EPSON
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ePOS-Print API User's Manual

Overview

Describes the features and development environment.

Sample Program

Describes how to use the sample program and how to build a system.

Programming Guide

Describes how to write programs in Web application development.

ePOS-Print API

Describes the ePOS-Print API.

ePOS-Print Canvas API

Describes the ePOS-Print CanvasAPI.

ePOS-Print Editor

Describes the ePOS-Print Editor.

Appendix

Describes the specifications for printers used for ePOS-Print, how to use the rendering of images in HTML5 Canvas.

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ESC/POS® Command System

EPSON has been taking industry's initiatives with its own POS printer command system (ESC/POS). ESC/POS has a large number of commands including patented ones. Its high scalability enables users to build versatile POS systems. The system is compatible with all types of EPSON POS printers (excluding the TM-C100) and displays. Moreover, its flexibility makes it easy to upgrade the future. The functionality and the user-friendliness is valued around the world.

For Safety

Key to Symbols

The symbols in this manual are identified by their level of importance, as defined below. Read the following carefully before handling the product.

	Provides information that must be observed to avoid damage to your equipment or a malfunction.
	Provides important information and useful tips.

Restriction of Use

When this product is used for applications requiring high reliability/safety such as transportation devices related to aviation, rail, marine, automotive etc.; disaster prevention devices; various safety devices etc; or functional/precision devices etc, you should use this product only after giving consideration to including fail-safes and redundancies into your design to maintain safety and total system reliability. Because this product was not intended for use in applications requiring extremely high reliability/safety such as aerospace equipment, main communication equipment, nuclear power control equipment, or medical equipment related to direct medical care etc, please make your own judgment on this product's suitability after a full evaluation.

About this Manual

Aim of the Manual

This manual is intended to provide development engineers with all the information necessary for building/designing an ePOS-Print API system or developing/designing an ePOS-Print printer application.

In this manual, "ePOS-Print supported printer" is a generic term for the TM-i series and TM printers that support the ePOS-Print API.

The TM-i series in this manual is a generic term for the following printers.

- TM-T88V-i
- TM-T70-i
- TM-L90-i

Manual Content

The manual is made up of the following sections:

Chapter 1	Overview
Chapter 2	Sample Program
Chapter 3	Programming Guide
Chapter 4	ePOS-Print API
Chapter 5	ePOS-Print Canvas API
Chapter 6	ePOS-Print Editor
Appendix	Printer specifications
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	Rendering in HTML5 Canvas
	Windows Store Apps

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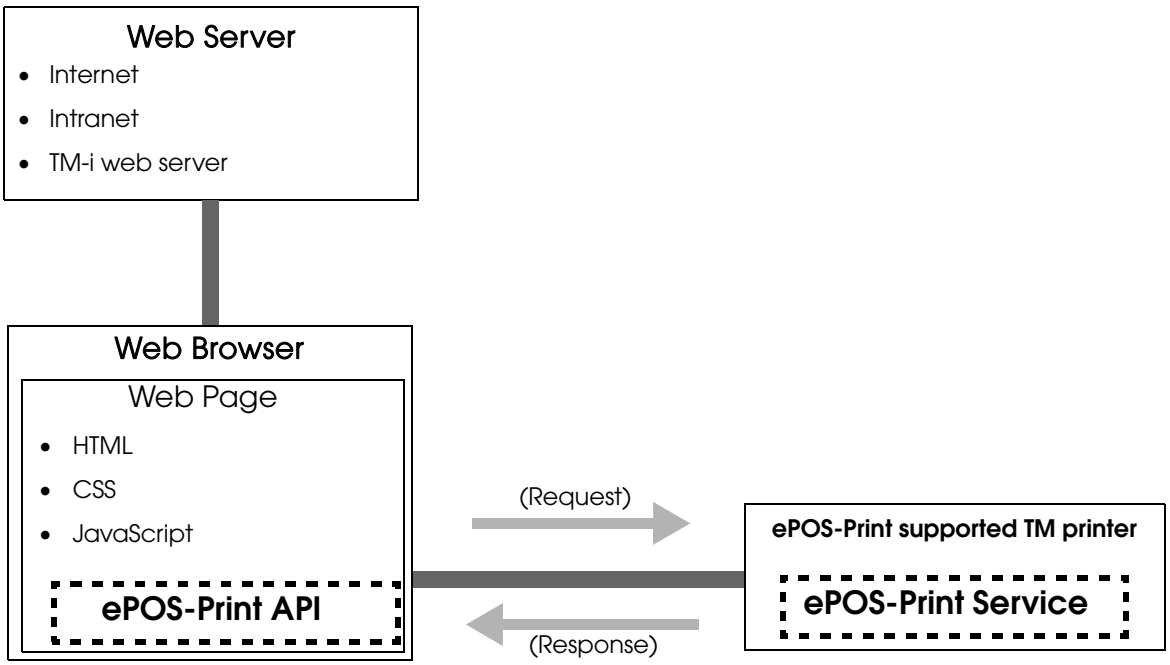
Overview

This chapter describes the features of and the specifications for ePOS-Print.

Overview of ePOS-Print

ePOS-Print is functionality to control POS printers in a multi-platform environment. From Web browser of computer, smart phone and tablet, printing can be directly done on ePOS-Print supported TM printer.
In addition, print images rendered in HTML5 Canvas can be printed.

ePOS-Print provides the API for print commands.
When a print document (Request) is sent via HTTP from the host to the ePOS-Print Service of a ePOS-Print supported TM printer, ePOS-Print processes the printing of that document and returns a response document (Response).



Features

- ❏ As long as it is in a network environment, a terminal with an HTML5-supported Web browser can perform printing from anywhere.
- ❏ It supports Windows store apps (JavaScript).
- ❏ Installation of drivers and plug-ins is not required.
- ❏ No PCs or servers are required for printing.
- ❏ Allows printing from public and private clouds.
- ❏ Allows printing in languages supported in Web browsers.
- ❏ Automatically checks the status of the TM printer before printing. There is no need for checking the status of the TM printer in advance. (Supported in firmware Ver.1.2 and later)
- ❏ Does not respond to a printer's function to automatically send its status (AutoStatusBack). Instead, capable of sending an empty print command and checking the status of the TM printer based on the result of command transmission. (Supported in firmware Ver.1.2 and later)
- ❏ To change the printer settings, utility programs dedicated to each printer or other utility programs should be used.
- ❏ In case of TM-i series, it can print to other TM printer via TM-i.
- ❏ Provides ePOS-Print API and ePOS-Print Canvas API.

  <<ePOS-Print API>>

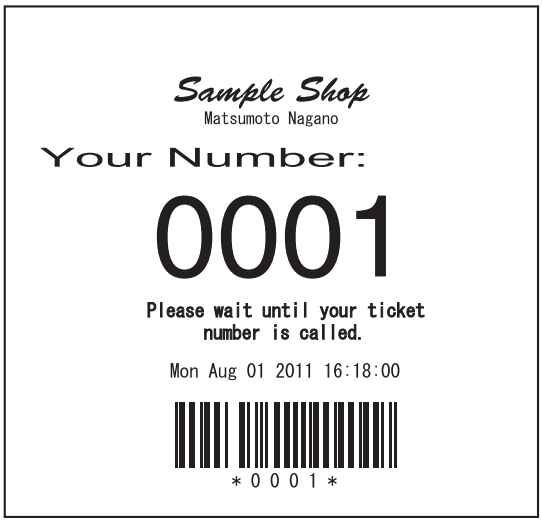
  - Allows device fonts to be used for printing.
  - Allows barcode printing.

  <<ePOS-Print Canvas API>>

  - Allows printing of images rendered in HTML5 Canvas.
  - Allows TrueType fonts to be used for printing.

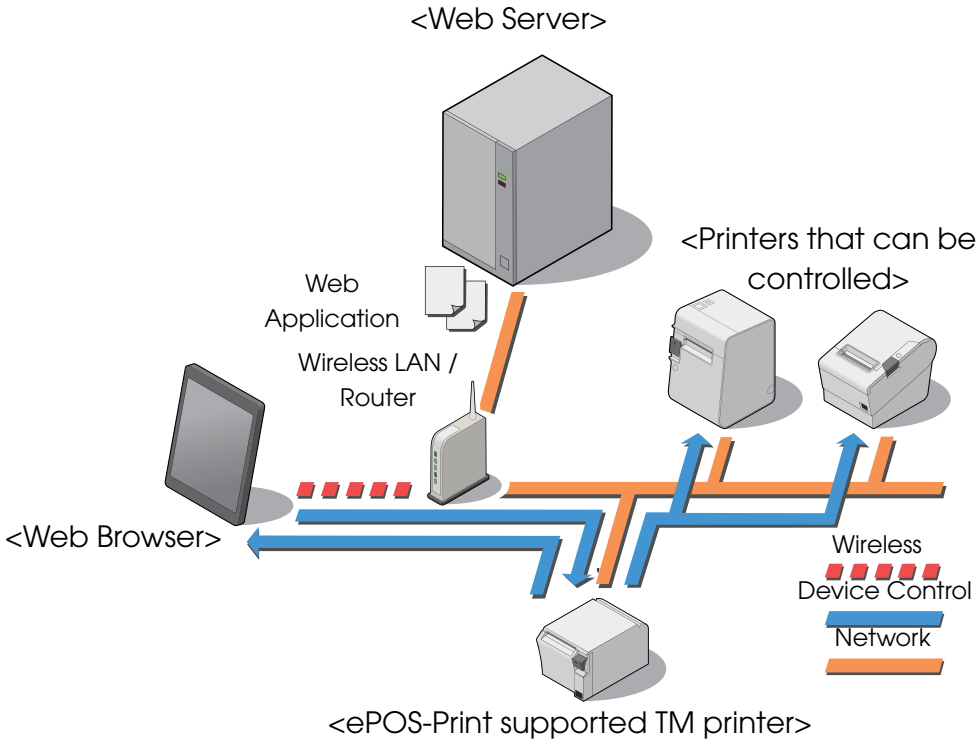
Print Example

ePOS-Print API




Sample Shop
No. 012301
Enjoy!
FREE Coffee
Expires Mon Aug 01 2011
Sample Shop
16:27:24
Monochrome or Grayscale
Monochrome

Print Flow



1. A Web application is placed.
2. A Web browser displays the Web application.
3. The Web browser sends print data.
   For an ePOS-Print supported printer, the print data for the unit printer is printed.
4. For a TM-i, the print data is sent to a controllable printer.
5. The data is printed from printers that can be controlled.
6. The ePOS-Print supported TM printer returns a response document to the terminal.

Features

The installed functions vary depending on the model. For details, refer to Appendix, Printer Specifications.

