9 com.paydevice.smartpos.sdk.serialport.SerialPort Class Reference

Class of [SerialPort](#) implement.

Public Member Functions

- [SerialPort](#) (File device, int baudrate) throws SecurityException, IOException
Open serialport with mode 8,1,N,N.
- [SerialPort](#) (File device, int baudrate, int dataBits, int stopBits, char parity, char flowCtrl) throws SecurityException, IOException
Open serialport with set mode, eg: new [SerialPort](#)(new File("/dev/ttyS1"), 8, 1, 'N', 'N')
- InputStream [getInputStream](#) ()
Read form serialport.
- OutputStream [getOutputStream](#) ()
Write to serialport.
- void [close](#) ()
Close the serialport.

3.9.1 Detailed Description

Class of [SerialPort](#) implement.

3.9.2 Constructor & Destructor Documentation

3.9.2.1 SerialPort() [1/2]

```
com.paydevice.smartpos.sdk.serialport.SerialPort.SerialPort (
    File device,
    int baudrate ) throws SecurityException, IOException
```

Open serialport with mode 8,1,N,N.

Parameters

<i>device</i>	
<i>baudrate</i>	

Returns

3.9.2.2 SerialPort() [2/2]

```
com.paydevice.smartpos.sdk.serialport.SerialPort.SerialPort (
    File device,
    int baudrate,
    int dataBits,
    int stopBits,
    char parity,
    char flowCtrl ) throws SecurityException, IOException
```

Open serialport with set mode, eg: new [SerialPort](#)(new File("/dev/ttyS1"), 8, 1, 'N', 'N')

Parameters

<i>device</i>	serialport File, eg: new File("/dev/ttyS1")
<i>dataBits</i>	5,6,7,8
<i>baudrate</i>	9600-4000000
<i>stopBits</i>	stop bits 1,2
<i>parity</i>	parity mode N/n,E/e,O/o (N-none, E-Even, O-Odd)
<i>flowCtrl</i>	flow control N/n,S/s,H/h (N-none, S-XON/XOFF, H-RTS/CTS)

Returns

3.9.3 Member Function Documentation**3.9.3.1 close()**

```
void com.paydevice.smartpos.sdk.serialport.SerialPort.close ( )
```

Close the serialport.

Parameters

<i>fd</i>	file description of serialport
-----------	--------------------------------

Returns

3.9.3.2 `getInputStream()`

```
InputStream com.paydevice.smartpos.sdk.serialport.SerialPort.getInputStream ( )
```

Read form serialport.

Returns

3.9.3.3 `getOutputStream()`

```
OutputStream com.paydevice.smartpos.sdk.serialport.SerialPort.getOutputStream ( )
```

Write to serialport.

Returns

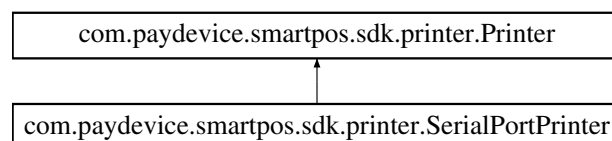
The documentation for this class was generated from the following file:

- `src/com/paydevice/smartpos/sdk/serialport/SerialPort.java`

3.10 `com.paydevice.smartpos.sdk.printer.SerialPortPrinter` Class Reference

Class of [SerialPortPrinter](#) implement.

Inheritance diagram for `com.paydevice.smartpos.sdk.printer.SerialPortPrinter`:



Public Member Functions

- void [selectPrinter](#) (String path, int speed)
Select external serialport printer.
- void [selectBuiltInPrinter](#) ()
Select built-in printer.
- void [open](#) () throws SmartPosException
Open printer(power on take about 100ms)
- void [close](#) () throws SmartPosException
Close printer.
- int [read](#) (byte[] buf, int len) throws SmartPosException
Read data from printer.
- void [write](#) (byte[] buf, int len) throws SmartPosException
Write data to printer.
- int [getType](#) ()
Get the printer type.
- String[] [getPrinterList](#) ()
Get all serialport path.

3.10.1 Detailed Description

Class of [SerialPortPrinter](#) implement.

3.10.2 Member Function Documentation

3.10.2.1 close()

```
void com.paydevice.smartpos.sdk.printer.SerialPortPrinter.close ( ) throws SmartPosException
```

Close printer.

Returns

Implements [com.paydevice.smartpos.sdk.printer.Printer](#).

3.10.2.2 getPrinterList()

```
String [] com.paydevice.smartpos.sdk.printer.SerialPortPrinter.getPrinterList ( )
```

Get all serialport path.

Returns

path string array of all serialport

3.10.2.3 getType()

```
int com.paydevice.smartpos.sdk.printer.SerialPortPrinter.getType ( )
```

Get the printer type.

Returns

Implements [com.paydevice.smartpos.sdk.printer.Printer](#).

3.10.2.4 open()

```
void com.paydevice.smartpos.sdk.printer.SerialPortPrinter.open ( ) throws SmartPosException
```

Open printer(power on take about 100ms)

Returns

Implements [com.paydevice.smartpos.sdk.printer.Printer](#).

3.10.2.5 read()

```
int com.paydevice.smartpos.sdk.printer.SerialPortPrinter.read (
    byte[] buf,
    int len ) throws SmartPosException
```

Read data from printer.

Parameters

<i>buf</i>	data buffer
<i>len</i>	data len

Returns

Implements [com.paydevice.smartpos.sdk.printer.Printer](#).

3.10.2.6 selectBuiltInPrinter()

```
void com.paydevice.smartpos.sdk.printer.SerialPortPrinter.selectBuiltInPrinter ( )
```

Select built-in printer.

Returns

Implements [com.paydevice.smartpos.sdk.printer.Printer](#).

3.10.2.7 selectPrinter()

```
void com.paydevice.smartpos.sdk.printer.SerialPortPrinter.selectPrinter (
    String path,
    int speed )
```

Select external serialport printer.

Parameters

<i>path</i>	of the serialport, e.g: /dev/ttyUSB0
<i>speed</i>	at which to open the serialport, e.g: 115200

Returns

3.10.2.8 write()

```
void com.paydevice.smartpos.sdk.printer.SerialPortPrinter.write (
    byte[] buf,
    int len ) throws SmartPosException
```

Write data to printer.

Parameters

<i>buf</i>	data buffer
<i>len</i>	data len

Returns

Implements [com.paydevice.smartpos.sdk.printer.Printer](#).

The documentation for this class was generated from the following file:

- `src/com/paydevice/smartpos/sdk/printer/SerialPortPrinter.java`

3.11 [com.paydevice.smartpos.sdk.smartcard.SmartCardManager](#) Class Reference

Class of [SmartCardManager](#) (SmartCard Reader) implement.

