BIXOLON®

iOS SDK API Reference Guide

POS Printer

Rev. 2.00

SRP-F310 / SRP-F312
SRP-350plus / SRP-352plus
SRP-350plusII / SRP-352plusII
SRP-350II / SRP-350IIOBE
SRP-350III / SRP-352III
SRP-275 / SRP-275II

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■ Table of Contents

1. Manual Information

This SDK manual contains the descriptions of the Library required for the applications program development.

BIXOLON makes continuous improvements for better functions and quality of its products, and the specifications of the product and contents of the manual are subject to change without prior notice because of this reason.

1-1 Supported Platform & Development Environment

- Platform
  - iOS 4.3 or higher

- Development environment
  - XCode 3.2.6 or higher

1-2 Supported Platform & Supported Devices

Compatibilities of the following list of devices were verified.
Besides the devices in the list, it is compatible with iPod touch second generation or later version.

- iPhone 3GS / 4G / 5G
- iPad / iPad2 / iPad mini

1-3 Supported Properties List

Method/Property	POS Printer
Version	O
delegate	O
Target	O
lookupDuration	O
lookupCount	O
alignment	O
attribute	O
textSize	O
characterSet	O
internationalCharacterSet	O
State	O
Power	O
AutoConnection	O
drawerPin	O
drawerOpenLevel	O

1-4 Supported Properties List

Method/Property	POS Printer
getInstance	O
open	O
close	O
lookup	O
selectTarget	O
connect	O
disconnect	O
enableLSB	O
printText	O
printBox	O
lineFeed	O
nextPrintPos	O
printBarcode	O
printBitmap	O
checkPrinter	O
msrReadReady	X
msrReadCancel	X
msrReadTrack	X
msrGetTrack	X
msrReadFullTrack	X
directIO	O
icON	X
icOFF	X
icApdu	X
icGetStatus	X
nvImageList	O
downloadNVImage (Diffusion)	O
downloadNVImage (Normal)	O
printNVImage	O
removeNVImage	O
removeAllNVImages	O
openDrawer	O
isSupport_MSR	O
isSupport_IC	O
isSupport_Config	O
isSupport_CashDrawer	O
isSupport_LSB	O
getBarcodeSupportTable	O

2. Constant Definition

Constants used in the provided SDK are defined in the “BXCode.h” file.

2-1 Character Set

This defines the code page and the default value is set to BXL_CS_437.

Available Code Pages are as follows.

Code	Value	Description
BXL_CS_PC437	0	Code page PC437
BXL_CS_Katakana	1	Katakana
BXL_CS_PC850	2	Code page PC850
BXL_CS_PC860	3	Code page PC860
BXL_CS_PC863	4	Code page PC863
BXL_CS_PC865	5	Code page PC860
BXL_CS_WPC1252	16	Code page WPC1252
BXL_CS_PC866	17	Code page PC860
BXL_CS_PC852	18	Code page PC852
BXL_CS_PC858	19	Code page PC858
BXL_CS_PC864	22	Code page PC864
BXL_CS_THAI42	23	Code page THAI42
BXL_CS_WPC1253	24	Code page WPC1253
BXL_CS_WPC1254	25	Code page WPC1254
BXL_CS_WPC1257	26	Code page WPC1257
BXL_CS_FARSI	27	Code page FARSI
BXL_CS_WPC1251	28	Code page WPC1251
BXL_CS_PC737	29	Code page PC737
BXL_CS_PC775	30	Code page PC775
BXL_CS_THAI14	31	Code page THAI14
BXL_CS_PC862	33	Code page PC862
BXL_CS_PC855	36	Code page PC855
BXL_CS_PC857	37	Code page PC857
BXL_CS_PC928	38	Code page PC928
BXL_CS_THAI16	39	Code page THAI16
BXL_CS_WPC1256	40	Code page WPC1256
BXL_CS_USER	255	User set page

2-2 International Character Set

This defines the international character set and the default value is set to BXL_ICS_USA.

Available International Character Sets are as follows.

Code	Value	Description
BXL_ICS_USA	0	U.S.A.
BXL_ICS_FRANCE	1	France
BXL_ICS_GERMANY	2	Germany
BXL_ICS_UK	3	U.K.
BXL_ICS_DENMARK1	4	Denmark *I*
BXL_ICS_SWEDEN	5	Sweden
BXL_ICS_ITALY	6	Italy
BXL_ICS_SPAIN	7	Spain
BXL_ICS_NORWAY	9	Norway
BXL_ICS_DENMARK2	10	Denmark *II*

2-3 Barcode/Image/Text Alignment

This defines the bar code/image/text alignment and the value is set to BXL_ALIGNMENT _LEFT.

Available settings are as follows.

Code	Value	Description
BXL_ALIGNMENT_LEFT	0	Left align
BXL_ALIGNMENT_CENTER	1	Center align
BXL_ALIGNMENT_RIGHT	2	Right align

2-4 Text Size

This defines the settings for the text size, and horizontal and vertical ratio can be defined simultaneously with OR operation.

Available settings are as follows.