Printing functions of ePOS-Print API

- ❏ Print setting (alignment/line feed space/text rotation/page mode)
- ❏ Character data setting (language/font (device font)/double-sizing/scale/smoothing/print position)
- ❏ Character style setting (inversion of black and white/underline/bold)
- ❏ Paper feed setting (in dots/in lines)
- ❏ Image printing (raster image/NV graphics)
- ❏ Barcode printing
  (For barcodes that can be printed by each model, refer to "Printer specifications" on page 209)
- ❏ Two dimensional symbol printing
  (For two dimensional symbols that can be printed by each model, refer to "Printer specifications" on page 209.)
- ❏ Ruled line setting
- ❏ Control of label paper/black mark paper
- ❏ Drawer kick function
- ❏ Buzzer function
- ❏ ESC/POS command transmission
- ❏ Response document acquisition (print result/printer status/system error status)
- ❏ Paper layout setting
- ❏ Recovery from an error
- ❏ Reset

Printing functions of ePOS-Print Canvas API

- ❏ Printing of images (raster images) rendered in HTML5 Canvas
- ❏ Control of label paper/black mark paper
- ❏ Feed cut
- ❏ Response document acquisition (print result/printer status/system error status)
- ❏ Paper layout setting
- ❏ Recovery from an error
- ❏ Reset

Operating Environment

Applications environment

❏ HTML5-supported Web browser

- Windows Internet Explorer 9 or later
- Mozilla Firefox 3.6 or later
- Google Chrome 7 or later
- Safari in iOS4.0 or later
- Standard browser in Android 2.2 or later

❏ Windows Store apps

- JavaScript project

Terminal

Terminal with an HTML5-supported Web browser

ePOS-Print Supported TM printer

TM-i Series

❏ TM-T88V-i

❏ TM-T70-i

❏ TM-L90-i

TM Printer

❏ TM-P60II

❏ TM-P60II with Peeler

❏ TM-P80

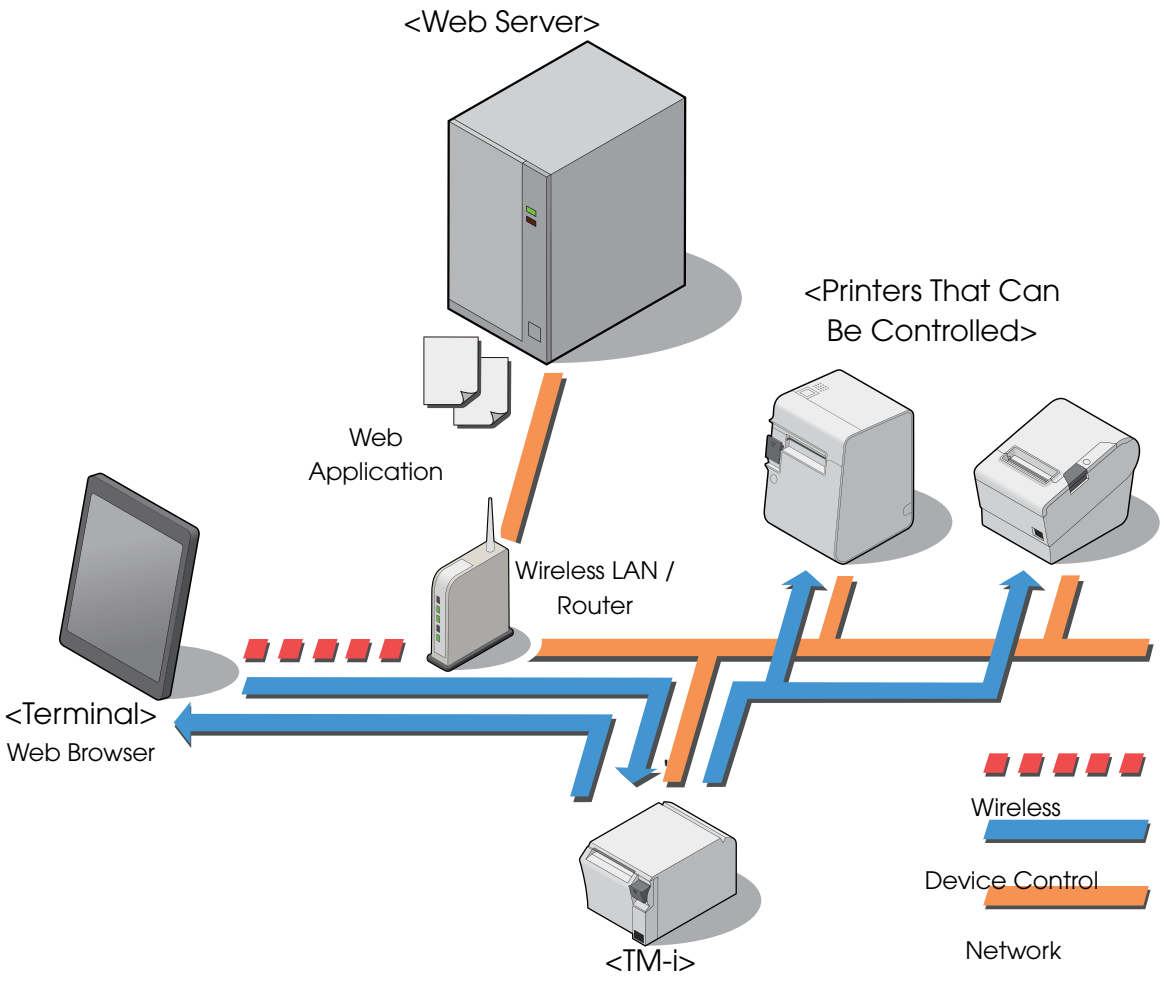
Unable to control other TM printer

Printers That Can Be Controlled

Refer to the "Technical Reference Guide" for the TM-i series.

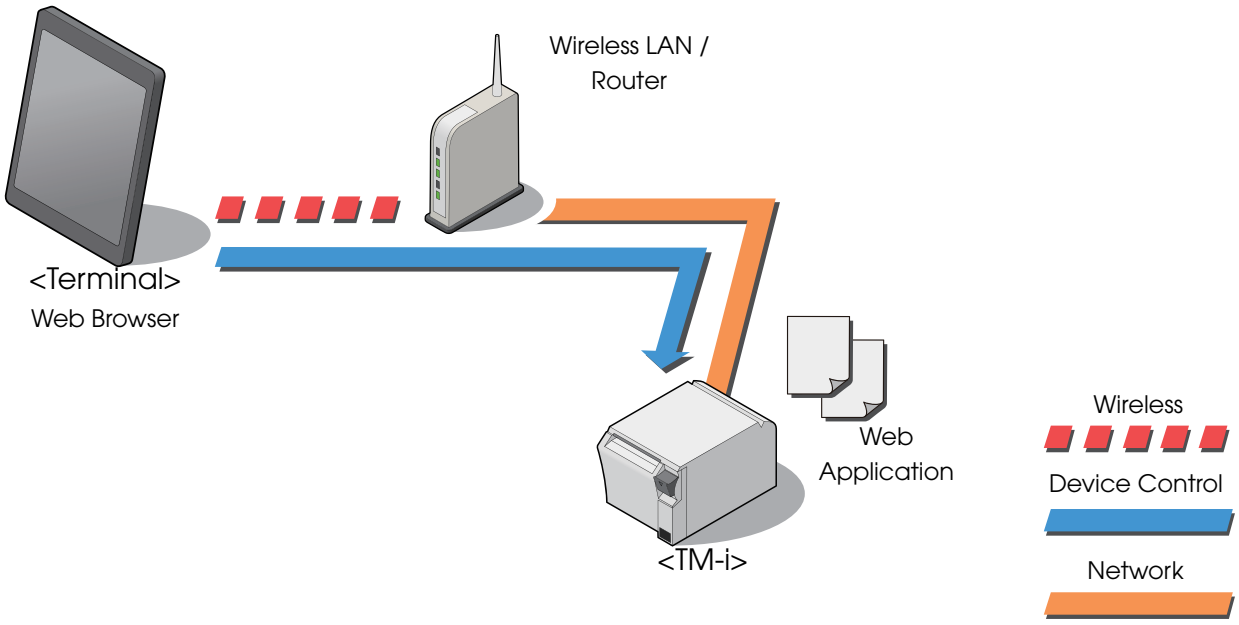
System Construction Example

Registering a Web Application Into the Web Server



- ❏ Web Server
  A Web application is placed.
- ❏ Terminal
  Executes the Web application using a browser (HTML5-supported Web browser).
- ❏ TM-i
  Receives/prints print data sent from the Web browser or controls other devices.
- ❏ Printers That Can Be Controlled
  Print the print data received from the TM-i.

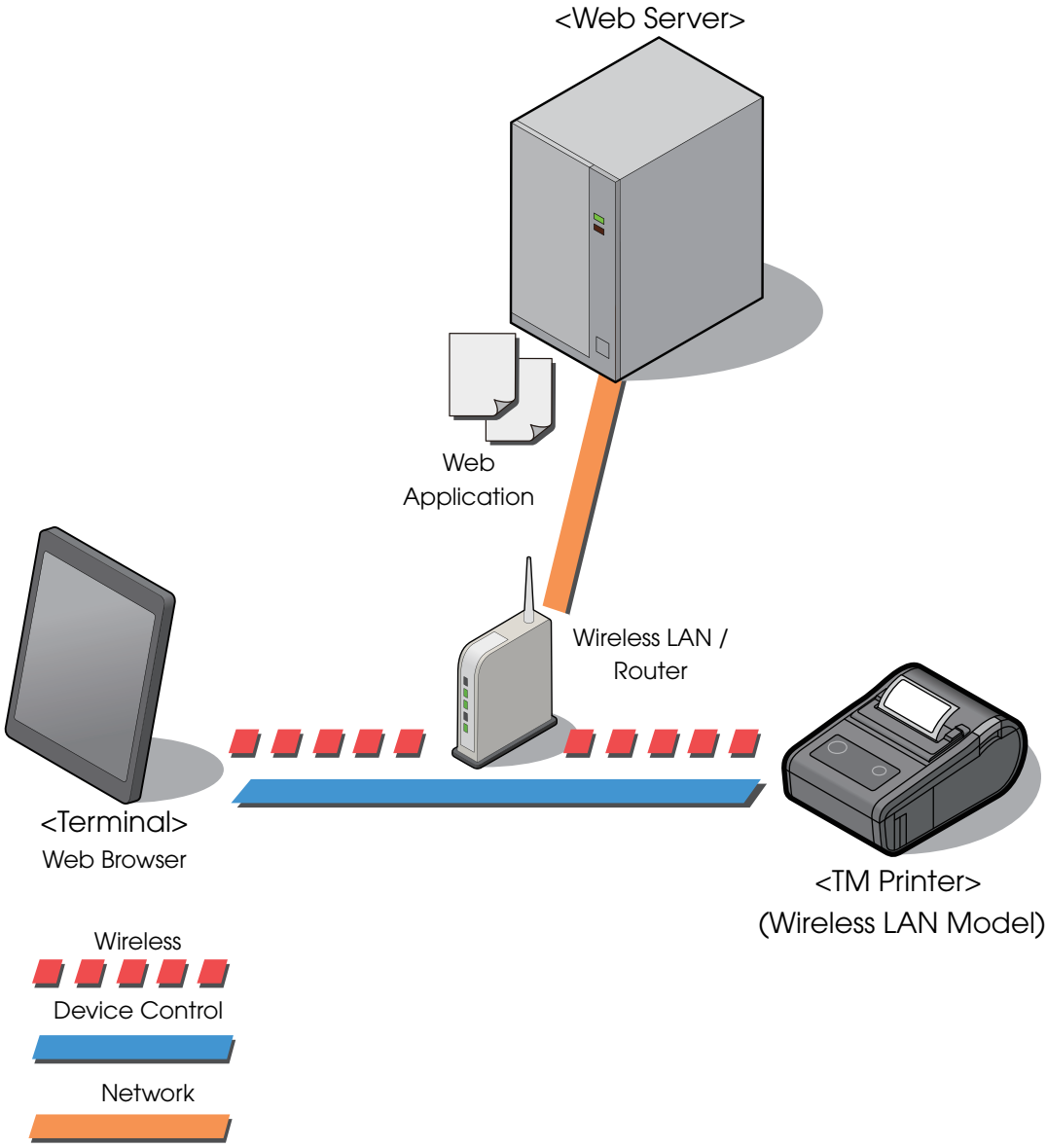
Registering a Web Application Into a TM-i



❑ Terminal
Executes the Web application using a browser.

❑ TM-i
Mounts the Web application. Creates and prints the print data using transmission with the input terminal's Web browser.

Registering a Web application to a cloud



❏ Terminal
Executes the Web application using a browser.