Public Member Functions

- `int init (Context ctx) throws SmartPosException`
Initialize smartcard reader.
- `int init (Context ctx, int mode) throws SmartPosException`
- `void deinit ()`
Deinitialize smartcard reader.
- `void selectSlot (int slot) throws SmartPosException`
select the slot
- `void powerOn () throws SmartPosException`
Sets card power on.
- `void powerOff () throws SmartPosException`
Sets card power off.
- `byte[] getATR () throws SmartPosException`
Gets the ATR in hex.
- `int getProtocol () throws SmartPosException`
Gets the protocol(T0,T1)
- `byte[] getSN () throws SmartPosException`
Gets the serial number.
- `byte[] sendAPDU (byte[] apdu) throws SmartPosException`
Sends APDU.
- `void sendAPDU (byte[] apdu, byte[] response, int[] responseLen) throws SmartPosException`
Sends APDU for long respond data, CLA+INS+P1+P2+Lc+cmd+Le.
- `int AT24CSeriesCmdRead (int intStartAddr, byte bCardType, int intReadLen, byte[] pReadData, int[] pInt↔ReturnLen)`
read data from the memory card.
- `int AT24CSeriesCmdWrite (int intStartAddr, byte bCardType, int intWordPageSize, int intWriteLen, byte[] p↔WriteData)`
writes data to the memory card.
- `int AT24CxxCmdRead (byte bDeviceAddress, int intStartAddr, int intReadLen, byte[] pReadData, int[] pInt↔ReturnLen)`
read data from the memory card.
- `int AT24CxxCmdWrite (int intStartAddr, int intWordPageSize, int intWriteLen, byte[] pWriteData)`
writes data to the memory card.
- `int AT45D041Cmd (byte OPcode, int pageNo, int intStartAddr, int intWriteLen, byte[] pWriteData, int int↔ReadLen, byte[] pReadData, int[] pIntReturnLen)`
reads/write data from/to the card.
- `int AT88SC1608CmdInitializeAuthentication (byte[] pbHostRand)`

- sends INITIALIZE AUTHENTICATION command to the card.*

 - int [AT88SC1608CmdReadConfigurationZone](#) (byte bAddress, byte bReadLen, byte[] pReadBuffer, int[] pIntReturnLen)

reads data from the configuration zone of the card.
 - int [AT88SC1608CmdReadUserZone](#) (byte bAddress, byte bReadLen, byte[] pReadBuffer, int[] pIntReturnLen)

reads data from the current user zone of the card
 - int [AT88SC1608CmdSetUserZoneAddress](#) (byte bAddress)

selects the current user zone number.
 - int [AT88SC1608CmdVerifyAuthentication](#) (byte[] pbHostChallenge)

sends INITIALIZE AUTHENTICATION command to the card.
 - int [AT88SC1608CmdVerifyPassword](#) (byte bZoneNo, boolean blsReadAccess, byte bPW1, byte bPW2, byte bPW3)

verifies the read/write password of the selected zone.
 - int [AT88SC1608CmdWriteConfigurationZone](#) (byte bAddress, byte bWriteLen, byte[] pWriteBuffer)

writes data to the configuration zone of the card.
 - int [AT88SC1608CmdWriteUserZone](#) (byte bAddress, byte bWriteLen, byte[] pWriteBuffer)

writes data to the current user zone of the card.
 - int [AT88SC102CmdOpBitGetAddr](#) (int[] pIntCurBitAddr)

gets the current bit address of the card. The smartcard reader self-maintains the current address. The function returns the internal variables of the reader which indicated the current bit address.
 - int [AT88SC102CmdOpBitsGotoAddr](#) (int intTargetAddr)

makes the card JUMP to the target bit address. provides an easy way to JUMP to any absolute address, no matter forward or backward. does not use RESET operation to reset the address counter, so all the internal flags of the card is not affected after using this function. The smartcard reader self-maintains the address internally, so the caller could safely call this function.
 - int [AT88SC102CmdOpBitsIncAddr](#) (int intBitsIncAddr)

increases the internal address counter of the card. The unit of the increment is in bit based. Addressing of the AT88SC102 is sequential. Specific bit addresses may be reached by completing a reset, then clocking the device (INC/READ) until the desired address is reached. The AT88SC102 will determine which operations are allowed at specific address locations. These operations are specified in Tables 1 and 2. For instance, to address the issuer zone (IZ), execute a reset operation, then clock the device 16 times. The device now outputs the first bit of the IZ. After the address counter counts up to 1567, the next CLK pulse resets the address to "0".
 - int [AT88SC102CmdOpBitsRead](#) (int intReadLen, byte[] pDataBuffer)

reads bit data from the card from current address.
 - int [AT88SC102CmdOpBytesComp](#) (int intCompLen, byte[] pDataBuffer)

sends data to the card for comparison.
 - int [AT88SC102CmdOpBytesIncAddr](#) (int intBytesIncAddr)

increases the internal address counter of the card. The unit of the increment is in byte based
 - int [AT88SC102CmdOpBytesRead](#) (int intReadLen, byte[] pDataBuffer)

reads bytes data from the card from current address.
 - int [AT88SC102CmdOpBytesWrite](#) (int intWriteLen, byte[] pDataBuffer)

writes data to current address of the card.
 - int [AT88SC102CmdOpReset](#) ()

sends micro operation, RESET, to the card. This operation will reset the internal address to "0". After the falling edge of RST, the first bit of the fabrication zone (Address 0) will be driven on the I/O contact. The erase flags (E1 and E2) will be reset.
 - int [AT88SC102CmdOpSingleBitErase](#) ()

sends a erase operation with single bit to logic 1. The address is not changed after calling this function.
 - int [AT88SC102CmdOpSingleBitWrite](#) ()

sends a write operation with single bit to logic 0. The address is not changed after calling this function.
 - int [AT88SC102CmdOpStandby](#) ()

sends micro operation, STANDBY, to the card. The device is placed in standby mode when FUS pin = "0" and RST = "1". The address will not increment when RST is high.

