



DPU-S245, DPU-S445,  
RP-D10, RP-E10  
Print Class Library for iOS  
Application Programmer's Guide

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Seiko Instruments Inc.

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## Introduction

This manual describes the Print Class Library for iOS SDK (hereinafter referred to as "the SDK") for the printers provided by Seiko Instruments Inc. (hereinafter referred to as "SII").

### Target Printers

This section lists the printers supported by the SDK.

	Description in This Manual	Interface	Printer
Mobile Printer	DPU-S245	Bluetooth	DPU-S245-01C-E
	DPU-S445	Bluetooth	DPU-S445-01C-E
POS Printer	RP-D10	Bluetooth	RP-D10-x27J2-B
		Ethernet	RP-D10-x27J1-E
	RP-E10	Bluetooth	RP-E10-x3FJ2-B
			RP-E11-x3FJ2-B
		Ethernet	RP-E10-x3FJ1-E
			RP-E11-x3FJ1-E

Use main firmware version 1.05 or later, LAN interface firmware version 1.13.01 or later for RP-D10-x27J1-E.

Use main firmware version 1.11 or later, LAN interface firmware version 1.13.01 or later for RP-E10-x3FJ1-E or RP-E11-x3FJ1-E.

RP-E10-x3FJ2-B and RP-E11-x3FJ2-B are the products destined only for Japan.

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# Chapter 1

## Product Overview

This chapter describes the product overview of the SDK.

### 1.1 Function Provided by SDK

The SII print class library included in the SDK provides applications enabled by iOS device with the functions to use following SII printers: DPU-S245, DPU-S445 (hereinafter referred to as "Mobile printer" or "Mobile"), RP-D10, RP-E10 (hereinafter referred to as "POS printer" or "POS").

Moreover, the SDK includes Xcode projects for iOS device as a sample.

### 1.2 SII Print Class Library Overview

#### 1.2.1 SII Print Class Library Configuration

The SII print class library (hereinafter referred to as "the library") and the sample programs included in the SDK are located in the section surrounded by dashed lines in the iOS configuration diagram (Figure 1-1). The library consists of two classes: the class which produces printer commands, and the class which controls communication port.

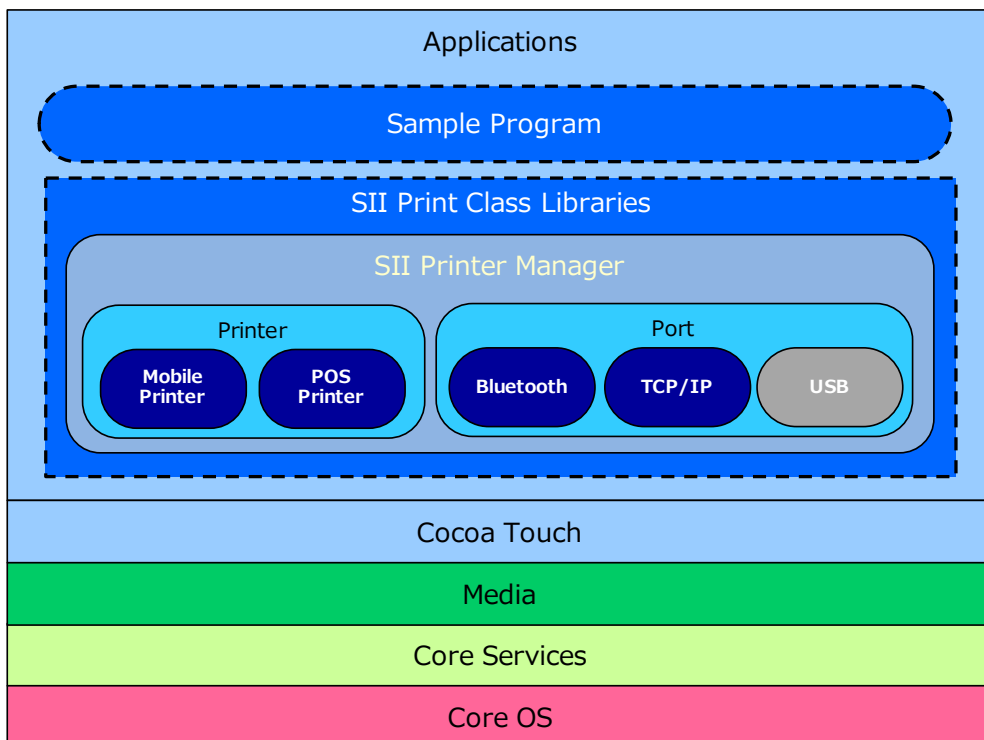


Figure 1-1

### 1.2.2 Function Provided by Library

By using the library, applications can easily transmit commands and data to a printer through communication port (Bluetooth or TCP/IP) on an iOS device. Also, applications can obtain printer status.

The library provides the following functions.

- Connection/disconnection to/from a printer
- Sending data to a printer (print data and/or commands<sup>\*1</sup>)
- Barcode print and 2-dimensional barcode print
- Sending a data file to a printer (print data and/or commands<sup>\*1</sup>)
- Cut paper
- Obtaining printer status
- Aborting the waiting state of a printer
- Obtaining various responses from a printer
- Bulk registration of print commands
- Registering a printer status call back function
- Printer search by TCP/IP
- Outputting a log file

<sup>\*1</sup>: Commands that obtains the response from the printer are not available. In order to obtain responses from a printer, use "Obtaining printer status" or "Obtaining various responses from a printer".

**(NOTE)** • **Mobile printer and POS printer do not support the APIs relating to Display, the barcode scanner, or label printing function.**  
• **Mobile printer does not support the APIs relating to page mode.**

### 1.2.3 Development of Application that Performs Bluetooth Communication with SII Printer

When registering an application that performs Bluetooth communication with Mobile printer or POS printer to App Store, advance application from SII to Apple is necessary. For the details, contact SII.

## Chapter 2

### Product Specification

This chapter describes the product specification of the library.

#### 2.1 Operating Environment

##### 2.1.1 Applicable iDevice Models

Applicable iDevice Models for the library are shown below.

###### iPhone models

- iPhone X
- iPhone 8
- iPhone 8 Plus
- iPhone 7
- iPhone 7 Plus
- iPhone SE
- iPhone 6s
- iPhone 6s Plus
- iPhone 6
- iPhone 6 Plus

###### iPad models

- iPad Pro 12.9-inch (2nd generation)
- iPad Pro 10.5-inch
- iPad (5th generation)
- iPad Pro 9.7-inch
- iPad Pro 12.9-inch (1st generation)
- iPad mini 4
- iPad Air 2
- iPad mini 3

###### iPod models

- iPod touch (6th generation)

### 2.1.2 Applicable OS Versions

Applicable OS versions for the library are shown below.

- iOS 16 to 16.7.1
- iPadOS 16 to 16.7.1
- iOS 17 to 17.6.1
- iPadOS 17 to 17.6.1
- iOS 18 to 18.2.1
- iPadOS 18 to 18.2.1

### 2.1.3 Operating Conditions

This section describes the operating conditions for the library in Table 2-1, Table 2-3 and Table 2-3. Set the Function Setting/function selection to the values shown in each table before using the library. See the technical reference of each printer for details about Function Setting/function selection.

**Table 2-1 Function Setting of the DPU-S245/DPU-S445 When Using Bluetooth Connection**

<b>SWDIP</b>	<b>Function</b>	<b>Value</b>	<b>Setting</b>
2-1	Data Input Mode selection	1	Bluetooth/USB
2-2		1	
4-6	Busy Output When Error Occurs	0	Disable
4-8	Bluetooth Link Key Selection	0	Enable

**Table 2-2 Function Setting of RP-D10/RP-E10 When Using TCP/IP Connection**

<b>MS</b>	<b>Function</b>	<b>Value</b>	<b>Setting</b>
5-2	Initialized Response Selection	0	Enable
5-3	Data Discard Selection When Error Occurs	0	Enable

**Table 2-3 Function Setting of RP-D10/RP-E10 When Using Bluetooth Connection**

<b>MS</b>	<b>Function</b>	<b>Value</b>	<b>Setting</b>
5-2	Initialized Response Selection	0	Enable
5-3	Data Discard Selection When Error Occurs	0	Enable
39-1	iOS Automatic Connection Selection	0 / 1	0: Enable <sup>*1</sup> 1: Disable

<sup>\*1</sup>: When use `resetPrinter`, select "Enable".

#### **2.1.4 Precaution**

This library is not thread-safe. When this library is used on multiple threads, abnormal termination may occur.

When using TCP/IP connection in this library, the communication port cannot be shared with printer drivers or other libraries.

When using TCP/IP connection in this library, wireless LAN access point connected to iOS device and POS printer need to be connected to the same network.

A concurrent connection from multiple apps to one printer is not supported when multiple apps are worked simultaneously by Multitasking on iPad with iPadOS.

## **Chapter 3**

### **How to Use Library**

This chapter describes development environment for iOS application and how to use the library.

#### **3.1 Development Environment for iOS Application**

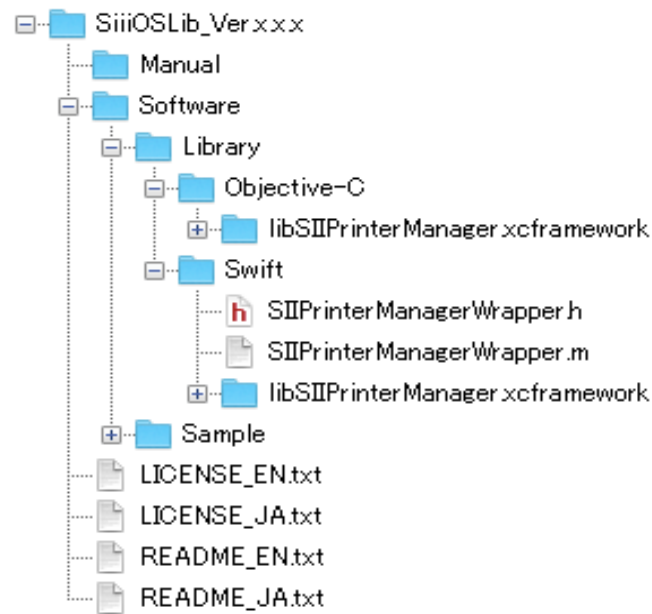
In order to develop iOS applications, following tools are required.

- Xcode 12.0 or later

The description in and after this chapter is on the premise that the environment where each tool is available is prepared.

## 3.2 Provided Files

The file configuration of the SDK is as follows.



**Figure 3-1**

The file format of the library is XCFramework. The file name of the library is `libSIIPrinterManager.xcframework`.



### 3.3 Build Library into Xcode Project

Using the project of the sample program (SiiLibSample) included in the SDK as an example, this section describes by development language how to build the library into the project.

See "Chapter 5 Sample Program" for sample programs included in the SDK.

Development Language	Description
Objective-C	See "3.3.1 Objective-C" for details to build the library as Objective-C.
Swift	See "3.3.2 Swift" for details to build the library as Swift.

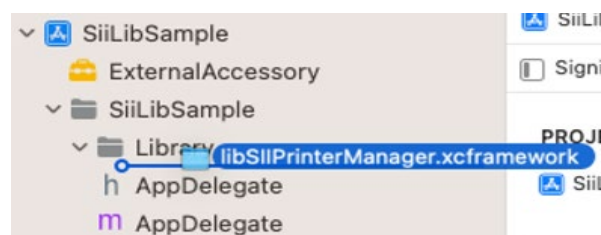
**(NOTE)** If the following libraries provided SII Print Class Library for iOS Ver. 3.8.0 or earlier versions are included in the target project, delete them all.

- libSIIPrinterManager.a
- SIIPrinterEnum.h
- SIIPrinterException.h
- SIIPrinterManager.h
- SIISmartLabelManager.h

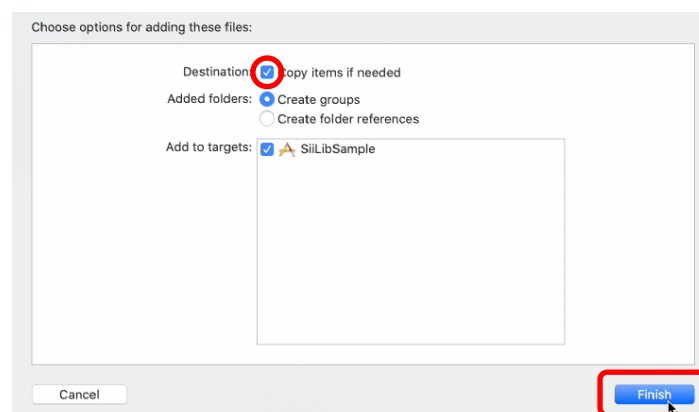
#### 3.3.1 Objective-C

- (1) Open the Xcode project.
- (2) Drag the following files to any hierarchy in the target project in the [Project Navigator] of the navigation window.

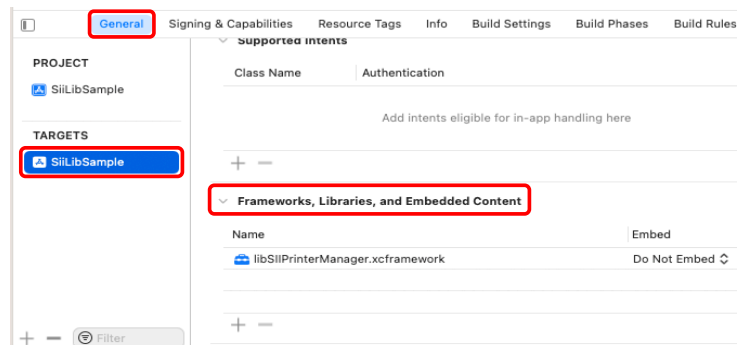
- libSIIPrinterManager.xcframework



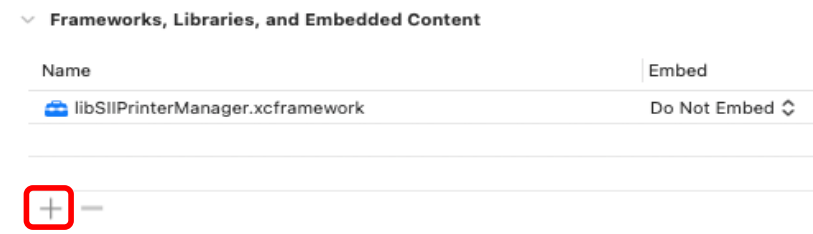
- (3) Check the box [Copy items if needed], and click the [Finish] button.



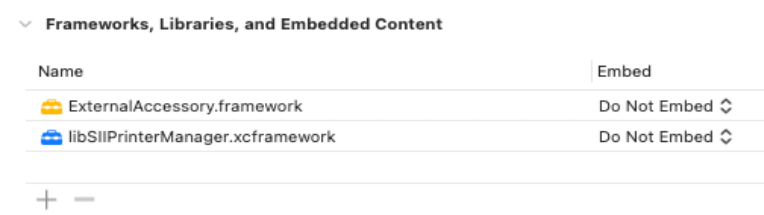
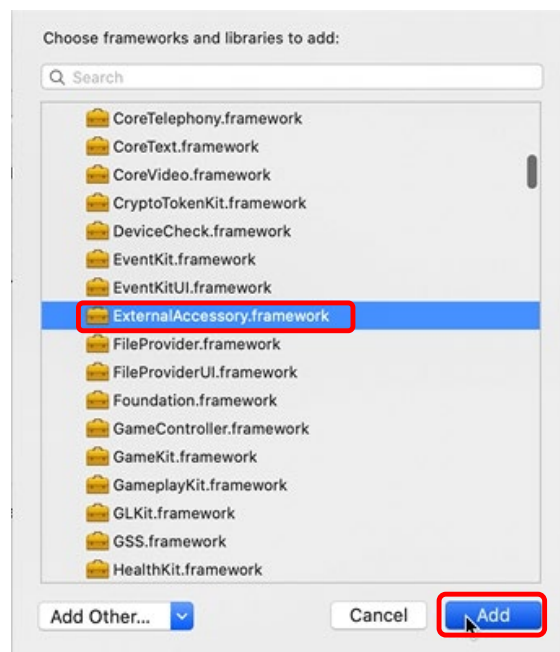
- (4) Build the ExternalAccessory.framework into the project.  
Select the target project in the [TARGETS], and open the [General] - [Frameworks, Libraries and Embedded Content].



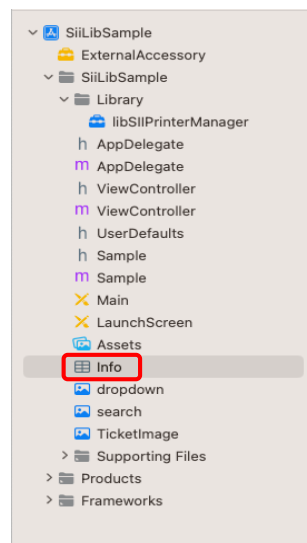
- (5) Click the [+] button opened the [Frameworks, Libraries and Embedded Content].



- (6) Select the ExternalAccessory.framework from the list and click the [Add] button.



- (7) Set the protocol name to use in the ExternalAccessory.framework. Select property list (.plist) in the [Project Navigator].



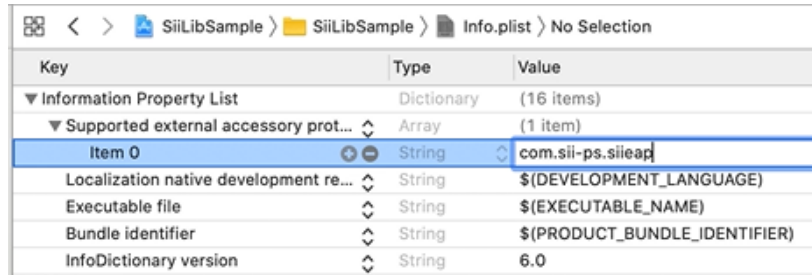
- (8) Select the [Information Property List] - ⊕.

SiiLibSample > SiiLibSample > Info.plist > No Selection		
Key	Type	Value
Information Property List	Dictionary	(15 items)
Localization native development re...	String	\$(DEVELOPMENT_LANGUAGE)
Executable file	String	\$(EXECUTABLE_NAME)
Bundle identifier	String	\$(PRODUCT_BUNDLE_IDENTIFIER)
InfoDictionary version	String	6.0

- (9) Select the [Supported external accessory protocols] from the list.

SiiLibSample > SiiLibSample > Info.plist > No Selection		
Key	Type	Value
Information Property List	Dictionary	(16 items)
App Category	String	
Supported external accessory p...	String	\$(DEVELOPMENT_LANGUAGE)
Supported interface orientations	String	\$(EXECUTABLE_NAME)
Supported interface orientation...	String	\$(PRODUCT_BUNDLE_IDENTIFIER)
Supported interface orientation...	String	6.0
Supports Automatic Graphics S...	String	\$(PRODUCT_NAME)
Supports Controller User Intera...	String	\$(PRODUCT_BUNDLE_PACKAGE_TYPE)
Supports Document Browser	String	1.0
Supports HDR color mode	String	1

- (10) Open the added [Supported external accessory protocols].  
The [Item 0] displayed in the opened [Supported external accessory protocols], enter com.sii-ps.sieap as the Value.



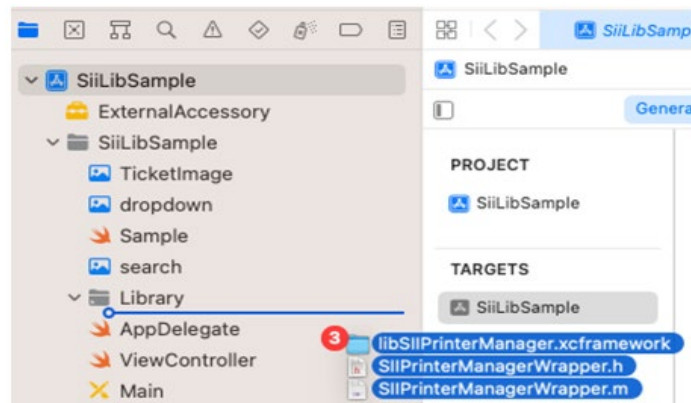
Key	Type	Value
▼ Information Property List	Dictionary	(16 items)
▼ Supported external accessory prot...	Array	(1 item)
Item 0	String	com.sii-ps.sieap
Localization native development re...	String	\$(DEVELOPMENT_LANGUAGE)
Executable file	String	\$(EXECUTABLE_NAME)
Bundle identifier	String	\$(PRODUCT_BUNDLE_IDENTIFIER)
InfoDictionary version	String	6.0

Use the following import statement when importing libraries.  
`#import <SIIPrinterManager/SIIPrinterManager.h>`

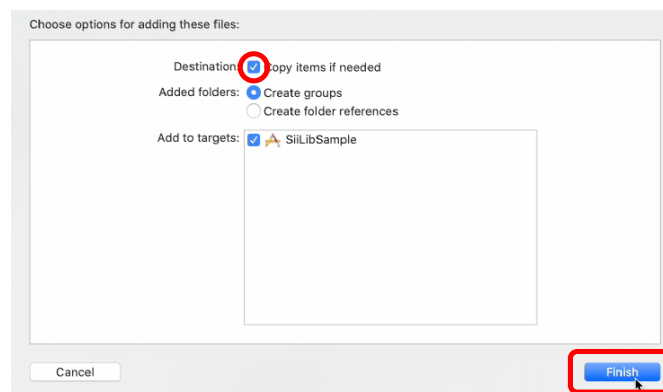
By completing these procedures, the library function becomes available.

### 3.3.2 Swift

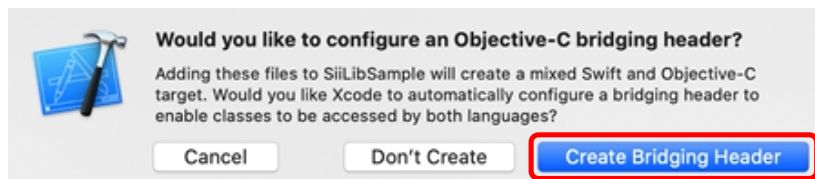
- (1) Open the Xcode project.
- (2) Drag the following files to any hierarchy in the target project in [Project Navigator] of the navigator window.
  - libSiiPrinterManager.xcframework
  - SiiPrinterManagerWrapper.h
  - SiiPrinterManagerWrapper.m



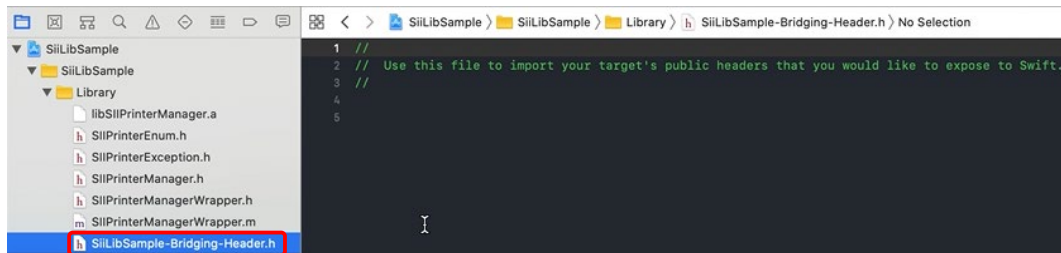
- (3) Check the box [Copy items if needed], click the [Finish] button.



- (4) The dialog is displayed. Select the [Create Bridging Header] button and create xxxxxxxx-Bridging-Header.h.



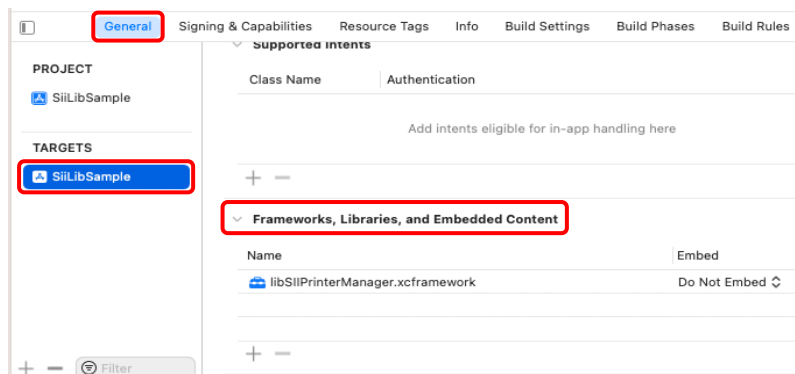
- (5) Select the created xxxxxxxx-Bridging-Header.h.



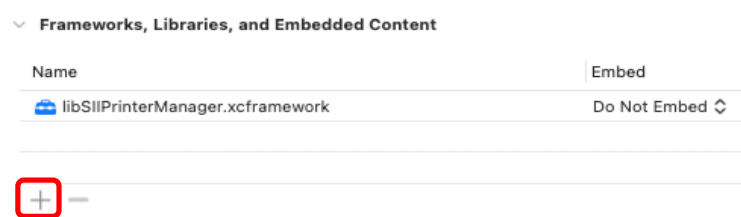
- (6) Import the SIIPrinterManager.h and the SIIPrinterManagerWrapper.h into the xxxxxxxx-Bridging-Header.h.

```
1 //
2 // Use this file to import your target's public headers that you would like to expose to Swift.
3 //
4
5 #import <SIIPrinterManager/SIIPrinterManager.h>
6 #import "SIIPrinterManagerWrapper.h"
7
```

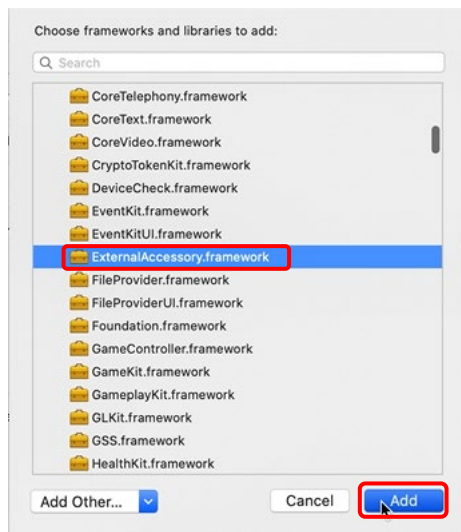
- (7) Build the ExternalAccessory.framework.  
Select the target project in the [TARGETS], and open the [General] - [Frameworks, Libraries and Embedded Content].



- (8) Click the [+] button opened the [Frameworks, Libraries and Embedded Content].



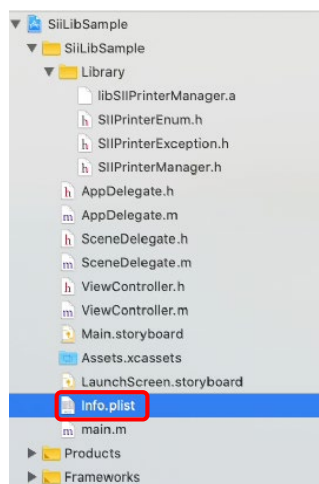
- (9) Select the ExternalAccessory.framework from the list and click the [Add] button.



▼ Frameworks, Libraries, and Embedded Content

Name	Embed
 ExternalAccessory.framework	Do Not Embed ↕
 libSiiPrinterManager.xcframework	Do Not Embed ↕
+ -	

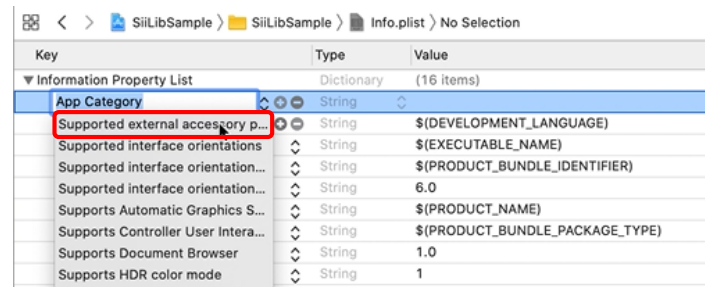
- (10) Set the protocol name to use in the ExternalAccessory.framework. Select property list (.plist) in the [Project Navigator].



- (11) Select the [Information Property List] - ⊕.

SiiLibSample > SiiLibSample > Info.plist > No Selection		
Key	Type	Value
▼ Information Property List	⊕ Dictionary	(15 items)
Localization native development re...	String	\$(DEVELOPMENT_LANGUAGE)
Executable file	String	\$(EXECUTABLE_NAME)
Bundle identifier	String	\$(PRODUCT_BUNDLE_IDENTIFIER)
InfoDictionary version	String	6.0

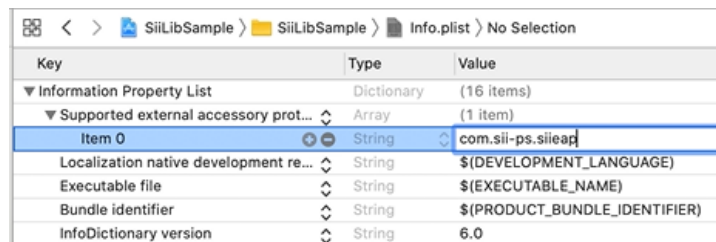
(12) Select the [Supported external accessory protocols] from the list.



Key	Type	Value
▼ Information Property List	Dictionary	(16 items)
App Category	String	
Supported external accessory p...	String	\$(DEVELOPMENT_LANGUAGE)
Supported interface orientations	String	\$(EXECUTABLE_NAME)
Supported interface orientation...	String	\$(PRODUCT_BUNDLE_IDENTIFIER)
Supported interface orientation...	String	6.0
Supports Automatic Graphics S...	String	\$(PRODUCT_NAME)
Supports Controller User Intera...	String	\$(PRODUCT_BUNDLE_PACKAGE_TYPE)
Supports Document Browser	String	1.0
Supports HDR color mode	String	1

(13) Open the added [Supported external accessory protocols].

