Brother Print SDK for iPhone/iPad Manual

Revision History

History	Date	SDK version	Details
1	10/01/2015	3.0.0	・ New release of proof draft for MW-260MFi/MW-145Mfi
2	10/21/2015	3.0.1	・Bug fixes
3	10/29/2015	3.0.2	・Bug fixes ・Dropped: -(BOOL) setCustomPaperFile: (NSString*) strFilePath
4	11/17/2015	3.0.3	・Changed "skipStatusCheck" to "bBidirection".
5	02/17/2016	3.0.3	・Added PJ-763MFi/PJ-773. ・Changed "nAutoCutFlag" in BRPtouchPrintInfo class.
6	04/20/2016	3.0.4	・Changed manual structure. ・Added PJ-673. ・Added RJ-4040/RJ-4030Ai/RJ-3150/RJ-3050. ・Added brShowBluetoothAccessoryPickerWithNameFilter. ・Added some properties to BRPtouchPrintInfo.
7	06/28/2016	3.0.5	・Added explanation for Wi-Fi connection printers ・IPv6 Support. Added some properties to BRPtouchNetworkManager
8	08/19/2016	3.0.6	・Added RJ-2050/RJ-2140/RJ-2150. ・Update applied for QL-710W/QL-720NW. ・Update applied for PT- E550W/PT- P750W/ PT-D800W/PT-E800W/PT-E850TKW/PT-P900W / PT-P950NW. ・Added template transfer. ・Added scaling function. ・Revised the properties of BRPtouchPrintInfo. ・Changed the MAX value of nCustomWidth. ・Added function of setCustomPaperFile. ・Added the list of paper size list to strPaperName.
9	09/01/2016	3.0.6	・Added errors to BRPtouchPrinter class. - ERROR_BUFFER_FULL - ERROR_TUBE_EMPTY

			- ERROR_TUBE_RIBBON_EMPTY
10	11/11/2016	3.0.7	・Added RJ-3050A1/RJ-3150Ai. ・Added QL-810W/QL-820NWB. ・Added TD-2120N/TD-2130N. ・Added setAutoConnectBluetooth and isAutoConnectBluetooth.
11	01/16/2017	3.0.8	・Bug fixes

Table of Contents

1. Introduction

This manual provides a reference as well as information on the print library that provides functions for printing with Brother mobile printers or label printers from a mobile device. The added library varies depending on printers and models, because of Wi-Fi connection combination varies.

2. Overview

2.1. Folder configuration

The folders of this library are configured as follows.

SDK Directory	EULA.pdf Redist.txt Redist2.txt	User license agreement and list of redistributable files
	./libs	BRPtouchPrinterKitW.framework * BRPtouchPrinterKit.framework **
	./Samples	Sample project for the SDK

* BRPtouchPrinterKitW.framework: Apps to support only Wi-Fi connection printers

** BRPtouchPrinterKit.framework: Apps to support both Wi-Fi connection and MFi-certified printers or only MFi-certified printers.

2.2. Recommended developer's environment

Development environment	Xcode 6 (recommended)
Development language	Objective-C
Compatible devices	iPhone/iPad
Compatible architecture	armv7, arm64, i386, x86_64

2.3. Compatible operating systems

iOS5 or later and iOS 10 or earlier

2.4. Supported printers

Printers		Interface	
		Wi-Fi	Bluetooth
PJ series	PJ-773	○	✕
	PJ-763MFi	✕	○
	PJ-673	○	✕
MW series	MW-145MFi	✕	○
	MW-260MFi	✕	○
RJ series	RJ-4040	○	✕

	RJ-4030Ai	✕	○
	RJ-3150	○	✕
	RJ-3050	○	✕
	RJ-3150Ai	○	○
	RJ-3050Ai	○	○
	RJ-2050	○	○
	RJ-2140	○	✕
	RJ-2150	○	○
QL series	QL-710W	○	✕
	QL-720NW	○	✕
	QL-810W	○	✕
	QL-820NWB	○	○
PT series	PT-E550W	○	✕
	PT-P750W	○	✕
	PT-D800W	○	✕
	PT-E800W	○	✕
	PT-E850TKW	○	✕
	PT-P900W	○	✕
	PT-P950NW	○	✕
TD series	TD-2120N	○	✕
	TD-2130N	○	✕

Supported printers for Template transfer

Printers		Template transfer	
		Wi-Fi	Bluetooth
PJ series	PJ-773	○	✕
	PJ-763MFi	✕	✕
	PJ-673	✕	✕
MW series	MW-145MFi	✕	✕
	MW-260MFi	✕	✕
RJ series	RJ-4040	○	✕
	RJ-4030Ai	✕	✕
	RJ-3150	○	✕
	RJ-3050	○	✕
	RJ-3150Ai	○	✕
	RJ-3050Ai	○	✕
	RJ-2050	○	✕
	RJ-2140	○	✕
	RJ-2150	○	✕
QL series	QL-710W	✕	✕
	QL-720NW	○	✕
	QL-810W	○	✕
	QL-820NWB	○	✕
PT series	PT-E550W	○	✕
	PT-P750W	✕	✕
	PT-D800W	○	✕
	PT-E800W	○	✕
	PT-E850TKW	○	✕
	PT-P900W	○	✕
	PT-P950NW	○	✕
TD series	TD-2120N	○	✕
	TD-2130N	○	✕

3. Flow Charts

3.1. Printer search flow

The printer search flow for each interface is shown below.

3.1.1. With Wi-Fi

・ setPrinterNames (registers printers to be searched for)

　　　↓

・ startSearch (begins search)

　　　↓

・ didFinishSearch (searches)

3.1.2. With Bluetooth

・ sharedManager (retrieves shared instance)

　　　↓

・ pairedDevices (retrieves paired printers)

　　　↓

・ registerForBRDeviceNotification (register notifications)

3.2. Printing flow

The printing flow is shown below.

・ setPrinterInfo (specify printer information)

　　　↓

・ startCommunication (prepare to start printing)

　　　↓

・ printImage or printPDFAtPath (print)

　　　↓

・ endCommunication (finish printing)

3.3. Template transfer flow

The flow in transferring templates is shown below.

・startCommunication (preparation for print start)

　　　↓

・sendTemplate (template transfer)

　　　↓

・endCommunication (print finished)

4. API Reference

The classes that can be used with this SDK are as follows.

