BIXOLON

API Reference Guide

BXL SDK for UPOS Compliant iOS

Ver. 3.17

www.bixolon.com

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Caution

Some semiconductor devices are easily damaged by static electricity. You should turn the printer “OFF”, before you connect or remove the cables on the rear side, in order to guard the printer against the static electricity. If the printer is damaged by the static electricity, you should turn the printer “OFF”.

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1. About This Manual

This SDK manual describes the library required for developing applications for iOS.
It additionally describes how to use SDK, specifications, and restrictions.

2. Support OS and Interface

2-1 Operating System

• iOS 15.0 or later

2-2 Supported Printers and Interfaces

Model	Resolution	Communication Interface	Max Print Width(dot)
SPP-R200II	203 dpi	Bluetooth / WLAN	384 dots
SPP-R200III	203 dpi	Bluetooth / WLAN / BLE	384 dots
SPP-R210	203 dpi	Bluetooth / WLAN	384 dots
SPP-R220	203 dpi	Bluetooth / WLAN / BLE	384 dots
SPP-R230	203 dpi	Bluetooth / WLAN / BLE	384 dots
SPP-C200	203 dpi	Bluetooth / BLE	384 dots
SPP-C300	203 dpi	Bluetooth / BLE	576 dots
SPP-R300	203 dpi	Bluetooth / WLAN	576 dots
SPP-R310	203 dpi	Bluetooth / WLAN / BLE	576 dots
SPP-R400	203 dpi	Bluetooth / WLAN	832 dots
SPP-R410	203 dpi	Bluetooth / WLAN / BLE	832 dots
SPP-R418	203 dpi	Bluetooth / WLAN / BLE	832 dots
SRP-350plusIII	180 dpi	Bluetooth / WLAN / Ethernet	512 dots
SRP-352plusIII	203 dpi	Bluetooth / WLAN / Ethernet	576 dots
SRP-350III	180 dpi	Ethernet	512 dots
SRP-352III	203 dpi	Ethernet	576 dots
SRP-F310II	180 dpi	Bluetooth / WLAN / Ethernet	512 dots
SRP-F312II	203 dpi	Bluetooth / WLAN / Ethernet	576 dots
SRP-F313II	203 dpi	Bluetooth / WLAN / Ethernet	640 dots
SRP-380	180 dpi	Bluetooth / WLAN / Ethernet	512 dots
SRP-382	203 dpi	Bluetooth / WLAN / Ethernet	576 dots
SRP-383	203 dpi	Bluetooth / WLAN / Ethernet	640 dots
SRP-380plus	180 dpi	Bluetooth / WLAN / Ethernet	512 dots
SRP-382plus	203 dpi	Bluetooth / WLAN / Ethernet	576 dots
SRP-330II	180 dpi	Ethernet	512 dots
SRP-332II	203 dpi	Ethernet	576 dots
SRP-S300	203 dpi	Bluetooth / WLAN / Ethernet / BLE	576 dots
SRP-S300II	203 dpi	Bluetooth / WLAN / Ethernet / BLE	576 dots
SRP-S320	203 dpi	Bluetooth / WLAN / Ethernet / BLE	576 dots
SRP-S200	203 dpi	Ethernet	432 dots
SRP-S3000	203 dpi	WLAN / Ethernet	576 dots
SRP-340II	180 dpi	Ethernet	512 dots
SRP-342II	203 dpi	Ethernet	576 dots

SRP-275III	160 x144 dpi	Ethernet	400 dots
SRP-Q300	180 dpi	Bluetooth / WLAN / Ethernet / BLE	512 dots
SRP-Q302	203 dpi	Bluetooth / WLAN / Ethernet / BLE	576 dots
SRP-QE300	180 dpi	Ethernet	512 dots
SRP-QE302	203 dpi	Ethernet	576 dots
SRP-E300	180 dpi	Ethernet	512 dots
SRP-E302	203 dpi	Ethernet	576 dots
SRP-Q200	203 dpi	Bluetooth / WLAN / Ethernet	432 dots
SRP-B300	203 dpi	Ethernet	576 dots (42CPL:546dots)
SRP-B300II	180 dpi	Ethernet	512 dots
SRP-350V	180 dpi	Ethernet	512 dots
SRP-352V	203 dpi	Ethernet	576 dots
SRP-350plusV	180 dpi	Bluetooth / WLAN / Ethernet / BLE	512 dots
SRP-352plusV	203 dpi	Bluetooth / WLAN / Ethernet / BLE	576 dots
SRP-330III	180 dpi	Ethernet	512 dots
SRP-332III	203 dpi	Ethernet	576 dots
G30	203 dpi	Bluetooth / WLAN / Ethernet / BLE	576 dots
SRP-Q300II	203 dpi	Bluetooth / WLAN / Ethernet / BLE / USB	576 dots

※ BLE: Bluetooth Low Energy

3. Development Environment

3-1 System Requirements

3-1-1 Xcode

Reference: http://developer.apple.com/devcenter/ios/index.action

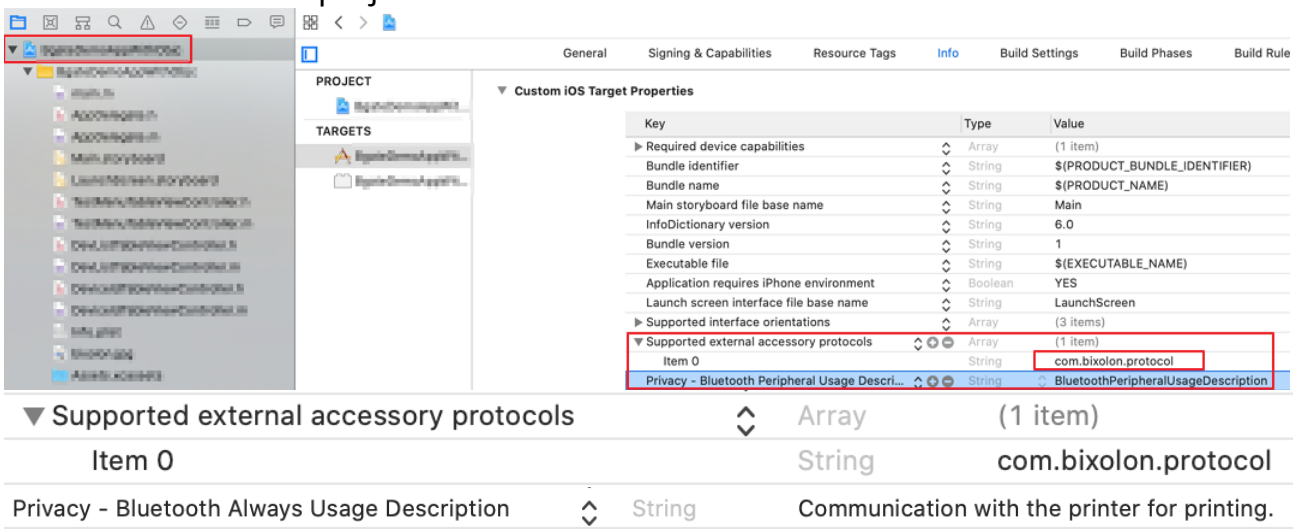
3-1-2 Project (for Bluetooth / USB connection)

To communicate with a Bluetooth / USB printer, the following two properties must be added.

Models supporting USB connection: SRP-Q300II

No.	Property Name	Description
1	UISupportedExternalAccessoryProtocols	Protocol for communicating with the Bluetooth / USB device (printer)
2	NSBluetoothAlwaysUsageDescription	Prompt message for user why iOS APP needs Bluetooth access (Bluetooth printer only)

1) Click on the iOS APP project name and then click on the “Info” tab.



2) For Bluetooth / USB Connection, In “Custom iOS Target Properties”, add the key “UISupportedExternalAccessoryProtocols” and enter the value “**com.bixolon.com**”.

3) For Bluetooth Connection only, In “Custom iOS Target Properties”, add the “NSBluetoothAlwaysUsageDescription” key and enter a string about why Bluetooth access is needed.

3-1-3 Project (for discovering printers)

If the iOS project deployment target version is 12 or higher and the iPhone / iPad OS version is 14 or higher, you must need to request multicast permission from Apple to discover printer devices. See the link below.