The [Item 0] displayed in the opened [Supported external accessory protocols], enter com.sii-ps.sieap as the Value.



Key	Type	Value
▼ Information Property List	Dictionary	(16 items)
▼ Supported external accessory prot...	Array	(1 item)
Item 0	String	com.sii-ps.sieap
Localization native development re...	String	\$(DEVELOPMENT_LANGUAGE)
Executable file	String	\$(EXECUTABLE_NAME)
Bundle identifier	String	\$(PRODUCT_BUNDLE_IDENTIFIER)
InfoDictionary version	String	6.0

By completing these procedures, the library function becomes available.



## Chapter 4

### Function of Library

This chapter describes the APIs of each class implemented in the library.

#### 4.1 Standard Mode and Page Mode

##### 4.1.1 Basic Operation

There are two printing modes "Standard mode" and "Page mode" in the library. The "Standard mode" and "Page mode" are described below.

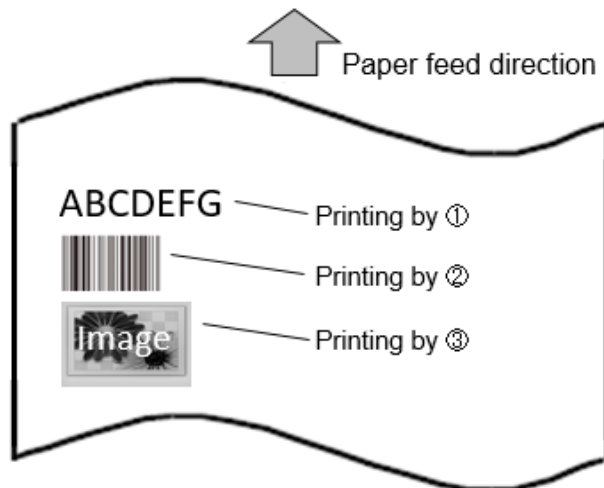
"Page mode" is supported only by POS printer.

##### (1) Standard mode

Standard mode is the mode to perform the printing in sequence.

Sample print command

- ① Send text data
- ② Print barcode
- ③ Send specified file (Specify an image file)



Standard mode suits the printing with an unfixed length such as a receipt.

## (2) Page mode

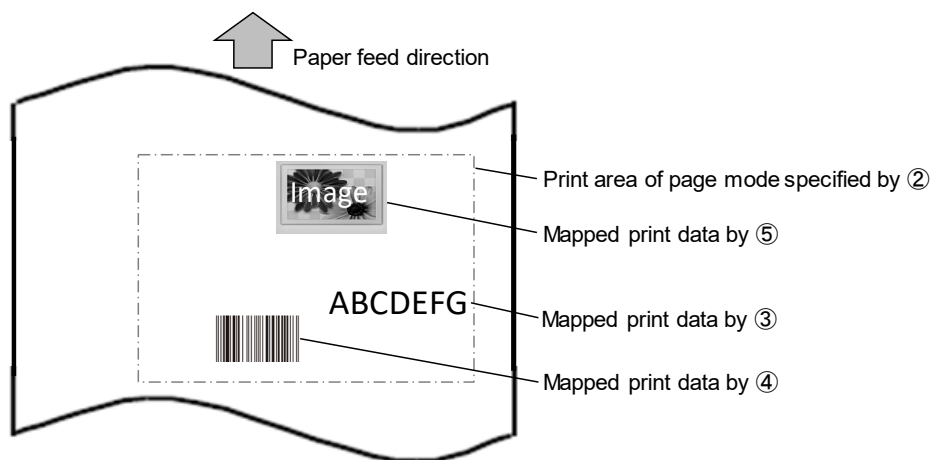
Page mode is the mode to perform the printing on a per-page basis.

In page mode, the print area of page mode is allocated at first, and then print data is mapped on an arbitrary position of the print area.

The mapped print data is printed by the print method of page mode.

Sample print command

- ① Start page mode
- ② Specify print area of page mode
- ③ Send text data of page mode
- ④ Print barcode of page mode
- ⑤ Draw image file of page mode
- ⑥ Print page mode (print the data of ③④⑤ on the print area of ②)
- ⑦ End page mode



Page mode suits the printing for the followings.

- The printing with a fixed length.
- The printing with the coordinate determination of the character starting position or the ruled line
- printing position.

#### 4.1.2 Text Data Printing in Standard Mode

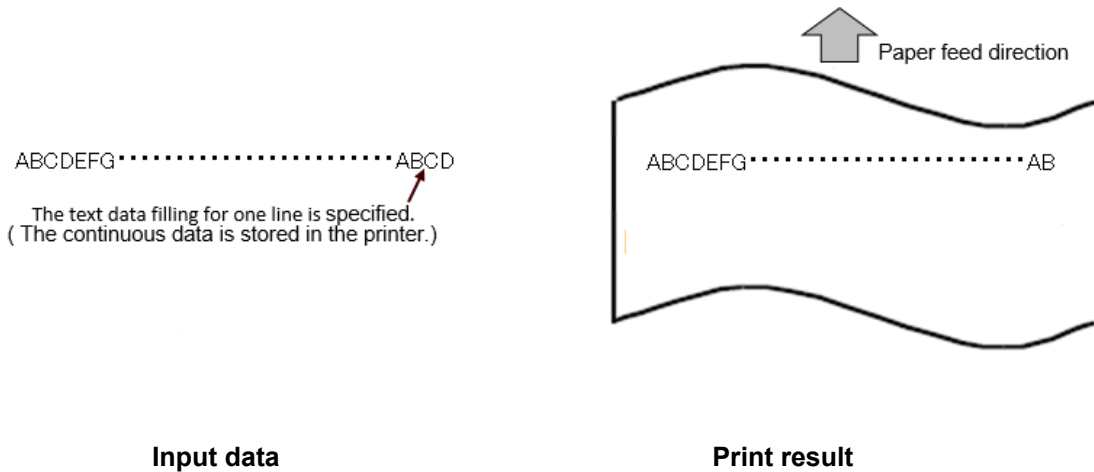
The text data in standard mode is printed each one line.

The text data is stored in the printer when the text data less than one line is specified.

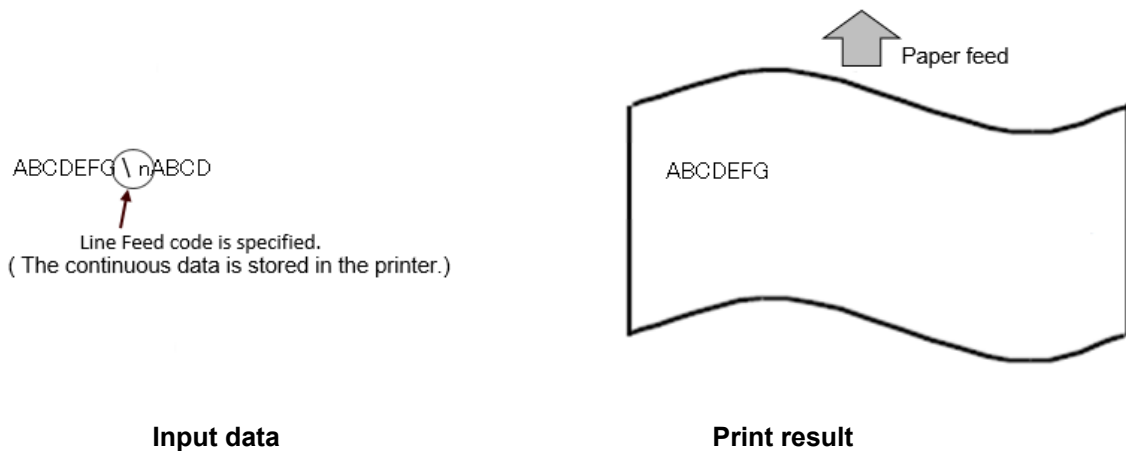
The stored text data is printed by either the following conditions.

- The text data filling for one line is specified.
- Line Feed code is specified.

- The print process when the text data filling for one line is specified.



- The print process when Line Feed code is specified.



### 4.1.3 Mapping Position of Print Data in Page Mode

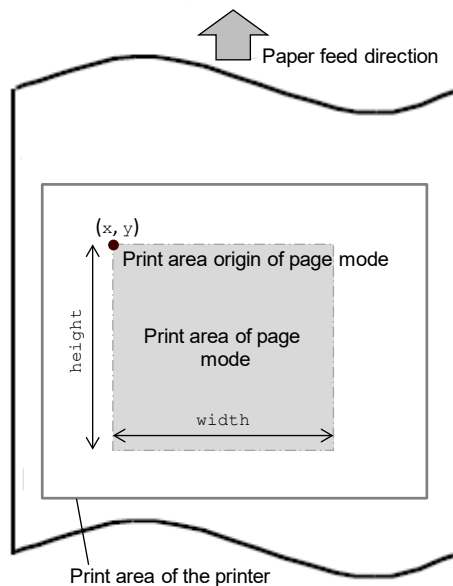
In page mode, the mapping position of print data is determined by print area, print direction, and reference point.

This section describes the print area, print direction, and reference point.

#### (1) Print area of page mode

The print area of page mode is specified against the print area of the printer by the print area origin, and the width and the height of page mode. The view of the print area is shown in the following figures.

The print area of page mode can be specified more than one.

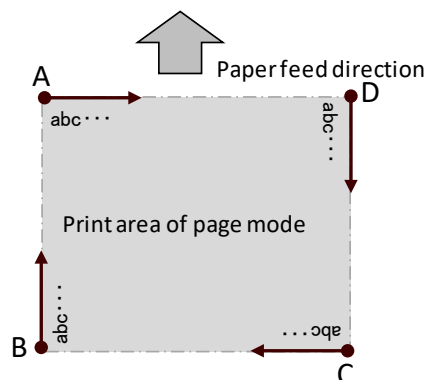


#### (2) Print direction

Specify the print direction at setting the print area of page mode.

The starting point is changed depending on specifying the print direction for each direction.

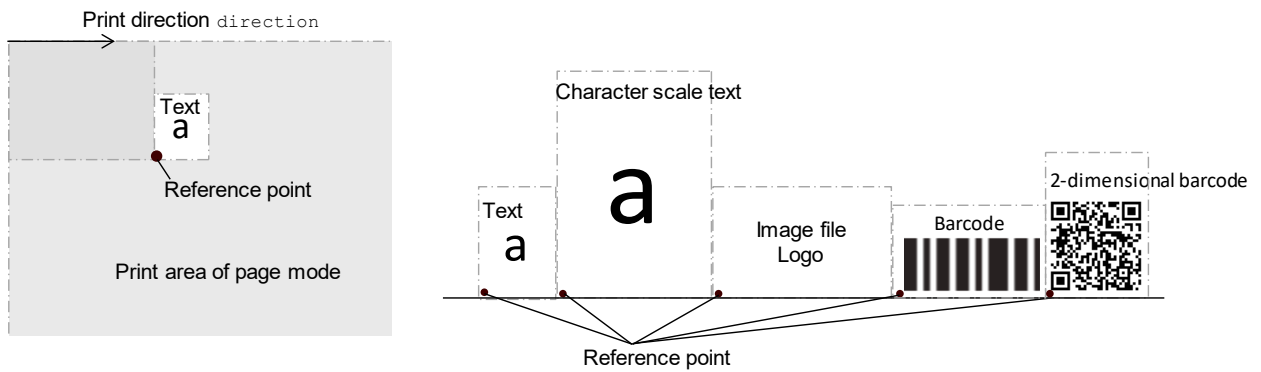
The relation between the print direction and the starting point is shown in the figure below.



- |  |                                 |
|--|---------------------------------|
| • Starting point: Upper left (A on the figure),  | Print direction: Left to Right  |
| • Starting point: Left below (B on the figure),  | Print direction: Below to Upper |
| • Starting point: Right below (C on the figure), | Print direction: Right to Left  |
| • Starting point: Upper right (D on the figure), | Print direction: Upper to Below |

### (3) Reference point



The relation between the reference point for mapping data and each print element (text, image file, logo, and barcode, etc.) is shown in the figures below.



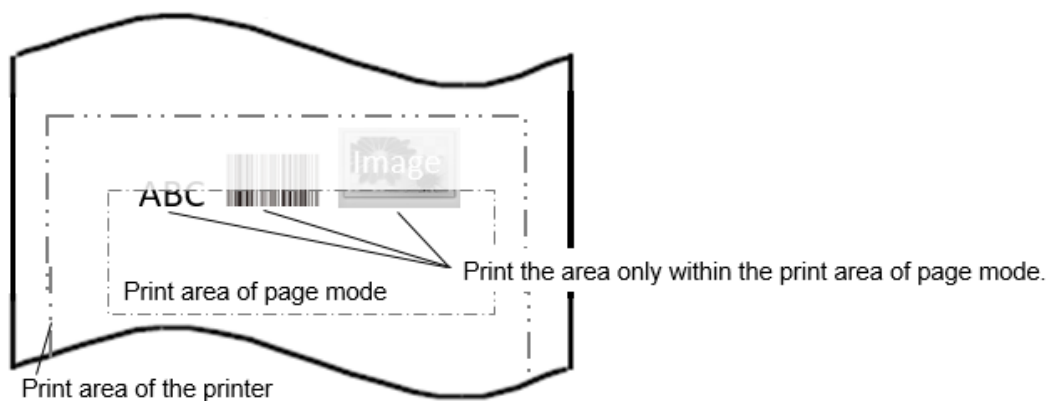
**(NOTE) The reference point cannot be specified out of the print area of page mode.**

#### 4.1.4 Print Data Process at Out of Print Area of Page Mode

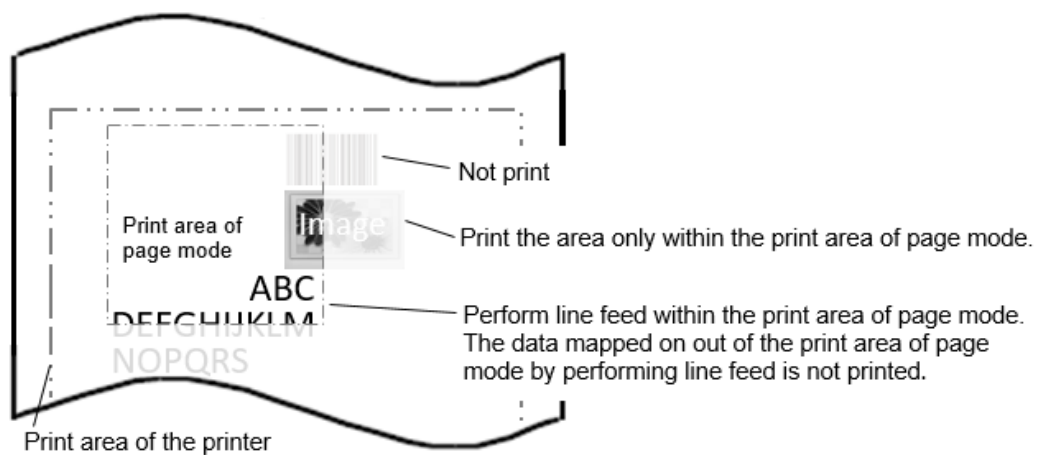
This section describes the process when mapped data is to be mapped on out of the print area of page mode.

Type of Print Data		
Text	Barcode, 2-dimensional Barcode	Image File, Logo, Rectangle, Ruled Line
ABC		

(1) The print data is mapped on the upper of the print area of page mode.



(2) The print data is mapped on the right of print area of page mode.



**(NOTE)** Read error or incorrect reading may occur when the part of mapped barcode data is on out of the print area of page mode.

## 4.2 Log File Output Function

The logs can be retrieved and the log files can be output using the library.

### 4.2.1 How to Set Log Output

Log output settings can be configured by adding the config.ini file with the following content to the Documents folder of the ios application that incorporates the library.

```
config.ini  
  
LOGLEVEL=x  
LOGSIZEMAX=xMB  
LOGOUTPUT=x
```

Reference: See "4.2.2 Log Output Settings" for details on the settings for x.

### 4.2.2 Log Output Settings

Item	Description	Settings
LOGLEVEL	Log level	0 : Not record the log. 1 : Records an error log when <b>SIIPrinterException</b> is thrown. 2 : Records API execution history.
LOGSIZEMAX	Log file maximum size	1MB : Log file maximum size is 1 MB 5MB : Log file maximum size is 5 MB 10MB : Log file maximum size is 10 MB 50MB : Log file maximum size is 50 MB
LOGOUTPUT	Console output enabled/disabled	0 : Console output is disabled 1 : Console output is enabled

### 4.2.3 Log File

Log files are saved as local files in the iOS application that incorporates the library.

Log file name : PrinterManagerX.log (range of X is 0 to 4)

The 1st log file is created as PrinterManager0.log. If the log file maximum size is exceeded, changes the file name to PrinterManager1.log and creates a new PrinterManager0.log.

Up to 5 log files can be created.

## 4.3 API Reference

This section describes API in each class included in this library. This manual describes it as follows.

Class Name	Description
<b>SIIPrinterManager</b>	Class that provides the API used for communication with the printer and for printing. See "4.3.1 SIIPrinterManager Class".
<b>SIIPinterInfo</b>	Class that stores the printer information searched by printer searching method. See "4.3.2 SIIPrinterInfo Class".
<b>SIIPrinterException</b>	Exception class that is thrown at API call. See "4.3.3 SIIPrinterException Class".
<b>SIIPrinterManagerDelegate</b>	API that gets notice from the printer. See "4.3.4 SIIPrinterManagerDelegate Protocol".
<b>SIISmartLabelManager</b>	Provides the API to specify label files or replace data.

(NOTE) • Mobile printer and POS printer do not support the APIs relating to Display, the barcode scanner, or label printing function.  
• Mobile printer does not support the APIs relating to page mode.

### 4.3.1 SIIPrinterManager Class

#### (1) Method List

Methods provided by the **SIIPrinterManager** class are shown in the following table.  
"Standard mode" or "Page mode" can be selected in the **SIIPrinterManager** class.  
The available methods vary according to whether the target printer is the mobile printer or the POS printer.

Method	Description
Common method to standard mode and page mode	The valid methods in standard mode and page mode. See "4.3.1(1)(a) Common method to standard mode and page mode" for the methods.
Dedicated method for standard mode	The valid methods in standard mode. See "4.3.1(1)(b) Dedicated method for standard mode" for the methods.
Dedicated method for page mode	The valid methods in page mode. See "4.3.1(1)(c) Dedicated method for page mode" for the methods.



(a) Common method to standard mode and page mode

Methods provided by the common method to standard mode and page mode are shown in the following table. See "4.3.1(5)(a) Common method to standard mode and page mode" for details of the common methods.

**Table 4-1 Common Method to Standard Mode and Page Mode  
in SIIPrinterManager Class**

Method	Function Summary	Target	
		Mobile	POS
<b>init</b>	Instance	Supported	Supported
<b>connect</b>	Start communicating with a printer (Bluetooth)	Supported	Supported
<b>connect</b>	Start communicating with a printer (TCP/IP)	Not supported	Supported
<b>disconnect</b>	Disconnect a printer	Supported	Supported
<b>openDrawer</b>	Open cash drawer	Not supported	Supported
<b>buzzer</b>	Sound buzzer	Not supported	Supported
<b>externalBuzzer</b>	Sound external buzzer	Not supported	Not supported
<b>getStatus</b>	Obtain printer status	Supported	Supported
<b>abort</b>	Abort the waiting state of a printer	Supported	Supported
<b>registerLogo</b>	Register logo (image) to a printer	Supported* <sup>1</sup>	Supported* <sup>1</sup>
<b>unregisterLogo</b>	Delete specified logo (image) on a printer	Supported	Supported
<b>registerStyleSheet</b>	Register style sheet to a printer	Not supported	Supported
<b>unregisterStyleSheet</b>	Delete specified style sheet on a printer	Not supported	Supported
<b>resetPrinter</b>	Printer hardware reset	Not supported	Supported
<b>getPrinterResponse</b>	Obtain various responses from a printer	Supported* <sup>1</sup>	Supported* <sup>1</sup>
<b>startDiscoveryPrinter</b>	Start searching printer (Bluetooth)	Supported	Supported
<b>startDiscoveryPrinter</b>	Start searching printer (TCP/IP)	Not supported	Supported
<b>cancelDiscoveryPrinter</b>	Cancel printer search	Not supported	Supported
<b>getFoundPrinter</b>	Obtain searched printer information	Not supported	Supported
<b>getVersion</b>	Get SDK version	Supported	Supported
<b>controlTransaction</b>	Start/End batch processing	Supported	Supported

\*1: Provided function varies depending on the target printer.

(b) Dedicated method for standard mode

Methods provided by the dedicated method for standard mode are shown in the following table.  
See "4.3.1(5)(b) Dedicated method for standard mode" for details of the specified methods.

**Table 4-2 Dedicated Method for Standard Mode  
in SIIPrinterManager Class**

Method	Function Summary	Target	
		Mobile	POS
<b>sendText</b>	Send text data	Supported	Supported
<b>sendTextEx</b>	Send format specified text data	Supported	Not supported
<b>sendTextEx</b>	Send format specified text data	Not supported	Supported
<b>printBarcode</b>	Print barcode	Supported	Supported
<b>printPDF417</b>	Print PDF417	Supported	Supported
<b>printQRcode</b>	Print QR code.	Supported	Supported
<b>printDataMatrix</b>	Print Data Matrix	Supported	Supported
<b>printMaxiCode</b>	Print MaxiCode	Supported	Supported
<b>printGS1DataBarStacked</b>	Print GS1 Databar Stacked	Not supported	Not supported
<b>printGS1DataBarStackedOmni- directional</b>	Print GS1Databar Stacked Omni- directional	Not supported	Not supported
<b>printGS1DataBarExpandedSt- acked</b>	Print GS1Databar Expanded Stacked	Not supported	Not supported
<b>printAztecCode</b>	Print AztecCode	Not supported	Not supported
<b>cutPaper</b>	Cut paper	Not supported	Supported
<b>feedPosition</b>	Paper form feed	Not supported	Not supported
<b>sendBinary</b>	Send binary data	Supported	Supported
<b>sendDataFile</b>	Send specified file	Supported* <sup>1</sup>	Supported* <sup>1</sup>
<b>printPDF</b>	Print PDF page	Not supported	Supported
<b>printLogo</b>	Print specified logo on a printer	Supported	Not supported
<b>printLogo</b>	Print specified logo on a printer	Not supported	Supported

\*1: Provided function varies depending on the target printer.

(c) Dedicated method for page mode

Methods provided by the dedicated method for page mode are shown in the following table.  
See "4.3.1(5)(c) Dedicated method for page mode" for details of the specified methods.

**Table 4-3 Dedicated Method for Page Mode  
in SIIPrinterManager Class**

Method	Function Summary	Target	
		Mobile	POS
<b>enterPageMode</b>	Start page mode	Not supported	Supported
<b>exitPageMode</b>	End page mode	Not supported	Supported
<b>setPageModeArea</b>	Specify print area of page mode	Not supported	Supported
<b>setPageModeDirection</b>	Specify print direction of page mode	Not supported	Supported
<b>setPageModeLineSpacing</b>	Specify line spacing of page mode	Not supported	Supported
<b>printPageMode</b>	Print page mode	Not supported	Supported

Method	Function Summary	Target	
		Mobile	POS
<code>printPageModeText</code>	Send text data of page mode	Not supported	Supported
<code>printPageModeTextEx</code>	Send format specified text data of page mode	Not supported	Supported
<code>printPageModeBarcode</code>	Print barcode of page mode	Not supported	Supported
<code>printPageModePDF417</code>	Print PDF417 of page mode	Not supported	Supported
<code>printPageModeQRcode</code>	Print QR Code of page mode	Not supported	Supported
<code>printPageModeDataMatrix</code>	Print Data Matrix of page mode	Not supported	Supported
<code>printPageModeGS1DataBarStacked</code>	Print GS1 Databar Stacked of page mode	Not supported	Not supported
<code>printPageModeGS1DataBarStackedOmnidirectional</code>	Print GS1 Databar Stacked Omnidirectional of page mode	Not supported	Not supported
<code>printPageModeGS1DataBarExpandedStacked</code>	Print GS1 Databar Expanded Stacked of page mode	Not supported	Not supported
<code>printPageModeAztecCode</code>	Print Aztec Code of page mode	Not supported	Not supported
<code>printPageModeMaxiCode</code>	Print MaxiCode of page mode	Not supported	Supported
<code>sendPageModeBinary</code>	Send binary data of page mode	Not supported	Supported
<code>printPageModeImageFile</code>	Draw image file of page mode	Not supported	Supported
<code>printPageModeRectangle</code>	Draw rectangle image of page mode	Not supported	Supported
<code>printPageModeLine</code>	Print ruled line of page mode	Not supported	Supported
<code>printPageModeLogo</code>	Print logo of page mode	Not supported	Supported

(2) Common property list to standard mode and page mode

Properties provided by the `SIIPrinterManager` class are shown in the following table.

**Table 4-4 Property in SIIPrinterManager Class**

Property	Access	Function Summary	Target	
			Mobile	POS
<code>sendTimeout</code>	R/W	Timeout period when sending data	Supported	Supported
<code>receiveTimeout</code>	R/W	Timeout period when receiving data	Supported	Supported
<code>internationalCharacter</code>	R/W	Set international character	Supported	Supported
<code>codePage</code>	R/W	Code page	Supported	Supported
<code>printerModel</code>	R	Obtain printer model	Supported	Supported
<code>portType</code>	R	Connecting port type	Supported	Supported
<code>isConnect</code>	R	Verify connection state with a printer	Supported	Supported
<code>socketKeepingTime</code>	R/W	Setting/Obtaining Socket keeping time	Not supported	Supported
<code>delegate</code>	R/W	Register delegate	Supported	Supported

(3) Constant List

(a) Printer model constant

Constants used for obtaining the printer model are shown in the following table.

**Table 4-5 Printer Model Constant**

Constant Name	Description	Value	Target	
			Mobile	POS
SII_PM_PRINTER_MODEL_DPU_S245	DPU-S245	284	Supported	Not supported
SII_PM_PRINTER_MODEL_DPU_S445	DPU-S445	281	Supported	Not supported
SII_PM_PRINTER_MODEL_RP_D10	RP-D10	295	Not supported	Supported
SII_PM_PRINTER_MODEL_RP_E10	RP-E10	291	Not supported	Supported

(b) Connecting port type constant

Constants used for obtaining the connecting port type are shown in the following table.

**Table 4-6 Port Type Constant**

Constant Name	Description	Value	Target	
			Mobile	POS
SII_PM_PRINTER_PORT_TYPE_BLUETOOTH	Bluetooth	0	Supported	Supported
SII_PM_PRINTER_PORT_TYPE_TCP	TCP/IP	2	Not supported	Supported

(c) Response type constant

Constants used for obtaining various responses from the printer are shown in the following table.

**Table 4-7 Response Type Constant**

Constant Name	Description	Value	Target	
			Mobile	POS
SII_PM_PRINTER_RESPONSE_REQUEST	Execution response request	0	Supported	Supported
SII_PM_PRINTER_RESPONSE_USER_AREA	Send remaining capacity of user area	1	Supported	Supported
SII_PM_PRINTER_RESPONSE_ARRANGE_USER_AREA	Send remaining capacity of user area after defragment	2	Not supported	Supported
SII_PM_PRINTER_RESPONSE_NV_GRAPHICS	Send NV graphics memory capacity	3	Not supported	Supported
SII_PM_PRINTER_RESPONSE_KEY_CODE	Send key code list of defined NV graphics	4	Not supported	Supported
SII_PM_PRINTER_RESPONSE_BATTERY_STATUS	Battery voltage state	5	Supported	Not supported
SII_PM_PRINTER_RESPONSE_FIRMWARE_VERSION	Send firmware version	6	Not supported	Supported

(d) International character setting constant

Constants used for setting/obtaining the international character set are shown in the following table.

**Table 4-8 International Character Setting Constant**

Constant Name	Description	Value	Target	
			Mobile	POS
SII_PM_COUNTRY_USA	USA	0	Supported	Supported
SII_PM_COUNTRY_FRANCE	France	1	Supported	Supported
SII_PM_COUNTRY_GERMANY	Germany	2	Supported	Supported
SII_PM_COUNTRY_ENGLAND	United Kingdom	3	Supported	Supported
SII_PM_COUNTRY_DENMARK_1	Denmark I	4	Supported	Supported
SII_PM_COUNTRY_SWEDEN	Sweden	5	Supported	Supported
SII_PM_COUNTRY_ITALY	Italy	6	Supported	Supported
SII_PM_COUNTRY_SPAIN	Spain I	7	Supported	Supported
SII_PM_COUNTRY_JAPAN	Japan	8	Supported	Supported
SII_PM_COUNTRY_NORWAY	Norway	9	Supported	Supported
SII_PM_COUNTRY_DENMARK_2	Denmark II	10	Supported	Supported
SII_PM_COUNTRY_SPAIN_2	Spain II	11	Supported	Supported
SII_PM_COUNTRY_LATIN_AMERICA	Latin America	12	Supported	Supported
SII_PM_COUNTRY_ARABIA	Arabia	17	Not supported	Supported

(e) Codepage constant

Constants used for setting/obtaining codepage are shown in the following table.

