

Android CPCL SDK Manual

Version	Time	Content
V1.0	2020.09.09	initial version
V1.01	2020.10.16	Add description of print picture interface
V1.02	2021.01.23	Added read-write RFID interface specification

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1 SDK Load AND USED

1.1 Load the SDK jar package and so library of our printer in Android studio。

- Copy the jar package and so library to the app/libs folder
- Add the following code to build.gradle in app

```
android{
    sourceSets {
        main {
            jniLibs.srcDirs = ['libs']
        }
    }
}
implementation files('libs/CPCL_SDK_V1.01.jar')
```

1.2 The interfaces we use are all static in the PrinterHelper class and can be called directly.

2 SDK Connection

2.1 Bluetooth Connection

- Description

```
int portOpenBT(String portSetting)
```

- Parameter

Parameter	Description
portSetting	Bluetooth address (uppercase)

- Return

value	Description
0	connection success
-1	connection time out
-2	Bluetooth address format error
-3	printer mismatches with SDK (handshake command error)

2.2 WIFI Connection

- Description

```
int portOpenWIFI(String printIP)
```

- Parameter

Parameter	Description
printIP	IP address

- Return

value	Description
0	connection success
-1	connection time out
-2	IP address format error
-3	printer mismatches with SDK (handshake command error)

2.3 USB Connection

- Description

```
int portOpenUSB(Context context, UsbDevice usbdevice)
```

- Parameter

Parameter	Description
context	Context object
usbdevice	USB device object to be connected

- Return

value	Description
0	connection success
-1	connection time out
-2	paramete error
-3	printer mismatches with SDK (handshake command error)

2.4 Disconnection

- Description

```
boolean portClose()
```

- Parameter
Null
- Return

value	Description
true	disconnection success
false	disconnection failure

3 SDK Print Interface

3.1 Page label start

- Description

```
int printAreaSize(String offset,String Horizontal, String Vertical,String height,String qty)
```

- Parameter

Parameter	Description
offset	Left margin
Horizontal	Printer horizontal dpi (set according to actual printer dpi)
Vertical	Printer vertical dpi (set according to actual printer dpi)
height	label height (unit: dot) 200dpi 8 dot = 1mm, 300dpi 12 dot = 1mm
qty	print number

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","TEXT")
PrinterHelper .Form()//For positioning of printing label(Exclude
continuous paper)
PrinterHelper .Print()
```

3.2 Print

- Description

```
int Print()
```

- Parameter
Null
- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","TEXT")
PrinterHelper .Form()//For positioning of printing label(Exclude
continuous paper)
PrinterHelper .Print()
```

3.3 Set Encoding

- Description

```
int Encoding(String code)
```

- Parameter

Parameter	Description
code	encoding, gb2312: china , ISO8859-1 : Western European ISO8859-2 : Latin (2) ISO8859-3 : Latin (3) ISO8859-4 : Baltic ISO8859-5 : Cyrillic ISO8859-6 : Arabic ISO8859-8 : Hebrew ISO8859-9 : Turkish ISO8859-15 : Latin (9) iso8859-11 : Greek (windows) iso8859-7: Greek (ISO) windows-874: Thai

- Return

value	Description
>0	send success
-1	send failure

- Example

```

PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .Encoding(ISO8859-1)
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","Simple Chinese")
PrinterHelper .Form()
PrinterHelper .Print()

```

3.4 Label positioning

- Description
only effective before with PRINT, the command is only effective for the label

```
int Form()
```

- Parameter
Null
- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","TEXT")
PrinterHelper .Form()//For positioning of printing label(Exclude
continuous paper)
PrinterHelper .Print()
```

3.5 Note

- Description

```
int Note(String note)
```

- Parameter

Parameter	Description
note	Notes content

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .Note("Note: ")
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","TEXT")
PrinterHelper .Form()
PrinterHelper .Print()
```

3.6 Terminate

- Description

```
int Abort()
```

- Parameter

Null

- Return

value	Description
>0	send success
-1	send failure

3.7 Text Print

- Description

there are three ports for text print: **PrintTextCPCL**、**Text**、**PrintCodepageTextCPCL**

PrintTextCPCL For Chinese firmware。

PrintCodepageTextCPCL For English firmware。

Text Both firmware can be used。

```
int Text(String command,String font,String size ,String x,String y,String data)
```

