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# SmaPri Driver Developer Guide

## Custom URL Scheme Reference

**SATO CORPORATION**

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# Contents

<b>Contents</b> .....	<b>2</b>
<b>Attention</b> .....	<b>3</b>
<b>Target Version</b> .....	<b>3</b>
<b>Chapter 6 Custom URL Scheme Reference</b> .....	<b>4</b>
6-1. List of Functions / Usage Method .....	5
- Function List (Action Path List) .....	5
Usage Method .....	6
- Limitations/Precautions .....	6
6-2. Common Parameters.....	8
- Common Parameters List .....	8
- HTTP Redirect Format .....	8
6-3.[Send Data]/Format/Print - Format Print.....	9
6-4.[Send Data]/Format/Print - Format Printing (Specifying Multiple Layouts) .....	13
6-5.[Send Data] /Printer/SendCommand - SBPL Send .....	16
6-6.[Send Data] /Printer/SendRawData - Send Data .....	18
6-7.[Format] /Format - Register/Acquire Format .....	20
6-8.[Format] /Format/InputItem - Acquire Format Input Item.....	22
6-9.[Font] /Font - Acquire Font Information .....	25
6-10.[Font] /Font/Clear - Font Clear .....	27
6-11.[Port] /Printer/Port - Acquire Output Destination Port.....	29
6-12.[Port] /Printer/SetPort - Output Destination Port Specified .....	31
6-13.[Display] /View - Display administration screen .....	33
6-14. Response Message List .....	34

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## Target Version

This document is intended for the following software and version.

Please note that some functions may not exist or may have been changed depending on the version.

SmaPri Driver (iOS)

Version 1.11.0

# Chapter 6

## Custom URL Scheme Reference (iOS)

**6-1****List of Functions / Usage Method**

The custom URL scheme is used to utilize various functions.

**- Function List (Action Path List)**

Function (Action Path)	Overview
<b>Sending/Receiving Data</b>	
Format Printing (/Format/Print)	Specifies the layout call-up number included in the format file (*.spfmtz) and input item data, and prints the format.
Send SBPL Command (/Printer/SendCommand)	Sends the SBPL Command to the printer.
Send Data (/Printer/SendRawData)	Sends and receives data to and from the printer.
<b>Acquire Format Information</b>	
Register/Acquire Format (/Format)	Registers the specified format file (*.spfmtz) in SmaPri Driver, and acquires all of the incorporated format information.
Acquire Format Input Item (/Format/InputItem)	Specifies the layout call-up number included in the format file (*.spfmtz), and acquires the input item information.
<b>Font Information</b>	
Acquire Font Information (/Font).	Acquires information from the font file (*.ttf) cached in the terminal.
Font Clear (/Font/Clear)	Deletes the font file (*.ttf) cached in the terminal.
<b>Setting/Acquisition of Output Destination Port</b>	
Acquire Output Destination Port (/Printer/Port)	Acquires the set output destination port (output destination printer).
Set Output Destination Port (/Printer/SetPort)	Sets the output destination port (output destination printer).
<b>Display administration screen</b>	
Status screen (/View/Status)	Display administration screen (status).
Printer settings screen (/View/PrinterSettings)	Display administration screen (printer settings).
Server settings screen (/View/ServerSettings)	Display administration screen (server settings).

## Usage Method

SmaPri Driver is operated by requests that consist of a combination of action path and parameters. For details on parameters that can be specified, see the pages on [common parameters](#) and action paths.

[Request Example]

```
smapri:/Format/Print?__format_archive_url=http://example.com/smapri-format.spfmtz&__format_id_number[0]=1&__format[0].operator=SATO&__format_id_number[1]=2&__format[1].productName=Tea&__format[1].Price=120&__success_redirect_url=http://example.com/success.html&__failure_redirect_url=http://example.com/failure.html
```



[Breakdown of Example Request]

<b>Custom URL Scheme</b>	smapri:
<b>Action Path</b>	/Format/Print
<b>Parameter (Parameter name = Parameter value)</b>	__format_archive_url= http://example.com/smapri-format.spfmtz
	__format_id_number[0]=1
	__format[0].operator=SATO
	__format_id_number[1]=2
	__format[1].productName=Tea&sugar
	__format[1].price=120
	__success_redirect_url=http://example.com/success.html
	__failure_redirect_url=http://example.com/failure.html

### - Limitations/Precautions

- SmaPri Driver cannot accept multiple requests at the same time. When executing requests consecutively, wait for the previous request to complete before executing the next request.
- Do not put the SmaPri Driver screen in the background while SmaPri Driver is printing. If it runs in the background, the OS will stop the process, which may lead to problems such as labels not being printed to the end.
- Do not put your device to sleep while SmaPri Driver is printing. Processing may be stopped by the OS, leading to problems such as labels not being printed to the end.
- The order of response data in each action path may be changed and items added when the SmaPri Driver version is updated. Therefore, when processing response data, acquire the parameter value based on the parameter name.
- There are no limitations on the size of data handled by SmaPri Driver for 1 layout or 1 request, or the quantity of data specified in the index when multiple layouts are specified for format printing. The usable size differs depending on the specifications of the used terminal, usage conditions of other apps and OS specifications. Please note that when font embedding is specified in the layout or large graphics are specified, the request size in particular may

become large when a large amount of data is issued at one time due to multiple layouts being specified. Implement sufficient checks in advance, and adjust the size and quantity for each environment.

- In some OS versions there are known problems where requests cannot be processed on the OS side due to the large data size. As a guide, adjust so that the data size (text size) for the entire request is less than 1MB.

**6-2****Common Parameters**

- List - HTTP Redirect

There are request parameters common across all functions that specify the return format of execution results.

If there are no parameters, an error message is only displayed as an alert when an error occurs.

**- Common Parameters List**

Return Format	Data Specification Method	Parameter	Processing Results
None	—	Not specified	OK/NG common
HTTP Redirect	URL	__success_redirect_url	OK
		__failure_redirect_url	NG

**- HTTP Redirect Format**

Specify the redirect destination URL.

SmaPri Driver adds a response parameter to the specified URL, and opens that URL. When iOS opens the URL, the application is automatically launched by the specified scheme, and the URL is transferred to the application.

For example, if http is specified for the URL scheme, the web browser is launched and the URL is opened. Additionally, you can specify a custom URL scheme specified by the desired application.