1) https://developer.apple.com/news/?id=0oi77447

2) https://developer.apple.com/contact/request/networking-multicast



- IP address used for discovering devices: 255.255.255.255
- Port numbers used for discovering devices:
  48780, 48781, 9000, 3337

3-2 Connecting iOS Device

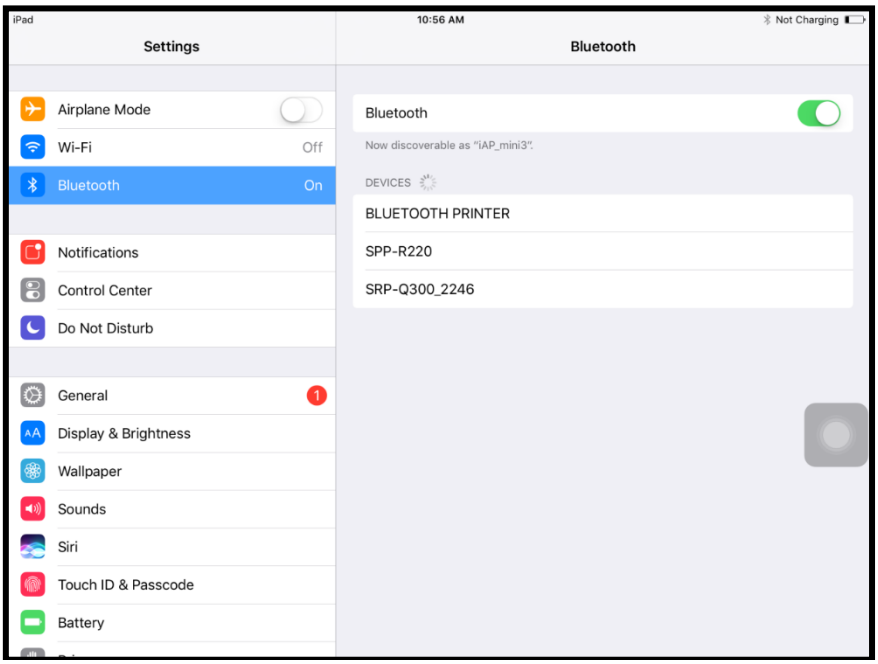
• Some details and names of specific items could be different depending on the iOS version or device.

3-2-1 Bluetooth

1. Select [Settings].

2. Bluetooth should be enabled and the printer power should be on.

3. Select [Bluetooth] for settings.



4. Select [Scan] to search the printer to connect and perform pairing.

5. Enter PIN code. Default PIN code is “0000”.



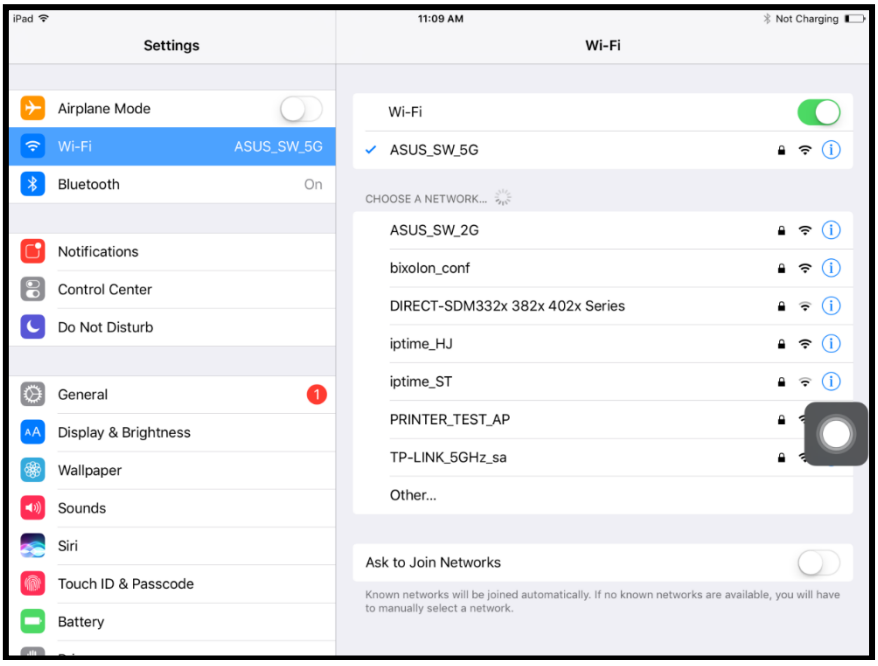
3-2-2 Network

1. Connect the printer to the network AP (Access Point) and assign an IP address or obtain one using DHCP. As BIXOLON's printer is initially set to Ad-hoc or SoftAP, the printer needs to be set up first with Net Configuration Tool to communicate with the device. The Net Configuration Tool can be downloaded from the BIXOLON website. (Refer to the Net Configuration Tool manual for details on settings)

2. Run Settings (located on the home screen) to configure Wi-Fi for the device.

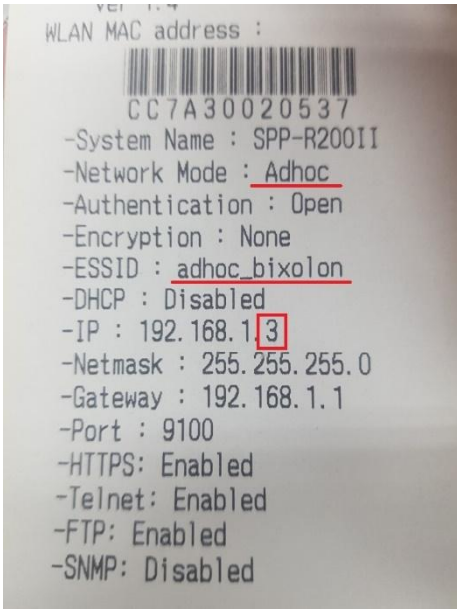
3. Turn Wi-Fi on by clicking the switch on the top of the sub menus.

4. Connect the device to the same network that the printer is connected to.



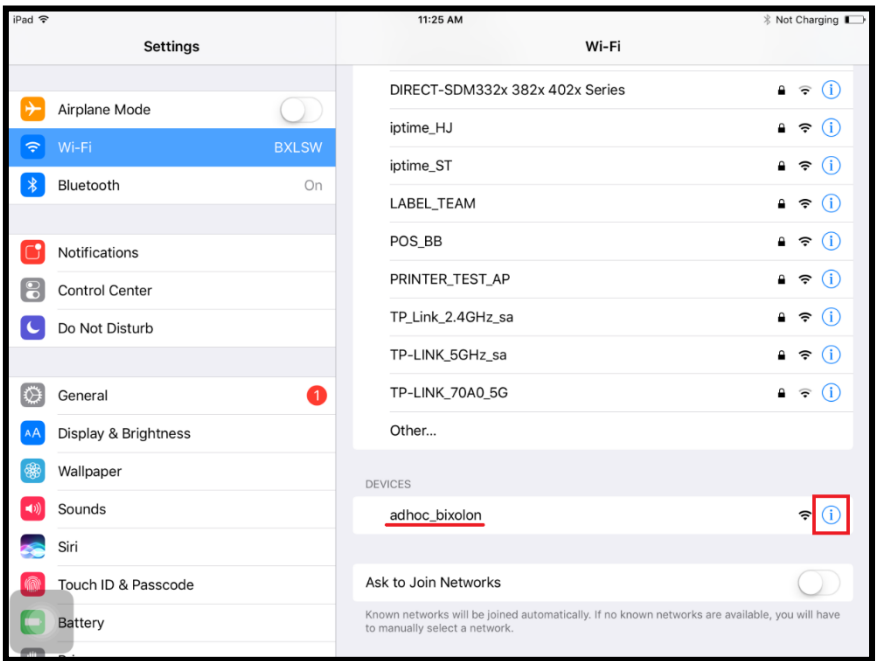
3-2-3 Network–Ad Hoc Mode

1. If the "Network Mode" of the printer is specified as "ADHOC", it is needed to configure IP Address".



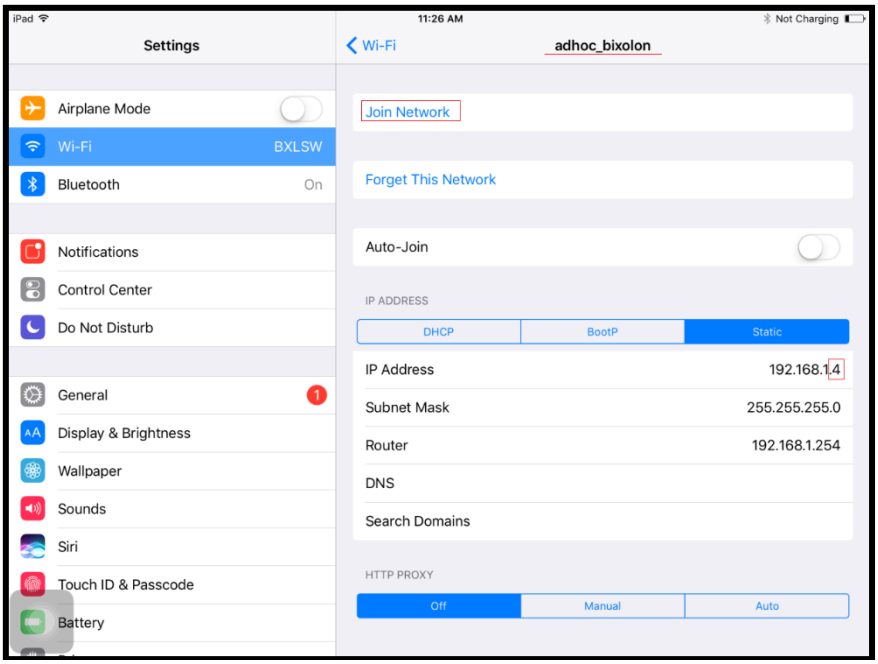
※ self-test printout

2. Click the " ⓘ " button next to SSID.



3. Assign IP address which consists of four decimal numbers as below.

※ Modify the fourth part if the ip address starts with "192.168.1.x".



