

# JXIT C30 iOS SDK Developer guide–V3.1

## 1. Overviews

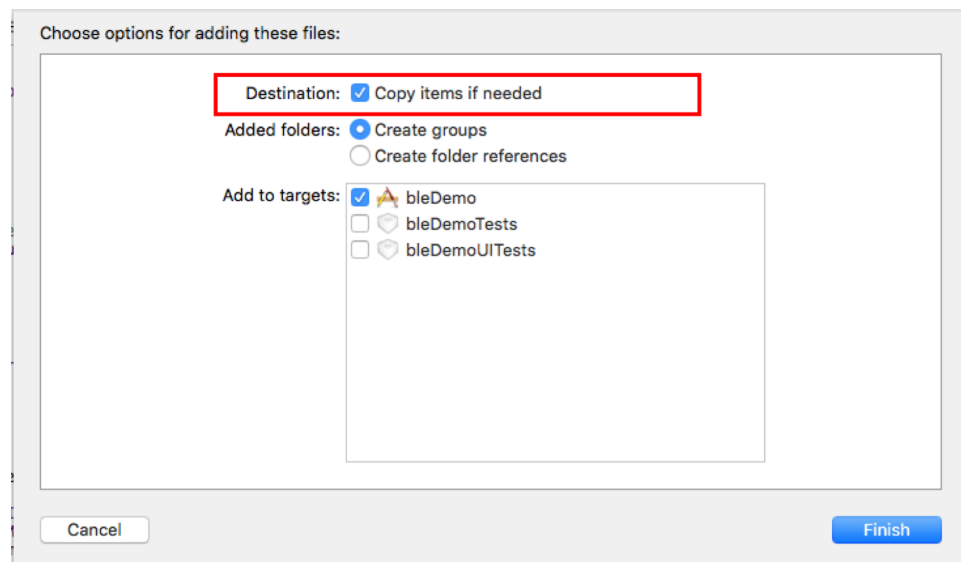
### 1.1. The SDK supports mobile versions

iPhone/iPad with iOS 9 and above, processor support for x86、armv7 and ARM64.

### 1.2. SDK import

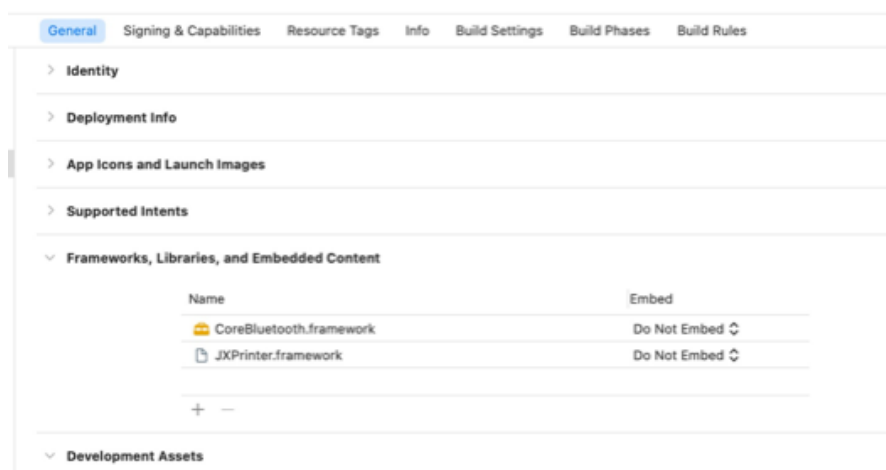
#### 1.1.1. Add JXPrinter.framework

Drag the JXPrinter.framework into your project and check the”Copy items if needed”.



#### 1.2.1. Dependency configuration

After importing the SDK, switch to the Build Phases TAB and add CoreBluetooth.framework in Link Binary With Libraries.



Add ZXingObjC, project at <https://github.com/zxingify/zxingify-objc>

#### 1.2.2. Permission configuration

Configure for Bluetooth permissions, NSBluetoothPeripheralUsageDescription and NSBluetoothAlwaysUsageDescription in info.plist. If you want to support Wi-Fi printing, configure local network permissions NSLocalNetworkUsageDescription.

General

Signing & Capabilities

Resource Tags

Info

Build Settings

Build Phases

Build Rules

Custom iOS Target Properties

Key	Type	Value
Bundle name	String	\$(PRODUCT_NAME)
Bundle identifier	String	\$(PRODUCT_BUNDLE_IDENTIFIER)
InfoDictionary version	String	6.0
Main storyboard file base name	String	Main
Bundle version	String	\$(CURRENT_PROJECT_VERSION)
Launch screen interface file base name	String	LaunchScreen
Privacy - Bluetooth Peripheral Usage Description	String	用于搜索蓝牙打印机
Executable file	String	\$(EXECUTABLE_NAME)
Application requires iPhone environment	Boolean	YES
Supported interface orientations (iPhone)	Array	(3 items)
Application supports indirect input events	Boolean	YES
Privacy - Local Network Usage Description	String	用于搜索 Wi-Fi 打印机
App Transport Security Settings	Dictionary	(1 item)
Bundle OS Type code	String	\$(PRODUCT_BUNDLE_PLATFORM_NAME)
Privacy - Bluetooth Always Usage Description	String	用于搜索蓝牙打印机
Localization native development region	String	\$(DEVELOPMENT_LANGUAGE)
Supported interface orientations (iPad)	Array	(4 items)
Bundle version string (short)	String	\$(MARKETING_VERSION)

Document Types (0)

1.3. Use the SDK

Import the SDK header `#import <JXPrinter/JXPrinter.h>`  
Bluetooth printer scanning, connection using JXBleManager class;  
Print related Select the printing method corresponding to the JXPrinterManager class according to the printer support instruction type.

2. Bluetooth device management class (JXBleManager)

2.1. Management method of Bluetooth device

2.1.1. Get the Bluetooth device management singleton object

- Description

```
1 Get the Bluetooth device management singleton object
```

- Parameters

Parameters	Description
None	

- Method

```
1 + (instancetype)bleManager;
```

2.1.2. Scanning for Bluetooth devices

- Description

```
1 Scanning for Bluetooth devices ,
2 Get the scanned printer device in JXBleManagerDelegate.
```

- Parameters

Parameters	Description
timeout	Scan timeout
failure	Scan failed call back

- Method

```

1 - (void)scanPeripheralsWithTimeout:(NSTimeInterval)timeout
2         failure:(nullable void (^)(NSError *error))fail
   ure;

```

### 2.1.3. Begins scanning Bluetooth devices that provide the specified service

- Description

```

1 Begins scanning Bluetooth devices that provide the specified service.
2 Get the scanned printer device in JXBleManagerDelegate.

```

- Parameters

Parameters	Description
services	An array of CBUUID objects representing the services to be scanned
options	An optional dictionary specifying scan options
timeout	Scan timeout
failure	Scanning failed callback

- Method

```

1 - (void)scanPeripheralsWithServices:(nullable NSArray<CBUUID *> *)serv
   ices
2         options:(nullable NSDictionary<NSString *,
   id> *)options
3         timeout:(NSTimeInterval)timeout
4         failure:(nullable void (^)(NSError *erro
   r))failure;

```

### 2.1.4. Stop scanning

- Description

```

1 Stop scanning

```

- Parameters

Parameters	Description
None	

- Method

```

1 - (void)stopScan;

```

### 2.1.5. Connect the Bluetooth device

- Description

```
1 Connect bluetooth device (default setting: 60s timeout).
2 2.2.3 and 2.2.5 get connection status in JXBleManagerDelegate.
```

- Parameters

Parameters	Description
peripheral	Bluetooth device Object
timeout	timeout

- Method

```
1 - (void)connectPeripheral:(CBPeripheral *)peripheral;
2 - (void)connectPeripheral:(CBPeripheral *)peripheral
3     timeout:(NSTimeInterval)timeout;
```

### 2.1.6. Disconnect the Bluetooth device

- Description

```
1 Disconnect the Bluetooth device
```

- Parameters

Parameters	Description
peripheral	Bluetooth device Object

- Method

```
1 - (void)disconnectPeripheral:(CBPeripheral *)peripheral;
```

### 2.1.7. Determines whether or not to connect to a Bluetooth printer

- Description

```
1 Determines whether or not to connect to a Bluetooth printer
```

- Parameters

Parameters	Description
None	

- Method

```
1 - (BOOL)isConnectBle;
```

## 2.2. Bluetooth device management agent protocol(JXBleManagerDelegate)

### 2.2.1. Found a Bluetooth printer



- Description

1 Found a Bluetooth printer

- Parameters

Parameters	Description
manager	JXBleManager object
peripheral	The Bluetooth printer object found
advertisementData	<b>advertisementData</b>
RSSI	RSSI
address	The MAC address of the Discovered Bluetooth printer object may be an empty string

- Method

1 - (void)manager:(JXBleManager \*)manager didDiscoverPeripheral:(CBPeripheral \*)peripheral advertisementData:(NSDictionary \*)advertisementData RSSI:(NSNumber \*)RSSI address:(NSString \*)address;