- Parameter

Parameter	Description
command	the direction of text PrinterHelper.TEXT: horizontal PrinterHelper.TEXT90: rotate 90° CCW PrinterHelper.TEXT180: rotate 180° CCW PrinterHelper.TEXT270: rotate 270° CCW
font	size of font dot matrix: (unit: dot) Note: English firmware only supports (0 and 1). 0: 12x24 1: 12x24(print traditional Chinese)The font in English mode becomes (9x17) 2: 8x16 3: 20x20 4: 32x32 or 16x32, magnifies the width and height of ID3 font by 2 times 7: 24x24 or 12x24, depends on Chinese and English 8: 24x24 or 12x24, depends on Chinese and English 20: 16x16 or 8x16, depends on Chinese and English 24: 24x24 or 12x24, depends on Chinese and English 55: 16x16 or 8x16, depends on Chinese and English Others default 24x24 or 12x24,depends on Chinese and English
size	size of font (This function is being blocked, parameter transmits 0)
x	x-coordinate (unit dot)
y	x-coordinate (unit dot)
data	text data

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","500","1")
PrinterHelper .SetBold("1")//Make fonts bold (if unnecessary, no need to
add)
PrinterHelper .SetMag("2","2")//Make fonts magnified (if unnecessary, no
need to add)
PrinterHelper .Text(PrinterHelper.TEXT,"7","0","10","10","TEXT")
PrinterHelper .SetMag("1","1")//Turn off magnification
PrinterHelper .SetBold("0")//Turn off bold
PrinterHelper .Form()
PrinterHelper .Print()
```

-

```
int PrintTextCPCL(String command,int font ,String x,String y,String
data,int n,boolean Iscenter,int width)
```

- Parameter

Parameter	Description
command	the direction of text PrinterHelper.TEXT: horizontal PrinterHelper.TEXT270: vertical
font	size of font dot matrix: (unit: dot) 1: print traditional Chinese font (24x24 or 12x24, depends on Chinese and English) 16: 16x16 or 8x16, depends on Chinese and English 24: 24x24 or 12x24, depends on Chinese and English 32: 32x32 or 16x32, magnifies the width and height of ID3 font by 2 times
x	x-coordinate (unit dot)
y	y-coordinate (unit dot)
data	text data
n	special effect of font: N&1==1: Bold N&2==2: Inverse N&4==4: Double width N&8==8: Double height
Iscenter	whether center true: yes false: no
Width	the centering range (Effective when Iscenter=true) unit: dot

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","500","1")
//15 indicates with all the special effects
PrinterHelper
.PrintTextCPCL(PrinterHelper.TEXT,24,"10","10","TEXT",15,false,0)
PrinterHelper .Form()
PrinterHelper .Print()
```

-

```
int PrintCodepageTextCPCL(String command,int font ,String x,String
y,String data,int n)
```

- Parameter

Parameter	Description
command	the direction of text PrinterHelper.TEXT: horizontal PrinterHelper.TEXT270: vertical
font	size of font dot matrix: (unit: dot) 0: 12x24。 1: 9x17。
x	x-coordinate (unit dot)
y	y-coordinate (unit dot)
data	text data
n	special effect of font: N&1==1: Bold N&2==2: Inverse N&4==4: Double width N&8==8: Double height

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","500","1")
PrinterHelper.Country("ISO8859-1");//set printer codepage
PrinterHelper.LanguageEncode="iso8859-1";//set SDK codepage
//15indicates with all the special effects
PrinterHelper
.PrintCodepageTextCPCL(PrinterHelper.TEXT,0,"10","10","TEXT",15)
PrinterHelper .Form()
PrinterHelper .Print()
```

3.8 Count

- Description

```
int Count(String ml)
```

- Parameter

Parameter	Description
note	next added or minus value

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","2")
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","10086")
PrinterHelper .Count("10")
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","10000")
PrinterHelper .Count("-10")
PrinterHelper .Form()
PrinterHelper .Print()
```

3.9 Set magnification times of character width and height

- Description

```
int SetMag(String width,String height)
```

- Parameter

Parameter	Description
width	magnification times of width
height	magnification times of height

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","500","1")
//Make the following fonts bold (if unnecessary, no need to add)
PrinterHelper .SetBold("1")
//Make the following fonts magnified (if unnecessary, no need to add)
PrinterHelper .SetMag("2","2")
PrinterHelper .Text(PrinterHelper.TEXT,"7","0","10","10","TEXT")
PrinterHelper .SetMag("1","1")//Turn off magnification
PrinterHelper .SetBold("0")//Turn off bold
PrinterHelper .Form()
PrinterHelper .Print()
```

3.10 Alignment

- Description

```
int Align(String align)
```

- Parameter

Parameter	Description
align	PrinterHelper.CENTER: center PrinterHelper.LEFT: left alignment PrinterHelper.RIGHT: right alignment

- Return

value	Description
>0	send success
-1	send failure

- Example