- int [AT88SC102CmdSetFusPinHigh](#) ()
drives the FUS pin of the card to high state. Used for personalizing the device. FUS must be high to be able to personalize the device when the issuer fuse is unblown. In Security Level 1, the FUS pin may be forced low to simulate Security Level 2. In Security Level 2, the FUS pin has no function.
- int [AT88SC102CmdSetFusPinLow](#) ()
drives the FUS pin of the card to low state. Used for personalizing the device. FUS must be high to be able to personalize the device when the issuer fuse is unblown. In Security Level 1, the FUS pin may be forced low to simulate Security Level 2. In Security Level 2, the FUS pin has no function.
- int [AT88SC102CmdSetRstPinHigh](#) ()
drives the RST pin of the card to high state. makes the reader drives RST pin to low. If the previously state of RST pin is high, then the bit address will reset to 0. If the previously state of RST pin is low, then the bit address keep unchanged. The bit address is also auto maintained by the reader internally.
- int [AT88SC102CmdSetRstPinLow](#) ()
drives the RST pin of the card to high state. makes the reader drives RST pin to low. If the previously state of RST pin is high, then the bit address will reset to 0. If the previously state of RST pin is low, then the bit address keep unchanged. The bit address is also auto maintained by the reader internally.
- int [SLE4428CmdRead8Bits](#) (int address, int intReadLen, byte[] pReadData, int[] pIntReturnLen)
read one byte of data without protect bit from the card.
- int [SLE4428CmdRead9Bits](#) (int address, int intReadLen, byte[] pReadData, byte[] pReadPB, int[] pIntReturnLen)
reads data with protect bits from the card.
- int [SLE4428CmdVerify1stPSC](#) (byte data)
used to verify the 1st PSC byte.
- int [SLE4428CmdVerify2ndPSC](#) (byte data)
used to verify the 2nd PSC byte.
- int [SLE4428CmdVerifyPSCAndEraseErrorCounter](#) (byte b1stPsc, byte b2ndPsc, int[] pIntErrorReason)
used to verify the 1st 2nd PSC bytes and erase error counter if the verification is OK. Only apply to SLE4428.
- int [SLE4428CmdWriteEraseWithoutPB](#) (int address, byte data)
writes one byte data without protect bit to the card.
- int [SLE4428CmdWriteEraseWithPB](#) (int address, byte data)
writes one byte data with protect bit to the card.
- int [SLE4428CmdWriteErrorCounter](#) (byte data)
writes error counter to the card.
- int [SLE4428CmdWritePBWithDataComparison](#) (int address, byte data)
writes protect bit with data comparison. If the data is the same as the one in the card, the protect bit is written.
- int [SLE4442CmdCompareVerificationData](#) (byte bAddress, byte bData)
compares the data with the specified reference byte in the security memory.
- int [SLE4442CmdReadMainMemory](#) (byte bAddress, byte bReadLen, byte[] pReadData, int[] pReturnLen)
reads data from the main memory of the card.
- int [SLE4442CmdReadProtectionMemory](#) (byte bReadLen, byte[] pReadData, int[] pIntReturnLen)
reads data from the protection memory of the card.
- int [SLE4442CmdReadSecurityMemory](#) (byte bReadLen, byte[] pReadData, int[] pIntReturnLen)
reads data from the security memory of the card.
- int [SLE4442CmdUpdateMainMemory](#) (byte bAddress, byte bData)
updates one byte data in the main memory of the card.
- int [SLE4442CmdUpdateSecurityMemory](#) (byte bAddress, byte bData)
updates one byte data in the main memory of the card.
- int [SLE4442CmdVerify](#) (int intPinLen, byte[] pPinData)
Verify the pin of the card. Only apply to SLE4442.
- int [SLE4442CmdWriteProtectionMemory](#) (byte bAddress, byte bData)
write one byte data in the protection memory of the card.
- int [SLE6636CmdAuthentication](#) (byte bKeyNo, byte bClock, byte bWriteLen, byte[] pWChallengeBuf, byte bReadLen, byte[] pReadData, int[] pIntReturnLen)

- send authentication command*
- int [SLE6636CmdReadCounters](#) (byte bReadLen, byte[] pReadData, int[] pIntReturnLen)
read Counter Area from the card.
- int [SLE6636CmdReadMemory](#) (byte bAddress, byte bReadMEMLen, byte bReadLen, byte[] pReadData, int[] pIntReturnLen)
read Memory Area
- int [SLE6636CmdReload](#) (byte bAddress, byte bReadLen, byte[] pReadData, int[] pIntReturnLen)
reload(Erase 8 Bits with Carry Operation) .
- int [SLE6636CmdVerification](#) (byte bTC1, byte bTC2, byte bTC3, byte bReadLen, byte[] pReadData, int[] pIntReturnLen)
- int [SLE6636CmdWriteCounter](#) (byte bAddress, byte bWriteData, byte bReadLen, byte[] pReadData, int[] pIntReturnLen)
write Counter Area to the card.
- int [SLE6636CmdWriteMemory](#) (int intApuLen, byte bAddress, byte bWriteLen, byte[] pWriteBuffer, byte bReadLen, byte[] pReadData, int[] pIntReturnLen)
write Memory Area

Static Public Member Functions

- static String [errCode2String](#) (int errCode)
convert error code to string

Static Public Attributes

- static final int **SCR_ERR_INIT** = 0xf1
- static final int **SCR_ERR_DEINIT** = 0xf2
- static final int **SCR_ERR_NO_INIT** = 0xf3
- static final int **SCR_ERR_ALREADY_INIT** = 0xf4
- static final int **SCR_ERR_PARAM** = 0xf5
- static final int **SCR_ERR_CODE_SUCCESSFUL** = SError.READER_SUCCESSFUL
- static final int **SCR_ERR_CODE_TRANSMIT_ERROR** = SError.READER_TRANSMIT_ERROR
- static final int **SCR_ERR_CODE_CMD_FAIL** = SError.READER_CMD_FAIL
- static final int **SCR_ERR_CODE_CMD_BUSY** = SError.READER_CMD_BUSY
- static final int **SCR_ERR_CODE_NOT_SUPPORT** = SError.READER_NOT_SUPPORT
- static final int **SCR_ERR_CODE_NO_CARD** = SError.READER_NO_CARD
- static final int **SCR_ERR_CODE_MEM_ERROR** = SError.READER_MEM_ERROR
- static final int **SCR_ERR_CODE_TIMEOUT** = SError.READER_TIMEOUT
- static final int **SCR_ERR_CODE_INVALID_PARAMETER** = SError.READER_INVALID_PARAMETER
- static final int **SCR_ERR_CODE_NOT_INITIALIZED** = SError.READER_NOT_INITIALED
- static final int **SCR_ERR_CODE_PBOC_FAIL** = SError.READER_PBOC_FAIL
- static final int **SCR_ERR_CODE_CARD_INACTIVE** = SError.READER_CARD_INACTIVE
- static final int **SCR_ERR_CODE_CARD_LOCKED** = SError.READER_CARD_LOCKED
- static final int **SCR_ERR_CODE_DEV_ERR** = SError.READER_DEV_ERR
- static final int **SCR_MODE_ISO7816** = Reader.CardModeASYNC
- static final int **SCR_MODE_AT24C** = Reader.CardModel2C
- static final int **SCR_MODE_SLE4428** = Reader.CardModeSLE4428
- static final int **SCR_MODE_SLE4442** = Reader.CardModeSLE4442
- static final int **SCR_MODE_AT88SC1608** = Reader.CardModeAT88SC1608
- static final int **SCR_MODE_AT45D041** = Reader.CardModeAT45D041
- static final int **SCR_MODE_SLE6636** = Reader.CardModeSLE6636
- static final int **SCR_MODE_AT88SC102** = Reader.CardModeAT88SC102
- static final int **PROTOCOL_T0** = Reader.CCID_PROTOCOL_T0
- static final int **PROTOCOL_T1** = Reader.CCID_PROTOCOL_T1
- static final int **PROTOCOL_NA** = Reader.CCID_PROTOCOL_NA

3.11.1 Detailed Description

Class of [SmartCardManager](#) (SmartCard Reader) implement.