### 2.2.2. Scan Bluetooth printer timeout

- Description

1 Scan Bluetooth printer timeout

- Parameters

Parameters	Description
manager	JXBleManager object

- Method

1 - (void)scanTimeout:(JXBleManager \*)manager;

### 2.2.3. Bluetooth printer connected successfully

- Description

1 Bluetooth printer connected successfully

- Parameters

Parameters	Description
manager	JXBleManager object
peripheral	The Bluetooth printer object that is already connected

- Method

1 - (void)manager:(JXBleManager \*)manager didConnectPeripheral:(CBPeripheral \*)peripheral;

#### 2.2.4. Bluetooth printer disconnected successfully

- Description

```
1 Bluetooth printer disconnected successfully
```

- Parameters

Parameters	Description
manager	JXBleManager object
peripheral	The Bluetooth printer object that has been disconnected

- Method

```
1 - (void)manager:(JXBleManager *)manager didDisconnectPeripheral:(CBPeripheral *)peripheral;
```

#### 2.2.5. Failed to connect to Bluetooth printer

- Description

```
1 Failed to connect bluetooth printer
```

- Parameters

Parameters	Description
None	

- Method

```
1 - (void)didFailToConnectPeripheral;
```

#### 2.2.6. Bluetooth status update for mobile phone

- Description

```
1 Bluetooth status update for mobile phone
```

- Parameters

Parameters	Description
manager	JXBleManager object
central	CBCentralManager Object

- Method

```
1 - (void)manager:(JXBleManager *)manager centralManagerDidUpdateState:(CBCentralManager *)central;
```

### 3.Printer setting

```
1 Call [JXPrinterManager printerManager] to get the JXPrinterManager singlet on, and call the method below to set or get printer information.
```

### 3.1.Querying printer Status

- Description

```
1 Querying printer Status
2 typedef NS_ENUM(NSInteger, PrintStatus) {
3     PrintStatusNoPaper = 0x01,        // No paper
4     PrintStatusOverHeat = 0x02,       // Printhead overheat
5     PrintStatusBatteryLow = 0x04,     // Low power
6     PrintStatusPrinting = 0x08,      // Printing
7     PrintStatusCoverOpen = 0x10,     // Printer open
8     PrintStatusNoError,               // Other values, no error
9     PrintStatusOk,                   // Print completed
10 };
```

- Parameters

Parameters	Description
timeout	timeout
success	Success callback
fail	Description Failed to call back when the timeout period expired

- Method

```
1 - (void)readBlePrintStatus:(NSTimeInterval)timeout
2     success:(void (^)(PrintStatus blePrintStatus))success
3     fail:(void (^)(void))fail;
```

### 3.2.Set print blackness

- Description

```
1 Set print blackness
```

- Parameters

Parameters	Description
value	$0 \leq \text{value} \leq 4$

- Method

```
1 - (BOOL)setDarknessWithValue:(int)value;
```

### 3.3.Set print quality

- Description

```
1 Set print quality
```

- Parameters

Parameters	Description
value	$0 \leq \text{value} \leq 2$

- Method

```
1 - (BOOL)setQualityWithValue:(int)value;
```

### 3.4. Get the print blackness value

- Description

```
1 Return nil means fetch failed
```

- Parameters

Parameters	Description
None	

- Method

```
1 - (NSString *)getDarkness;
```

### 3.5. Get the print quality value

- Description

```
1 Return nil means fetch failed
```

- Parameters

Parameters	Description
None	

- Method

```
1 - (NSString *)getQuality;
```

### 3.6. Unlock pinter(lock version use)

- Description

```
1 Unlock pinter
```

- Parameters

Parameters	Description
None	

- Method

```
1 - (BOOL)unlock;
```

### 3.7.Print check page

- Description

```
1 Print check page
```

- Parameters

Parameters	Description
None	

- Method

```
1 - (BOOL)printCheckPage;
```

## 4. CPCL Methods

```
1 Generally, it is used to print labels. Steps:
2 1. Obtain the print service singleton object
3 2. Set the print area by call the method of set the print paper size
4 3. Set the print content by call the method such as print text or image
5 4. Call the execute print method to print
```

### 4.1. Get the print service Singleton object

- Description

```
1 Get print service singleton object (default is Bluetooth send data JXConnectTypeBle)
```

- Parameters

Parameters	Description
connectType	Set the data sending mode to Bluetooth or Wi-Fi

- Method

```
1 + (instancetype)printerManager;
2 + (instancetype)printerManagerWithConnectType:(JXConnectType)connectType;
```

- The sample code

```
1 JXPrinterManager *manager = [JXPrinterManager printerManager];
```

### 4.2. Set the print paper size

- Description

```
1 Set the size of the printed paper (print area). Print area must be set before printing. (8 dots are 1 mm)
```

- Parameters

Parameters	Description
pageWidth	Print area width
pageHeight	Print area height

- Method

```
1 - (void)cpclPageSetup:(int)pageWidth pageHeight:(int)pageHeight;
```

### 4.3. Execute print

- Description

```
1 Print in page mode
```

- Parameters

Parameters	Description
horizontal	0: normal printing, no rotation; 1: Rotate the entire page 180° clockwise before printing
skip	0: stop directly without positioning after printing. 1: after printing, locate the label parting line. If there is no gap, stop after the maximum paper feeding 30mm

- Method

```
1 - (void)cpclPrint:(int)horizontal skip:(int)skip;
```

### 4.4. Print border

- Description

```
1 Print border
```

- Parameters

Parameters	Description
lineWidth	Border line width
topLeftX	The x coordinate of the upper left corner of the rectangle
topLeftY	The y coordinate of the upper left corner of the rectangle
bottomRightX	The x coordinate at the lower right corner of the rectangle
bottomRightY	The y coordinate at the bottom right corner of the rectangle

- Method

```
1 - (void)cpclDrawBoxWithLineWidth:(int)lineWidth
2         topLeftX:(int)topLeftX
3         topLeftY:(int)topLeftY
4         bottomRightX:(int)bottomRightX
5         bottomRightY:(int)bottomRightY;
```

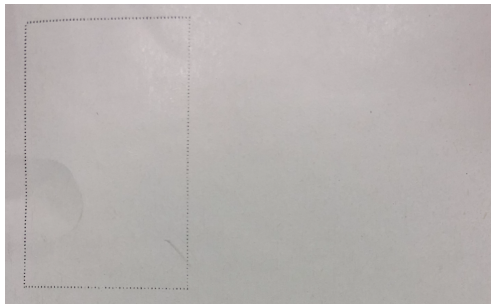
- The sample code

```

1  - (void)drawBox {
2      JXPrinterManager *manager = [JXPrinterManager printerManager];
3      [manager cpclPageSetup:576 pageHeight:400];
4      [manager cpclDrawBoxWithLineWidth:2
5              topLeftX:10
6              topLeftY:1
7              bottomRightX:200
8              bottomRightY:300];
9      [manager cpclPrint:0 skip:0];
10 }

```

- Printing effect



## 4.5. Print Line

- Description

1 Print Line

- Parameters

Parameters	Description
lineWidth	Line width
startX	The x coordinate of the starting point of the line
startY	The y coordinate of the starting point of the line
endX	The x coordinate where the line ends
endY	The y coordinate where the line ends

- Method

```

1  - (void)cpclDrawLineWithLineWidth:(int)lineWidth
2              startX:(int)startX
3              startY:(int)startY
4              endX:(int)endX
5              endY:(int)endY;

```

## 4.6. Print text

- Description

1 Print text

- Parameters

Parameters	Description
textX	Initial abscissa
textY	Initial ordinate
text	Printed text content
fontSize	Font size: 1:16 dot matrix; 2:24 lattice; 3:32 lattice; 4:24 The lattice is doubled; 5:32 lattice magnification doubled; 6:24 Double magnification of lattice; 7:32 double magnification of lattice; Others: 24 dots
rotate	Rotation Angle: 0: no rotation; 1: 90°; 2: 180°; 3:270°
bold	Bold 0: NO. 1:YES
reverse	NO: Do not reverse white; YES: Reverse white
underline	<b>NO</b> : no underline; <b>YES</b> : has underline

- Method

```

1  - (void)cpclDrawTextWithTextX:(int)textX
2      textY:(int)textY
3      text:(NSString *)text
4      fontSize:(int)fontSize
5      rotate:(int)rotate
6      bold:(int)bold
7      reverse:(BOOL)reverse
8      underline:(BOOL)underline;

```

## 4.7. Print one-dimensional bar code

- Description

```

1  Print one-dimensional bar code

```

- Parameters

Parameters	Description
startX	Initial abscissa
startY	Initial ordinate
text	content
type	Bar code type: 0: CODE39; 1: CODE128; 2: CODE93; 3: CODEBAR; 4: EAN8; 5: EAN13; 6: UPCA; 7:UPC-E; 8:ITF
rotate	0: horizontal display; 1: vertical display;
linewidth	Bar code line width
height	The barcode height