Code	Value	Description
BXL_TS_0WIDTH	0	Set the ratio of horizontal width to X1
BXL_TS_1WIDTH	16	Set the ratio of horizontal width to X2
BXL_TS_2WIDTH	32	Set the ratio of horizontal width to X3
BXL_TS_3WIDTH	48	Set the ratio of horizontal width to X4
BXL_TS_4WIDTH	64	Set the ratio of horizontal width to X5
BXL_TS_5WIDTH	80	Set the ratio of horizontal width to X6
BXL_TS_6WIDTH	96	Set the ratio of horizontal width to X7
BXL_TS_7WIDTH	112	Set the ratio of horizontal width to X8

Code	Value	Description
BXL_TS_0HEIGHT	0	Set the ratio of vertical height to X1
BXL_TS_1HEIGHT	16	Set the ratio of vertical height to X2
BXL_TS_2HEIGHT	32	Set the ratio of vertical height to X3
BXL_TS_3HEIGHT	48	Set the ratio of vertical height to X4
BXL_TS_4HEIGHT	64	Set the ratio of vertical height to X5
BXL_TS_5HEIGHT	80	Set the ratio of vertical height to X6
BXL_TS_6HEIGHT	96	Set the ratio of vertical height to X7
BXL_TS_7HEIGHT	112	Set the ratio of vertical height to X8

2-5 Text Attribute

This is a text property and each property can be combined with OR operation.

Available settings are as follows.

Code	Value	Description
BXL_FT_DEFAULT	0	Default setting NOT BOLD, FONTA, NOT UNDERLINE, NOT REVERSE
BXL_FT_FONTB	1	Use FONTB
BXL_FT_FONTC	16	Use FONTC
BXL_FT_BOLD	2	Use Bold font
BXL_FT_UNDERLINE	4	Set Underline property
BXL_FT_REVERSE	8	Set Reverse property
BXL_ExFT_CHINA_FONTB	32	

2-6 Bar Code Text Position

This is for setting the position where bar code data is printed.

Available settings are as follows.

Code	Value	Description
BXL_BC_TEXT_NONE	0	Do not print bar code data
BXL_BC_TEXT_ABOVE	1	Print bar code data above bar code
BXL_BC_TEXT_BELOW	2	Print bar code data below bar code

2-7 Bar Code Symbology

This defines the bar code type.

Available settings are as follows.

Code	Value	Number of data	Range of data
BXL_BCS_UPCA	101	11 <= n <= 12	48 <= data <= 57
BXL_BCS_UPCE	102	11 <= n <= 12	48 <= data <= 57
BXL_BCS_EAN13	103	12 <= n <= 13	48 <= data <= 47
BXL_BCS_JAN13	104	7 <= n <= 8	48 <= data <= 57 64 <= data <= 90 data = 32,36,37,43,45,46,47
BXL_BCS_EAN8	105	7 <= n <= 8	48 <= data <= 57
BXL_BCS_JAN8	106	7 <= n <= 8	48 <= data <= 57
BXL_BCS_Code39	107	1 <= n <= 255	48 <= data <= 57 65 <= data <= 68 data = 32,36,37,43,45,46,47
BXL_BCS_ITF	108	1 <= n <= 255 (Even)	48 <= data <= 57
BXL_BCS_Codabar	109	1 <= n <= 255	48 <= data <= 57 65 <= data <= 68 data = 36,43,45,46,47,58
BXL_BCS_Code93	110	1 <= n <= 255	0 <= data <= 127
BXL_BCS_Code128	111	2 <= n <= 255	0 <= data <= 127
BXL_BCS_PDF417	200	2 <= n <= 928	0 <= data <= 255
BXL_BCS_QRCODE	202~203	2 <= n <= 928	0 <= data <= 255
BXL_BCS_DATAMATRIX	204	2 <= n <= 928	0 <= data <= 255
BXL_BCS_MAXICODE	205~6	2 <= n <= 928	0 <= data <= 255

2-8 Image Width

Set the width of image and valid range is 0~ max width.
Image is resized for the conditions according to the given conditions when the following values are set.

Available settings are as follows.

Code	Value	Description
BXL_WIDTH_FULL	-1	Value is set to max width and the image is resized to the full paper size
BXL_WIDTH_NONE	-2	Image is not resized

2-9 Power

This indicates the remaining battery capacity of the printer. It is read only and a change of battery status is automatically shown.

Support Device : Only Mobile printer, POS Printer is not support.

The remaining battery capacity status values are as follows.

Code	Value	Description
BXL_PWR_HIGH	0	Remaining battery capacity is 95%
BXL_PWR_MIDDLE	1	Remaining battery capacity is 85%
BXL_PWR_LOW	2	Remaining battery capacity is 50%
BXL_PWR_SMALL	3	Remaining battery capacity is 25%
BXL_PWR_NOT	4	Remaining battery capacity is less than 25%

2-10 State

This indicates the status of the printer. It is read only and the status of the printer is automatically shown when printer status is checked by calling the CheckPrinter function. Status values can be combined and each setting can be checked through bit operation.

Printer status settings are as follows.

Code	Value	Description
BXL_STS_NORMAL	0	Normal
BXL_STS_PAPEREMPTY	1	No paper
BXL_STS_CONVEROPEN	2	Printer cover open
BXL_STS_POWEROVER	4	Not enough remaining battery of printer
BXL_STS_MSR_READY	8	No printing MSR read only mode
BXL_STS_PRINTING	16	Printer is printing or receiving data
BXL_STS_ERROR	32	Error in communication with printer
BXL_STS_NOT_OPEN	64	Open method of BXPrinterControl was not called
BXL_STS_ERROR_OCCUR	128	Printer internal error
BXL_STS_NOT_CONNECTED	-1	Currently printer is not connected

2-11 Connection Control

This defines the type of printer connection.

Available settings are as follows.