```

PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .Align(PrinterHelper.CENTER)
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","TEXT")
PrinterHelper .Form()
PrinterHelper .Print()

```

3.11 Print Barcode

- Description

```

int Barcode(String command,String type,String width, String ratio,String
height,String x,String y,boolean undertext,String number,String
size,String offset, String data )

```

- Parameter

Parameter	Description
command	PrinterHelper.BARCODE: horizontal PrinterHelper.VBARCODE: vertical
type	type of bar code: PrinterHelper.UPCA,PrinterHelper.UPCA2,PrinterHelper.UPCA5, PrinterHelper.UPCE, PrinterHelper.UPCE2,PrinterHelper.UPCE5 , PrinterHelper.EAN13,PrinterHelper.EAN132,PrinterHelper.EAN135, PrinterHelper.EAN8, PrinterHelper.EAN82,PrinterHelper.EAN85, PrinterHelper.code39, PrinterHelper.code39C,PrinterHelper.F39, PrinterHelper.F39C,PrinterHelper.code93,PrinterHelper.I2OF5, PrinterHelper.I2OF5C,PrinterHelper.I2OF5G,PrinterHelper.code128, PrinterHelper.UCC EAN128,PrinterHelper.CODABAR,PrinterHelper.CODABAR16, PrinterHelper.MSI,PrinterHelper.MSI10,PrinterHelper.MSI1010, PrinterHelper.MSI1110,PrinterHelper.POSTNET,PrinterHelper.FIM
width	the unit width of narrow bar
ratio	the ratio of wide bar and narrow bar, as below 0=1.5:1 , 1=2.0:1 , 2=2.5:1 , 3=3.0:1 , 4=3.5:1 , 20=2.0:1 , 21=2.1:1 , 22=2.2:1 , 23=2.3:1 , 24=2.4:1 , 25=2.5:1 26=2.6:1 , 27=2.7:1 , 28=2.8:1 , 29=2.9:1 , 30=3.0:1 ,
height	height of bar code
x	start x-coordinate of bar code (unit: dot)
y	start y-coordinate of bar code (unit: dot)
undertext	whether the data below bar code is visible. ture: visible, false: invisible
number	type of font (undertext=true just take effect)
size	size of font(undertext=true just take effect)
offset	distance between bar code and text(undertext=true just take effect)
data	data of bar code

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper
.Barcode(PrinterHelper.BARCODE,PrinterHelper.128,"1","1","50","0","0",
true,"7","0","5","123456789")
PrinterHelper .Form()
PrinterHelper .Print()
```

3.12 Print QRcode

- Description

```
int PrintQR(String command, String x, String y, String M , String U,
String data )
```

- Parameter

Parameter	Description
command	PrinterHelper.BARCODE: horizontal PrinterHelper.VBARCODE: vertical
x	start x-coordinate of QR code (unit: dot)
y	start y-coordinate of QR code (unit: dot)
M	Type of QR: 1: Common type 2: Added individual symbols on the basis of Type 1
U	unit width/unit height of module.Range is from 1 to 32, default is 6.
data	data of QR code

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .PrintQR(PrinterHelper.BARCODE, "0", "0", "2" , "6",
"123ABC" )
PrinterHelper .Form()
PrinterHelper .Print()
```

3.13 Print PDF417code

- Description

```
int PrintPDF417(String command, String x, String y, String XD , String YD,
String C,
String S , String data)
```

- Parameter

Parameter	Description
command	PrinterHelper.BARCODE: horizontal PrinterHelper.VBARCODE: vertical
x	start x-coordinate of PDF417 code (unit: dot)
y	start y-coordinate of PDF417 (unit: dot)
XD	unit width of narrowest element, range is from 1 to 32, default is 2.
YD	unit height of narrowest element, range is from 1 to 32, default is 6.
C	number of column that used, data column excludes start/stop character and left/right index. Range is from 1 to 30, default is 3.
S	Security level indicates the maximum value and/or calibration of error to detect. Range is from 0 to 8, default is 1.
data	data of PDF417 code

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper
.PrintPDF417(PrinterHelper.BARCODE,"0","0","2","6","3","1","123ABC")
PrinterHelper .Form()
PrinterHelper .Print()
```

3.14 Print rectangular frame

- Description

```
int Box(String X0,String Y0,String X1,String Y1,String width)
```

- Parameter

Parameter	Description
X0	x-coordinate of top left corner (unit: dot)
Y0	y-coordinate of top left corner (unit: dot)
X1	x-coordinate of top right corner (unit: dot)
Y1	y-coordinate of top right corner (unit: dot)
width	unit width of the line (default: 1)