- Method

```

1  - (void)cpclDrawBarCodeWithStartX:(int)startX
2      startY:(int)startY

```



```

3         text:(NSString *)text
4         type:(int)type
5         rotate:(int)rotate
6         linewidth:(int)linewidth
7         height:(int)height;

```

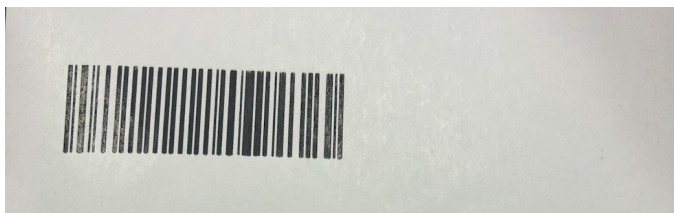
- The sample code

```

1 - (void)drawBarCode {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager cpclPageSetup:576 pageHeight:400];
4     [manager cpclDrawBarCodeWithStartX:40
5         startY:40
6         text:@"33000000000123"
7         type:1
8         rotate:0
9         linewidth:3
10        height:80];
11     [manager cpclPrint:0 skip:0];
12 }

```

- Printing effect



## 4.8. Print the QR code

- Description

1 Print the QR code

- Parameters

Parameters	Description
startX	Initial abscissa
startY	Initial ordinate
text	content
rotate	Rotation Angle: 0: no rotation; 1: 90°; 2: 180°; 3:270°
ver	QrCode width (2–6)
lel	QrCode error correction level (0–20)

- Method

```

1 - (void)cpclDrawQrCodeWihtStartX:(int)startX
2     startY:(int)startY
3     text:(NSString *)text
4     rotate:(int)rotate
5     ver:(int)ver

```

```
6         lel:(int)lel;
```

- The sample code

```
1 - (void)drawQrCode {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager cpclPageSetup:576 pageHeight:400];
4     [manager cpclDrawQrCodeWihtStartX:190
5         startY:170
6         text:@"www.baidu.com"
7         rotate:0
8         ver:1
9         lel:9];
10    [manager cpclPrint:0 skip:0];
11 }
```

- Printing effect



## 4.9. Print image

- Description

```
1 Print image
```

- Parameters

Parameters	Description
startX	Initial abscissa
startY	Initial ordinate
image	image

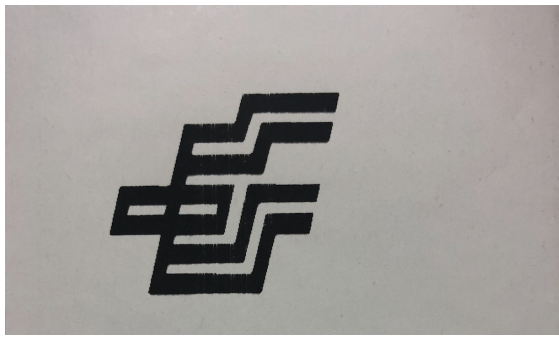
- Method

```
1 - (void)cpclDrawGraphicWithStartX:(int)startX
2         startY:(int)startY
3         image:(UIImage *)image;
```

- The sample code

```
1 - (void)drawGraphic {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager cpclPageSetup:576 pageHeight:400];
4     UIImage *image = [UIImage imageNamed:@"image_post.png"];
5     [manager cpclDrawGraphicWithStartX:100 startY:10 image:image];
6     [manager cpclPrint:0 skip:0];
7 }
```

- Printing effect



#### 4.10. Write data to the device

- Description

```
1 Write data to the device
```

- Parameters

Parameters	Description
cmd	Cpcl print command

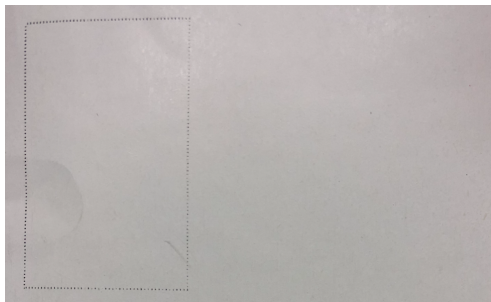
- Method

```
1 - (void)cpclWriteCmd:(NSString *)cmd;
```

- The sample code

```
1 - (void)drawBox {  
2     JXPrinterManager *manager = [JXPrinterManager printerManager];  
3     [manager cpclPageSetup:576 pageHeight:400];  
4     [manager cpclWriteCmd:@"BOX 10 1 200 300 2"];  
5     [manager cpclPrint:0 skip:0];  
6 }
```

- Printing effect



#### 4.11. Write an instruction with response

- Description

```
1 Write an instruction with response.  
2 You can call 5.12 to clear the cache first to prevent reading the  
3 previously cached data.
```

- Parameters

Parameters	Description
cmd	Cpcl print command
data	Data to send
timeout	Read return data timeout

- Method

```

1 - (NSData *)cpclWriteWithResponseCmd:(NSString *)cmd
2         timeout:(NSInteger)timeout;
3 - (NSData *)cpclWriteWithResponseData:(NSData *)data
4         timeout:(NSInteger)timeout;

```

- The sample code

```

1 - (void)writeDataWithResponse {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     Byte cmd[] = {0x10, 0x04, 0x05};
4     NSData *data = [NSData dataWithBytes:cmd length:sizeof(cmd)];
5     [manager cpclFlushReadBuffer];
6     NSData *response = [manager cpclWriteWithResponseData:data
7         timeout:3];
8     NSLog(@"response = %@", response);
9 }

```

- Printing effect

```

1 response = {length = 2, bytes = 0x0000}

```

## 4.12. Clear read buffer

- Description

```

1 Clear read buffer

```

- Parameters

Parameters	Description
None	

- Method

```

1 - (void)cpclFlushReadBuffer;

```

## 5. Global Page Methods

```

1 Generally, it is used to print labels. Steps:
2 1. Obtain the print service singleton object
3 2. Set the print area by call the method of set the print paper size
4 3. Set the print content by call the method such as print text or image
5 4. Call the execute print method to print

```

## 5.1. Get the print service Singleton object

- Description

```
1 Get print service singleton object (default is Bluetooth send data JXConnectTypeBle)
```

- Parameters

Parameters	Description
connectType	Set the data sending mode to Bluetooth or Wi-Fi

- Code

```
1 + (instancetype)printerManager;  
2 + (instancetype)printerManagerWithConnectType:(JXConnectType)connectType;
```

- The sample code

```
1 JXPrinterManager *manager = [JXPrinterManager printerManager];
```

## 5.2. Set the paper size

- Description

```
1 Set the size of the printed paper (print area). Print area must be set before printing. (8 dots are 1 mm)
```

- Parameters

Parameters	Description
width	Print area width
height	Print area height
paperType	Paper type 0 :gap paper; 1 :continuous paper; 2: black label

- Method

```
1 - (void)globalPageSetUpWidth:(int)width  
2         height:(int)height  
3         paperType:(int)paperType;
```

## 5.3. Execute print

- Description

```
1 Print in page mode
```

- Parameters

Parameters	Description
isUpsideDown	Rotate 180° to print
times	Print times 1–255

- Method

```
1 - (void)globalPagePrint:(BOOL)isUpsideDown times:(int)times;
```

## 5.4. Print border

- Description

```
1 Print border
```

- Parameters

Parameters	Description
startX	The top left x-coordinate of the rectangle
startY	The y-coordinate of the upper left corner of the rectangle
width	Rectangular frame width
height	Rectangular frame height
lineWidth	Border line width
fullLine	YES: solid line NO: dashed line

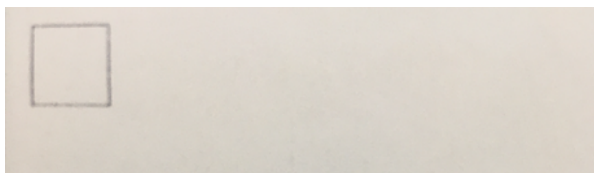
- Method

```
1 - (BOOL)globalDrawBoxWithStartX:(int)startX
2           startY:(int)startY
3           width:(int)width
4           height:(int)height
5           lineWidth:(int)lineWidth
6           fullLine:(BOOL)fullLine;
```

- The sample code

```
1 - (void)drawBox {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager globalPageSetUpWidth:575 height:100 paperType:1];
4     [manager globalDrawBoxWithStartX:50
5           startY:0
6           width:50
7           height:50
8           lineWidth:1
9           fullLine:YES];
10    [manager globalPagePrint:NO times:1];
11 }
```

- Printing effect



## 5.5. Print Line

- Description

```
1 Print Line
```

- Parameters

Parameters	Description
startX	The x coordinate of the starting point of the line
startY	The y coordinate of the starting point of the line
endX	The x coordinate where the line ends
endY	The y coordinate where the line ends
lineWidth	Border line width
fullLine	YES: solid line NO: dashed line