Code	Value	Description
BXL_CONNECTIONMODE_AUTO	0	Automatic connect mode
BXL_CONNECTIONMODE_NOAUTO	100	Not automatic connect mode

2-12 Drawer kick-out connector pin

This defines the number of drawer kick-out connector pin.

Available settings are as follows.

Code	Value	Description
BXL_CASHDRAWER_PIN_2	0	Drawer kick-out connector pin 2
BXL_CASHDRAWER_PIN_5	1	Drawer kick-out connector pin 5

2-13 Drawer open level

This defines the type of cash drawer

Available settings are as follows.

Code	Value	Description
BXL_CASHDRAWER_OPENLEVEL_LOW	0	If Cash drawer is open, Drawer kick-out connector pin 3 is LOW
BXL_CASHDRAWER_OPENLEVEL_HIGH	1	If Cash drawer is open, Drawer kick-out connector pin 3 is HIGH

2-14 Model ID

This defines the type of printer.

Available settings are as follows.

Code	Value	Description
BXL_MODEL_ID_SPPR200II	0x12000002	SPP-R200II
BXL_MODEL_ID_SRPR300	0x13000000	SPP-R300
BXL_MODEL_ID_SPPR400	0x14000000	SPP-R400
BXL_MODEL_ID_SRP350II	0x23500002	SRP-350II
BXL_MODEL_ID_SRP350plus	0x23507000	SRP-350plus
BXL_MODEL_ID_SRP352plus	0x23527000	SRP-352plus
BXL_MODEL_ID_SRP350plusII	0x23507002	SRP-350plusII
BXL_MODEL_ID_SRP352plusII	0x23527002	SRP-352plusII
BXL_MODEL_ID_SRP350III	0x23500003	SRP-350III
BXL_MODEL_ID_SRP352III	0x23520003	SRP-352III
BXL_MODEL_ID_SRP275	0x32750000	SRP-275, SRP-275II
BXL_MODEL_ID_SRPF310	0x93100000	SRP-F310
BXL_MODEL_ID_SRPF312	0x93120000	SRP-F312

2-15 Connection Class

When the method named 'didFindPrinter' is called,
This value is updated to connectionClass in BXPrinter class

Refer to 6-2-3 didFindPrinter

Code	Value	Description
BXL_CONNECTIONCLASS_WIFI	0x0000	WIFI Connection
BXL_CONNECTIONCLASS_ETHERNET	0x0001	Ethernet Connection

2-16 Result Code

Code DEFINE	Value	Description
BXL_SUCCESS	0	Success
BXL_NOT_CONNECTED	-1	Printer is not connected
BXL_NOT_OPENED	101	SDK is not open
BXL_STATUS_ERROR	103	Error in status check
BXL_CONNECT_ERROR	105	Connection failure
BXL_NOT_SUPPORT	107	Not supported
BXL_BAD_ARGUMENT	108	Wrong function arguments
BXL_BUFFER_ERROR	109	Error in MSR buffer
BXL_NOT_CONNECTED	110	Printer is not connected
BXL_RGBA_ERROR	111	Error while converting image file to RGBA data
BXL_MEMORY_ERROR	112	Memory allocation failure
BXL_TOO_LARGE_IMAGE	113	Size of image file is too big while downloading image to NV area
BXL_NOT_SUPPORT_DEVICE	114	The printer device does not support
BXL_READ_ERROR	301	Failure in data reception
BXL_WRITE_ERROR	300	Failure in data transmission
BXL_BITMAPLOAD_ERROR	400	Fail to read image file
BXL_BC_DATA_ERROR	500	Error in bar code data
BXL_BC_NOT_SUPPORT	501	Unsupported bar code type
BXLMSR_NOTREADY	602	Not MSR READY state
BXLMSR_FAILEDMODE	601	Not automatic read mode
BXLMSR_DATAEMPTY	603	No data read from MSR
	1001H	Unknown command
	1002H	Command cannot be executed
	1003H	Incorrect number of arguments
	1004H	First byte of unknown command of invalid command
	1005H	Response time out
	1010H	Response error due to card reset, or first byte of response is not valid
	1012H	Message limit is exceeded. Maximum is 254 bytes, and card data is 248 bytes
	1013H	Error in reading bytes from asynchronous routine
	1015H	Card mode is terminated Card mode command needs to be transmitted
	101BH	Transmission of command with incorrect arguments
	101DH	Incorrect TCK check byte
	10A0H	Error in card reset response (unknown protocol or TA1 byte recognition error), unsupported card, no card response value for card reset
	10A1H	Card protocol error (T=0/T=1)
	10A2H	Time out due to no card response
	10A3H	Parity error
	10A4H	Card has aborted chaining (T=1)
	10A5H	Reader has aborted chaining (T=2)

Code DEFINE	Value	Description
	10A6H	Successful execution of IC module and RESYNCH
	10A7H	PPS error
	10A8H	IC module has already been set to IC CARD mode
	10B0H	PC link command is not supported
	10E4H	The card has just sent an invalid “Procedure byte”
	10E5H	The card has interrupted an exchange
	10E7H	Card returns an error
	10F7H	Card is removed while executing a command
	10F8H	Card is not useable because it is electrically damaged
	10FBH	Card recognition failure or car entry failure

3. BXBarcode Class Reference

Inherits from	NSObject
Confirms to	
Framework	BXPrinter.a
[Availability]	iOS 4.3 and later
Declared	BXBarcodeInfo.h

3-1 Overview

BXBarcode class is an object that contains information about which barcode types are supported for each printer to control.