❏ TM Printer (Wireless LAN Model)

Contents in the Package

Manual

- ❏ ePOS-Print API User's Manual (This Document)
- ❏ ePOS-Print XML User's Manual
- ❏ TM-T88V-i Technical Reference Guide
- ❏ TM-T70-i Technical Reference Guide
- ❏ TM-L90-i Technical Reference Guide
- ❏ TM-P60II Technical Reference Guide
- ❏ TM-P80 Technical Reference Guide

SampleProgram

ePOS-Print_API_UM_E_Sample.zip

The following are included:

- ❏ epos-print-3.x.x.js (ePOS-Print JavaScript for embedding)
- ❏ sample/index.html (Sampleprogram)
- ❏ editor/index.html (ePOS-Print Editor)
- ❏ win8/ePOS-Print Demo.zip (Windows Store apps sample program)
- ❏ Rendering in HTML5 Canvas
  - canvas/canvas-print-text.html(Rendering text)
  - canvas/canvas-print-image.html(Rendering images)
  - canvas/canvas-print-graph.html(Rendering graphics)
  - canvas/canvas-print-hand.html(Rendering handwritten images)
  - canvas/canvas-print-barcode.html(Rendering barcode)
  - canvas/canvas-print-label.html(Rendering label)

Utility

❏ TM-i Series

Utility	TM-T88V-i	TM-T70-i	TM-L90-i
Model-Dedicated Utility	●	-	-
Memory Switch Setting Utility	-	-	●
TM Flash Logo Setup Utility (TMFLogo)	-	●	●
TMNet WinConfig (EpsonNet Config)	●	●	●

❏ TM Printer (Wireless LAN Model)

Utility	TM-P60II	TM-P80
Model-Dedicated Utility	●	●
Memory Switch Setting Utility	-	-
TM Flash Logo Setup Utility (TMFLogo)	-	-
TMNet WinConfig (EpsonNet Config)	●	●

Version Information

Version of ePOS-Print Service installed on a printer can be confirmed as follows.

Model	Confirmation Method	ePOS-Print Version
<TM-i Series> • TM-T88V-i • TM-T70-i • TM-L90-i	• Displayed on EPSON TMNet WebConfig • Printed on the status sheet	<Example> 2.0xWW: Ver.2.0 2.1xWW: Ver.2.1
<TM Printer (Wireless LAN Model)> • TM-P60II • TM-P60II with Peeler • TM-P80	Displayed on EpsonNet Config (Web version)	<Example> 2.2: Ver.2.2

If API of newly added ePOS-Print Builder is used on unsupported models, schema error is returned and printing cannot be done. The latest version of ePOS-Print API JavaScript is recommended regardless of ePOS-Print Service version installed on a printer. ePOS-Print API JavaScript. is bundled with the sample program.
For details, refer to "Contents in the Package" on page 21.

Restrictsions

- ❏ The drawer and the buzzer cannot be used together.
- ❏ The buzzer function cannot be used if the printer is not provided with the buzzer.
- ❏ Internet Explorer 9 does not allow printing to the printer to be performed from security-protected Web pages (HTTPS).
- ❏ When multiple tones are set for raster images, intermitting printing may occur because the amount of data to print increases and white stripes may appear in the print result. (in firmware Ver.1.2 and later)
- ❏ The scan quality of barcodes/two-dimensional symbols printed as multiple-tone raster images cannot be guaranteed. Print them as two-tone images. (in firmware Ver.1.2 and later)
- ❏ If printing was cancelled, perform the following settings to clear the data left in the printer. (in Ver.3.0 and later)
  - In the printer DIP switches (memory switches), configure the Busy condition only for the receive buffer full.
  - Disable the command execution (offline). (TM-P60II, TM-P80)

Sample Program

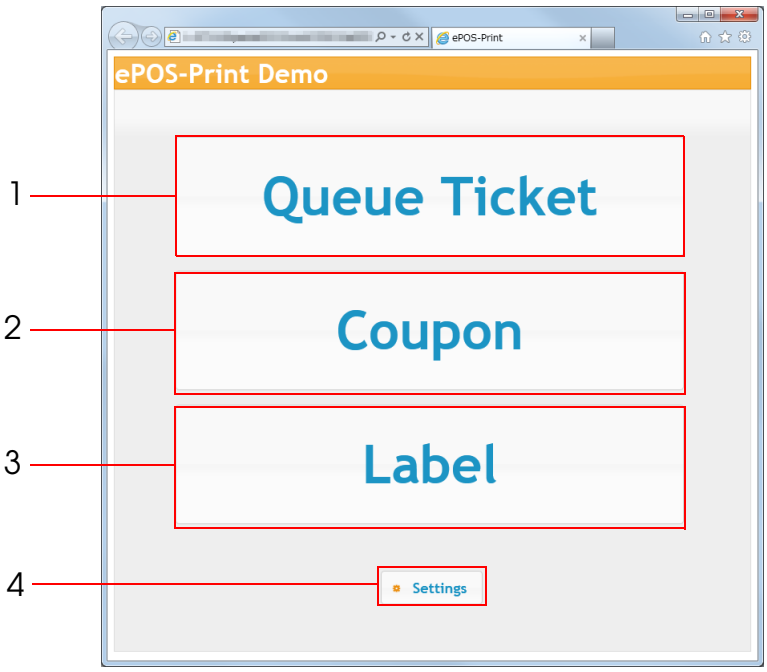
This chapter describes how to use the sample program.

- In this chapter, descriptions are made based on a system configuration using a Web server.
- Descriptions are made assuming that the Web server in this chapter is a Web server configured by using IIS (Microsoft Internet Information Services). If your Web server is used in a different environment, interpret the descriptions accordingly.

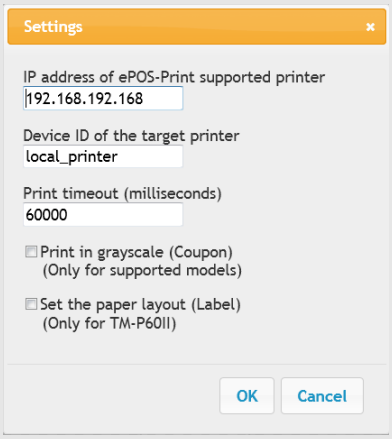
Sample Program System Overview

Sample Program Screen

The screen compositions for the sample program are as follows:



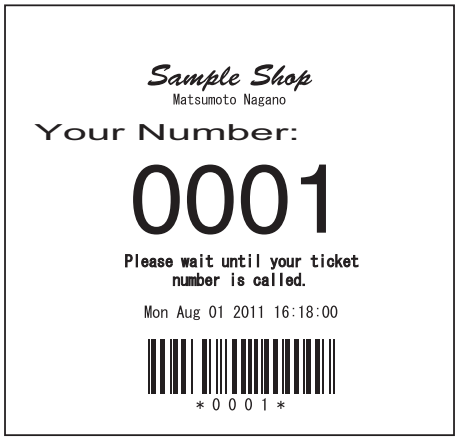
Item	Description
1 Queue Ticket	Prints queue ticket numbers. This is a sample program using the ePOS-Print API.
2 Coupon	Prints coupons. This is a sample program using the ePOS-Print Canvas API.
3 Label	Prints labels. This is a sample program using the ePOS-Print API.

Item	Description
4 Settings 	Displays the "Settings" screen. The screen is used to set the following: • IP adress of the ePOS-Print supported TM printer (Default : ∗ TM-i: DHCP (If an address fails to be assigned via DHCP, the value becomes "192.168.192.168".) ∗ TM Printer: 192.168.192.168) • Device ID of the target printer (Default : local_printer) • Print timeout(milliseconds) (Default : 60000) • Prints coupons in gray scale (Coupon) (in firmware Ver.1.2 and later) (Default : No) • Prints labels with specified layout (Label) (in firmware Ver.3.0 and later) (Default: No)

Print Image

The sample program prints the following:

Your Number
(ePOS-Print API)



Coupon
(ePOS-Print Canvas API)

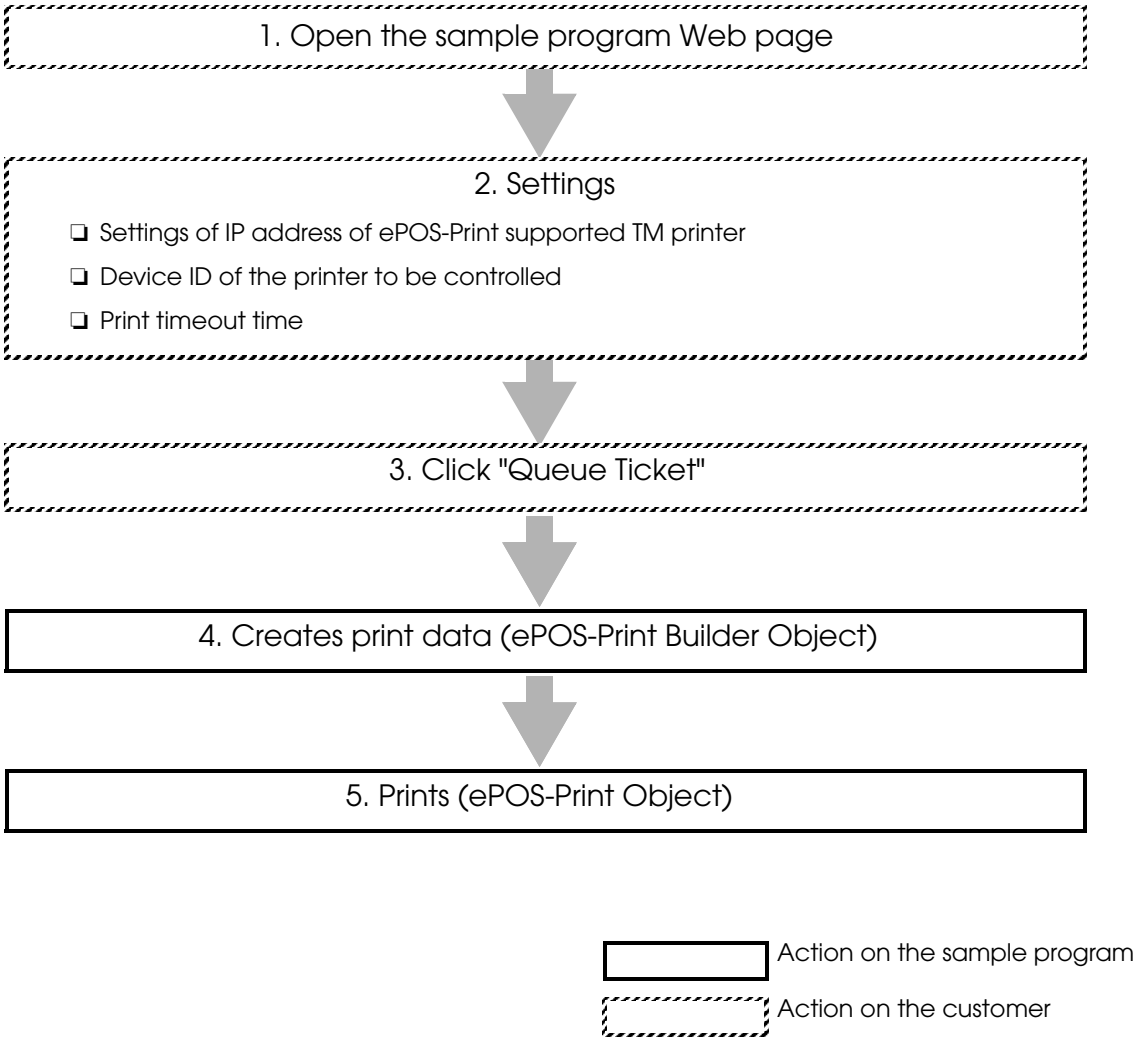
Label*
(ePOS-Print API)

*:Die cut label: mount width 58mm or above
Label size: width 54 mm x height 25.4 mm or above