- Method

```

1 - (BOOL)globalDrawLineWithStartX:(int)startX
2           startY:(int)startY
3           endX:(int)endX
4           endY:(int)endY
5           lineWidth:(int)lineWidth
6           fullLine:(BOOL) fullLine;

```

## 5.6. Set the properties associated with text printing

- Description

```

1 Set the properties associated with text printing

```

- Parameters

Parameters	Description
None	

- Method

```

1 // Line spacing (unit: dot. 1mm=8dot)
2 - (void)globalTextLineSpace:(int)lineSpace;
3 // Letter spacing (unit: dot. 1mm=8dot)
4 - (void)globalTextLetterSpace:(int)letterSpace;
5 // Underline
6 - (void)globalTextIsUnderline:(BOOL)isUnderline;
7 // Bold
8 - (void)globalTextIsBold:(BOOL)isBold;
9 // Italy
10 - (void)globalTextIsItaly:(BOOL)isItaly;
11 // Black to white and white to black
12 - (void)globalTextIsReverse:(BOOL)isReverse;
13 // FontSize
14 - (void)globalTextFontSize:(int)fontSize;
15 // Font width scale
16 - (void)globalTextFontWidthScale:(int)fontWidthScale;
17 // Font height scale
18 - (void)globalTextFontHeightScale:(int)fontHeightScale;
19 // Rotation angle

```

```
20 - (void)globalTextRotate:(RotationAngle)rotate;
21 // Truncate in single-line mode, or wrap automatically
22 - (void)globalTextBreakLine:(BOOL)breakLine;
```

## 5.7. Restores text print Settings

- Description

```
1 Restore all Settings to default values
```

- Parameters

Parameters	Description
None	

- Method

```
1 - (BOOL)globalTextReset;
```

## 5.8. Print text

- Description

```
1 Print text
```

- Parameters

Parameters	Description
startX	Initial abscissa
startY	Initial ordinate
endX	End abscissa
endY	End ordinate
content	Printed text content
fontSize	Font size (unit: dot 1mm=8dot)
rotate	Rotation Angle: 0: no rotation; 1: 90°; 2: 180°; 3:270°
bold	Whether bold
reverse	NO: Do not reverse white; YES: Reverse white
underline	<b>NO</b> : no underline; <b>YES</b> : has underline
breakLine	Truncate in single-line mode, or wrap automatically

- Method

```
1 - (BOOL)globalDrawTextWithStartX:(int)startX
2           startY:(int)startY
3           endX:(int)endX
4           endY:(int)endY
5           content:(NSString *)content
6           fontSize:(int)fontSize
7           rotate:(int)rotate
8           bold:(BOOL)bold
9           reverse:(BOOL)reverse
```



```

10         underline:(BOOL)underline
11         breakLine:(BOOL)breakLine;

```

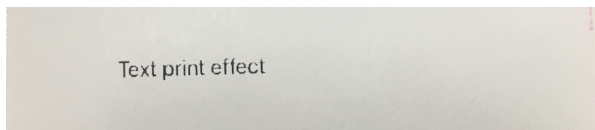
- The sample code

```

1  - (void)drawText {
2      JXPrinterManager *manager = [JXPrinterManager printerManager];
3      [manager globalPageSetUpWidth:575 height:100 paperType:1];
4      [manager globalDrawTextWithStartX:100
5          startY:40
6          endX:400
7          endY:100
8          content:@"Text print effect"
9          fontSize:24
10         rotate:0
11         bold:NO
12         reverse:NO
13         underline:NO
14         breakLine:NO];
15     [manager globalPagePrint:NO times:1];
16 }

```

- Printing effect



## 5.9. Print one-dimensional bar code text

- Description

1 The function is used before {drawBarCode: start\_y: width: height: content: rotate: format:} and prints the barcode text. The function takes effect only once

- Parameters

Parameters	Description
isPositionBelow	Whether to display it under the bar code
fontSize	The font size
isBold	Whether the bold
margin	And bar code spacing
breakLine	YES :truncates; NO: newline

- Method

```

1  - (void)globalSetBarcodeTextWithIsPositionBelow:(BOOL)isPositionBelow
2          fontSize:(int)fontSize
3          isBold:(BOOL)isBold
4          margin:(int)margin
5          breakLine:(BOOL)breakLin

```

## 5.10. Print one-dimensional bar code

- Description

```
1 Print one-dimensional bar code
```

- Parameters

Parameters	Description
startX	Initial abscissa
startY	Initial ordinate
width	Bar code width
height	Bar code height
content	content, The default barcode type is code128
rotate	Rotation Angle
format	BarCode type

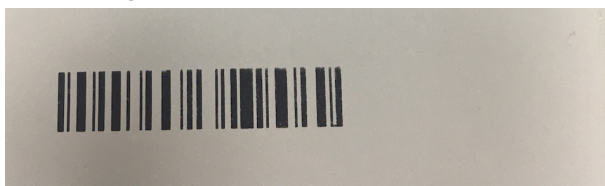
- Method

```
1 - (BOOL)globalDrawBarCodeWithStartX:(int)startX
2                               startY:(int)startY
3                               width:(int)width
4                               height:(int)height
5                               content:(NSString *)content
6                               rotate:(RotationAngle)rotate
7                               format:(BarCodeFormat)format;
```

- The sample code

```
1 - (void)drawBarCode {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager globalPageSetUpWidth:575 height:100 paperType:1];
4     [manager globalDrawBarCodeWithStartX:40
5                                     startY:20
6                                     width:300
7                                     height:60
8                                     content:@"1234567890"
9                                     rotate:RotationAngle0];
10    [manager globalPagePrint:NO times:1];
11 }
```

- Printing effect



## 5.11. Print the QR code

- Description

```
1 Print the QR code
```

- Parameters

Parameters	Description
startX	Initial abscissa
startY	Initial ordinate
width	Width of QR code
height	Height of QR code
content	content
rotate	Rotation Angle
format	QR code type

- Method

```

1 - (BOOL)globalDrawQrCodeWithStartX:(int)startX
2                               startY:(int)startY
3                               width:(int)width
4                               height:(int)height
5                               content:(NSString *)content
6                               rotate:(RotationAngle)rotate
7                               format:(QRCodeFormat)format;

```

- The sample code

```

1 - (void)drawQrCode {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager globalPageSetUpWidth:575 height:100 paperType:1];
4     [manager globalDrawQrCodeWithStartX:40
5                               startY:20
6                               size:80
7                               content:@"123456"
8                               rotate:RotationAngle0];
9     [manager globalPagePrint:NO times:1];
10 }

```

- Printing effect

## 5.12. Print image

- Description

```

1 Print image

```

- Parameters

Parameters	Description
startX	Initial abscissa
startY	Initial ordinate
image	image

- Method

```

1 - (void)cpclDrawGraphicWithStartX:(int)startX

```

```

2         startY:(int)startY
3         image:(UIImage *)image;

```

- The sample code

```

1 - (void)drawGraphic {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager globalPageSetUpWidth:575 height:400 paperType:1];
4     UIImage *image = [UIImage imageNamed:@"image_post.png"];
5     [manager globalDrawGraphicWithStartX:20 startY:20 image:image];
6     [manager globalPagePrint:NO times:1];
7 }

```

- Printing effect



### 5.13. Find the label seam, feed paper

- Description

```

1 Find the label seam, can not find the paper 10cm

```

- Parameters

Parameters	Description
None	

- Method

```

1 - (void)globalFeed;

```

### 5.14. Write data to the device

- Description

```

1 Write data to the device

```

- Parameters

Parameters	Description
data	Data to send

- Method

```

1 - (void)globalWriteData:(NSData *)data;

```

- The sample code

```

1 - (void)writeData {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];

```

```

3     Byte cmd[] = {0x10, 0x0C, 0x01, 0xA0, 0x00, 0x00, 0x00};
4     NSData *data = [NSData dataWithBytes:cmd length:sizeof(cmd)];
5     [manager globalWriteData:data];
6 }

```

## 5.15. Write an instruction with response

- Description

```

1 Write an instruction with response.
2 You can call 6.16 to clear the cache first to prevent reading the
3 previously cached data.