**Table 4-9 Codepage constant**

Constant Name	Description	Value	Target	
			Mobile	POS
SII_PM_CODE_PAGE_437	USA, Standard Europe (Code Page437)	0	Not supported	Supported
SII_PM_CODE_PAGE_KATAKANA	Katakana	1	Supported	Supported
SII_PM_CODE_PAGE_850	Multilingual (Code Page850)	2	Not supported	Supported
SII_PM_CODE_PAGE_860	Portuguese (Code Page860)	3	Not supported	Supported
SII_PM_CODE_PAGE_863	Canadian-French (Code Page863)	4	Not supported	Supported
SII_PM_CODE_PAGE_865	Nordic (Code Page865)	5	Not supported	Supported
SII_PM_CODE_PAGE_1252	Latin (Code Page1252)	16	Supported	Supported
SII_PM_CODE_PAGE_852	Eastern Europe (Code Page852)	18	Not supported	Supported
SII_PM_CODE_PAGE_858	Euro (Code Page858)	19	Not supported	Supported
SII_PM_CODE_PAGE_864 <sup>*1*2</sup>	Arabic (Code Page864)	37	Not supported	Supported
SII_PM_CODE_PAGE_1250	Central European (Code Page1250)	45	Not supported	Supported
SII_PM_CODE_PAGE_1251	Cyrillic (Code Page1251)	46	Not supported	Supported
SII_PM_CODE_PAGE_1253 <sup>*3</sup>	Greek (Code Page1253)	47	Not supported	Supported

Constant Name	Description	Value	Target	
			Mobile	POS
<b>SII_PM_CODE_PAGE_1254</b>	Turkish (Code Page1254)	48	Not supported	Supported

Note: This library does not support other than the above code page.

\*1: When **SII\_PM\_CODE\_PAGE\_864** is specified, 20ACh of the Unicode cannot be printed.

\*2: When **SII\_PM\_CODE\_PAGE\_864** is specified, Font B cannot be printed.

\*3: When **SII\_PM\_CODE\_PAGE\_1253** is specified, 00AAh of the Unicode cannot be printed.

(f) Constant used for barcode and PDF417

Constants used for printing barcode and PDF417 are shown in the following table.

**Table 4-10 Constant for Barcode and PDF417**

Constant Name	Description	Value	Target	
			Mobile	POS
<b>SII_PM_BARCODE_HEIGHT_DEFAULT</b>	Default value of barcode height	162	Supported	Supported
<b>SII_PM_PDF417_MODULE_HEIGHT_DEFAULT</b>	Default value of PDF417 height	10	Supported	Supported
<b>SII_PM_PDF417_ROW_AUTO</b>	Automatic selection of the number of rows	0	Supported	Supported
<b>SII_PM_PDF417_COLUMN_AUTO</b>	Automatic selection of the number of columns	0	Supported	Supported

(4) Constant List of Enumerated Type

(a) Drawer number (**DrawerNum**)

Enumerated type constants used for drawer number are shown in the following table.

**Table 4-11 Drawer Number (DrawerNum)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_DRAWER_1</b>	Drawer 1	Not supported	Supported
<b>SII_PM_DRAWER_2</b>	Drawer 2	Not supported	Supported

(b) Activation pulse width (**PulseWidth**)

Enumerated type constants used for activation pulse width are shown in the following table.

**Table 4-12 Activation Pulse Width (PulseWidth)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_ON_OFF_TIME_100</b>	ON/OFF time 100 millisecond	Not supported	Supported
<b>SII_PM_ON_OFF_TIME_200</b>	ON/OFF time 200 millisecond	Not supported	Supported
<b>SII_PM_ON_OFF_TIME_300</b>	ON/OFF time 300 millisecond	Not supported	Supported
<b>SII_PM_ON_OFF_TIME_400</b>	ON/OFF time 400 millisecond	Not supported	Supported
<b>SII_PM_ON_OFF_TIME_500</b>	ON/OFF time 500 millisecond	Not supported	Supported
<b>SII_PM_ON_OFF_TIME_600</b>	ON/OFF time 600 millisecond	Not supported	Supported
<b>SII_PM_ON_OFF_TIME_700</b>	ON/OFF time 700 millisecond	Not supported	Supported
<b>SII_PM_ON_OFF_TIME_800</b>	ON/OFF time 800 millisecond	Not supported	Supported

(c) Dithering (**Dithering**)

Enumerated type constants used for dithering are shown in in the following table.

**Table 4-13 Dithering (Dithering)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_DITHERING_DISABLE</b>	Dithering is disable	Supported	Supported
<b>SII_PM_DITHERING_ERRORDIFFUSION</b>	Dithering is enable	Supported	Supported

(d) Batch processing selection (**TransactionFunction**)

Enumerated type constants used for batch processing selection are shown in the following table.

**Table 4-14 Batch Processing Selection (TransactionFunction)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_TRANSACTION_CLEAR</b>	Clear batch transaction	Supported	Supported
<b>SII_PM_TRANSACTION_START</b>	Start batch transaction	Supported	Supported
<b>SII_PM_TRANSACTION_PRINT</b>	Finish batch printing and batch processing	Supported	Supported

(e) Bold print (**CharacterBold**)

Enumerated type constants used for bold print are shown in the following table.

**Table 4-15 Bold Print (CharacterBold)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_BOLD_CANCEL</b>	Release bold print	Supported	Supported
<b>SII_PM_BOLD</b>	Specify bold print	Supported	Supported

(f) Underline (**CharacterUnderline**)

Enumerated type constants used for underline are shown in the following table.

**Table 4-16 Underline (CharacterUnderline)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_UNDERLINE_CANCEL</b>	Release underline print	Supported	Supported
<b>SII_PM_UNDERLINE_1</b>	Specify 1 dot width underline print	Supported	Supported
<b>SII_PM_UNDERLINE_2</b>	Specify 2 dots width underline print	Supported	Supported

(g) Reverse print (**CharacterReverse**)

Enumerated type constants used for reverse print are shown in the following table.

**Table 4-17 Reverse Print (CharacterReverse)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_REVERSE_CANCEL</b>	Release reverse print	Not Supported	Supported
<b>SII_PM_REVERSE</b>	Specify reverse print	Not Supported	Supported



(h) Inversion print (**CharacterInversion**)

Enumerated type constants used for inversion print are shown in the following table.  
Inversion print cannot be added to the text data before inserting a new line feed.

**Table 4-18 Character Inversion (CharacterInversion)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_INVERSION_CANCEL</b>	Cancel inversion print	Supported	Supported
<b>SII_PM_INVERSION</b>	Specify inversion print	Supported	Supported

(i) Character font (**CharacterFont**)

Enumerated type constants used for Character font are shown in the following table.

**Table 4-19 Character Font (CharacterFont)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_FONT_A</b>	Font A (24 × 12)	Supported	Supported
<b>SII_PM_FONT_B</b>	Font B (16 × 8)	Supported	Supported

(j) Character Scale (**CharacterScale**)

Enumerated type constants used for character scale are shown in the following table.

**Table 4-20 Character Scale (CharacterScale)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_VARTICAL_1_HORIZONTAL_1</b>	Height × 1 and width × 1	Supported	Supported
<b>SII_PM_VARTICAL_1_HORIZONTAL_2</b>	Height × 1 and width × 2	Supported	Supported
<b>SII_PM_VARTICAL_1_HORIZONTAL_3</b>	Height × 1 and width × 3	Not supported	Supported
<b>SII_PM_VARTICAL_1_HORIZONTAL_4</b>	Height × 1 and width × 4	Not supported	Supported
<b>SII_PM_VARTICAL_2_HORIZONTAL_1</b>	Height × 2 and width × 1	Supported	Supported
<b>SII_PM_VARTICAL_2_HORIZONTAL_2</b>	Height × 2 and width × 2	Supported	Supported
<b>SII_PM_VARTICAL_2_HORIZONTAL_3</b>	Height × 2 and width × 3	Not supported	Supported
<b>SII_PM_VARTICAL_2_HORIZONTAL_4</b>	Height × 2 and width × 4	Not supported	Supported
<b>SII_PM_VARTICAL_2_HORIZONTAL_6</b>	Height × 2 and width × 6	Not supported	Supported
<b>SII_PM_VARTICAL_3_HORIZONTAL_1</b>	Height × 3 and width × 1	Not supported	Supported
<b>SII_PM_VARTICAL_3_HORIZONTAL_2</b>	Height × 3 and width × 2	Not supported	Supported
<b>SII_PM_VARTICAL_3_HORIZONTAL_3</b>	Height × 3 and width × 3	Not supported	Supported
<b>SII_PM_VARTICAL_3_HORIZONTAL_4</b>	Height × 3 and width × 4	Not supported	Supported
<b>SII_PM_VARTICAL_4_HORIZONTAL_1</b>	Height × 4 and width × 1	Not supported	Supported
<b>SII_PM_VARTICAL_4_HORIZONTAL_2</b>	Height × 4 and width × 2	Not supported	Supported
<b>SII_PM_VARTICAL_4_HORIZONTAL_3</b>	Height × 4 and width × 3	Not supported	Supported
<b>SII_PM_VARTICAL_4_HORIZONTAL_4</b>	Height × 4 and width × 4	Not supported	Supported
<b>SII_PM_VARTICAL_4_HORIZONTAL_6</b>	Height × 4 and width × 6	Not supported	Supported

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_VARTICAL_4_HORIZONTAL_8</b>	Height × 4 and width × 8	Not supported	Supported
<b>SII_PM_VARTICAL_6_HORIZONTAL_2</b>	Height × 6 and width × 2	Not supported	Supported
<b>SII_PM_VARTICAL_6_HORIZONTAL_4</b>	Height × 6 and width × 4	Not supported	Supported
<b>SII_PM_VARTICAL_6_HORIZONTAL_6</b>	Height × 6 and width × 6	Not supported	Supported
<b>SII_PM_VARTICAL_6_HORIZONTAL_8</b>	Height × 6 and width × 8	Not supported	Supported
<b>SII_PM_VARTICAL_8_HORIZONTAL_4</b>	Height × 8 and width × 4	Not supported	Supported
<b>SII_PM_VARTICAL_8_HORIZONTAL_6</b>	Height × 8 and width × 6	Not supported	Supported
<b>SII_PM_VARTICAL_8_HORIZONTAL_8</b>	Height × 8 and width × 8	Not supported	Supported

(k) Alignment (**PrintAlignment**)

Enumerated type constants used for alignment are shown in the following table.  
Alignment cannot be added to the text data before inserting a new line feed.

**Table 4-21 Alignment (PrintAlignment)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_ALIGNMENT_LEFT</b>	Align left	Supported	Supported
<b>SII_PM_ALIGNMENT_CENTER</b>	Centered	Supported	Supported
<b>SII_PM_ALIGNMENT_RIGHT</b>	Align right	Supported	Supported

(l) Barcode symbol (**BarcodeSymbol**)

Enumerated type constants used for barcode symbol are shown in the following table.

**Table 4-22 Barcode Symbol (BarcodeSymbol)**

Constant Name	Description	Type	Target	
			Mobile	POS
<b>SII_PM_BARCODE_UPC_A</b>	UPC-A	(a)	Supported	Supported
<b>SII_PM_BARCODE_UPC_E</b>	UPC-E	(a)	Supported	Supported
<b>SII_PM_BARCODE_EAN13</b>	EAN13	(a)	Supported	Supported
<b>SII_PM_BARCODE_JAN13</b>	JAN13	(a)	Supported	Supported
<b>SII_PM_BARCODE_EAN8</b>	EAN8	(a)	Supported	Supported
<b>SII_PM_BARCODE_JAN8</b>	JAN8	(a)	Supported	Supported
<b>SII_PM_BARCODE_CODE39</b>	CODE39	(a), (b)	Supported	Supported
<b>SII_PM_BARCODE_CODE93</b>	CODE93	(c)	Not supported	Supported
<b>SII_PM_BARCODE_CODE128</b>	CODE128	(c)	Supported	Supported
<b>SII_PM_BARCODE_ITF</b>	ITF	(a), (b)	Supported	Supported
<b>SII_PM_BARCODE_CODABAR</b>	CODABAR	(a), (b)	Supported	Supported
<b>SII_PM_BARCODE_EAN13_ADDON</b>	EAN13 add-on	(a)	Not supported	Supported
<b>SII_PM_BARCODE_JAN13_ADDON</b>	JAN13 add-on	(a)	Not supported	Supported

See `printBarcode` method or `printPageModeBarcode` method for the type.

(m) Module size (**ModuleSize**)

Enumerated type constants used for module size are shown in the following table.

**Table 4-23 Module Size (ModuleSize)**

Constant Name	Description	Using Method	Target	
			Mobile <sup>*1</sup>	POS
<b>SII_PM_BARCODE_MODULE_WIDTH_2</b>	Fine element 2 dots Module width 0.250 mm	<b>printBarcode</b> <b>printPageModeBarcode</b>	Supported	Supported
<b>SII_PM_BARCODE_MODULE_WIDTH_3</b>	Fine element 3 dots Module width 0.375 mm		Supported	Supported
<b>SII_PM_BARCODE_MODULE_WIDTH_4</b>	Fine element 4 dots Module width 0.500 mm		Supported	Supported
<b>SII_PM_BARCODE_MODULE_WIDTH_5</b>	Fine element 5 dots Module width 0.625 mm		Not supported	Supported
<b>SII_PM_BARCODE_MODULE_WIDTH_6</b>	Fine element 6 dots Module width 0.750 mm		Not supported	Supported
<b>SII_PM_PDF417_MODULE_WIDTH_2</b>	Nominal fine element width 2 dots	<b>printPDF417</b> <b>printPageModePDF417</b>	Supported	Supported
<b>SII_PM_PDF417_MODULE_WIDTH_3</b>	Nominal fine element width 3 dots		Supported	Supported
<b>SII_PM_PDF417_MODULE_WIDTH_4</b>	Nominal fine element width 4 dots		Supported	Supported
<b>SII_PM_PDF417_MODULE_WIDTH_5</b>	Nominal fine element width 5 dots		Supported	Not supported
<b>SII_PM_PDF417_MODULE_WIDTH_6</b>	Nominal fine element width 6 dots		Supported	Not supported
<b>SII_PM_PDF417_MODULE_WIDTH_7</b>	Nominal fine element width 7 dots		Supported	Not supported
<b>SII_PM_PDF417_MODULE_WIDTH_8</b>	Nominal fine element width 8 dots		Supported	Not supported
<b>SII_PM_QR_MODULE_SIZE_2</b>	2 dots	<b>printQRcode</b> <b>printPageModeQRcode</b>	Supported	Supported
<b>SII_PM_QR_MODULE_SIZE_3</b>	3 dots		Supported	Supported
<b>SII_PM_QR_MODULE_SIZE_4</b>	4 dots		Supported	Supported
<b>SII_PM_QR_MODULE_SIZE_5</b>	5 dots		Supported	Supported
<b>SII_PM_QR_MODULE_SIZE_6</b>	6 dots		Supported	Supported
<b>SII_PM_QR_MODULE_SIZE_7</b>	7 dots		Supported	Supported
<b>SII_PM_QR_MODULE_SIZE_8</b>	8 dots		Supported	Supported
<b>SII_PM_QR_MODULE_SIZE_9</b>	9 dots		Supported	Supported
<b>SII_PM_QR_MODULE_SIZE_10</b>	10 dots		Supported	Supported
<b>SII_PM_QR_MODULE_SIZE_11</b>	11 dots		Supported	Supported
<b>SII_PM_DATAMATRIX_MODULE_SIZE_2</b>	2 dots	<b>printDataMatrix</b> <b>printPageModeDataMatrix</b>	Supported	Supported
<b>SII_PM_DATAMATRIX_MODULE_SIZE_3</b>	3 dots		Supported	Supported
<b>SII_PM_DATAMATRIX_MODULE_SIZE_4</b>	4 dots		Supported	Supported

Constant Name	Description	Using Method	Target	
			Mobile* <sup>1</sup>	POS
SII_PM_DATAMATRIX_MODULE_SIZE_5	5 dots	printDataMatrix printPageModeDataMatrix	Supported	Supported
SII_PM_DATAMATRIX_MODULE_SIZE_6	6 dots		Supported	Supported
SII_PM_DATAMATRIX_MODULE_SIZE_7	7 dots		Supported	Supported
SII_PM_DATAMATRIX_MODULE_SIZE_8	8 dots		Supported	Supported
SII_PM_DATAMATRIX_MODULE_SIZE_9	9 dots		Supported	Supported
SII_PM_DATAMATRIX_MODULE_SIZE_10	10 dots		Supported	Supported
SII_PM_DATAMATRIX_MODULE_SIZE_11	11 dots		Supported	Supported

\*1: Mobile does not support the dedicated method for page mode.

(n) HRI character print position (**HriPosition**)

Enumerated type constants used for HRI character print position are shown in the following table.

**Table 4-24 HRI Character Print Position (HriPosition)**

Constant Name	Description	Target	
		Mobile	POS
SII_PM_HRI_NONE	Do not print	Supported	Supported
SII_PM_HRI_POSITION_ABOVE	Above barcode	Supported	Supported
SII_PM_HRI_POSITION_BELOW	Below barcode	Supported	Supported
SII_PM_HRI_POSITION_ABOVE_BELOW	Above and below barcode (both)	Supported	Supported

(o) N:W ratio (**NwRatio**)

Enumerated type constants used for N:W ratio are shown in the following table.

**Table 4-25 N:W Ratio (NwRatio)**

Constant Name	Description	Target	
		Mobile	POS
SII_PM_BARCODE_WIDE_WIDTH_1	Wide width type 1	Supported	Not supported
SII_PM_BARCODE_WIDE_WIDTH_2	Wide width type 2	Supported	Not supported
SII_PM_BARCODE_WIDE_WIDTH_3	Wide width type 3	Supported	Not supported
SII_PM_BARCODE_WIDE_WIDTH_4	Wide width type 4	Supported	Not supported
SII_PM_NWRATIO_1TO2	1:2	Not supported	Supported
SII_PM_NWRATIO_1TO2_5	1:2.5	Not supported	Supported
SII_PM_NWRATIO_1TO3	1:3	Not supported	Supported

(p) Error correction level (**ErrorCorrection**)

Enumerated type constants used for error correction level are shown in the following table.

**Table 4-26 Error Correction Level (ErrorCorrection)**

Constant Name	Description	Using Method	Target	
			Mobile*1	POS
<b>SII_PM_PDF417_ERROR_CORRECTION_0</b>	Error correction level 0	<b>printPDF417</b> <b>printPageModePDF417</b>	Supported	Supported
<b>SII_PM_PDF417_ERROR_CORRECTION_1</b>	Error correction level 1		Supported	Supported
<b>SII_PM_PDF417_ERROR_CORRECTION_2</b>	Error correction level 2		Supported	Supported
<b>SII_PM_PDF417_ERROR_CORRECTION_3</b>	Error correction level 3		Supported	Supported
<b>SII_PM_PDF417_ERROR_CORRECTION_4</b>	Error correction level 4		Supported	Supported
<b>SII_PM_PDF417_ERROR_CORRECTION_5</b>	Error correction level 5		Supported	Supported
<b>SII_PM_PDF417_ERROR_CORRECTION_6</b>	Error correction level 6		Supported	Supported
<b>SII_PM_PDF417_ERROR_CORRECTION_7</b>	Error correction level 7		Supported	Supported
<b>SII_PM_PDF417_ERROR_CORRECTION_8</b>	Error correction level 8		Supported	Supported
<b>SII_PM_QR_ERROR_CORRECTION_L</b>	Error correction level L	<b>printQRcode</b> <b>printPageModeQRcode</b>	Supported	Supported
<b>SII_PM_QR_ERROR_CORRECTION_M</b>	Error correction level M		Supported	Supported
<b>SII_PM_QR_ERROR_CORRECTION_H</b>	Error correction level H		Supported	Supported
<b>SII_PM_QR_ERROR_CORRECTION_Q</b>	Error correction level Q		Supported	Supported

\*1: Mobile does not support the dedicated method for page mode.

(q) PDF417 symbol (**Pdf417Symbol**)

Enumerated type constants used for PDF417 symbol are shown in the following table.

**Table 4-27 PDF417 Symbol (Pdf417Symbol)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_PDF417_STANDARD</b>	Standard PDF417	Supported	Supported
<b>SII_PM_PDF417_COMPACT</b>	Compact PDF417	Supported	Supported

(r) QR code model (**QrModel**)

Enumerated type constants used for QR code model are shown in the following table.

**Table 4-28 QR Code Model (QrModel)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_QR_MODEL_1</b>	QR code model 1	Supported	Supported
<b>SII_PM_QR_MODEL_2</b>	QR code model 2	Supported	Supported

(s) Data Matrix Module (**DataMatrixModule**)

Enumerated type constants used for Data Matrix module are shown in the following table.

**Table 4-29 Data Matrix Module (DataMatrixModule)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_DATA_MATRIX_AUTO</b>	Module numbers: Automatic	Supported	Supported
<b>SII_PM_DATA_MATRIX_10_10</b>	Module numbers: 10 × 10	Supported	Supported
<b>SII_PM_DATA_MATRIX_12_12</b>	Module numbers: 12 × 12	Supported	Supported
<b>SII_PM_DATA_MATRIX_14_14</b>	Module numbers: 14 × 14	Supported	Supported
<b>SII_PM_DATA_MATRIX_16_16</b>	Module numbers: 16 × 16	Supported	Supported
<b>SII_PM_DATA_MATRIX_18_18</b>	Module numbers: 18 × 18	Supported	Supported
<b>SII_PM_DATA_MATRIX_20_20</b>	Module numbers: 20 × 20	Supported	Supported
<b>SII_PM_DATA_MATRIX_22_22</b>	Module numbers: 22 × 22	Supported	Supported
<b>SII_PM_DATA_MATRIX_24_24</b>	Module numbers: 24 × 24	Supported	Supported
<b>SII_PM_DATA_MATRIX_26_26</b>	Module numbers: 26 × 26	Supported	Supported
<b>SII_PM_DATA_MATRIX_32_32</b>	Module numbers: 32 × 32	Supported	Supported
<b>SII_PM_DATA_MATRIX_36_36</b>	Module numbers: 36 × 36	Supported	Supported
<b>SII_PM_DATA_MATRIX_40_40</b>	Module numbers: 40 × 40	Supported	Supported
<b>SII_PM_DATA_MATRIX_44_44</b>	Module numbers: 44 × 44	Supported	Supported
<b>SII_PM_DATA_MATRIX_48_48</b>	Module numbers: 48 × 48	Supported	Supported
<b>SII_PM_DATA_MATRIX_52_52</b>	Module numbers: 52 × 52	Supported	Supported
<b>SII_PM_DATA_MATRIX_64_64</b>	Module numbers: 64 × 64	Supported	Supported
<b>SII_PM_DATA_MATRIX_72_72</b>	Module numbers: 72 × 72	Supported	Supported
<b>SII_PM_DATA_MATRIX_80_80</b>	Module numbers: 80 × 80	Supported	Supported
<b>SII_PM_DATA_MATRIX_88_88</b>	Module numbers: 88 × 88	Supported	Supported
<b>SII_PM_DATA_MATRIX_96_96</b>	Module numbers: 96 × 96	Supported	Supported
<b>SII_PM_DATA_MATRIX_104_104</b>	Module numbers: 104 × 104	Supported	Supported
<b>SII_PM_DATA_MATRIX_120_120</b>	Module numbers: 120 × 120	Supported	Supported
<b>SII_PM_DATA_MATRIX_132_132</b>	Module numbers: 132 × 132	Supported	Supported
<b>SII_PM_DATA_MATRIX_144_144</b>	Module numbers: 144 × 144	Supported	Supported

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_DATA_MATRIX_8_18</b>	Module numbers: 8 × 18	Supported	Supported
<b>SII_PM_DATA_MATRIX_8_32</b>	Module numbers: 8 × 32	Supported	Supported
<b>SII_PM_DATA_MATRIX_12_26</b>	Module numbers: 12 × 26	Supported	Supported
<b>SII_PM_DATA_MATRIX_12_36</b>	Module numbers: 12 × 36	Supported	Supported
<b>SII_PM_DATA_MATRIX_16_36</b>	Module numbers: 16 × 36	Supported	Supported
<b>SII_PM_DATA_MATRIX_16_48</b>	Module numbers: 16 × 48	Supported	Supported

(t) MaxiCode Mode (**MaxiCodeMode**)

Enumerated type constants used for MaxiCode mode are shown in the following table.

**Table 4-30 MaxiCode Mode (MaxiCodeMode)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_MAXI_CODE_2</b>	Mode2	Supported	Supported
<b>SII_PM_MAXI_CODE_3</b>	Mode3	Supported	Supported
<b>SII_PM_MAXI_CODE_4</b>	Mode4	Supported	Supported
<b>SII_PM_MAXI_CODE_5</b>	Mode5	Supported	Supported

(u) Cutting method (**CuttingMethod**)

Enumerated type constants used for cutting method are shown in the following table.

**Table 4-31 Cutting Method (CuttingMethod)**

Constant Name	Description		Target	
	Paper Feed to Cut Position	Cutting Method	Mobile	POS
<b>SII_PM_CUT_FULL</b>	Enabled	Full cut	Not supported	Supported
<b>SII_PM_CUT_FULL_NO_FEED</b>	Disabled			
<b>SII_PM_CUT_PARTIAL</b>	Enabled	Partial cut	Not supported	Supported
<b>SII_PM_CUT_PARTIAL_NO_FEED</b>	Disabled			
<b>SII_PM_CUT_NONE<sup>*1</sup></b>	Disabled	Supported	Not supported	Supported

<sup>\*1</sup>: Supported only by `printPageMode` method.

(v) Image rotation direction (**Rotate**)

Enumerated type constants used for image rotation direction are shown in the following table.

**Table 4-32 Image Rotation Direction (Rotate)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_ROTATE_NONE</b>	No rotation	Not supported	Supported
<b>SII_PM_ROTATE_180</b>	Rotate 180 degrees	Not supported	Supported

(w) Image scaling (**ImageScale**)

Enumerated type constants used for image scaling are shown in the following table.

**Table 4-33 Image Scaling (ImageScale)**

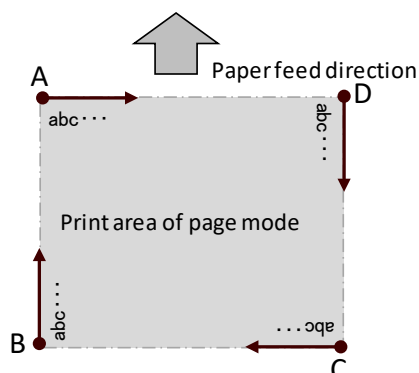
Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_IMAGE_SCALE_NONE</b>	No scaling	Not supported	Supported
<b>SII_PM_IMAGE_SCALE_WIDTH_FIT</b>	Scale to fit print width	Not supported	Supported

(x) Print direction (**Direction**)

Enumerated type constants used for print direction in page mode are shown in the following table.

**Table 4-34 Print Direction (Direction)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_DIRECTION_LEFT_TO_RIGHT</b>	Starting point: Upper left (A on the figure), Print direction: Left to Right	Not supported	Supported
<b>SII_PM_DIRECTION_BOTTOM_TO_TOP</b>	Starting point: Left below (B on the figure), Print direction: Below to Upper	Not supported	Supported
<b>SII_PM_DIRECTION_RIGHT_TO_LEFT</b>	Starting point: Right below (C on the figure), Print direction: Right to Left	Not supported	Supported
<b>SII_PM_DIRECTION_TOP_TO_BOTTOM</b>	Starting point: Upper right (D on the figure), Print direction: Upper to Below	Not supported	Supported





(y) Line style (**LineStyle**)

Enumerated type constants used for line style in page mode are shown in the following table.

**Table 4-35 Line Style (LineStyle)**

Constant Name	Description	Target	
		Mobile	POS
<b>SII_PM_LINestyle_THIN</b>	Thin solid line (2 dots)	Not supported	Supported
<b>SII_PM_LINestyle_MEDIUM</b>	Medium solid line (4 dots)	Not supported	Supported
<b>SII_PM_LINestyle_THICK</b>	Thick solid line (8 dots)	Not supported	Supported

## (5) Method Details

(a) Common method to standard mode and page mode

The following methods are valid in standard mode and page mode. Standard mode is set immediately after `connect` method is executed.

init		Instance
Target	Mobile printer / POS printer	
Syntax	- (id) <b>init</b> ;	
Description	This method initializes the instance of <b>SIIPrinterManager</b> class.	
Return	When succeeded, the initialized instance of <b>SIIPrinterManager</b> class is returned. When failed, nil is returned.	
Using Example	<pre><b>SIIPrinterManager *printerManager</b> =[[<b>SIIPrinterManager alloc</b>] <b>init</b>];</pre>	

connect		Start communicating with a printer (Bluetooth)
Target	Mobile printer / POS printer	
Syntax	<pre> - (void) <b>connect</b>: (NSInteger)printerModel                     address: (NSString)address                     portType: (NSInteger)portType; </pre>	
Parameter	<p><b>printerModel</b></p> <p><b>address</b></p> <p><b>portType</b></p>	<p>Printer model constant for Bluetooth connection</p> <p>Bluetooth device (Bluetooth accessory) Example: "DPU-S245"</p> <p>Port type Example: <b>SII_PM_PRINTER_PORT_TYPE_BLUETOOTH</b></p>
Description	<p>This method starts communication between iOS device and paired printer through Bluetooth connection. Call this method before using other methods of this class.</p> <p>This method connects to the paired Bluetooth device (Bluetooth accessory) specified by <b>address</b> parameter.</p> <p>See Table 4-5 Printer Model Constant for available setting in <b>printerModel</b> parameter.</p> <p>For <b>portType</b> parameter, specify <b>SII_PM_PRINTER_PORT_TYPE_BLUETOOTH</b>.</p> <p>In order to operate this library properly, printer settings may be needed to change at the connection in this method.</p> <p>The Library disconnects Bluetooth connection with printer by executing <b>disconnect</b> method.</p>	
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called.</p> <p>See "<b>4.3.3 SIIPrinterException Class</b>" for details on the error.</p>	
Note	A concurrent connection from multiple apps to one printer is not supported.	