- Example HTTP Redirect Request**

```
smapri:/Format?__format_archive_url=file://sample.spfmtz
&__success_redirect_url=[Specified URL]
&__failure_redirect_url=[Specified URL]
```

- Response Example for Redirect**

```
[Specified URL]?productVersion=1.9.2
&result=OK&function=/Format&message=[Process Results Message]
&printer=PW208
&SBPLVersion=06.10.0
&format[0].@idNumber=1&format[0].@name=Layout 1
&format[1].@idNumber=2&format[1].@name=Layout 2
&format[2].@idNumber=3&format[2].@name=Layout 3
```



**6-3****[Send Data] Format Printing**

Specifies the layout call-up number and input item data, and prints the format.

**- Action Path**

**/Format/Print**

**- Basic Parameter**

Parameter	Type	Setting Value
__format_archive_url	Optional	Format file (*.spfmtz) URL <ul style="list-style-type: none"> <li>- Can use Web (http://, https://), FTP (ftp://), a local file (file://).</li> <li>- If the same URL as last time is specified, the behavior follows __format_archive_update.</li> <li>- Either only "__format_archive_url" or "__format_archive_attach".</li> </ul>
__format_archive_update	Optional	Update check of the format file is performed when the same URL in __format_archive_url as the previous time is specified. When "Update" is performed, the file is updated when either the file size or update date differs. noUpdate : No update (default value) update : Updated (with error notification) updateWithoutError : Updated (no error notification)
__format_archive_attach	Optional	Specify the file name and format file data. When specifying this parameter, use the POST method to set the file data in the content of the transmitted data in the multipart/form-data format. <ul style="list-style-type: none"> <li>- Either only "__format_archive_url" or "__format_archive_attach".</li> </ul>
__format_id_number* <sup>1</sup>	Required	Call-up number of used layout
__driver_retry	Optional	Specify whether to repeat print retry in case of printer error. enabled : Repeat print retry. (default) disabled : Do not retry.
Item Name* <sup>1</sup> * <sup>2</sup>	Optional	Specify character strings for printing in input items in which "When issued (data)" is set.  For "Fixed Graphic" objects (changed when issued), specify the graphic file URL or base 64 encoded character string of graphic data. PNG, JPEG, BMP and GIF image formats are supported.  When this specification is omitted, the default value entered in SmaPri Designer is used.
Item Name.visible	Optional	"Do not print" can be specified for each item. false : Not printed (Can only be specified for (*.spfmtz) format files created using SmaPri Designer Ver.1.17.0.0 or later)
(Print quantity)* <sup>1</sup>	Optional	Specifies the quantity issued. The name can be changed as desired for each project in SmaPri Designer, and the default name is (Print quantity). When omitted, it operates as (Print quantity)=1.

\*<sup>1</sup>Adding an index "[n]" to the "\_\_format\_id\_number" parameter enables multiple layouts such as header, details and footer to be printed when printing receipts, etc. For details, see "[Format Printing \(Specifying Multiple Layouts\)](#)".

\*<sup>2</sup>Problems may occur if the size of the data specified by the request is too large. See "[Limitations/Precautions](#)".

## Extended Parameter

Parameter	Type	Setting Value
__setting_print_operation	Optional	Printer Operation Settings aaaa,bb,cc
		aaaa (Cut operation) 0-9999 : Specified quantity is cut 0E : Ejection cut S : Follow format file settings <b>Omitted</b> : Follow printer settings *Specified quantity cut and ejection cut can be used simultaneously in combination (Example: 10E)
		bb (Print Density) 1-10 : Density level (some printer models are "1-5".) S : Follow format file settings <b>Omitted</b> : Follow printer settings
		cc (Print Speed) Value : Speed level S : Follow format file settings <b>Omitted</b> : Follow printer settings
__setting_print_offset	Optional	Correction value of print position $\pm$ aaa, $\pm$ bbb
		$\pm$ aaa (Vertical direction) Numerical value : Correction value (Unit: dot) <b>Omitted</b> : Follow printer settings
		$\pm$ bbb (Horizontal direction) Numerical value : Correction value (Unit: dot) <b>Omitted</b> : Follow printer settings

### - Explanation

- SmaPri Driver caches the last registered format file (\*.spfmtz). It is saved if the terminal power is turned off, but deleted if SmaPri Driver is uninstalled.
  - Case when file is updated to a new format file
    - When “\_\_format\_archive\_attach” is specified.
    - When a different URL to the one registered previous in “\_\_format\_archive\_attach” is specified.
    - When “\_\_format\_archive\_url” is specified, and “update” or “updateWithoutError” is specified in the “\_\_format\_archive\_update” parameter.
  - Case when an existing format file (cache) is used
    - When neither “\_\_format\_archive\_attach” or “\_\_format\_archive\_url” is specified.
    - When the same URL as the one registered previous in “\_\_format\_archive\_attach” is specified.
    - When “noUpdate” is specified for both “\_\_format\_archive\_url” and “\_\_format\_archive\_update” parameters.
- It is used when “\_\_format\_archive\_attach” sends the format file (\*.spfmtz) directly from the application to SmaPri Driver (when the path cannot be specified). Base64Url encoding is where the “+” is replaced with “-” and “/” replaced with “\_” in a Base64 encoded character string, and where padding and line breaks are not added.
- URLs that can be specified as “\_\_format\_archive\_url” and “Item name (graphic)” are Web (http://, https://), FTP (ftp://) and a local file (file://). The file path can only be specified as a file transferred to the SmaPri Driver sandbox using iTunes file sharing, and specified in the “file://File name” format. The Data URL Scheme (data:…) can also be used for “Item name (Graphic)”.
- It takes time to register format files that use the TrueType font embedding function because the file size is

large. There are cases where HTTP communication timeout occurs, or when HTTP and FTP path specifications cannot be used.

- “\_\_format\_id\_number” is the call-up No. set in each layout using SmaPri Designer.
- There are no restrictions of the size of image that can be specified for “Item name (Graphic)”. However, the larger the size, the lower the throughput when creating print data and transmitting the data to the printer.

### - Request Example

The format ID number 1 is used for format printing from the formats registered in SmaPri Driver.

\*Encode the parameter’s name and value as a URL in UTF-8 format when sending the request.