```

- Parameters

Parameters	Description
data	Data to send
timeout	Read return data timeout

- Method

```

1 - (NSData *)globalWriteWithResponseData:(NSData *)data
2                               timeout:(NSInteger)timeout;

```

- The sample code

```

1 - (void)writeDataWithResponse {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     Byte cmd[] = {0x10, 0x04, 0x05};
4     NSData *data = [NSData dataWithBytes:cmd length:sizeof(cmd)];
5     [manager globalFlushReadBuffer];
6     NSData *response = [manager globalWriteWithResponseData:data
7                               timeout:3];
8     NSLog(@"response = %@", response);
9 }

```

- Printing effect

```

1 response = {length = 2, bytes = 0x0000}

```

## 5.16. Clear read buffer

- Description

```

1 Clear read buffer

```

- Parameters

Parameters	Description
None	

- Method

```

1 - (void)globalFlushReadBuffer;

```

## 6. ESC Methods

- 1 Generally used **for** continuous paper printing. Steps:
- 2 1. Obtain the print service singleton object
- 3 2. Call print text or image and other methods to print

### 6.1. Get the print service Singleton object

- Description

- 1 Get print service singleton object (default is Bluetooth send data JXConnectTypeBle)

- Parameters

Parameters	Description
connectType	Set the data sending mode to Bluetooth or Wi-Fi

- Method

- 1 + (instancetype)printerManager;
- 2 + (instancetype)printerManagerWithConnectType:(JXConnectType)connectType;

- The sample code

- 1 JXPrinterManager \*manager = [JXPrinterManager printerManager];

### 6.2. Initialize printer

- Description

- 1 Initialize printer

- Parameters

Parameters	Description
None	

- Method

- 1 - (void)escReset;

### 6.3. Text setting

- Description

- 1 Text setting

- Parameters

Parameters	Description
None	

- Method

```
1  /// Select/deselect bold mode
2  /// @param b If b is YES, the bold mode is selected.
3  /// If B is NO, the bold mode is cancelled
4  - (void)escBold:(BOOL)b;
5
6  /// Select/deselect underline mode
7  /// @param n Select underscore mode and set it to 1 dot width when n=1
8  /// or n=49, select underscore mode and set it to 2 dot width when n=2
9  /// or n=50, and deselect underscore mode when n is any other value
10 - (void)escUnderline:(NSInteger)n;
11
12 /// Set the line spacing to approximately 3.75mm{30/203"}
13 - (void)escDefaultLineHeight;
14
15 /// Set the row height to [N × vertical or lateral move units] inches.
16 /// @param n n is the row height. Set the row height to 0 when n < 0,
17 /// 255[n× vertical or lateral move units] inches when n > 255,
18 /// and [n× vertical or lateral move units] inches when 0≤n≤255.
19 - (void)escLineHeight:(NSInteger)n;
20
21 /// Set the right character spacing
22 /// @param n When n < 0, set the right character spacing to 0,
23 /// when n > 255, set the right character spacing to
24 /// [255× (horizontal or vertical movement unit)],
25 /// When 0≤ N ≤255, set the spacing of characters
26 /// on the right to [N × (horizontal or vertical movement unit)].
27 - (void)escRightSpace:(NSInteger)n;
28
29 /// Select font
30 /// @param n Select font B when n=1 or n=49,
31 /// Select font C for n=2 or n=50,
32 /// Select font D for n=3 or n=51,
33 /// Select font A when n is any other value.
34 - (void)escFont:(NSInteger)n;
35
36 /// Select/cancel clockwise rotation of 90°
37 /// @param n Set 90° clockwise rotation mode when n=1 or n=49,
38 /// Set 180° clockwise rotation mode when n=2 or n=50,
39 /// Set 270° clockwise rotation mode when n=3 or n=51,
40 /// Cancel rotation mode when n takes on other values
41 - (void)escRotate:(NSInteger)n;
42
43 /// Set the current position to the distance from the beginning of
44 /// the line (NL + NH ×256) × (horizontal or vertical move units).
45 - (void)escAbsolutePrintPosition:(NSInteger)nL nH:(NSInteger)nH;
46
47 /// Move print position from current position to
48 /// (nL+nH×256) × (horizontal or vertical motion unit)
49 - (void)escRelativePrintPosition:(NSInteger)nL nH:(NSInteger)nH;
```

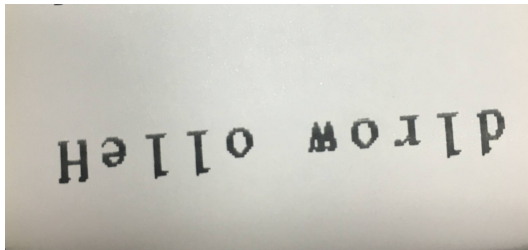
- The sample code

```

1 - (void)textSetting {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager escReset];
4     [manager escBold:YES];
5     [manager escRightSpace:5];
6     // [manager escFont:2];
7     [manager escCharacterSize:22];
8     [manager escChineseMode:NO];
9     [manager escRotate:2];
10    [manager escAbsolutePrintPosition:10 nH:0];
11    [manager escPrintText:@"Hello world\n"];
12 }

```

- Printing effect



## 6.4. Set left margin

- Description

1 When  $0 \leq NL \leq 255$  and  $0 \leq NH \leq 255$ , set the left distance as  $[(NL + NH \times 256) \times (\text{horizontal moving unit})]$ . Set the left-hand distance to zero when NL and NH are other values.

- Parameters

Parameters	Description
nL	$0 \leq nL \leq 255$
nH	$0 \leq nH \leq 255$

- Method

```

1 - (void)escLeftMargin:(NSInteger)nL nH:(NSInteger)nH;

```

- The sample code

```

1 - (void)leftMargin {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager escReset];
4     [manager escLeftMargin:40 nH:0];
5     [manager escBitmapMode:1 image:[UIImage imageNamed:@"logo"]];
6     [manager escPrintFormfeed];
7 }

```



- Printing effect



## 6.5. Select alignment mode

- Description

1 Select alignment mode

- Parameters

Parameters	Description
n	Select center for n=1 or n=49, right for n=2 or n=50, and left for some other value of n.

- Method

1 - (void)escAlign:(NSInteger)n;

- The sample code

```

1 - (void)align {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager escReset];
4     [manager escAlign:1];
5     [manager escBitmapMode:1 image:[UIImage imageNamed:@"logo"]];
6     [manager escPrintFormfeed];
7 }

```

- Printing effect



## 6.6. Horizontal tab

- Description

1 Moves the print position to the next horizontal TAB position.

- Parameters

Parameters	Description
None	

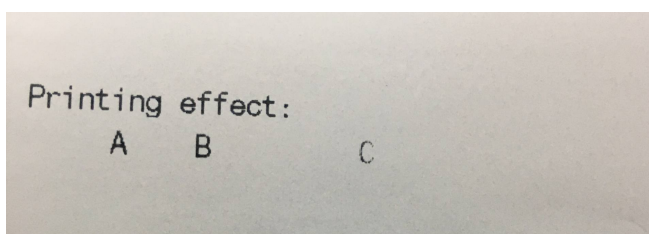
- Method

1 - (void)escNextHorizontalTab;

- The sample code

```
1 - (void)horizontalTab {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager escReset];
4     [manager escPrintText:@"Printing effect:\n"];
5     [manager escHorizontalTabPosition:@[@5, @10, @20]];
6     [manager escNextHorizontalTab];
7     [manager escPrintText:@"A"];
8     [manager escNextHorizontalTab];
9     [manager escPrintText:@"B"];
10    [manager escNextHorizontalTab];
11    [manager escPrintText:@"C"];
12    [manager escPrintFormfeed];
13 }
```

- Printing effect



## 6.7. Set the horizontal tab position

- Description

```
1 Set the horizontal tab position
```

- Parameters

Parameters	Description
<b>n</b>	The length of n represents the number of horizontal grids, and n[k] represents the value of the KTH grid position. When the length of n is greater than 32, only the first 32 values are taken; ignore this command if n[k] is greater than or equal to n[k-1]. Ignore this command if n[k]≤0 or n[k]≥255.

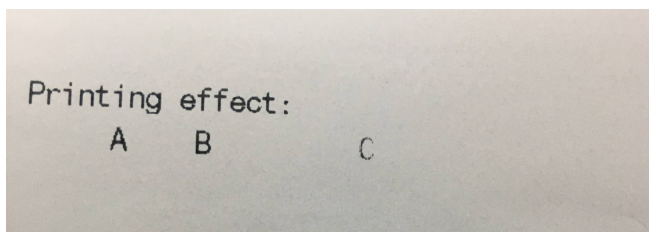
- Method

```
1 - (void)escHorizontalTabPosition:(NSArray *)n;
```

- The sample code

```
1 - (void)horizontalTab {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager escReset];
4     [manager escPrintText:@"Printing effect: \n"];
5     [manager escHorizontalTabPosition:@[@5, @10, @20]];
6     [manager escNextHorizontalTab];
7     [manager escPrintText:@"A"];
8     [manager escNextHorizontalTab];
9     [manager escPrintText:@"B"];
10    [manager escNextHorizontalTab];
11    [manager escPrintText:@"C"];
12    [manager escPrintFormfeed];
13 }
```

- Printing effect



## 6.8. Select the international character set

- Description

```
1 Select the international character set
```

- Parameters

Parameters	Description
n	<p>Select America character set if <math>n \leq 0</math> or <math>n &gt; 13</math>.</p> <p>Select France character set when <math>n=1</math>,</p> <p>Select German character set when <math>n=2</math>,</p> <p>Select UK character set when <math>n=3</math>,</p> <p>Select Denmark character set when <math>n=4</math>,</p> <p>Sweden character set (<math>n=5</math>)</p> <p>Select Italy character set when <math>n=6</math>,</p> <p>Spain character set (<math>n=7</math>);</p> <p>Select Japan character set if <math>n=8</math>,</p> <p>Select the Norway character set when <math>n=9</math>,</p> <p>Select Denmark character set when <math>n=10</math>,</p> <p>Select Spain II character set when <math>n=11</math>,</p> <p>Select Latin character set when <math>n=12</math>,</p> <p>Select Korea character set when <math>n=13</math>.</p>