**connect****Start communicating with a printer (TCP/IP)**

Target	POS printer	
Syntax	<pre>- (void) <b>connect</b>: (NSInteger)printerModel                     address: (NSString)address                     portType: (NSInteger)portType;</pre>	
Parameter	<b>printerModel</b> <b>address</b> <b>portType</b>	Printer model constant for Ethernet connection IP address Example: "192.168.0.1" Port type Example: <b>SII_PM_PRINTER_PORT_TYPE_TCP</b>
Description	<p>This method is valid only for POS printer. This method starts communication between iOS device and printer connected to the same network through TCP/IP connection. Call this method before using other methods of this class.</p> <p>This method connects to the IP address specified by <b>address</b> parameter. TCP port number 9100 is used for communication. Also, printer default settings are executed based on <b>printerModel</b> parameter which is specified at the connection. See Table 4-5 Printer Model Constant for available printer model constant in <b>printerModel</b> parameter.</p> <p>For the portType parameter, specify <b>SII_PM_PRINTER_PORT_TYPE_TCP</b>.</p> <p>In order to operate a printer properly, printer settings may be needed to change at the connection in this method.</p> <p>&lt;Introduction to creating/discarding a socket during connection with TCP/IP in the Library&gt;</p> <p>After <b>connect</b> method, the library retains the created socket until <b>disconnect</b> method executed. And connecting to the same printer from other applications is not possible until <b>disconnect</b> method executed.</p> <p>Based on the completion time of data transmission to the printer, the socket is once discarded after elapsing the socket keeping time set by <b>socketKeepingTime</b>. Then the new socket is created immediately and used for the next connection. If the printer is receiving a connection request from another host on the same network at the time of discarding the socket, the reconnection may fail because the printer establishes communication with the host.</p>	
Error	<b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called. See " <b>4.3.3 SIIPrinterException Class</b> " for details on the error.	
Note	A concurrent connection from multiple apps to one printer is not supported.	

**disconnect****Disconnect a printer**

Target	Mobile printer / POS printer	
Syntax	<pre>- (void) <b>disconnect</b>;</pre>	
Description	This method disconnects communication with a printer.	
Error	<b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called. See " <b>4.3.3 SIIPrinterException Class</b> " for details on the error.	

Note	<p>Execute this method after transmitting the data. If executing this method before data transmission is completed, the following problems may be occurred:</p> <ul style="list-style-type: none"> <li>• A part of the data may be deleted.</li> <li>• In Bluetooth connection, when <b>connect</b> method is executed soon after executing this method, the connection between iOS device and the printer becomes abnormal and may not transmit/receive the data.</li> </ul> <p>To verify data transmission completion, it is recommended to obtain execution response by <b>SII_PM_PRINTER_RESPONSE_REQUEST</b> of <b>getPrinterResponse</b> method before executing this method. When this method is executed without executing <b>getPrinterResponse</b> method in your program, evaluate your program to confirm no problems arise.</p>
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<b>openDrawer</b>	Open cash drawer
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Target	POS printer				
Syntax	<pre>- (void) <b>openDrawer</b>: (DrawerNum) drawerNum                     onOffTime: (PulseWidth) onOffTime;</pre>				
Parameter	<table> <tr> <td><b>drawerNum</b></td><td>Drawer number</td></tr> <tr> <td><b>onOffTime</b></td><td>pulse width</td></tr> </table>	<b>drawerNum</b>	Drawer number	<b>onOffTime</b>	pulse width
<b>drawerNum</b>	Drawer number				
<b>onOffTime</b>	pulse width				
Description	<p>This method is valid only for POS printer. This method opens the specified cash drawer.</p> <p>See Table 4-11 Drawer Number (DrawerNum) for available setting in <b>drawerNum</b> parameter.</p> <p>See Table 4-12 Activation Pulse Width (PulseWidth) for available setting in <b>onOffTime</b> parameter.</p>				
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called.</p> <p>See "<b>4.3.3 SIIPrinterException Class</b>" for details on the error.</p>				

<b>buzzer</b>	Sound buzzer
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Target	POS printer				
Syntax	<pre>- (void) <b>buzzer</b>: (NSInteger) onTime                     offTime: (NSInteger) offTime;</pre>				
Parameter	<table> <tr> <td><b>onTime</b></td><td>Buzzer On time (millisecond)</td></tr> <tr> <td><b>offTime</b></td><td>Buzzer Off time (millisecond)</td></tr> </table>	<b>onTime</b>	Buzzer On time (millisecond)	<b>offTime</b>	Buzzer Off time (millisecond)
<b>onTime</b>	Buzzer On time (millisecond)				
<b>offTime</b>	Buzzer Off time (millisecond)				
Description	<p>This method is valid only for POS printer. This method sounds the buzzer.</p> <p>The valid range of <b>onTime</b> and <b>offTime</b> parameter is from 0 to 510.</p>				
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called.</p> <p>See "<b>4.3.3 SIIPrinterException Class</b>" for details on the error.</p>				

Target Mobile printer / POS printer

Syntax - (void) **externalBuzzer:** (BuzzerPattern)buzzerPattern  
buzzerCount: (NSInteger)buzzerCount;

Description This method is not supported. **SIIPrinterException** is thrown when this method is executed.

**getStatus**

## Obtain printer status

Target Mobile printer / POS printer

Syntax - (void) **getStatus:** (NSInteger[])buf;

Parameter **buf** Status obtained from a printer

Description This method obtains printer status. Status obtained from a printer is stored to an NSInteger array. Contents of status vary between Mobile printer and POS printer.

When specified **printerModel** parameter while executing **connect** method is **SII\_PM\_PRINTER\_MODEL\_DPU\_S245** or **SII\_PM\_PRINTER\_MODEL\_DPU\_S445**, see the contents of Mobile printer status. When the **printerModel** parameter is **SII\_PM\_PRINTER\_MODEL\_RP\_D10** or **SII\_PM\_PRINTER\_MODEL\_RP\_E10**, see the POS printer status.

The Mobile printer status is shown in the following table.

When the connection failed, the Mobile printer status is shown in 0x00000000.

**Table 4-36 Printer Status (Mobile Printer)**

Bit	Function	Value	
		0	1
0	Out-of-paper error	OK	Error
1	Head up error	OK	Error
2	Vp voltage malfunction	OK	Error
3	Thermal head temperature error	OK	Error
4	Function Setting error	OK	Error
5	Battery voltage state	See table below	
6			
7	Reserved	-	Fixed
8 to 31	Reserved	Fixed	-

Bit 6	Bit 5	Battery Voltage State
0	0	8.0 V or higher
0	1	7.5 or higher to lower than 8.0 V
1	0	7.0 or higher to lower than 7.5 V
1	1	Lower than 7.0 V

The POS printer status is shown in the following table.  
When the connection failed, the POS printer status is shown in 0x80000000.

**Table 4-37 Printer Status (POS Printer)**

Bit	Function	Value	
		0	1
0	VP voltage error	OK	Error
1	Hardware error	OK	Error
2	Head temperature error	OK	Error
3	Autocutter error	OK	Error
4	Out-of-paper error	OK	Error
5	Paper-near-end sensor error <sup>*1</sup>	OK	Error
6	Paper jam error while detecting mark <sup>*1</sup>	OK	Error
7	Cover open error	OK	Error
8	FEED Switch status	OFF	ON
9	Reserved	Fixed	-
10	Paper feed status	Stop	Operating
11	Return-waiting status	No	Yes
12	Reserved	Fixed	-
13	Reserved	-	Fixed
14	Reserved	-	Fixed
15	Drawer switch input status	Low	High
16	FLASH memory rewriting	No	Yes
17	Peripheral device selection	Printer	Other
18 to 31	Reserved	-	Fixed

<sup>\*1</sup>: Supported only in RP-E10. In RP-D10, it is always OK (value: 0).

**Error** **SIIPrinterException** is thrown when an error occurs while this method is to be called.  
See "**4.3.3 SIIPrinterException Class**" for details on the error.

## **abort** Abort the waiting state of a printer

**Target** Mobile printer / POS printer

**Syntax** - (void) **abort**;

**Description** When sending of image file by **sendDataFile** method is aborted, a printer does not accept other processes until specified image file is received completely. (Method or sent data are misinterpreted and recognized as part of the image file.)  
To solve this situation, use this method to abort the waiting state of a printer.  
Note that when executing this method, a part of unprocessed image file may be printed.

**Error** **SIIPrinterException** is thrown when an error occurs while this method is to be called.  
See "**4.3.3 SIIPrinterException Class**" for details on the error.

**registerLogo****Register logo (image) to a printer**

Target	Mobile printer / POS printer	
Syntax	<pre>(a) - (void) <b>registerLogo</b>: (NSString *)fileName       logoId: (NSString *)logoId       dithering: (Dithering)dithering;  (b) - (void) <b>registerLogo</b>: (NSString *)fileName       logoId: (NSString *)logoId;</pre>	
Parameter	<b>fileName</b>	File path of image file to register as logo
	<b>logoId</b>	Logo ID to register
	<b>dithering</b>	Dithering
Description	<p>This method registers image file specified by <b>fileName</b> parameter to a printer as a logo.</p> <p>The method of syntax (a), dithering can be specified. The method of syntax (b), dithering is fixed to be disabled.</p> <p>File extension for image file supported by <b>fileName</b> parameter is .bmp, .jpg, .jpeg, or .png.</p> <p>The valid range of <b>logoId</b> parameter varies depends on the target printer.</p> <ul style="list-style-type: none"> <li>• For Mobile printer, the valid range is a character string indicating the value from 0 to 127.</li> <li>• For POS printer, specify by 2 characters. The valid characters are ASCII character code from 20h (space) to 7Eh (tilde) such as alphanumeric ('0' to '9', 'A' to 'Z', 'a' to 'z').</li> </ul> <p>See Table 4-13 Dithering (Dithering) for available setting in <b>dithering</b> parameter.</p>	
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called.</p> <p>See "<b>4.3.3 SIIPrinterException Class</b>" for details on the error.</p>	

**unregisterLogo****Delete specified logo (image) on a printer**

Target	Mobile printer / POS printer	
Syntax	<pre>- (void) <b>unregisterLogo</b>: (NSString *)logoId;</pre>	
Parameter	<b>logoId</b>	Logo ID to delete
Description	<p>This method deletes the logo (image) registered by <b>registerLogo</b> method (for Mobile printer). Specify registered logo ID in <b>logoId</b> parameter. The valid range of <b>logoId</b> parameter varies depends on the target printer.</p> <p>For Mobile printer, the valid range is a character string indicating the value from 0 to 127.</p> <p>For POS printer, specify by 2 characters. The valid characters are ASCII character code from 20h (blank) to 7Eh (tilde) such as alphanumeric ('0' to '9', 'A' to 'Z', 'a' to 'z').</p>	
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called.</p> <p>See "<b>4.3.3 SIIPrinterException Class</b>" for details on the error.</p>	

**registerStyleSheet****Register style sheet to a printer**

Target	POS printer
Syntax	- (void) <b>registerSytleSheet:</b> (NSString *)fileName cssId: (NSInteger) cssId;
Parameter	<b>fileName</b> CSS file path to register as style sheet <b>cssId</b> Style sheet number to register
Description	<p>This method is valid only for POS printer. This method registers CSS file specified by <b>fileName</b> parameter to a printer. Maximum number of registerable style sheet is 4 sheets.</p> <p>Style sheet supported by <b>fileName</b> parameter is that style sheet language is written in CSS (cascading style sheets), and that file extension is .css. Maximum number of style registerable to 1 CSS file is 64. Also, the valid range of <b>cssId</b> parameter is from 1 to 4.</p> <p>See "6.5.13 Tag Processing Mode" in "RP-D10 SERIES THERMAL PRINTER TECHNICAL REFERENCE" or "RP-E10 SERIES THERMAL PRINTER TECHNICAL REFERENCE" for more details about style sheet.</p>
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called.</p> <p>See "<b>4.3.3 SIIPrinterException Class</b>" for details on the error.</p>

**unregisterStyleSheet****Delete specified style sheet on a printer**

Target	POS printer
Syntax	- (void) <b>unregisterStyleSheet:</b> (NSInteger) cssId;
Parameter	<b>cssId</b> Style sheet number to delete
Description	<p>This method is valid only for POS printer. This method deletes the style sheet registered by <b>registerStyleSheet</b> method.</p> <p>Specify the registered style sheet number for <b>cssId</b> parameter. The valid range of <b>cssId</b> parameter is from 1 to 4.</p>
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called.</p> <p>See "<b>4.3.3 SIIPrinterException Class</b>" for details on the error.</p>

**resetPrinter****Printer hardware reset**

Target	POS printer
Syntax	- (void) <b>resetPrinter;</b>
Description	<p>This method is valid only for POS printer.</p> <p>For TCP/IP connection: This method resets a connected printer by using the SII original command (reset command) to TCP port number 26100.</p>



For Bluetooth connection:

This method resets the printer hardware by using the printer command "Printer Reset". When using this method, set iOS Auto Connection in Function Setting of the printer to "Enabled". When iOS Auto Connection is set to "Disabled", this method fail to reconnect after reset and **SIIPrinterException** is thrown.

This method needs about 10 seconds until complete to reconnect after reset executing. When calling this method, set **receiveTimeout** property to enough time to complete this method.

After executing this method, connection to a printer is maintained.

**Error** **SIIPrinterException** is thrown when an error occurs while this method is to be called.  
See "**4.3.3 SIIPrinterException Class**" for details on the error.

## **getPrinterResponse** Obtaining various responses from a printer

**Target** Mobile printer / POS printer

**Syntax** - (void) **getPrinterResponse:** (NSInteger)responseId  
param:(NSObject \*)param  
response:(void \*)response;

**Parameter** **responseId** Response type constant  
**param** Response code of execution response request  
**response** Buffer that stores obtained response data  
(Buffer type varies depending on a response type constant.)

**Description** This method stores the response data specified by **responseId** parameter to the object specified by **response** parameter. See Table 4-7 Response Type Constant for available setting for **responseId** parameter. Contents of obtainable response from a printer vary between Mobile printer and POS printer.

When specified **printerModel** parameter while executing **connect** method is **SII\_PM\_PRINTER\_MODEL\_DPU\_S245** or **SII\_PM\_PRINTER\_MODEL\_DPU\_S445**, see the contents of obtained response for Mobile printer. When the **printerModel** parameter is **SII\_PM\_PRINTER\_MODEL\_RP\_D10** or **SII\_PM\_PRINTER\_MODEL\_RP\_E10**, see the contents of obtained response for POS printer.

Contents of obtained response for Mobile printer are shown in the following table.

**Table 4-38 Contents of Obtained Response (Mobile Printer)**

Constant Name	Description
<b>SII_PM_PRINTER_RESPONSE_REQUEST</b>	Obtains "Execution response request". Specify 0 to 15 (00h to 0Fh) of NSData to <b>param</b> parameter. Specify NSInteger array with the length of 1 to <b>response</b> parameter. When responses are obtained successfully, 80 to 95 (50h to 5Fh) is stored to the <b>response</b> parameter.
<b>SII_PM_PRINTER_RESPONSE_USER_AREA</b>	Obtains "Send remaining capacity of user area". Specify nil to <b>param</b> parameter. Specify NSInteger array with the length of 1 to <b>response</b> parameter. When responses are obtained successfully, remaining user area is stored to the <b>response</b> parameter in byte value.

Constant Name	Description
<b>SII_PM_PRINTER_RESPONSE_BATTERY_STATUS</b>	Obtains "Battery voltage state". Specify nil to <b>param</b> parameter. Specify NSInteger array with the length of 1 to <b>response</b> parameter. When responses are obtained successfully, the battery status value is stored to the <b>response</b> parameter. Meanings of battery status values are as follows.

Battery Status Value	Battery Voltage State
0	8.0 V or higher
1	7.5 or higher to lower than 8.0 V
2	7.0 or higher to lower than 7.5 V
3	Lower than 7.0 V

Contents of obtained response for POS printer are shown in the following table.

**Table 4-39 Contents of Obtained Response (POS Printer)**

Constant Name	Description
<b>SII_PM_PRINTER_RESPONSE_REQUEST</b>	Obtains "Execution response request". Specify 0 to 15 (00h to 0Fh) of NSData to <b>param</b> parameter. Specify NSInteger array with the length of 1 to <b>response</b> parameter. When responses are obtained successfully, 128 to 143 (80h to 8Fh) is stored to <b>response</b> parameter.
<b>SII_PM_PRINTER_RESPONSE_USER_AREA</b>	Obtains "Send remaining capacity of user area". Specify nil to <b>param</b> parameter. Specify NSInteger array with the length of 1 to <b>response</b> parameter. When responses are obtained successfully, remaining user area is stored to <b>response</b> in byte value.
<b>SII_PM_PRINTER_RESPONSE_ARRANGE_USER_AREA</b>	Obtains "Send remaining capacity of user area after defragment". Specify nil to <b>param</b> parameter. Specify NSInteger array with the length of 1 to <b>response</b> parameter. When responses are obtained successfully, remaining memory after user area defragment is stored to <b>response</b> parameter in byte value.
<b>SII_PM_PRINTER_RESPONSE_NV_GRAPHICS</b>	Obtains "Send NV graphics memory capacity". Specify nil to <b>param</b> parameter. Specify NSInteger array with the length of 1 to <b>response</b> parameter. When responses are obtained successfully, NV graphics memory capacity is stored to <b>response</b> in byte value.

Constant Name	Description
<b>SII_PM_PRINTER_RESPONSE_KEY_CODE</b>	Obtains "Send key code list of defined NV graphics". Specify nil to <b>param</b> parameter. Specify NSMutableArray array to <b>response</b> parameter. When responses are obtained successfully, the key code of NV graphics is stored to <b>response</b> parameter in string array.
<b>SII_PM_PRINTER_RESPONSE_FIRMWARE_VERSION</b>	Obtains "Firmware version". Specify nil to <b>param</b> parameter. Specify NSMutableArray array to <b>response</b> parameter. When responses are obtained successfully, the firmware version is stored to <b>response</b> parameter in string array.

Error      **SIIPrinterException** is thrown when an error occurs while this method is to be called.  
See "**4.3.3 SIIPrinterException Class**" for details on the error.

### **startDiscoveryPrinter**      Start printer search (Bluetooth)

Target      Mobile printer / POS printer

Syntax      - (void) **startDiscoveryPrinter:** (NSPredicate \*)predicate  
   completion: (EABluetoothAccessoryPickerCompletion) completion;

Parameter      **predicate**      Specify nil.  
   **completion**      Event completion of  
   EABluetoothAccessoryPickerCompletion

Description      This method searches Bluetooth device (Bluetooth accessory). This method calls `showBluetoothAccessoryPickerWithNameFilter` of `EAAccessoryManager` internally. When executing this method, pairing with Bluetooth device is enable in the displayed window.

                         Specify ^ (NSError \*error) to **completion** parameter in order to receive event completion of `EABluetoothAccessoryPickerCompletion`.

                         (cf.) Statement of `EABluetoothAccessoryPickerCompletion`  
                         typedef void (^EABluetoothAccessoryPickerCompletion)  
                         (NSError \*error);

Error      **SIIPrinterException** is thrown when an error occurs while this method is to be called.  
See "**4.3.3 SIIPrinterException Class**" for details on the error.

### **startDiscoveryPrinter**      Start printer search (TCP/IP)

Target      POS printer

Syntax      - (void) **startDiscoveryPrinter:** (NSInteger) retryCount  
   timeout: (NSInteger) timeout  
   completion: (SIIDiscoveryPrinterCompletion) completion;

Parameter      **retryCount**      Retry count (times)  
                                 **timeout**      Searching timeout period (millisecond: ms)  
                                 **completion**      Event completion of printer search

Description	<p>This method is valid only for POS printer. This method is available only when specified <b>portType</b> parameter is <b>SII_PM_PRINTER_PORT_TYPE_TCP</b> while executing <b>connect</b> method. This method sends local broad cast packet and searches for SII printer connecting to the same network. Completion or cancellation of searching is notified to a block specified in <b>completion</b> parameter as an event.</p> <p>This method sends the local broad cast packet the number of times set in <b>retryCount</b> parameter. The valid range of <b>retryCount</b> parameter is 1 to 5. When the value is specified less than 1, the number is set to 1. When the value is specified more than 5, the number is set to 5.</p> <p>This method waits for response from the printer until the search timeout period set by <b>timeout</b> parameter. The valid range of <b>timeout</b> parameter is 3000 to 60000. When the value is specified less than 3000, the period is set to 3000. When the value is specified more than 60000, the period is set to 60000. The searching printer information can be obtained by <b>getFoundPrinter</b> method.</p> <p>The definition of <b>SIIDiscoveryPrinterCompletion</b> is as follows.  <pre>typedef void(^SIIDiscoveryPrinterCompletion)(NSArray *printerList);</pre> </p> <p>In order to use this method, LAN interface F/W version needs to be 1.13.01 or later.</p>
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called.</p> <p>See "<b>4.3.3 SIIPrinterException Class</b>" for details on the error.</p>

<b>cancelDiscoveryPrinter</b>	Cancel printer search
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Target	POS printer
Syntax	- (void) <b>cancelDiscoveryPrinter</b> ;
Description	<p>This method is valid only for POS printer. This method is available only when specified <b>portType</b> parameter is <b>SII_PM_PRINTER_PORT_TYPE_TCP</b> while executing <b>connect</b> method. This method cancels executing <b>startDiscoveryPrinter</b> method. Cancellation of searching is notified to a block specified in <b>completion</b> parameter as an event.</p>

<b>getFoundPrinter</b>	Obtain searched printer information
------------------------	-------------------------------------

Target	POS printer
Syntax	- (NSArray *) <b>getFoundPrinter</b> ;
Parameter	<p>This method is valid only for POS printer. This method is available only when specified <b>portType</b> parameter is <b>SII_PM_PRINTER_PORT_TYPE_TCP</b> while executing <b>connect</b> method. This method returns the printer information searched by printer search as <b>NSArray</b> type.</p> <p>See "<b>4.3.2 SIIPrinterInfo Class</b>" for the details of printer information.</p>
Return value	Printer information of <b>NSArray</b> type

**getVersion****Get SDK version**

Target	Mobile printer / POS printer
Syntax	- (NSString *) <b>getVersion</b> ;
Description	Gets the SDK version as a character string. This property can be executed regardless of whether isConnect is YES or NO.
Return value	SDK version character string (Example: When the SDK version is Ver.1.0.0, the return value is "1.0.0")

**controlTransaction****Start/End batch processing**

Target	Mobile printer / POS printer
Syntax	- (void) <b>controlTransaction:(TransactionFunction) control</b> ;
Parameter	<b>control</b> Batch processing selection
Description	<p>The procedure of batch processing is as follows: See Table 4-14 Batch Processing Selection (TransactionFunction) for the details about configurable values.</p> <p>(1) Start batch processing. Specify <b>SII_PM_TRANSACTION_START</b>.</p> <p>(2) Execute the method. In the case of the batch processing target method, buffering of transmission data is started. The transmission data of the batch processing target method executed during buffering is buffered in the transmission buffer without being sent to the printer. The maximum size of transmission data to be buffered is system dependent. If the buffered transmission data exceeds the maximum size, the batch processing target method at the time of exceeding becomes an error. If an error occurs, the transmission data up to the error is retained. As for the retained transmission data, finish the batch processing in step (3). In the case of a method other than the batch processing target method, transmission data is immediately executed without being buffered.</p> <p>(3) Finish batch processing. When <b>SII_PM_TRANSACTION_PRINT</b> is specified, the buffered transmission data is sent to the printer. The buffered transmission data is retained even after sent to the printer. The retained transmission data is discarded by any of the following:</p> <ul style="list-style-type: none"> <li>• Specify <b>SII_PM_TRANSACTION_CLEAR</b></li> <li>• Specify <b>SII_PM_TRANSACTION_START</b></li> <li>• Execute <b>disconnect</b> method</li> </ul> <p>The batch processing target methods are as follows:</p> <ul style="list-style-type: none"> <li>• <b>sendText</b></li> <li>• <b>sendTextEx</b></li> <li>• <b>printBarcode</b></li> <li>• <b>printPDF417</b></li> <li>• <b>printQRcode</b></li> <li>• <b>printDataMatrix</b></li> <li>• <b>printMaxiCode</b></li> <li>• <b>cutPaper</b><sup>*1</sup></li> <li>• <b>openDrawer</b><sup>*1</sup></li> <li>• <b>buzzer</b><sup>*1</sup></li> <li>• <b>sendBinary</b></li> </ul>

- sendDataFile
- printPDF\*<sup>1</sup>
- printLogo\*<sup>2</sup>
- enterPageMode\*<sup>1</sup>
- exitPageMode\*<sup>1</sup>
- setPageModeArea\*<sup>1</sup>
- setPageModeDirection\*<sup>1</sup>
- setPageModeLineSpacing\*<sup>1</sup>
- printPageMode\*<sup>1</sup>
- printPageModeText\*<sup>1</sup>
- printPageModeTextEx\*<sup>1</sup>
- printPageModeBarcode\*<sup>1</sup>
- printPageModePDF417\*<sup>1</sup>
- printPageModeQRcode\*<sup>1</sup>
- printPageModeDataMatrix\*<sup>1</sup>
- printPageModeMaxiCode\*<sup>1</sup>
- sendPageModeBinary\*<sup>1</sup>
- printPageModeImageFile\*<sup>1</sup>
- printPageModeRectangle\*<sup>1</sup>
- printPageModeLine\*<sup>1</sup>
- printPageModeLogo\*<sup>1</sup>\*<sup>2</sup>

\*1: This method is not supported by Mobile printer.

\*2: The method under batch processing does not notify the error even when the registered logo does not exist.

## Error

**SIIPrinterException** is thrown when an error occurs while this method is to be called.

See "**4.3.3 SIIPrinterException Class**" for details on the error.

(b) Dedicated method for standard mode

The following methods are valid in standard mode. **SIIPrinterException** is thrown when the dedicated method for standard mode are executed in page mode.