Class name	Description
BRPtouchBluetoothManager	This class searches and lists printers connected by Bluetooth. The printer information is stored in the array for the BRPtouchDeviceInfo class.
BRPtouchNetworkManager	This class searches and lists printers connected through the network. The printer information is stored in the array for the BRPtouchDeviceInfo class.
BRPtouchPrinter	This class retrieves the various information for the printer and prints.
BRPtouchPrinterData	This class retrieves the compatible printers list.
BRPtouchDeviceInfo	This class manages printer information.
BRPtouchPrintInfo	This class manages print settings, such as job name, paper size and print density.

4.1. BRPtouchBluetoothManager class

The methods are listed below.

Method	Description
+(BRPtouchBluetoothManager*) sharedManager	Returns the shared instance of BRPtouchBluetoothManager.
-(NSArray*) pairedDevices	Returns a list of Bluetooth printers connected to the mobile device.
-(void) registerForBRDeviceNotification	This provides notifications of the connection status (addition of printer or disconnected).
-(void) unregisterForBRDeviceNotification	This cancels the notification described above.
-(void) brShowBluetoothAccessoryPickerWithNameFilter	Displays an alert view that allows user to pair the discovered Bluetooth accessory.

4.1.1. Detailed specifications for methods

The details for each method are provided below.

+(BRPtouchBluetoothManager*) sharedManager

[Description]

Returns the shared instance of BRPtouchBluetoothManager.

[Parameters]

None

[Returned value]

Shared instance of BRPtouchBluetoothManager

-(NSArray*) pairedDevices

[Description]

Returns a list of Bluetooth printers connected to the mobile device.

[Parameters]

None

[Returned value]

List of connected Bluetooth printers

-(void) registerForBRDeviceNotification

[Description]

Registers notifications for notifying of the connection status (addition of printer or disconnected).

In order to receive a notification, the following keys must be registered with the notification center.

When the printer is connected to a mobile device: BRDeviceDidConnectNotification

When the printer is disconnected from a mobile device:

BRDeviceDidDisconnectNotification

For the notified object, the information for the disconnected printer can be retrieved with

BRDeviceKey in userInfo and the shared instance of BRPtouchBluetoothManager.

[Parameters]

None

[Returned value]

None

-(void) unregisterForBRDeviceNotification

[Description]

Deletes a notification registered with registerForBRDeviceNotification.

[Parameters]

None

[Returned value]

None

-(void) brShowBluetoothAccessoryPickerWithNameFilter: (NSPredicate*) predicate

[Description]

Displays an alert view that allows user to pair the discoverd Bluetooth accessory.

※This method uses OS API which may couse the behavior differing from the version of OS.

[Parameters]

predicate: The predicate is evaluated using the name of the Bluetooth accessory to filter the discovered accessories. If you want to display all discovered accessories, specify nil.

[Returned value]

None

4.2. BRPtouchNetworkManager

The methods are listed below.

Method	Description
-(int) startSearch: (int) nTimeout	Begins searching for compatible printers that exist on the network.
-(NSArray*) getPrinterNetInfo	Retrieves information for the listed printers.
-(void) initWithPrinterName: (NSString*) strPrinterName	Passes the name of a compatible printer and initializes the class. * Note: Since this is a deprecated method, it is recommended to use initWithPrinterNames instead.
-(void) initWithPrinterNames: (NSArray*) strPrinterNames	Passes an array of names of compatible printers and initializes the class.
-(BOOL) setPrinterName: (NSString*) strPrinterName	Sets the name of a compatible printer. * Note: Since this is a deprecated method, it is recommended to use setPrinterNames instead.
-(BOOL) setPrinterNames: (NSArray *) strPrinterName	Sets an array of names of compatible printers.
-(void) didFinishSearch: (id) sender	Receives a message that the printer search is finished.

4.2.1. Detailed specifications for methods

The details for each method are provided below.

-(int) startSearch: (int) nTimeout

[Description]

Begins searching for compatible printers that exist on the network.

[Parameters]

nTimeout: Time to perform the search (s)

[Returned value]

RET_TRUE: Completed correctly

RET_TRUE: Other than the above mentioned

-(NSArray*) getPrinterNetInfo

[Description]

Retrieves information for printers not found in the search results. Use after calling didFinishSearch.

[Parameters]

None

[Returned value]

Array for BRPtouchDeviceInfo class

-(void) initWithPrinterName: (NSString*) strPrinterName

[Description]

Passes the name of a compatible printer and initializes the class. Without this, initializing with the normal init only performs instantiation. Printer names are also used as filters for listing the printers on the network.

[Parameters]

strPrinterName: Printer name

[Returned value]

None

-(void) initWithPrinterNames: (NSArray*) strPrinterNames

[Description]

Passes the names of compatible printers and initializes the class. Without this, initializing with the normal init only performs instantiation. Printer names are also used as filters for listing the printers on the network.

[Parameters]

strPrinterNames: Array of printer names

[Returned value]

None

-(BOOL) setPrinterName: (NSString*) strPrinterName

[Description]

Passes the name of the printer in the initialized class. Printer names are used as filters for listing the printers on the network.

[Parameters]

   strPrinterName: Printer name

[Returned value]

   YES: Succeeded

   NO: Failed

-(BOOL) setPrinterNames: (NSArray *) strPrinterName

[Description]

  Passes an array of names of printers in the initialized class. Printer names are used as filters for listing the printers on the network.

[Parameters]

   strPrinterNames: Array of printer names

[Returned value]

   YES: Succeeded

   NO: Failed

-(void) didFinishSearch: (id) sender

[Description]

   This delegate method receives a message that the printer search is finished. It is implemented when using the BRPtouchNetworkManager class.

[Parameters]

     sender: Instance of BRPtouchNetworkManager class that performed the search

[Returned value]

   YES: Succeeded

   NO: Failed

4.2.2.   Detailed specifications for properties

    The details for each property are provided below.

   ・**(BOOL) isEnableIPv6Search**

[Description]

   Returns IPv6 address when the communicating printer is available for IPv6 address and returns IPv4 address when the communicating printer is not available for IPv6 address but available for IPv4 address.

TRUE: Performed

FALSE: Not performed

4.3. BRPtouchPrinterData class

The methods are listed below.

Method	Description
-(NSArray*) getPrinterList	Retrieves the list of printer names.

4.3.1.   Detailed specifications for methods

The details for each method are provided below.

-(NSArray*) getPrinterList

[Description]

Returns the list of printers compatible with the SDK.

[Parameters]

None

[Returned value]

Array of printer names

4.4. BRPtouchPrinter class

The methods, notifications and enum are listed below.