3-2 Properties

3-2-1 barNumber

Barcode Define Number

@property int barNumber

[Discussion]
Printer name is saved automatically by collecting information from the connected printer.

[Availability]
SDK 3.0.3 and later

3-2-2 name

Barcode Name

@property(readwrite) NSString * address

[Discussion]
Printer name is saved automatically by collecting information from the connected printer.

[Availability]
SDK 3.0.3 and later

3-2-3 support

The availability of the barcode.

@property BOOL support

[Discussion]
Printer name is saved automatically by collecting information from the connected printer.

[Availability]
SDK 3.0.3 and later

4. BXPrinter Class Reference

Inherits from	NSObject
Confirms to	
Framework	BXPrinter.a
[Availability]	iOS 4.3 and later
Declared	BXPrinterObject.h

4-1 Overview

BXPrinter Class contains the information of control target printer (name / network address / port).

4-2 Properties

4-2-1 name

Printer name

@property(readonly) NSString * name

[Discussion]
Printer name is saved automatically by collecting information from the connected printer.

[Availability]
SDK 0.6.0 and later

4-2-2 address

Network address of printer

@property(readwrite) NSString * address

[Discussion]
Network address of the printer should be assigned first before connection.

[Availability]
SDK 0.6.0 and later

4-2-3 port

Network port of printer

@property(readwrite) unsigned short port

[Discussion]
Network port of the printer should be assigned first before connection.

[Availability]
SDK 0.6.0 and later

4-2-4 modelStr

Model name of printer

Name is provided by the firmware, and it is _SRP-350II in case of SRP-350II printer.

@property(readwrite) NSString * modelStr

[Discussion]
This value is updated by the checkPrinter method of BXPrinterController.

[Availability]
SDK 0.8.0 and later

4-2-5 versionStr

Firmware version of printer

Version name is provided by firmware, and it is in the form of _V01.00 STOB 040711.

@property(readwrite) NSString * versionStr

[Discussion]
This value is updated by the checkPrinter method of BXPrinterController.

[Availability]
SDK 0.8.0 and later

4-2-6 connectionClass

Printer interface type.

This value represents the way that the printer is connected.
Refer 2-15 Connection Class.

@property(readwrite) unsigned short * connectionClass

[Availability]
SDK 3.0.3 and later

5. BXPrinterController Class Reference

Inherits from	NSObject
Confirms to	
Framework	BXPrinter.a
[Availability]	iOS 4.3 and later
Declared	BXPrinter.h

5-1 Overview

BXPrinterController Class is the main object for printer control.

5-2 Properties

5-2-1 version

SDK version

@property(readonly) NSString * version

[Discussion]
It is a string in the form of “1.0.0” and it is read only.

[Availability]
SDK 0.6.0 and later

5-2-2 delegate

Assign the object to apply BXPrinterControlDelegate method

@property(readwrite) id<BXPrinterControlDelegate> delegate

[Availability]
SDK 0.6.0 and later

5-2-3 target

Control target printer object

@property(readwrite) BXPrinter * target

[Discussion]
It is a control target printer object and should be assigned before starting printer control.

[Availability]
SDK 0.6.0 and later

5-2-4 lookupDuration

Printer lookup time (unit: second)

@property(readwrite) CGFloat lookupDuration

[Discussion]
It could be a fractional number such as 0.5.

[Availability]
SDK 0.6.0 and later

5-2-5 lookupCount

Number of repeat on signal transmission for printer search

@property(readwrite) unsigned lookupCount

[Discussion]
Default value is set to 1. When it is set to a number bigger than 1, the printer search signal transmission is repeated by this number at intervals of 0.2 seconds.

[Availability]
SDK 0.6.0 and later

5-2-6 alignment

Horizontal alignment setting

@property(readwrite) int alignment

[Discussion]
Default value is set to left alignment, and this setting affects all output printing including text and bar code.

[Availability]
SDK 0.8.0 and later

5-2-7 attribute

Text printing property

@property(readwrite) int attribute

[Discussion]
Refer to 2-5 Text Attribute

[Availability]
SDK 0.8.0 and later

5-2-8 textSize
Size of the printed text

@property(readwrite) int textSize

[Discussion]
Refer to 2-4 Text Size

[Availability]
SDK 0.6.0 and later

5-2-9 characterSet
Defines the code page of printer

@property(readwrite) CGFloat lookupDuration

[Discussion]
Refer to 2-1 Character Set
Default value is set to BXL_CS_437.

[Availability]
SDK 0.6.0 and later

5-2-10 internationalCharacterSet
@property(readwrite) char internationalCharacterSet

[Discussion]
Refer to 2-2 International Character Set. Default value is set to BXL_CS_437.

[Availability]
SDK 0.6.0 and later

5-2-11 textEncoding
Type of the text Encoding.

@property(readwrite) long textEncoding

[Discussion]
Refer to NSStringEncoding in NSString.h

[Availability]
SDK 3.0.2 and later

5-2-12 state

Printer state code

This value is updated when checkPrinter method of BXPrinterController is called.