4. Package Contents

4-1 Manual

Manual location / Name	Description
Manual_BXL_SDK_for_iOS_UPOS_Compliant_API_Reference_Guide_ENG_V*.**	Manual in English
Manual_BXL_SDK_for_iOS_UPOS_Compliant_API_Reference_Guide_KOR_V*.**	Manual in Korean

4-2 Library

Name	Description	Library location
libBixolonUPOS.a	Printer Contoller Library	Sample_xxx/ Sample_xxx/lib

4-3 Sample source code

Name	Language
Sample_ObjC	Objective C
Sample_Swift	Swift

5. Defines

5-1 UPOS Define.h

5-1-1 Printer Search Results Notification Key Name

When calling the printer search API, the following notification occurs.

name	Interface	Description
__NOTIFICATION_NAME_WIFI_WILL_LOOKUP_	WiFi	Start
__NOTIFICATION_NAME_WIFI_FOUND_PRINTER_		Find
__NOTIFICATION_NAME_WIFI_LOOKUP_COMPLETE_		End
__NOTIFICATION_NAME_ETHERNET_WILL_LOOKUP_	Ethernet	Start
__NOTIFICATION_NAME_ETHERNET_FOUND_PRINTER_		Find
__NOTIFICATION_NAME_ETHERNET_LOOKUP_COMPLETE_		End
__NOTIFICATION_NAME_BT_WILL_LOOKUP_	Bluetooth	Start
__NOTIFICATION_NAME_BT_FOUND_PRINTER_		Find
__NOTIFICATION_NAME_BT_LOOKUP_COMPLETE_		End
__NOTIFICATION_NAME_BLE_WILL_LOOKUP_	Bluetooth LE	Start
__NOTIFICATION_NAME_BLE_FOUND_PRINTER_		Find
__NOTIFICATION_NAME_BLE_LOOKUP_COMPLETE_		End
__NOTIFICATION_NAME_USB_WILL_LOOKUP_	USB	Start
__NOTIFICATION_NAME_USB_FOUND_PRINTER_		Find
__NOTIFICATION_NAME_USB_LOOKUP_COMPLETE_		End

5-1-2 Defining Log Functions

Provides a constant value for the Set Log Level API parameter.

Name	description
LOG_SHOW_NEVER(Default)	Disable
LOG_SHOW_ALL	Enable

5-1-3 INTERFACE_TYPE

Provides a constant value for the target Device's communication interface type.

Name	description
_INTERFACETYPE_WIFI	WiFi
_INTERFACETYPE_ETHERNET	Ethernet
_INTERFACETYPE_BLUETOOTH	Bluetooth
_INTERFACETYPE_BLE	Bluetooth LE
_INTERFACETYPE_USB	USB

5-1-4 BATTERY_VALUE

Provides a constant value for the battery status of the connected printer.

Name	description
__BATTERY_VALUE_FULL	FULL
__BATTERY_VALUE_HIGH	HIGH
__BATTERY_VALUE_MIDDLE	MIDDLE
__BATTERY_VALUE_LOW	LOW



When calling get Battery State API, @"_NOTI_BATTERY_STATE_" is used as the Notification Key Name.

5-2 UPOS Defines Printer.h

5-2-1 UPOS_PRINTER_STATION

Name	description
PTR_S_RECEIPT	Receipt Printer Type

5-2-2 UPOS_PRINTER_BARCODE_ALIGNMENT

Provides a constant value for the Print Barcode API's alignment Param.

Name	description
PTR_BC_LEFT	Left
PTR_BC_CENTER	Center
PTR_BC_RIGHT	Right

5-2-3 UPOS_PRINTER_BARCODE_TEXT_POSITION

Provides a constant value for the Print Barcode API's text Position Param.

Name	description
PTR_BC_TEXT_NONE	Text none
PTR_BC_TEXT_ABOVE	Text Above
PTR_BC_TEXT_BELOW	Text Below



1D Barcode Type Only

5-2-4 UPOS_PRINTER_BARCODE_SYMBOLOGIES

Provides a constant value for the Print Barcode API's symbology Param.

Name	description
PTR_BCS_UPCA	UPC-A
PTR_BCS_UPCE	UPC-E
PTR_BCS_EAN8(PTR_BCS_JAN8)	EAN8
PTR_BCS_EAN13(PTR_BCS_JAN13)	EAN13
PTR_BCS_ITF	ITF
PTR_BCS_Codabar	Codabar
PTR_BCS_Code39	Code39
PTR_BCS_Code93	Code93
PTR_BCS_Code128	Code128
PTR_BCS_PDF417	PDF417(2D Type)
PTR_BCS_QRCODE	QR CODE(2D Type)

5-2-5 UPOS_PRINTER_BITMAP_ALIGNMENT

Provides a constant value for the Print Bitmap API's alignment Param.

Name	description
PTR_BM_LEFT	Left
PTR_BM_CENTER	Center
PTR_BM_RIGHT	Right

5-2-6 UPOS_PRINTER_TRANSACTION

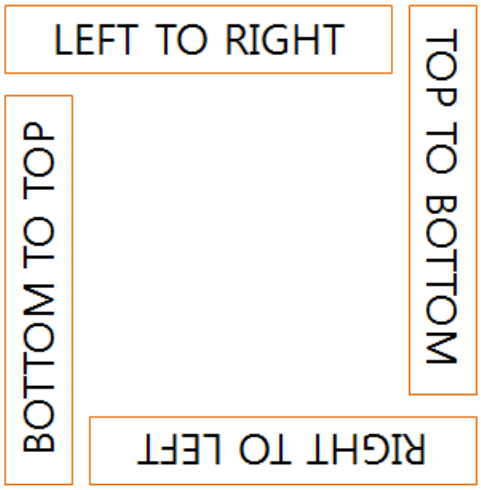
Provides a constant value for the transaction Print API's Param.

Name	description
PTR_TP_TRANSACTION	Transaction Mode Enable
PTR_TP_NORMAL	Transaction Mode Disable

5-2-7 PAGE_MODE_DIRECTION

Provides a constant value for the set Page mode Direction API's Param.

Name	description
LEFT_TO_RIGHT	No rotation
BOTTOM_TO_TOP	270 degrees
RIGHT_TO_LEFT	180 degrees
TOP_TO_BOTTOM	90 degrees



5-2-8 UPOS_PRINTER_STATUS

Provides a constant value for the status Update Event delegate's Param.

Name	description
PTR_SUE_COVER_OPEN	Printer Cover Open
PTR_SUE_COVER_OK	Printer Cover Close
PTR_SUE_REC_EMPTY	Printer No paper
PTR_SUE_REC_NEAREMPTY	Printer Insufficient paper
PTR_SUE_REC_PAPEROK	Printer Paper OK
PTR_SUE_REC_BAT_OK	Printer Battery Normal
PTR_SUE_REC_BAT_LOW	Printer Battery Low
PTR_SUE_OFFLINE	Unable to print

5-2-9 UPOS_PRINTER_BITMAP_WIDTH

Provides a constant value that sets Print Width Param as the printer width.

Name	description
PTR_BM_ASIS	Automatically set the printer width

5-3 UPOS Defines Scr.h

5-3-1 UPOS_SCR_READ_DATA_ACTION

Provides a constant value for the UPOS SCR Controller read Data API's action Param.

Name	description
SC_READ_DATA	SCR read

5-4 UPOS Defines Cash Drawer.h

5-4-1 UPOS_CASH DRAWER_STATES

Provides a constant value for Cash Drawer status when calling the UPOS CD Controller open Drawer API.

Name	description
CASH_SUE_DRAWERCLOSED	Close
CASH_SUE_DRAWEROPEN	Open



The value may work differently depending on the Cash Drawer hardware Spec.

6. UPOS Devices Reference

This is a reference to use and manage the target device in order to use the printer.