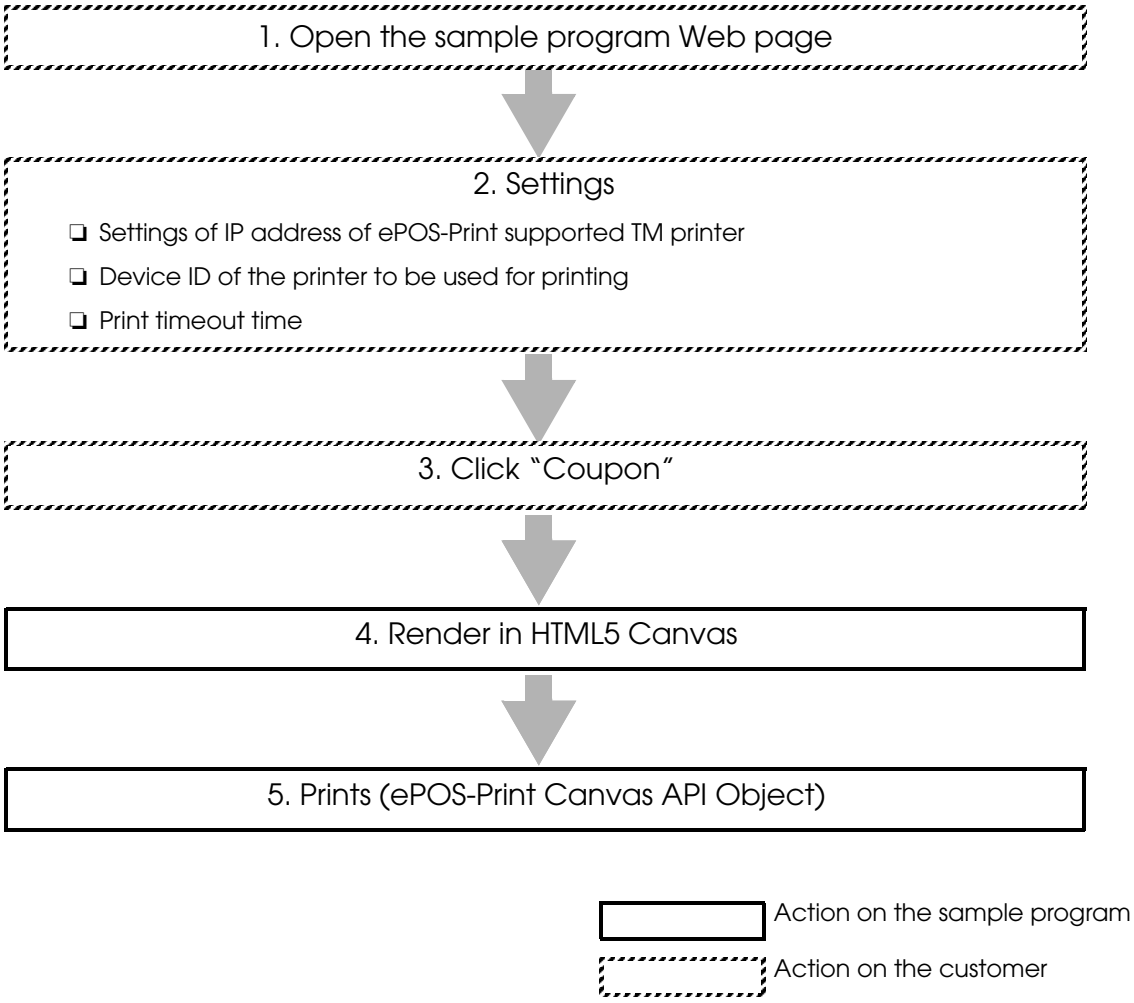
Program Flow

From its initial display state up to print job completion, the sample program flows as below.

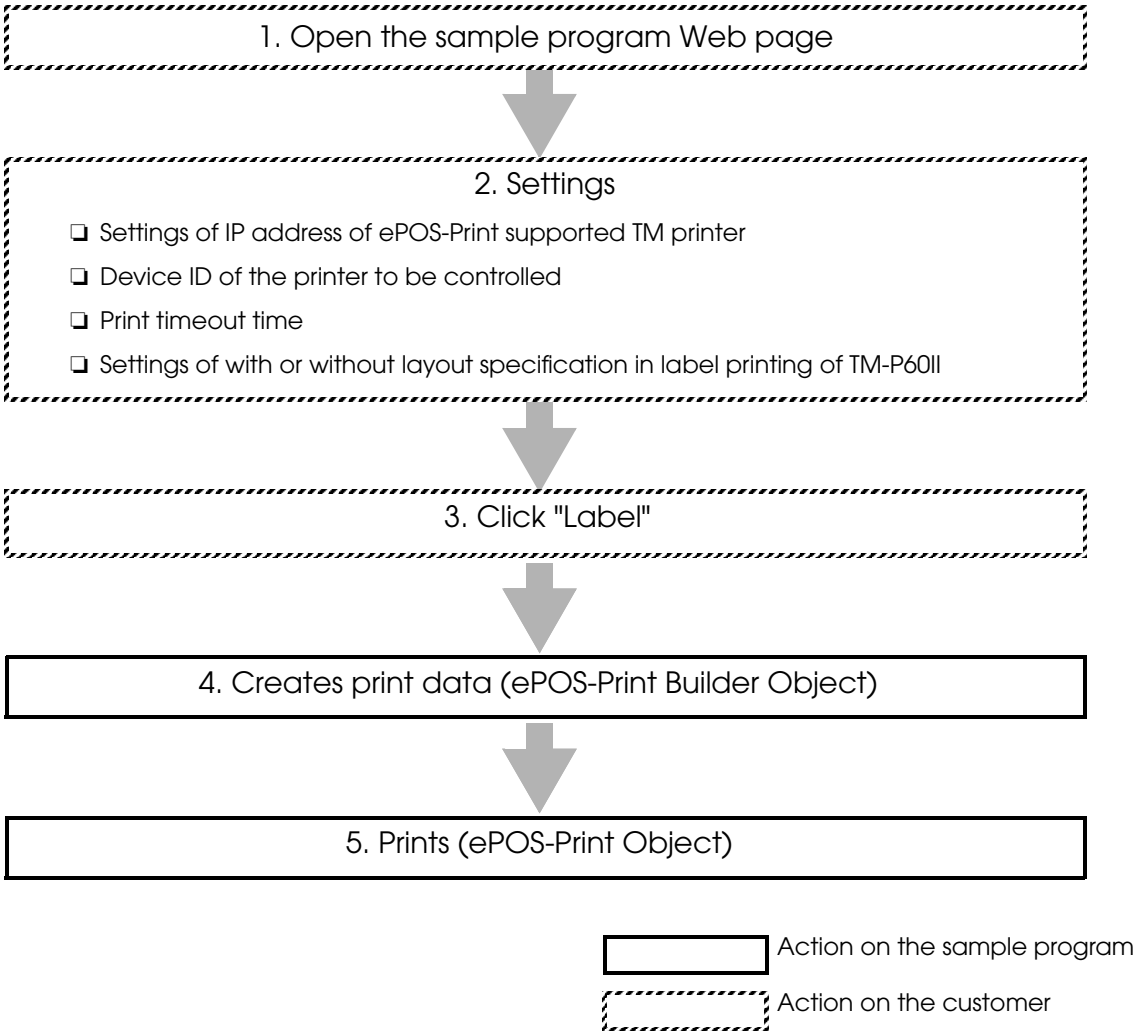
Queue ticket number issuance (ePOS-Print API)



Coupon issuance (ePOS-Print Canvas API)



Label issuance (ePOS-Print API)

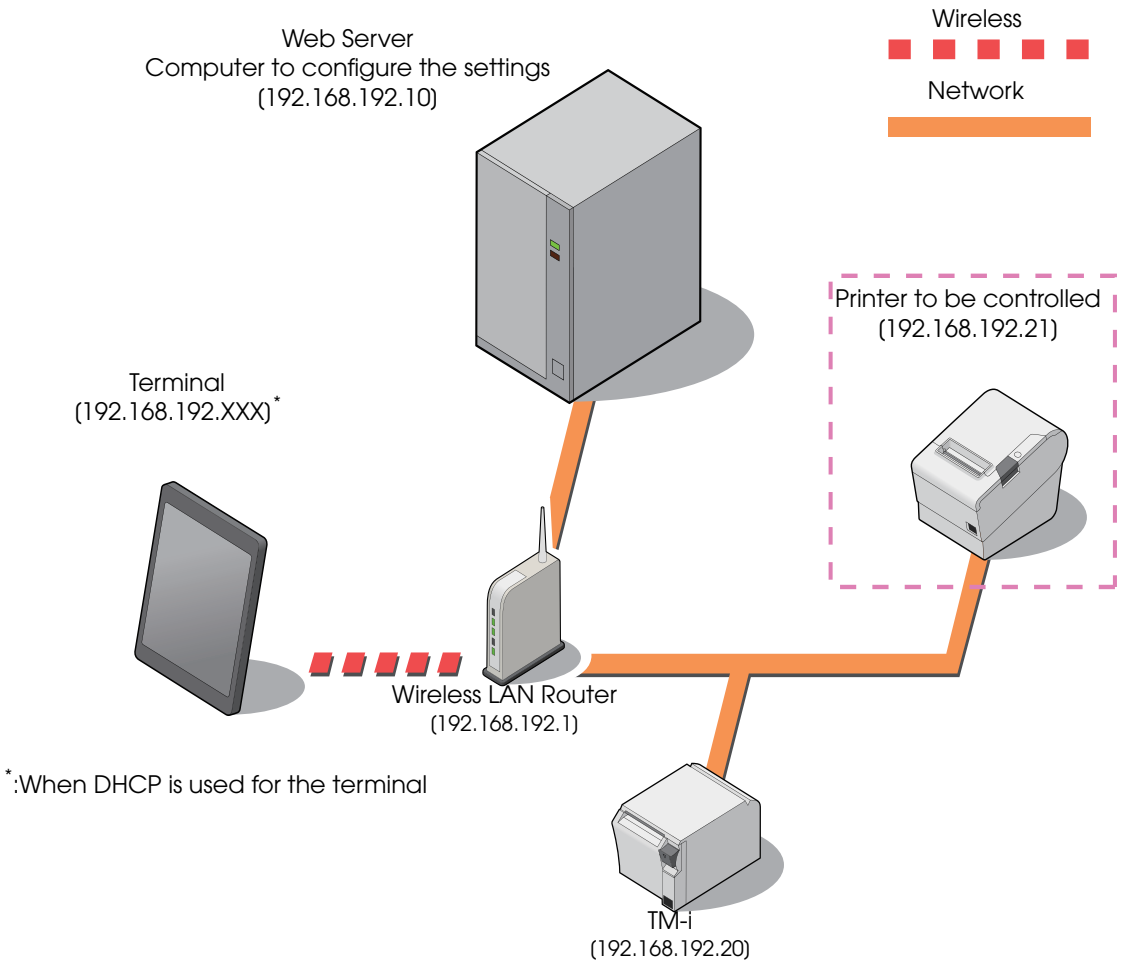


Operating Environment

TM-i

The system configuration diagram for the sample programs is as below.

- The figure below also describes an example of IP address settings as network settings.
- In the sample program, "Printer to be controlled" is not required. Refer to it if necessary.



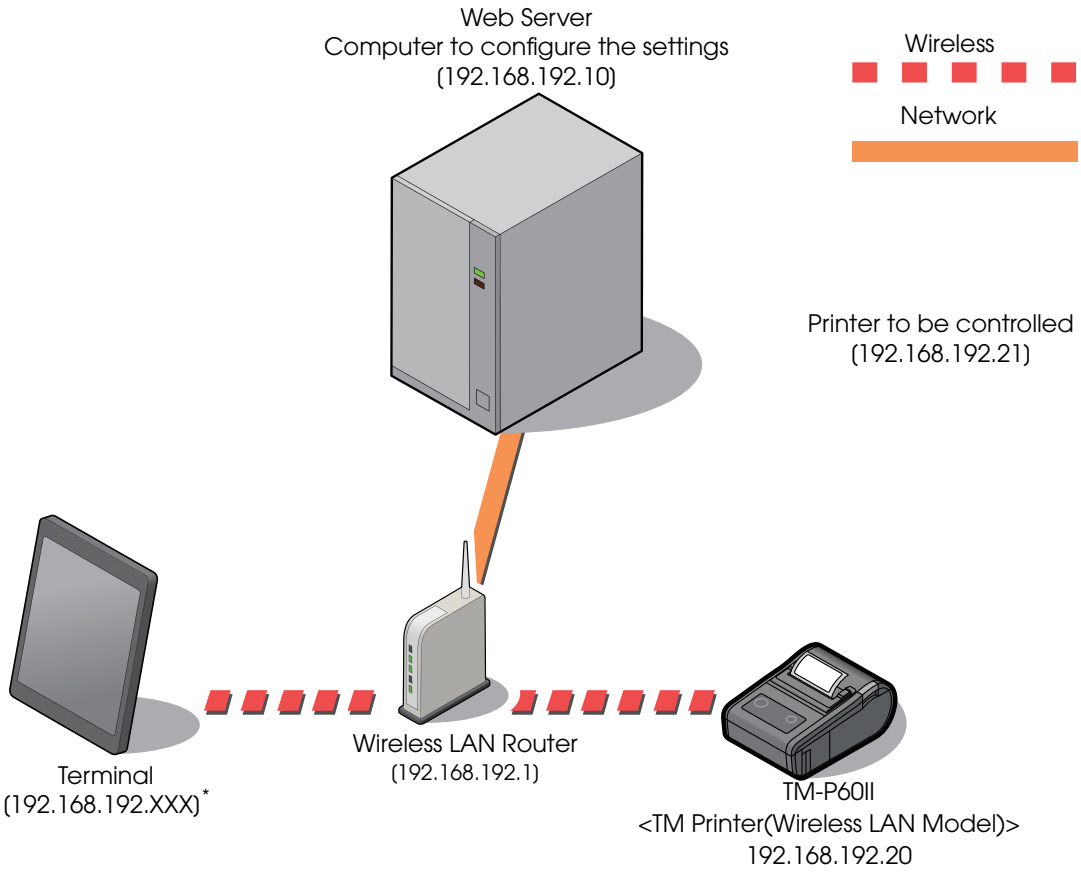
*:When DHCP is used for the terminal

- ❏ Web server/computer to configure the settings
  (Descriptions here are made assuming that the Web server is the same as the computer to configure the settings.)
- ❏ Wireless LAN Router
- ❏ TM-i (1 set)
- ❏ Terminal
  Terminal with an HTML5-supported Web browser

TM Printer (Wireless LAN Model)

The system configuration diagram for the sample programs is as below.