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","200","1")
PrinterHelper .Box("0","0","150","150","1")
PrinterHelper .Form()
PrinterHelper .Print()
```

3.15 Print Line

- Description

```
int Line(String X0,String Y0,String X1,String Y1,String width )
```

- Parameter

Parameter	Description
X0	start x-coordinate (unit: dot)
Y0	start y-coordinate (unit: dot)
X1	end x-coordinate (unit: dot)
Y1	end y-coordinate (unit: dot)
width	unit width of the line (default: 1)

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","200","1")
PrinterHelper .Line("10","10","150","10","1")
PrinterHelper .Form()
PrinterHelper .Print()
```

3.16 Inverse Line

- Description

```
int InverseLine(String X0,String Y0,String X1,String Y1,String width )
```

- Parameter

Parameter	Description
X0	start x-coordinate (unit: dot)
Y0	start y-coordinate (unit: dot)
X1	end x-coordinate (unit: dot)
Y1	end y-coordinate (unit: dot)
width	unit width of the line (default: 1)

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","200","1")
PrinterHelper .InverseLine("10","10","150","10","1")
PrinterHelper .Form()
PrinterHelper .Print()
```

3.17 Print Image

- Description

```
int printBitmapCPCL(Bitmap bitmap,int x,int y,int type,int
compressType,int light)
```

- Parameter

Parameter	Description
bitmap	The Bitmap object of the picture to be printed (you need to adjust the picture size by yourself, 200dpi 8px=1 mm)
x	start x-coordinate of image (unit: dot)
y	start y-coordinate of image (unit: dot)
type	type of printing image 0: black and white 1: halftone 2: Aggregation
compressType	0: No compression, 1: Overall compression, (Suitable for smaller pictures) 2: Subpackage compression, (Suitable for larger pictures)
light	Brightness (range -100 to 100)

- Return

value	Description
>0	send success
-1	send failure
-2	Bitmap null
-3	Picture data exceeds the printer buffer

- Example

```
PrinterHelper.printAreaSize("0","200","200","500","1")
PrinterHelper.printBitmapCPCL(bitmap,0,0,0,0,0)
PrinterHelper.Form()
PrinterHelper.Print()
```

- Description

This interface can only be used in line mode (it already contains the beginning interface and the Print interface).

```
int printBitmap(int x,int y,int type,Bitmap bitmap,int
compressType,boolean isform,int segments)
```

- Parameter

Parameter	Description
bitmap	The Bitmap object of the picture to be printed (you need to adjust the picture size by yourself, 200dpi 8px=1 mm)
x	start x-coordinate of image (unit: dot)
y	start y-coordinate of image (unit: dot)
type	type of printing image 0: black and white 1: halftone 2: Aggregation
compressType	0: No compression, 1: Overall compression, (Suitable for smaller pictures) 2: Subpackage compression, (Suitable for larger pictures)
Isform	Whether to locate, (only use false in continuous paper mode)
segments	Subcontract times (not less than 1) default 1

- Return

value	Description
>0	send success
-1	send failure
-2	Bitmap null
-3	Picture data exceeds the printer buffer

- Example

```
PrinterHelper.printBitmap(0,0,0,bitmap,0,false,1)
```

3.18 Print Density

- Description

```
int Contrast(String contrast)
```

- Parameter

Parameter	Description
contrast	type of density, totally 4 kinds: Default = 0 Medium = 1 Dark = 2 Very Dark = 3

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .Contrast("1")
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","TEXT")
PrinterHelper .Form()
PrinterHelper .Print()
```

3.19 Print Speed

- Description

```
int Speed(String speed )
```

- Parameter

Parameter	Description
speed	5 types: from 0 to 5, the speed is increasing; 5 is the fastest speed in ideal state.

- Return

value	Description
>0	send success
-1	send failure

- Example


```

PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .Speed("4")
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","TEXT")
PrinterHelper .Form()
PrinterHelper .Print()

```

3.20 Set Spacing

- Description

```
int SetSp( String setsp)
```

- Parameter

Parameter	Description
Setsp	spacing (unit: row)

- Return

value	Description
>0	send success
-1	send failure

- Example

```

PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","TEXT")
PrinterHelper .SetSp(1)
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","50","TEXT")
PrinterHelper .SetSp(5)
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","90","TEXT")
PrinterHelper .Form()
PrinterHelper .Print()

```

3.21 Paper Feed

- Description

```
int Prefeed( String prefeed)
```

- Parameter

Parameter	Description
prefeed	the distance of paper feed (unit: dot)