3.11.2 Member Function Documentation

3.11.2.1 AT24CSeriesCmdRead()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT24CSeriesCmdRead (
    int intStartAddr,
    byte bCardType,
    int intReadLen,
    byte[] pReadData,
    int[] pIntReturnLen )
```

read data from the memory card.

Parameters

<i>intStartAddr</i>	The memory address to read from.
<i>bCardType</i>	The card type.
<i>intReadLen</i>	Number of bytes to be read from the card.
<i>pReadData</i>	Pointer to a buffer that receives the data read from the card.
<i>pIntReturnLen</i>	Pointer to the length, in bytes, of the pReadData parameter and receives the actual number of bytes received from the card.

Returns

0 for success.

3.11.2.2 AT24CSeriesCmdWrite()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT24CSeriesCmdWrite (
    int intStartAddr,
    byte bCardType,
    int intWordPageSize,
    int intWriteLen,
    byte[] pWriteData )
```

writes data to the memory card.

Parameters

<i>intStartAddr</i>	The memory address to write to.
---------------------	---------------------------------

Parameters

<i>bCardType</i>	The card type.
<i>intWordPageSize</i>	The page size for write operation. This value is depended on the property of the memory card. If the programmer doesn't know it, set it to 0x08.
<i>intWriteLen</i>	Number of bytes to be written to the card.
<i>pWriteData</i>	Pointer to the buffer containing the data to be written to the card.

Returns

0 for success.

3.11.2.3 AT24CxxCmdRead()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT24CxxCmdRead (
    byte bDeviceAddress,
    int intStartAddr,
    int intReadLen,
    byte[] pReadData,
    int[] pIntReturnLen )
```

read data from the memory card.

Parameters

<i>bDeviceAddress</i>	The I2C Device Address. Should set to 0x50.
<i>intStartAddr</i>	The memory address to read from. Note:The single byte Card,lngStartAddr = 0x7FFF.The double byte Card,lngStartAddr = 0x8000
<i>intReadLen</i>	Number of bytes to be read from the card.
<i>pReadData</i>	Pointer to a buffer that receives the data read from the card.
<i>pIntReturnLen</i>	Pointer to the length, in bytes, of the pReadData parameter and receives the actual number of bytes received from the card.

Returns

0 for success.

3.11.2.4 AT24CxxCmdWrite()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT24CxxCmdWrite (
    int intStartAddr,
```

```
int intWordPageSize,  
int intWriteLen,  
byte[] pWriteData )
```

writes data to the memory card.

Parameters

<i>intStartAddr</i>	The memory address to write to. Note:The single byte Card,IngStartAddr = 0x7FFF.The double byte Card,IngStartAddr = 0x8000
<i>intWordPageSize</i>	The page size for write operation. This value is depended on the property of the memory card. If the programmer doesn't know it, set it to 0x08.
<i>intWriteLen</i>	Number of bytes to be written to the card.
<i>pWriteData</i>	Pointer to the buffer containing the data to be written to the card.

Returns

0 for success.

3.11.2.5 AT45D041Cmd()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT45D041Cmd (
    byte OPcode,
    int pageNo,
    int intStartAddr,
    int intWriteLen,
    byte[] pWriteData,
    int intReadLen,
    byte[] pReadData,
    int[] pIntReturnLen )
```

reads/write data from/to the card.

Parameters

<i>OPcode</i>	The AT45D041 command code
<i>PageNo</i>	The page number to access.
<i>intStartAddr</i>	The memory address in the buffer or memory.
<i>intWriteLen</i>	Number of bytes to be written to the card.
<i>pWriteData</i>	Pointer to the buffer containing the data to be written to the card.
<i>intReadLen</i>	Number of bytes to be read from the card.
<i>pReadData</i>	Pointer to a buffer that receives the data read from the card.
<i>pIntReturnLen</i>	Number of bytes which is actually received data from the card.

Returns

0 for success.

3.11.2.6 AT88SC102CmdOpBitGetAddr()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdOpBitGetAddr (
    int[] pIntCurBitAddr )
```

gets the current bit address of the card. The smartcard reader self-maintains the current address. The function returns the internal variables of the reader which indicated the current bit address.

Parameters

<i>pIntCurBitAddr</i>	Pointer to the current bit address of the card.
-----------------------	---

Returns

0 for success.

3.11.2.7 AT88SC102CmdOpBitsGotoAddr()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdOpBitsGotoAddr (
    int intTargetAddr )
```

makes the card JUMP to the target bit address. provides an easy way to JUMP to any absolute address, no matter forward or backward. does not use RESET operation to reset the address counter, so all the internal flags of the card is not affected after using this function. The smartcard reader self-maintains the address internally, so the caller could safely call this function.

Parameters

<i>intTargetAddr</i>	The target bit address to be reached.
----------------------	---------------------------------------

Returns

0 for success.

3.11.2.8 AT88SC102CmdOpBitsIncAddr()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdOpBitsIncAddr (
    int intBitsIncAddr )
```

increases the internal address counter of the card. The unit of the increment is in bit based. Addressing of the AT88SC102 is sequential. Specific bit addresses may be reached by completing a reset, then clocking the device (INC/READ) until the desired address is reached. The AT88SC102 will determine which operations are allowed at specific address locations. These operations are specified in Tables 1 and 2. For instance, to address the issuer zone (IZ), execute a reset operation, then clock the device 16 times. The device now outputs the first bit of the IZ. After the address counter counts up to 1567, the next CLK pulse resets the address to "0".

Parameters

<i>intBitsIncAddr</i>	The numbers of bit address to be incremented. If the bit address reaches the boundary, 1568, then the card internally reset the bit address to 0.
-----------------------	---

Returns

0 for success.

3.11.2.9 AT88SC102CmdOpBitsRead()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdOpBitsRead (
    int intReadLen,
    byte[] pDataBuffer )
```

reads bit data from the card from current address.

Parameters

<i>intReadLen</i>	Number of bits to be read from the card.
<i>pDataBuffer</i>	Pointer to the buffer that receives the data read from the card. One byte only contains one bit data, so the buffer size should be intReadLen byte size

Returns

0 for success.

3.11.2.10 AT88SC102CmdOpBytesComp()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdOpBytesComp (
    int intCompLen,
    byte[] pDataBuffer )
```

sends data to the card for comparison.

Parameters

<i>intCompLen</i>	Number of bytes to be compared in the card.
<i>pDataBuffer</i>	Pointer to the buffer that contains the data to be compared in the card.

Returns**3.11.2.11 AT88SC102CmdOpBytesIncAddr()**

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdOpBytesIncAddr (
    int intBytesIncAddr )
```

increases the internal address counter of the card. The unit of the increment is in byte based

Parameters

<i>intBytesIncAddr</i>	The numbers of bytes address to be incremented. If the bit address reaches the boundary, 1568, then the card internally reset the bit address to 0.
------------------------	--

Returns

0 for success.

3.11.2.12 AT88SC102CmdOpBytesRead()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdOpBytesRead (
    int intReadLen,
    byte[] pDataBuffer )
```

reads bytes data from the card from current address.