Method	Description
-(void) setIPAddress: (NSString*) IP	Specifies the IP address for the created instance.
-(void) setInterface: (CONNECTION_TYPE) strInterface	Specifies the connection interface settings for the created instance.
-(void) setupForBluetoothDeviceWithSerialNumber: (NSString*) serialNumber	Specifies the serial number for setting up a Bluetooth printer.
-(int) sendFile: (NSString*) filePath	Specifies the path of a file and transmits it.
-(int) sendData: (NSData*) data	Specifies data and transmits it.
-(int) sendFileEx: (NSString*) filePath	Specifies the path of a file and transmits it. * Note: Since this is a deprecated method, it is recommended to use sendFile instead.
-(int) sendDataEx: (NSData*) data	Specifies data and transmits it. * Note: Since this is a deprecated method, it is recommended to use sendData instead.

-(id) initWithPrinterName: (NSString*) strPrinterName interface: (CONNECTION_TYPE) type	Passes the printer name and initializes the class.
-(BOOL) setPrinterName: (NSString*) strPrinterName	Sets the name of the printer in the initialized class.
-(BOOL) isPrinterReady	Determines whether or not the printer can print.
-(int) getPTStatus: (PTSTATUS*) status	Retrieves the printer status.
-(int) printImage: (CGImageRef) imageRef copy: (int) nCopy	Prints the CGImageRef data.
-(BOOL) startCommunication	Prepares for printing.
-(int) startPrint	Prepares for printing. * Note: Since this is a deprecated method, it is recommended to use startCommunication instead.
-(void) endCommunication	Performs the process after printing is completed.
-(void) endPrint	Performs the process after printing is completed. * Note: Since this is a deprecated method, it is recommended to use endCommunication instead.
-(void) setPrintInfo: (BRPtouchPrintInfo*) printInfo	Specifies printing option information.
-(int) printPDFAtPath: (NSString*) pdfPath pages: (NSUinteger []) indexes length: (NSUinteger) length copy: (int) nCopy	Specifies the path to a PDF file and prints it.
-(int) cancelPrinting	Cancels the print job.
-(int) sendTemplate: (NSString*) sendtemplateFilePath connectionType: (CONNECTION_TYPE)type	Tranfers P-touch Template files (.blf).
-(BOOL) setCustomPaperFile: (NSString*)strFilePath	Specifies custom paper size for RJ printers and TD printers.
-(int) setAutoConnectBluetooth: (BOOL)flag	Enables Bluetooth auto-connection.
-(int) isAutoConnectBluetooth: (BOOL *)flag	Retrieves the current setting of Bluetooth auto-connection.

Notification	Description
BRWLanConnectBytesWrittenNotification	This notification is sent immediately after the data could be transmitted on a Wi-Fi connection.
BRBluetoothSessionBytesWrittenNotification	This notification is sent immediately after the data could be transmitted on a Bluetooth connection.
BRPtouchPrinterKitMessageNotification	This notification is sent if the printer state can be changed.
enum	Description
CONNECTION_TYPE	Interface type

4.4.1.　Detailed specifications for methods

The details for each method are provided below.

-(void) setIPAddress: (NSString*) IP

[Description]

Specifies the IP address for the created instance. Will overwrite if already specified.

[Parameters]

IP: IP address of printer (Example: 192.168.00.00)

[Returned value]

None

-(void) setInterface: (CONNECTION_TYPE) strInterface

[Description]

Specifies the connection interface settings for the created instance.

[Parameters]

strInterface: Value for CONNECTION_TYPE

[Returned value]

None

-(void) setupForBluetoothDeviceWithSerialNumber: (NSString*) serialNumber

[Description]

Specifies the serial number for setting up a Bluetooth-connected printer. The serial number can be retrieved from the BRPtouchDeviceInfo instance.

[Parameters]

serialNumber: Serial number

[Returned value]

   None

-(int) sendFile: (NSString*) filePath

[Description]

   Transmits the file at the specified path to the printer. The file to be transmitted shall be printable raster data.

[Parameters]

   filePath: Path to file to be transmitted

[Returned value]

   List of error codes

-(int) sendData: (NSData*) data

[Description]

   Transmits the specified data to the printer.

[Parameters]

   data: Data to be transmitted

[Returned value]

   List of error codes

-(int) sendFileEx: (NSString*) filePath

[Description]

   Transmits the file at the specified path to the printer. The file to be transmitted shall be printable raster data.

* Note: Since this is a deprecated method, it is recommended to use sendFile instead.

[Parameters]

   filePath: Path to file to be transmitted

[Returned value]

   List of error codes

-(int) sendDataEx: (NSData*) data

[Description]

   Transmits the specified data to the printer.

* Note: Since this is a deprecated method, it is recommended to use sendData instead.

[Parameters]

   data: Data to be transmitted

[Returned value]

List of error codes

-(id) initWithPrinterName: (NSString*) strPrinterName interface: (CONNECTION_TYPE) type

[Description]

Passes the printer name and initializes the class.

[Parameters]

strPrinterNameinterface: Printer name

type: Type of connection interface

[Returned value]

Class instance: Succeeded

nil: Failed

-(BOOL) setPrinterName: (NSString*) strPrinterName

[Description]

Sets the name of the printer in the initialized class.

[Parameters]

strPrinterName: Printer name

[Returned value]

YES: Succeeded

NO: Failed

-(BOOL) isPrinterReady

[Description]

Determines whether or not the printer can print.

* Note: If both startPrint and isPrinterReady are used, isPrinterReady should be called first.

[Parameters]

None

[Returned value]

YES: Printer ready state

NO: Printer not ready state

-(int) getPTStatus: (PTSTATUS*) status

[Description]

Retrieves the P-touch status. PTSTATUS is a 32-byte structure.

[Parameters]

status: Pointer for PTSTATUS structure

[Returned value]

RET_TRUE: Succeeded

RET_FALSE: Failed

-(int) printImage: (CGImageRef) imageRef copy: (int) nCopy

[Description]

Prints the CGImageRef data.

[Parameters]

imageRef: CGImageRef for data to be printed

nCopy: Number of copies

[Returned value]

[List of error codes](#)

-(BOOL) startCommunication

[Description]

Prepares for printing.

[Parameters]

None

[Returned value]

YES: Succeeded

NO: Failed

-(int) startPrint

[Description]

Prepares for printing.

* Note: Since this is a deprecated method, it is recommended to use startCommunication instead.