\*Line breaks are used in the following example to make the text easier to read, but line break codes should not be used in the actual file.

[Request Before URL Encoding]

smapri:/**Format/Print**

?\_\_format\_archive\_url=http://example.com/smapri.spfmtz

&\_\_format\_archive\_update=update

&\_\_format\_id\_number=1

&Character string 1=Orange

&Barcode1=123456789012

&Price1=100

&Grid line1.visible=false

&(Print quantity)=1

&\_\_success\_redirect\_url=http://example.com/success/

&\_\_failure\_redirect\_url=http://example.com/failure/

[Request After URL Encoding]

smapri:/**Format/Print**

?\_\_format\_archive\_url=http%3A%2F%2Fexample.com%2Fsmapri.spfmtz

&\_\_format\_archive\_update=update

&\_\_format\_id\_number=1

&Character%20string%201=Orange

&Barcode1=123456789012

&Price1=100

&Grid%20line1.visible=false

&%28Print%20quantity%29=1

&\_\_success\_redirect\_url=http%3A%2F%2Fexample.com%2Fsuccess%2F

&\_\_failure\_redirect\_url=http%3A%2F%2Fexample.com%2Ffailure%2F

## - Response

The response order may be changed and items added when the version is updated.

Path	Content
productVersion	SmaPri Driver Version
result	Processing Results (OK/NG)
function	/Format/Print
message	Processing Results Message SUCCESSFUL when processing is successful If it fails, a character string describing the cause is displayed (E.g.: A value in parameter character string 1 is invalid.)
printer	Printer device name specified in the format
printer.@resolution	Printer resolution (dpi)
SBPLVersion	SBPL specified in the format
statusCode.@type	Printer Status Type (standard/lapin)
statusCode	Hexadecimal character string printer status code (E.g. 41)*1

\*1For details on the status code, see "Status Code Reference".

## - Example Response

```
[Specified URL]?productVersion=1.9.2
&result=OK
&function=/Format/Print
&message=[Processing Results Message]
&printer=PW208
&printer.@resolution=203
&SBPLVersion=06.10.0
&statusCode.@type=standard
&statusCode=30
```

\* Line breaks are used in the following example to make the text easier to read, but responses should not contain line breaks in the actual file. Additionally, the parameter name and value are each encoded in URLs.

**6-4****[Send Data] Format Printing (Specifying Multiple Layouts)**

Specifies multiple layout call-up numbers and input item data, and prints the format.

\*In some cases, it takes a long time from the start to the end of printing when specifying multiple layouts. Do not put the SmaPri Driver screen in the background or put the device to sleep while printing. This may lead to problems such as the label not printing to the end.

\* If printer error occurs during printing, the remaining print datas may not be printed correctly. If an error occurs, please resend the print datas.

Multiple layouts can be specified and printed by adding an index value [n] to the "format ID number" and "Item name" parameters specified when format printing. Use this in case of printing a variable length receipt using a combination of multiple layouts such as header, details and footer, or printing out multiple layouts together using one printing instruction.

The index value [n] is specified as a continuous value starting from 0. There is no limit to the maximum value of the index, but please use it within the range of 99 (up to 100 items) as a guide. See the "Request Example" for details.

Basic Parameter	Type	Setting Value
__format_id_number[n]	Required	Format ID number of used layout
__format[n].Item name <sup>*1</sup>	Optional	Specify character strings for printing in input items in which "When issued (data)" is set.  For "Fixed Graphic" objects (changed when issued), specify the graphic file URL or base 64 encoded character string of graphic data. PNG, JPEG, BMP and GIF image formats are supported.  When this specification is omitted, the default value entered in SmaPri Designer is used.
__format[n].(Print quantity)	Optional	Specifies the quantity issued. The name can be changed as desired for each project in SmaPri Designer, and the default name is (Print quantity). When omitted, it operates as (Print quantity)=1.
Extended Parameter	Type	Setting Value
__format[n].Item name.visible	Optional	"Do not print" can be specified for each item. false :Not printed (Can only be specified for (*.spfmtz) format files created using SmaPri Designer Ver.1.17.0.0 or later)

\*1 Problems may occur if the size of the request data is too large. See "[Limitations/Precautions](#)".

## - Request Example

Formats from those registered in SmaPri Driver are combined in the following order and printed.

**Index [0]: Format ID No.1 → Index [1]: Format ID No.2 → Index [2]: Format ID No.2 → Index [3]: Format ID No.3**

In the following example, it is assumed that format files in which “Name” and “Receipt No.” items are set in **Format ID No.1** layout, “Product” and “Price” items are set in **Format ID No.2** layout, and “Total” item is set in **Format ID No.3** layout are registered in advance.

\*Encode the parameter name and parameter value as a URL in UTF-8 format when sending the request.

\*Line breaks are used in the following example to make the text easier to read, but line break codes should not be used in the actual file.

\*If you want to output 2 sets of exactly the same report, either execute the same request twice or increase the number of indexes so that two sets are specified. When quantity issued “2” is specified for each of the layout, printing is performed in the order of “header + header + detail 1 + detail 1 + detail 2 + detail 2...”.

[Request Before URL Encoding]

smapri:/**Format/Print**

?\_\_format\_archive\_url=http://example.com/smapri.spfmtz

&\_\_format\_archive\_update=update

&\_\_format\_id\_number[0]=1

&\_\_format[0].operator=SATO

&\_\_format[0].Receipt No=123

&\_\_format\_id\_number[1]=2

&\_\_format[1].productName=Tea

&\_\_format[1].price=120

&\_\_format\_id\_number[2]=2

&\_\_format[2].productName=Rice ball

&\_\_format[2].price=100

&\_\_format\_id\_number[3]=3

&\_\_format[3].Total=220

&\_\_success\_redirect\_url=http://example.com/success/

&\_\_failure\_redirect\_url=http://example.com/failure/

[Request After URL Encoding]

smapri:/**Format/Print**

?\_\_format\_archive\_url=http%3A%2F%2Fexample.com%2Fsmapri.spfmtz

&\_\_format\_archive\_update=update

&\_\_format\_id\_number%5B0%5D=1

&\_\_format%5B0%5D.operator=SATO

&\_\_format%5B0%5D.Receipt%20No=123

&\_\_format\_id\_number%5B1%5D=2

&\_\_format%5B1%5D.productName=Tea

&\_\_format%5B1%5D.price=120

&\_\_format\_id\_number%5B2%5D=2

&\_\_format%5B2%5D.productName=Rice%20ball

&\_\_format%5B2%5D.price=100

&\_\_format\_id\_number%5B3%5D=3

&\_\_format%5B3%5D.Total=220

&\_\_success\_redirect\_url=http%3A%2F%2Fexample.com%2Fsuccess%2F

&\_\_failure\_redirect\_url=http%3A%2F%2Fexample.com%2Ffailure%2F

## - Format of Request Described Above and Print Image -

No.1 format:

担当者名 :	(担当者名)
伝票No :	(伝票No)

No.2 format:

(商品名)	(価格)
-------	------

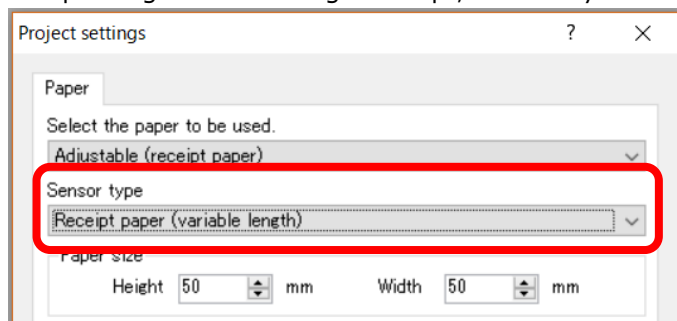
No.3 format:

総額 :	(総額)
------	------

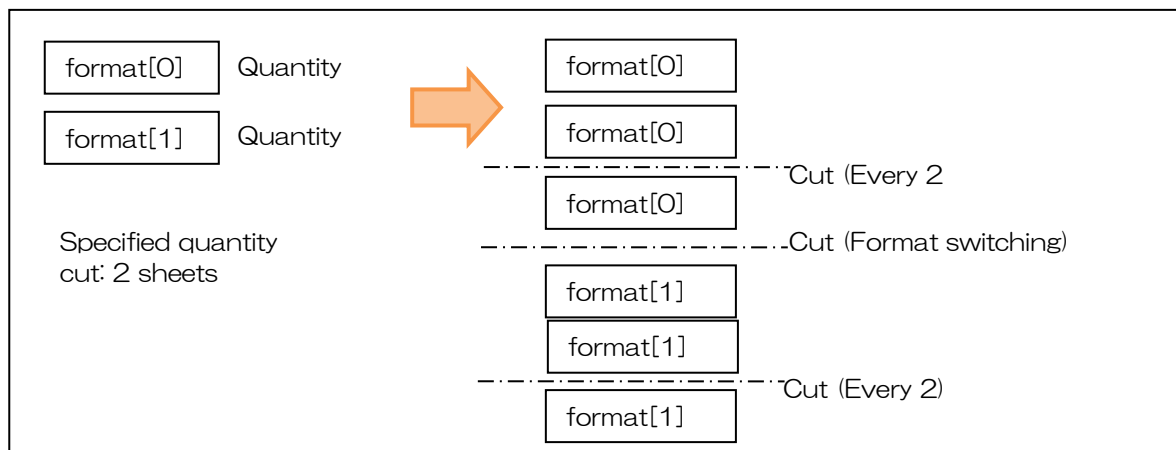
担当者名 :	佐藤	index [0]
伝票No :	123	
お茶	120	index [1]
おむすび	100	index [2]
総額 :	220	index [3]

## - Explanation

- Specify the index [n] as a continuous value starting from 0 when making the format printing request.
- You cannot combine a layout for the "Receipt paper (Variable Length)" sensor type with the layout for any other sensor type for printing.
- Specify the same layout as the sensor type. Specifying a different layout to the sensor type may result in unexpected printing results.
- When printing a variable length receipt, set the layout sensor type to "Receipt paper (Variable Length)".



- When specifying the print density and speed for printing a variable length receipt using a combination of layouts with the "Receipt paper (Variable length)" sensor type, use the "\_\_setting\_print\_operation" parameter.
- When specifying the quantities issued for printing a variable length receipt using a combination of layouts with the "Receipt paper (Variable length)" sensor type, specify only in the last layout. If you want to specify the number of sheets to be printed when printing a combination of layouts whose sensor type is other than "Receipt paper (Variable length)", please specify it for each index.
- If you want to cut only the last label when printing using a combination of layouts with sensor types other than "Receipt paper (Variable length)", specify "E" (Ejection cut) for the cut operation in the "\_\_setting\_print\_operation" parameter.
- When the specified quantity cut is selected for printing a combination of layouts with sensor types other than "Receipt paper (Variable length)", cuts will be done between the formats.



**6-5****[Send Data] SBPL Send**

Sends the SBPL command (Sato pronter control command).

**- Action Path****/Printer/SendCommand****- Basic Parameter**

Parameter	Type	Setting Value
__command	Required*	SBPL Command
__command_url	Required*	SBPL Command File URL
__encoding	Optional	Command Encoding Type text (default value) / base64

\*Either "\_\_command" or "\_\_command\_url" is required

**Extended Parameter**

Parameter	Type	Setting Value
__escape_character	Optional	Specify the character to be replaced with "ESC (0x1B)" in the character string specified in the "__command" parameter. However, if "__encoding" is other than "text", it is ignored. (default value: ^ (0x5E))
__check_ready_status	Optional	Judgment method of whether or not to send data waiting : Only send when waiting (default value) none : Send without checking
__tc_character	Optional	Specify automatic addition of [STX] and [ETX] (true/false) (default value: true)
__driver_retry	Optional	Specify whether to repeat print retry in case of printer error. enabled : Repeat print retry. (default) disabled : Do not retry.

**- Explanation**

- For the "\_\_command", specify from "ESC" A to "ESC" Z once per each set. "STX", "ETX" and CRC are automatically added.
- When "\_\_encoding" is text, the character string that corresponds to "\_\_escape\_character" within the value specified for "\_\_command" is replaced with "ESC(0x1B)".  
If the contents of "\_\_command" include double-byte characters, graphics, binary data, etc., specify the SBPL command in base64.  
ex.) `http://localhost:8080/Printer/SendCommand?__encoding=base64&__command=G0EbVjUwG0g1M...`
- The "ESC(0x1B)" replacement process of the "\_\_escape\_character" is not applied to the SBPL command file specified in the "\_\_command\_url".
- A character string of more than 2 characters can be specified for "\_\_escape\_character".



