Android POS Program Manual

v2.1.2

1. Instruction

This manual describes how to implement ESC/POS printing.Constant variable are defined in POSConst class.

2. POSPrinter

2.1. POSPrinter

Constructor to create print objects.
POSPrinter(IDeviceConnection connection)

[Parameter]
- Connection

Connected object, available via POSConnect.createDevice(deviceType).

2.2. printString

This function is used for text-printing.
POSPrinter printString(String data)

[Parameter]
- data

Printed text string

[Return]
POSPrinter Instance

2.3. printText

This function is used for format-specific text printing.
POSPrinter printText(String data, int alignment, int attribute, int textSize)
POSPrinter printTextSize(String data, int textSize)
POSPrinter printTextAttribute(String data, int attribute)
POSPrinter printTextAlignment(String data, int alignment)

[Parameter]
- data

Printed text string
- alignment

The alignment of the text, and the default is ALIGNMENT_LEFT

Variable	Description
ALIGNMENT_LEFT	Align left
ALIGNMENT_CENTER	Align center
ALIGNMENT_RIGHT	Align right

- attribute

This value is text attributes. It sets text attributes to print. default is FNT_DEFAULT

Variable	Description
FNT_DEFAULT	FontA, Set up as a standard
FNT_FONTB	Set up as FontB
FNT_BOLD	bold font
FNT_REVERSE	Set up as reverse print attribute
FNT_UNDERLINE	Set up as Underline attribute
FNT_UNDERLINE2	Set up as Bold Underline attribute

- textSize

The font size of the printed text font,default is TXT_1WIDTH|TXT_1HEIGHT

Variable(Set up width ratio)	Description
TXT_1WIDTH	Set up width ratio as x1
TXT_2WIDTH	Set up width ratio as x2
TXT_3WIDTH	Set up width ratio as x3
TXT_4WIDTH	Set up width ratio as x4
TXT_5WIDTH	Set up width ratio as x5
TXT_6WIDTH	Set up width ratio as x6
TXT_7WIDTH	Set up width ratio as x7
TXT_8WIDTH	Set up width ratio as x8

Variable(Set up height ratio)	Description
TXT_1HEIGHT	Set up height ratio as x1
TXT_2HEIGHT	Set up height ratio as x2
TXT_3HEIGHT	Set up height ratio as x3
TXT_4HEIGHT	Set up height ratio as x4
TXT_5HEIGHT	Set up height ratio as x5
TXT_6HEIGHT	Set up height ratio as x6
TXT_7HEIGHT	Set up height ratio as x7
TXT_8HEIGHT	Set up height ratio as x8

[Return]

POSPrinter Instance

2.4. printBitmap

This function is used for printing image files.

POSPrinter printBitmap(String bitmapPath, int alignment, int width)

POSPrinter printBitmap(String bitmapPath, int alignment, int width, int model)

POSPrinter printBitmap(Bitmap bmp, int alignment, int width)

POSPrinter printBitmap(Bitmap bmp, int alignment, int width, int model)

[Parameter]

- bitmapPath

with full path of bitmap file.

- bmp

Android Bitmap Object.

- alignment

The alignment mode of the pictures.

Variable	Description
ALIGNMENT_LEFT	Align left
ALIGNMENT_CENTER	Align center
ALIGNMENT_RIGHT	Align right

- width

Print the picture width, which can be used to zoom the picture

- model

Print mode

Variable	Description
BMP_NORMAL	Original(Normal) size
BMP_WIDTH_DOUBLE	Double width
BMP_HEIGHT_DOUBLE	Double height
BMP_WIDTH_HEIGHT_DOUBLE	Double size

[Return]

POSPrinter Instance

2.5. printBarCode

This function is used for supporting barcode printing.

POSPrinter printBarCode(String data, int codeType)

POSPrinter printBarCode(String data, int codeType, int width, int height, int alignment)

POSPrinter printBarCode(String data, int codeType, int width, int height, int alignment, int textPosition)

[Parameter]

- data

Barcode string to be printed

- codeType

Barcode type

Variable	Description
BCS_UPCA	UPC A
BCS_UPCE	UPCE
BCS_EAN8	EAN-8
BCS_EAN13	EAN-13
BCS_JAN8	JAN-8
BCS_JAN13	JAN-13
BCS_ITF	ITF
BCS_Codabar	Codabar
BCS_Code39	Code 39
BCS_Code93	Code 93
BCS_Code128	Code 128, For this type, the data must be added with {A, {B, {C, etc

- height

Barcode height, range [1,255].Default is 162

- width

This values barcode width in Dot Units, range [2, 6], Default is 3

- Alignment

It sets barcode alignment, Default is ALIGNMENT_CENTER

Variable	Description
ALIGNMENT_LEFT	Align left
ALIGNMENT_CENTER	Align center
ALIGNMENT_RIGHT	Align right

- textPosition

This value is printing position of barcode HRI letters(barcode data).Default is HRI_TEXT_BELOW.