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .Prefeed("40")
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","TEXT")
PrinterHelper .Form()
PrinterHelper .Print()
```

3.22 Paper Feed Post Printing

- Description

```
int Postfeed( String posfeed)
```

- Parameter

Parameter	Description
posfeed	the distance of paper feed (unit: dot)

- Return

value	Description
>0	send success
-1	send failure

- Example

```

PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","TEXT")
PrinterHelper .Form()
//Note: It should be after FORM command
PrinterHelper .Postfeed("40")
PrinterHelper .Print()

```

3.23 Beeper

- Description

```
int Beep( String beep)
```

- Parameter

Parameter	Description
beep	the lasting time of beeper, (1/8) unit : second

- Return

value	Description
>0	send success
-1	send failure

- Example

```

PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","TEXT")
PrinterHelper .Beep("16")
PrinterHelper .Form()
PrinterHelper .Print()

```

3.24 Underline

- Description

```
int Underline(boolean UL)
```

- Parameter

Parameter	Description
UL	true: add underline, false: cancel underline

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .Underline(true)
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","TEXT")
PrinterHelper .Underline(false)
PrinterHelper .Form()
PrinterHelper .Print()
```

3.25 Wait Print

- Description

```
int Wait( String wait)
```

- Parameter

Parameter	Description
wait	Wait unit: 1/8 second

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .Wait("80")
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","TEXT")
PrinterHelper .Form()
PrinterHelper .Print()
```

3.26 Print Width

- Description

```
int PageWidth(String pw)
```

- Parameter

Parameter	Description
pw	specify page width (unit: dot)

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .PageWidth("100")
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","TEXT")
PrinterHelper .Form()
PrinterHelper .Print()
```

3.27 Set Spacing Line Mode

- Description

```
int Setlf(String SF)
```

- Parameter

Parameter	Description
SF	spacing (unit: line)

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper.PrintData("text1 to print\r\n");
PrinterHelper.Setlf("5");
PrinterHelper.PrintData("text2 to print\r\n");
```

3.28 Set Font Size Line Height in Line Mode

- Description

```
int Setlp(String font,String size,String spacing )
```

- Parameter

Parameter	Description
font	font size: (unit: dot) Note:English firmware only supports (0 and 1) 0: 12x24。 1: 12x24 (print traditional Chinese) English mode becomes (9x17) 2: 8x16。 3: 20x20。 4: 32x32 or 16x32, magnifies the width and height of ID3 font by 2 times 7: 24x24 or 12x24, depends on Chinese and English 8: 24x24 or 12x24, depends on Chinese and English 20: 16x16 or 8x16, depends on Chinese and English 24: 24x24 or 12x24, depends on Chinese and English 55: 16x16 or 8x16, depends on Chinese and English Others default 24x24 or 12x24,depends on Chinese and English
size	size of font (This function is being blocked, parameter transmits 0)
spacing	Line height (unit: dot)

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper.Setlp("5","2","32");
PrinterHelper.PrintData("text to print\r\n");
```

3.29 Write Data

- Description

```
int WriteData(byte[] bData)
```

- Parameter

Parameter	Description
bData	data that requires to send to the printer

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper.WriteData(new byte[] {0x0d,0x0a});
```

3.30 Read Data

- Description

```
byte[] ReadData(int second)
```

- Parameter

Parameter	Description
second	timeout(second)

- Return

value	Description
Data length 0 or empty	read failure
>0	read succeed

- Example

```
PrinterHelper.ReadData(2);
```

3.31 Set bold

- Description

```
int SetBold(String bold)
```

- Parameter

Parameter	Description
bold	value of bold ((range: 1-5)

- Return

value	Description
>0	send success
-1	send failure

- Example


```

PrinterHelper .printAreaSize("0","200","200","500","1")
    //Make the following fonts bold (if unnecessary, no need to add)
PrinterHelper .SetBold("1")
    //Make the following fonts magnified (if unnecessary, no need to add)
PrinterHelper .SetMag("2","2")
PrinterHelper .Text(PrinterHelper.TEXT,"7","0","10","10","TEXT")
PrinterHelper .SetMag("1","1")//Turn off magnification
PrinterHelper .SetBold("0")//Turn off bold
PrinterHelper .Form()
PrinterHelper .Print()

```

3.32 Get the printer status

- Description

```
int getstatus()
```

- Parameter

Null

- Return

value	Description
0	printer is ready
-1	send failure
2	printer is out of paper
6	printer cover is open

- Example

```

PrinterHelper .getstatus()//This interface is not a real-time command.
When the printer is printing, the query is invalid

```

3.33 Text line wrap

- Description

The two interfaces for this function are AutLine and AutLine2. The former cannot use Thai. The latter printer firmware must be above A300 V1.01.40.01 and the number of text bytes must not exceed 1024. The excess is automatically ignored.