- A local file (file://), Web (http://, https://) and FTP (ftp://) can be used as the URL specified in “\_\_command\_url”. However, the file path can only be specified as a file transferred to the SmaPri Driver sandbox using iTunes file sharing, and specified in the “file://[File name]” format.

### - Request Example

Instruct a reprint to the printer.

\*Encode the parameter name and parameter value as a URL in UTF-8 format when sending the request.

[Request Before URL Encoding]

```
smapri:/Printer/SendCommand?__command=^A^C^Z
&__success_redirect_url=http://example.com/success/
&__failure_redirect_url=http://example.com/failure/
```

[Request After URL Encoding]

```
smapri:/Printer/SendCommand?__command=%5EA%5EC%5EZ
&__success_redirect_url=http%3A%2F%2Fexample.com%2Fsuccess%2F
&__failure_redirect_url=http%3A%2F%2Fexample.com%2Ffailure%2F
```

### - Response

Path	Content
productVersion	SmaPri Driver Version
result	Processing Results (OK/NG)
function	/Printer/SendCommand
message	Processing Results Message SUCCESSFUL when processing is successful If it fails, a character string describing the cause is displayed (E.g.: A value in parameter character string 1 is invalid.)
statusCode.@type	Printer Status Type (standard/lapin)
statusCode	Hexadecimal character string printer status code (E.g. 41)*1

\*The response order may be changed and items added when the version is updated.

\*1For details on the status code, see “Status Code Reference”.

### - Example Response

```
[Specified URL]?productVersion=1.8.0
&result=OK
&function=/Printer/SendCommand
&message=[Processing Results Message]
&statusCode.@type=lapin
&statusCode=30
```

\* Line breaks are used in the following example to make the text easier to read, but responses should not contain line breaks in actual filesreality. Additionally, the parameter name and value are each encoded in URLs.

**6-6****[Send Data] Send Data**

Sends and receives data to and from the printer.

**- Action Path****/Printer/SendRawData****- Basic Parameter**

Parameter	Type	Setting Value
__send_data	Required	Send Data
__send_data_url	Required	Send Data File URL
__encoding	Optional	Command Encoding Type base64 (default value) / hex
__receive_byte_count	Optional	Received No. of bytes
__receive_termination_data	Optional	Received Termination Data

\* Either “\_\_send\_data” or “\_\_send\_data\_url” is required

**Extended Parameter**

None

**- Explanation**

- This request is available with SmaPri Driver (iOS) Ver.1.10.0 or later.
- When “\_\_encoding” is hex, specify a hexadecimal character string for “\_\_send\_data” and “\_\_receive\_termination\_data”. (E.g.: “05” for ENQ, “41” for A)
- A local file (file://), Web (http://, https://) and FTP (ftp://) can be used as the URL specified in “\_\_send\_data\_url”. However, the file path can only be specified as a file transferred to the SmaPri Driver sandbox using iTunes file sharing, and specified in the “file://[File name]” format.
- “\_\_encoding” is not applied to the SBPL command file specified in the “\_\_send\_data\_url”.
- Multiple bytes of data can be specified for “\_\_receive\_termination\_data”.
- Data Receive Conditions  
(1) \_\_receive\_byte\_count, (2) \_\_receive\_termination\_data

(1)	(2)	
None	None	Does not receive data
With data	None	Receive specified byte quantity of data
None	With data	Receive until the received data matches the specified data

With data	With data	Receive until either of the conditions (1) or (2) is fulfilled
-----------	-----------	--

### - Request Example

Send ENQ to the printer and receive the status (11 bytes).

\*Encode the parameter's name and value as a URL in UTF-8 format when sending the request.

```
smapri:/Printer/SendRawData?__send_data=05&__encoding=hex&__receive_byte_count=11
&__success_redirect_url=http://example.com/success/
&__failure_redirect_url=http://example.com/failure/
```

### - Response

The response order may be changed and items added when the version is updated.

Path	Content
productVersion	SmaPri Driver Version
result	Processing Results (OK/NG)
function	/Printer/SendRawData
message	Processing Results Message SUCCESSFUL when processing is successful If it fails, a character string describing the cause is displayed (E.g.: A value in parameter character string 1 is invalid.)
receiveData	Data received from the printer
receiveData.@encoding	Data Encoding Type

### - Example Response

```
[Specified URL]?productVersion=1.10.0
&result=OK
&function=/Printer/SendRawData
&message=SUCCESSFUL
&receiveData.@encoding=hex
&receiveData=0220204130303030303003
```

**6-7****[Format] Register/Acquire Format**

Registers the format file and acquires included format information.

**- Action Path****/Format****- Basic Parameter**

Parameter	Type	Setting Value
__format_archive_url	Optional	Format file (*.spfmtz) URL
__format_archive_attach*	Optional	Format file encoded as a Base64 URL character string

\*Problems may occur if the size of the request data is too large. See "[Limitations/Precautions](#)".

**Extended Parameter**

None

**- Explanation**

- Unlike "Format/Print", the format file is always overwritten and registered.
- When parameters are omitted, formatting is not registered and only the response is returned. An error occurs when there is no registered format file.
- Use this when "\_\_format\_archive\_attach" sends the format file (\*.spfmtz) from the native application to SmaPri Driver.
- A local file (file://), Web (http://, https://) and FTP (ftp://) can be used as the URL specified in "\_\_format\_archive\_url". The file path (file://) can only be specified as a file transferred to the SmaPri Driver sandbox of the iOS terminal using iTunes file sharing, and specified in the "file://[File name]" format.
- It takes time to register format files in which TrueType fonts are embedded because the file size is large. A timeout failure may occur when the HTTP path or FTP path is specified.

**- Request Example**

The format file "sample.spfmtz" is transferred to the SmaPri Driver sandbox of the iOS terminal by iTunes file sharing, registered in SmaPri Driver, and format information including the response is acquired.

\*Encode the parameter name and parameter value as a URL in UTF-8 format when sending the request.

\*The parameter values of "\_\_success\_redirect\_url" need to be changed in accordance with the usage environment.