- Method

```
1 - (void)escNationalCharacterSet:(NSInteger)n;
```

## 6.9. Select the character code page

- Description

```
1 Select the character code page
```

- Parameters

Parameters	Description
n	<p>Select Page 1 Katakana when n=1,  Select <b>Page 2 Multilingual(Latin-1) [CP850]</b> when n=2,  Select <b>Page 3 Portuguese [CP860]</b> when n=3,  Select Page 4 Canadian–French [CP863] when n=4,  Select Page 5 Nordic [CP865] when n=5,  Slavic(Latin–2) [CP852]  Select Page 7 Turkish [CP857] when n=7  Select Page 8 Greek [CP737] when n=8  Select Page 9 Russian(Cyrillic) [CP866] when n=9,  Select Page 10 Hebrew [CP862] when n=10  Select Page 11 Baltic [CP775] when n=11.  Select Page 12 Polish when n=12,</p> <p>Select <b>Page 13 Latin-9 [ISO8859-15]</b> when n=13,  Select <b>Page 14 Latin1[Win1252]</b> when n=14,  Select <b>Page 15 Multilingual Latin I + Euro[CP858]</b> when n=15,  Select <b>Page 16 Russian(Cyrillic)[CP855]</b> when n=16,</p> <p>Select <b>Page 17 Russian(Cyrillic)[Win1251]</b> when n=17,  Select <b>Page 18 Central Europe[Win1250]</b> when n=18,  Select <b>Page 19 Greek[Win1253]</b> when n=19,  Select <b>Page 20 Turkish[Win1254]</b> when n=20,  Select <b>Page 21 Hebrew[Win1255]</b> when n=21,  Select <b>Page 22 Vietnam[Win1258]</b> when n=22,  Select <b>Page Page 23 Baltic[Win1257]</b> when n=23,  Select <b>Page 24 Azerbaijani</b> when n=24,</p> <p>Select <b>Thai[CP874]Thai[CP874]</b> when n=30,  Select <b>Page 25 Arabic [CP720]</b> when n=40,  Select <b>Page 26 Arabic [Win 1256]</b> when n=41,  Select <b>Page 27 Arabic (Farsi)</b> when n=42,  Select <b>Page 28 Arabic presentation forms B</b> when n=43,  Select <b>Page 29 Page 25 Hindi_Devanagari</b> when n=50,</p> <p>Select <b>Page 30 Japanese[CP932]</b> when n=252,  Select <b>Page 31 Korean[CP949]</b> when n=253,  Select <b>Page 32 Traditional Chinese[CP950]</b> when n=254,  Select <b>Page 33 Simplified Chinese[CP936]</b> when n=255,  Select Page 0 USA, Standard Europe [CP437] When n takes some other value.</p>

- Method

<sup>1</sup> – (void)escCharCodePage:(NSInteger)n;

## 6.10. Chinese character mode setting

- Description

```
1 Chinese character mode setting
```

- Parameters

Parameters	Description
<b>b</b>	Select the Chinese character mode when b is true and cancel the Chinese character mode when b is false.

- Method

```
1 - (void)escChineseMode:(BOOL)b;
```

## 6.11. Select character size

- Description

```
1 Select character size
```

- Parameters

Parameters	Description
<b>n</b>	2 times the height when n is 2, 3 times the height when n is 3, 4 times the height when n is 4, 2 times the width when n is 20, 3 times the width when n is 30, 4 times the width when n is 40, 2 times the width and height when n is 22, 3 times the width and height when n is 33, 4 times the width and height when n is 44, 1 times the width and height when n is anything else.

- Method

```
1 - (void)escCharacterSize:(NSInteger)n;
```

## 6.12. Select/deselect black and white reverse print mode

- Description

```
1 Select/deselect black and white reverse print mode
```

- Parameters

Parameters	Description
<b>b</b>	NO: The normal display; YES: Black and white and reverse

- Method

```
1 - (void)escBlackWhiteReverse:(BOOL)b;
```

- The sample code

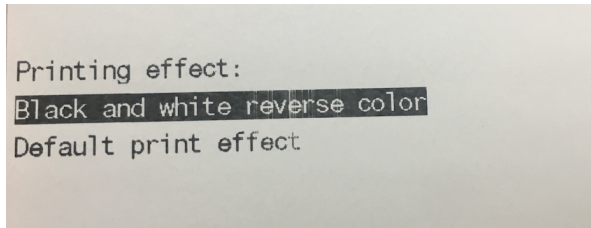
```
1 - (void)blackWhiteReverse {  
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
```

```

3     [manager escReset];
4     [manager escPrintText:@"Printing effect:\n"];
5     [manager escBlackWhiteReverse:YES];
6     [manager escPrintText:@"Black and white reverse color\n"];
7     [manager escBlackWhiteReverse:NO];
8     [manager escPrintText:@"Default print effect\n"];
9 }

```

- Printing effect



### 6.13. Print text

- Description

1 Print text

- Parameters

Parameters	Description
text	The text content

- Method

```

1 - (void)escPrintText:(NSString *)text;

```

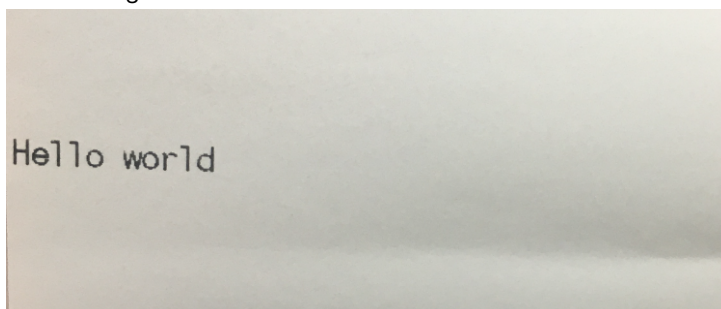
- The sample code

```

1 - (void)text {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager escReset];
4     [manager escPrintText:@"Hello world\n"];
5 }

```

- Printing effect



### 6.14. Set parameters to print bar code

- Description

## 1 Set parameters to print bar code

- Parameters

Parameters	Description
HRIPosition	HRIPosition represents the printing position of the HRI character (when HRIPosition =1 or HRIPosition =49, the HRI character is displayed above the bar code; When HRIPosition=2 or HRIPosition=50, the HRI character is displayed below the barcode; The HRI character is not displayed when HRI_position takes other values.)
HRIFont	HRIFont represents an HRI character font (select font B when HRIFont =1 or HRIFont =49, and select font A when HRI_font takes some other value).
width	width denote the bar code width (set bar code width to 2 when width=2, set bar code width to 3 when width=3, set bar code width to 1 when width is any other value),
height	height denote the height of the bar code (when 1<=height<=255, set the height of the bar code as height; when the height is other values, set the height of the bar code as 162),
type	Bar code type When type=0 or type=65, select UPC-A as the bar code type. When type=1 or type=66, select UPC-E as the bar code type. When type=2 or type=67, select EAN13 as the bar code type. When type=3 or type=68, select EAN8 as the bar code type. When type=4 or type=69, select CODE39 as the barcode type. When type=5 or type=70, select ITF as the bar code type. When type=6 or type=71, select CODABAR as the bar code type. When type=7 or type=72, select CODE93 as the barcode type. Select CODE128 when type=8 or type=73)
content	Content Indicates the bar code content ( Upc-a (length 11, 12), Upc-e (length 7, 8, 11, 12), EAN13 (length 12, 13), EAN8 (length 7, 8), ITF (even numbers greater than 2) only supports numbers; CODE39 (length is greater than 1 and less than 255, support Numbers, English, Spaces, '\$', ' % ', '* ', '+ ', '- ', '. ', '/ '); CODE93 (length is greater than 1 and less than 255, support Numbers, English, Spaces, '\$', ' % ', '+ ', '- ', '. ', '/ '); CODABAR (contains more than 2 characters and less than 255 characters, supporting digits, ABCDabcd, '\$', ' + ', '- ', '. ', '/ ', ': '); CODE128 (length greater than 2 and less than 255, all English supported).