[Parameters]

None

[Returned value]

YES: Succeeded

NO: Failed

-(void) endCommunication

[Description]

Performs the process after printing is completed.

[Parameters]

None

[Returned value]

   None

-(void) endPrint

[Description]

   Performs the process after printing is completed.

* Note: Since this is a deprecated method, it is recommended to use startCommunication instead.

[Parameters]

   None

[Returned value]

   None

-(void) setPrintInfo: (BRPtouchPrintInfo*) printInfo

[Description]

   Specifies printing option information.

[Parameters]

   printInfo: BRPtouchPrintInfo class storing print information

[Returned value]

   None

-(int) printPDFAtPath: (NSString*) pdfPath

                pages: (NSUinteger []) indexes

                length: (NSUinteger) length

                copy: (int) nCopy

[Description]

   Specifies the path to a PDF file and prints it. To print all pages, implement as follows.

NSUInteger length = 0;

NSUInteger pageIndexes[] = {0};

[foo printPDFAtPath:pdfPath

pages:pageIndexes

length:length

copy:copies];

* Note: This may not be performed correctly if the PDF has 40 or more pages.

* Note: The number of printable pages has an effect on the amount of memory available on the

device.

[Parameters]

   pdfPath: Path of PDF file

   indexes: Number of the page to be printed

   length: Number of pages to be printed

   nCopy: Number of copies

[Returned value]

   List of error codes

-(void) cancelPrinting

[Description]

   Cancels the print job.

* Note: If this is executed while print data is being transmitted, printing is canceled after transmission.

[Parameters]

   None

[Returned value]

   List of error codes

-(int) sendTemplate: (NSString*) sendtemplateFilePath
connectionType: (CONNECTION_TYPE)type

[Description]

Transfers P-touch Template files. Use P-touch Trasnfer Manager on Windows PC to make P-touch Template files (.blf). (Note: *.blf files are for Wi-Fi.) For further information refer to the command reference files by downloading from the Website below:

<http://welcome.solutions.brother.com/bsc/public_s/index.html>

 [Parameters]

   None

[Returned value]

   List of error codes

-(BOOL) setCustomPaperFile: (NSString*)strFilePath

[Description]

Specifies the custom paper size for RJ printes and TD printers.

[Parameters]

 strFilePath: Pass to custom paper file

* Note: Use Custom label tool on Windows PC to make custom paper file.

* Note: DiscImage has a sample custom paper file included by models. Import the custom paper info to the Sample App by File Sharing on iTunes when you need to use in the Sample project.

[Returned value]

YES:　Succeeded

NO:　Failed

-(int) setAutoConnectBluetooth: (BOOL)flag

[Description]

Enables Bluetooth auto-connection.

[Parameters]

flag: Enables/disables Bluetooth auto-connection.

[Returned value]

List of error codes

-(int) isAutoConnectBluetooth: (BOOL)flag

[Description]

Retrieves the current setting of Bluetooth auto-connection.

[Parameters]

flag: The current setting of Bluetooth auto-connection for the printer.

[Returned value]

List of error codes

4.4.2.　Detailed specifications for notifications

The details for each notification are provided below.

・　**BRWLanConnectBytesWrittenNotification**

[Description]

This notification is sent immediately after the data could be transmitted on a Wi-Fi connection. If BRBytesWrittenKey is used, the cumulative total number of bytes in data transmitted to the printer is retrieved. This is the same if you want to retrieve the total number of bytes necessary for transmission.

・　**BRBluetoothSessionBytesWrittenNotification**

[Description]

This notification is sent immediately after the data could be transmitted on a Bluetooth connection. If BRBytesWrittenKey is used, the cumulative total number of bytes in data

transmitted to the printer is retrieved. This is the same if you want to retrieve the total number of bytes necessary for transmission.

・ **BRPtouchPrinterKitMessageNotification**

[Description]

　Using BRMessageKey from userInfo, the NSString format message can be retrieved.

The details for each key are provided below.

Key	Description
MESSAGE_START_COMMUNICATION_	Transmission started
MESSAGE_START_CONNECT_	Socket connection started
MESSAGE_END_CONNECTED_	Socket connected successfully
MESSAGE_START_SEND_STATUS_REQUEST_	Status request transmission started
MESSAGE_END_SEND_STATUS_REQUEST_	Status request transmission finished
MESSAGE_START_READ_PRINTER_STATUS_	Status reception started
MESSAGE_END_READ_PRINTER_STATUS_	Status reception finished
MESSAGE_START_CREATE_DATA_	Data creation started
MESSAGE_END_CREATE_DATA_	Data creation finished
MESSAGE_START_SEND_DATA_	Data transmission started
MESSAGE_END_SEND_DATA_	Data transmission finished
MESSAGE_START_SEND_TEPLATE_	Template file transmission started
MESSAGE_END_SEND_TEPLATE_	Template file transmission finished
MESSAGE_PRINT_COMPLETE_	Printed successfully
MESSAGE_PRINT_ERROR_	Error occurred
MESSAGE_PAPER_EMPTY_	No paper
MESSAGE_START_COOLING_	Cooling started
MESSAGE_END_COOLING_	Cooling finished
MESSAGE_WAIT_PEEL_	Waiting for peeling of label
MESSAGE_CANCEL_	Job canceled

4.4.3. Detailed specifications for enum

The details for each enum are provided below.

・ **CONNECTION_TYPE**

[Description]

   Interface type

CONNECTION_TYPE_WLAN: Wi-Fi connection

CONNECTION_TYPE_BLUETOOTH: Bluetooth connection

4.4.4. List of error codes

The error codes are listed below.