[Request Before URL Encoding]

smapri:/Format

```
?__format_archive_url=file://sample.spfmtz
&__success_redirect_url=http://example.com/success/
&__failure_redirect_url=http://example.com/failure/
```

[Request After URL Encoding]

smapri:/Format

```
?__format_archive_url=file%3A%2F%2Fsample.spfmtz
&__success_redirect_url=http%3A%2F%2Fexample.com%2Fsuccess%2F
&__failure_redirect_url=http%3A%2F%2Fexample.com%2Ffailure%2F
```

**- Response**

The response order may be changed and items added when the version is updated.

Path	Content
productVersion	SmaPri Driver Version
result	Processing Results (OK/NG)
function	/Format
message	Processing Results Message SUCCESSFUL when processing is successful, or a character string describing the cause is displayed if it fails (E.g.: the value for parameter __format_archive_url is invalid.)
projectName	Project Name (Only output when format files (*.spfmtz) created using SmaPri Designer Ver.1.17.0.0 or later are registered)
lastModified	Data Output Date and Time (Only output when format files (*.spfmtz) created using SmaPri Designer Ver.1.17.0.0 or later are registered)
fileSize	Format Archive File Size (bytes)
printer	Printer device name specified in the format
printer.@resolution	Printer resolution (dpi)
SBPLVersion	SBPL specified in the format
format[n].@idNumber	Format call-up No. (n : 0-(format no. -1) format index)
format[n].@name	Format call-up data name (n : 0-(format no. -1) format index)

**- Example Response**

```
[Specified URL]?productVersion=1.9.0
&result=OK
&function=/Format
&message=[Processing Results Message]
&printer=PW208
&printer.@resolution=203
&SBPLVersion=06.10.0
&format[0].@idNumber=1&format[0].@name=Layout 1
&format[1].@idNumber=2&format[1].@name=Layout 2
&format[2].@idNumber=3&format[2].@name=Layout 3
```

\* Line breaks are used in the following example to make the text easier to read, but responses should not contain line breaks in actual files. Additionally, the parameter name and value are each encoded in URLs.

**6-8****[Format] Acquire Format Input Item**

Specifies the layout call-up number, and acquires the input item information.

**- Action Path**

**/Format/InputItem**

**- Basic Parameter**

Parameter	Type	Setting Value
__format_archive_url	Optional	Format file (*.spfmtz) URL. If the same URL as last time is specified, the behavior follows __format_archive_update.
__format_archive_update	Optional	Update check of the format file is performed when the same URL in __format_archive_url as the previous time is specified. The file is considered to be updated when either the file size or update date differs. noUpdate : No update (default value) update : Updated (with error notification) updateWithoutError : Updated (no error notification)
__format_archive_attach	Optional	Format file encoded as a Base64 URL character string
__format_id_number	Required	Call-up number of used layout

**- Explanation**

- SmaPri Driver caches the last registered format file (\*.spfmtz). It is saved if the terminal power is turned off, but deleted if SmaPri Driver is uninstalled.
  - Case when file is updated to a new format file
    - When "\_\_format\_archive\_attach" is specified.
    - When a different URL to the one registered previous in "\_\_format\_archive\_attach" is specified.
    - When "\_\_format\_archive\_url" is specified, and "update" or "updateWithoutError" is specified in the "\_\_format\_archive\_update" parameter.
  - Case when an existing format file (cache) is used
    - When neither "\_\_format\_archive\_attach" or "\_\_format\_archive\_url" is specified.
    - When the same URL as the one registered previous in "\_\_format\_archive\_attach" is specified.
    - When "noUpdate" is specified for both "\_\_format\_archive\_url" and "\_\_format\_archive\_update" parameters.
- "\_\_format\_archive\_attach" is used when sending the format file (\*.spfmtz) directly from the application to SmaPri Driver (in case the path cannot be specified). Base64Url encoding is where the "+" is replaced with "-" and "/" replaced with "\_" in a Base64 encoded character string, and where padding and line breaks are not added.
- URLs that can be specified as "\_\_format\_archive\_url" are Web (http://, https://), FTP (ftp://) and a local file (file://).
- It takes time to register format files that use the TrueType font embedding function because the file size is large. There are cases where HTTP communication timeout occurs, or when HTTP and FTP path specifications cannot be used.
- "\_\_format\_id\_number" is the call-up No. set in each layout using SmaPri Designer.

## - Request Example

The call-up No. acquires the input item information from the 1st format from those registered in the format file in SmaPri Driver.

[Request Before URL Encoding]

smapri:/Format/InputItem

?\_\_format\_id\_number=1

&\_\_success\_redirect\_url=http://example.com/success/

&\_\_failure\_redirect\_url=http://example.com/failure/

[Request After URL Encoding]

smapri:/Format/InputItem

?\_\_format\_id\_number=1

&\_\_success\_redirect\_url=http%3A%2F%2Fexample.com%2Fsuccess%2F

&\_\_failure\_redirect\_url=http%3A%2F%2Fexample.com%2Ffailure%2F

## - Response

Path	Content
productVersion	SmaPri Driver Version
result	Processing Results (OK/NG)
function	/Format/InputItem
message	Processing Results Message SUCCESSFUL when processing is successful, or a character string describing the cause is displayed if it fails (E.g.: A value in parameter character string 1 is invalid.)
printer	Printer device name specified in the format
printer.@resolution	Printer resolution (dpi)
SBPLVersion	SBPL specified in the format
format	Format Information (No. of formats repeated)
format.@idNumber	Format call-up No.
format.@name	Format call-up data name
input	Input Item Information (Repeated for the number of input items)
input.@type	Type of Input Item (text/barcode/price/dateTime/sequence/table/quantity/graphic)
input.@name	Item Name
input.@tableIdNumber	Table Number (Only when type is table)
input.@length	Input No. of Digits *1
input.@defaultValue	Default value *2
print	Print Item Information (Repeated the number of print items only)
print.@type	Type of Print Item (text/barcode/price/dateTime/sequence/line/frame/table/graphic/command)
print.@name	Item Name of Print Item

\*The response order may be changed and items added when the version is updated.

\*1When the type is graphic, [0] is constantly returned.

\*2 When the type is graphic, a base64 encoded string is returned for the default value image file data.