- The figure below also describes an example of IP address settings as network settings.



❏ Web server/computer to configure the settings
(Descriptions here are made assuming that the Web server is the same as the computer to configure the settings.)

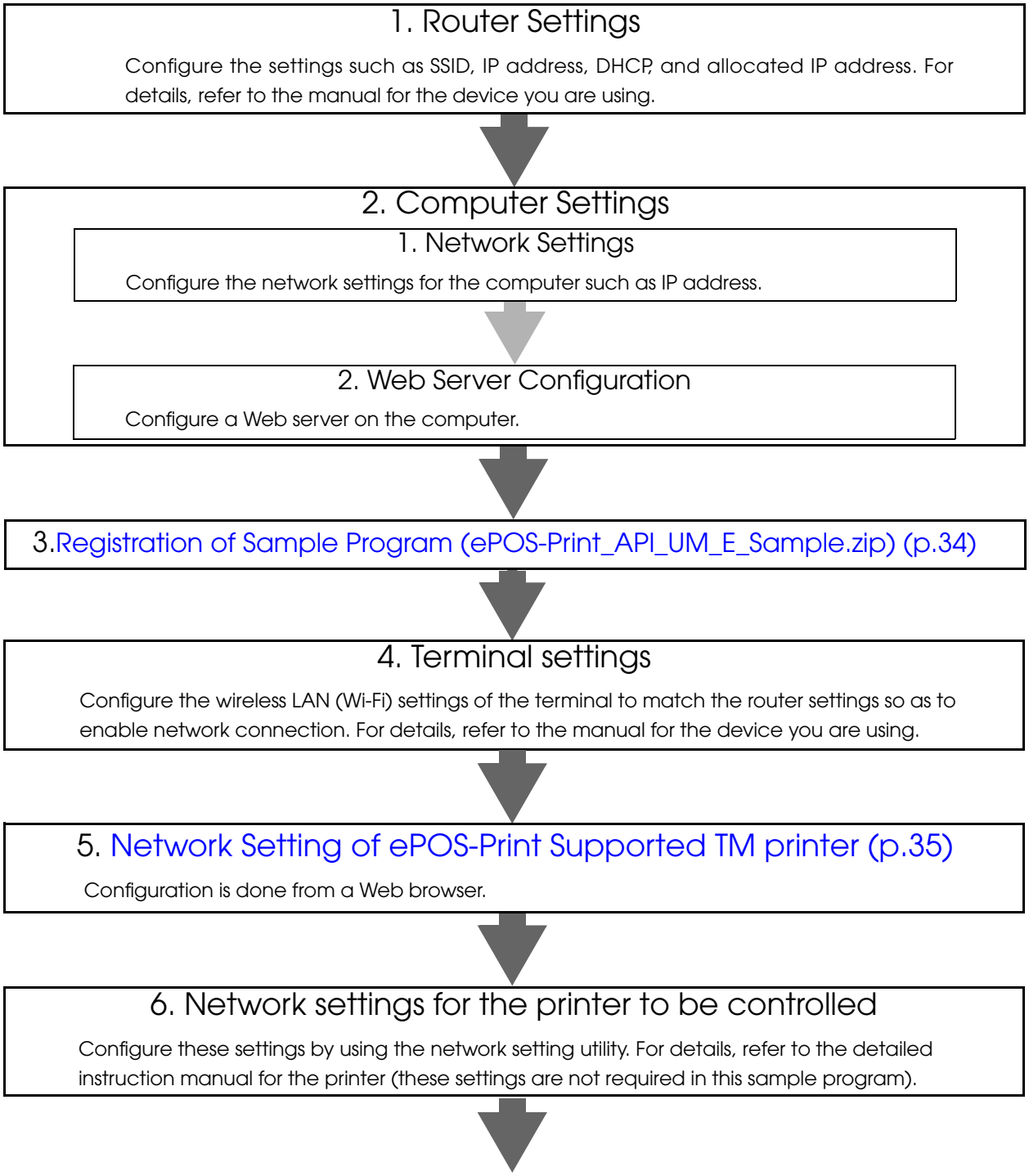
❏ Wireless LAN Router

❏ TM Printer(Wireless LAN Model) (1 set)
TM-P60II

❏ Terminal
Terminal with an HTML5-supported Web browser

Environment Settings

A flow for configuring the environment settings for the sample program is shown as follows:



7. Device ID Settings (p.37)

Configuration is done from a Web browser(these settings are not required in this sample program).

8. Sample Program Settings (p.39)

Configuration is done from a Web browser(these settings are not required in this sample program).

Registration of Sample Program (ePOS-Print_API_UM_E_Sample.zip)

Register the sample program into the Web server.

Download ePOS-Print_API_UM_E_Sample.zip.
For details, refer to Contents in the package (p. 21).

Register the program according to the following procedure:

1. Start the Web server.

2. Explode the sample program (ePOS-Print_API_UM_E_Sample.zip) and then copy the exploded contents into the following folder:

   Example: Web server configured by using IIS
   System drive:\ Inetpub\wwwroot

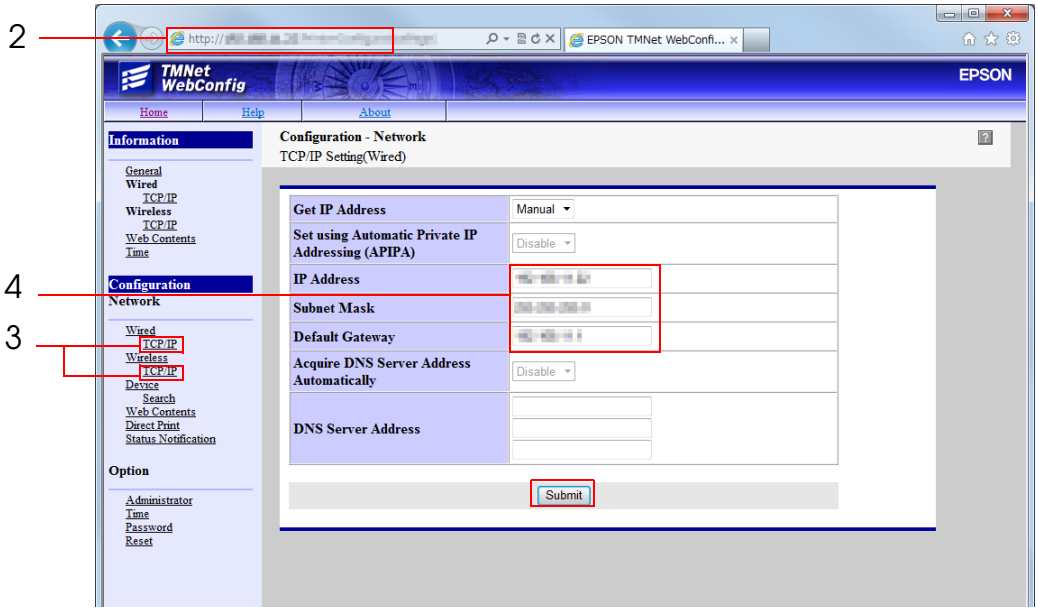
Copy the sample program as a user with administrator authority.

Network Setting of ePOS-Print Supported TM printer

❑ TM-i (p. 35)
❑ TM Printer for Wireless LAN Model (p. 36)

TM-i

Use TMNet WebConfig to configure the network settings such as IP address for the printer.



Configure the settings according to the following procedure:

1 Connect the printer to the network and turn the power ON.

2 Start the Web browser and type the URL of the TM-i interface into the address bar. Enter the password.

http://(IP address of the TM intelligent printer)/PrinterConfigurationPage/

> The initial value for the IP address of the TM-i is a DHCP-assigned address number. (Firmware Ver.3.0 or later)
> If an address fails to be assigned via DHCP, the value becomes "192.168.192.168".

3 TMNet WebConfig starts.
Select as (Configuration) - (Wired / Wireless) - (TCP/IP).

4 The "TCP/IP Setting" screen appears.
Configure the network settings for the TM-i and click (Submit).

5 Print the status sheet using the TM-i to check that the IP address has been updated.

TM Printer for Wireless LAN Model

1. Connect the printer to a PC via the USB cable.
2. Turn on the printer.
3. Start up EpsonNet Config.
4. Double-click on the printer.

5. Configure the (Network) settings and the (TCP/IP) settings.
6. Disconnect the USB cable, turn off the printer, and then turn it back on.

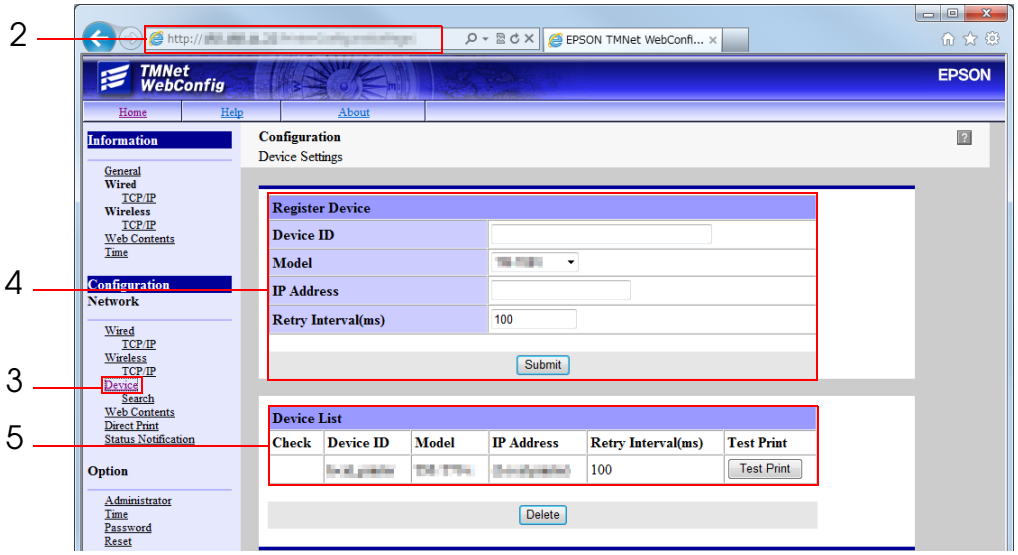
Device ID Settings

❑ TM-i (p. 37)
❑ TM Printer for Wireless LAN Model (p. 38)

TM-i

Set the Device ID of the printer to be controlled by ePOS-Print into the TM-i. Use TMNet WebConfig to set the Device ID.

> In the sample program, "Device ID Settings" are not required. Refer to it if necessary.