- Method

1 - (void)escBarcodeWithHRIPosition:(NSInteger)HRIPosition



```

2             HRIFont:(NSInteger)HRIFont
3             width:(NSInteger)width
4             height:(NSInteger)height
5             type:(NSInteger)type
6             content:(NSString *)content;

```

- The sample code

```

1 - (void)printBarcode {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager escReset];
4     [manager escBarcodeWithHRIPosition:0
5             HRIFont:1
6             width:3
7             height:80
8             type:8
9             content:@"123456789012"];
10    [manager escPrintFormfeed];
11 }

```

- Printing effect



## 6.15. Print the QR code

- Description

```

1 Print the QR code

```

- Parameters

Parameters	Description
size	Enlarge times (0≤size≤3)
content	Content of the QR code
qrVersion	qr version, 1–10, the larger the value, the larger the width of the printed barcode, 3 is recommended
level	qr error correction level, 0-3, the higher the value, the easier it is to identify, 1 is recommended

- Method

```

1 - (void)escPrintBarcode2dWithSize:(NSInteger)size
2             content:(NSString *)content;
3 - (void)escPrintBarcode2dWithSize:(NSInteger)size
4             qrVersion:(NSInteger)qrVersion
5             level:(NSInteger)level

```

```
6 content:(NSString *)content;
```

- The sample code

```
1 - (void)printQRCode {  
2     JXPrinterManager *manager = [JXPrinterManager printerManager];  
3     [manager escReset];  
4     [manager escPrintBarcode2dWithSize:4 content:@"1234567890"];  
5     [manager escPrintFormfeed];  
6     [manager escReset];  
7     [manager escPrintBarcode2dWithSize:4  
8         qrVersion:3  
9         level:1  
10        content:@"1234567890"];  
11     [manager escPrintFormfeed];  
12 }
```

- Printing effect



## 6.16. Print raster bitmap

- Description

```
1 Print raster bitmap
```

- Parameters

Parameters	Description
image	image

- Method

```
1 - (BOOL)escRasterImage:(UIImage *)image;
```

- The sample code

```
1 - (void)rasterImage {  
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
```

```

3     [manager escRasterImage:[UIImage imageNamed:@"logo"]];
4     [manager escPrintFormfeed];
5 }

```

- Printing effect



## 6.17. Select bitmap mode to print the image

- Description

```

1 Select bitmap mode to print the image

```

- Parameters

Parameters	Description
m	M stands for bitmap mode. When m=1, the bitmap mode is 8-point double density, When m=32, the bitmap mode is 24-point single density, When m=33, the bitmap mode is 24-point double density, All bitmap modes except m=1,32,33 are 8-point single density.
image	The bitmap to print. Due to the limited width of printing paper, the image should not be too large.

- Method

```

1 - (void)escBitmapMode:(NSInteger)m image:(UIImage *)image;

```

- The sample code

```

1 - (void)printBitmap {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager escReset];
4     [manager escAlign:1];
5     [manager escBitmapMode:1 image:[UIImage imageNamed:@"logo"]];
6     [manager escPrintFormfeed];
7 }

```

- Printing effect



## 6.18. Print and feed

- Description

1 Based on the current line spacing, prints the data in the buffer and moves the paper one line.

- Parameters

Parameters	Description
None	

- Method

1 - (void)escPrintFormfeed;

## 6.19. Print and move N lines of the paper forward

- Description

1 Print and move N lines of paper forward

- Parameters

Parameters	Description
n	0 lines are feed when $n < 0$ , 255 lines are feed when $n > 255$ , and n lines are feed when $0 \leq n \leq 255$ .

- Method

1 - (void)escPrintFormfeedRow:(NSInteger)n;

## 6.20. Print and move the paper to the black mark on the right

- Description

1 Print and move the paper to the black mark on the right

- Parameters

Parameters	Description
None	

- Method

```
1 - (void)escPrintToRightBlackLabel;
```

## 6.21. Print and move paper to the left black mark

- Description

```
1 Print out all the data in the print buffer and move to the black mark on the left.
```

- Parameters

Parameters	Description
None	

- Method

```
1 - (void)escLeftBlackLabel;
```

## 6.22. Move the paper to the label

- Description

```
1 Move the paper to the label
```

- Parameters

Parameters	Description
None	

- Method

```
1 - (BOOL)escPrintToLabel;
```

## 6.23. Write data to the device

- Description

```
1 Write data to the device
```

- Parameters

Parameters	Description
data	Data to send

- Method

```
1 - (void)escWriteData:(NSData *)data;
```

- The sample code

```

1 - (void)writeData {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     Byte cmd[] = {0x10, 0x0C, 0x01, 0xA0, 0x00, 0x00, 0x00};
4     NSData *data = [NSData dataWithBytes:cmd length:sizeof(cmd)];
5     [manager escWriteData:data];
6 }

```

## 6.24. Write an instruction with response

- Description

```

1 Write an instruction with response.
2 You can call 7.25 to clear the cache first to prevent reading the
3 previously cached data.

```

- Parameters

Parameters	Description
data	Data to send
timeout	Read return data timeout

- Method

```

1 - (NSData *)escWriteWithResponseData:(NSData *)data
2                               timeout:(NSInteger)timeout;

```

- The sample code

```

1 - (void)writeDataWithResponse {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     Byte cmd[] = {0x10, 0x04, 0x05};
4     NSData *data = [NSData dataWithBytes:cmd length:sizeof(cmd)];
5     [manager escFlushReadBuffer];
6     NSData *response = [manager escWriteWithResponseData:data
7                               timeout:3];
8     NSLog(@"response = %@", response);
9 }

```

- Printing effect

```

1 response = {length = 2, bytes = 0x0000}

```

## 6.25. Clear read buffer

- Description

```

1 Clear read buffer

```

- Parameters

Parameters	Description
None	

- Method

```
1 - (void)escFlushReadBuffer;
```

## 7. Global Line Methods

```
1 Generally used for continuous paper printing. Steps:
2 1. Obtain the print service singleton object
3 2. Set the print width by calling the method of set the maximum print width of printer
4 3. Call print text or image and other methods to set the print content, if the content width exceeds the width of a line will be printed, less than a line will be cached, concatenated with the content to be printed later, you can also call the method of forced print buffer, the cache content is forced to print out.
```

### 7.1. Get the print service Singleton object

- Description

```
1 Get print service singleton object (default is Bluetooth send data JXConnectTypeBle)
```

- Parameters

Parameters	Description
connectType	Set the data sending mode to Bluetooth or Wi-Fi

- Method

```
1 + (instancetype)printerManager;
2 + (instancetype)printerManagerWithConnectType:(JXConnectType)connectType;
```

- The sample code

```
1 JXPrinterManager *manager = [JXPrinterManager printerManager];
```

### 7.2. Set the properties associated with text printing

- Description

```
1 Set the properties associated with text printing
```

- Parameters

Parameters	Description
None	

- Method

```
1 // Line spacing (unit: dot. 1mm=8dot)
2 - (void)globalLineLineSpace:(int)lineSpace;
3 // Letter spacing (unit: dot. 1mm=8dot)
4 - (void)globalLineLetterSpace:(int)letterSpace;
5 // Underline
```

```

6 - (void)globalLineIsUnderline:(BOOL)isUnderline;
7 // Bold
8 - (void)globalLineIsBold:(BOOL)isBold;
9 // IsItaly
10 - (void)globalLineIsItaly:(BOOL)isItaly;
11 // Black to white and white to black
12 - (void)globalLineIsReverse:(BOOL)isReverse;
13 // FontSize
14 - (void)globalLineFontSize:(int)fontSize;
15 // Font width magnification scale
16 - (void)globalLineFontWidthScale:(int)fontWidthScale;
17 // Font height magnification scale
18 - (void)globalLineFontHeightScale:(int)fontHeightScale;

```

### 7.3. Clear the cache

- Description

```

1 Clear buffer data and restore all Settings to default values

```

- Parameters

Parameters	Description
None	

- Method

```

1 - (BOOL)globalLineReset;

```

### 7.4. Set the left margin

- Description

```

1 The left and right margins need to be considered. If you set both the left
  and right margins, the setting fails when the printable area is less than
  100

```

- Parameters

Parameters	Description
margin	0-65535

- Method

```

1 - (BOOL)globalLineLeftMargin:(int)margin;

```

### 7.5. Set the right margin

- Description

```

1 The left and right margins need to be considered. If you set both the left
  and right margins, the setting fails when the printable area is less than
  100

```



- Parameters

Parameters	Description
margin	0-65535

- Method

```
1 - (BOOL)globalLineRightMargin:(int)margin;
```

## 7.6. Set the relative print position

- Description

```
1 Set the relative print position
```

- Parameters

Parameters	Description
align	1 : Center, 2: right, other: left

- Method

```
1 - (BOOL)globalLineAlign:(int)align;
```

## 7.7. Set the maximum print width for the printer

- Description

```
1 The default is 384
```

- Parameters

Parameters	Description
maxWidth	Maximum print width of printer

- Method

```
1 - (BOOL)globalLineMaxPrintWidth:(int)maxWidth;
```

## 7.8. Forced print buffer

- Description

```
1 Print buffer
```

- Parameters

Parameters	Description
None	

- Method

```
1 - (BOOL)globalLinePrint;
```

## 7.9. feed

- Description

```
1 feed
```

- Parameters

Parameters	Description
n	Paper feed lines

- Method

```
1 - (BOOL)globalLineFeed:(int)n;
```

## 7.10. Print text

- Description

```
1 Print text
```

- Parameters

Parameters	Description
content	The text content

- Method

```
1 - (BOOL)globalLineDrawText:(NSString *)content;
```

- The sample code

```
1 - (void)printText {  
2     JXPrinterManager *manager = [JXPrinterManager printerManager];  
3     [manager globalLineMaxPrintWidth:576];  
4  
5     [manager globalLineReset];  
6     [manager globalLineDrawText:@"Text print effect"];  
7     [manager globalLinePrint];  
8     [manager globalLineAlign:0];  
9     [manager globalLineDrawText:@"Left align effect abcABC123"];  
10    [manager globalLinePrint];  
11 }
```