**- Example Response**

```
[Specified URL]?productVersion=1.8.0
&result=OK
&function=/Format/InputItem
&message=[Processing Results Message]
&printer=PT208e
&SBPLVersion=06.10.0
&format.idNumber=1&format.name= Layout 1
&input[0].type=text&input[0].name=Character String 1&input[0].length=10
&input[0].defaultValue=
&input[1].type=barcode&input[1].name=Barcode 1
&input[1].length=12&input[1].defaultValue=123456789012
&input[2].type=price&input[2].name=Price1&input[2].length=6
&input[2].defaultValue=1000
&table[0].idNumber=1&table[0].name= Table 1
&table[0].record[0].registrationNumber=1&table[0].record[0].stringValue= Record 1
&table[0].record[1].registrationNumber=2&table[0].record[1].settingValue= Record 2
&table[1].idNumber=1&table[1].name= Graphic Table
&table[1].record[0].registrationNumber=1&table[1].record[0].stringValue= Plus 6mm
&table[1].record[1].registrationNumber=2&table[1].record[1].settingValue= Paper 6mm
```

\* Line breaks are used in the following example to make the text easier to read, but responses should not contain line breaks in actual files. Additionally, the parameter name and value are each encoded in URLs.



**6-9****[Font] Acquire Font Information**

Acquires information from the font file (\*.ttf) cached in the terminal.

**- Action Path**

**/Font**

**- Basic Parameter / Extended Parameter**

None

**- Explanation**

- When a format file (\*.spfmtz) created using SmaPri Designer Ver.1.17.0.0 or later is registered as a format, the font file is cached in the terminal. SmaPri Driver also needs to be a supported version (iOS: Ver.1.9.0).
- When the format file (\*.spfmtz) is updated, the data size can be reduced upon performing "Data Output" with SmaPri Designer by unchecking the "Include TrueType Font File" check box. If the required font file is not cached, an error occurs at printing.

**- Request Example**

[Request Before URL Encoding]

smapri:/Font

?\_\_success\_redirect\_url=http://example.com/success/

&\_\_failure\_redirect\_url=http://example.com/failure/

[Request After URL Encoding]

smapri:/Font

?\_\_success\_redirect\_url=http%3A%2F%2Fexample.com%2Fsuccess%2F

&\_\_failure\_redirect\_url=http%3A%2F%2Fexample.com%2Ffailure%2F

**- Response**

The response order may be changed and items added when the version is updated.

Path	Content
productVersion	SmaPri Driver Version
result	Processing Results (OK/NG)
function	/Font
message	Processing Results Message SUCCESSFUL when processing is successful, or a character string describing the cause is displayed if it fails
fonts.@count	No. of font files
fonts.font	Font information (Repeat the number of font files only)
fonts.font.@family	Font family name
fonts.font.@style	Font style (italic / underscore / negative / outlined (hollow) / strikeout / bold / regular / oblique) *When combining multiple styles, " " is used to delimit the list.
fonts.font.@size	Font File Size (Byte)

**- Example Response**

```
[Specified URL]?productVersion=1.9.0
&result=OK
&function=/Font
&message=SUCCESSFUL
&fonts.@count=2
&fonts.font[0].@familyName=Arial
&fonts.font[0].@style=bold|italic
&fonts.font[0].@size=32767
&fonts.font[1].@familyName=Meiryo
&fonts.font[1].@style=regular
&fonts.font[1].@size=65535
```

\* Line breaks are used in the following example to make the text easier to read, but responses should not contain line breaks in reality. Additionally, the parameter name and value are each encoded in URLs.

**6-10****[Font] Font Clear**

Deletes the font file (\*.ttf) cached in the terminal.

**- Action Path**

**/Font/Clear**

**- Basic Parameter / Extended Parameter**

None

**- Explanation**

- When a format file (\*.spfmtz) created using SmaPri Designer Ver.1.17.0.0 or later is registered as a format, the font file is cached in the terminal.
- Font clear deletes all font files cached in the terminal.
- If there is no necessary font, labels using the font can not be issued, please register the format file again.

**- Request Example**

[Request Before URL Encoding]

smapri:**/Font/Clear**

?\_\_success\_redirect\_url=http://example.com/success/

&\_\_failure\_redirect\_url=http://example.com/failure/

[Request After URL Encoding]

smapri:**/Font/Clear**

?\_\_success\_redirect\_url=http%3A%2F%2Fexample.com%2Fsuccess%2F

&\_\_failure\_redirect\_url=http%3A%2F%2Fexample.com%2Ffailure%2F

**- Response**

The response order may be changed and items added when the version is updated.

Path	Content
productVersion	SmaPri Driver Version
result	Processing Results (OK/NG)
function	/Font/Clear
message	Processing Results Message SUCCESSFUL when processing is successful, or a character string describing the cause is displayed if it fails

**- Example Response**

[Specified URL]?productVersion=1.9.0

&result=OK

&function=/Font/Clear

&message=SUCCESSFUL

\* Line breaks are used in the following example to make the text easier to read, but responses should not contain line breaks in reality. Additionally, the parameter name and value are each encoded in URLs.

**6-11****[Port] Acquire Output Destination Port**

Acquires the set output destination port (printer).

**- Action Path****/Printer/Port****- Basic Parameter / Extended Parameter**

None

**- Request Example**

[Request Before URL Encoding]

smapri:**/Printer/Port**

?\_\_success\_redirect\_url=http://example.com/success/

&amp;\_\_failure\_redirect\_url=http://example.com/failure/

[Request After URL Encoding]

smapri:**/Printer/Port**

?\_\_success\_redirect\_url=http%3A%2F%2Fexample.com%2Fsuccess%2F

&amp;\_\_failure\_redirect\_url=http%3A%2F%2Fexample.com%2Ffailure%2F

**- Response**

\*The response order may be changed and items added when the version is updated.