<b>sendText</b>		Send text data
Target	Mobile printer / POS printer	
Syntax	- (void) <b>sendText:</b> (NSString *)text;	
Parameter	<b>text</b>	Text data sent to a printer
Description	<p>This method sends the text data specified by <b>text</b> parameter to a printer. Data size that can be specified at 1 time is 16K bytes (16384 bytes).</p> <p>This method encodes the specified text data to printable text data based on <b>internationalCharacter</b> property and <b>codePage</b> property, and then sends it to the printer.</p> <p>In this method, the line spacing code is not added to the end of text data.</p>	
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called.</p> <p>See "4.3.3 <b>SIIPrinterException Class</b>" for details on the error.</p>	

<b>sendTextEx</b>		Send format specified text data
Target	Mobile printer	
Syntax	- (void) <b>sendTextEx:</b> (NSString *)text <b>bold:</b> (CharacterBold)bold <b>underline:</b> (CharacterUnderline)underline <b>font:</b> (CharacterFont)font <b>scale:</b> (CharacterScale)scale;	
Parameter	<b>text</b> <b>bold</b> <b>underline</b> <b>font</b> <b>scale</b>	Text data to send to a printer Bold print Underline Character font Character scale
Description	<p>This method is valid only for Mobile printer. This method encodes the specified text data to printable text data based on <b>internationalCharacter</b> property and <b>codePage</b> property, and then sends it to the printer. Data size that can be specified at one time is 16K bytes (16384 bytes).</p> <p>See Table 4-15 Bold Print (CharacterBold) for available setting in <b>bold</b> parameter.</p> <p>See Table 4-16 Underline (CharacterUnderline) for available setting in <b>underline</b> parameter.</p> <p>See Table 4-19 Character Font (CharacterFont) for available setting in <b>font</b> parameter.</p> <p>See Table 4-20 Character Scale (CharacterScale) for available setting in <b>scale</b> parameter.</p> <p>In this method, no line feed code is added at the end of text data.</p>	
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called.</p> <p>See "4.3.3 <b>SIIPrinterException Class</b>" for details on the error.</p>	

Target	POS printer	
Syntax	<pre> (a) - (void) <b>sendTextEx</b>: (NSString *)text       bold: (CharacterBold)bold       underline: (CharacterUnderline)underline       reverse: (CharacterReverse)reverse       font: (CharacterFont)font       scale: (CharacterScale)scale       alignment: (PrintAlignment)alignment;  (b) - (void) <b>sendTextEx</b>: (NSString *)text       bold: (CharacterBold)bold       underline: (CharacterUnderline)underline       reverse: (CharacterReverse)reverse       inversion: (CharacterInversion)inversion       font: (CharacterFont)font       scale: (CharacterScale)scale       alignment: (PrintAlignment)alignment; </pre>	
Parameter	<b>text</b> <b>bold</b> <b>underline</b> <b>reverse</b> <b>inversion</b> <b>font</b> <b>scale</b> <b>alignment</b>	Text data to send to a printer Bold print Underline Reverse print Inversion print Character font Character scale Alignment
Description	<p>This method is valid only for POS printer. This method encodes the specified text data to printable text data based on <b>internationalCharacter</b> property and <b>codePage</b> property, and then sends it to the printer. Data size that can be specified at one time is 16K bytes (16384 bytes).</p> <p>See Table 4-15 Bold Print (CharacterBold) for available setting in <b>bold</b> parameter.</p> <p>See Table 4-16 Underline (CharacterUnderline) for available setting in <b>underline</b> parameter.</p> <p>See Table 4-17 Reverse Print (CharacterReverse) for available setting in <b>reverse</b> parameter.</p> <p>See Table 4-18 Character Inversion (CharacterInversion) for available setting in <b>inversion</b> parameter.</p> <p>See Table 4-19 Character Font (CharacterFont) for available setting in <b>font</b> parameter.</p> <p>See Table 4-20 Character Scale (CharacterScale) for available setting in <b>scale</b> parameter.</p> <p>See Table 4-21 Alignment (PrintAlignment) for available setting in <b>alignment</b> parameter.</p> <p>In this method, no line feed code is added at the end of text data.</p>	
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called.</p> <p>See "4.3.3 SIIPrinterException Class" for details on the error.</p>	



Target Mobile printer / POS printer

Syntax

```
(a) - (void) printBarcode: (BarcodeSymbol)barcodeSymbol
      text: (NSString *)text
      moduleSize: (ModuleSize)moduleSize
      moduleHeight: (NSInteger)moduleHeight
      hriPosition: (HriPosition)hriPosition
      hriFont: (CharacterFont)hriFont
      alignment: (PrintAlignment)alignment;

(b) - (void) printBarcode: (BarcodeSymbol)barcodeSymbol
      text: (NSString *)text
      moduleSize: (ModuleSize)moduleSize
      moduleHeight: (NSInteger)moduleHeight
      hriPosition: (HriPosition)hriPosition
      hriFont: (CharacterFont)hriFont
      alignment: (PrintAlignment)alignment
      nwRatio: (NwRatio)nwRatio;

(c) - (void) printBarcode: (BarcodeSymbol)barcodeSymbol
      data: (NSData*)data
      moduleSize: (ModuleSize)moduleSize
      moduleHeight: (NSInteger)moduleHeight
      hriPosition: (HriPosition)hriPosition
      hriFont: (CharacterFont)hriFont
      alignment: (PrintAlignment)alignment;

(d) - (void) printBarcode: (BarcodeSymbol)barcodeSymbol
      text: (NSString *)text
      moduleSize: (ModuleSize)moduleSize
      alignment: (PrintAlignment)alignment;
```

Parameter	<b>barcodeSymbol</b>	Barcode symbol
	<b>text (data)</b>	Text data to send to a printer
	<b>moduleSize</b>	Barcode width
	<b>moduleHeight</b>	Barcode height (dot)
	<b>hriPosition</b>	HRI character print position
	<b>hriFont</b>	HRI character font
	<b>alignment</b>	Alignment
	<b>nwRatio</b>	N:W ratio

Description This method executes barcode print.

For format (a), **nwRatio** parameter is fixed to wide width type 3 for Mobile printers and 1:2.5 for POS printers.  
The format (d) is not supported.

See Table 4-22 Barcode Symbol (BarcodeSymbol) for available setting in **barcodeSymbol** parameter.

The available input conditions for barcode in **text (data)** parameter are as follows.  
See Table 4-38 for Mobile printers and Table 4-39 for POS printers.

**Table 4-40 Barcode Input Conditions for Mobile Printer**

Barcode	Number of Data	Inputtable Data Character String (Data)	Remarks
UPC-A	11 characters	'0' to '9'	
UPC-E	11 characters	'0' to '9'	
EAN13 JAN13	12 characters	'0' to '9'	
EAN8 JAN8	7 characters	'0' to '9'	
CODE39	1 to 254 characters	'0' to '9' 'A' to 'Z' ' ', '\$', '%', '+', '-', ':', '/'	Start code and stop code (*) are automatically added.
CODE128	2 to 255 characters	(0x00 to 0x66)	Input data with 0x67 or more at the end.
ITF	2 to 254 characters (However, an even number)	'0' to '9'	
CODABAR	1 to 254 characters	'0' to '9' \$', '+', '-', ':', '/', '.'	It is needed to specify one of 'A' to 'D' at the beginning and end.

**Table 4-41 Barcode Input Conditions for POS Printer**

Barcode	Number of Data	Inputtable Data Character String (Data)	Remarks
UPC-A	11 to 12 characters	'0' to '9'	
UPC-E	11 to 12 characters	'0' to '9'	
EAN13 JAN13	12 to 13 characters	'0' to '9'	
EAN8 JAN8	7 to 8 characters	'0' to '9'	
CODE39	1 to 150 characters	'0' to '9' 'A' to 'Z' ' ', '\$', '%', '+', '-', ':', '/'	Start code and stop code (*) are automatically added.
CODE93	1 to 150 bytes	(0x00 to 0x2E)	Input data with 0x2F or more at the end.
CODE128	2 to 150 bytes	(0x00 to 0x66)	When inputting the start code (0x67 to 0x69) of the CODE128 code set. Input data with 0x67 or more at the end.
		(0x00 to 0x7F)	When starting with a CODE128 special code start code ("A", "B", "C").
ITF	2 to 150 characters (However, an even number)	'0' to '9'	

Barcode	Number of Data	Inputtable Data Character String (Data)	Remarks
CODABAR	1 to 150 characters	'0' to '9' '\$', '+', '-', ':', '/', '.'	It is needed to specify one of 'A' to 'D' at the beginning and end.
EAN13 add-on JAN13 add-on	Add-on 2: 14 to 15 characters Add-on 5: 17 to 18 characters	'0' to '9'	

See Table 4-23 Module Size (ModuleSize) for available setting in **moduleSize** parameter.

The valid range of **moduleHeight** parameter is from 1 to 255.

See Table 4-24 HRI Character Print Position (HriPosition) for available setting in **hriPosition** parameter.

See Table 4-19 Character Font (CharacterFont) for available setting in **hriFont** parameter.

See Table 4-21 Alignment (PrintAlignment) for available setting in **alignment** parameter.

See Table 4-25 N:W Ratio (NwRatio) for available setting in **nwRatio** parameter. Depending on the relationship between **nwRatio** parameter and **moduleSize** parameter, the wide element width is set in the following tables. See Table 4-40 N:W Ratio for Mobile Printer for Mobile printer, and Table 4-41 N:W Ratio for POS Printer for POS printer.

**Table 4-42 N:W Ratio for Mobile Printer**

moduleSize	nwRatio			
	SII_PM_BARCODE_WIDE_WIDTH_1	SII_PM_BARCODE_WIDE_WIDTH_2	SII_PM_BARCODE_WIDE_WIDTH_3	SII_PM_BARCODE_WIDE_WIDTH_4
SII_PM_BARCODE_MODULE_WIDTH_2	0.625 mm (5 dots)	0.750 mm (6 dots)	0.750 mm (6 dots)	0.750 mm (6 dots)
SII_PM_BARCODE_MODULE_WIDTH_3	0.875 mm (7 dots)	1.000 mm (8 dots)	1.125 mm (9 dots)	1.125 mm (9 dots)
SII_PM_BARCODE_MODULE_WIDTH_4	1.125 mm (9 dots)	1.250 mm (10 dots)	1.375 mm (11 dots)	1.500 mm (12 dots)

**Table 4-43 N:W Ratio for POS Printer**

moduleSize	nwRatio		
	SII_PM_NWRATIO_1TO2	SII_PM_NWRATIO_1TO2_5	SII_PM_NWRATIO_1TO3
SII_PM_BARCODE_MODULE_WIDTH_2	0.500 mm (4 dots)	0.625 mm (5 dots)	0.750 mm (6 dots)
SII_PM_BARCODE_MODULE_WIDTH_3	0.750 mm (6 dots)	1.000 mm (8 dots)	1.125 mm (9 dots)
SII_PM_BARCODE_MODULE_WIDTH_4	1.000 mm (8 dots)	1.250 mm (10 dots)	1.500 mm (12 dots)

moduleSize	nwRatio		
	SII_PM_ NWRATIO_1TO2	SII_PM_ NWRATIO_1TO2_5	SII_PM_ NWRATIO_1TO3
SII_PM_BARCODE_MODULE_WIDTH_5	1.250 mm (10 dots)	1.625 mm (13 dots)	1.875 mm (15 dots)
SII_PM_BARCODE_MODULE_WIDTH_6	1.500 mm (12 dots)	1.875 mm (15 dots)	2.250 mm (18 dots)

Error      **SIIPrinterException** is thrown when an error occurs while this method is to be called.  
See "**4.3.3 SIIPrinterException Class**" for details on the error.

Reference      See "Appendix B Barcode Size List" for details of the barcode size.

## printPDF417

## Print PDF417

Target      Mobile printer / POS printer

Syntax      (a) - (void) **printPDF417**:(NSString \*)text  
                                 errorCorrection:(ErrorCorrection)errorCorrection  
                                 row:(NSInteger)row  
                                 column:(NSInteger)column  
                                 moduleSize:(ModuleSize)moduleSize  
                                 moduleHeight:(NSInteger)moduleHeight  
                                 alignment:(PrintAlignment)alignment  
                                 pdf417Symbol:(Pdf417Symbol)pdf417Symbol;  
  
                  (b) - (void) **printPDF417**:(NSString \*)text  
                                 errorCorrection:(ErrorCorrection)errorCorrection  
                                 row:(NSInteger)row  
                                 column:(NSInteger)column  
                                 moduleSize:(ModuleSize)moduleSize  
                                 moduleHeight:(NSInteger)moduleHeight  
                                 alignment:(PrintAlignment)alignment;

Parameter	<b>text</b>	Barcode data to send a printer
	<b>errorCorrection</b>	Error correction level
	<b>row</b>	The number of row
	<b>column</b>	The number of columns in data area
	<b>moduleSize</b>	Nominal Fine Element Width
	<b>moduleHeight</b>	Module height (dot)
	<b>alignment</b>	Alignment
	<b>pdf417Symbol</b>	Symbol of PDF417

Description      This method prints PDF417. **pdf417Symbol** parameter for syntax (b) is fixed to standard PDF417.

See Table 4-26 Error Correction Level (ErrorCorrection) for available setting in **errorCorrection** parameter.

The valid range of **row** parameter is from 0, 3 to 90. When 0 is specified, the number of row is automatically set.

The valid range of **column** parameter is from 0 to 30. When 0 is specified, the number of row in the data area is automatically set.

See Table 4-23 Module Size (ModuleSize) for available setting in **moduleSize** parameter.

The valid range of **moduleHeight** parameter is from 2 to 127. When the module height is set smaller, some barcode scanners may not read it. Set 3 or more for normal use.

See Table 4-21 Alignment (PrintAlignment) for available setting in **alignment** parameter.

See Table 4-27 PDF417 Symbol (Pdf417Symbol) for available setting in **pdf417Symbol** parameter.

**Error** **SIIPrinterException** is thrown when an error occurs while this method is to be called.

See "**4.3.3 SIIPrinterException Class**" for details on the error.

**Reference** See "Appendix B Barcode Size List" for details of the barcode size.

<b>printQRcode</b>	<b>Print QR code</b>
--------------------	----------------------

**Target** Mobile printer / POS printer

**Syntax**

```
(a) - (void) printQRcode: (NSString *)text
      errorCorrection: (ErrorCorrection)errorCorrection
      moduleSize: (ModuleSize)moduleSize
      alignment: (PrintAlignment)alignment;

(b) - (void) printQRcode: (NSString *)text
      errorCorrection: (ErrorCorrection)errorCorrection
      moduleSize: (ModuleSize)moduleSize
      alignment: (PrintAlignment)alignment
      model: (QrModel)model;
```

<b>Parameter</b>	<b>text</b>	Barcode data to send a printer
	<b>errorCorrection</b>	Error correction level
	<b>moduleSize</b>	Module Size
	<b>alignment</b>	Alignment
	<b>model</b>	QR code model

**Description** This method prints QR code. The type (a) is a QR code model 2 fixed.

Also the version for either type (a) or (b) is automatically set depends on the number of data specified on **text** parameter.

See Table 4-26 Error Correction Level (ErrorCorrection) for available setting in **errorCorrection** parameter.

See Table 4-23 Module Size (ModuleSize) for available setting in **moduleSize** parameter.

See Table 4-21 Alignment (PrintAlignment) for available setting in **alignment** parameter.

See Table 4-28 QR Code Model (QrModel) for available setting in the **model** parameter.

**Error** **SIIPrinterException** is thrown when an error occurs while this method is to be called.

See "**4.3.3 SIIPrinterException Class**" for details on the error.

**Reference** See "Appendix B Barcode Size List" for details of the barcode size.

**printDataMatrix****Print Data Matrix**

Target	Mobile printer / POS printer	
Syntax	<pre>- (void) <b>printDataMatrix</b>: (NSString *)text                         dataMatrixModule: (DataMatrixModule) dataMatrixModule                         moduleSize: (ModuleSize) moduleSize                         alignment: (PrintAlignment) alignment;</pre>	
Parameter	<b>text</b> <b>dataMatrixModule</b> <b>moduleSize</b> <b>alignment</b>	Barcode data to send to the printer The number of the Data Matrix modules Module Size Alignment
Description	<p>This method prints Data Matrix.</p> <p>See Table 4-29 Data Matrix Module (DataMatrixModule) for available setting in <b>dataMatrixModule</b> parameter.</p> <p>See Table 4-23 Module Size (ModuleSize) for available setting in <b>moduleSize</b> parameter.</p> <p>See Table 4-21 Alignment (PrintAlignment) for available setting in <b>alignment</b> parameter.</p>	
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called.</p> <p>See "4.3.3 SIIPrinterException Class" for details on the error.</p>	
Reference	See "Appendix B Barcode Size List" for details of the barcode size.	

**printMaxiCode****Print MaxiCode**

Target	Mobile printer / POS printer	
Syntax	<pre>- (void) <b>printMaxiCode</b>: (NSString *)text                         maxiCodeMode: (MaxiCodeMode) maxiCodeMode                         alignment: (PrintAlignment) alignment;</pre>	
Parameter	<b>text</b> <b>SII_PM_MAXI_CODE_2</b>  <b>SII_PM_MAXI_CODE_3</b>  <b>maxiCodeMode</b> <b>alignment</b>	Barcode data to send to the printer <ul style="list-style-type: none"> <li>When <b>maxiCodeMode</b> parameter is</li> </ul> Add the service class (3 digits), the country code (3 digits), and the postal code (9 digits) in the beginning of data. <ul style="list-style-type: none"> <li>When <b>maxiCodeMode</b> parameter is</li> </ul> Add the service class (3 digits), the country code (3 digits), and the postal code (6 digits) in the beginning of data. MaxiCode mode Alignment
Description	<p>This method prints MaxiCode.</p> <p>See Table 4-30 MaxiCode Mode (MaxiCodeMode) for available setting in <b>maxiCodeMode</b> parameter.</p> <p>See Table 4-21 Alignment (PrintAlignment) for available setting in <b>alignment</b> parameter.</p>	



<b>cutPaper</b>	Cut paper
-----------------	-----------

Target	POS printer
Syntax	- (void) <b>cutPaper:</b> (CuttingMethod) cuttingMethod;
Parameter	<b>cuttingMethod</b> Cutting method
Description	<p>This method selects enabled/disabled of the paper feed to the cut position and cuts the paper.</p> <p>See Table 4-31 Cutting Method (CuttingMethod) for available setting in <b>cuttingMethod</b> parameter.</p>
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called.</p> <p>See "<b>4.3.3 SIIPrinterException Class</b>" for details on the error.</p>

<b>feedPosition</b>	Paper form feed
---------------------	-----------------

Target	Mobile printer / POS printer
Syntax	- (void) <b>feedPosition:</b> (FeedPosition) feedPosition;
Description	This method is not supported. <b>SIIPrinterException</b> is thrown when this method is executed.

<b>sendBinary</b>	Send binary data
-------------------	------------------

Target	Mobile printer / POS printer
Syntax	- (void) <b>sendBinary:</b> (NSData*) data;
Parameter	<b>data</b> Binary data sent to a printer
Description	<p>This method sends the binary data which is specified by <b>data</b> parameter to a printer. Data size that can be specified at a time is 256K bytes (262144 bytes).</p> <p>In this method, specified binary data is sent to a printer without conversion.</p> <p>By sending printer command as binary data with this method, printer functions which are not supported in the library become available. However, this method does not support commands which obtain responses from a printer.</p>
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called.</p> <p>See "<b>4.3.3 SIIPrinterException Class</b>" for details on the error.</p>

<b>sendDataFile</b>	Send specified file
---------------------	---------------------

Target	Mobile printer / POS printer
Syntax	(a) - (void) <b>sendDataFile:</b> (NSString *) fileName alignment: (PrintAlignment) alignment dithering: (Dithering) dithering;



```
(b) - (void) sendDataFile: (NSString *)fileName
      alignment: (PrintAlignment) alignment;

(c) - (void) sendDataFile: (NSString *)fileName;
```

Parameter	<b>fileName</b>	File path of data to sent to the printer
	<b>alignment</b>	Alignment
	<b>dithering</b>	Dithering

Description This method determines data format based on the file extension specified by **fileName** parameter, converts it to printer-enabled data format, and sends it to a printer. The maximum file size that can be specified is 1M byte (1048576 bytes).

The method of syntax (a) specifies Alignment and Dithering to the sending file.  
The method of syntax (b) specifies Alignment to the sending file.  
The method of syntax (c) specifies the sending file.

The file extensions capable of sending by **fileName** parameter and sending the file are describes below.

- .bmp, .jpg, .jpeg, or .png:  
Send data to a printer as image file. When that image file is colored one, it is converted to monochrome image by binarization, and sent to a printer.  
Printing start timing of the image depends on the connecting method.  
For Bluetooth connection, printing is executed at one time after mapping the image file in memory of a printer.  
For TCP/IP connection, printing is executed immediately after a printer receives the image file.
- .txt:  
Send data to a printer as text data. Text data format supports UTF-8. Just like **sendText** method, encodes the data to printable text data based on **internationalCharacter** property and **codePage** property, and then sends it to the printer. Also, in this method, the line spacing code is not added to the end of text data.
- .bin or .dat:  
Data is sent to a printer as binary data without conversion.
- .htm or .html:  
Data is sent to a printer as html data without conversion. When **SII\_PM\_PRINTER\_MODEL\_DPU\_S245** or **SII\_PM\_PRINTER\_MODEL\_DPU\_S445** is specified by **printerModel** parameter of **connect** method, this method is not supported, so that **SIIPrinterException** is thrown.

**alignment** parameter is valid only when the file extension specified on **fileName** parameter is .bmp, .jpg, .jpeg, .png or .txt. See Table 4-21 Alignment (PrintAlignment) for available setting. When **SII\_PM\_PRINTER\_MODEL\_DPU\_S245** or **SII\_PM\_PRINTER\_MODEL\_DPU\_S445** is specified by **printerModel** parameter of **connect** method, the alignment is fixed to left.

**dithering** parameter is valid only when the file extension specified on **fileName** parameter is .bmp, .jpg, .jpeg, or .png. See Table 4-13 Dithering (Dithering) for available setting.

Error	<b>SIIPrinterException</b> is thrown when an error occurs while this method is to be called. See "4.3.3 <b>SIIPrinterException Class</b> " for details on the error.
-------	---

Target	POS printer																
Syntax	<pre> - (void) <b>printPDF</b>: (NSString *)fileName                     startIndex: (NSInteger)startIndex                     endIndex: (NSInteger)endIndex                     rotate: (Rotate)rotate                     imageScale: (ImageScale)imageScale                     bottomMargin: (NSInteger)bottomMargin                     alignment: (PrintAlignment)alignment                     dithering: (Dithering)dithering; </pre>																
Parameter	<table border="0"> <tr> <td><b>fileName</b></td><td>Path of the PDF file</td></tr> <tr> <td><b>startIndex</b></td><td>Start number of the printed page</td></tr> <tr> <td><b>endIndex</b></td><td>End number of the printed page</td></tr> <tr> <td><b>rotate</b></td><td>Rotation direction of the image</td></tr> <tr> <td><b>imageScale</b></td><td>Image scaling</td></tr> <tr> <td><b>bottomMargin</b></td><td>Bottom margin (dot)</td></tr> <tr> <td><b>dithering</b></td><td>Dithering</td></tr> <tr> <td><b>alignment</b></td><td>Alignment</td></tr> </table>	<b>fileName</b>	Path of the PDF file	<b>startIndex</b>	Start number of the printed page	<b>endIndex</b>	End number of the printed page	<b>rotate</b>	Rotation direction of the image	<b>imageScale</b>	Image scaling	<b>bottomMargin</b>	Bottom margin (dot)	<b>dithering</b>	Dithering	<b>alignment</b>	Alignment
<b>fileName</b>	Path of the PDF file																
<b>startIndex</b>	Start number of the printed page																
<b>endIndex</b>	End number of the printed page																
<b>rotate</b>	Rotation direction of the image																
<b>imageScale</b>	Image scaling																
<b>bottomMargin</b>	Bottom margin (dot)																
<b>dithering</b>	Dithering																
<b>alignment</b>	Alignment																
Description	<p>Prints the specified page of the selected PDF file.  PDF is converted to printable format for the printer and is sent to the printer.</p> <p>The file extension for supporting PDF is .pdf.  A maximum of 1 MB (1048576 bytes) of file size can be specified.  The color image data is converted to monochrome image by binarization.</p> <p>The valid range of <b>startIndex</b> parameter is -1, 1 to the number of pages in the PDF file.  When -1 is specified for <b>startIndex</b> parameter, all pages are printed.  When -1 is specified for <b>startIndex</b> parameter, the value of <b>endIndex</b> parameter is ignored.  When 1 or more is specified for <b>startIndex</b> parameter, pages from the page number specified in <b>startIndex</b> parameter to the page number specified in <b>endIndex</b> parameter are printed.  When a value more than the value specified for <b>endIndex</b> parameter, is specified for <b>startIndex</b> parameter, an error occurs.  When an out-of-range value is specified for <b>startIndex</b> parameter or <b>endIndex</b> parameter, an error occurs.</p> <p>The valid range of <b>endIndex</b> parameter is 1 to 2147483647.  When a value more than the number of pages in the PDF file is specified for <b>endIndex</b> parameter, pages from the page number specified in <b>startIndex</b> parameter to the last page of the PDF file are printed.</p> <p>See Table 4-32 Image Rotation Direction (Rotate) for available setting in <b>rotate</b> parameter.</p> <p>See Table 4-33 Image Scaling (ImageScale) available setting in <b>imageScale</b> parameter.  When <b>SII_PM_IMAGE_SCALE_WIDTH_FIT</b> is specified for <b>imageScale</b> parameter, the image width is converted to the print width of the printer while maintaining the aspect ratio.</p>																

When a value between 0 and 2400 is specified for **bottomMargin** parameter, blank pages are not printed.

When the memory switches MS 1-3 (Mark Mode Selection) of RP-E10 is set to "Enable", form feed of marked paper or label is performed after printing the PDF page.

See "**4.3.3 SIIPrinterException Class**" for details on the error.

<b>printLogo</b>	Print specified logo (image) on printer
------------------	---

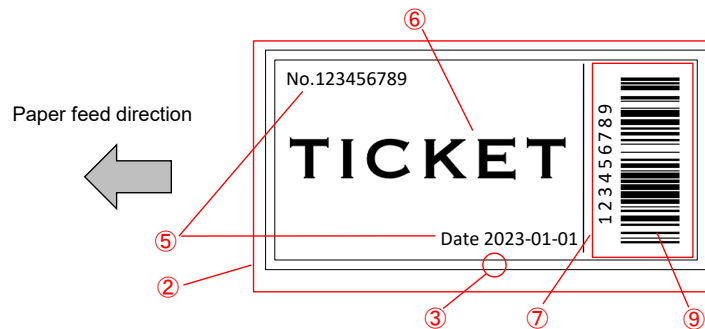
See "[4.3.3 SIIPrinterException Class](#)" for details on the error.

<b>printLogo</b>	Print specified logo (image) on printer
------------------	---

See "4.3.3 SIIPrinterException Class" for details on the error.

(c) Dedicated method for page mode

The following methods are dedicated methods to use page mode. An example for the print process in page mode is shown below.



① Start page mode

```
[printerManager enterPageMode];
```

② Specify print area of page mode

```
[printerManager setPageModeArea:0 y:0 width:355 height:576];
```

③ Specify a rectangle and a ruled line

```
[printerManager printPageModeRectangle:0 startY:0 endX:344 endY:575 lineStyle:SII_PM_LINESTYLE_THIN];  
[printerManager printPageModeRectangle:7 startY:7 endX:336 endY:567 lineStyle:SII_PM_LINESTYLE_THIN];  
[printerManager printPageModeLine:11 startY:404 endX:334 endY:404 lineStyle:SII_PM_LINESTYLE_THIN];
```

④ Specify print direction of page mode

```
[printerManager setPageModeDirection: SII_PM_DIRECTION_TOP_TO_BOTTOM];
```

⑤ Specify a character

```
[printerManager printPageModeText:21 startY:47 text:@"NO.123456789"];  
[printerManager printPageModeText:212 startY:340 text:@"Date 2023-01-01"];
```

⑥ Specify an image file

```
[NSString *filePath = [[NSBundle mainBundle] pathForResource:@"TicketImage" ofType:@"jpg"];  
[printerManager printPageModeImageFile:10 startY:222 fileName:filePath  
dithering:SII_PM_DITHERING_DISABLE];
```

⑦ Specify print area of page mode

```
[printerManager setPageModeArea:0 y:404 width:345 height:163];
```

⑧ Specify print direction

```
[printerManager setPageModeDirection:SII_PM_DIRECTION_LEFT_TO_RIGHT];
```

⑨ Specify a barcode

```
[printerManager printPageModeBarcode:20 startY:132 barcodeSymbol:SII_PM_BARCODE_CODE128  
data:[@"{B123456789" dataUsingEncoding:NSUTF8StringEncoding]  
moduleSize:SII_PM_BARCODE_MODULE_WIDTH_2 moduleHeight:80  
hriPosition:SII_PM_HRI_POSITION_ABOVE hriFont:SII_PM_FONT_A];
```

⑩ Print in page mode

```
[printerManager printPageMode:SII_PM_CUT_PARTIAL];
```

⑪ Ends page mode

```
[printerManager exitPageMode];
```

**enterPageMode****Start page mode**

Target	POS printer
Syntax	- (void) <b>enterPageMode</b> ;
Description	<p>This method starts page mode. The dedicated method for page mode and common methods to standard mode and page mode can be used after this method execution.</p> <p>Executing <b>exitPageMode</b> method discards the print data kept in the page data buffer and changes the mode to standard mode.</p> <p>Executing <b>printPageMode</b> method prints the print data kept in the page data buffer.</p>
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is being called.</p> <p>See "4.3.3 <b>SIIPrinterException Class</b>" for details on the error.</p>

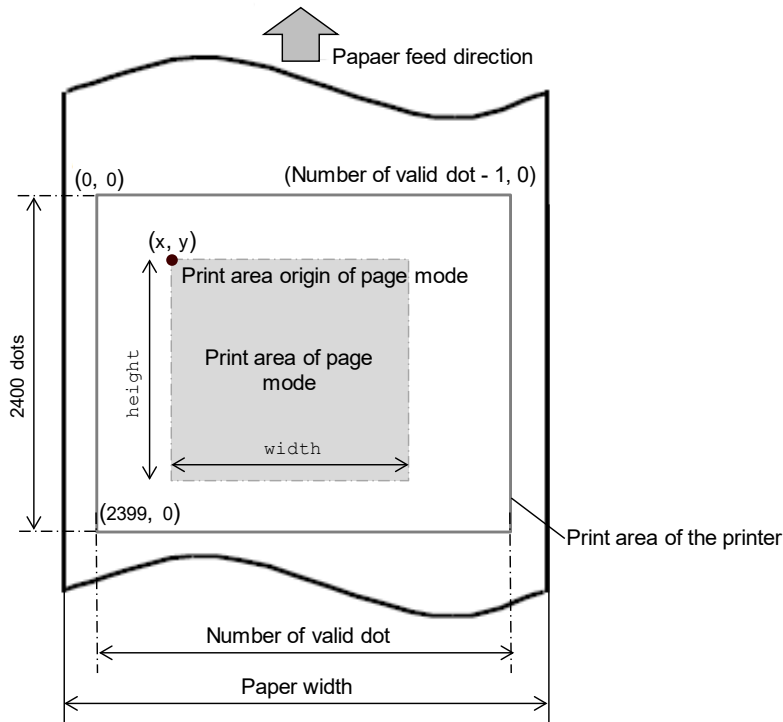
**exitPageMode****End page mode**

Target	POS printer
Syntax	- (void) <b>exitPageMode</b> ;
Description	Discards the print data kept in the page data buffer and changes the mode to standard mode.
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is being called.</p> <p>See "4.3.3 <b>SIIPrinterException Class</b>" for details on the error.</p>

**setPageModeArea****Specify print area of page mode**

Target	POS printer
Syntax	- (void) <b>setPageModeArea</b> : (NSInteger)x y: (NSInteger)y width: (NSInteger)width height: (NSInteger)height;
Parameter	<p><b>x</b> The horizontal origin (dot) of the print area of page mode 0 represents the left edge on the print area of the printer.</p> <p><b>y</b> The vertical origin (dot) of the print area of page mode The valid range is 0 to 2399. 0 represents the position where paper feed has not been performed.</p> <p><b>width</b> The print area width (dot) of page mode</p> <p><b>height</b> The print area height (dot) of page mode The valid range is 1 to (2400-<b>y</b>).</p>

The valid range of parameter **x** and **width** is shown in the figure below.