Variable	Description
HRI_TEXT_NONE	Do not print barcode data
HRI_TEXT_ABOVE	Print barcode data above the barcode
HRI_TEXT_BELOW	Print barcode data below the barcode
HRI_TEXT_BOTH	Print barcode data top and bottom

[Return]

POSPrinter Instance

2.6. feed

This function is used for sending feeding command to printer.

POSPrinter feedLine(int lineCount)

POSPrinter feedLine()

POSPrinter feedDot(int dotCount)

[Parameter]

- lineCount

This value is the number of lines for line feeding. Default is 1

- dotCount

This value is the number of point for line feeding.

[Return]

POSPrinter Instance

2.7. printQRCode

This function is used for supporting QRCode barcode printing.

POSPrinter printQRCode(String data)

POSPrinter printQRCode(String data, int alignment)

POSPrinter printQRCode(String data, int moduleSize, int alignment)

POSPrinter printQRCode(String data, int moduleSize, int ecLevel, int alignment)

[Parameter]

- data

QRCode data to print

- moduleSize

Module size. Range[1, 16], Default is 8.

- ecLevel

Error Correction Level, Default is QRCODE_EC_LEVEL_L

Variable	Description
QRCODE_EC_LEVEL_L	Error correction Level L (7%)
QRCODE_EC_LEVEL_M	Error correction Level M (15%)
QRCODE_EC_LEVEL_Q	Error correction Level Q (25%)
QRCODE_EC_LEVEL_H	Error correction Level H (30%)

- alignment

It sets QRCode alignment, Default is ALIGNMENT_CENTER

Variable	Description
ALIGNMENT_LEFT	Align left

ALIGNMENT_CENTER	Align center
ALIGNMENT_RIGHT	Align right

[Return]
POSPrinter Instance

2.8. cutPaper

This method is used for cutting the paper
POSPrinter cutPaper()
POSPrinter cutPaper(int model)
POSPrinter cutHalfAndFeed(int distance)
Feed paper distance,and half cut paper.

[Parameter]

- model

Cut paper mode, Default is CUT_HALF.

Variable	Description
CUT_ALL	Full cut
CUT_HALF	Half cut

- distance

Feed distance

[Return]
POSPrinter Instance

2.9. openCashBox

Open a cash drawer.
POSPrinter openCashBox(int pinNum)
POSPrinter openCashBox(int pinNum, int onTime, int offTime)

[Parameter]

- pinNum

Pin number to generate pulse.

Variable	Description
PIN_TWO	PIN 2
PIN_FIVE	PIN 5

- onTime

Start tiime to generate pulse. onTime*2ms, range [0,255], Default is 30

- offTime

Stop time to generate pulse. offTime*2ms, range [0,255], Default is 255

[Return]

POSPrinter Instance

2.10. setCharSet

Set character encoding,Default is “IBM437”

void setCharSet(String charSet)

[Parameter]

- charSet

Character set name.

2.11. setTextStyle

This function is used for set the font style.

POSPrinter setTextStyle(int attribute, int textSize)

[Parameter]

- attribute

This value is text attributes. It sets text attributes to print. default is FNT_DEFAULT

Variable	Description
FNT_DEFAULT	FontA, Set up as a standard
FNT_FONTB	Set up as FontB
FNT_BOLD	bold font
FNT_REVERSE	Set up as reverse print attribute
FNT_UNDERLINE	Set up as Underline attribute
FNT_UNDERLINE2	Set up as Bold Underline attribute

- textSize

The font size of the printed text font,default is TXT_1WIDTH|TXT_1HEIGHT

Variable(Set up width ratio)	Description
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TXT_5WIDTH	Set up width ratio as x5
TXT_6WIDTH	Set up width ratio as x6
TXT_7WIDTH	Set up width ratio as x7