Path	Content
productVersion	SmaPri Driver Version
result	OK (Fixed)
function	/Printer/Port
message	SUCCESSFUL : Successful NO_PORT_SET : Printer not registered
deviceType	bluetooth/tcpip
address	Printer Address Bluetooth: MAC address format (Example: 00:01:90:E3:84:77) TCP/IP: IPv4 format + TCP port number (Example: 192.168.1.1:9100)
protocol	Printer communication protocol (status3/status3_lapin/status4)
crc	CRC addition (false/true)
connected	Whether connected to the printer (false/true)
bondedBluetoothDevices	Bluetooth information
bondedBluetoothDevices.@count	Currently connected Bluetooth device search
bondedBluetoothDevices.device	Device Address Repeated for number of devices
bondedBluetoothDevices.device.@name	Device name

**- Example Response**

```
[Specified URL]?productVersion=1.9.0
&result=OK
&function=/Printer/Port
&message=SUCCESSFUL
&deviceType=bluetooth
&address=00:0B:5D:B4:CD:CF
&protocol=status4
&crc=false
&connected=true
&bondedBluetoothDevices.@count=2
&bondedBluetoothDevices.device[0].@name=SATO PRINTER_000b5db4cdcf
&bondedBluetoothDevices.device[0]=00:0B:5D:B4:CD:CF
&bondedBluetoothDevices.device[1].@name=SATO MOBILE PRINTER
&bondedBluetoothDevices.device[1]=00:01:90:EC:18:1C
```

\* Line breaks are used in the following example to make the text easier to read, but responses should not contain line breaks in actual files. Additionally, the parameter name and value are each encoded in URLs.

**6-12****[Port] Specify Output Destination Port**

Sets the output destination port (printer).

**- Action Path****/Printer/SetPort****- Basic Parameter**

Parameter	Type	Setting Value
__device_type	Optional	Printer Device Type (bluetooth/tcpip) * When "__device_type" is specified, "__address" is required.
__address	Optional	Printer Address Bluetooth: MAC address format (Example: 00:01:90:E3:84:77) TCP/IP: IPv4 format + TCP port number (Omitted: 1024) (Example: 192.168.1.1:9100) * For Bluetooth, an address which is not paired is an error.
__protocol	Optional	Printer protocol (status3/status3_lapin/status4)
__crc	Optional	CRC addition (false/true)

Settings of omitted parameters are not changed.

**- Extended Parameter**

None

**- Explanation**

- If SmaPri Driver is connected to a printer, this request will result in an error. If you want to switch printers, set [Printer Settings] > [Printer disconnection timer] to [Every label print].
- "\_\_crc" usually does not need to be specified. Specify this only when the CRC check function is enabled on the printer (the default value of the printer is invalid). If the settings do not match the printer, it may cause problems such as missing labels.

**- Request Example**

[Request Before URL Encoding]

smapri:/Printer/SetPort

?\_\_device\_type=tcpip

&amp;\_\_address=192.168.1.1:9100

&amp;\_\_success\_redirect\_url=http://example.com/success/

&amp;\_\_failure\_redirect\_url=http://example.com/failure/

[Request After URL Encoding]

smapri:/Printer/SetPort

?\_\_device\_type=tcpip

&\_\_address=192.168.1.1%3A9100

&\_\_success\_redirect\_url=http%3A%2F%2Fexample.com%2Fsuccess%2F

&\_\_failure\_redirect\_url=http%3A%2F%2Fexample.com%2Ffailure%2F

## - Response

The response order may be changed and items added when the version is updated.

Path	Content
result	Processing Results (OK/NG)
function	/Printer/SetPort
message	Processing Results Message SUCCESSFUL when processing is successful, or a character string describing the cause is displayed if it fails (E.g.: The value for parameter __address is invalid.)

## - Example Response

[Specified URL]?productVersion=1.9.0

&result=OK

&function=/Printer/SetPort

&message=SUCCESSFUL

\* Line breaks are used in the following example to make the text easier to read, but responses should not contain line breaks in actual files. Additionally, the parameter name and value are each encoded in URLs.

**6-13****[Display] Display administration screen**

Display administration screen using custom URL scheme.

**- Action Path List**

Action Path	Function	Supplement
smapri:/View/Status	Administration screen (status).	
smapri:/View/PrinterSettings	Administration screen (printer settings)	1
smapri:/View/ServerSettings	Administration screen (server settings)	2

**Supplement 1: Administration screen (printer settings)**

- The following message appears when the spooler is processing print jobs.  
**"Printer setting cannot be changed while spooling. Wait for printing all print jobs or pause the spooler to change settings."**
- The following message appears when SmaPri Driver is connected to a printer.  
**"Printer will be disconnected. Do you want to continue?"**  
 When you tap "OK", printer will be disconnected and the printer settings screen appears.  
 When you tap "Cancel", the printer settings screen appears but no changes can be made.

**Supplement 2: Administration screen (server settings)**

The following message appears during printing, and the administration screen (status) will be displayed.

**"Server settings screen cannot be opened while SmaPri Driver is processing requests."**



**6-14****Response Message List****- Response Message List**

message	Description
SUCCESSFUL	Request processed successfully.
The other operation is running.	The next request cannot be accepted while the previous request is being processed.
The function is not found.	Please check the contents of the URL scheme.
The value for parameter [parameter name] is invalid.	There is an error in the input data. Please check the request details.
Parameter [parameter name] and [parameter name] cannot be specified together.	There is an error in the input data. Please check the request details.
Failed to download file from the URL[URL].	Please check whether the URL of the format file (.spfmtz) is set correctly.
Format archive file is not registered.	Please specify the __format_archive_url or __format_archive_attach parameter in your request.
Cannot find the label format number (n).	Please check whether the layout call number is set correctly in the __format_id_number parameter.
Variable length format and fix length format cannot be existed together.	When printing multiple formats, the sensor type "Receipt paper (Variable length)" layout cannot be combined with the layout of other sensor types.
Failed to load the format file.	Please check if the format file is corrupted.
Printer is not selected.	Please set the printer settings of SmaPri Driver.
Failed to connect to the printer. Check printer power.	Please check the settings of SmaPri Driver and perform a test print to see if you can connect to your printer.
Printer is not connected.	Please set the printer settings of SmaPri Driver.
Error occurred while transmitting data to printer.	An unexpected error has occurred when sending data. Please check the SmaPri Driver log.
Invalid status data is returned by the printer.	Please match the communication protocol with the printer.
There is no reply from the printer.	<ol style="list-style-type: none"> <li>1. Please check whether the output destination printer address and communication protocol are set correctly in SmaPri Driver.</li> <li>1. (If it occurs irregularly) Communication between the terminal and printer may be unstable. Please try printing to another device or printer and check if there are any problems with the device, printer, communication environment, etc.</li> </ol>
NO_PORT_SET	Please set the printer settings of SmaPri Driver.

Unable to change port while connected to printer.	You cannot change the output destination while connected to a printer.
---	--