Configure the settings according to the following procedure:

1 Connect all the printers to the network and turn their power ON.

2 Start the Web browser and enter the IP address set in Network Setting of ePOS-Print Supported TM printer (p.35).

3 TMNet WebConfig starts.
Select as (Configuration)-(Device).

4 The "Device Settings" screen appears. Set the following and click (Register).

Item	Description
Device ID	Specifies the ID to identify the printer to be controlled by ePOS-Print.
Model	Specifies the model of the printer to be controlled.
IP Address	Specifies the IP address of the printer to be controlled.
Retry Interval (ms)	Specifies the interval of retry toward the printer to be controlled, in milliseconds.

5 Information on the registered devices is displayed in (Device List).
Click (Test Print) for each registered printer to check that it operates correctly.

TM Printer for Wireless LAN Model

Configure the settings according to the following procedure:

1 Turn on the printer.

2 Start the Web browser and type the IP address of the TM printer into the address bar.

3 EpsonNet Config (Web version) is launched. Select (Configuration)-(ePOS-Print).

4 Set device ID.

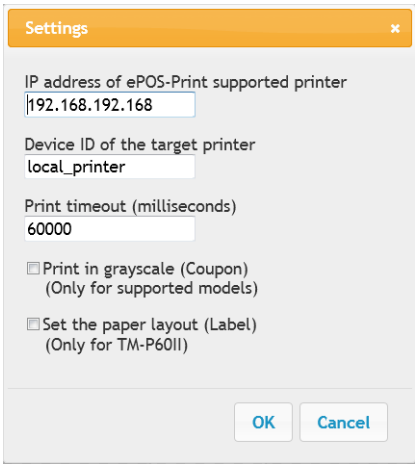
Sample Program Settings

Configure the settings for the sample program according to the procedure below.

> In the sample program, "Device ID Settings" are not required. Refer to it if necessary.

1. Start the Web server.
2. Connect all the printers to the network and turn their power ON.
3. Open the following URL page using the Web browser.
   http://Web server IP address/sample/index.html
4. The sample program page opens. Click (Settings).

5 The "Settings" screen appears. Specify the following and click (OK).



Item	Description
IP address of the intelligent printer	Specifies the IP address of the ePOS-Print supported TM printer. (Default value: * TM-i: DHCP (If an address fails to be assigned via DHCP, the value becomes "192.168.192.168".) * TM Printer: 192.168.192.168)
Device ID of the target printer	Specifies the Device ID of the printer to print queue ticket numbers and coupons. (Default value: local_printer)
Print timeout (millisecond)	Specifies the timeout time. (default : 60000)
Print in grayscale (Coupon) (Only for supported models)	Prints coupons in gray scale. (Default: No)
Set the paper layout (Label) (Only for TM-P60II)	Prints labels with specified layout (Default: No)

Programming Guide

This chapter describes how to write programs in the application development using ePOS-Print.

ePOS-Print API

Print Mode

There are two types of print modes: standard and page modes.

Standard mode

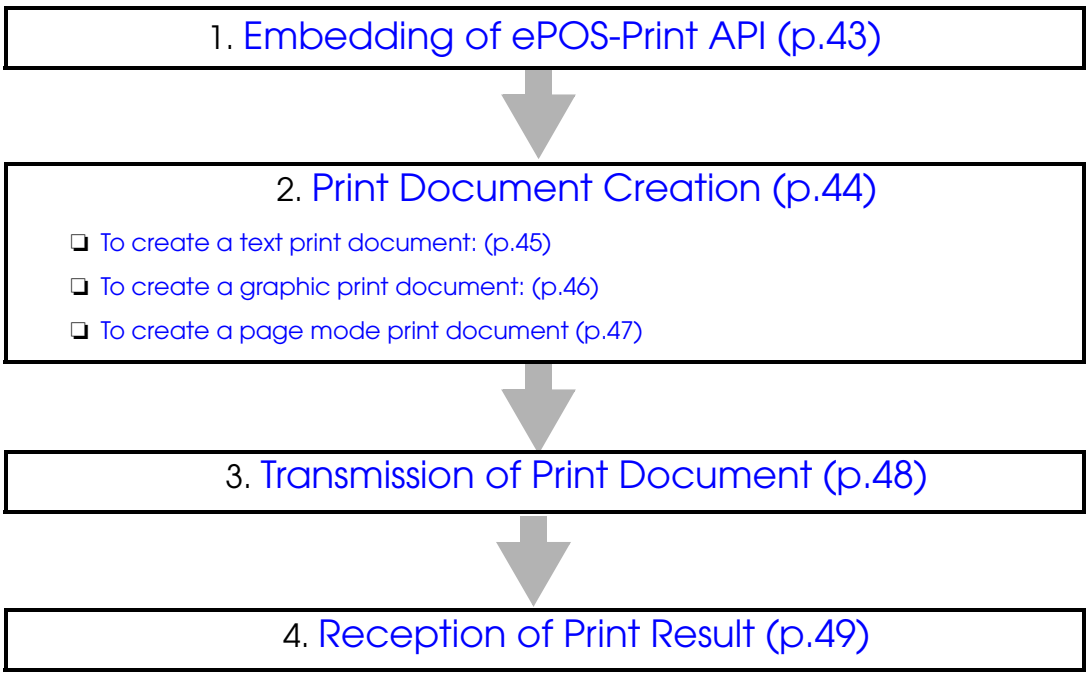
In standard mode, characters are printed line by line. The line feed space is adjusted based on the font size and the height of images, barcodes, etc. This mode is suitable for the type of printing such as printing receipts that requires the paper length to change according to the print space.

Page mode

In page mode, you set a print area, lay out data in it, and print the data in a batch operation. Characters, images, and barcodes are laid out in the print positions (coordinates).

Programming Flow

For the ePOS-Print API, programming is performed based on the following work flow:



- ePOS-Print supported TM printer checks the status of the TM printer to be used for printing and then starts printing operation. (in firmware Ver.1.2 and later)
- A status event helps check the status of the TM printer. For details on the procedure, refer to Reception of Status Event (p. 51). (in firmware Ver.1.2 and later)

Embedding of ePOS-Print API

The ePOS-Print API is provided so that ePOS-Print can be used from the JavaScript on the client side.
It is provided as JavaScript, and its file name is "epos-print-3.x.x.js".
The ePOS-Print API is used by embedding epos-print-3.x.x.js into applications.

Preparation

To use the ePOS-Print API, place epos-print-3.x.x.js on the Web server.

Embedding into Web pages

Embed the script into the Web page by using the HTML <script> tags.

```
<!DOCTYPE html>
<html>
<head>
<meta charset="utf-8" />
<title>TITLE</title>
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
  function buildMessage() {
    var builder = new epson.ePOSBuilder();
                  .
                  .
  }
</script>
</head>

<body>
   .
   .
</body>
</html>
```

Embed

Print Document Creation

A print document is created using an ePOS-Print Builder object.
Create an ePOS-Print Builder object using the constructor for it; create a print document using the object's methods; and then acquire that print document using the toString method. For details, refer to List of API functions (p.59).
Refer to the following program for print document creation.

```
<!DOCTYPE html>
<html>
<head>
<meta charset="utf-8" />
<title>TITLE</title>
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
  function buildMessage() {
    //Create an ePOS-Print Builder object
    var builder = new epson.ePOSBuilder();
    //Create a print document
    builder.addTextLang('en')
    builder.addTextSmooth(true);
    builder.addTextFont(builder.FONT_A);
    builder.addTextSize(3, 3);
    builder.addText('Hello,\tWorld!\n');
    builder.addCut(builder.CUT_FEED);
    //Acquire the print document
    var request = builder.toString();
    alert(request);
  }
</script>
</head>
<body>
  <button onclick="buildMessage()">Run</button>
</body>
</html>
```

Create a print document

To create a text print document:

To create a text print document, store the font settings into the command buffer using text methods and then create a print document. Refer to the following program.

For the string "Hello World!", to create a print document based on the following settings:

- ❏ Font: FontA
- ❏ Scale: x 4 (horizontal) and x 4 (vertical)
- ❏ Style: Bold

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
  function buildMessage() {
    //Create an ePOS-Print Builder object
    var builder = new epson.ePOSBuilder();
    //Create a print document
    //<Configure the print character settings>
    builder.addTextLang('en');
    builder.addTextSmooth(true);
    builder.addTextFont(builder.FONT_A);
    builder.addTextSize(4, 4);
    builder.addTextStyle(false, false, true, undefined);
    //<Specify the print data>
    builder.addText('Hello,\tWorld!\n');
    builder.addCut(builder.CUT_FEED);
    //Acquire the print document
    var request = builder.toString();
  }
</script>
```

To create a graphic print document:

To create a graphic print document, store a raster image obtained by rendering an image in HTML5 Canvas into the command buffer using the addImage method. Refer to the following program.

To create a print document for the image file “logo.bmp”

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
  function buildMessage() {
    //Create an ePOS-Print Builder object
    var builder = new epson.ePOSBuilder();
    //Render an image in HTML5 Canvas
    var canvas = document.getElementById('canvas');
    var context = canvas.getContext('2d');
    context.drawImage(document.getElementById('logo'), 0, 0, 200, 70);
    //Create a print document
    builder.addTextAlign(builder.ALIGN_CENTER);
    builder.addImage(context, 0, 0, canvas.width, canvas.height, builder.COLOR_1);
    builder.addCut(builder.CUT_FEED);
    //Acquire the print document
    var request = builder.toString();
  }
</script>
```

This section describes how to print a raster image. In addition, there is also a method of printing graphics registered in the NV memory of the printer. For details, refer to addLogo method (p.89).

To create a page mode print document

When the addPageBegin method is stored in the command buffer, the page mode starts. Store the print area (addPageArea method) and the print start position (addPagePosition method) into the command buffer. Specify the print start position according to the print data. After that, store the methods into the command buffer to create print data. For the end of page mode, store the PageEnd method into the command buffer.

For the string "Hello World!", to create a print document based on the following settings:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
  function buildMessage() {
       //Create an ePOS-Print Builder object
    var builder = new epson.ePOSBuilder();
      //Create a print document
      //<The page mode starts>
    builder.addPageBegin();
      //<Specify the page mode print area>
    builder.addPageArea(100, 50, 200, 100);
      //<Specify the page mode print position>
    builder.addPagePosition(0, 42);
      //<Specify the print data>
    builder.addTextLang('en');
    builder.addTextFont(builder.FONT_A);
    builder.addTextSize(4, 4);
    builder.addTextStyle(false, false, true, undefined);
    builder.addText('Hello,\tWorld!\n');
      //<The page mode ends>
    builder.addPageEnd();
    builder.addCut(builder.CUT_FEED);
      //Acquire the print document
    var request = builder.toString();
  }
</script>
```

Transmission of Print Document

A print document is sent using an ePOS-Print object.
Create an ePOS-Print object using the constructor and specify the end point address for the printer to be used for printing as well as the print document into the send method to send the document.
For the details about the printer end point address, refer to Printer End Point Address (p.48).
Refer to the following program.

```
<!DOCTYPE html>
<html>
<head>
<meta charset="utf-8" />
<title>TITLE</title>
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
  function buildMessage() {
    //Create a print document
    var builder = new epson.ePOSBuilder();
    builder.addTextLang('en');
    builder.addTextSmooth(true);
    builder.addTextFont(builder.FONT_A);
    builder.addTextSize(3, 3);
    builder.addText('Hello,\tWorld!\n');
    builder.addCut(builder.CUT_FEED);
    var request = builder.toString();

    //Set the end point address
    var address = 'http://192.168.192.168/cgi-bin/epos/
                   service.cgi?devid=local_printer&timeout=10000';
    //Create an ePOS-Print object
    var epos = new epson.ePOSPrint(address);
    //Send the print document
    epos.send(request);
  }
</script>
</head>
<body>
  <button onclick="buildMessage()">Run</button>
</body>
</html>
```

Transmission of print document

Printer End Point Address

Specify the printer end point address in the following format:
http://(domain)/cgi-bin/epos/service.cgi?devid=(device ID)&timeout=(timeout time)

Items to specify	Description
Domain	Specify IP address or domain of ePOS-Print supported TM printer.
Device ID	Specifies the printer to be used for printing. Specify device ID registered with EpsonNet Config (Web version) of ePOS-Print supported TM printer or TMNet WebConfig of TM intelligent printer.
Timeout period	Specifies the time to abort the process in milliseconds. The timeout parameter is optional; when it is omitted, 60 seconds (60000) is set. When the timeout period elapses, the print job is canceled; the data already interpreted by the printer before the start of the print abort process is printed.

Reception of Print Result

The print result can be received by setting a callback function using the onreceive property (p. 148) of the ePOS-Print object. The following information is obtained:

- ❏ Print result
- ❏ Error code
- ❏ Printer status

The printer status can be obtained when communication with the printer is possible.

Refer to the following program. For the details about how to program a callback function in detail, refer to Error handling (p.50).