- Printing effect

```
Text print effect  
Left align effect abcABC123
```

## 7.11. Print bitmap

- Description

```
1 Print bitmap
```

- Parameters

Parameters	Description
image	image

- Method

```
1 - (BOOL)globalLineDrawGraphicWithImage:(UIImage *)image;
```

- The sample code

```
1 - (void)drawGraphic {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager globalLineMaxPrintWidth:576];
4     [manager globalLineReset];
5     [manager globalLineDrawText:@"Image print effect"];
6     [manager globalLinePrint];
7     UIImage *image = [UIImage imageNamed:@"image_post"];
8     [manager globalLineDrawGraphicWithImage:image];
9     [manager globalLinePrint];
10 }
```

- Printing effect



## 7.12. Print Line

- Description

```
1 If the line length exceeds the maximum print length, print only the printable part, call globalLinePrint buffer can be forced to print
```

- Parameters

Parameters	Description
lineLength	The length of the line
lineWidth	Line width
isSolid	YES: solid line NO: dashed line

- Method

```
1 - (BOOL)globalLineDrawLineWithLineLength:(int)lineLength
2                               lineWidth:(int)lineWidth
3                               isSolid:(BOOL)isSolid;
```

- The sample code

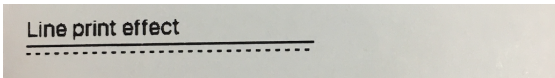
```
1 - (void)drawLine {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager globalLineMaxPrintWidth:576];
```

```

4      [manager globalLineReset];
5      [manager globalLineDrawText:@"Line print effect"];
6      [manager globalLinePrint];
7      [manager globalLineDrawLineWithLineLength:300
8              lineWidth:2
9              isSolid:YES];
10     [manager globalLinePrint];
11     [manager globalLineDrawLineWithLineLength:300
12             lineWidth:2
13             isSolid:NO];
14     [manager globalLinePrint];
15 }

```

- Printing effect



### 7.13. Print one-dimensional bar code text

- Description

1 The function is used before {drawBarCodeWithWidth: height: Content: rotate: format:} and prints the barcode text. The function takes effect only once

- Parameters

Parameters	Description
isPositionBelow	Whether to display it under the bar code
fontSize	The font size
isBold	Whether the bold
margin	And bar code spacing
breakLine	YES :truncates; NO: newline

- Method

```

1 - (void)globalLineSetBarcodeTextWithIsPositionBelow:(BOOL)isPositionBelow
2             fontSize:(int)fontSize
3             isBold:(BOOL)isBold
4             margin:(int)margin
5             breakLine:(BOOL)breakLine;

```

### 7.14. Print one-dimensional bar code

- Description

1 No text is displayed by default. If need to print words, need to call {setBarcodeTextWithIsPositionBelow: fontSize: isBold: margin: breakLine:}

- Parameters

Parameters	Description
width	Bar code width
height	Bar code height
content	content
rotate	Rotation Angle
format	Bar code type

- Method

```

1 - (BOOL)globalLineDrawBarCodeWithWidth:(int)width
2                               height:(int)height
3                               content:(NSString *)content
4                               rotate:(RotationAngle)rotate
5                               format:(BarCodeFormat)format;

```

- The sample code

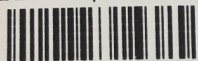
```

1 - (void)drawBarCode {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager globalLineMaxPrintWidth:576];
4     // 条形码
5     [manager globalLineReset];
6     [manager globalLineDrawText:@"Barcode print without text"];
7     [manager globalLinePrint];
8     [manager globalLineDrawBarCodeWithWidth:200
9                               height:50
10                              content:@"0123456789"
11                              rotate:RotationAngle0
12                              format:BarcodeFormatCode128];
13     [manager globalLinePrint];
14 }

```

- Printing effect

Barcode print without text



## 7.15. Print the QR code

- Description

```

1 Print the QR code

```

- Parameters

Parameters	Description
width	width
height	height
content	content
rotate	Rotation Angle
format	Type of TWO-DIMENSIONAL code

- Method

```

1 - (BOOL)globalLineDrawQrCodeWithWidth:(int)width
2                               height:(int)height
3                               content:(NSString *)content
4                               rotate:(RotationAngle)rotate
5                               format:(QRCodeFormat)format;

```

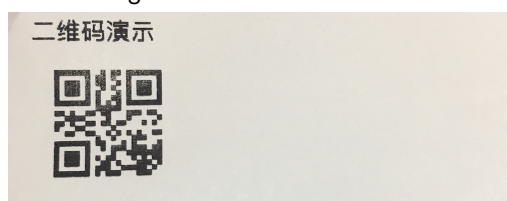
- The sample code

```

1 - (void)drawQrCode {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager globalLineMaxPrintWidth:576];
4     [manager globalLineDrawText:@"二维码演示"];
5     [manager globalLinePrint];
6     [manager globalLineDrawQrCodeWithWidth:150
7                               height:150
8                               content:@"1234567890"
9                               rotate:RotationAngle0
10                              format:QRCodeFormatQR];
11     [manager globalLinePrint];
12 }

```

- Printing effect



## 7.16. Print curve segment

- Description

```

1 Print line segments of a curve (a curve is made up of continuous line segments, points can be interpreted as line segments of length 1)

```

- Parameters

Parameters	Description
xPos	Starting at 0 on the left, maximum 243 X1-X2,X3-X4... X2n-1-x2n Displays multiple line segments If only one point is printed, X2=X1, i.e. Parameters pass X,X

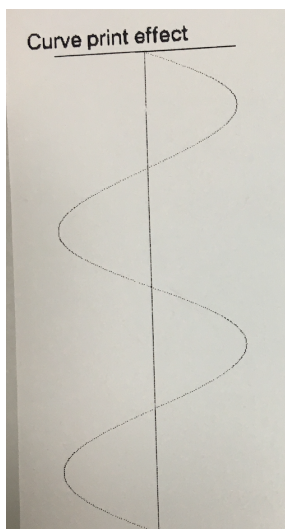
- Method

```
1 - (BOOL)globalLineDrawLineSegments:(NSArray<NSNumber *> *)xPos;
```

- The sample code

```
1 - (void)drawLineSegments {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     [manager globalLineMaxPrintWidth:576];
4     [manager globalLineReset];
5     [manager globalLineDrawText:@"Curve print effect"];
6     [manager globalLinePrint];
7
8     [manager globalLineDrawLineSegments:@[@30, @230]];
9     [manager globalLineDrawLineSegments:@[@130, @130]];
10    int x;
11    for (int i = 1; i <= 512; i++) {
12        x = (int) (sin(M_PI * i / 128) * 100 + 130);
13        [manager globalLineDrawLineSegments:@[@130, @130, @(x), @(x)]];
14    }
15 }
```

- Printing effect



## 7.17. Write data to the device

- Description

```
1 Write data to the device
```

- Parameters

Parameters	Description
data	Data to send

- Method

```
1 - (void)globalLineWriteData:(NSData *)data;
```

- The sample code

```

1 - (void)writeData {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     Byte cmd[] = {0x10, 0x0C, 0x01, 0xA0, 0x00, 0x00, 0x00};
4     NSData *data = [NSData dataWithBytes:cmd length:sizeof(cmd)];
5     [manager globalLineWriteData:data];
6 }

```

## 7.18. Write an instruction with response

- Description

```

1 Write an instruction with response.
2 You can call 8.19 to clear the cache first to prevent reading the
3 previously cached data.

```

- Parameters

Parameters	Description
data	Data to send
timeout	Read return data timeout

- Method

```

1 - (NSData *)globalLineWriteWithResponseData:(NSData *)data
2                                     timeout:(NSInteger)timeout;

```

- The sample code

```

1 - (void)writeDataWithResponse {
2     JXPrinterManager *manager = [JXPrinterManager printerManager];
3     Byte cmd[] = {0x10, 0x04, 0x05};
4     NSData *data = [NSData dataWithBytes:cmd length:sizeof(cmd)];
5     [manager globalLineFlushReadBuffer];
6     NSData *response = [manager globalLineWriteWithResponseData:data
7                                     timeout:3];
8     NSLog(@"response = %@", response);
9 }

```

- Printing effect

```

1 response = {length = 2, bytes = 0x0000}

```

## 7.19. Clear read buffer

- Description

```

1 Clear read buffer

```

- Parameters

Parameters	Description
None	

- Method



```
1 - (void)globalLineFlushReadBuffer;
```