```
int AutLine(String x,String y,int width,int size,boolean isbole,
            boolean isdouble,String str)
```

- Parameter

Parameter	Description
x	start x-coordinate of text (unit: dot)
y	start y-coordinate of text (unit: dot)
width	print width of one line (unit: dot)
size	size of font 3: 20x20 or 10x20, depends on Chinese and English 4: 32x32 or 16x32, magnifies the width and height of ID3 font by 2 times 8: 24x24 or 12x24, depends on Chinese and English 55: 16x16 or 8x16, depends on Chinese and English
isbole	true: bold false: not bold
isdouble	double the font true: magnify false: not magnify
str	text to print

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .AutLine("0","0",100,4,true,true"Text")
PrinterHelper .Form()
PrinterHelper .Print()
```

-

```
int AutLine2(String x,String y,int width,int size,boolean isbole,boolean
            isdouble,
            String str)
```

- Parameter

Parameter	Description
x	start x-coordinate of text (unit: dot)
y	start y-coordinate of text (unit: dot)
width	print width of one line (unit: dot)
size	size of font 0: 24x24 or 12x24, depends on Chinese and English. (Thai: 24x48) 1: 7x19 (English), 24x24 (Traditional) 3: 20x20 or 10x20, depends on Chinese and English 4: 32x32 or 16x32, magnifies the width and height of ID3 font by 2 times 8: 24x24 or 12x24, depends on Chinese and English 55: 16x16 or 8x16, depends on Chinese and English
isbole	true: bold false: not bold
isdouble	double the font true: magnify false: not magnify
str	text to print

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .AutLine2("0","0",100,4,true,true"Text")
PrinterHelper .Form()
PrinterHelper .Print()
```

3.34 Text showed center in the textbox

- Description

```
int AutCenter(String command, String x,String y,int width,int size,String str)
```

- Parameter

Parameter	Description
command	the direction of text, totally 2 kinds: PrinterHelper.TEXT: horizontal PrinterHelper.TEXT270: vertical
x	start x-coordinate of textbox (unit: dot)
y	start y-coordinate of textbox (unit: dot)
width	width of textbox (unit: dot)
size	size of font 3: 16x16 or 8x16, depends on Chinese and English 4: 32x32 or 16x32, magnifies the width and height of ID3 font by 2 times 8: 24x24 or 12x24, depends on Chinese and English 55: 16x16 or 8x16, depends on Chinese and English
str	text to print

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper.printAreaSize("0","200","200","100","1")
PrinterHelper.AutCenter(PrinterHelper.TEXT,"0","0",100,4,"Text")
PrinterHelper.Form()
PrinterHelper.Print()
```

3.35 Set paper type of printer

- Description

```
void papertype_CPCL(int page)
```

- Parameter

Parameter	Description
page	type of paper 0: continuous paper 1: label paper 2: back black mark 3: front black mark 4: 3 inch black mark 5: 2 inch black mark

- Return
Null
- Example

```
//Only applies to A300.
PrinterHelper .papertype_CPCL(0)//set as continuous paper
```

3.36 Self-test page

- Description

```
void setSelf()
```

- Parameter
Null
- Return
Null
- Example

```
PrinterHelper .setSelf()//Pinter will print some of its parameter
```

3.37 Rotate 180° to print

- Description

```
int PoPrint()
```

- Parameter

Null

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper .printAreaSize("0","200","200","100","1")
PrinterHelper .Text(PrinterHelper.TEXT,"4","0","0","0","TEXT")
PrinterHelper .Form()//For positioning of printing label(Exclude
continuous paper)
PrinterHelper .PoPrint()
```

3.38 ON/OFF getting the status when print completed

- Description

It requires to use with `getEndStatus()`, and remember to turn off after use (printer firmware version should be above A300 V1.01.27.01).