TXT_8WIDTH	Set up width ratio as x8

Variable(Set up height ratio)	Description
TXT_1HEIGHT	Set up height ratio as x1
TXT_2HEIGHT	Set up height ratio as x2
TXT_3HEIGHT	Set up height ratio as x3
TXT_4HEIGHT	Set up height ratio as x4
TXT_5HEIGHT	Set up height ratio as x5
TXT_6HEIGHT	Set up height ratio as x6
TXT_7HEIGHT	Set up height ratio as x7
TXT_8HEIGHT	Set up height ratio as x8

[Return]
POSPrinter Instance

2.12. setAlignment

This method is used for set up the alignment of the text
POSPrinter setAlignment(int alignment)

[Parameter]

- alignment

The alignment of the text, and the default is ALIGNMENT_LEFT

Variable	Description
ALIGNMENT_LEFT	Align left
ALIGNMENT_CENTER	Align center
ALIGNMENT_RIGHT	Align right

[Return]
POSPrinter Instance

2.13. printerCheck

This function is used for query all of the printer states.
void printerCheck(int type, int timeout, IDataCallback callback)

[Parameter]

- type

Variable	Description
STS_TYPE_PRINT	Print state

STS_TYPE_OFFLINE	off-line state
STS_TYPE_ERR	Error state
STS_TYPE_PAPER	Transfer paper state

- timeout

Receive timeout, Unit is ms

- callback

Read the data callback, the callback content is the corresponding printer state, if the data is not received in the timeout time, then the empty byte is returned.

```
public interface IDataCallback {
    void receive(byte[] data);
}
```

2.14. printerStatus

This method is used to query the common state of the printer, Timeout time is 5000ms

void printerStatus(IStatusCallback callback)

[Parameter]

- callback

Read the status callback.

```
public interface IStatusCallback {
    void receive(int status);
}
```

The status-values are shown in the table below.

STS_UNKNOWN	Unknown state, read data timeout or received data length is not 1
STS_NORMAL	The printer is normal
STS_COVEROPEN	Cover open
STS_PAPEREMPTY	Printer lack of paper

2.15. cashBoxCheck

This method is used to query the cash drawer status.

void cashBoxCheck(IStatusCallback callback)

[Parameter]

- callback

Read the status callback.

```
public interface IStatusCallback {
    void receive(int status);
}
```

The status-values are shown in the table below.

STS_UNKNOWN	Unknown state, read data timeout or received data length is not 1.
STS_CASH_OPEN	Cash drawer is open.
STS_CASH_CLOSE	Cash drawer is close.

2.16. setPrintArea

Set up the print area in page mode.
POSPrinter setPrintArea(int x, int y, int width, int height)
POSPrinter setPrintArea(int width, int height)

[Parameter]

- x

The x-coordinate of the starting position,Default is 0.

- y

The y-coordinate of the starting position,Default is 0.

- width

Width of printing area.

- height

Height of printing area.

[Return]
POSPrinter Instance

2.17. setPageModel

Change to page mode or standard mode.
POSPrinter setPageModel(boolean isOpen)

[Parameter]

- isOpen

Enable or Disable page mode. (TRUE, FALSE)

[Return]
POSPrinter Instance

2.18. printPageModelData

Print and return to standard mode in page mode.

POSPrinter printPageModelData()

[Return]

POSPrinter Instance

2.19. setPrintDirection

Select print direction in page mode.

POSPrinter setPrintDirection(int direction)

[Parameter]

- direction

Print direction

Variable	Description
DIRECTION_LEFT_TOP	From top left to right
DIRECTION_LEFT_BOTTOM	From bottom left to top
DIRECTION_RIGHT_BOTTOM	From bottom right to top
DIRECTION_RIGHT_TOP	From top right to bottom

[Return]

POSPrinter Instance

2.20. setAbsoluteHorizontal

Set absolute horizontal print position . (X axis)

POSPrinter setAbsoluteHorizontal(int position)

[Parameter]

- position

Starting position.

[Return]

POSPrinter Instance

2.21. setRelativeHorizontal

Set relative horizontal print position. (X axis)
POSPrinter setRelativeHorizontal(int position)

[Parameter]
- position

Starting position.

[Return]
POSPrinter Instance

2.22. setAbsoluteVertical

Set absolute vertical print position in page mode. (Y axis)
POSPrinter setAbsoluteVertical(int position)

[Parameter]
- position

Starting position.

[Return]
POSPrinter Instance

2.23. setRelativeVertical

Set relative vertical print position in page mode. (Y axis)
POSPrinter setRelativeVertical(int position)

[Parameter]
- position

Starting position.