Error code	Description	Value
ERROR_NONE	No error	0
ERROR_TIMEOUT	Timeout	-3
ERROR_CREATESTREAM	Failed to create a stream.	-7
ERROR_OPENSTREAM	Failed to open a stream.	-8
ERROR_FILENOTEXIST	Specified file does not exist.	-9
ERROR_PAGERANGEERROR	Specified page range exceeds the maximum.	-10
ERROR_NOT_SAME_MODEL_	Different printer model	-11
ERROR_BROTHER_PRINTER_NOT_FOUND_	No Brother printer can be found.	-12
ERROR_PAPER_EMPTY_	No paper	-13
ERROR_BATTERY_EMPTY_	Insufficient battery level	-14
ERROR_COMMUNICATION_ERROR_	Failed to retrieve printer status.	-15
ERROR_OVERHEAT_	Overheating error	-16
ERROR_PAPER_JAM_	Paper jam	-17
ERROR_HIGH_VOLTAGE_ADAPTER_	High-voltage adapter	-18
ERROR_CHANGE_CASSETTE_	Replace paper cassette while	-19

	printing.	
ERROR_FEED_OR_CASSETTE_EMPTY_	Feeding error or end of paper	-20
ERROR_SYSTEM_ERROR_	System error	-21
ERROR_NO_CASSETTE_	No paper cassette during a printing operation.	-22
ERROR_CREATE_SOCKET_FAILED_	Failed to create socket.	-24
ERROR_CONNECT_SOCKET_FAILED_	Failed to connect.	-25
ERROR_GET_OUTPUT_STREAM_FAILED_	Failed to retrieve output stream.	-26
ERROR_GET_INPUT_STREAM_FAILED_	Failed to retrieve input stream.	-27
ERROR_CLOSE_SOCKET_FAILED_	Failed to close socket.	-28
ERROR_OUT_OF_MEMORY_	Insufficient memory	-29
ERROR_SET_OVER_MARGIN_	Exceeded the specified margin.	-30
ERROR_NO_SD_CARD_	No SD card	-31
ERROR_FILE_NOT_SUPPORTED_	Unsupported file	-32
ERROR_EVALUATION_TIMEUP_	Trial period for PDF printing has ended.	-33
ERROR_WRONG_CUSTOM_INFO_	Incorrect custom paper settings	-34
ERROR_NO_ADDRESS_	IP address and MAC address are not specified.	-35
ERROR_FILE_NOT_FOUND_	File does not exist.	-37
ERROR_TEMPLATE_FILE_NOT_MATCH_MODEL_	Template file and printer model are incompatible.	-38
ERROR_TEMPLATE_NOT_TRANS_MODEL_	Model incompatible with template transfer	-39
ERROR_COVER_OPEN_	Cover open	-40

ERROR_WRONG_LABEL_	Incorrect roll type	-41
ERROR_PORT_NOT_SUPPORTED_	Unsupported interface	-42
ERROR_WRONG_TEMPLATE_KEY_	A template with the specified key does not exist.	-43
ERROR_BUSY_	Busy	-44
ERROR_TEMPLATE_NOT_PRINT_MODEL_	Model incompatible with P-touch template printing	-45
TEMPLATE_NOT_PRINT_MODEL_	Cancel	-46
ERROR_PRINTER_SETTING_NOT_SUPPORTED_	Device settings function not supported	-47
ERROR_INVALID_PARAMETER_	Invalid parameter	-48
ERROR_INTERNAL_ERROR_	Internal device error	-49
ERROR_TEMPLATE_NOT_CONTROL_MODEL_	Model incompatible with template deleting and retrieving	-50
ERROR_TEMPLATE_NOT_EXIST_	Template does not exist.	-51
ERROR_BUFFER_FULL	Buffer full	-53
ERROR_TUBE_EMPTY	Tube empty	-54
ERROR_TUBE_RIBBON_EMPTY	Tube ribbon empty	-55

4.5. BRPtouchDeviceInfo class

The properties are listed below.

Property	Description
(NSString*) strIPAddress	Sets IP address.
(NSString*) strLocation	Sets location information.
(NSString*) strModelName	Sets model name.
(NSString*) strPrinterName	Sets printer name.
(NSString*) strSerialNumber	Sets serial number.
(NSString*) strNodeName	Sets node name.
(NSString*) strMACAddress	Sets MAC address or product serial number.

strModelName, strPrinterName and strSerialNumber may not be identical depending on the printer. See the list below.

Model name on the product package	Searched name via Bluetooth	strPrinterName	strModelName	strSerialNumber
PJ-763MFi	PJ-763MFi****	PJ-763_****	PJ-763	BD address
MW-145MFi	MW-145MFi_****	MW-145MF_****	MW-145MF	BD address
MW-260MFi	MW-260MFi_****	MW-260MF_****	MW-145MF	BD address
RJ-4030Ai	RJ-4030Ai****	RJ-4030Ai****	RJ-4030Ai	BD address
RJ-2050	RJ-2050****	RJ	RJ-2050	Product serial number
RJ-2150	RJ-2150****	RJ	RJ-2150	Product serial number
RJ-3050Ai	RJ-3050Ai****	RJ	RJ-3050Ai	Product serial number
RJ-3150Ai	RJ-3150Ai****	RJ	RJ-3150Ai	Product serial number
QL-820NWB	QL-820NWB****	QL	QL-820NWB	Product serial number

*Note: **** shows the bottom four numbers of its product serial number.

4.5.1. Detailed specifications for properties

The details for each property are provided below.

・ **(NSString*) strIPAddress**

[Description]

Stores the IP address (v4). With a Bluetooth connection, null is entered. (Example: 192.168.00.00)

・ **(NSString*) strLocation**

[Description]

Stores the location information. With a Bluetooth connection, null is entered.

・ **(NSString*) strModelName**

[Description]

Stores the model name. (Example: MW-145MF)

* Note: The model name should conform to this property when the model name written on the

product package for the following models differs from the retrieved model name.

- **(NSString*) strPrinterName**

[Description]

Stores the printer name. (Example: MW-145MF_xxxx)

- **(NSString*) strSerialNumber**

[Description]

Stores the serial number.

- **(NSString*) strNodeName**

[Description]

Stores the node name. With a Bluetooth connection, null is entered.

- **(NSString*) strMACAddress**

[Description]

Stores the MAC address. With a Bluetooth connection, null is entered.

4.6. BRPtouchPrintInfo class

The properties are listed below.

Property	Description
(NSString*) strPaperName	Sets the paper name.
(int) nPrintMode	Sets the print mode.
(int) nDensity	Sets the print density.
(int) nOrientation	Sets the paper orientation.
(int) nHalftone	Sets the binarization setting.
(int) nHorizontalAlign	Sets horizontal alignment.
(int) nVerticalAlign	Sets vertical alignment.
(int) nPaperAlign	Sets the position of custom paper.
(int) nExtFlag	Sets the extension flag.
(BOOL) bAutoCut	Sets auto cut setting.
(int) nAutoCutCopies	Cuts the number of copies with auto cutting.
(BOOL) bAtCutEnd	Sets cut at end setting.
(BOOL) bSpecialTape	Sets special tape setting.
(BOOL) bHalfCut	Sets half cut setting.
(int) nTopMargin	Sets the top margin.