```
void openEndStatic(boolean isopen)
```

- Parameter

Parameter	Description
isopen	true: open false: close

- Return

Null

- Example

```
PrinterHelper.openEndStatic(true);//open
PrinterHelper.PrintData(data);//Printer is printing
int endStatus = PrinterHelper.getEndStatus(16);//Get the print status
PrinterHelper.openEndStatic(false);//close
```

3.39 Get the status when print completed

- Description

```
int getEndStatus(int time)
```

- Parameter

Parameter	Description
time	timeout time of getting the status (unit: second)

- Return

value	Description
0	print success
1	print failure (out of paper)
2	print failure (cover opened)
-1	getting status timeout(The printer did not respond within the set time)

- Example

```
PrinterHelper.openEndStatic(true); //open
PrinterHelper.PrintData(data); //Printer is printing
int endStatus = PrinterHelper.getEndStatus(16); //Get the print status
PrinterHelper.openEndStatic(false); //close
```

3.40 Printer go back

- Description

```
int ReverseFeed(int feed)
```

- Parameter

Parameter	Description
feed	Fallback distance. (unit: row, range: 1-255) 。

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper.ReverseFeed(50);
```

3.41 Print Background

- Description

```
int PrintBackground(int x,int y,int size,int background,String data)
```

- Parameter

Parameter	Description
feed	X-axis (unit: dot)
y	Y-axis (unit: dot)
size	font size 55: 16X16 (dot) 24: 24X24 (dot) 56: 32X32 (dot) other: 24X24 (dot)
background	Background blackness (0-255)
data	data

- Return

value	Description
>0	send success
-1	send failure

- Example


```
PrinterHelper.printAreaSize("0","200","200","500","1");
PrinterHelper.SetMag("8","8");//Font size up to 8 times
PrinterHelper.PrintBackground(0,0,56,150,"A508");
PrinterHelper.SetMag("1","1");//Restore font size
PrinterHelper.Print();
```

3.42 Get SN

- Description

```
String getPrintSN()
```

- Parameter
Null
- Return

value	Description
sn	printer SN

- Example

```
PrinterHelper.getPrintSN();
```

3.43 Set Codepage

- Description

```
int Country(String codepage)
```

- Parameter

Parameter	Description
codepage	codepage ISO8859-1 : Western European ISO8859-2 : Latin (2) ISO8859-3 : Latin (3) ISO8859-4 : Baltic ISO8859-5 : Cyrillic ISO8859-6 : Arabic ISO8859-8 : Hebrew ISO8859-9 : Turkish ISO8859-15 : Latin (9) WPC1253 : Greek (windows) KU42: Greek (ISO) TIS18: Thai

- Return

value	Description
>0	send succeed
-1	send failure

- Example

```
PrinterHelper.printAreaSize("0","200","200","500","1");
PrinterHelper.Country("ISO8859-1");
PrinterHelper.LanguageEncode="iso8859-1";
PrinterHelper
.PrintCodepageTextCPCL(PrinterHelper.TEXT,0,"10","10","TEXT",15)
PrinterHelper .Print()
```

3.44 Set QRcode Version

- Description

This interface is used to set the version number of the QR code. After setting, it will not change the size due to the content of the QR code. Only some models and versions are supported (you can ask customer service).

```
int setQRcodeVersion(int version)
```

- Parameter

Parameter	Description
version	Version number (range 0-40) The QR version defaults to 00. When the QR version is 00, the QR code has the same effect as the old version, and the width and height will vary with the amount of data. The version number is set to have a range requirement for the data amount of the two-dimensional code, and the out-of-range QR code is not printed. See the end of Table 1-1.

- Return

value	Description
>0	send success
-1	send failure
-2	Parameter error

- Example

```
PrinterHelper .setQRcodeVersion(20);
```

3.45 Get QRcode Version

- Description

```
String getQRcodeVersion()
```

- Parameter

Null

- Return

value	Description
>0	QRcode Version (failure return null)

- Example

```
String version = PrinterHelper .getQRcodeVersion();
```

3.46 Print text in line print mode

- Description

```
int PrintData(String str)
```

- Parameter

Parameter	Description
str	content of text (ends with \r\n)

- Return

value	Description
>0	send successs
-1	send failure

- Example

```
PrinterHelper.PrintData("text to print\r\n")
```

3.47 Bold font in line print mode

- Description

```
int RowSetBold(String bold)
```

- Parameter

Parameter	Description
bold	multiple of bold 1: close bold other: multiple of bold

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper.Setlp("5","2","46")
PrinterHelper.RowSetBold("2")
PrinterHelper.PrintData("text to print\r\n")
//Note to turn off bold in case of affecting the following print text
PrinterHelper.RowSetBold("1")
```

3.48 Set x-coordinate of line mode

- Description
It should be placed before Setlp function.