```
<!DOCTYPE html>
<html>
<head>
<meta charset="utf-8" />
<title>TITLE</title>
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
  function buildMessage() {
    //Create a print document
    var builder = new epson.ePOSBuilder();
    builder.addTextLang('en');
    builder.addTextSmooth(true);
    builder.addTextFont(builder.FONT_A);
    builder.addTextSize(3, 3);
    builder.addText('Hello,\tWorld!\n');
    builder.addCut(builder.CUT_FEED);
    var request = builder.toString();

    var address = 'http://192.168.192.168/cgi-bin/epos/
                   service.cgi?devid=local_printer&timeout=10000';
    //Create an ePOS-Print object
    var epos = new epson.ePOSPrint(address);
    //Set a response receipt callback function
    epos.onreceive = function (res) {
        //When the printing is not successful, display a message
        if (!res.success) {
            alert('A print error occurred');
        }
    }
    //Send the print document
    epos.send(request);
  }
</script>
</head>
<body>
  <button onclick="buildMessage()">Run</button>
</body>
</html>
```

Print result receipt callback function

Error handling

Refer to the following program for the error handling method by a callback function.

```
//Create an ePOS-Print object
var epos = new epson.ePOSPrint(address);
// Set a response receipt callback function
epos.onreceive = function (res) {
    // Obtain the print result and error code
    var msg = 'Print' + (res.success ? 'Success' : 'Failure') + '\nCode:' + res.code
                                                              + '\nStatus:\n';
    // Obtain the printer status
    var asb = res.status;
    if (asb & epos.ASB_NO_RESPONSE) {
                msg += ' No printer response\n';
            }
            if (asb & epos.ASB_PRINT_SUCCESS) {
                msg += ' Print complete\n';
            }
            if (asb & epos.ASB_DRAWER_KICK) {
                msg += ' Status of the drawer kick number 3 connector pin = "H"\n';
            }
            if (asb & epos.ASB_OFF_LINE) {
                msg += ' Offline status\n';
            }
            if (asb & epos.ASB_COVER_OPEN) {
                msg += ' Cover is open\n';
            }
            if (asb & epos.ASB_PAPER_FEED) {
                msg += ' Paper feed switch is feeding paper\n';
            }
            if (asb & epos.ASB_WAIT_ON_LINE) {
                msg += ' Waiting for online recovery\n';
            }
            if (asb & epos.ASB_PANEL_SWITCH) {
                msg += ' Panel switch is ON\n';
            }
            if (asb & epos.ASB_MECHANICAL_ERR) {
                msg += ' Mechanical error generated\n';
            }
            if (asb & epos.ASB_AUTOCUTTER_ERR) {
                msg += ' Auto cutter error generated\n';
            }
            if (asb & epos.ASB_UNRECOVER_ERR) {
                msg += ' Unrecoverable error generated\n';
            }
            if (asb & epos.ASB_AUTORECOVER_ERR) {
                msg += ' Auto recovery error generated\n';
            }
            if (asb & epos.ASB_RECEIPT_NEAR_END) {
                msg += ' No paper in the roll paper near end detector\n';
            }
            if (asb & epos.ASB_RECEIPT_END) {
                msg += ' No paper in the roll paper end detector\n';
            }
            if (asb & epos.ASB_BUZZER) {
                msg += ' Sounding the buzzer (limited model)\n';
            }
            if (asb & epos.ASB_SPOOLER_IS_STOPPED) {
                msg += ' Stop the spooler\n';
    }
    //Display in the dialog box
    alert(msg);
}
```

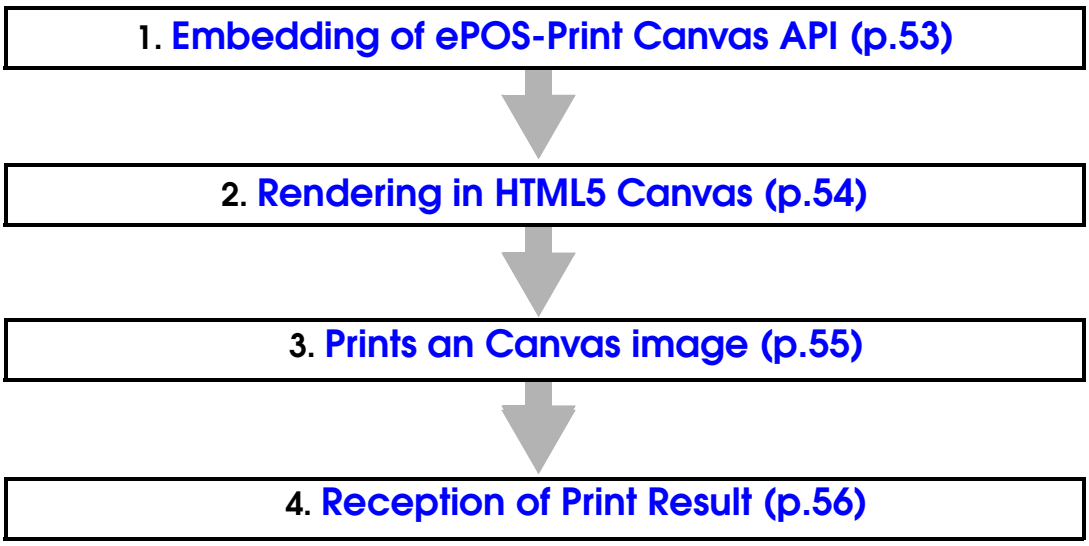
Reception of Status Event

The status event notification function is used to check the printer status without printing. (in firmware Ver.1.2 and later) Refer to the following:

```
//Set the end point address
var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer
                                                                &timeout=10000';
//Create an ePOS-Print Builder object
var builder = new epson.ePOSBuilder(address);

//Set an event callback function (cover open)
epos.oncoveropen = function () {
  alert('coveropen');
};

//Set an event callback function (paper near end)
epos.onpapernearend = function () {
  alert('papernearend');
};

//Enable status event operation
epos.open();
```

ePOS-Print Canvas API

For the ePOS-Print Canvas API, programming is performed based on the following work flow:



- ePOS-Print supported TM printer starts printing after checking the status of TM printer.
- A status event helps check the status of the TM printer. For details on the procedure, refer to Reception of Status Event (p. 51).

Embedding of ePOS-Print Canvas API

The ePOS-Print Canvas API is provided as JavaScript. And its file name is "epos-print-3.x.x.js".
It is used by embedding epos-print-3.x.x.js into applications.

Preparation

To use the ePOS-Print Canvas API, place epos-print-3.x.x.js on the Web server.

Embedding into Web pages

Embed the script into the Web page by using the HTML <script> tags.

```
<!DOCTYPE html>
<html>
<head>
<meta charset="utf-8" />
<title>TITLE</title>
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
  function drawCanvas() {
                  .
                  .
  }
</script>
</head>

<body>
    .
    .
</body>
</html>
```

Embed

Rendering in HTML5 Canvas

Render an image in HTML5 Canvas.

```
<!DOCTYPE html>
<html>
<head>
<meta charset="utf-8" />
<title>TITLE</title>
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
  function drawCanvas() {
    // Rendering in HTML5 Canvas
    //<Obtain the context>
    var canvas = document.getElementById('myCanvas');
    var context = canvas.getContext('2d');
    //<Render an image>
    context.clearRect(0, 0, 512, 480);
    context.drawImage(document.getElementById('coffee'), 0, 0
                      , 512, 384);
    context.fillStyle = 'rgba(255, 255, 255, 0.5)';
    context.fillRect(0, 0, 512, 480);
    context.fillStyle = 'rgba(0, 0, 0, 1.0)';
    //<Render a water mark for the image>
    context.drawImage(document.getElementById('wmark'), 0, 0);
    context.drawImage(document.getElementById('wmark'), 256, 324);
    //<Render text>
    context.textAlign = 'center';
    context.textBaseline = 'alphabetic';
    context.font = 'bold normal normal 48px "Times New Roman", serif';
    context.fillText('FREE Coffee', 256, 224);

  }
</script>
</head>
<body>
  <button onclick="drawCanvas()">Run</button>
  <canvas id="myCanvas" width="512" height="480"></canvas>
  <img id="coffee" src="img/coffee.jpg" alt="">
  <img id="wmark" src="img/wmark.png" alt="">
</body>
</html>
```

Rendering in HTML5 Canvas

Prints an Canvas image

Content drawn in HTML5 Canvas is printed using the ePOS-Print Canvas API.
Create an ePOS-Print Canvas API object using the constructor; for the Print method, specify the end point address for the printer to be used for printing as well as the canvas content and whether to select paper cut; and then print a document. For the details about the printer end point address, refer to Printer End Point Address (p.48).
Refer to the following program.

```
<!DOCTYPE html>
<html>
<head>
<meta charset="utf-8" />
<title>TITLE</title>
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
  function drawCanvas() {
    // Rendering in HTML5 Canvas
    //<Obtain the context>
    var canvas = document.getElementById('myCanvas');
    var context = canvas.getContext('2d');
           .
           .
           .
    //Set the end point address
    var address = 'http://192.168.192.168/cgi-bin/epos/
                   service.cgi?devid=local_printer&timeout=10000';
    //Create an ePOS-Print Canvas API object
    var epos = new epson.CanvasPrint(address);
      //Print
    epos.cut = true;
    epos.print(canvas);
  }
</script>
</head>
<body>
  <button onclick="drawCanvas()">Run</button>
  <canvas id="myCanvas" width="512" height="480"></canvas>
  <img id="coffee" src="img/coffee.jpg" alt="">
  <img id="wmark" src="img/wmark.png" alt="">
</body>
</html>
```

Transmission of print document

For the details about the printer end point address, refer to Printer End Point Address (p.48).

Reception of Print Result

The print result can be received by setting a callback function using the onreceive property (p. 148) of the ePOS-Print Canvas API object. The following information is obtained:

- ❏ Print result
- ❏ Error code
- ❏ Printer Status

The printer status can be obtained when communication with the printer is possible.

Refer to the following program. For the details about how to program a callback function in detail, refer to Error handling (p.50).

```
<!DOCTYPE html>
<html>
<head>
<meta charset="utf-8" />
<title>TITLE</title>
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
  function drawCanvas() {
    // Rendering in HTML5 Canvas
    //<Obtain the context>
    var canvas = document.getElementById('myCanvas');
    var context = canvas.getContext('2d');
           .
           .
           .

    //Set the end point address
    var address = 'http://192.168.192.168/cgi-bin/epos/
                   service.cgi?devid=local_printer&timeout=10000';
    //Create an ePOS-Print Canvas API object
    var epos = new epson.CanvasPrint(address);
    //Set a response receipt callback function
    epos.onreceive = function (res) {
        //When the printing is not successful, display a message
        if (!res.success) {
            alert('A print error occurred');
        }
    }
      //Print
    epos.cut = true;
    epos.print(canvas);
  }
</script>
</head>
<body>
  <button onclick="drawCanvas()">Run</button>
  <canvas id="myCanvas" width="512" height="480"></canvas>
  <img id="coffee" src="img/coffee.jpg" alt="">
  <img id="wmark" src="img/wmark.png" alt="">
</body>
</html>
```

Print result receipt callback function

Error handling

Refer to the following program for the error handling method by a callback function.