(int) nLeftMargin	Sets the left margin.
(int) nSpeed	Sets the speed.
(BOOL) bBidirection	Sets the status check before printing.
(int) nCustomLength	Sets the length of custom paper.
(int) nCustomWidth	Sets the width of custom paper.
(int) nCustomFeed	Sets the feed amount after printing.
(NSString*) strSaveFilePath	Sets the path to the location where print data will be saved.
(BOOL) bOverWrite	Sets whether or not to overwrite.
(int) nRollPrinterCase	Sets the type of printer case to be used.
(BOOL) bRotate180	Sets whether or not to rotate the print image 180 degrees.
(BOOL) bPeel	Sets on/off of the peeling mode.
(double)scaleValue	Scale value when printMode is SCALE.

4.6.1. Detailed specifications for properties

The details for each property are provided below.

・ **(NSString*) strPaperName**

[Description]

Sets the paper name. Specifies with the mm name, inch name or standard name for the paper that the printer has. (Example: A6) This differs from the paper supported by each model. If the CGImageRef size passed with printImage differs from this paper size, CGImageRef will be configured as specified by nPrintMode and the alignment.

strPaperName	
CUSTOM	CUSTOM
A7	A7
A6	A6
A4	A4
A5	A5
A5_LANDSCAPE	A5 Landscape
LETTER	Letter
LEGAL	Legal

・ **(int) nPrintMode**

[Description]

Sets the print mode.

PRINT_ORIGINAL: Dot by dot (default)

PRINT_FIT: Enlarged/reduced to fit the paper

PRINT_SCALE: Scale value of the image.

With PRINT_ORIGINAL, printImage fails if a size larger than the paper size is passed to printImage. With PRINT_FIT, the height and width are automatically enlarged/reduced so the height or width fits the paper size while the proportions of CGImageRef are maintained.

・ **(int) nDensity**

[Description]

   Sets the print density. The range of values that can be specified differs depending on the series.

Series	Value
PJ	0 to 10
RJ/TD	-5 to 5

・ **(int) nOrientation**

[Description]

   Sets the paper orientation.

ORI_PORTRATE:Portrait (default)

ORI_LANDSCAPE: Landscape (rotated 90° counterclockwise)

・ **(int) nHalftone**

[Description]

   Sets the binarization setting.

HALFTONE_BINARY: Simple binary (default)

HALFTONE_DITHER: Dither

HALFTONE_ERRORDIF: Error diffusion

・ **(int) nHorizontalAlign**

[Description]

   Sets horizontal alignment. This is valid only when the CGImageRef width is smaller than the width of the specified paper size.

* Note: This is invalid when nPrintMode is set to PRINT_FIT.

ALIGN_LEFT: Align left (default)

ALIGN_CENTER:Align center

ALIGN_RIGHT: Align right

・ **(int) nVerticalAlign**

[Description]

Sets vertical alignment. This is valid only when the CGImageRef height is smaller than the height of the specified paper size.

* Note: This is invalid when nPrintMode is set to PRINT_FIT.

ALIGN_TOP: Align top (default)

ALIGN_MIDDLE: Align middle

ALIGN_BOTTOM: Align bottom

・ **(int) nPaperAlign**

[Description]

Sets the position of custom paper.

PAPERALIGN_LEFT: Align left (default)

PAPERALIGN_CENTER: Align center

PAPERALIGN_RIGHT: Align right

・ **(int) nExtFlag**

[Description]

Sets the extension flag.

Flag	Description
EXT_PJ673_CARBON	Carbon paper is used.
EXT_PJ673_DASHPRINT	If the EXT_PJ673_EOP is set and roll paper is being used, perforations are printed on each page. (Roll)
EXT_PJ673_NFD	The page feed mode is one where feeding is not performed, even if the "new page" command is received. This flag is given priority over EXT_PJ673_EOP and EXT_PJ673_EPR. (Roll)
EXT_PJ673_EOP	The page feed mode is one where feeding is performed until the end of page is detected. This flag is given priority over EXT_PJ673_EPR. (Cut sheet)
EXT_PJ673_EPR	The page feed mode is one where feeding is performed until the end of page is detected. (Roll with black mark) Note: This is valid only when the paper size is Letter.
EXT_PJ700_FP	The page feed mode is one where feeding is performed for the specified paper length. (Roll)

・**(BOOL) bAutoCut**

[Description]

Sets auto cut setting.

TRUE: Auto cut

FALSE: No auto cut

・ (int) nAutoCutCopies

[Description]

Cuts the number of copies with auto cutting.

・(BOOL) bAtCutEnd

[Description]

Sets cut at end setting.

TRUE: Cut at end

FALSE; No cut at end

・(BOOL) bSpecialTape

[Description]

Sets special tape setting. Cut option is disabled when special tape is selected.

TRUE: Use

FALSE: No use

・(BOOL) bHalfCut

[Description]

Sets half cut setting.

TRUE: Half cut

FALSE：No half cut

・ (int) nTopMargin

[Description]

Sets the top margin. The value is in the int format. (The measurement units are dots.)

* Note: This is valid only when nHorizontalAlign is set to ALIGN_LEFT.

* Note: This is invalid with PDF printing. In that case, it is automatically printed to fit the paper.

・ (int) nLeftMargin

[Description]

Sets the left margin. The value is in the int format. (The measurement units are dots.)

* Note: This is valid only when nVerticalAlign is set to ALIGN_TOP.

* Note: This is invalid with PDF printing. In that case, it is automatically printed to fit the paper.

- **(int) nSpeed**

[Description]

Sets the speed. Specified within the range of 0 to 3 with 2 as the default.

- **(BOOL) bBidirection**

[Description]

Sets whether or not to check the status before printing.

TRUE: Performed

FALSE: Not performed

- **(int) nCustomLength**

[Description]

Sets the length of custom paper. Specified within the range of 200 dots to 65,535 dots.

* Note: The maximum value depends on the mobile device.

* Note: Available when "strPaperName" is "CUSTOM".

- **(int) nCustomWidth**

[Description]

Sets the width of custom paper. The width of custom paper is specified as a multiple of 8.

* Note: The maximum value is 2,464 dots.

* Note: Available when "strPaperName" is "CUSTOM".

- **(int) nCustomFeed**

[Description]

Sets the feed amount after printing.

* Note: The maximum value is 65,535 dots. (length of the printable area)

* Note: Available when "nExtFlag" is "EXT_PJ700_FP".

- **(NSString*) strSaveFilePath**

[Description]

Sets the path to the location where print data will be saved. If a space or null is specified, printing is performed. If a path name is entered, the data is saved without being printed. If a folder in the path does not exist, an error occurs. The path is specified as an absolute path.