Parameters

<i>intReadLen</i>	Number of bytes to be read from the card.
<i>pDataBuffer</i>	Pointer to the buffer that receives the data read from the card.

Returns

0 for success.

3.11.2.13 AT88SC102CmdOpBytesWrite()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdOpBytesWrite (
    int intWriteLen,
    byte[] pDataBuffer )
```

writes data to current address of the card.

Parameters

<i>intWriteLen</i>	Number of bytes to be written to the card.
<i>pDataBuffer</i>	Pointer to the buffer that contains the data to be written to the card.

Returns

3.11.2.14 AT88SC102CmdOpReset()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdOpReset ( )
```

sends micro operation, RESET, to the card. This operation will reset the internal address to "0". After the falling edge of RST, the first bit of the fabrication zone (Address 0) will be driven on the I/O contact. The erase flags (E1 and E2) will be reset.

Returns

0 for success.

3.11.2.15 AT88SC102CmdOpSingleBitErase()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdOpSingleBitErase ( )
```

sends a erase operation with single bit to logic 1. The address is not changed after calling this function.

Returns

0 for success.

3.11.2.16 AT88SC102CmdOpSingleBitWrite()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdOpSingleBitWrite ( )
```

sends a write operation with single bit to logic 0. The address is not changed after calling this function.

Returns

0 for success.

3.11.2.17 AT88SC102CmdOpStandby()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdOpStandby ( )
```

sends micro operation, STANDBY, to the card. The device is placed in standby mode when FUS pin = "0" and RST = "1". The address will not increment when RST is high.

Returns

0 for success.

3.11.2.18 AT88SC102CmdSetFusPinHigh()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdSetFusPinHigh ( )
```

drives the FUS pin of the card to high state. Used for personalizing the device. FUS must be high to be able to personalize the device when the issuer fuse is unblown. In Security Level 1, the FUS pin may be forced low to simulate Security Level 2. In Security Level 2, the FUS pin has no function.

Returns

0 for success.

3.11.2.19 AT88SC102CmdSetFusPinLow()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdSetFusPinLow ( )
```

drives the FUS pin of the card to low state. Used for personalizing the device. FUS must be high to be able to personalize the device when the issuer fuse is unblown. In Security Level 1, the FUS pin may be forced low to simulate Security Level 2. In Security Level 2, the FUS pin has no function.

Returns

0 for success.

3.11.2.20 AT88SC102CmdSetRstPinHigh()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdSetRstPinHigh ( )
```

drives the RST pin of the card to high state. makes the reader drives RST pin to low. If the previously state of RST pin is high, then the bit address will reset to 0. If the previously state of RST pin is low, then the bit address keep unchanged. The bit address is also auto maintained by the reader internally.

Returns

0 for success.

3.11.2.21 AT88SC102CmdSetRstPinLow()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC102CmdSetRstPinLow ( )
```

drives the RST pin of the card to high state. makes the reader drives RST pin to low. If the previously state of RST pin is high, then the bit address will reset to 0. If the previously state of RST pin is low, then the bit address keep unchanged. The bit address is also auto maintained by the reader internally.

Returns

0 for success.

3.11.2.22 AT88SC1608CmdInitializeAuthentication()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC1608CmdInitializeAuthentication
(
    byte[] pbHostRand )
```

sends INITIALIZE AUTHENTICATION command to the card.

Parameters

<i>pbHostRand</i>	Pointer to the buffer containing the 8 bytes data of host random numbers.
-------------------	---

Returns

0 for success.

3.11.2.23 AT88SC1608CmdReadConfigurationZone()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC1608CmdReadConfigurationZone (
    byte bAddress,
    byte bReadLen,
    byte[] pReadBuffer,
    int[] pIntReturnLen )
```

reads data from the configuration zone of the card.

Parameters

<i>bAddress</i>	The memory address in the configuration zone to read from.
<i>bReadLen</i>	Number of bytes to be read from the card.
<i>pReadBuffer</i>	Pointer to a buffer that receives the data read from the card.
<i>pIntReturnLen</i>	Number of bytes which is actually received data from the card.

Returns

0 for success.

3.11.2.24 AT88SC1608CmdReadUserZone()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC1608CmdReadUserZone (
    byte bAddress,
    byte bReadLen,
    byte[] pReadBuffer,
    int[] pIntReturnLen )
```

reads data from the current user zone of the card

Parameters

<i>bAddress</i>	The memory address in the current user zone to read from.
<i>bReadLen</i>	Number of bytes to be read from the card.
<i>pReadBuffer</i>	Pointer to a buffer that receives the data read from the card.
<i>pIntReturnLen</i>	Number of bytes which is actually received data from the card.

Returns

0 for success.

3.11.2.25 AT88SC1608CmdSetUserZoneAddress()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC1608CmdSetUserZoneAddress (
    byte bAddress )
```

selects the current user zone number.

Parameters

<i>bAddress</i>	The user zone number to be selected. This value is between 0 to 7. Other value will be rejected.
-----------------	--

Returns

0 for success.

3.11.2.26 AT88SC1608CmdVerifyAuthentication()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC1608CmdVerifyAuthentication (
    byte[] pbHostChallenge )
```

sends INITIALIZE AUTHENTICATION command to the card.

Parameters

<i>pbHostChallenge</i>	Pointer to the buffer containing the 8 bytes data of host random numbers.
------------------------	---

Returns

0 for success.

3.11.2.27 AT88SC1608CmdVerifyPassword()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC1608CmdVerifyPassword (
    byte bZoneNo,
    boolean bIsReadAccess,
    byte bPW1,
    byte bPW2,
    byte bPW3 )
```

verifies the read/write password of the selected zone.

Parameters

<i>bZoneNo</i>	The zone number.
<i>bIsReadAccess</i>	TRUE for read password. FALSE for write password.
<i>bPW1</i>	Password 1.
<i>bPW2</i>	Password 2.
<i>bPW3</i>	Password 3.

Returns

0 for success.

3.11.2.28 AT88SC1608CmdWriteConfigurationZone()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC1608CmdWriteConfigurationZone (
    byte bAddress,
    byte bWriteLen,
    byte[] pWriteBuffer )
```

writes data to the configuration zone of the card.

Parameters

<i>bAddress</i>	The memory address in the current user zone to write to.
<i>bWriteLen</i>	Number of bytes to be written to the card.
<i>pWriteBuffer</i>	Pointer to the buffer containing the data to be written to the card.

Returns

0 for success.