Class	Description
UPOS Device	UPOS Printer / UPOS MSR / UPOS SCR / UPOS Cash Drawer Super class
UPOS Devices	UPOS Printers / UPOS MSRs / UPOS SCRs / UPOS Cash Drawers Super class
UPOS Printer	Printer class
UPOS Printers	Printers class
UPOS MSR	MSR class
UPOS MSRs	MSRs class
UPOS SCR	SCR class
UPOS SCRs	SCRs class
UPOS Cash Drawer	Cash Drawer class
UPOS Cash Drawers	Cash Drawers class



UPOS Devices.h

6-1 UPOS Device

@property	Description
NSString *modelName	Device Name
NSString *ldn	Logical Device name
NSNumber *interfaceType	Interface Type(5-1-3_NTERFACE_TYPE)
NSString *address	ip address (case in. wi-fi, Ethernet) Mac address (case in. Bluetooth LE)
NSString *serialNumber	SerialNumber(case in. Bluetooth, USB)
NSString *port	Port Number
NSString *bluetoothDeviceName	Bluetooth Device Name



ldn and bluetoothDeviceName are optional. (Not required)

6-1-1 Init With Model Name

Function to initialize the Wifi / Ethernet / Bluetooth LE device objects.

[Syntax]

- (instancetype)initWithModelName: (NSString*) modelName
interfaceType: (NSNumber*) interfaceType
address: (NSString*) address
port: (NSString*) port;

[Parameters]

Type	Name	Description
NSString*	modelName	Printer Name
NSNumber*	interfaceType	Interface Type(5-1-3__INTERFACE_TYPE)
NSString*	address	Printer IP Address (Mac address for Bluetooth LE)
NSString*	port	Printer Port Number

[Returns]

Self(UPOSPrinter / UPOSMSR / UPOSSCR / UPOSCashDrawer)

6-1-2 Init With Model Name

Function to initialize the Bluetooth / USB device objects.

[Syntax]

- (instancetype)initWithModelName: (NSString*) modelName
serialNumber: (NSString*) serialNumber;

[Parameters]

Type	Name	Description
NSString*	modelName	Printer Name
NSString*	serialNumber	Printer Serialnumber

[Returns]

Self(UPOSPrinter / UPOSMSR / UPOSSCR / UPOSCashDrawer)

6-2 UPOS Devices

6-2-1 Get List

Returns a list of added devices.

[Syntax]
-(NSArray*)getList;

[Returns]

Type	Description
NSArray*	List of added devices

6-2-2 Add Device

Adds devices.

[Syntax]
-(BOOL) addDevice: (id) device;

[Parameters]

Type	Name	Description
Id	device	Object containing the information about the devices to add Adding Printer: UPOSPrinter Type Object Adding MSR: UPOSMSR Type Object Adding SCR: UPOSSCR Type Object Adding Cash Drawer: UPOSCashDrawer Type Object

[Returns]

Type	Value	Description
BOOL	NO	Only

6-2-3 Remove Device

Removes a device registered.

[Syntax]
-(BOOL) removeDevice: (id) device;

[Parameters]

Type	Name	Description
Id	Device	Object containing the information about added devices that are to be removed. Removing Printer: UPOSPrinter Type Object Removing MSR: UPOSMSR Type Object Removing SCR: UPOSSCR Type Object Removing Cash Drawer: UPOSCashDrawer Type Object

[Returns]

Type	Value	Description
BOOL	YES	Returns if successful.
BOOL	NO	Returns if it fails.

6-2-4 Remove All Devices

Removes all the devices registered.

[Syntax]
-(void) removeAllDevice;

6-3 UPOS Printer

6-4 UPOS Printers

6-5 UPOS MSR

6-6 UPOS MSRs

6-7 UPOS SCR

6-8 UPOS SCRs

6-9 UPOS Cash Drawer

@property	Description
NSNumber *pinNumber	Cash Drawer Pin Number (default value: 2)
NSNumber *pinLevel	Cash Drawer Pin Level (default value: 1)
NSNumber *pulseOnTime	Cash Drawer pluseOnTime (default value: 50)
NSNumber *pulseOffTime	Cash Drawer pluseOffTime (default value: 200)

6-10 UPOS Cash Drawers

7. UPOS Device Controller Reference

A parent class of the Printer, MSR, SCR, and Cash Drawer device controllers

@property	Description
id<UPOSDeviceControlDelegate> delegate	Delegate
(readonly) UPOSDevice*targetDevice	Connected device object
(readonly) float DeviceControlVersion	SDK Version (float Type)
(readonly) NSString*DeviceControlDescription	SDK Version (NSString* Type)
BOOL DeviceEnabled	Enabled/disabled status (Enabled after Open → Claim)



UPOSDeviceController.h

7-1 Set Log Level

• Allows to enable / disable SDK log.

[Syntax]

-(void)setLogLevel: (Byte) level;

[Parameters]

Type	Name	Description	
Byte	Level	LOG_SHOW_NEVER(Default)	Disable
		LOG_SHOW_ALL	Enable

7-2 Direct IO

• User defined data is sent to printer

[Syntax]

-(NSInteger) directIO: (NSInteger) command
data: (void*) data
object: (void*) object;

[Parameters]

Type	Name	Description
NSInteger	command	0
void*	data	Enters a user defined data
void*	object	nil

[Returns]

Name	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.



UPOS Printer Controller Type Only Supported

7-3 Get Support Device Strings

• Returns a list of supported devices.

[Syntax]

-(NSMutableArray*) getSupportDeviceStrings;

[Returns]

Type	Description
NSMutableArray*	Supported printers

7-4 Refresh Wifi Lookup

• Allows searching of available Wi-Fi devices.

[Syntax]

-(void)refreshWifiLookup;



- UPOS Printer Controller Type Only Supported
- Refer to 5-1-1 for the search results.

7-5 Refresh Ethernet Lookup

• Allows searching of available Ethernet devices.

[Syntax]

-(void) refreshEthernetLookup;

- UPOS Printer Controller Type Only Supported
- Refer to 5-1-1 for the search results.

7-6 Refresh BT Lookup

• Allows searching of available Bluetooth devices.

[Syntax]

-(void) refreshBTLookup;



- UPOS Printer Controller Type Only Supported
- Refer to 5-1-1 for the search results.

7-7 Refresh BLE Lookup

• Allows searching of available Bluetooth LE devices.

[Syntax]

-(void) refreshBLELookup;



- UPOS Printer Controller Type Only Supported
- Refer to 5-1-1 for the search results.

7-8 Refresh USB Lookup

• Allows searching of available USB devices.

[Syntax]

-(void) refreshUSBLookup;



- UPOS Printer Controller Type Only Supported
- Refer to 5-1-1 for the search results.

7-9 Get Registered Device

• Allows return of a list of added devices.

[Syntax]

-(UPOSDevices*) getRegisteredDevice;

[Returns]

Type	Description
UPOSDevices*	Added device information



Search added devices.

7-10 Open

• This method initiates the use of the printer class, and it includes the initialization process such as memory allocation. This method should be called first before calling the claim and other subsequent methods.

[Syntax]

-(NSInteger)open: (NSString*) logicalDeviceName;

[Parameters]

Type	Name	Description
NSString*	logicalDeviceName	the name of the device to be opened

[Returns]

Name	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.



Only added devices can be opened.

7-11 Open

• This method initiates the use of the printer class, and it includes the initialization process such as memory allocation. This method should be called first before calling the claim and other subsequent methods.

[Syntax]

-(NSInteger)open: (NSString*) logicalDeviceName
address: (NSString*) address ;

[Parameters]

Type	Name	Description
NSString*	logicalDeviceName	the name of the device to be opened
NSString*	Address	the address of the printer to be connected wifi, ethernet: ip address Bluetooth LE: mac address

[Returns]

Name	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.



- Only added devices can be opened.
- Supported interfaces: WiFi, Ethernet, Bluetooth LE

7-12 Open

• This method initiates the use of the printer class, and it includes the initialization process such as memory allocation. This method should be called first before calling the claim and other subsequent methods.

[Syntax]

```
-(NSInteger)open: (NSString*) logicalDeviceName
      serialNumber: (NSString*) serialNumber;
```

[Parameters]

Type	Name	Description
NSString*	logicalDeviceName	the name of the device to be opened
NSString*	serialNumber	the serialNumber of the printer to be connected

[Returns]

Name	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.



- Only added devices can be opened.
- Supported interface: Bluetooth, USB

7-13 Claim

• Claims successfully opened devices.

[Syntax]

-(NSInteger)claim: (NSInteger) timeout;

[Parameters]

Type	Name	Description
NSInteger	timeout	Sets the max. time to connection. (ex. 5 seconds, claim:5000)

[Returns]

Constant Name	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enable.
UPOS_E_ILLEGAL	The requested operation failed.



Only open devices can be claimed.

7-14 Set Enable Device

• Enable / disable successfully claimed devices.



setter API for the Device Enabled Property

7-15 Release Device

• Releases the claimed devices.

[Syntax]

-(NSInteger)releaseDevice;

[Returns]

Constant Name	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enable.
UPOS_E_ILLEGAL	The requested operation failed.



Only claimed devices can be released.

7-16 Close

• Closes released devices.

[Syntax]

-(NSInteger)close;

[Returns]

Constant Name	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enable.
UPOS_E_ILLEGAL	The requested operation failed.