Memory Switch Setting of Printer		Number of Valid Dot	setPageModeArea	
MS4-4 (Paper Width)	MS4-5 (Number of Effective Dots)		x	width
80 mm	576	576	0 to 575	1 to (576 - x)
	512	512	0 to 511	1 to (512 - x)
58 mm	432	432	0 to 431	1 to (432 - x)
	360	360	0 to 359	1 to (360 - x)

The number of valid dots differs depending on the memory switch.

See the technical reference of the target printer for details of memory switch and the setting at shipping.

**Description** Specifies print area of page mode.

Start page mode by **enterPageMode** method before executing this method.

The print area of page mode can be specified when page mode is started by **enterPageMode** method and then this method is executed after executing the dedicated method for page mode. The data that has been mapped is kept.

The data of the dedicated method for page mode is mapped to the print area of page mode added by this method after executing this method.

The print area of page mode is parameter **x** = 0, **y** = 0, **width** = number of a valid dot, **height** = 2400 after executing **enterPageMode** method.

**Error** **SIIPrinterException** is thrown when an error occurs while this method is being called.

See "**4.3.3 SIIPrinterException Class**" for details on the error.

**setPageModeDirection****Specify print direction of page mode**

Target	POS printer
Syntax	- (void) <b>setPageModeDirection:</b> (Direction)direction;
Parameter	<b>direction</b> Print direction See Table 4-34 Print Direction ( <b>Direction</b> ) for available setting.
Description	Specifies print direction of page mode.  Start page mode by <b>enterPageMode</b> method before executing this method.  The print direction is left to right after executing <b>enterPageMode</b> method.
Error	<b>SIIPrinterException</b> is thrown when an error occurs while this method is being called. See " <b>4.3.3 SIIPrinterException Class</b> " for details on the error.

**setPageModeLineSpacing****Specify line spacing of page mode**

Target	POS printer
Syntax	- (void) <b>setPageModeLineSpacing:</b> (NSInteger)lineSpacing;
Parameter	<b>lineSpacing</b> Line spacing (dot) of page mode The valid range is 0 to 255.
Description	Specifies line spacing of page mode.  Start page mode by <b>enterPageMode</b> method before executing this method.  The line spacing is 34 dots after executing <b>enterPageMode</b> method.
Error	<b>SIIPrinterException</b> is thrown when an error occurs while this method is being called. See " <b>4.3.3 SIIPrinterException Class</b> " for details on the error.

**printPageMode****Print page mode**

Target	POS printer
Syntax	- (void) <b>printPageMode:</b> (CuttingMethod)CuttingMethod;
Parameter	<b>cuttingMethod</b> Cutting method See Table 4-31    Cutting Method (CuttingMethod) for available setting.
Description	Prints the print data kept in page data buffer. The print data is kept after printing. The print data is discarded at the timing of the followings: •Execute <b>enterPageMode</b> method •Execute <b>disconnect</b> method •Execute <b>exitPageMode</b> method
Error	<b>SIIPrinterException</b> is thrown when an error occurs while this method is being called. See " <b>4.3.3 SIIPrinterException Class</b> " for details on the error.

**printPageModeText**

Send text data of page mode

Target	POS printer	
Syntax	<pre>- (void) <b>printPageModeText</b>: (NSInteger) startX                         startY: (NSInteger) startY                         text: (NSString *)text;</pre>	
Parameter	<b>startX</b>	The horizontal reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>startY</b>	The vertical reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>text</b>	Text data Data size that can be specified at 1 time is 16 KB (16384 bytes).
Description	<p>Maps the text data on the print area of page mode. This method encodes the specified text data to printable text data based on <b>internationalCharacter</b> property and <b>codePage</b> property.</p> <p>Start page mode by <b>enterPageMode</b> method before executing this method.</p>	
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is being called. See "<b>4.3.3 SIIPrinterException Class</b>" for details on the error.</p>	

**printPageModeTextEx**

Send format specified text data of page mode

Target	POS printer	
Syntax	<pre>- (void) <b>printPageModeTextEx</b>: (NSInteger) startX                         startY: (NSInteger) startY                         text: (NSString *)text                         bold: (CharacterBold)bold                         underline: (CharacterUnderline)underline                         reverse: (CharacterReverse)reverse                         font: (CharacterFont)font                         scale: (CharacterScale)scale;</pre>	
Parameter	<b>startX</b>	The horizontal reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>startY</b>	The vertical reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>text</b>	Text data Data size that can be specified at 1 time is 16 KB (16384 bytes).
	<b>bold</b>	Bold character See Table 4-15 Bold Print ( <b>CharacterBold</b> ) for available setting.
	<b>underline</b>	Underline See Table 4-16 Underline ( <b>CharacterUnderline</b> ) for available setting.



<b>reverse</b>	Reverse print See Table 4-17 Reverse Print ( <b>CharacterReverse</b> ) for available setting.
<b>font</b>	Font See Table 4-19 Character Font ( <b>CharacterFont</b> ) for available setting.
<b>scale</b>	Character scale See Table 4-20 Character Scale ( <b>CharacterScale</b> ) for available setting.
Description	Maps the format specified text data on the print area of page mode. This method encodes the specified text data to printable text data based on <b>internationalCharacter</b> property and <b>codePage</b> property.  Start page mode by <b>enterPageMode</b> method before executing this method.
Error	<b>SIIPrinterException</b> is thrown when an error occurs while this method is being called. See "4.3.3 SIIPrinterException Class" for details on the error.

<b>printPageModeBarcode</b>	Print barcode of page mode
-----------------------------	----------------------------

Target	POS printer
Syntax	<pre> (a) - (void) <b>printPageModeBarcode</b>: (NSInteger) startX       startY: (NSInteger) startY       barcodeSymbol: (BarcodeSymbol) barcodeSymbol       text: (NSString *) text       moduleSize: (ModuleSize) moduleSize       moduleHeight: (NSInteger) moduleHeight       hriPosition: (HriPosition) hriPosition       hriFont: (CharacterFont) hriFont;  (b) - (void) <b>printPageModeBarcode</b>: (NSInteger) startX       startY: (NSInteger) startY       barcodeSymbol: (BarcodeSymbol) barcodeSymbol       text: (NSString *) text       moduleSize: (ModuleSize) moduleSize       moduleHeight: (NSInteger) moduleHeight       hriPosition: (HriPosition) hriPosition       hriFont: (CharacterFont) hriFont       nwRatio: (NwRatio) nwRatio;  (c) - (void) <b>printPageModeBarcode</b>: (NSInteger) startX       startY: (NSInteger) startY       barcodeSymbol: (BarcodeSymbol) barcodeSymbol       data: (NSData*) data       moduleSize: (ModuleSize) moduleSize       moduleHeight: (NSInteger) moduleHeight       hriPosition: (HriPosition) hriPosition       hriFont: (CharacterFont) hriFont;  (d) - (void) <b>printPageModeBarcode</b>: (NSInteger) startX       startY: (NSInteger) startY       barcodeSymbol: (BarcodeSymbol) barcodeSymbol       text: (NSString *) text       moduleSize: (ModuleSize) moduleSize; </pre>

Parameter	<b>startX</b>	The horizontal reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>startY</b>	The vertical reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>barcodeSymbol</b>	BarcodeSymbol See Table 4-22 Barcode Symbol ( <b>BarcodeSymbol</b> ) for available setting and correspondent syntax.
	<b>text (data)</b>	Barcode data to send to the printer The input conditions for barcode are as follows.

Barcode	Number of Data	Inputtable Data Character String (Data)	Remarks
UPC-A	11 to 12 characters	'0' to '9'	
UPC-E	11 to 12 characters	'0' to '9'	
EAN13 JAN13	12 to 13 characters	'0' to '9'	
EAN8 JAN8	7 to 8 characters	'0' to '9'	
CODE39	1 to 150 characters	'0' to '9' 'A' to 'Z' ' ', '\$', '%', '+', '-', '.', '/'	Start code and stop code (*) are automatically added.
CODE93	1 to 150 bytes	(0x00 to 0x2E)	Input data with 0x2F or more at the end.
CODE128	2 to 150 bytes	(0x00 to 0x66)	When inputting the start code (0x67 to 0x69) of the CODE128 code set. Input data with 0x67 or more at the end.
		(0x00 to 0x7F)	When starting with a CODE128 special code start code ("A", "B", "C").
ITF	2 to 150 characters (However, an even number)	'0' to '9'	
CODABAR	1 to 150 characters	'0' to '9' \$', '+', '-', '.', '/', ':'	It is needed to specify one of 'A' to 'D' at the beginning and end.
EAN13 add-on JAN13 add-on	Add-on 2: 14 to 15 characters Add-on 5: 17 to 18 characters	'0' to '9'	

<b>moduleSize</b>	Barcode width See Table 4-23 Module Size ( <b>ModuleSize</b> ) for available setting.
<b>moduleHeight</b>	Barcode height (dot) The valid range is 1 to 255.
<b>hriPosition</b>	HRI character print position See Table 4-24 HRI Character Print Position ( <b>HriPosition</b> ) for available setting.

**hriFont** HRI character font  
See Table 4-19 Character Font (**CharacterFont**) for available setting.

**nwRatio** N:W ratio  
See Table 4-25 N:W Ratio (**NwRatio**) for available setting.  
Depending on specified parameter **nwRatio** and

**moduleSize,** the wide element width is set as shown in the following table.

moduleSize	nwRatio		
	SII_PM_NWRATIO_1TO2	SII_PM_NWRATIO_1TO2_5	SII_PM_NWRATIO_1TO3
SII_PM_BARCODE_MODULE_WIDTH_2	0.500 mm (4 dots)	0.625 mm (5 dots)	0.750 mm (6 dots)
SII_PM_BARCODE_MODULE_WIDTH_3	0.750 mm (6 dots)	1.000 mm (8 dots)	1.125 mm (9 dots)
SII_PM_BARCODE_MODULE_WIDTH_4	1.000 mm (8 dots)	1.250 mm (10 dots)	1.500 mm (12 dots)
SII_PM_BARCODE_MODULE_WIDTH_5	1.250 mm (10 dots)	1.625 mm (13 dots)	1.875 mm (15 dots)
SII_PM_BARCODE_MODULE_WIDTH_6	1.500 mm (12 dots)	1.875 mm (15 dots)	2.250 mm (18 dots)

**Description** Maps the barcode on the print area of page mode.  
The method of syntax (a) specifies the barcode data by character string.  
The method of syntax (b) specifies the barcode data by character string and specifies N:W ratio of the barcode.  
The method of syntax (c) specifies the barcode data by the array of bytes.  
The method of syntax (d) is not supported.

Start page mode by **enterPageMode** method before executing this method.

**Error** **SIIPrinterException** is thrown when an error occurs while this method is being called.  
See "4.3.3 SIIPrinterException Class" for details on the error.

**Note** Map the print data of the barcode not to overlap the other print data.

**Reference** See "Appendix B Barcode Size List" for details of the barcode size.

## printPageModePDF417

## Print PDF417 of page mode

**Target** POS printer

**Syntax** (a) - (void) **printPageModePDF417**: (NSInteger) startX  
startY: (NSInteger) startY  
text: (NSString \*) text  
errorCorrection: (ErrorCorrection) errorCorrection  
row: (NSInteger) row  
column: (NSInteger) column  
moduleSize: (ModuleSize) moduleSize  
moduleHeight: (NSInteger) moduleHeight  
pdf417Symbol: (Pdf417Symbol) pdf417Symbol;

```
(b) - (void) printPageModePDF417: (NSInteger) startX
      startY: (NSInteger) startY
      text: (NSString *) text
      errorCorrection: (ErrorCorrection) errorCorrection
      row: (NSInteger) row
      column: (NSInteger) column
      moduleSize: (ModuleSize) moduleSize
      moduleHeight: (NSInteger) moduleHeight;
```

Parameter	<b>startX</b>	The horizontal reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>startY</b>	The vertical reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>text</b>	Barcode data
	<b>errorCorrection</b>	Error correction level See Table 4-26 Error Correction Level ( <b>ErrorCorrection</b> ) for available setting.
	<b>row</b>	The number of rows (row) The valid range is 0, 3 to 90. When 0 is specified, the number of rows is automatically set.
	<b>column</b>	The number of columns in data area The valid range is 0 to 30. When 0 is specified, the number of columns in the data area is automatically set.
	<b>moduleSize</b>	Nominal fine element width See Table 4-23 Module Size ( <b>ModuleSize</b> ) for available setting.
	<b>moduleHeight</b>	Module height (dot) The valid range is 2 to 127. When the module height is set smaller, some barcode scanners may not read it. Set 3 or more for normal use.
	<b>pdf417Symbol</b>	Symbol of PDF417 See Table 4-27 PDF417 Symbol ( <b>Pdf417Symbol</b> ) for available setting.
Description	<p>Maps PDF417 on the print area of page mode. The method of syntax (a) specifies PDF417 symbol. The method of syntax (b) is fixed to standard PDF417.</p> <p>Start page mode by <b>enterPageMode</b> method before executing this method.</p>	
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is being called. See "4.3.3 SIIPrinterException Class" for details on the error.</p>	
Note	Map the print data of the barcode not to overlap the other print data.	
Reference	See "Appendix B Barcode Size List" for details of the barcode size.	

Target	POS printer	
Syntax	<pre> (a) - (void) <b>printPageModeQRcode:</b> (NSInteger) startX       startY: (NSInteger) startY       text: (NSString *)text       errorCorrection: (ErrorCorrection)errorCorrection       moduleSize: (ModuleSize)moduleSize       model: (QrModel)model;  (b) - (void) <b>printPageModeQRcode:</b> (NSInteger) startX       startY: (NSInteger) startY       text: (NSString *)text       errorCorrection: (ErrorCorrection)errorCorrection       moduleSize: (ModuleSize)moduleSize; </pre>	
Parameter	<b>startX</b>	The horizontal reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>startY</b>	The vertical reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>text</b>	Barcode data The version for either syntax (a) or (b) is automatically set depending on the number of data specified on parameter <b>text</b> .
	<b>errorCorrection</b>	Error correction level See Table 4-26 Error Correction Level ( <b>ErrorCorrection</b> ) for available setting.
	<b>moduleSize</b>	Module size See Table 4-23 Module Size ( <b>ModuleSize</b> ) for available setting.
	<b>model</b>	QR Code Model See Table 4-28 QR Code Model ( <b>QrModel</b> ) for available setting.
Description	<p>Maps QR Code on the print area of page mode. The method of syntax (a) specifies QR Code Model. The method of syntax (b) is fixed to QR Code Model 2.</p> <p>Start page mode by <b>enterPageMode</b> method before executing this method.</p>	
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is being called. See "4.3.3 <b>SIIPrinterException Class</b>" for details on the error.</p>	
Note	Map the print data of the barcode not to overlap the other print data.	
Reference	See "Appendix B Barcode Size List" for details of the barcode size.	

**printPageModeDataMatrix****Print Data Matrix of page mode**

Target	POS printer	
Syntax	<pre> - (void) <b>printPageModeDataMatrix:</b> (NSInteger) startX                                 startY: (NSInteger) startY                                 text: (NSString *) text                                 dataMatrixModule: (DataMatrixModule) dataMatrixModule                                 moduleSize: (ModuleSize) moduleSize; </pre>	
Parameter	<b>startX</b>	The horizontal reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>startY</b>	The vertical reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>text</b>	Barcode data
	<b>dataMatrixModule</b>	The number of Data Matrix modules See Table 4-29 Data Matrix Module (DataMatrixModule) available setting.
	<b>moduleSize</b>	Module size See Table 4-23 Module Size ( <b>ModuleSize</b> ) for available setting.
Description	Maps Data Matrix on the print area of page mode.	
	Start page mode by <b>enterPageMode</b> method before executing this method.	
Error	<b>SIIPrinterException</b> is thrown when an error occurs while this method is being called. See "4.3.3 SIIPrinterException Class" for details on the error.	
Note	Map the print data of the barcode not to overlap the other print data.	
Reference	See "Appendix B Barcode Size List" for details of the barcode size.	

**printPageModeMaxiCode****Print MaxiCode of page mode**

Target	POS printer	
Syntax	<pre> - (void) <b>printPageModeMaxiCode:</b> (NSInteger) startX                                 startY: (NSInteger) startY                                 text: (NSString *) text                                 maxiCodeMode: (MaxiCodeMode) maxiCodeMode; </pre>	
Parameter	<b>startX</b>	The horizontal reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>startY</b>	The vertical reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>text</b>	Barcode data <ul style="list-style-type: none"> <li>When parameter <b>maxiCodeMode</b> is <b>SII_PM_MAXI_CODE_2</b> Add the service class (3 digits), the country code (3 digits), and the postal code (9 digits) to the beginning of the data.</li> </ul>

- When parameter **maxiCodeMode** is **SII\_PM\_MAXI\_CODE\_3** Add the service class (3 digits), the country code (3 digits), and the postal code (6 digits) to the beginning of the data.

**maxiCodeMode** MaxiCode Mode  
See Table 4-30 MaxiCode Mode (MaxiCodeMode) available setting.

Description	Maps MaxiCode on the print area of page mode.  Start page mode by <b>enterPageMode</b> method before executing this method.
Error	<b>SIIPrinterException</b> is thrown when an error occurs while this method is being called. See " <b>4.3.3 SIIPrinterException Class</b> " for details on the error.
Note	Map the print data of the barcode not to overlap the other print data.
Reference	See "Appendix B Barcode Size List" for details of the barcode size.

### **printPageModeGS1DataBarStacked** Print GS1 Databar Stacked of page mode

Target	POS printer
Syntax	- (void) <b>printPageModeGS1DataBarStacked:</b> (NSInteger) startX startY: (NSInteger) startY text: (NSString *)text moduleSize: (ModuleSize)moduleSize;
Description	This method is not supported. <b>SIIPrinterException</b> is thrown when this method is executed.

### **printPageModeGS1DataBarStackedOmnidirectional** Print GS1 Databar Stacked Omni-directional of page mode

Target	POS printer
Syntax	- (void) <b>printPageModeGS1DataBarStackedOmnidirectional:</b> (NSInteger) startX startY: (NSInteger) startY text: (NSString *)text moduleHeight: (NSInteger)moduleHeight moduleSize: (ModuleSize)moduleSize;
Description	This method is not supported. <b>SIIPrinterException</b> is thrown when this method is executed.

**printPageModeGS1DataBarExpandedStacked**

Print GS1 Databar Expanded Stacked of page mode

Target	POS printer
Syntax	- (void) <b>printPageModeGS1DataBarExpandedStacked:</b> (NSInteger) startX startY: (NSInteger) startY text: (NSString *) text column: (NSInteger) column moduleSize: (ModuleSize) moduleSize;
Description	This method is not supported. <b>SIIPrinterException</b> is thrown when this method is executed.

**printPageModeAztecCode**

Print Aztec Code of page mode

Target	POS printer
Syntax	- (void) <b>printPageModeAztecCode:</b> (NSInteger) startX startY: (NSInteger) startY text: (NSString *) text layer: (NSInteger) layer errorCorrection: (NSInteger) errorCorrection moduleSize: (ModuleSize) moduleSize aztecSymbol: (AztecSymbol) aztecSymbol;
Description	This method is not supported. <b>SIIPrinterException</b> is thrown when this method is executed.

**sendPageModeBinary**

Send binary data of page mode

Target	POS printer
Syntax	- (void) <b>sendPageModeBinary:</b> (NSData*) data;
Parameter	<b>binary</b> Binary data Data size that can be specified at 1 time is 256 KB (262144 bytes).
Description	Maps binary data on the print area of page mode.  Start page mode by <b>enterPageMode</b> method before executing this method.  This method sends the specified binary data to the printer without conversion.  By sending printer commands as binary data with this method, printer functions which are not supported in the library become available.
Error	<b>SIIPrinterException</b> is thrown when an error occurs while this method is being called. See " <b>4.3.3 SIIPrinterException Class</b> " for details on the error.
Note	This method may execute unexpected performance depending on the data to send. Please ensure the performance with your actual device in advance.



**printPageModeImageFile****Draw Image file of page mode**

Target	POS printer	
Syntax	<pre>- (void) <b>printPageModeImageFile:</b> (NSInteger) startX                                 startY: (NSInteger) startY                                 fileName: (NSString *) fileName                                 dithering: (Dithering) dithering;</pre>	
Parameter	<b>startX</b>	The horizontal reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>startY</b>	The vertical reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>fileName</b>	File path of the data The maximum file size that can be specified is 1 MB (1048576 bytes). The image files that can be sent are .bmp, .jpg, .jpeg, .png. Colored image file is converted to monochrome image by binarization and registered.
	<b>dithering</b>	Dithering See Table 4-13 Dithering (Dithering) for available setting.
Description	<p>Maps the image file on the print area of page mode.</p> <p>Start page mode by <b>enterPageMode</b> method before executing this method.</p>	
Error	<p><b>SIIPrinterException</b> is thrown when an error occurs while this method is being called.</p> <p>See "<b>4.3.3 SIIPrinterException Class</b>" for details on the error.</p>	

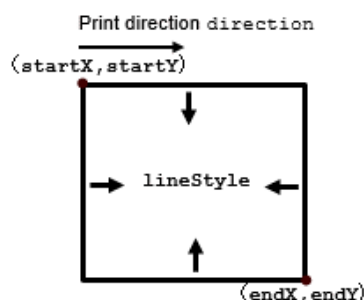
**printPageModeRectangle****Draw rectangle image of page mode**

Target	POS printer	
Syntax	<pre>- (void) <b>printPageModeRectangle:</b> (NSInteger) startX                                 startY: (NSInteger) startY                                 endX: (NSInteger) endX                                 endY: (NSInteger) endY                                 lineStyle: (LineStyle) lineStyle;</pre>	
	<b>startX</b>	The horizontal reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>startY</b>	The vertical reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>endX</b>	The horizontal reference point (dot) from the ending point The valid range is 0 to 2399.
	<b>endY</b>	The vertical reference point (dot) from the ending point The valid range is 0 to 2399.
	<b>lineStyle</b>	Line style See Table 4-35 Line Style (LineStyle) for available setting.

Description Maps the rectangle image on the print area of page mode.

Start page mode by **enterPageMode** method before executing this method.

The rectangle is mapped to the parameter **direction** of **setPageModeDirection** method as shown in the figure below.



The example of the parameter setting to the image is shown below.

Example: Draw a square with a medium solid line (4 dots) at 240 dots (30 mm) from the starting point.

Image	Parameter
	<pre> <b>startX</b>    0 <b>startY</b>    0 <b>endX</b>      239 <b>endY</b>      239 <b>lineStyle</b> SII_PM_LINestyle_MEDIUM           </pre>

Error **SIIPrinterException** is thrown when an error occurs while this method is being called.

See "4.3.3 SIIPrinterException Class" for details on the error.

## printPageModeLine Print ruled line of page mode

Target POS printer

Syntax

```

- (void) printPageModeLine: (NSInteger) startX
                                startY: (NSInteger) startY
                                endX: (NSInteger) endX
                                endY: (NSInteger) endY
                                lineStyle: (LineStyle) lineStyle;
  
```

Parameter	<b>startX</b>	The horizontal reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>startY</b>	The vertical reference point (dot) from the starting point The valid range is 0 to 2399.
	<b>endX</b>	The horizontal reference point (dot) from the ending point The valid range is 0 to 2399.
	<b>endY</b>	The vertical reference point (dot) from the ending point The valid range is 0 to 2399.

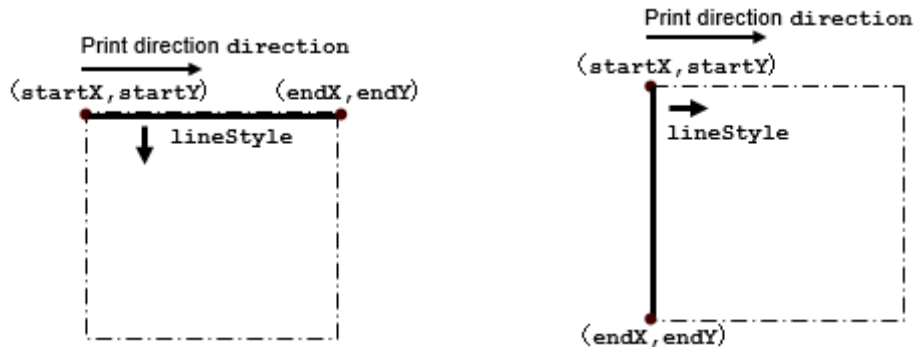
**lineStyle**                      Line style  
See Table 4-35 Line Style (**LineStyle**) for available setting.

Description      Maps the ruled line on the print area of page mode.

Start page mode by **enterPageMode** method before executing this method.

A diagonal stroke cannot be drawn by this method.

The ruled line is mapped to the parameter **direction** of **setPageModeDirection** method as shown in the figure below.



#### Mapping direction of horizontal ruled line      Mapping direction of vertical ruled line

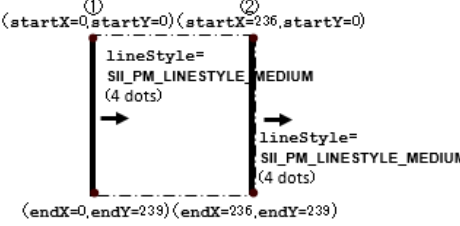
The setting example of the parameter to the image is shown below.

Example: Draw a horizontal ruled line of a square with a medium solid line (4 dots) at 240

dots (30 mm) from the starting point.

Image	Parameter
	① <b>startX</b> 0 <b>startY</b> 0 <b>endX</b> 239 <b>endY</b> 0 <b>lineStyle</b> <b>SII_PM_LINestyle_MEDIUM</b>
	② <b>startX</b> 0 <b>startY</b> 236 <b>endX</b> 239 <b>endY</b> 236 <b>lineStyle</b> <b>SII_PM_LINestyle_MEDIUM</b>

Example: Draw a vertical ruled line of a square with a medium solid line (4 dots) at 240 dots (30 mm) from the starting point.

Image	Parameter
 <p>① (startX=0,startY=0) (startX=236,startY=0) lineStyle= SII_PM_LINestyle_MEDIUM (4 dots) → → lineStyle= SII_PM_LINestyle_MEDIUM (4 dots) (endX=0,endY=239) (endX=236,endY=239)</p>	<p>①</p> <p>startX 0 startY 0 endX 0 endY 239 lineStyle SII_PM_LINestyle_MEDIUM</p> <p>②</p> <p>startX 236 startY 0 endX 236 endY 239 lineStyle SII_PM_LINestyle_MEDIUM</p>

Error **SIIPrinterException** is thrown when an error occurs while this method is being called.  
See "**4.3.3 SIIPrinterException Class**" for details on the error.

## printPageModeLogo Print logo of page mode

Target POS printer

Syntax - (void) **printPageModeLogo**: (NSInteger) startX  
startY: (NSInteger) startY  
logoId: (NSString \*) logoId;

Parameter

**startX** The horizontal reference point (dot) from the starting point  
The valid range is 0 to 2399.

**startY** The vertical reference point (dot) from the starting point  
The valid range is 0 to 2399.

**logoId** Logo ID to print (key code)  
Specify the ID of the registered logo as a character string

Description Maps the registered logo on the print area of page mode.  
Start page mode by **enterPageMode** method before executing this method.

Error **SIIPrinterException** is thrown when an error occurs while this method is being called.  
See "**4.3.3 SIIPrinterException Class**" for details on the error.