3.11.2.29 AT88SC1608CmdWriteUserZone()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.AT88SC1608CmdWriteUserZone (
    byte bAddress,
    byte bWriteLen,
    byte[] pWriteBuffer )
```

writes data to the current user zone of the card.

Parameters

<i>bAddress</i>	The memory address in the current user zone to write to.
<i>bWriteLen</i>	Number of bytes to be written to the card.
<i>pWriteBuffer</i>	Pointer to the buffer containing the data to be written to the card.

Returns

0 for success.

3.11.2.30 deinit()

```
void com.paydevice.smartpos.sdk.smartcard.SmartCardManager.deinit ( )
```

Deinitialize smartcard reader.

Returns

3.11.2.31 errCode2String()

```
static String com.paydevice.smartpos.sdk.smartcard.SmartCardManager.errCode2String (
    int errCode ) [static]
```

convert error code to string

Parameters

<i>errCode</i>	error code
----------------	------------

Returns

error code string

3.11.2.32 getATR()

```
byte [] com.paydevice.smartpos.sdk.smartcard.SmartCardManager.getATR ( ) throws SmartPosException
```

Gets the ATR in hex.

Returns

ART bytes array

3.11.2.33 getProtocol()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.getProtocol ( ) throws SmartPosException
```

Gets the protocol(T0,T1)

Returns

PROTOCOL_T0,PROTOCOL_T1 or PROTOCOL_NA(fail)

3.11.2.34 getSN()

```
byte [] com.paydevice.smartpos.sdk.smartcard.SmartCardManager.getSN ( ) throws SmartPosException
```

Gets the serial number.

Returns

bytes array of serial number

3.11.2.35 init()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.init (
    Context ctx ) throws SmartPosException
```

Initialize smartcard reader.

Parameters

<i>ctx</i>	Android Context
------------	-----------------

Returns

slot count(1 or 2)

3.11.2.36 powerOff()

```
void com.paydevice.smartpos.sdk.smartcard.SmartCardManager.powerOff ( ) throws SmartPosException
```

Sets card power off.

Returns**3.11.2.37 powerOn()**

```
void com.paydevice.smartpos.sdk.smartcard.SmartCardManager.powerOn ( ) throws SmartPosException
```

Sets card power on.

Returns**3.11.2.38 selectSlot()**

```
void com.paydevice.smartpos.sdk.smartcard.SmartCardManager.selectSlot (
    int slot ) throws SmartPosException
```

select the slot

Parameters

<i>slot</i>	0,1
-------------	-----

Returns

3.11.2.39 sendAPDU() [1/2]

```
byte [] com.paydevice.smartpos.sdk.smartcard.SmartCardManager.sendAPDU (
    byte[] apdu ) throws SmartPosException
```

Sends APDU.

Parameters

<i>apdu</i>	apdu byte array
-------------	-----------------

Returns

apdu respond byte array

3.11.2.40 sendAPDU() [2/2]

```
void com.paydevice.smartpos.sdk.smartcard.SmartCardManager.sendAPDU (
    byte[] apdu,
    byte[] response,
    int[] responseLen ) throws SmartPosException
```

Sends APDU for long respond data, CLA+INS+P1+P2+Lc+cmd+Le.

Parameters

<i>apdu</i>	apdu byte array
-------------	-----------------

Returns

apdu respond byte array

3.11.2.41 SLE4428CmdRead8Bits()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4428CmdRead8Bits (
    int address,
    int intReadLen,
    byte[] pReadData,
    int[] pIntReturnLen )
```

read one byte of data without protect bit from the card.

Parameters

<i>address</i>	The memory address to read from the card.
<i>intReadLen</i>	Number of bytes to be read from the card.
<i>pReadData</i>	Pointer to a buffer that receives the data read from the card.
<i>pIntReturnLen</i>	Pointer to a number of bytes which is actually received data from the card.

Returns

0 for success.

3.11.2.42 SLE4428CmdRead9Bits()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4428CmdRead9Bits (
    int address,
    int intReadLen,
    byte[] pReadData,
    byte[] pReadPB,
    int[] pIntReturnLen )
```

reads data with protect bits from the card.

Parameters

<i>address</i>	The memory address to read from the card.
<i>intReadLen</i>	Number of bytes to be read from the card.
<i>pReadData</i>	Pointer to a buffer that receives the data read from the card.
<i>pReadPB</i>	Point to the buffer that receives the protect bits read from the card. Each protect bit occupies one byte space This buffer size is the same as pReadData. The values in the buffer are 0x00 or 0x01.
<i>pIntReturnLen</i>	Pointer to the length, in bytes, of the pReadData parameter and receives the actual number of bytes received from the card

Returns

0 for success.

3.11.2.43 SLE4428CmdVerify1stPSC()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4428CmdVerify1stPSC (
    byte data )
```

used to verify the 1st PSC byte.

Parameters

<i>data</i>	The 1st PSC byte to be verified. attempt. Therefore, there are max 8 attempts.
-------------	---

Returns

0 for success.

3.11.2.44 SLE4428CmdVerify2ndPSC()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4428CmdVerify2ndPSC (
    byte data )
```

used to verify the 2nd PSC byte.

Parameters

<i>data</i>	The 2nd PSC byte to be verified. attempt. Therefore, there are max 8 attempts.
-------------	---

Returns

0 for success.

3.11.2.45 SLE4428CmdVerifyPSCAndEraseErrorCounter()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4428CmdVerifyPSCAndEraseError↵
Counter (
    byte b1stPsc,
    byte b2ndPsc,
    int[] pIntErrorReason )
```

used to verify the 1st 2nd PSC bytes and erase error counter if the verification is OK. Only apply to SLE4428.

Parameters

<i>b1stPsc</i>	The 1st PSC byte to be verified.
<i>b2ndPsc</i>	The 2nd PSC byte to be verified.
<i>pIntErrorReason</i>	Specify the error code if the function fails.

Returns

0 for success.

3.11.2.46 SLE4428CmdWriteEraseWithoutPB()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4428CmdWriteEraseWithoutPB (
    int address,
    byte data )
```

writes one byte data without protect bit to the card.

Parameters

<i>address</i>	The memory address to write to the card.
<i>data</i>	The written data.

Returns

0 for success.

3.11.2.47 SLE4428CmdWriteEraseWithPB()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4428CmdWriteEraseWithPB (
    int address,
    byte data )
```

writes one byte data with protect bit to the card.

Parameters

<i>address</i>	The memory address to write to the card.
<i>data</i>	The written data.

Returns

0 for success.

3.11.2.48 SLE4428CmdWriteErrorCounter()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4428CmdWriteErrorCounter (
    byte data )
```

writes error counter to the card.

Parameters

<i>data</i>	The error counter. It is in bitmap format. Each bit presents one available attempt. Therefore, there are max 8 attempts.
-------------	--

Returns

0 for success.

3.11.2.49 SLE4428CmdWritePBWithDataComparison()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4428CmdWritePBWithDataComparison
(
    int address,
    byte data )
```

writes protect bit with data comparison. If the data is the same as the one in the card, the protect bit is written.

Parameters

<i>address</i>	The memory address to write to the card.
<i>data</i>	The written data.

Returns

0 for success.