Only released devices can be closed.

7-17 Connect

• Supports Open → Claim → setEnableDevice: YES.

[Syntax]

-(NSInteger)connect: (NSString*) logicalDeviceName;

[Parameters]

Type	Name	Description
NSString*	logicalDeviceName	modelname or ldn of the devices to be connected

[Returns]

Constant Name	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enable.
UPOS_E_ILLEGAL	The requested operation failed.

8. UPOS Printer Controller Reference

This is a printer controller class.

Category	Description
UPOSPrinterController	Basic printing functions e.g. text, image, and PDF
UPOSPrinterController(BXLPagemode)	Page mode function
UPOSPrinterController(BXLBCD3000)	BCD function
UPOSPrinterController(BXLDeprecated)	Unsupported API, Property

@property	Description
(readonly) BOOL CapRecPapercut	Cutter support
(readonly) NSInteger RecLineWidth	Width Length
NSInteger RecLineChars	Number of texts that can be printed in a line
(readonly) NSString* RecLineCharsList	Supported RecLineChars List
BOOL AsyncMode	Support Outputcomplete Event when enabled



UPOS Printer Controller.h

8-1 UPOS Printer Controller

• Provides basic printing functions.

8-1-1 Set Text Encoding

Changes the encoding type of the text.

[Syntax]

-(NSInteger)setTextEncoding: (NSStringEncoding) textEncoding

[Parameters]

Type	Name	Description
NSStringEncoding	textEncoding	Sets the encoding type for printing.

[Returns]

Constant Name	Description
UPOS_SUCCESS	Operation is successful.

8-1-2 Set Character Set

Changes the encoding type of the text.

[Syntax]
-(NSInteger)setCharacterSet: (NSInteger) characterSet

[Parameters]

Type	Name	Description
NS Integer	Character Set	Code pages for printing characters

Value	Description
437	PC437 (USA, Standard Europe)
737	PC737 (Greek)
775	PC775 (Baltic)
850	PC850 (Western Europe, Multilingual)
852	PC852 (Latin 2)
855	PC855 (Cyrillic)
857	PC857 (Turkce)
858	PC858 (Euro)
860	PC860 (Portuguese)
862	PC862 (Hebrew DOS code)
863	PC863 (Canadian-French)
864	PC864 (Arabic)
865	PC865 (Nordic)
866	PC866 (Cyrillic#2)
874	THAI (PC874)
912	PC912 (Albania)
928	PC928 (Greek)
1250	WPC1250 (Czech)
1251	WPC1251 (Cyrillic)
1252	WPC1252 (Latin 1)
1253	WPC1253 (Greek)
1254	WPC1254 (Turkce)
1255	WPC1255 (Hebrew new code)
1256	WPC1256 (Arabic)
1257	WPC1257 (Baltic)
1258	VIETNAM (WPC1258)
7065	FARSI
7565	KATAKANA
7572	KHMER
8411	THAI 11
8414	THAI 14

		8416	THAI 16
		8418	THAI 18
		8442	THAI 42
		3031	TCVN3 (VIETNAM)
		3032	TCVN3 Capital (VIETNAM)
		3033	VISCII (VIETNAM)
		28605	Latin 9
		5601	KS5601 (Korean)
		6605	BIG5 (Chinese)
		2312	GB2312 (Chinese)
		8374	ShiftJ S (Japanese)
		54936	GB18030 (Chinese)
		54937	UTF-8 (Unicode)
		54938	UTF-16 (Unicode)
		54939	UTF-32 (Unicode)

[Returns]

Constant Name	Description
UPOS_SUCCESS	Operation is successful.

8-1-3 Print Normal

Prints texts.

[Syntax]

-(NSInteger)printNormal: (NSInteger) station
data: (NSString*) data;

[Parameters]

Type	Name	Description
NSInteger	station	Fixed value PTR_S_RECEIPT
NSString *	data	Specify the data to print. ESC Sequences, carriage returns, line feeds Data and printable characters are permitted.

ESC Sequences

Refer to commands that start with ESC(0x1B) + '|'(0x7C).
In the list of commands below, "#" represents a decimal number value and there is a range value for each command. "[]" Indicates a command that is optional. If you omit a numeric value, it will become "0". "!" disables the setting.
Any ESC Sequences not supported by the printer are ignored.

Escape Sequence	Support Status & Range of Settings	Description
[#]P	O (# : 0~100)	Cut
[#]fP	O (# : 0~100)	Cut after feeding
[#]lF	O (# : 0~50)	# indicates the number of lines
#fT	O (# : 0, 1, 2)	# sets the font type 0: default font (A), 1 = Font B, 2 = Font C
[!]bC	O	Bold
[!][#]uC	O (# : 1~2)	Underline
[!]rvC	O	Inverted
1C	O	Resize font width by 100% and height by 100%
2C	O	Resize font width by 200% and height by 100%
3C	O	Resize font width by 100% and height by 200%
4C	O	Resize font width by 200% and height by 200%
#hC	O	# times the font width
#vC	O	# times the font height
cA	O	Align center
rA	O	Align right
lA	O	Align left

N	O	Resets the value that can be set as ESC Sequence. **Font type A, font width by 100% and height by 100%** **Disable bold, disable underline, disable inversion**

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-4 Cut Paper

Cuts the paper.

[Syntax]
-(NSInteger) cutPaper: (NSInteger) percentage;

[Parameters]

Type	Name	Description
NS Integer	percentage	Full cut or Partial cut. Only models with a cutter support this function. Value: 100 — Full cut; 90 — Partial cut

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-5 Cut Paper

Cuts the paper.

[Syntax]
-(NSInteger) cutPaper: (NSInteger) percentage feedCut(BOOL)feedCut;

[Parameters]

<table>
<tr><th>Type</th><th>Name</th><th>Description</th></tr>
<tr><td>NS Integer</td><td>percentage</td><td>Full cut or Partial cut.
Only models with a cutter support this function.
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>100</td><td>Full cut</td></tr>
<tr><td>90</td><td>Partial cut</td></tr>
</table></td></tr>
<tr><td>BOOL</td><td>feedCut</td><td>
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>YES</td><td>Feed paper to the cutting position and cut it.</td></tr>
<tr><td>NO</td><td>No feed paper.</td></tr>
</table></td></tr>
</table>

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-6 Print Barcode

Prints barcodes.

[Syntax]

-(NSInteger) printBarcode: (NSInteger) station
data: (NSString*) data
symbology: (NSInteger) symbology
height: (NSInteger) height
barWidth: (NSInteger) barWidth
alignment: (NSInteger) alignment
textPostion: (NSInteger) textPosition;

[Parameters]

Type	Name	Description
NS Integer	station	Fixed value PTR_S_RECEIPT
NS String*	data	The data to be included in the barcode may be different from the one permitted for each barcode type.
NS Integer	symbology	Selects barcode type. (5-2-4 UPOS_PRINTER_BARCODE_SYMBOLOGIES Note)
NS Integer	height	Sets the barcode height.
NS Integer	barWidth	Sets the barcode width.
NS Integer	alignment	Selects barcode alignment. (5-2-2 UPOS_PRINTER_BARCODE_ALIGNMENT Note)
NS Integer	textPosition	Sets the position of the text to be printed with the barcode. (5-2-3 UPOS_PRINTER_BARCODE_TEXT_POSITION Note)

[Return Values]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-7 Direct IO

Sends user defined data to the printer.

[Syntax]

-(NSInteger) directIO: (NSInteger) command
data: (void*) data;

[Parameters]

Type	Name	Description
NSInteger	command	0
void*	data	Inputs user defined data.
void*	object	nil

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-8 Mark feed

Supports the feed function for labels.

[Syntax]
-(NSInteger)markFeed: (NSInteger) type;

[Parameters]

Type	Name	Description
NSInteger	type	0

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-9 Print Raw Data

Sends user-defined data to the printer.

[Syntax]

-(NSInteger) printRawData: (NSInteger) station
data: (NSData*) data;

[Parameters]

Type	Name	Description
NSInteger	station	Fixed value PTR_S_RECEIPT
NSData *	data	Inputs user-defined data.