@property(readonly) long state

[Discussion]

Refer to 2-10 State

[Availability]

SDK 0.6.0 and later

5-2-13 power

@property(readonly) long state

[Discussion]

Refer to 2-9 Power

[Availability]

SDK 0.6.0 and later

5-2-14 AutoConnection

@property(assign) int AutoConnection

[Discussion]

Refer to 2-11 Connection Control

[Availability]

SDK 2.0.2 and later

<Note>

- ※ Printer connection is controlled automatically without using connect/disconnect function in the automatic connection mode.
- ※ Consecutive use of printText function may slow down the printing speed because most functions have a connect/disconnect job at the beginning and end of it. Use the manual connection mode to address this issue.

5-2-15 drawerPin

@property(assign) int drawerPin

[Discussion]

Refer to 2-12 Drawer kick-out connector pin.

[Availability]

SDK 3.0.1 and later

5-2-16 drawerOpenLevel

@property(assign) int drawerOpenLevel

[Discussion]

Refer to 2-13 Drawer open level

[Availability]

SDK 3.0.1 and later

5-3 Instance Methods

5-3-1 getInstance

Method to obtain the BXPrinterController class instance

[Function prototype]

- (BXPrinterController)getInstance

[Return Value]

BXPrinterController class is created and returned automatically when this method is called first time, and the existing BXPrinterController class is returned from the next time.

[Discussion]

Since BXPrinterController class uses only one instance in one process, user should obtain and use it using this method instead of creating it.

[Availability]

SDK 0.8.0 and later

5-3-2 open

Initialization task for using BXPrinterController class (memory allocation and background thread operation)

[Function prototype]

- (void)open

[Discussion]

- It should be called before calling main delegate of applications like (void)applicationDidBecomeActive:(UIApplication *) application.

[Availability]

SDK 0.6.0 and later

5-3-3 close

Resources are de-allocated for stopping or terminating the use of BXPrinterController class.

[Discussion]

- It should be called before calling main delegate of applications like (void)applicationWillResignActive:(UIApplication *) application.
  When close method is not called and applications using BXPrinterController are running in the background, simultaneous use of BXPrinterController by other applications could be restricted.

[Availability]

SDK 0.6.0 and later

5-3-4 lookup

Printers in the same WiFi network where iPhone is connected are searched.

[Function prototype]

- (void)lookup

[Discussion]

Stat/End of search and searched printers can be obtained through BXPrinter ControlDelegate.
Each iPhone has two network adaptors including 3G and WiFi networks, and the lookup method searches WiFi only.
No operation takes place when there is no connected WiFi.

[Availability]

SDK 0.6.0 and later

5-3-5 selectTarget

Initialization task for object of specified target.

[Function prototype]

- (long)selectTarget
- (long)selectTarget : (int) modelID

[Parameters]

modelID

- Select to type of printer.
- If you were not input, This is allocated automatically.
  Refer to 2-14 Model ID.

[Return Value]

Refer to 2-16 Result Code

[Discussion]

Target of BXPrininterController property should be set in advance.

[Availability]

SDK 2.0.2 and later

5-3-6 connect

Connect to target printer.

[Function prototype]

- (BOOL)connect

[Discussion]

This method not works
when AutoConnection is setting in BXL_CONNECTIONMODE_AUTO(default, == 0)

Target of BXPrininterController property should be set in advance.

[Availability]

SDK 2.0.2 and later

5-3-7 disconnect

Disconnect to connected printer.

[Function prototype]

- (void)disconnect

[Discussion]

This method not works
when AutoConnection is setting in BXL_CONNECTIONMODE_AUTO(default, == 0).

[Availability]

SDK 2.0.2 and later

5-3-8 enableLSB

Enable to Last status back.

[Function prototype]

- (long)enableLSB:(BOOL)bEnable

[Parameters]

bEnable

LSB Enable.
FALSE : LSB Disable
TRUE : LSB Enable

[Return Value]

Refer to 2-16 Result Code

[Availability]

SDK 3.0.0 and later

5-3-9 printText

Print text.
No operation takes place when there is no connected printer.

[Function prototype]
- (long)printText:(NSString *)string

[Parameters]
string
Unicode data with null terminator. Print target text string

[Return Value]
Refer to 2-16 Result Code
[Discussion]
Tex alignment property should be set in advance.

[Availability]
SDK 0.6.0 and later

5-3-10 printBox

Print box shape text.
No action takes place if no printer is connected.

[Function prototype]
(long)printText:(int)width height: (int)height;

[Parameters]
int
Specify the width of the box.
1 == width equivalent to that of one character
int
Specify the length of the box.
1 == length equivalent to that of one character

[Return Value]
Refer to 2-16 Result Code

[Discussion]
Alignment and properties of the text should be defined in advance.

[Availability]
SDK 3.0.3 and later

5-3-11 lineFeed

Perform line feed

[Function prototype]

- (void)linefeed:(int)lines

[Parameters]

lines

Number of lines to advance

[Return Value]

Refer to 2-16 Result Code

[Availability]

SDK 0.6.0 and later

5-3-12 nextPrintPos

Feed the paper to the beginning of the next label paper.

[Function prototype]

- (long)nextPrintPos

[Return Value]

Refer to 2-16 Result Code

[Discussion]

This method works only when in label mode.

[Availability]

SDK 0.6.0 and later

5-3-13 printBarcode

Print one-dimensional and two-dimensional bar code.