3.11.2.50 SLE4442CmdCompareVerificationData()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4442CmdCompareVerificationData (
    byte bAddress,
    byte bData )
```

compares the data with the specified reference byte in the security memory.

Parameters

<i>bAddress</i>	The security memory address whose value is to be compared. bAddress is 1, 2, or 3.
<i>bData</i>	The compared data.

Returns

0 for success.

3.11.2.51 SLE4442CmdReadMainMemory()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4442CmdReadMainMemory (
    byte bAddress,
```

```

byte bReadLen,
byte[] pReadData,
int[] pReturnLen )

```

reads data from the main memory of the card.

Parameters

<i>bAddress</i>	The memory address to read from.
<i>bReadLen</i>	Number of bytes to be read from the card.
<i>pReadData</i>	Pointer to a buffer that receives the data read from the card.
<i>pReturnLen</i>	Pointer to the length, in bytes, of the pReadData parameter and receives the actual number of bytes received from the card

Returns

0 for success.

3.11.2.52 SLE4442CmdReadProtectionMemory()

```

int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4442CmdReadProtectionMemory (
    byte bReadLen,
    byte[] pReadData,
    int[] pIntReturnLen )

```

reads data from the protection memory of the card.

Parameters

<i>bReadLen</i>	Number of bytes to be read from the card. This byte should be set to 4.
<i>pReadData</i>	Pointer to a buffer that receives the data read from the protection memory of the card.
<i>pIntReturnLen</i>	Pointer to the length, in bytes, of the pReadData parameter and receives the actual number of bytes received from the card

Returns

0 for success.

3.11.2.53 SLE4442CmdReadSecurityMemory()

```

int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4442CmdReadSecurityMemory (
    byte bReadLen,

```

```
byte[] pReadData,  
int[] pIntReturnLen )
```

reads data from the security memory of the card.

Parameters

<i>bReadLen</i>	Number of bytes to be read from the card. This byte should be set to 4.
<i>pReadData</i>	Pointer to a buffer that receives the data read from the the security memory of the card.
<i>pIntReturnLen</i>	Pointer to the length, in bytes, of the pReadData parameter and receives the actual number of bytes received from the card.

Returns

3.11.2.54 SLE4442CmdUpdateMainMemory()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4442CmdUpdateMainMemory (
    byte bAddress,
    byte bData )
```

updates one byte data in the main memory of the card.

Parameters

<i>bAddress</i>	The main memory address to update
<i>bData</i>	The updated data.

Returns

0 for success.

3.11.2.55 SLE4442CmdUpdateSecurityMemory()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4442CmdUpdateSecurityMemory (
    byte bAddress,
    byte bData )
```

updates one byte data in the main memory of the card.

Parameters

<i>bAddress</i>	The security memory address to update
<i>bData</i>	The updated data.

Returns

0 for success.

3.11.2.56 SLE4442CmdVerify()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4442CmdVerify (
    int intPinLen,
    byte[] pPinData )
```

Verify the pin of the card. Only apply to SLE4442.

Parameters

<i>intPinLen</i>	The length of pin data.
<i>pPinData</i>	The data of pin buffer.

Returns

0 for success.

3.11.2.57 SLE4442CmdWriteProtectionMemory()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE4442CmdWriteProtectionMemory (
    byte bAddress,
    byte bData )
```

write one byte data in the protection memory of the card.

Parameters

<i>bAddress</i>	The protection memory address to be written.
<i>bData</i>	The written data.

Returns

0 for success.

3.11.2.58 SLE6636CmdAuthentication()

```
int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE6636CmdAuthentication (
    byte bKeyNo,
```

```

byte bClock,
byte bWriteLen,
byte[] pWChallengeBuf,
byte bReadLen,
byte[] pReadData,
int[] pIntReturnLen )

```

send authentication command

Parameters

<i>bKeyNo</i>	Specifies the number of Key(0x01 or 0x02).
<i>bClock</i>	Specifies the clock.
<i>bWriteLen</i>	Specifies the data length of challenge data.
<i>pWChallengeBuf</i>	Pointer to the buffer that to be challenge.
<i>bReadLen</i>	Specifies the buffer length to read from the card.
<i>pReadData</i>	Pointer to the buffer that receives the data.
<i>pIntReturnLen</i>	Pointer to the variable that receives the number of bytes read.

Returns

0 for success.

3.11.2.59 SLE6636CmdReadCounters()

```

int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE6636CmdReadCounters (
    byte bReadLen,
    byte[] pReadData,
    int[] pIntReturnLen )

```

read Counter Area from the card.

Parameters

<i>bReadLen</i>	Specifies the buffer length to read from the card. It should be set to 8.
<i>pReadData</i>	Pointer to the buffer that receives the data.
<i>pIntReturnLen</i>	Pointer to the variable that receives the number of bytes read.

Returns

0 for success.

3.11.2.60 SLE6636CmdReadMemory()

```

int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE6636CmdReadMemory (
    byte bAddress,

```

```

byte bReadMEMLen,
byte bReadLen,
byte[] pReadData,
int[] pIntReturnLen )

```

read Memory Area

Parameters

<i>bAddress</i>	Specifies the address to read from memory area.
<i>bReadMEMLen</i>	Specifies the number of bytes to read from the memory.
<i>bReadLen</i>	Specifies the buffer length to be read from the card.
<i>pReadData</i>	Pointer to the buffer that receives the data.
<i>pIntReturnLen</i>	Pointer to the variable that receives the number of bytes read.

Returns

0 for success.

3.11.2.61 SLE6636CmdReload()

```

int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE6636CmdReload (
    byte bAddress,
    byte bReadLen,
    byte[] pReadData,
    int[] pIntReturnLen )

```

reload(Erase 8 Bits with Carry Operation) .

Parameters

<i>bAddress</i>	Specifies the address to reload.
<i>bReadLen</i>	Specifies the buffer length to read from the card
<i>pReadData</i>	Pointer to the buffer that receives the data.
<i>pIntReturnLen</i>	Pointer to the variable that receives the number of bytes read.

Returns

0 for success.

3.11.2.62 SLE6636CmdVerification()

```

int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE6636CmdVerification (
    byte bTC1,

```

```

byte bTC2,
byte bTC3,
byte bReadLen,
byte[] pReadData,
int[] pIntReturnLen )

```

Parameters

<i>bTC1</i>	
<i>bTC2</i>	
<i>bTC3</i>	
<i>bReadLen</i>	Specifies the buffer length to read from the card .
<i>pReadData</i>	Pointer to the buffer that receives the data.
<i>pIntReturnLen</i>	Pointer to the variable that receives the number of bytes read.

Returns

0 for success.

3.11.2.63 SLE6636CmdWriteCounter()

```

int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE6636CmdWriteCounter (
    byte bAddress,
    byte bWriteData,
    byte bReadLen,
    byte[] pReadData,
    int[] pIntReturnLen )

```

write Counter Area to the card.