(6) Common property detail to standard mode and page mode

<b>endTimeout</b>	Timeout period when sending data
-------------------	----------------------------------

Target	Mobile printer / POS printer
Syntax	@property NSInteger <b>sendTimeout</b> ;
Description	This property maintains the timeout period when data is sent. This property is configurable or obtainable whether a printer is connected or not. However, the configured timeout period is enabled at the next data sending. When the configured value is outside of the valid range, 100 is set when the set value is lower than 100, or 300000 is set when the set value is more than 300000.  Default                      10000 msec (10 seconds) Effective range            100 msec to 300000 msec (5 minutes)

<b>receiveTimeout</b>	Timeout period when receiving data
-----------------------	------------------------------------

Target	Mobile printer / POS printer
Syntax	@property NSInteger <b>receiveTimeout</b> ;
Description	This property maintains the timeout period when data is received. This property is configurable or obtainable whether a printer is connected or not. When the configured value is outside of the valid range, 100 is set when the set value is lower than 100, or 300000 is set when the set value is more than 300000.  Default                      10000 msec (10 seconds) Effective range            100 msec to 300000 msec (5 minutes)

<b>internationalCharacter</b>	Set international character set
-------------------------------	---------------------------------

Target	Mobile printer / POS printer
Syntax	@property NSInteger <b>internationalCharacter</b> ;
Description	<p>This property maintains the configuration of international character set. When text data is sent by <b>sendText</b> method, <b>sendTextEx</b> method, <b>sendDataFile</b> method, or <b>printPageModeText</b> method, or <b>printPageModeTextEx</b> method, the print result of the following character codes varies.</p> <p>Character codes with the varying print result depending on the configuration of the international character: 0x23, 0x24, 0x40, 0x5B, 0x5C, 0x5D, 0x5E, 0x60, 0x7B, 0x7C, 0x7D, 0x7E</p> <p>See Table 4-8 International Character Setting Constant for details about configurable values. When international character set is not configured, it is initialized to following state depending on a language setting of an iOS device. Also, when invalid value is specified, it is ignored.</p> <p>When a language setting of an iOS device is Japanese: <b>SII_PM_COUNTRY_JAPAN</b></p> <p>When a language setting of an iOS device is other languages than Japanese: <b>SII_PM_COUNTRY_USA</b></p>

Target	Mobile printer / POS printer
Syntax	@property NSInteger <b>codePage</b> ;
Description	<p>This property maintains setting values of codepage. The encoder used for sending the text data by <b>sendText</b> method, <b>sendTextEx</b> method, <b>sendDataFile</b> method, <b>printPageModeText</b> method, or <b>printPageModeTextEx</b> method is changed. See Table 4-9 Codepage constant for the details about configurable values. When a codepage is not configured, it is initialized to the following state depending on a language setting of an iOS device. Also, when invalid value is specified, it will be ignored.</p> <p>When a language setting of an iOS device is Japanese:  <b>SII_PM_CODE_PAGE_KATAKANA</b></p> <p>When a language setting of an iOS device is other languages than Japanese:  <b>SII_PM_CODE_PAGE_1252</b></p>

**printerModel**

## Obtain printer model

Target	Mobile printer / POS printer
Syntax	@property(readonly) NSInteger <b>printerModel</b> ;
Description	This property obtains a model value for the connected printer. When a printer is not connected, -1 is returned.
Return value	See Table 4-5 Printer Model Constant for details.
Default	-1

**portType**

## Connecting port type

Target	Mobile printer / POS printer
Syntax	@property(readonly) NSInteger <b>portType</b> ;
Description	This property obtains the port type of connecting printer in use during connection with a printer. When a printer is not connected, -1 is returned.
Return value	See Table 4-6 Port Type Constant for details.
Default	-1

**isConnect**

## Verify connection state with a printer

Target	Mobile printer / POS printer
Syntax	@property(readonly) BOOL <b>isConnect</b> ;
Description	This property maintains BOOL value with a printer. When the <b>connect</b> method succeeds, this property is YES. After <b>connect</b> method, when <b>disconnect</b> method succeeds, this property becomes NO.
Return value	Following values are returned depending on the connection state with a printer.

YES	Connected to a printer
NO	Disconnected to a printer

<b>socketKeepingTime</b>		Socket keeping time
Target	POS printer	
Syntax	@property NSInteger <b>socketKeepingTime</b> ;	
Description	<p>This method is valid only for POS printer. This property maintains the setting of socket keeping time during TCP/IP connection. For socket keeping time, set the same time as Network Printer Receive Timeout. The setting of Network Printer Receive Timeout can be changed in "SII Printer Utility" with the iOS app on the App Store.</p> <p>This property is configurable and obtainable whether a printer is connected or not. However, socket keeping time is enabled at the next execution of <b>connect</b> method (TCP/IP). Moreover, when configured value is outside of the valid range, set 6000 when the set value is lower than 6000 and set 300000 when the set value is more than 300000.</p> <p>Default                      300000msec (5 minutes)</p> <p>Effective range            60000 to 300000msec (5 minutes)</p>	

<b>delegate</b>		Register delegate
Target	Mobile printer / POS printer	
Syntax	@property(weak, nonatomic) id<SIIPrinterManagerDelegate> <b>delegate</b> ;	
Description	<p>Registers a delegate object that receives notifications from the printer.</p> <p>Specify an object conforming to <b>SIIPrinterManagerDelegate</b> protocol.</p> <p>When this property is executed with the delegate object registered, the already registered delegate object becomes disabled, and a new delegate object is registered.</p> <p>When specifying nil for this property, the notification of the printer status is stopped.</p>	

### 4.3.2 SIIPrinterInfo Class

This class stores printer information searched by printer search method. This class obtains printer model, MAC address, and IP address from the searched printer information.

#### (1) Method List

This class stores the printer information searched by printer searching method. This class obtains printer model, MAC address, and IP address from the searched printer information.

The list of methods provided by **SIIPrinterInfo** class is shown in the following table.

**Table 4-44 Method of SIIPrinterInfo Class**

Method	Function Summary	Target	
		Mobile	POS
<b>SIIPrinterInfo</b>	Constructor for printer information class	Not supported	Supported

#### (2) Property List

The list of methods provided by the **SIIPrinterInfo** class is shown in the following table.

**Table 4-45 Property of SIIPrinterInfo Class**

Method	Access	Function Summary	Target	
			Mobile	POS
<b>name</b>	R	Obtain printer model name	Not supported	Supported
<b>mac</b>	R	Obtain MAC address	Not supported	Supported
<b>ip</b>	R	Obtain IP address	Not supported	Supported

#### (3) Method Details

<b>IIIPrinterInfo</b>		Constructor
Target	POS printer	
Syntax	<b>SIIPrinterInfo</b>	
Description	This method is valid only for POS printer. This method is used for storing printer information searched by printer searching method.	



#### (4) Property Details

<b>name</b>	Obtain printer model name
-------------	---------------------------

Target	POS printer
Syntax	@property NSString * <b>name</b> ;
Description	This property is valid only for POS printer. This property obtains printer model name searched by printer searching method.

<b>mac</b>	Obtain MAC address
------------	--------------------

Target	POS printer
Syntax	@property NSString * <b>mac</b> ;
Description	This property is valid only for POS printer. This property obtains MAC address searched by printer searching method.

<b>ip</b>	Obtain IP address
-----------	-------------------

Target	POS printer
Syntax	@property NSString * <b>ip</b> ;
Description	This property is valid only for POS printer. This property obtains IP address searched by printer searching method.

### 4.3.3 SIIPrinterException Class

#### (1) Method List

The list of methods provided by **SIIPrinterException** class is shown in the following table.

**Table 4-46 Method of SIIPrinterException Class**

Method	Function Summary	Target	
		Mobile	POS
<b>SIIPrinterException</b>	Exception class thrown when API for <b>SIIPrinterManager</b> class is called.	Supported	Supported

#### (2) Property List

The list of property provided by the **SIIPrinterException** class is shown in the following table.

**Table 4-47 Property of SIIPrinterException Class**

Property	Access	Function Summary	Target	
			Mobile	POS
<b>errorCode</b>	R	Obtain error code	Supported	Supported
<b>errorMessage</b>	R	Obtain error message	Supported	Supported

#### (3) Constant List

Constants used for obtaining error codes are shown in the following table.

**Table 4-48 Error Codes List**

Constant Name	Description	Value	Target	
			Mobile	POS
<b>SII_PM_ERROR_ACCESS_DENIED</b>	Failed to get the handle.*1	-1	Supported	Supported
	An unavailable port was specified.		Supported	Supported
<b>SII_PM_ERROR_SHARING_VIOLATION</b>	An already opened port was specified.	-11	Supported	Supported
<b>SII_PM_ERROR_PORT_NOT_OPENED</b>	The port is not open.	-12	Supported	Supported
<b>SII_PM_ERROR_DEVICE_NOT_CONNECTED</b>	A printer with the specified Bluetooth device name does not exist.	-21	Supported	Supported
	A printer with the specified IP address does not exist.		Not supported	Supported
<b>SII_PM_ERROR_OFFLINE</b>	Disconnected state or the printer is offline.	-22	Supported	Supported
<b>SII_PM_ERROR_DEVICE_INITIALIZE_FAILED</b>	Failed to change the printer settings. Data sending to printer is not completed within the send timeout period, or data receiving from the printer is not completed within the receive timeout period.	-31	Supported	Supported

Constant Name	Description	Value	Target	
			Mobile	POS
<b>SII_PM_ERROR_DATA_SIZE_ZERO</b>	0-byte data was specified.	-101	Supported	Supported
<b>SII_PM_ERROR_OVER_MAX_DATA_SIZE</b>	Maximum data size is exceeded.	-102	Supported	Supported
<b>SII_PM_ERROR_ENCODE_FAILED</b>	An Error occurred in encoding text data.*1	-111	Supported	Supported
<b>SII_PM_ERROR_TIMEOUT</b>	Send timeout occurred.	-201	Supported	Supported
	Receive timeout occurred.		Supported	Supported
<b>SII_PM_ERROR_FILE_NOT_FOUND</b>	The specified file is not found.	-301	Supported	Supported
<b>SII_PM_ERROR_LOW_MEMORY</b>	Memory shortage occurred when loading image file file.	-311	Supported	Supported
<b>SII_PM_ERROR_OVER_MAX_IMAGE</b>	Either or both of width and height of image file exceeds the number of printable maximum dots.	-312	Supported	Supported
<b>SII_PM_ERROR_LOGO_NOT_DEFINED</b>	The logo is not registered.	-313	Not supported	Supported
<b>SII_PM_ERROR_LOW_USER_AREA</b>	Remaining user area is insufficient.	-401	Supported	Supported
<b>SII_PM_ERROR_LOW_EXTERNAL_RAM</b>	Remaining RAM capacity is insufficient.	-402	Supported	Not supported
<b>SII_PM_ERROR_INVALID_NO</b>	The specified value for the logo ID or style sheet number is invalid.	-501	Supported	Supported
<b>SII_PM_ERROR_OVER_STYLE_NUM</b>	The number of style registered in the specified file exceeds rated value (64).	-502	Not supported	Supported
<b>SII_PM_ERROR_PAGE_MODE_SPECIFIED</b>	Page mode is specified.	-511	Not supported	Supported
<b>SII_PM_ERROR_PAGE_MODE_NOT_SPECIFIED</b>	Page mode is not specified.	-512	Not supported	Supported
<b>SII_PM_ERROR_INVALID_PARAM</b>	The specified parameter is invalid.	-9999	Supported	Supported

\*1; Abnormality processing might have happened.

#### (4) Method Details

##### **SIIPrinterException**

##### Constructor

Target	Mobile printer / POS printer
Syntax	<b>SIIPrinterException</b>
Description	Exception class thrown when API for <b>SIIPrinterManager</b> class is called.

#### Property Details

##### **errorCode**

##### Obtain error codes

Target	Mobile printer / POS printer
Syntax	@property NSInteger <b>errorCode</b> ;
Description	This method obtains exception error code thrown.
Return value	See Table 4-46 Error Codes List for details.

##### **errorMessage**

##### Obtain error message

Target	Mobile printer / POS printer
Syntax	@property NSString * <b>errorMessage</b> ;
Description	This method obtains exception error message thrown. Character string to complement <b>errorCode</b> property can be obtained.

#### 4.3.4 SIIPrinterManagerDelegate Protocol

(1) Method List

Methods provided by **SIIPrinterManagerDelegate** protocol are shown in the following table.

Name	Description
<code>didStatusChange</code>	Notify printer status

## (2) Method Details

didStatusChange		Notify printer status
Target	Mobile printer / POS printer	
Syntax	<pre>- (void) <b>didStatusChange</b>: (SIIPrinterManager *)printerManager                         status: (NSInteger) status;</pre>	
Parameter	<p><b>printerManager</b>                      Calling SIIPrinterManager object</p> <p><b>status</b>                                  Printer status</p>	
Description	<p>This method is called the latest status at the following timing.</p> <ul style="list-style-type: none"> <li>•When <b>connect</b> method is executed.</li> <li>•When the printer status is changed.</li> </ul> <p>This method is called when <b>isConnect</b> property is YES.</p> <p>The notification of the printer status is stopped by <b>disconnect</b> method.</p> <p>The notification of the printer status is stopped by setting nil to <b>delegate</b> property.</p> <p>Mobile printer: After disconnection from the printer, this method notifies 0x00.</p> <p>POS printer: After disconnection from the printer, this method notifies 0x80000000.</p> <p>The library attempts to resume communication with the printer until <b>disconnect</b> method is executed.</p> <p>When communication with the printer becomes possible, this method notifies the latest printer status.</p> <p>See <b>getStatus</b> method for description of the printer status.</p> <p>Do not execute the APIs of <b>SIIPrinterManager</b> class within this method.</p>	

#### **4.3.5 SIISmartLabelManager Class**

**SIISmartLabelManager** class provides the function to covert the label file (\*.sl, slex) created using SII Layout Editor into the printable data from the printer.

Do not use this class because it is not supported.

## Chapter 5

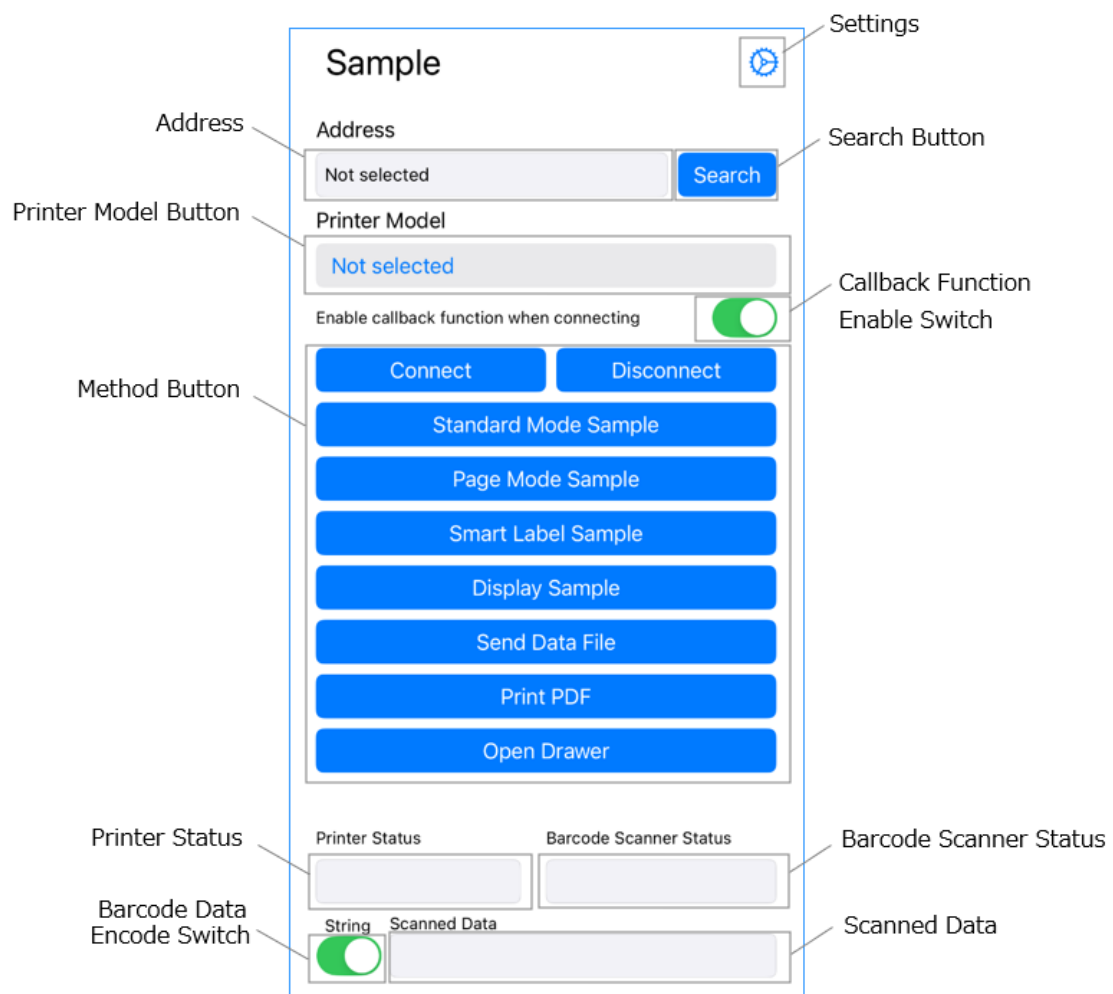
### Sample Program

This chapter describes the sample program provided by the SDK.

#### 5.1 Screen Layout

The SDK includes SiiLibSample as the sample program with Xcode project format. This section describes the screen of SiiLibSample.

##### 5.1.1 Main Screen



**Figure 5-1 SiiLibSample**

**Table 5-1 Functions of Sample Program**

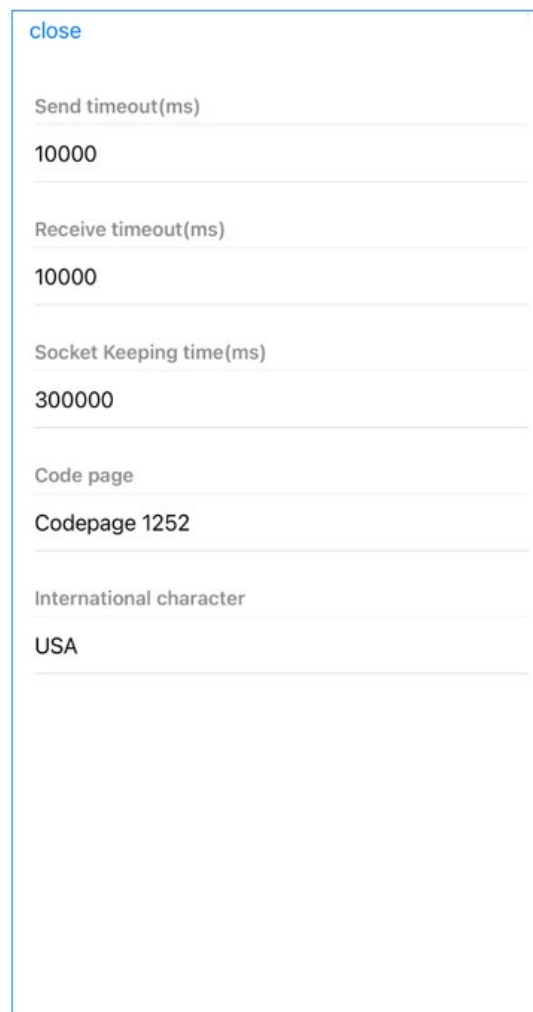
Item	Description
Settings	Tapping the [Settings] button opens the function setting screen. In order to go back to the main screen, tap [close] on the top left of the screen.
Address	Displays the information about the selected printer.
Printer Model Button	Specifies the printer model. When tapping [Printer Model Button], a list of printer models is displayed. By selecting from the list, the printer model can be entered. When the printer is selected from the printer search screen, the printer model is automatically displayed.
Search Button	Starts searching for printers. Transits to the printer search screen. A list of the searched printers is displayed. The printer is selected by tapping the searched printer and returns to the main screen.
Callback Function Enable Switch	Select whether to enable the callback function when connecting to the printer. On : Starts the callback function when connecting. Off : The callback function does not respond.
Method Button <sup>*1</sup>	In addition to the method buttons for executing <b>connect</b> and <b>disconnect</b> , the sample by the combination of some methods can be printed and checked for the operation of peripheral devices.
Printer Status	Displays the printer status. When [Callback Function Enable Switch] is On, the latest status is displayed.
Barcode Scanner Status	Displays the connection status of the barcode scanner. Mobile printer and POS printer do not support the barcode scanner.
Barcode Data Encode Switch	Selects the conversion of barcode data read by the barcode scanner. Mobile printer and POS printer do not support the barcode scanner.
Scanned Data	Displays the barcode data read by the barcode scanner. Mobile printer and POS printer do not support the barcode scanner.

\*1: Supported functions vary by model. Only supported functions can be operated.



### 5.1.2 [Settings] Screen

Various setting functions are displayed in [Settings].



The screenshot shows a settings screen with a light gray background. At the top left, there is a blue link labeled "close". Below it, there are five settings, each with a label and a value field separated by a horizontal line:

- Send timeout(ms): 10000
- Receive timeout(ms): 10000
- Socket Keeping time(ms): 300000
- Code page: Codepage 1252
- International character: USA

Below the "International character" setting, there is an empty text input field.

**Figure 5-2 [Settings] Screen**

## 5.2 Precaution

The sample program is subject to change without notice.

No guarantee of proper operation and support are provided for the sample program.

## **Chapter 6**

### **Disclaimer**

We closely monitor the development of this software in order to avoid problems. However, we are not responsible for any damages arising out of the use of this software.

## Appendix A

### Character Set

#### A.1 Codepage Table (Character Code Table)

The codepages when **SHL\_PM\_COUNTRY\_USA** is set for the international character set are shown below.  
 Available code pages vary depending on the printer.  
 Print results of the specific character codes or display results vary depending on the setting of the international character set.  
 See "A.2 International Character Set" for the specific character codes.

- **Mobile printer**

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80																
90																
A0	。	「	」	、	・	ヲ	ア	イ	ウ	エ	オ	ヤ	ユ	ヨ	ツ	
B0	-	ア	イ	ウ	エ	オ	カ	キ	ク	ケ	コ	サ	シ	ス	セ	ソ
C0	タ	チ	ツ	テ	ト	ナ	ニ	ヌ	ネ	ノ	ハ	ヒ	フ	ヘ	ホ	マ
D0	ミ	ム	メ	モ	ヤ	ユ	ヨ	ラ	リ	ル	レ	ロ	ワ	ン	°	
E0																
F0																

Figure A-1 SHL\_PM\_CODE\_PAGE\_KATAKANA

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80	€	,	;	"	"	•	-	-	~	™	š	<	œ	ž		
90																
A0	ı	¢	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯	
B0	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
C0	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
D0	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
E0	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
F0	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

Figure A-2 SHI\_PM\_CODE\_PAGE\_1252 (Latin)

- POS printer

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
90	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	¢	£	¥	℔	ƒ
A0	á	í	ó	ú	ñ	Ñ	ä	ö	ı	ı	½	¼	ı	《	》	
B0	▒	▒	▒													
C0	L	L	T	T	T	T	T	T	T	T	T	T	T	T	T	T
D0	⌌	⌌	⌌	⌌	⌌	⌌	⌌	⌌	⌌	⌌	⌌	⌌	⌌	⌌	⌌	⌌
E0	α	β	Γ	π	Σ	σ	μ	τ	φ	θ	Ω	δ	∞	φ	ε	Π
F0	≡	±	≥	≤			÷	≈	°	•	•	√	n	²	■	

Figure A-3 SII\_PM\_CODE\_PAGE\_437 (USA, Standard Europe)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80																
90																
A0	。	「	」	、	・	ヲ	ア	イ	ウ	エ	オ	ヤ	ユ	ヨ	ッ	
B0	ー	ア	イ	ウ	エ	オ	カ	キ	ク	ケ	コ	サ	シ	ス	セ	ソ
C0	タ	チ	ツ	テ	ト	ナ	ニ	ヌ	ネ	ノ	ハ	ヒ	フ	ヘ	ホ	マ
D0	ミ	ム	メ	モ	ヤ	ユ	ヨ	ラ	リ	ル	レ	ロ	ワ	ン	ゝ	。
E0																
F0																

Figure A-4 SII\_PM\_CODE\_PAGE\_KATAKANA

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80	Ç	ü	é	â	ä	à	â	ç	ê	ë	è	ï	î	ì	Ä	Å
90	É	æ	Æ	ô	ö	ò	û	ü	ÿ	Ö	Ü	ø	£	Ø	×	f
A0	á	í	ó	ú	ñ	Ñ	ä	ö	¿	®	¬	½	¼	¡	«	»
B0	☐	☐	☐			Á	Â	À	©	¶		¶	¶	¢	¥	₱
C0	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥
D0	ð	Ð	Ê	Ë	È	É	Ê	Ë	Ì	Í	Î	Ï	␣	␣	␣	■
E0	ó	ß	ô	õ	ö	μ	þ	þ	ú	û	ü	ý	Ý	-	'	
F0	-	±	=	¾	¶	§	÷	,	°	..	.	¹	³	²	■	

Figure A-5 SII\_PM\_CODE\_PAGE\_850 (Multilingual)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80	Ç	ü	é	â	ã	à	Á	ç	ê	Ê	è	Í	Ô	ì	Ã	Â
90	É	À	È	ô	õ	ò	Ú	ù	Ì	Õ	Ü	¢	£	Ù	Þ	Ó
A0	á	í	ó	ú	ñ	Ñ	ä	ö	¿	Ò	¬	½	¼	¡	«	»
B0	☐	☐	☐													
C0	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥
D0	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥
E0	α	β	Γ	π	Σ	σ	μ	τ	φ	θ	Ω	δ	∞	φ	ε	Π
F0	≡	±	≥	≤			÷	≈	°	.	.	√	n	²	■	

Figure A-6 SII\_PM\_CODE\_PAGE\_860 (Portuguese)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80	Ç	ü	é	â	À	à	¶	ç	ê	ë	è	ï	î	≡	À	§
90	É	È	Ê	ô	Ë	ï	û	ù	æ	ô	ü	¢	£	Ü	û	f
A0		´	ó	ú	¨	³	-	î	¬	½	¼	¾	«	»		
B0	▒	▒	▒					π	π			π	π	π	π	π
C0	L	L	T	T	T	T	T	L	L	L	L	L	L	L	L	L
D0	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
E0	α	β	Γ	π	Σ	σ	μ	τ	φ	θ	Ω	δ	∞	φ	ε	Π
F0	≡	±	≥	≤		J	÷	≈	°	•	•	√	n	²	■	

Figure A-7 SHL\_PM\_CODE\_PAGE\_863 (Canadian-French)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
90	É	æ	Æ	ô	ö	ò	û	ü	ÿ	Ö	Ü	ø	£	Ø	Pt	f
A0	á	í	ó	ú	ñ	Ñ	ä	ö	¿	¬	½	¼	¾	«	»	
B0	▒	▒	▒					π	π			π	π	π	π	π
C0	L	L	T	T	T	T	T	L	L	L	L	L	L	L	L	L
D0	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
E0	α	β	Γ	π	Σ	σ	μ	τ	φ	θ	Ω	δ	∞	φ	ε	Π
F0	≡	±	≥	≤		J	÷	≈	°	•	•	√	n	²	■	

Figure A-8 SHL\_PM\_CODE\_PAGE\_865 (Nordic)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80	€	‚	ƒ	„	…	†	‡	^	‰	Š	‹	Œ		Ž		
90		‘	’	“	”	•	-	-	~	™	š	›	œ	ž	ÿ	
A0		ı	ϕ	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯
B0	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
C0	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
D0	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
E0	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
F0	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

Figure A-9 SII\_PM\_CODE\_PAGE\_1252 (Latin)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80	Ç	ü	é	â	ä	û	ć	ç	ł	ë	ő	õ	î	ž	Ä	Ć
90	É	Í	Í	ô	ö	Ł	ł	Ś	ś	Ö	Ü	Ť	ť	Ł	×	č
A0	á	í	ó	ú	À	à	Ž	ž	Ę	ę	¬	ž	Č	š	«	»
B0	▒	▒	▒			Á	Â	Ě	Š					ž	ž	ı
C0	┐	┐	┐	┐	┐	Ǻ	ǻ	ℒ	ℓ	ℓ	ℓ	ℓ	ℓ	=	ℓ	α
D0	đ	Đ	Ď	Ě	ď	Ň	Í	Î	ě	┐	┐	■	■	┐	Ů	■
E0	ó	β	ô	Ň	ň	ň	Š	š	Ř	Ú	ř	Ů	ý	Ý	ť	´
F0	-	"	˘	˘	˘	Š	÷	˘	˘	˘	˘	Ů	Ř	ř	■	

Figure A-10 SII\_PM\_CODE\_PAGE\_852 (Eastern Europe)



	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80	Ç	ü	é	â	ä	à	â	ç	ê	ë	è	ï	î	ì	Ä	Å
90	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	×	ƒ
A0	á	í	ó	ú	ñ	Ñ	ä	ö	¿	®	¬	½	¼	¡	«	»
B0	☐	☐	☐			Á	Â	À	©			¶	¶	¢	¥	₱
C0	L	⊥	T	└	└	ã	Ã	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	α
D0	ð	Ð	Ê	Ë	È	€	Í	Î	Ï	┘	┘	■	■	■	■	■
E0	ó	ß	ô	ò	õ	õ	μ	þ	þ	ú	û	ü	ý	ý	-	'
F0	-	±	=	¾	¶	§	÷	.	°	°	.	1	3	2	■	

Figure A-11 SII\_PM\_CODE\_PAGE\_858 (Euro)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80	°	°	°	√	☐	-		+	+	T	T	T	T	T	T	T
90	β	∞	φ	±	½	¼	≈	«	»	ل	ل	ل	ل	ل	ل	ل
A0	-	ل	ل	ل	ل	ل	ل	ل	ل	ل	ل	ل	ل	ل	ل	ل
B0	°	١	٢	٣	٤	٥	٦	٧	٨	٩	ف	؛	س	ش	ص	؟
C0	¢	ء	آ	أ	ؤ	ع	ئ	ب	ة	ث	ت	ج	ح	خ	د	ذ
D0	ذ	ر	ز	س	ش	ص	ض	ط	ظ	ع	غ	ف	ق	ك	خ	ع
E0	-	ف	ق	ك	خ	ع	ع	ه	و	ي	ي	ي	ي	ي	ي	ي
F0	-	ن	ه	ه	ي	ي	ي	ي	ي	ي	ي	ي	ي	ي	ي	■

Figure A-12 SII\_PM\_CODE\_PAGE\_864 (Arabic)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80	€	‘	’	“	”	•	-	-	™	š	<	š	ť	ž	ž	
90		˘	˘	Ł	ł	Ą	ą	Ś	ś	©	§	«	¬	-	®	Ž
A0	°	±	ˆ	ˆ	μ	¶	·	ª	§	»	Ł	”	ł	ž		
C0	Ř	Á	Ě	Ě	Ě	Ě	Ě	Č	Č	Č	É	Ě	Ě	Ě	Í	Ě
D0	Đ	Ň	Ň	Ó	Ô	Ö	Ö	×	Ř	Ů	Ú	Ú	Ú	Ú	Ý	Ť
E0	ř	á	â	ä	ä	í	ć	ç	č	é	ę	ë	ë	í	î	đ
F0	ď	ň	ň	ó	ô	ö	÷	ř	ů	ú	ú	ú	ú	ý	ť	˙

Figure A-13 SII\_PM\_CODE\_PAGE\_1250 (Central European)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80	Ђ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ
90	Ђ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ
A0	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ	Ѓ
B0	°	±	І	і	г	μ	¶	·	ё	№	е	»	ј	ѕ	ѕ	ї
C0	А	Б	В	Г	Д	Е	Ж	З	И	Й	К	Л	М	Н	О	П
D0	Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	Я
E0	а	б	в	г	д	е	ж	з	и	й	к	л	м	н	о	п
F0	р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	я

Figure A-14 SII\_PM\_CODE\_PAGE\_1251 (Cyrillic)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80	€	‘	‚	ƒ	„	…	†	‡	‰	‡	‰	‡	‰	‡	‰	
90	€	‘	‚	ƒ	„	…	†	‡	‰	‡	‰	‡	‰	‡	‰	
A0	“	”	À	Á	Â	Ã	Ä	Å	Æ	Ç	Ɔ	«	¬	–	®	–
B0	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
C0	ı	Α	Β	Γ	Δ	Ε	Ζ	Η	Θ	Ι	Κ	Λ	Μ	Ν	Ξ	Ο
D0	Π	Ρ	Σ	Τ	Υ	Φ	Χ	Ψ	Ω	İ	Ȳ	ά	έ	ή	ί	
E0	ϐ	α	β	γ	δ	ε	ζ	η	θ	ι	κ	λ	μ	ν	ξ	ο
F0	π	ρ	ς	σ	τ	υ	φ	χ	ψ	ω	ï	ÿ	ó	ύ	ώ	

Figure A-15 SII\_PM\_CODE\_PAGE\_1253 (Greek)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
80	€	‘	‚	ƒ	„	…	†	‡	‰	‡	‰	‡	‰	‡	‰	
90	€	‘	‚	ƒ	„	…	†	‡	‰	‡	‰	‡	‰	‡	‰	
A0	ı	ϕ	£	¤	¥	¦	§	¨	©	ª	«	¬	–	®	–	
B0	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
C0	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
D0	Ğ	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	İ	Ş	ß
E0	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
F0	ğ	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ı	ş	ÿ

Figure A-16 SII\_PM\_CODE\_PAGE\_1254 (Turkish)

## A.2 International Character Set

Print results of the specific character codes or display results vary depending on the setting of the international character set.