[Function prototype]

- (long)printBarcode:(char *)data
symbology:(long)symbology
width:(long)width
height:(long)height
alignment:(long)alignment
textPosition:(long)textPosition

[Parameters]

data

ANSI code data with null terminator. Transfer bar code data to print

symbology

Define bar code type.

height

Height of bar code, unit is number of dot, range is 1~255
This setting does not affect 2-dimensional bar code.

width

Width of barcode, valid range is 2~7
Barcode printing may not work properly if the width of barcode print exceeds the printer paper width.
This setting does not affect 2-dimensional bar code.

alignment

Barcode alignment setting
Refer to 2-3 Barcode/Text Alignment

textPosition

Barcode text position setting
Refer to 2-6 Barcode Text Position

[Return Value]

Refer to 2-16 Result Code

[Availability]

SDK 0.6.0 and later

5-3-14 printBitmap

Print image file

[Function prototype]

- (long)printBitmap:(NSString *)path
width:(long)width
alignment:(long)alignment
level:(long)level

[Parameters]

path

Path of image file

width

Width of image file to convert, valid setting range is 0 ~ max width
Image is resized with the given condition when the value is less than 0
Refer to 2-8 Image Width

alignment

Image alignment setting
Refer to 2-3 Image Alignment

level

Color level and diffusion processing option of image

Value	Description
0 ~ 100	Color level value
If fourth digit is 1	Enable diffusion processing
If fifth digit is 1	Image print using ESC * command

<Note> What is Error Diffusion?
It is a method to present the color image or black and white image with less number of bits/pixel, which may produce few visible patterns such as a snake-like pattern for a certain type of image but in general the capability of sharp representation is excellent.
Disadvantage is long processing type and this is because errors are measured and amount of computing required for distribution the errors to neighbor pixels.

It is recommended to use the diffusion algorithm with this SDK.

[Return Value]

Refer to 2-16 Result Code

[Availability]

SDK 0.6.0 and later

5-3-15 checkPrinter

Check the printer states and update the printer state property

[Function prototype]

- (long)checkPrinter

[Return Value]

Refer to 2-16 Result Code

[Availability]

SDK 0.6.0 and later

5-3-16 msrReadReady

Switch the printer to MSR Ready state. Printing is not allowed in Ready state.
Support Device : Only Mobile printer, POS Printer is not support.

[Function prototype]
- (long)msrReadReady

[Return Value]
Refer to 2-16 Result Code

[Availability]
SDK 0.6.0 and later

5-3-17 msrReadCancel

Release the MSR Ready state of printer
Support Device : Only Mobile printer, POS Printer is not support.

[Function prototype]
- (long)msrReadCancel

[Return Value]
Refer to 2-16 Result Code

[Availability]
SDK 0.6.0 and later

5-3-18 msrReadTrack

Read MSR data. It is MSR read mode. If BXLMSR_DATAEMPTY is returned, card is not read in MSR. Scan the card with MSR again or use the msrReadCancel method to cancel the read mode.
Support Device : Only Mobile printer, POS Printer is not support.

[Function prototype]
- (long)msrReadTrack:(NSData **)data1
data2:(NSData **)data2
data3:(NSData **)data3

[Parameters]
data1
Read MSR Data Track 1 and save it.
data2
Read MSR Data Track 2 and save it.
data3
Read MSR Data Track 3 and save it.

[Return Value]
Refer to 2-16 Result Code

[Discussion]
All of data1, data2, data3 carry unallocated NSData *data, and NSData object is allocated inside the method.
The allocated data1, data2, data3 are auto release ones and users do not have to release them explicitly.

[Availability]
SDK 0.6.0 and later

5-3-19 msrGetTrack

Read MSR data. It is MSR read mode. If BXLMSR_DATAEMPTY is returned, card is not read in MSR.
Scan the card with MSR again or use the msrReadCancel method to cancel the read mode.
Support Device : Only Mobile printer, POS Printer is not support.

[Function prototype]
- (long)msrGetTrack:(int)track
response:(NSData **)response

[Parameters]
track
MSR Data Track number 1 ~ 3
response
MSR Data Track value

[Return Value]
Refer to 2-16 Result Code

[Discussion]
Response carries unallocated NSData *data, and NSData object is allocated inside the method. The response is auto release one and users do not have to release it explicitly.

[Availability]
SDK 0.9.0 and later

5-3-20 msrReadFullTrack

Read entire MSR data. It is MSR read mode. If BXLMSR_DATAEMPTY is returned, card is not read in MSR. Scan the card with MSR again or use the msrReadCancel method to cancel the read mode.
Support Device : Only Mobile printer, POS Printer is not support.

[Function prototype]
- (long)msrReadFullTrack:(NSData **)response

[Parameters]
response
MSR Data Track value

[Return Value]
Refer to 2-16 Result Code

[Discussion]
Response carries unallocated NSData *data, and NSData object is allocated inside the method. The response is auto release one and users do not have to release it explicitly.

[Availability]
SDK 0.9.0 and later

5-3-21 directIO

Send or read user defined data.

[Function prototype]

- (long)directIO:(NSData *)request
response:(NSData **)response

[Parameters]

request

Data to be sent to printer, ANSI CODE data

response

response sent from printer is returned

[Return Value]

Refer to 2-16 Result Code

[Availability]

SDK 0.6.0 and later

5-3-22 icON

Apply power to smart card reader of printer
Support Device : Only Mobile printer, POS Printer is not support.

[Function prototype]

- (long)icON:(NSData **)response

[Parameters]

response

ATR (Answer to Reset) value is returned.

[Return Value]

Refer to 2-16 Result Code

[Discussion]

Response is saved as auto release type inside the method, and users do not have to release it explicitly.