Parameters

<i>bAddress</i>	Specifies address to write to counter area.
<i>bWriteData</i>	Specifies the data to write to counter area.
<i>bReadLen</i>	Specifies the buffer length to read from the card.
<i>pReadData</i>	Pointer to the buffer that receives the data.
<i>pIntReturnLen</i>	Pointer to the variable that receives the number of bytes read.

Returns

0 for success.

3.11.2.64 SLE6636CmdWriteMemory()

```

int com.paydevice.smartpos.sdk.smartcard.SmartCardManager.SLE6636CmdWriteMemory (
    int intApuLen,

```

```

byte bAddress,
byte bWriteLen,
byte[] pWriteBuffer,
byte bReadLen,
byte[] pReadData,
int[] pIntReturnLen )

```

write Memory Area

Parameters

<i>intAduLen</i>	Should set to 0.
<i>bAddress</i>	Specifies the address to write to memory area.
<i>bWriteLen</i>	Specifies the number of bytes to write to memory area.
<i>pWriteBuffer</i>	Pointer to the buffer containing the data to be written to the card.
<i>bReadLen</i>	Specifies the buffer length to be read from the card.
<i>pReadData</i>	Pointer to the buffer that receives the data.
<i>pIntReturnLen</i>	Pointer to the variable that receives the number of bytes read.

Returns

0 for success.

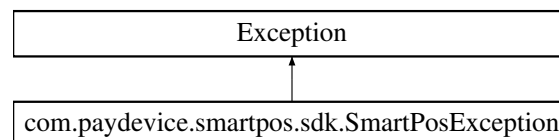
The documentation for this class was generated from the following file:

- src/com/paydevice/smartpos/sdk/smartcard/SmartCardManager.java

3.12 com.paydevice.smartpos.sdk.SmartPosException Class Reference

Exception thrown when an operation on a module.

Inheritance diagram for com.paydevice.smartpos.sdk.SmartPosException:



Public Member Functions

- **SmartPosException** (String detailMessage)
- **SmartPosException** (Throwable throwable)
- **SmartPosException** (String detailMessage, Throwable throwable)
- **SmartPosException** (int errCode)
- int **getErrorCode** ()

3.12.1 Detailed Description

Exception thrown when an operation on a module.

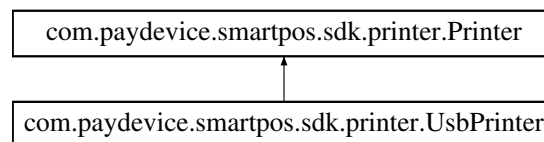
The documentation for this class was generated from the following file:

- src/com/paydevice/smartpos/sdk/SmartPosException.java

3.13 com.paydevice.smartpos.sdk.printer.UsbPrinter Class Reference

Class of [UsbPrinter](#) implement.

Inheritance diagram for com.paydevice.smartpos.sdk.printer.UsbPrinter:



Public Member Functions

- **UsbPrinter** (Context context)
- void [selectPrinter](#) (UsbDevice device)
Select external usb printer.
- void [selectBuiltInPrinter](#) ()
Select built-in printer.
- void [open](#) () throws SmartPosException
Open printer and request permission.
- void [close](#) () throws SmartPosException
Close printer.
- int [read](#) (byte[] buf, int len) throws SmartPosException
Read data from printer(timeout 1s)
- void [write](#) (byte[] buf, int len) throws SmartPosException
Write data to printer(timeout 1s)
- int [getType](#) ()
Get the printer type.
- int [read](#) (byte[] buf, int len, int timeout) throws SmartPosException
Read data from printer.
- void [write](#) (byte[] buf, int len, int timeout) throws SmartPosException
Write data to printer.
- List< UsbDevice > [getPrinterList](#) ()
Get all usb printer.

3.13.1 Detailed Description

Class of [UsbPrinter](#) implement.

3.13.2 Member Function Documentation

3.13.2.1 close()

`void com.paydevice.smartpos.sdk.printer.UsbPrinter.close ( )` throws [SmartPosException](#)

Close printer.

Returns

Implements [com.paydevice.smartpos.sdk.printer.Printer](#).

3.13.2.2 getPrinterList()

`List<UsbDevice> com.paydevice.smartpos.sdk.printer.UsbPrinter.getPrinterList ( )`

Get all usb printer.

Returns

UsbDevice list of all usb printer

3.13.2.3 getType()

`int com.paydevice.smartpos.sdk.printer.UsbPrinter.getType ( )`

Get the printer type.

Returns

Implements [com.paydevice.smartpos.sdk.printer.Printer](#).

3.13.2.4 open()

`void com.paydevice.smartpos.sdk.printer.UsbPrinter.open ( )` throws [SmartPosException](#)

Open printer and request permission.

Returns

Implements [com.paydevice.smartpos.sdk.printer.Printer](#).

3.13.2.5 read() [1/2]

`int com.paydevice.smartpos.sdk.printer.UsbPrinter.read (`
 `byte[] buf,`
 `int len )` throws [SmartPosException](#)

Read data from printer(timeout 1s)

Parameters

<i>buf</i>	data buffer
<i>len</i>	data len

Returns

Implements [com.paydevice.smartpos.sdk.printer.Printer](#).

3.13.2.6 read() [2/2]

```
int com.paydevice.smartpos.sdk.printer.UsbPrinter.read (
    byte[] buf,
    int len,
    int timeout ) throws SmartPosException
```

Read data from printer.

Parameters

<i>buf</i>	data buffer
<i>len</i>	data len
<i>timeout</i>	timeout in ms

Returns**3.13.2.7 selectBuiltInPrinter()**

```
void com.paydevice.smartpos.sdk.printer.UsbPrinter.selectBuiltInPrinter ( )
```

Select built-in printer.

Returns

Implements [com.paydevice.smartpos.sdk.printer.Printer](#).

3.13.2.8 selectPrinter()

```
void com.paydevice.smartpos.sdk.printer.UsbPrinter.selectPrinter (
    UsbDevice device )
```

Select external usb printer.

Parameters

<i>device</i>	UsbDevice
---------------	-----------

Returns

3.13.2.9 write() [1/2]

```
void com.paydevice.smartpos.sdk.printer.UsbPrinter.write (  
    byte[] buf,  
    int len ) throws SmartPosException
```

Write data to printer(timeout 1s)

Parameters

<i>buf</i>	data buffer
<i>len</i>	data len

Returns

Implements [com.paydevice.smartpos.sdk.printer.Printer](#).

3.13.2.10 write() [2/2]

```
void com.paydevice.smartpos.sdk.printer.UsbPrinter.write (  
    byte[] buf,  
    int len,  
    int timeout ) throws SmartPosException
```

Write data to printer.

Parameters

<i>buf</i>	data buffer
<i>len</i>	data len
<i>timeout</i>	timeout in ms

Returns

The documentation for this class was generated from the following file:

- `src/com/paydevice/smartpos/sdk/printer/UsbPrinter.java`

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