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-10 Print Bitmap

Prints images. (files)

[**Syntax**]

```
-(NSInteger) printBitmap: (NSInteger) station
                fileName: (NSString*) fileName
                   width: (NSInteger) width
               alignment: (NSInteger) alignment
              brightness: (NSInteger) brightness;
```

[**Parameters**]

Type	Name	Description
NSInteger	station	Fixed value PTR_S_RECEIPT
NSString*	filename	Sets the path of an image file.
NSInteger	width	Sets the width of an image.
NSInteger	alignment	Selects the alignment of an image.
NSInteger	brightness	Sets the brightness level of an image. (Range: 0 ~ 100)

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-11 Print Bitmap

Prints images. (files)

[**Syntax**]

```
-(NSInteger) printBitmap: (NSInteger) station
                fileName: (NSString*) fileName
                   width: (NSInteger) width
               alignment: (NSInteger) alignment
              brightness: (NSInteger) brightness;
```

[**Parameters**]

Type	Name	Description
NSInteger	station	Fixed value PTR_S_RECEIPT
NSString*	filename	Sets the path of an image file.
NSInteger	width	Sets the width of an image.
NSInteger	alignment	Selects the alignment of an image.
NSInteger	brightness	Sets the brightness level of an image. (Range: 0 ~ 100)
NSInteger	compressType	Compression type (None:0, RLE:1, LZMA: 2)
BOOL	dithering	Applies an image dithering or not

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-12 Print Bitmap

Prints images. (Image data)

[**Syntax**]

```
-(NSInteger) printBitmap: (NSInteger) station
                   image: (UIImage*) image
                   width: (NSInteger) width
               alignment: (NSInteger) alignment
              brightness: (NSInteger) brightness;
```

[**Parameters**]

Type	Name	Description
NSInteger	station	Fixed value PTR_S_RECEIPT
NSString*	image	Sets the path of an image file.
NSInteger	width	Sets the width of an image.
NSInteger	alignment	Sets the brightness level of an image.
NSInteger	brightness	Sets the brightness level of an image. (Range: 0 ~ 100)

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-13 Print Bitmap

Prints images. (Image data)

[Syntax]

-(NSInteger) printBitmap: (NSInteger) station
image: (UIImage*) image
width: (NSInteger) width
alignment: (NSInteger) alignment
brightness: (NSInteger) brightness;
compressType: (NSInteger) compressType
dithering: (BOOL) dithering;

[Parameters]

Type	Name	Description
NSInteger	station	Fixed value PTR_S_RECEIPT
NSString*	image	Sets the path of an image file.
NSInteger	width	Sets the width of an image.
NSInteger	alignment	Selects the alignment of an image.
NSInteger	brightness	Sets the brightness level of an image. (Range: 0 ~ 100)
NSInteger	compressType	Compression type (None:0, RLE:1, LZMA: 2)
BOOL	dithering	Applies an image dithering or not

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-14 Print PDF

Prints PDF files.

[Syntax]

```
-(NSInteger) printPDF: (NSInteger) station
                fileName: (NSString*) fileName
                   width: (NSInteger) width
               alignment: (NSInteger) alignment
                    page: (NSInteger) page
              brightness: (NSInteger) brightness;
```

[**Parameters**]

Type	Name	Description
NSInteger	station	Fixed value PTR_S_RECEIPT
NSString *	fileName	Sets the path of a PDF file.
NSInteger	width	Sets the width of a PDF file.
NSInteger	alignment	Selects the alignment of an image.
NSInteger	page	Sets the page number of a PDF file to print. (starts from 1)
NSInteger	brightness	Sets the brightness level. (0 ~ 100)

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-15 Print PDF

Prints PDF files.

[Syntax]

-(NSInteger) printPDF: (NSInteger) station
fileName: (NSString*) fileName
width: (NSInteger) width
alignment: (NSInteger) alignment
page: (NSInteger) page
brightness: (NSInteger) brightness;

[Parameters]

Type	Name	Description
NSInteger	station	Fixed value PTR_S_RECEIPT
NSString *	fileName	Sets the path of a PDF file.
NSInteger	width	Sets the width of a PDF file.
NSInteger	alignment	Selects the alignment of an image.
NSInteger	page	Sets the page number of a PDF file to print. (starts from 1)
NSInteger	brightness	Sets the brightness level. (0 ~ 100)
NSInteger	compressType	Compression type (None:0, RLE:1, LZMA: 2)
BOOL	dithering	Applies an image dithering or not

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-16 Transaction Print

Prints in Transaction Mode.

[Syntax]

-(NSInteger)transactionPrint: (NSInteger) station
control: (NSInteger) control;

When changing from transaction mode to normal mode, print data is sent to the printer, and 'OutputCompleteEvent' occurs when the transfer is complete.

[Parameters]

Type	Name	Description
NSInteger	station	Fixed value PTR_S_RECEIPT
NSInteger	control	Transaction Mode (5-2-6 UPOS_PRINTER_TRANSACTION Note)

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-17 Get Battery State

Requests the battery status of the connected printer.

[Syntax]
-(NSInteger) getBatteryState;

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-18 Set Alarm

Rings the bell for the designated number of times (G30 Only)

[Syntax]
-(NSInteger)setAlarm: (NSInteger) count;



This API is only available for G30

[Parameters]

Type	Name	Description
NSInteger	count	Specifies the number of times to ring the bell.

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_ILLEGAL	This is not a G30 Printer or requested operation failed.

8-1-19 Search USB Peripheral Devices

Search for USB peripherals connected to the printer. (SRP-Q300II Only)

[**Syntax**]
-(NSInteger)searchUsbPeripheralDevices: (BOOL) enable;



This API is only available for SRP-Q300II

[**Parameters**]

Type	Name	Description
BOOL	enable	Whether PNP operation is enabled or not

[Returns]

Name	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-20 Send USB Peripheral Data

Transfers data to USB peripherals connected to the printer. (SRP-Q300II Only)

[**Syntax**]
-(NSInteger)sendUsbPeriperalData: (UInt8) deviceID
data: (NSData*) data;



This API is only available for SRP-Q300II

[**Parameters**]

Type	Name	Description
UInt8	deviceID	Device ID of USB peripherals
NSData*	data	Data to be transferred to USB peripherals

[Returns]

Name	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-1-21 Set USB Peripheral Read Mode

Set whether to receive data from USB peripherals connected to the printer.
(SRP-Q300II Only)

[**Syntax**]
-(NSInteger)setUsbPeripheralReadMode: (UInt8) deviceID
enable: (BOOL) enable;



This API is only available for SRP-Q300II

[**Parameters**]

Type	Name	Description
UInt8	deviceID	Device ID of USB peripherals
BOOL	enable	Read mode setting whether to enable or not

[Returns]

Name	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-2 UPOS Printer Controller (BXL Page mode)

• Categorize API in Page Mode.

8-2-1 Set Page Area

Sets the Page Mode area.

[Syntax]

```
- (NSInteger)setPageArea: (NSInteger) startingX
                 startingY: (NSInteger) startingY
                     width: (NSInteger) width
                    height: (NSInteger) height;
```

[Parameters]

Type	Name	Description
NSInteger	startingX	Sets the X coordinate.
NSInteger	startingY	Sets the Y coordinate.
NSInteger	width	Sets the width.
NSInteger	height	Sets the height.

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-2-2 Set Page Mode Direction

Sets a print direction in Page Mode.

[Syntax]
- (NSInteger)setPageModeDirection: (PAGE_MODE_DIRECTION) direction;

[Parameters]

Type	Name	Description
PAGE_MODE_DIRECTION	Direction	Sets a print direction. (5-2-7 PAGE_MODE_DIRECTION Note)

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-2-3 Set Left Position

Sets the starting position (X coordinate).

[Syntax]
- (NSInteger)setLeftPosition: (NSInteger) positionX

[Parameters]

Type	Name	Description
NSInteger	positionX	Sets the starting position (X coordinate).

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-2-4 Set Vertical Position

Sets the starting position (Y coordinate).

[Syntax]
- (NSInteger)setVerticalPosition: (NSInteger) positionY;

[Parameters]

Type	Name	Description
NSInteger	positionY	Sets the starting position (Y coordinate).

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-2-5 Print Data In Page Mode

Sets the starting position (Y coordinate).

Prints the data saved to the buffer in Page Mode.

[Syntax]
- (NSInteger)printDataInPageMode;

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-2-6 Draw Box In Page Mode

Draw a box at the specified position.

[Syntax]

- (NSInteger)drawBoxInPageMode: (NSUInteger) startPosX
startPosY: (NSUInteger) startPosY
endPosX: (NSUInteger) endPosX
endPosY: (NSUInteger) endPosY
thickness: (NSUInteger) thickness;

[Parameters]

Type	Name	Description
NSUInteger	startPosX	Sets the start position (X coordinate) (0~832)
NSUInteger	startPosY	Sets the start position (Y coordinate) (0~65535)
NSUInteger	endPosX	Sets the end position (X coordinate) (0~832)
NSUInteger	endPosY	Sets the end position (Y coordinate) (0~65535)
NSUInteger	thickness	Thickness (0~16)

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-2-7 Draw Line In Page Mode

Draw a line at the specified position.

[Syntax]

- (NSInteger)drawLineInPageMode: (NSUInteger) startPosX
startPosY: (NSUInteger) startPosY
endPosX: (NSUInteger) endPosX
endPosY: (NSUInteger) endPosY
thickness: (NSUInteger) thickness;

[Parameters]

Type	Name	Description
NSUInteger	startPosX	Sets the start position (X coordinate) (0~832)
NSUInteger	startPosY	Sets the start position (Y coordinate) (0~65535)
NSUInteger	endPosX	Sets the end position (X coordinate) (0~832)
NSUInteger	endPosY	Sets the end position (Y coordinate) (0~65535)
NSUInteger	thickness	Thickness (0~16)

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-3 UPOS Printer Controller (BXLBCD3000)

• Categorize the API that supports BCD.