[Availability]

SDK 0.6.0 and later

5-3-23 icOFF

Turn off the power of the smart card reader of printer
Support Device : Only Mobile printer, POS Printer is not support.

[Function prototype]

- (long)icOFF

[Return Value]

Refer to 2-16 Result Code

[Availability]

SDK 0.6.0 and later

5-3-24 icApdu

Send APDU command and get response. It works only when the power is applied to the printer smart card.
Support Device : Only Mobile printer, POS Printer is not support.

[Function prototype]
- (long)icApdu:(NSData **)request
response:(NSData **)response

[Parameters]
request
APDU command data to send to printer, ANSI CODE data
response
APDU response sent from printer is returned

[Return Value]
Refer to 2-16 Result Code

[Availability]
SDK 0.6.0 and later

5-3-25 icGetStatus

Read the status of card inserted into the smart card reader of printer
Support Device : Only Mobile printer, POS Printer is not support.

[Function prototype]
- (long)icGetStatus:(NSData **)response

[Parameters]
response
Card status value is returned

[Return Value]
Refer to 2-16 Result Code

[Availability]
SDK 0.6.0 and later

5-3-26 nvImageList

Read the list of image addresses saved in NV area.

[Function prototype]

- (long)nvImageList:(NSArray **)images

[Parameters]

images

Address list is provided. Each address is saved in the form of NSNumber *. The images are provided in the form of autorelease, and developers do not have to release it explicitly.

[Return Value]

Refer to 2-16 Result Code

[Discussion]

<Example >

```
NSArray        *images;

[[BXPrinterController getInstance()] nvImageList:&images];
for( NSNumber *n in images)
{
        NSLog(@"%d", [NSNumber intValue]);
}
```

[Availability]

SDK 1.0.0 and later

5-3-27 downloadNVImage (Diffusion)

Download the image data corresponding to the address saved in the NV area.

[Function prototype]

- (long)downloadNVImage:(int)address
withImage:(UIImage *)image
width:(long)width
level:(long)level

[Parameters]

address

Image address in the range of 0 ~ 99. If there is an image saved for the corresponding address, the existing image is replaced by the new image.

images

Download target image object

width

Width of the image to print
When the setting is BXL_WIDTH_FULL, the image is printed with the maximum width that can be printed by the printer.

Image is enlarged when the width of the image is smaller than the setting, and reduced when it is bigger than the setting.

level

Color level and diffusion processing option of image

Value	Description
0 ~ 100	Color level value
If fourth digit is 1	Enable diffusion processing
If fifth digit is 1	Image print using ESC * command

<Note> What is Error Diffusion?
It is a method to present the color image or black and white image with less number of bits/pixel, which may produce few visible patterns such as a snake-like pattern for a certain type of image but in general the capability of sharp representation is excellent.
Disadvantage is long processing type and this is because errors are measured and amount of computing required for distribution the errors to neighbor pixels.

It is recommended to use the diffusion algorithm with this SDK.

[Return Value]

Refer to 2-16 Result Code

[Discussion]

When the width of the image is wider than the width of printer, the image is resized automatically.

[Availability]

SDK 1.0.0 and later

5-3-28 downloadNVImage (Normal)

Download the image data to the designated address in NV area.

[Function prototype]

- (long)downloadNVImage:(int)address
  withImage:(UIImage *)image

[Parameters]

address

Image address in the range of 0 ~ 99. If there is an image saved for the corresponding address, the existing image is replaced by a new image.

images

Download target image object

[Return Value]

Refer to 2-16 Result Code

[Discussion]

When the width of the image is wider than the width of printer, the image is resized automatically.

The width value is set to BXL_WIDTH_FULL and the image data processed with 1050 of level, 50% of brightness and error diffusion algorithm enable settings is downloaded.

[Availability]

SDK 1.0.0 and later

5-3-29 printNVImage

Print the image data to the designated address in NV area다.

[Function prototype]

- (long)printNVImage:(int)address

[Parameters]

address

Image address in the range of 0 ~ 9

[Return Value]

Refer to 2-16 Result Code

[Discussion]

Image is not printed if image does not exist in the corresponding address.

[Availability]

SDK 1.0.0 and later

5-3-30 removeNVImage

Delete image data from the designated address in NV area.

[Function prototype]
- (long)removeNVImage:(int)address

[Parameters]
address
Image address in the range of 0 ~ 99

[Return Value]
Refer to 2-16 Result Code

[Discussion]
No action takes place if image does not exist in the corresponding address

[Availability]
SDK 1.0.0 and later

5-3-31 removeAllNVImages

Delete all image data from the designated address in NV area.

[Function prototype]
- (long)removeAllNVImages

[Return Value]
Refer to 2-16 Result Code

[Availability]
SDK 1.0.0 and later

5-3-32 openDrawer

Open to the Cash Drawer.

[Function prototype]
- (long)openDrawer

[Return Value]
Refer to 2-16 Result Code

[Availability]
SDK 3.0.0 and later

5-3-33 isSupport_MSR
Check whether a specific feature of the MSR is supported.

[Function prototype]
- (BOOL)isSupport_MSR

[Return Value]
If the feature of the MSR is supported, return TRUE.

[Availability]
SDK 3.0.0 and later

5-3-34 isSupport_IC
Check whether a specific feature of the IC is supported.

[Function prototype]
- (BOOL)isSupport_IC

[Return Value]
If the feature of the IC is supported, return TRUE.

[Availability]
SDK 3.0.0 and later

5-3-35 isSupport_Config
Check whether a specific feature of the Config is supported.