[Return]
POSPrinter Instance

2.24. downloadNVImage

This function is used for save the NV images in flash.

POSPrinter downloadNVImage(String imagePaths, int imageWidth)
POSPrinter downloadNVImage(List<Bitmap> bitmaps, int imageWidth)

[Parameter]

- imagePaths

It sets the absolute path of the image files.
',' = separator
(Example: "/storage/emulated/0/tmp/logo1.bmp,/storage/emulated/0/tmp/logo2.bmp")

- bitmaps

The bitmap list

- imageWidth

This value is image width.

[Return]
POSPrinter Instance

2.25. printNVImage

This function is used to support the Bitmap Image printing stored in Flash Memory.
POSPrinter printNVImage(int index, int model)

[Parameter]

- index

It sets the index image stored in Flash Memory to print,range[1,255]

- model

Print model

Variable	Description
BMP_NORMAL	Normal size
BMP_WIDTH_DOUBLE	Double width
BMP_HEIGHT_DOUBLE	Double height
BMP_WIDTH_HEIGHT_DOUBLE	Double size

[Return]
POSPrinter Instance

2.26. initializePrinter

Initialize Printer, This function clears the print buffer data.
POSPrinter initializePrinter()

[Return]
POSPrinter Instance

2.27. selectBitmapModel

Select bitmap model
POSPrinter selectBitmapModel(int model, byte[] bytes)

[Parameter]
- model

Bitmap model

Variable	Description
SINGLE_DENSITY_8	8-point single density
DOUBLE_DENSITY_8	8-point double density
SINGLE_DENSITY_24	24-point single density
DOUBLE_DENSITY_24	24-point double density

- bytes

Bitmap byte array

[Return]
POSPrinter Instance

2.28. printAndFeed

Print buffer data and run n points
POSPrinter printAndFeed(int n)

[Parameter]
- n

The paper distance, in horizontal or vertical moving units. The default is point.

[Return]
POSPrinter Instance

2.29. setLineSpacing

Set line-height
POSPrinter setLineSpacing(int space)
- space

Line-height,If you want to restore to the default height, use SPACE_DEFAULT.

[Return]
POSPrinter Instance

2.30. isConnect

Query connection status
void isConnect(IStatusCallback callback)

[Parameter]
- callback

Status callback.
public interface IStatusCallback {
    void receive(int status);
}

status	Description
STS_CONNECT	connect
STS_DISCONNECT	disconnect

2.31. setTurnUpsideDownMode

Select / cancel the inverted printing mode.
POSPrinter setTurnUpsideDownMode(boolean on)

[Parameter]
- on

True indicates selection, false indicates cancel.

[Return]
POSPrinter Instance

2.32. selectCodePage

Select character code page
POSPrinter selectCodePage(int page)

[Parameter]
- page

Code page

Variable	Description

CODE_PAGE_PC437	PC437
CODE_PAGE_KATAKANA	Katakana
CODE_PAGE_PC850	PC850
CODE_PAGE_PC860	PC860
CODE_PAGE_PC863	PC863
CODE_PAGE_PC865	PC865
CODE_PAGE_WEST_EUROPE	West Europe
CODE_PAGE_GREEK	Greek
CODE_PAGE_HEBREW	Hebrew
CODE_PAGE_EAST_EUROPE	PC755:East Europe
CODE_PAGE_IRAN	Iran
CODE_PAGE_WPC1252	WPC1252
CODE_PAGE_PC866	PC866:Cyrillice*2
CODE_PAGE_PC852	PC852:Latin2
CODE_PAGE_PC858	PC858

[Return]
POSPrinter Instance

2.33. selectCharacterFont

Select font
POSPrinter selectCharacterFont(int font)

[Parameter]
- font

Font type

Variable	Description
FONT_STANDARD	Standard ascii font (12 × 24)
FONT_COMPRESS	Compress ASCII font (9 × 17)

[Return]
POSPrinter Instance

2.34. setCharRightSpace

Set the right spacing of characters
POSPrinter setCharRightSpace(byte space)

[Parameter]

- space

Right spacing distance is space*hor_motion_unit

[Return]

POSPrinter Instance

2.35. sendData

This function is used to send data to the printer.

POSPrinter sendData(byte[] data);

POSPrinter sendData(List<byte[]> datas);

[Parameter]

- data

Byte array to be sent

- datas

Byte array collection to be sent

[Return]

POSPrinter Instance