- **(BOOL) bOverWrite**

[Description]

   In contrast with saveFilePath, described above, this specifies whether the data will overwrite or be appended.

TRUE: Overwrite

FALSE: Appended

* Note: When printing multiple pages, specify FALSE.

- **(int) nRollPrinterCase**

[Description]

   Sets the type of printer case to be used.

PJROLLCASE_OFF: No roll printer case

PJROLLCASE_ON: Enabled (no anti-curl)

PJROLLCASE_WITH_ANTICURL: Enabled (with anti-curl)

- **(BOOL) bRotate180**

[Description]

Sets whether or not to rotate the print image 180 degrees.

TRUE: Performed

FALSE: Not performed

- **(BOOL) bPeel**

[Description]

Sets on/off of the peeling mode.

TRUE: On

FALSE: Off

- **(double) scaleValue**

[Description]

   Scale value when SCALE is selected in printMod.

series

4.6.2.   Compatible properties

The properties that can be used with each series or model are shown below.

	MW series	PJ-700 series	PJ-673	RJ-2000 series	RJ-3050 RJ-3050Ai	RJ-3150 RJ-3150Ai	RJ-4040/ RJ-4030Ai	QL series	PT series

					TD-2000 series			
strPaper Name	○	○	○	○	○	○	○	○	○
nPrintMode	○	○	○	○	○	○	○	○	○
nDensity	✕	○	○	○	○	○	○	✕	✕
nOrientation	○	○	○	○	○	○	○	○	○
nHalftone	○	○	○	○	○	○	○	○	○
nHorizontalAlign	✕	○	○	○	○	○	○	○	○
nVerticalAlign	✕	○	○	○	○	○	○	○	○
nPaperAlign	✕	○	○	✕	✕	✕	✕	✕	✕
nExtFlag	✕	○	○	✕	✕	✕	✕	✕	✕
bAutoCut	✕	✕	✕	✕	✕	✕	✕	○	○
nAutoCut Copies	✕	✕	✕	✕	✕	✕	✕	○	○
bAtCutEnd	✕	✕	✕	✕	✕	✕	✕	○	✕
bSpecial Tape	✕	✕	✕	✕	✕	✕	✕	○	✕
bHalfCut	✕	✕	✕	✕	✕	✕	✕	○	✕
nTopMargin	○	○	○	○	○	○	○	○	○
nLeftMargin	○	○	○	○	○	○	○	○	○
nSpeed	✕	○	○	✕	✕	✕	✕	✕	✕
bBidirection	○	○	✕	○	○	○	○	○	○
nCustom Length	✕	○	○	✕	✕	✕	✕	✕	✕

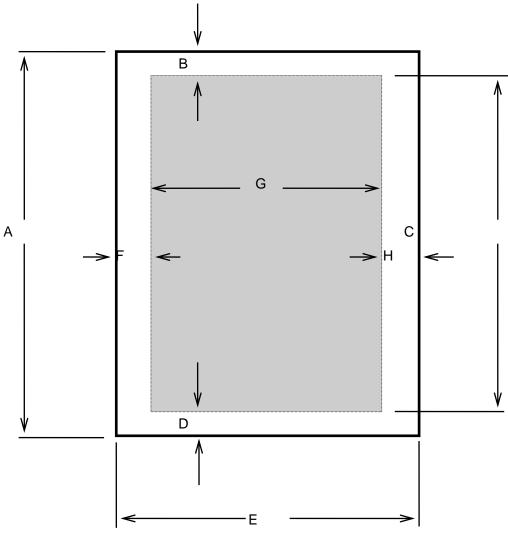|									
nCustom Width	✕	○	○	✕	✕	✕	✕	✕	✕
nCustom Feed	✕	○	○	✕	✕	✕	✕	✕	✕
strSaveFilePath	○	○	○	○	○	○	○	○	○
bOverWrite	○	○	○	○	○	○	○	○	○
nRollPrinterCase	✕	○	✕	✕	✕	✕	✕	✕	✕
bRotate180	✕	✕	✕	✕	○	○	✕	✕	✕
bPeel	✕	✕	✕	✕	✕	○	✕	✕	✕
scaleValue	○	○	○	○	○	○	○	○	○

4.6.3. PTSTATUS

PTSTATUS is information consisting of 32 bytes. For details, refer to the Raster Command Reference for the corresponding model.

5. Paper Information

A paper name (mm), paper name (inch) or standard paper name may be specified in strPaperName of BRPtouchPrintInfo.

A: Length

B: Top margin

C: Print area length

D: Bottom margin

E: Width

F: Left margin

G: Print area width

H: Right margin

5.1. PJ series

5.1.1. PJ-773, PJ-763MFi and PJ-673

Paper	A	B	C	D	E	F	G	H
A4_CutSheet	297.0	2.5 mm	279.4	15.0	210.0	3.4	203.2	3.4
A4_Roll	mm	30 dots	mm	mm	mm	mm	mm	mm

Paper	A	B	C	D	E	F	G	H
A4_PerforatedRoll A4_PerforatedRollRetract	3507 dots		3300 dots	177 dots	2480 dots	40 dots	2400 dots	40 dots
LEGAL_CutSheet LEGAL_Roll LEGAL_PerforatedRoll LEGAL_PerforatedRollRetract	355.6 mm 4200 dots	2.5 mm 30 dots	347.1 mm 4100 dots	5.9 mm 70 dots	215.9 mm 2550 dots	3.6 mm 43 dots	208.6 mm 2464 dots	3.6 mm 43 dots
LETTER_CutSheet LETTER_Roll LETTER_PerforatedRoll	279.4 mm 3300 dots	2.5 mm 30 dots	270.9 mm 3200 dots	5.9 mm 70 dots	215.9 mm 2550 dots	3.6 mm 43 dots	208.6 mm 2464 dots	3.6 mm 43 dots
A5_CutSheet	210.0 mm 2480 dots	2.5 mm 30 dots	193.8 mm 2289 dots	13.6 mm 161 dots	148.0 mm 1748 dots	3.4 mm 40 dots	141.2 mm 1668 dots	3.4 mm 40 dots
A5_CutSheet Landscape	148.0 mm 1748 dots	2.5 mm 30 dots	130.2 mm 1538 dots	15.2 mm 180 dots	210.0 mm 2480 dots	3.4 mm 40 dots	203.2 mm 2400 dots	43.4 mm 40 dots