[Function prototype]
- (BOOL)isSupport_Config

[Return Value]
If the feature of the config is supported, return TRUE.

[Availability]
SDK 3.0.0 and later

5-3-36 isSupport_CashDrawer
Check whether a specific feature of the CashDrawer is supported.

[Function prototype]
- (BOOL)isSupport_CashDrawer

[Return Value]
If the feature of the CashDrawer is supported, return TRUE.

[Availability]
SDK 3.0.0 and later

5-3-37 isSupport_LSB

Check whether a specific feature of the LSB is supported.

[Function prototype]

- (BOOL)isSupport_MSR

[Return Value]

If the feature of the LSB is supported, return TRUE.

[Availability]

SDK 3.0.0 and later

5-3-38 getBarcodeSupportTable

Check that the barcode print function is supported.

[Function prototype]

- (NSMutableArray*)getBarcodeSupportTable

[Return Value]

NSMutableArray that contains BXBarcode is returned.

[Availability]

SDK 3.0.3 and later

6. BXPrinterControllerDelegate Protocol Reference

Inherits from	NSObject
Confirms to	
Framework	BXPrinter.a
[Availability]	iOS 4.3 and later
Declared	BXPrinteControlDelegater.h

6-1 Overview

This receives events occurring in the BXPrinterController class.

6-2 Instance Methods

6-2-1 didStart

It is called when class starts to be used using open method of BXPrinterController.

It is called after printer connection is completed.

[Function prototype]
- (void) didStart

[Parameters]
controller
BXPrinterController object that generates events

[Discussion]
It can be used to indicate the beginning of the use of printer class to users.

[Availability]
SDK 0.6.0 and later

6-2-2 didStop

It is called when class use is stopped using open method of BXPrinterController.

[Function prototype]
- (void) didStop

[Parameters]
controller
BXPrinterController object that generates events

[Discussion]
It can be used to indicate the termination of the use of printer class.

[Availability]
SDK 0.6.0 and later

6-2-3 didFindPrinter

This method is called for each individual printer when a printer is discovered from the same network.

[Function prototype]

- (void)didFindPrinter:(BXPrinterController *)controller
printer:(BXPrinter *)printer

[Parameters]

controller

BXPrinterController object that generates events

printer

Information of discovered printer

[Discussion]

If same printer responds multiple time during the printer lookup process, this method is called only once the first time.

[Availability]

SDK 0.6.0 and late

6-2-4 didConnect

This method is called when connection to printer finished.

[Function prototype]

- (void)didConnect:(BXPrinterController *)controller

[Discussion]

If you need to have more information about target printers, please refer to target properties in BXLPrinterController.

[Availability]

SDK 2.0.2 and later

6-2-5 didNotConnect

This method is called when connection to printer cannot be made.

[Function prototype]

- (void)didNotConnect:(BXPrinterController *)controller
withError:(NSError *)error

[Parameters]

controller

BXPrinterController object that generates events

error

Information of cause of failure

[Discussion]

This can be used when there is error during printer connection stage.

[Availability]

SDK 0.6.0 and later

6-2-6 willLookupPrinters

This method is called before starting printer search.

[Function prototype]

- (void)willLookupPrinters:(BXPrinterController *)controller

[Parameters]

controller

BXPrinterController object that generates events

[Discussion]

This can be used to indicate the start of printer search.

[Availability]

SDK 0.6.0 and later

6-2-7 didLookupPrinters

This method is called when printer search is completed.

[Function prototype]

- (void)didLookupPrinters:(BXPrinterController *)controller

[Parameters]

controller

BXPrinterController object that generates events

[Discussion]

It can be used to indicate the search status to users.

[Availability]

SDK 0.6.0 and later

6-2-8 didNotLookup

This method is called when printer search cannot be performed.

[Function prototype]

- (void)didNotLookup:(BXPrinterController *)controller
withError:(NSError *)error

[Parameters]

controller

BXPrinterController object that generates events

error

Information of cause of failure

[Discussion]

Lookup fails when printer is connected to WiFi.

[Availability]

SDK 0.6.0 and later

6-2-9 didBeBrokenConnection

This method is called when the connection to printer is broken.

[Function prototype]

- (void)didBeBrokenConnection:(BXPrinterController *)controller
withError:(NSError *)error

[Parameters]

controller

BXPrinterController object that generates events

error

Information of cause of failure

[Discussion]

This is not called when user breaks the connection by calling the close method of BXPrinterController explicitly. This method is called only when the connection is interrupted by external problem other than user intervention.
Refer to the target property of BXPrinterController for the information of target printer.

[Availability]

SDK 0.6.0 and later

6-2-10 msrArrived

This method is called when MSR data arrives correctly in MSR Read mode.

[Function prototype]

- (void)msrArrived:(BXPrinterController *)controller
track:(NSNumber *)track

[Parameters]

controller

BXPrinterController object that generates events

track

Track number 1 ~ 3 for MSR data

[Discussion]

After this method is called, the MSR data of the corresponding track can be obtained through the getTrack: method of BXPrinterController.

[Availability]

SDK 0.6.0 and later

6-2-11 didUpdateStatus

This method is called when printer status variable has changed.

[Function prototype]

- (void)didUpdateStatus:(BXPrinterController *)controller
Status(NSNumber*) status

[Parameters]

controller

BXPrinterController object that generates events

status

printer status.

[Availability]

SDK 3.0.0 and later