8-3-1 Display String

Displays texts on BCD-3000.
In this case, BCD-3000 should be connected to the SRP-Q300 DK port.

[Syntax]

-(NSInteger) displayString: (NSString*) string;

[Parameters]

Type	Name	Description
NSString*	string	Text data to be displayed on BCD-3000

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-3-2 Display String At Line

Displays texts on the line selected on BCD-3000.
In this case, BCD-3000 should be connected to the SRP-Q300 DK port.

[Syntax]

-(NSInteger) displayStringAtLine: (NSInteger) line
data: (NSString*) data;

[Parameters]

Type	Name	Description
NSInteger	line	A line on which a text string will be displayed
NSString*	data	Text data to be displayed on BCD-3000

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-3-3 Clear Screen

Clears the display screen of BCD-3000.
In this case, BCD-3000 should be connected to SRP-Q300 DK port.

[Syntax]
-(NSInteger) clearScreen;

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-3-4 Store Image

Save image data to the BCD-3000's image buffer.
In this case, BCD-3000 should be connected to SRP-Q300 DK port.

[Syntax]

-(NSInteger) storeImage: (UIImage*) image
width: (NSInteger) width
imageNumber: (NSInteger) imageNumber;

[Parameters]

Type	Name	Description
UIImage*	image	Image data
NSInteger	width	Sets the image width. (1 ~ 160)
NSInteger	imageNumber	Specifies the number for the image data to be saved. (1 ~ 5)

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-3-5 Store Image File

Save image data to the BCD-3000's image buffer.
In this case, BCD-3000 should be connected to SRP-Q300 DK port.

[Syntax]

-(NSInteger) storeImageFile: (NSString*) filename
width: (NSInteger) width
imageNumber: (NSInteger) imageNumber;

[Parameters]

Type	Name	Description
NSString*	filename	Sets the image file path.
NSInteger	width	Sets the image width. (1 ~ 160)
NSInteger	imageNumber	Specifies the number for the image data to be saved. (1 ~ 5)

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-3-6 Display Image

Display the image saved to the BCD-3000's image buffer.
In this case, BCD-3000 should be connected to SRP-Q300 DK port.

[Syntax]

-(NSInteger) displayImage: (NSInteger) imageNumber
xPos: (NSInteger) xPos
yPos: (NSInteger) yPos;

[Parameters]

Type	Name	Description
NSInteger	imageNumber	Specifies the number for the image data to be displayed. (1 ~ 5)
NSInteger	xPos	Enters the X coordinate where the image will be displayed. (0 ~ 159)
NSInteger	yPos	Enters the Y coordinate where the image will be displayed. (0 ~ 31)

※ If the image exceeds the display area, it will not be displayed.

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-3-7 Clear Image

Clear the image saved to the BCD-3000's image buffer.
In this case, BCD-3000 should be connected to SRP-Q300 DK port.

[Syntax]

-(NSInteger) clearImage: (BOOL) isAll
imageNumber: (NSInteger) imageNumber;

[Parameters]

<table>
<tr><th>Type</th><th>Name</th><th>Description</th></tr>
<tr><td>BOOL</td><td>isAll</td><td>Selects the Image Buffer Clear Mode.
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>YES</td><td>Clears all images in the buffer.</td></tr>
<tr><td>NO</td><td>Clears only the images designated by "imageNumber",</td></tr>
</table></td></tr>
<tr><td>NSInteger</td><td>imageNumber</td><td>Specifies the image data number to be cleared. (1 ~ 5)</td></tr>
</table>

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-3-8 Set Display Character Set

Sets an encoding type for displaying in on BCD-3000.
In this case, BCD-3000 should be connected to SRP-Q300 DK port.

[Syntax]
-(NSInteger) setDisplayCharacterSet: (NSInteger) characterSet

[Parameters]

Type	Name	Description
NS Integer	Character Set	Code page for displaying texts

Value	Description
437	PC437 (USA, Standard Europe)
7565	KATAKANA
850	PC850 (Western Europe, Multilingual)
860	PC860 (Portuguese)
863	PC863 (Canadian-French)
865	PC865 (Nordic)
874	THAI (PC874)
1250	WPC1250 (Czech)
1251	WPC1251 (Cyrillic)
1252	WPC1252 (Latin 1)
866	PC866 (Cyrillic#2)
852	PC852 (Latin 2)
858	PC858 (Euro)
7065	FARSI
862	PC862 (Hebrew DOS code)
1254	WPC1254 (Turkce)
1257	WPC1257 (Baltic)
864	PC864 (Arabic)
775	PC775 (Baltic)
737	PC737 (Greek)
1253	WPC1253 (Greek)
857	PC857 (Turkce)
1255	WPC1255 (Hebrew new code)
855	PC855 (Cyrillic)
928	PC928 (Greek)
1256	WPC1256 (Arabic)
1258	VIETNAM (WPC1258)

		3031	VIETNAM (TCVN3)
		3032	VIETNAM (TCVN3 Capital)
		3033	VIETNAM (VISCII)

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

8-3-9 Set International Character set

Sets an encoding type for displaying the international characters on BCD-3000.
In this case, BCD-3000 should be connected to SRP-Q300 DK port.

[Syntax]
-(NSInteger) setInternationalCharacterset:(NSInteger) internationalCharset

[Parameters]

<table>
<tr><th>Type</th><th>Name</th><th>Description</th></tr>
<tr><td>NSInteger</td><td>International Charset</td><td>Code page for displaying international characters
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0</td><td>USA Code</td></tr>
<tr><td>1</td><td>FRANCE Code</td></tr>
<tr><td>2</td><td>GERMANY Code</td></tr>
<tr><td>3</td><td>UK Code</td></tr>
<tr><td>4</td><td>DENMARK1 Code</td></tr>
<tr><td>5</td><td>SWEDEN Code</td></tr>
<tr><td>6</td><td>ITALY Code</td></tr>
<tr><td>7</td><td>SPAIN1 Code</td></tr>
<tr><td>8</td><td>JAPAN Code</td></tr>
<tr><td>9</td><td>NORWAY Code</td></tr>
<tr><td>10</td><td>DENMARK 2 Code</td></tr>
<tr><td>11</td><td>SPAIN 2 Code</td></tr>
<tr><td>12</td><td>LATIN AMERICA Code</td></tr>
<tr><td>13</td><td>KOREA Code</td></tr>
<tr><td>14</td><td>SLOVENIA Code</td></tr>
<tr><td>15</td><td>CHINA Code</td></tr>
</table></td></tr>
</table>

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

9. UPOS MSR Controller Reference

This is an MSR controller class.

Category	Description
UPOSMSRController	MSR TrackData
UPOSMSRController(BXLDeprecated)	Unsupported API, Property

@property	Description
(readonly) NSString* Track1Data	MSR Track1 Data
(readonly) NSString* Track2Data	MSR Track2 Data
(readonly) NSString* Track3Data	MSR Track3 Data

- Apply the card data to the property after reading the MSR card.
- UPOSMSRController.h

9-1 UPOS MSR Controller

- MSR can be opened after Open-Claim-Enable in the UPOS Printer Controller.
- MSR card data can be read after Add Device-Open-Claim-Enable in the UPOS MSR Controller.

10. UPOS SCR Controller Reference

This is an SCR controller class.

Category	Description
UPOSSCRController	SCR card-reading function
UPOSSCRController(BXLDeprecated)	Unsupported API, Property



UPOSSCRController.h

10-1 UPOS SCR Controller



- SCR can be opened after Open-Claim-Enable the UPOS Printer Controller.
- SCR card data can be read after Add Device-Open-Claim-Enable in the UPOS SCR Controller.

10-1-1 Begin Insertion

Checks whether a smart card is inserted for a set duration of time.

[Syntax]
-(void) beginInsertion: (NSInteger)timeout;

[Parameters]

Type	Name	Description
NSInteger	timeout	Sets the time for checking that the card is inserted.

10-1-2 END Insertion

It supplies power to the inserted smart card chip. Before calling this method, the 'beginInsertion' method must be called.

[Syntax]
-(void) endInsertion



if succeeded, ATR (Answer to reset) data is sent by 'DataEvent:data'
- (void)DataEvent:(NSNumber*) status data:(NSData*) data;

10-1-3 Begin Removal

It supplies power to the smart card chip. After calling this method, the 'endRemoval' method must be called as well.