The following table shows the specific character codes and their print results.

	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
COUNTRY_USA	#	\$	@	[	\	]	^	`	{		}	~
COUNTRY_FRANCE	#	\$	à	°	ç	§	^	`	é	ù	è	..
COUNTRY_GERMANY	#	\$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
COUNTRY_ENGLAND	£	\$	@	[	\	]	^	`	{		}	~
COUNTRY_DENMARK_1	#	\$	@	Æ	Ø	Å	^	`	æ	ø	å	~
COUNTRY_SWEDEN	#	α	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
COUNTRY_ITALY	#	\$	@	°	\	é	^	ù	à	ò	è	ì
COUNTRY_SPAIN	£	\$	@	ı	Ñ	ı	^	`	..	ñ	}	~
COUNTRY_JAPAN	#	\$	@	[	¥	]	^	`	{		}	~
COUNTRY_NORWAY	#	α	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
COUNTRY_DENMARK_2	#	\$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
COUNTRY_SPAIN_2	#	\$	á	ı	Ñ	ı	é	`	í	ñ	ó	ú
COUNTRY_LATIN_AMERICA	#	\$	á	ı	Ñ	ı	é	ü	í	ñ	ó	ú
COUNTRY_ARABIA	#	\$	@	[	\	]	^	`	{		}	~

Figure A-17 International Character Set

## Appendix B

### Barcode Size List

#### B.1 Barcode Size List

##### B.1.1 `printBarcode`, `printPageModeBarcode`



(1) Height of the barcode image

hriFont	hriPosition	Length from Top of Barcode to Reference Point	Height of Barcode Image
SII_PM_FONT_A	SII_PM_HRI_NONE	moduleHeight	moduleHeight
	SII_PM_HRI_POSITION_ABOVE	moduleHeight + 32	moduleHeight + 32
	SII_PM_HRI_POSITION_BELOW	moduleHeight	moduleHeight + 32
	SII_PM_HRI_POSITION_ABOVE_BELOW	moduleHeight + 64	moduleHeight + 64
SII_PM_FONT_B	SII_PM_HRI_NONE	moduleHeight	moduleHeight
	SII_PM_HRI_POSITION_ABOVE	moduleHeight + 24	moduleHeight + 24
	SII_PM_HRI_POSITION_BELOW	moduleHeight	moduleHeight + 24
	SII_PM_HRI_POSITION_ABOVE_BELOW	moduleHeight + 48	moduleHeight + 48

(2) Width of the barcode image

barcodeSymbol	moduleSize	Width of Barcode Image
SII_PM_BARCODE_UPC_A	SII_PM_BARCODE_MODULE_WIDTH_2	226
	SII_PM_BARCODE_MODULE_WIDTH_3	339
	SII_PM_BARCODE_MODULE_WIDTH_4	452
	SII_PM_BARCODE_MODULE_WIDTH_5	565
	SII_PM_BARCODE_MODULE_WIDTH_6	678
SII_PM_BARCODE_UPC_E	SII_PM_BARCODE_MODULE_WIDTH_2	130
	SII_PM_BARCODE_MODULE_WIDTH_3	195
	SII_PM_BARCODE_MODULE_WIDTH_4	260
	SII_PM_BARCODE_MODULE_WIDTH_5	325
	SII_PM_BARCODE_MODULE_WIDTH_6	390
SII_PM_BARCODE_EAN13	SII_PM_BARCODE_MODULE_WIDTH_2	226
	SII_PM_BARCODE_MODULE_WIDTH_3	339
	SII_PM_BARCODE_MODULE_WIDTH_4	452
	SII_PM_BARCODE_MODULE_WIDTH_5	565
	SII_PM_BARCODE_MODULE_WIDTH_6	678
SII_PM_BARCODE_JAN13	SII_PM_BARCODE_MODULE_WIDTH_2	226
	SII_PM_BARCODE_MODULE_WIDTH_3	339
	SII_PM_BARCODE_MODULE_WIDTH_4	452
	SII_PM_BARCODE_MODULE_WIDTH_5	565
	SII_PM_BARCODE_MODULE_WIDTH_6	678
SII_PM_BARCODE_EAN8	SII_PM_BARCODE_MODULE_WIDTH_2	162
	SII_PM_BARCODE_MODULE_WIDTH_3	243
	SII_PM_BARCODE_MODULE_WIDTH_4	324
	SII_PM_BARCODE_MODULE_WIDTH_5	405
	SII_PM_BARCODE_MODULE_WIDTH_6	486
SII_PM_BARCODE_JAN8	SII_PM_BARCODE_MODULE_WIDTH_2	162
	SII_PM_BARCODE_MODULE_WIDTH_3	243
	SII_PM_BARCODE_MODULE_WIDTH_4	324
	SII_PM_BARCODE_MODULE_WIDTH_5	405
	SII_PM_BARCODE_MODULE_WIDTH_6	486
SII_PM_BARCODE_CODE93	SII_PM_BARCODE_MODULE_WIDTH_2	18 × number of barcode data + 96
	SII_PM_BARCODE_MODULE_WIDTH_3	27 × number of barcode data + 144
	SII_PM_BARCODE_MODULE_WIDTH_4	36 × number of barcode data + 192
	SII_PM_BARCODE_MODULE_WIDTH_5	45 × number of barcode data + 240
	SII_PM_BARCODE_MODULE_WIDTH_6	54 × number of barcode data + 288
SII_PM_BARCODE_CODE128	SII_PM_BARCODE_MODULE_WIDTH_2	22 × number of barcode data + 66
	SII_PM_BARCODE_MODULE_WIDTH_3	33 × number of barcode data + 99
	SII_PM_BARCODE_MODULE_WIDTH_4	44 × number of barcode data + 132

barcodeSymbol	moduleSize	Width of Barcode Image
<b>SII_PM_BARCODE_CODE128</b>	<b>SII_PM_BARCODE_MODULE_WIDTH_5</b>	55 × number of barcode data + 165
	<b>SII_PM_BARCODE_MODULE_WIDTH_6</b>	66 × number of barcode data + 198

barcodeSymbol	nwRatio	moduleSize	Width of Barcode Image
<b>SII_PM_BARCODE_CODE39</b>	<b>SII_PM_NWRATIO_1TO2</b>	<b>SII_PM_BARCODE_MODULE_WIDTH_2</b>	26 × number of barcode data + 90
		<b>SII_PM_BARCODE_MODULE_WIDTH_3</b>	39 × number of barcode data + 135
		<b>SII_PM_BARCODE_MODULE_WIDTH_4</b>	52 × number of barcode data + 180
		<b>SII_PM_BARCODE_MODULE_WIDTH_5</b>	65 × number of barcode data + 225
		<b>SII_PM_BARCODE_MODULE_WIDTH_6</b>	78 × number of barcode data + 270
	<b>SII_PM_NWRATIO_1TO2_5</b>	<b>SII_PM_BARCODE_MODULE_WIDTH_2</b>	29 × number of barcode data + 96
		<b>SII_PM_BARCODE_MODULE_WIDTH_3</b>	45 × number of barcode data + 147
		<b>SII_PM_BARCODE_MODULE_WIDTH_4</b>	58 × number of barcode data + 192
		<b>SII_PM_BARCODE_MODULE_WIDTH_5</b>	74 × number of barcode data + 243
		<b>SII_PM_BARCODE_MODULE_WIDTH_6</b>	87 × number of barcode data + 288
	<b>SII_PM_NWRATIO_1TO3</b>	<b>SII_PM_BARCODE_MODULE_WIDTH_2</b>	32 × number of barcode data + 102
		<b>SII_PM_BARCODE_MODULE_WIDTH_3</b>	48 × number of barcode data + 153
		<b>SII_PM_BARCODE_MODULE_WIDTH_4</b>	64 × number of barcode data + 204
		<b>SII_PM_BARCODE_MODULE_WIDTH_5</b>	80 × number of barcode data + 255
		<b>SII_PM_BARCODE_MODULE_WIDTH_6</b>	96 × number of barcode data + 306
<b>SII_PM_BARCODE_ITF</b>	<b>SII_PM_NWRATIO_1TO2</b>	<b>SII_PM_BARCODE_MODULE_WIDTH_2</b>	14 × number of barcode data + 56
		<b>SII_PM_BARCODE_MODULE_WIDTH_3</b>	21 × number of barcode data + 84
		<b>SII_PM_BARCODE_MODULE_WIDTH_4</b>	28 × number of barcode data + 112
		<b>SII_PM_BARCODE_MODULE_WIDTH_5</b>	35 × number of barcode data + 140
		<b>SII_PM_BARCODE_MODULE_WIDTH_6</b>	42 × number of barcode data + 168

barcodeSymbol	nwRatio	moduleSize	Width of Barcode Image
SII_PM_BARCODE_ITF	SII_PM_NWRATIO_1TO2_5	SII_PM_BARCODE_MODULE_WIDTH_2	16 × number of barcode data + 57
		SII_PM_BARCODE_MODULE_WIDTH_3	25 × number of barcode data + 86
		SII_PM_BARCODE_MODULE_WIDTH_4	32 × number of barcode data + 114
		SII_PM_BARCODE_MODULE_WIDTH_5	41 × number of barcode data + 143
		SII_PM_BARCODE_MODULE_WIDTH_6	48 × number of barcode data + 171
	SII_PM_NWRATIO_1TO3	SII_PM_BARCODE_MODULE_WIDTH_2	18 × number of barcode data + 58
		SII_PM_BARCODE_MODULE_WIDTH_3	27 × number of barcode data + 87
		SII_PM_BARCODE_MODULE_WIDTH_4	36 × number of barcode data + 116
		SII_PM_BARCODE_MODULE_WIDTH_5	45 × number of barcode data + 145
		SII_PM_BARCODE_MODULE_WIDTH_6	54 × number of barcode data + 174
SII_PM_BARCODE_CODABAR*1	SII_PM_NWRATIO_1TO2	SII_PM_BARCODE_MODULE_WIDTH_2	20 × number of data + 2 × (2 + number of wide data) + 38
		SII_PM_BARCODE_MODULE_WIDTH_3	30 × number of data + 3 × (2 + number of wide data) + 57
		SII_PM_BARCODE_MODULE_WIDTH_4	40 × number of data + 4 × (2 + number of wide data) + 76
		SII_PM_BARCODE_MODULE_WIDTH_5	50 × number of data + 5 × (2 + number of wide data) + 95
		SII_PM_BARCODE_MODULE_WIDTH_6	60 × number of data + 6 × (2 + number of wide data) + 114
	SII_PM_NWRATIO_1TO2_5	SII_PM_BARCODE_MODULE_WIDTH_2	22 × number of data + 3 × (2 + number of wide data) + 38
		SII_PM_BARCODE_MODULE_WIDTH_3	34 × number of data + 5 × (2 + number of wide data) + 57
		SII_PM_BARCODE_MODULE_WIDTH_4	44 × number of data + 6 × (2 + number of wide data) + 76
		SII_PM_BARCODE_MODULE_WIDTH_5	56 × number of data + 8 × (2 + number of wide data) + 95
		SII_PM_BARCODE_MODULE_WIDTH_6	66 × number of data + 9 × (2 + number of wide data) + 114

\*1: The number of data is the number of all characters except for the start and stop characters.  
The wide data is the number of " : / . + ".



barcodeSymbol	nwRatio	moduleSize	Width of Barcode Image
<b>SII_PM_BARCODE_CODABAR*1</b>	<b>SII_PM_NWRATIO_1TO3</b>	<b>SII_PM_BARCODE_MODULE_WIDTH_2</b>	24 × number of data + 4 × (2 + number of wide data) + 38
		<b>SII_PM_BARCODE_MODULE_WIDTH_3</b>	36 × number of data + 6 × (2 + number of wide data) + 57
		<b>SII_PM_BARCODE_MODULE_WIDTH_4</b>	48 × number of data + 8 × (2 + number of wide data) + 76
		<b>SII_PM_BARCODE_MODULE_WIDTH_5</b>	60 × number of data + 10 × (2 + number of wide data) + 95
		<b>SII_PM_BARCODE_MODULE_WIDTH_6</b>	72 × number of data + 12 × (2 + number of wide data) + 114

\*1: The number of data is the number of all characters except for the start and stop characters.  
The wide data is the number of " : / . +".

barcodeSymbol	Number of Data	moduleSize	Width of Barcode Image
<b>SII_PM_BARCODE_EAN13_ADDON</b>	14 or 15	<b>SII_PM_BARCODE_MODULE_WIDTH_2</b>	276
		<b>SII_PM_BARCODE_MODULE_WIDTH_3</b>	414
		<b>SII_PM_BARCODE_MODULE_WIDTH_4</b>	552
		<b>SII_PM_BARCODE_MODULE_WIDTH_5</b>	690
		<b>SII_PM_BARCODE_MODULE_WIDTH_6</b>	828
	17 or 18	<b>SII_PM_BARCODE_MODULE_WIDTH_2</b>	330
		<b>SII_PM_BARCODE_MODULE_WIDTH_3</b>	495
		<b>SII_PM_BARCODE_MODULE_WIDTH_4</b>	660
		<b>SII_PM_BARCODE_MODULE_WIDTH_5</b>	825
		<b>SII_PM_BARCODE_MODULE_WIDTH_6</b>	990
<b>SII_PM_BARCODE_JAN13_ADDON</b>	14 or 15	<b>SII_PM_BARCODE_MODULE_WIDTH_2</b>	276
		<b>SII_PM_BARCODE_MODULE_WIDTH_3</b>	414
		<b>SII_PM_BARCODE_MODULE_WIDTH_4</b>	552
		<b>SII_PM_BARCODE_MODULE_WIDTH_5</b>	690
		<b>SII_PM_BARCODE_MODULE_WIDTH_6</b>	828
	17 or 18	<b>SII_PM_BARCODE_MODULE_WIDTH_2</b>	330
		<b>SII_PM_BARCODE_MODULE_WIDTH_3</b>	495
		<b>SII_PM_BARCODE_MODULE_WIDTH_4</b>	660
		<b>SII_PM_BARCODE_MODULE_WIDTH_5</b>	825
		<b>SII_PM_BARCODE_MODULE_WIDTH_6</b>	990

## B.1.2 printPDF417, printPageModePDF417



### (1) Height of the barcode image

moduleSize	Height of Barcode Image* <sup>1</sup>
<b>SII_PM_PDF417_MODULE_WIDTH_2</b>	$\text{moduleHeight} \times \text{row}^2 + 8$
<b>SII_PM_PDF417_MODULE_WIDTH_3</b>	$\text{moduleHeight} \times \text{row}^2 + 12$
<b>SII_PM_PDF417_MODULE_WIDTH_4</b>	$\text{moduleHeight} \times \text{row}^2 + 16$

\*1: Height of the barcode image = Length from the top of the barcode to the reference point

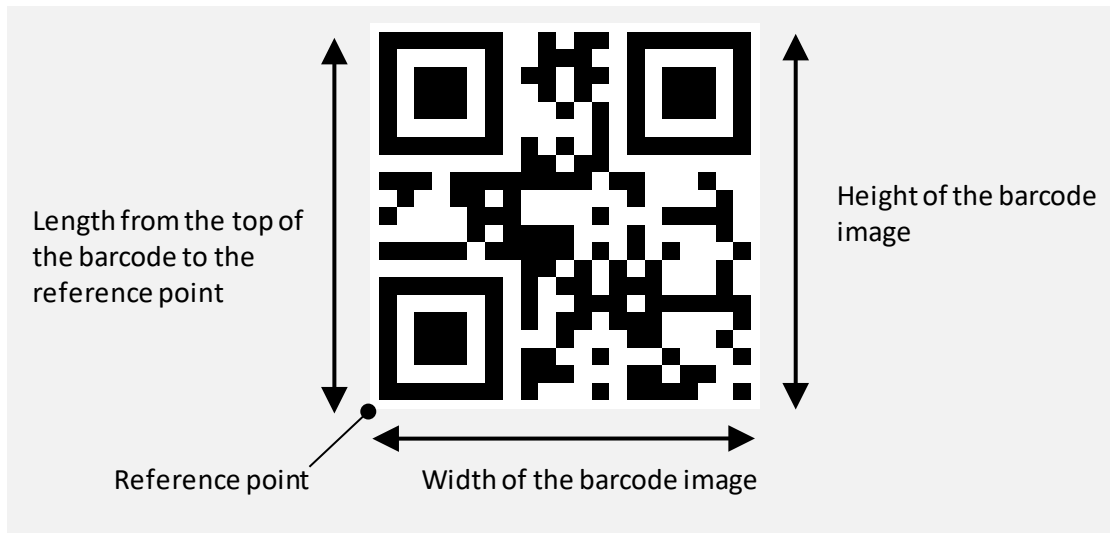
\*2: Parameter row ≠ 0

### (2) Width of the barcode image

pdf417Symbol	moduleSize	Width of Barcode Image
<b>SII_PM_PDF417_STANDARD</b>	<b>SII_PM_PDF417_MODULE_WIDTH_2</b>	$(17 \times \text{column}^{\ast 1} + 69) \times 2 + 8$
	<b>SII_PM_PDF417_MODULE_WIDTH_3</b>	$(17 \times \text{column}^{\ast 1} + 69) \times 3 + 12$
	<b>SII_PM_PDF417_MODULE_WIDTH_4</b>	$(17 \times \text{column}^{\ast 1} + 69) \times 4 + 16$
<b>SII_PM_PDF417_COMPACT</b>	<b>SII_PM_PDF417_MODULE_WIDTH_2</b>	$(17 \times \text{column}^{\ast 1} + 69) \times 2 + 8$
	<b>SII_PM_PDF417_MODULE_WIDTH_3</b>	$(17 \times \text{column}^{\ast 1} + 69) \times 3 + 12$
	<b>SII_PM_PDF417_MODULE_WIDTH_4</b>	$(17 \times \text{column}^{\ast 1} + 69) \times 4 + 16$

\*1: Parameter column ≠ 0

### B.1.3 printQRCode, printPageModeQRCode



#### (1) Height and width of the barcode image

Height\*<sup>1</sup> and width of the barcode image =  $(4 \times \text{version}^{\text{*2}} + 17 + 8) \times \text{module size value}$

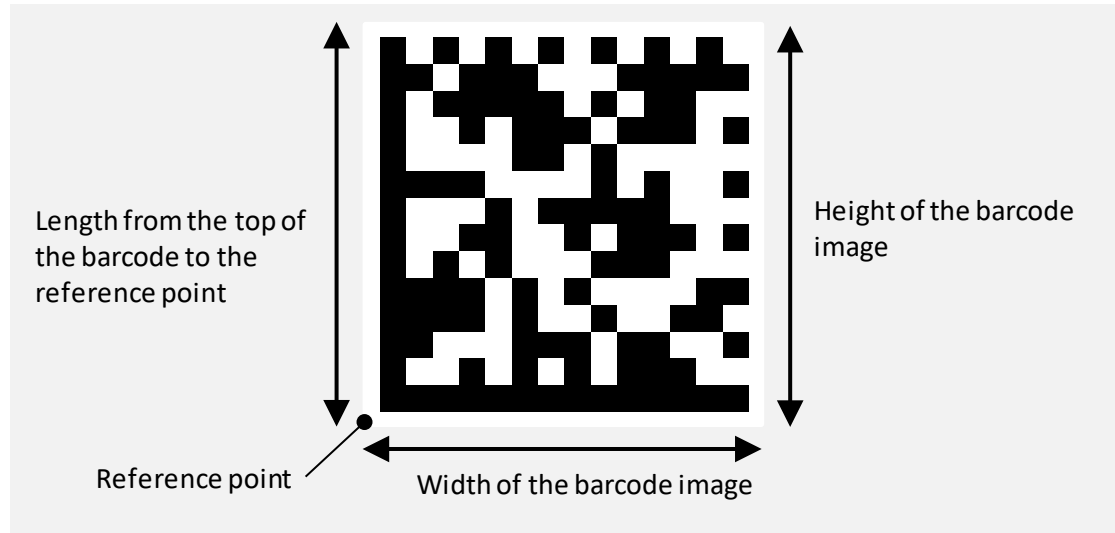
\*1: Height of the barcode image = Length from the top of the barcode to the reference point

\*2: The version is determined by the content of the barcode data and the error correction level.

**Module Size Value**

moduleSize	Module Size Value
SII_PM_QR_MODULE_SIZE_2	2
SII_PM_QR_MODULE_SIZE_3	3
SII_PM_QR_MODULE_SIZE_4	4
SII_PM_QR_MODULE_SIZE_5	5
SII_PM_QR_MODULE_SIZE_6	6
SII_PM_QR_MODULE_SIZE_7	7
SII_PM_QR_MODULE_SIZE_8	8
SII_PM_QR_MODULE_SIZE_9	9
SII_PM_QR_MODULE_SIZE_10	10
SII_PM_QR_MODULE_SIZE_11	11

#### B.1.4 printDataMatrix, printPageModeDataMatrix



##### (1) Height and width of the barcode image

Height of the barcode image = (number of vertical module + 2) × module size value

Width of the barcode image = (number of horizontal module + 2) × module size value

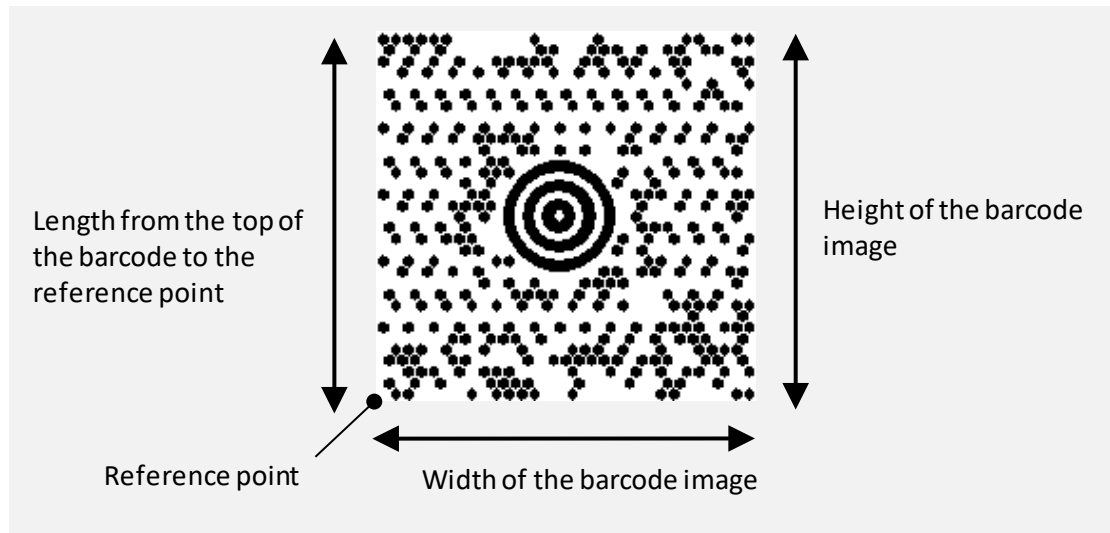
dataMatrixModule	Number of Vertical Module	Number of Horizontal Module
SII_PM_DATA_MATRIX_10_10	10	10
SII_PM_DATA_MATRIX_12_12	12	12
SII_PM_DATA_MATRIX_14_14	14	14
SII_PM_DATA_MATRIX_16_16	16	16
SII_PM_DATA_MATRIX_18_18	18	18
SII_PM_DATA_MATRIX_20_20	20	20
SII_PM_DATA_MATRIX_22_22	22	22
SII_PM_DATA_MATRIX_24_24	23	23
SII_PM_DATA_MATRIX_26_26	26	26
SII_PM_DATA_MATRIX_32_32	32	32
SII_PM_DATA_MATRIX_36_36	36	36
SII_PM_DATA_MATRIX_40_40	40	40
SII_PM_DATA_MATRIX_44_44	44	44
SII_PM_DATA_MATRIX_48_48	48	48
SII_PM_DATA_MATRIX_52_52	52	52
SII_PM_DATA_MATRIX_64_64	64	64
SII_PM_DATA_MATRIX_72_72	72	72
SII_PM_DATA_MATRIX_80_80	80	80
SII_PM_DATA_MATRIX_88_88	88	88
SII_PM_DATA_MATRIX_96_96	96	96
SII_PM_DATA_MATRIX_104_104	104	104

dataMatrixModule	Number of Vertical Module	Number of Horizontal Module
SII_PM_DATA_MATRIX_120_120	120	120
SII_PM_DATA_MATRIX_132_132	132	132
SII_PM_DATA_MATRIX_144_144	144	144
SII_PM_DATA_MATRIX_8_18	8	18
SII_PM_DATA_MATRIX_8_32	8	32
SII_PM_DATA_MATRIX_12_26	12	26
SII_PM_DATA_MATRIX_12_36	12	36
SII_PM_DATA_MATRIX_16_36	16	36
SII_PM_DATA_MATRIX_16_48	16	48

#### Module Size Value

moduleSize	Module Size Value
SII_PM_DATAMATRIX_MODULE_SIZE_2	2
SII_PM_DATAMATRIX_MODULE_SIZE_3	3
SII_PM_DATAMATRIX_MODULE_SIZE_4	4
SII_PM_DATAMATRIX_MODULE_SIZE_5	5
SII_PM_DATAMATRIX_MODULE_SIZE_6	6
SII_PM_DATAMATRIX_MODULE_SIZE_7	7
SII_PM_DATAMATRIX_MODULE_SIZE_8	8
SII_PM_DATAMATRIX_MODULE_SIZE_9	9
SII_PM_DATAMATRIX_MODULE_SIZE_10	10
SII_PM_DATAMATRIX_MODULE_SIZE_11	11

### B.1.5 printMaxicode, printPageModeMaxicode



#### (1) Height of the barcode image

Height of the barcode image\*1 = 215

\*1: Height of the barcode image = Length from the top of the barcode to the reference point

#### (2) Width of the barcode image

Width of the barcode image = 225

## **Appendix C**

### **Open Source Software License**

This chapter describes the License of open source software used in the library.

#### **C.1 MIT License**

- **SSZipArchive**

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## C.2 Apache License 2.0

- **zxingify-objc**

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