```
int RowSetX(String X)
```

- Parameter

Parameter	Description
bold	x-coordinate (unit: dot)

- Return

value	Description
>0	send success
-1	send failure

- Example

```
PrinterHelper.RowSetX("200");
PrinterHelper.Setlp("5","2","32");
PrinterHelper.RowSetBold("2");
PrinterHelper.PrintData("text to print\r\n");
PrinterHelper.RowSetBold("1");
```

3.49 Write RFID

- Description

```
printRFIDCPL(List<RFIDBeen> rfidBeens,Bitmap bitmap,int x,int y,int type,
int compressType,int density)
```

- Parameter

Parameter	Description
rfidBeens	RFID object set
memory	Storage area, 0: Retention area 1:EPC area, 3: User area
address	memory =0-->address(0-3), memory =1--> address (2-7), memory=3-->address(0-255)
data	write data, memory=0--> (address+data length<=4) 、 memory=1--> (address+data length<=26) 、 memory=3-->(address+data length<=256)
bitmap	Image objects
x	abscissa
y	ordinate
type	image algorithm, 0: binary algorithm, 1: halftone algorithm
compressType	Type of compression, 0: non-compression, 1: overall compression, 2: subcontract compression
density	Concentration (-1, no concentration set)

- Return

value	Description
0	send success
-1	send failure
-2	Parameter error
-3	The image data is too large for the printer to compress
-4	RFID write failed (printer return)

- Example

```
List<RFIDBeen> rfidBeenList = new ArrayList<>();
    RFIDBeen rfidBeen = new RFIDBeen();
    rfidBeen.setMemory(1);
    rfidBeen.setAddress(2);
    rfidBeen.setData("123456");
    rfidBeenList.add(rfidBeen);
    Log.d("Print", "testRFID:
"+PrinterHelper.printRFIDCPCL(rfidBeenList,null,0,0,0,0,0));
```

3.50 Read RFID

- Description

```
readRFIDCPCL(List<RFIDBeen> rfidBeens)
```

- Parameter

Parameter	Description
rfidBeens	RFID object set
memory	Storage area, 0: Retention area 1:EPC area, 3: User area
address	memory =0-->address(0-3), memory =1--> address (2-7), memory =2--> address (2-7), memory=3-->address(0-255)
length	memory=0-->length(1-8)、 memory=1-->length(1-24)、 memory=2-->length(1-24)、 memory=3-->length(1-256)

- Return

value	Description
List	Collection of RFID objects (empty means failed)
data	Read data

- Example

```
List<RFIDBeen> rfidBeenList = new ArrayList<>();
    RFIDBeen rfidBeen = new RFIDBeen();
    rfidBeen.setMemory(1);
    rfidBeen.setAddress(2);
    rfidBeen.setLength(24);
    rfidBeenList.add(rfidBeen);
    List<RFIDBeen> rfidBeenListResult =
PrinterHelper.readRFIDCPCL(rfidBeenList);
    if (rfidBeenListResult==null){
        Log.d("Print", "testRFIDRead: null");
        return;
```

```

    }
    for (int i = 0; i < rfidBeenListResult.size(); i++) {
        Log.d("Print", "testRFIDRead:
+rfidBeenListResult.get(i).toString());

        ToastUtility.show(mContext,rfidBeenListResult.get(i).toString());
    }

```

Tab 1-1

Version	Error Level	Number of data
1	L M Q H	19 16 13 9
2	L M Q H	34 28 22 16
3	L M Q H	55 44 34 26
4	L M Q H	80 64 48 36
5	L M Q H	108 86 62 46
6	L M Q H	136 108 76 60
7	L M Q H	156 124 88 66
8	L M Q H	194 154 110 86
9	L M Q H	232 182 132 100
10	L M Q H	274 216 154 122
11	L M Q H	324 254 180 140
12	L M Q H	370 290 206 158
13	L M Q H	428 334 244 180
14	L M Q H	461 365 261 197
15	L M Q H	523 415 295 223
16	L M Q H	589 453 325 253
17	L M Q H	647 507 367 283
18	L M Q H	721 563 397 313
19	L M Q H	795 627 445 341

20	L M Q H	861 669 485 385
21	L M Q H	932 714 512 406
22	L M Q H	1006 782 568 442
23	L M Q H	1094 860 614 464
24	L M Q H	1174 914 664 514
25	L M Q H	1276 1000 718 538
26	L M Q H	1370 1062 754 596
27	L M Q H	1468 1128 808 628
28	L M Q H	1531 1193 871 661
29	L M Q H	1631 1267 911 701
30	L M Q H	1735 1373 985 745
31	L M Q H	1843 1455 1033 793
32	L M Q H	1955 1541 1115 845
33	L M Q H	2071 1631 1171 901
34	L M Q H	2191 1725 1231 961
35	L M Q H	2306 1812 1286 986
36	L M Q H	2434 1914 1354 1054
37	L M Q H	2566 1992 1426 1096
38	L M Q H	2702 2102 1502 1142
39	L M Q H	2812 2216 1582 1222
40	L M Q H	2956 2334 1666 1276