[Syntax]
-(void) beginRemoval: (NSInteger) timeout;

[Parameters]

Type	Name	Description
NSInteger	timeout	The time for stopping of supplying power

10-1-4 END Removal

Checks if the power supply to the smart card chip has been successfully stopped. Before calling this method, the 'beginRemoval' method must be called.

[Syntax]
-(void) endRemoval;

10-1-5 Read Data

Writes and reads data to the Smart Card chip.

[Syntax]
-(void) readData: (NSInteger) action data: (NSData**) data;

[Parameters]

Type	Name	Description
NSInteger	action	SC_READ_DATA (Fixed value)
NSData**	data	R/W buffer

10-1-6 Set SC Slot

Selects a card slot for communication.

[Syntax]
-(void) setSCSlot: (NSInteger) slot;

[Parameters]

Type	Name	Description
NSInteger	slot	Card Slot Value: 0x1000 – Smart Card; 0x0100 – SAM1; 0x0010 – SAM2

10-1-7 Set Iso Emv Mode

Selects ISO or EMV mode.

[Syntax]
-(void) setIsoEmvMode: (NSInteger) isoEmvMode;

[Parameters]

Type	Name	Description
NSInteger	isoEmvMode	Mode Value: 1 – ISO Mode; 2 – EMV Mode

11. UPOS CD Controller Reference

This is a Cash Drawer controller class.

Category	Description
UPOSCDController	Cash Drawer Open function
UPOSCDController(BXLDeprecated)	Unsupported API, Property

@property	Description
(readonly) BOOL DrawerOpened	Provides the status of Cash Drawer Open.



UPOSCDController.h

11-1 UPOS CD Controller

- Cash Drawer can be opened after Open-Claim-Enable the UPOS Printer Controller.
- Cash Drawer can be controller after Add Device-Open-Claim-Enable in the UPOS CD Controller.

11-1-1 Open Drawer

Opens the Cash Drawer.

[Syntax]
-(NSInteger) OpenDrawer;

[Returns]

Constant Value	Description
UPOS_SUCCESS	Operation is successful.
UPOS_E_CLOSED	Device to access is closed.
UPOS_E_NOTCLAIMED	Claim method should be called first.
UPOS_E_DISABLED	Not enabled.
UPOS_E_ILLEGAL	The requested operation failed.

12. UPOS Device Control Delegate Reference

This is a class that provides delegate occurred in the printer.



UPOSDeviceControlDelegate.h

12-1 Data Event

• Occurs when MSR / SCR data is read successfully.

Constant Value (when an event is triggered)	Description
(NSNumber*) 0	MSR card was read successfully. You can access the card data by using the MSRController's Property variable.
(NSNumber*) 11	SCR card was read successfully. You can access the card data by using the SCRController's ReadData API. (Note 5-3-1 SC_READ_DATA)

12-2 Output Complete Event

• Triggers the print complete event. In this case, it should be used in Async Mode.

Constant Value (when an event is triggered)
(NSNumber*) 0



In the case of SRP-S300T printer, this event occurs only when a paper cut action is included in the print-data.

12-3 Status Update Event

• The event is triggered whenever the printer changes its status.
(Note 5-2-8 UPOS_PRINTER_STATUS)

13. Samples for Test

13-1 Printer Search

```
#import "ViewController.h"
#import "UPOSPrinterController.h"

@interface ViewController () <UPOSDeviceControlDelegate> {
    UPOSPrinterController        *printerCon;
    UPOSPrinters                 *printerList;
}
@end

@implementation ViewController

- (void)viewDidLoad {
    [super viewDidLoad];

    [self initUPOS]; // init
    [self btLookup]; // Bluetooth device search
}

-(void) initUPOS {
    printerCon = [[UPOSPrinterController alloc]init];
    printerList = [[UPOSPrinters alloc]init];

    [printerCon setLogLevel: LOG_SHOW_NEVER ];
    printerCon.delegate = self;
    [printerCon setTextEncoding:NSASCIIStringEncoding];

    [[NSNotificationCenter defaultCenter] addObserver:self
                                                selector:@selector(didBTStart:)

name:__NOTIFICATION_NAME_BT_WILL_LOOKUP_ object:nil];
    [[NSNotificationCenter defaultCenter] addObserver:self

selector:@selector(didBTDeviceList:)

name:__NOTIFICATION_NAME_BT_FOUND_PRINTER_
                                                    object:nil];
    [[NSNotificationCenter defaultCenter] addObserver:self

selector:@selector(didBTComplete:)
```

```
name:__NOTIFICATION_NAME_BT_LOOKUP_COMPLETE_
                                                    object:nil];
}

-(void) btLookup {
    [printerCon refreshBTLookup];
}

//MARK: - lookup notification
- (void) didBTStart:(NSNotification*)notification {}
- (void) didBTComplete:(NSNotification*)notification {}
- (void) didBTDeviceList:(NSNotification*)notification {
    UPOSPrinter* lookupDevice = (UPOSPrinter*)[[notification userInfo]
objectForKey:__NOTIFICATION_NAME_BT_FOUND_PRINTER_];
    if( lookupDevice == nil)    return;
    [printerList addDevice:lookupDevice];
    [printerList save];
}

-(void)StatusUpdateEvent:(NSNumber*)Status {}
@end
```

13-2 Connect / Disconnect

It is continuous to example 13-1

```
-(void) connect {
	UPOSPrinter* target = (UPOSPrinter*)[printerList getList].lastObject;

	if([printerCon open:target.modelName] == UPOS_SUCCESS) {
		if([printerCon claim:5000] == UPOS_SUCCESS){
			[NSThread sleepForTimeInterval:0.1f];
			[printerCon setDeviceEnabled:YES];
		}
	}
}

-(void) disconnect {
	printerCon.DeviceEnabled = NO;
	if([printerCon releaseDevice] == UPOS_SUCCESS){
		[NSThread sleepForTimeInterval:0.01f];
		[printerCon close];
	}
}
```

13-3 Text print

It is continuous to example 13-1 and 13-2

```
-(void) printText {
      [printerCon printNormal:PTR_S_RECEIPT
                              data:[NSString stringWithFormat:@"test print\r\n"]];
}
```

13-4 Image print

It is continuous to example 13-1 and 13-2

```
-(void) printImage {
      UIImage* img = [UIImage imageNamed:@"Sample"];
      [printerCon printBitmap:PTR_S_RECEIPT
                        image:img
                        width:350
                    alignment:PTR_BM_CENTER
                   brightness:10050];
}
```

13-5 PDF file print

It is continuous to example 13-1 and 13-2

```
-(void) printPDF {
    NSString *path = [[NSBundle mainBundle] pathForResource:@"testPDF"
                                                     ofType:@"pdf"];

    [printerCon printPDF:PTR_S_RECEIPT
                fileName:path
                   width:printerCon.RecLineWidth
               alignment:PTR_BM_CENTER
                    page:2
              brightness:10050];
}
```

13-6 Page mode print

It is continuous to example 13-1 and 13-2

```
-(void) printPagemode {
      [printerCon setPageArea : 0
                                        startingY : 0
                                            width : 512
                                           height : 500];

      [printerCon setVerticalPosition:0];
      [printerCon setLeftPosition:0];
      [printerCon setPageModeDirection:TOP_TO_BOTTOM];
      [printerCon printNormal:PTR_S_RECEIPT data:@"0.0\r\n"];

      [printerCon printDataInPageMode];
}
```

Revision history

Ver.	Date	Description
3.00	23-10-2019	New
3.01	02-03-2020	Added API drawBoxInPageMode drawLineInPageMode
3.02	16-04-2020	Added API printBitmap
3.03	10-09-2020	1)API added or modified setCharacterSet, printBitmap, printPDF, beginInsertion, endInsertion, beginRemoval, endRemoval, readData, setSCSlot, setIsoEmvMode 2)Description modified OutputCompleteEvent, transactionPrint, printer status
3.04	30-10-2020	The table for supported models updated.
3.05	14-01-2021	1)The table for supported models updated. 2)Descriptions for network printer added. 3)Text encoding table updated. 4)Descriptions for APIs added 4)New API added
3.06	26-02-2021	1) The table for supported models updated. 2) The table supported code pages updated.
3.07	03-11-2021	The table for supported models updated.
3.08	22-03-2022	1) The table for supported models updated. 2) Supported OS version updated.
3.09	20-06-2022	The table for supported models updated.
3.10	22-08-2022	The table for supported models updated.
3.11	06-04-2023	1) The table for supported models updated. 2) setAlarm API added
3.12	26-09-2023	1) The table for supported models updated. 2) USB communication description added.
3.13	05-01-2024	Added API searchUsbPeripheralDevices, send UsbPeripheralData, setUsbPeripheralReadMode
3.14	21-08-2024	Added model SRP-S300II
3.15	26-12-2024	SRP-380II, SRP-382II model name updated to SRP-380plus, SRP-382plus respectively
3.16	17-07-2025	Added model SRP-B300II
3.17	11-02-2026	Added model SPP-R230