5.1.2. PJ-773, PJ-763MFi and PJ-673 (Roll with black mark)

Paper	A	B	C	D	E	F	G	H
LETTER_PerforatedRollRetract	279.4 mm 3300 dots	11.9 mm 140 dots	251.4 mm 2970 dots	16.1 mm 190 dots	215.9 mm 2550 dots	3.6 mm 43 dots	208.6 mm 2464 dots	3.6 mm 43 dots

5.1.3. MW-260MFi

Paper	A	B	C	D	E	F	G	H
A6	148 mm 1748 dots	3.75 mm 44 dots	140.5 mm 1660 dots	3.75 mm 44 dots	105 mm 1240 dots	3.75 mm 44 dots	97.5 mm 1152 dots	3.75 mm 44 dots

5.1.4. MW-145MFi

Paper	A	B	C	D	E	F	G	H
A7	105 mm	2.5 mm	99.9 mm	2.5 mm	74 mm	2.5 mm	69.1 mm	2.5 mm

| | 1240 dots | 30 dots | 1180 dots | 30 dots | 874 dots | 29 dots | 816 dots | 29 dots |

6. Comparison between Previous and New Versions

When moving from the older SDK to the newer SDK, refer to the following.

6.1. BRPtouchPrinter class

Previous API (Ver. 1.2.7)	New API (Ver. 3.0.0)
-(int) startPrint (deprecated)	-(BOOL) startCommunication
-(void) endPrint (deprecated)	-(void) endCommunication
-(int)sendFile: (NSSTring*) strFile Timeout: (int) nTimeout	-(int)sendFile:(NSSTring*)strFile
-(int)sendData: (NSData*) data timeout: (int) nTimeout	-(int)sendData:(NSData*) data
-(int)sendFileEx: (NSSTring*) strFile Timeout: (int) nTimeout	-(int)sendFileEx:(NSSTring*)strFile
-(int)sendDataEx: (NSData*) data timeout: (int) nTimeout	-(int)sendDataEx:(NSData*) data
-(id)initWithPrinterName: (NSString*) strPrinterName	-(id)initWithPrinterName:(NSString *) strPrinterName interface:(CONNECTION_TYPE)type
-(int)printImage:(CGImageRef)imageRef copy:(int)nCopy timeout:(int)nTimeout	-(int) printImage:(CGImageRef) imageRef copy:(int) nCopy
-(int)printPDFAtPath:(NSString*)pdfPath Pages:(NSUInteger [])indexes Length:(NSUInteger)length copy:(int)nCopy timeout:(int)nTimeout	-(int) printPDFAtPath:(NSString*)pdfPath Pages:(NSUInteger [])indexes Length:(NSUInteger)length copy:(int)nCopy
-	-(void) setupForBluetoothDeviceWithSerialNumber: (NSString*) serialNumber
-	-(int)cancelPrinting
-	-(int)setInterface:(CONNECTION_TYPE)strInterface
-(int)setPrintInfo:(BRPtouchPrintInfo *) printInfo	-(void)setPrintInfo:(BRPtouchPrintInfo *) printInfo

6.2. BRPtouchPrintInfo class

Previous property (Ver. 1.2.7)	New property (Ver. 3.0.0)
-	int nTopMargin
-	int nLeftMargin
-	int nSpeed
-	BOOL bBidirection
-	int nCustomLength
-	int nCustomWidth
-	int nCustomFeed
-	NSString* strSaveFilePath
-	BOOL bOverWrite
-	int nRollPrinterCase

6.3. BRPtouchBluetoothManager class

Previous API (Ver. 1.2.7)	New API (Ver. 3.0.0)
-	+(BRPtouchBluetoothManager *)sharedManager
-	-(NSArray *)pairedDevices
-	-(void)registerForBRDeviceNotifications
-	-(void)unregisterForBRDeviceNotification

6.4. BRPtouchDeviceInfo class

Previous class name (Ver. 1.2.7)	New class name (Ver. 3.0.0)
BRPtouchNetworkInfo	BRPtouchDeviceInfo
Previous property (Ver. 1.2.7)	New property (Ver. 3.0.0)
-	NSString* strPrinterName

6.5. BRPtouchNetworkManager class

Previous API (Ver. 1.2.7)	New API (Ver. 3.0.0)
-(void) didFinishedSearch	-(void) didFinishSearch

7. Sample App

For details on using the sample app, refer to "Sample Project Explanation".

8. Framework Integration

8.1. Addition of framework

8.1.1. Support for only Wi-Fi connection printers

The following libraries must be added to the Link Binary With Libraries for the project.

- BRPtouchPrinterKitW.framework
- libc++.dylib
- SystemConfiguration.framework

8.1.2. Support for both Wi-Fi connection and MFi-certified printers, or for only MFi-certified printers

The following libraries must be added to the Link Binary With Libraries for the project.

- BRPtouchPrinterKit.framework
- libc++.dylib
- ExternalAccessory.framework
- SystemConfiguration.framework

8.2. Protocol settings

In order to use MFi-certified printers, transmission protocol information must be added to info.plist of the Xcode project. Refer to the following.

Key		Type	Value	
▼ Information Property List		Dictionary	(14 items)	
Localization native development region	↕	String	en	↕
Executable file	↕	String	$(EXECUTABLE_NAME)	
Bundle identifier	↕	String	com.brother.$(PRODUCT_NAME:rfc1034identif	
InfoDictionary version	↕	String	6.0	
Bundle name	↕	String	$(PRODUCT_NAME)	
Bundle OS Type code	↕	String	APPL	
Bundle versions string, short	↕	String	1.0	
Bundle creator OS Type code	↕	String	????	
Bundle version	↕	String	11	
Application Category	↕	String		↕
Application requires iPhone environment	↕	Boolean	YES	↕
Main storyboard file base name	↕	String	BRMainViewController	
▶ Required device capabilities	↕	Array	(1 item)	
▼ Supported external accessory protocols	↕	Array	(1 item)	
Item 0		String	com.brother.ptcbp	

1. Add array "Supported external accessory protocols" to Key.

2. Add "com.brother.ptcbp" to Item n.

9. Precautions

The app may not operate correctly in the following cases.

Problem	Solution
Nothing is printed when printing in a location with poor communication conditions.	・ Print in a location with good communication conditions. ・ Use isPrinterReady to check the connection status before printing.
An error appears with PDF printing.	・ When printing a large PDF file (5 MB or more per page), change the file size since the operation may not be completed correctly. In addition, the file size depends on the amount of RAM available on the mobile device that is used.