```
var epos = new epson.CanvasPrint(address);
// Set a response receipt callback function
epos.onreceive = function (res) {
    // Obtain the print result and error code
    var msg = ''Print ' + (res.success ? 'Success' : 'Failure') + '\nCode:'
                                                        + res.code + '\nStatus:\n';
    // Obtain the printer status
    var asb = res.status;
    if (asb & epos.ASB_NO_RESPONSE) {
                msg += ' No printer response\n';
            }
            if (asb & epos.ASB_PRINT_SUCCESS) {
                msg += ' Print complete\n';
            }
            if (asb & epos.ASB_DRAWER_KICK) {
                msg += ' Status of the drawer kick number 3 connector pin = "H"\n';
            }
            if (asb & epos.ASB_OFF_LINE) {
                msg += ' Offline status\n';
            }
            if (asb & epos.ASB_COVER_OPEN) {
                msg += ' Cover is open\n';
            }
            if (asb & epos.ASB_PAPER_FEED) {
                msg += ' Paper feed switch is feeding paper\n';
            }
            if (asb & epos.ASB_WAIT_ON_LINE) {
                msg += ' Waiting for online recovery\n';
            }
            if (asb & epos.ASB_PANEL_SWITCH) {
                msg += ' Panel switch is ON\n';
            }
            if (asb & epos.ASB_MECHANICAL_ERR) {
                msg += ' Mechanical error generated\n';
            }
            if (asb & epos.ASB_AUTOCUTTER_ERR) {
                msg += ' Auto cutter error generated\n';
            }
            if (asb & epos.ASB_UNRECOVER_ERR) {
                msg += ' Unrecoverable error generated\n';
            }
            if (asb & epos.ASB_AUTORECOVER_ERR) {
                msg += ' Auto recovery error generated\n';
            }
            if (asb & epos.ASB_RECEIPT_NEAR_END) {
                msg += ' No paper in the roll paper near end detector\n';
            }
            if (asb & epos.ASB_RECEIPT_END) {
                msg += ' No paper in the roll paper end detector\n';
            }
            if (asb & epos.ASB_BUZZER) {
                msg += ' Sounding the buzzer (limited model)\n';
            }
            if (asb & epos.ASB_SPOOLER_IS_STOPPED) {
                msg += ' Stop the spooler\n';
    }
    //Display in the dialog box
    alert(msg);
}
```

Reception of Status Event

The status event notification function is used to check the printer status without printing. (in firmware Ver.1.2 and later) Refer to the following.

```
//Set the end point address
var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer
                                                                &timeout=10000';

//Create an ePOS-Print Canvas API object
var epos = new epson.CanvasPrint(address);

//Set an event callback function (cover open)
epos.oncoveropen = function () {
  alert('coveropen');
};

//Set an event callback function (paper near end)
epos.onpapernearend = function () {
  alert('papernearend');
};

//Enable status event operation
epos.open();
```

ePOS-Print API

This chapter describes the ePOS-Print API.

List of API functions

ePOS-Print provides the following objects:

- ePOS-Print Builder (window.epson.ePOSBuilder) Object (p. 59)
- ePOS-Print (window.epson.ePOSPrint) Object (p. 63)

window.epson.ePOSBuilder Components

Element	API		Description	Standard mode	page mode	Page
Constructor						
	ePOS Builder		Initializes an ePOS-Print XML Builder object	●	●	65
Method						
	Text	addTextAlign	Adds a tag for the text alignment setting.	●	-	66
		addText-LineSpace	Adds a tag for the line feed space setting.	●	●	67
		addTextRotate	Adds a tag for the text rotation setting.	●	-	68
		addText	Adds a tag for printing text.	●	●	69
		addTextLang	Adds a tag for the target language setting.	●	●	70
		addTextFont	Adds a tag for the text font setting.	●	●	73
		addTextSmooth	Adds a tag for the text smoothing setting.	●	●	74
		addTextDouble	Adds a tag for specifying the double-sized text setting.	●	●	75
		addTextSize	Adds a tag for the text scale setting.	●	●	77
		addTextStyle	Adds a tag for the text style setting.	●	●	78
		addTextPosition	Adds a tag for specifying the print position of text.	●	●	80
		addTextVPosition	Adds a tag for specifying the print vertical position of text. (in firmware Ver.3.0 and later)	-	●	81

Element	API		Description	Standard mode	page mode	Page
Method						
	Paper Feed	addFeedUnit	Adds a tag for paper feeding (in dots).	●	●	82
		addFeedLine	Adds a tag for paper feeding (in lines).	●	●	83
		addFeedPosition	Adds control of label paper/black mark paper to command buffer	●	-	84
		addFeed	Adds a line feed to the command buffer.	●	-	86
	Graphic	addImage	Adds a tag for a raster image to be printed.	●	●	87
		addLogo	Adds a tag for an NV logo to be printed.	●	●	89
	Barcode	addBarcode	Adds a tag for a bar code to be printed.	●	●	90
		addSymbol	Adds a tag for a two-dimensional code to be printed.	●	●	95
	Ruled line	addHLine	Adds a tag for a horizontal line to be printed.	●	-	101
		addVLineBegin	Adds a tag for starting a vertical line.	●	-	103
		addVLineEnd	Adds a tag for finishing a vertical line.	●	-	105
	Page-mode	addPageBegin	Adds a tag for switching to page mode.	●	-	107
		addPageEnd	Adds a tag for finishing page mode.	●	-	108
		addPageArea	Adds a tag for specifying the print area in page mode.	-	●	109
		addPageDirection	Adds a tag for specifying the print direction in page mode.	-	●	111
		addPagePosition	Adds a tag for specifying the print position in page mode.	-	●	113
		addPageLine	Adds a tag for drawing a line in page mode.	-	●	115
		addPageRectangle	Adds a tag for drawing a rectangle in page mode.	-	●	117
	Cut	addCut	Adds a tag for paper cut.	-	●	119
	Drawer kick-out	addPulse	Adds a tag for the drawer kick-out.	●	-	121

Element	API		Description	Standard mode	page mode	Page
Method						
	Buzzer	addSound	Adds a tag for turning on the buzzer.	●	-	123
	Layout	addLayout	Adds the paper layout setup to command buffer (in firmware Ver.2.2 and later)	●	-	125
	Recovery	addRecovery	Adds a tag for recovering from an error. (in firmware Ver.3.0 and later)	●	-	130
	Reset	addReset	Adds a tag for resetting the printer. (in firmware Ver.3.0 and later)	●	-	131
	Send Command	addCommand	Adds commands to the command buffer. Sends ESC/POS commands.	●	●	132
	Create a Print Document	toString	Obtains a print document generated by on ePOS-Print Builder object.	●	-	133

● : Available, - : Not available

Element	API	Description	Page
Property			
	halftone	Raster image halftone processing method (in firmware Ver.1.2 and later)	134
	brightness	Raster image brightness correction value (in firmware Ver.1.2 and later)	135
	force	Forced transmission mode (in firmware Ver.3.0 and later)	136
	message	Message buffer	137
Constant			
	FONT_*	font	
	ALIGN_*	alignment	
	COLOR_*	color specification	
	HALFTONE_*	Halftone type (in firmware Ver.1.2 and later)	
	MODE_*	Color mode (in firmware Ver.1.2 and later)	
	BARCODE_*	bar code type	
	HRI_*	HRI position	
	SYMBOL_*	two-dimensional code type	
	LEVEL_*	error correction level	
	LINE_*	line style	
	DIRECTION_*	page mode print direction	
	CUT_*	paper cut type	
	DRAWER_*	drawer kick-out connector	
	PULSE_*	drawer kick-out pulse length	
Constant			
	PATTERN_*	buzzer sound pattern	
	FEED_*	Paper feed position of label paper/black mark paper	
	LAYOUT_*	Type of papers	

Numerical values to be set to parameters

In the ePOS-Print Builder object API, numerical values are set to some parameters. Set values with the following in mind:

❏ Unit

Specify numbers in dots for units that represent length.
(Print position, paper feed space, width and height of images and barcodes, etc.)

❏ Range

Depending on the printer specifications, a specifiable range is predetermined. For details, refer to Printer specifications (p.209).

❏ Resolution

The resolution varies depending on the printer. It affects the actual print size. The higher the resolution is, the smaller the print size becomes, and vice versa. For each printer's resolution, refer to Printer specifications (p.209).

window.epson.ePOSPrint Components

Element	API	Description	Page
Constructor			
	ePOS-Print	Initializes an ePOS-Print object	138
Method			
	send	Sends a message	139
	open	Enables status event operation (in firmware Ver.1.2 and later)	140
	close	Disables status event operation (in firmware Ver.1.2 and later)	141
Property			
	address	URL of the printer (in firmware Ver.1.2 and later)	142
	enabled	Enabling/disabling of status event (in firmware Ver.1.2 and later)	143
	interval	Printer status update interval (in firmware Ver.1.2 and later)	144
	status	Status	145
	battery	Battery status	146
	timeout	The connecting was timeout.	147
Event			
	onreceive	Response message receipt event	148
	onerror	Communication error event	151
	onstatuschange	Status change event (in firmware Ver.1.2 and later)	152
	onbatterystatuschange	Battery status chenge event (in firmware Ver.2.2 and later)	153
	ononline	Online event (in firmware Ver.1.2 and later)	153
	onoffline	Offline event (in firmware Ver.1.2 and later)	154
	onpoweroff	Non-response event (in firmware Ver.1.2 and later)	154
	oncoverok	Cover close event (in firmware Ver.1.2 and later)	155
	oncoveropen	Cover open event (in firmware Ver.1.2 and later)	155
	onpaperok	Paper remaining event (in firmware Ver.1.2 and later)	156
	onpapernearend	Paper near end event (in firmware Ver.1.2 and later)	156
	onpaperend	Paper end event (in firmware Ver.1.2 and later)	157

Element	API	Description	Page
Event			
	ondrawerclosed	Drawer close event (in firmware Ver.1.2 and later)	157
	ondraweropen	Drawer open event (in firmware Ver.1.2 and later)	158
	onbatteryok	Battery OK event (in firmware Ver.2.2 and later)	158
	onbatterylow	Battery low event (in firmware Ver.2.2 and later)	159
Constant			
	ASB_*	Status	

ePOS-Print Builder Object

This objects creates a print document for printer control commands that specify strings or graphics to be printed, paper cut, etc.

Constructor

Constructor for an ePOS-Print Builder object.
Creates a new ePOS-Print Builder object and initializes it.

Syntax

ePOSBuilder();

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
}
//-->
</script>
```

addTextAlign method

Adds the text alignment setting to the command buffer.

- This API setting is applied to raster image/NV logo/barcode/two-dimensional symbol.
- When using the standard mode, specify addTextAlign in "Position at the beginning of lines".
- In the page mode, addTextAlign method specification cannot be used.
  In the page mode, use the addTextPosition method to designate the horizontal print position.
- When the page mode is selected for the print mode, to set text rotation, use the addPageDirection method (p. 111) instead of this API function.

Syntax

```
addTextAlign(align);
```

Parameter

- align : (Required parameter, Object type : String)
  Specifies the text alignment.

Constant(align)	Description
ALIGN_LEFT (default)	Alignment to the left
ALIGN_CENTER	Alignment to the center
ALIGN_RIGHT	Alignment to the right

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To set alignment to the center:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addTextAlign(builder.ALIGN_CENTER);
}
//-->
</script>
```

addTextLineSpace method

Adds the line feed space setting to the command buffer.

Syntax

```
addTextLineSpace(linespc);
```

Parameter

- linespc : (Required parameter, Object type : Number)
  Specifies the line feed space (in dots). Specifies an integer from 0 to 255.

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To set the line feed space to 30 dots:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addTextLineSpace(30);
}
//-->
</script>
```

addTextRotate method

Adds the text rotation setting to the command buffer.

- This API setting also applies to barcodes/two dimensional symbols.
- When using the standard mode, specify addTextAlign in "Position at the beginning of lines".
- In the page mode, addTextAlign method specification cannot be used.
- When the page mode is selected for the print mode, to set text rotation, use the addPageDirection method (p.111) instead of this API function.

Syntax

```
addTextRotate(rotate);
```

Parameter

- rotate : (Required parameter, Object type : Boolean)
  Specifies whether to rotate text.

Setting	Description
true or 11	Specifies rotated printing of text.
false or 0 (default)	Cancels rotated printing of text.

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To set text rotation:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addTextRotate(true);
}
//-->
</script>
```

addText method

Adds the printing of text to the command buffer.

- After printing text, to print content other than text, execute line feed or paper feed.
- In page mode, characters are laid out in the current print position with the reference point being the character baseline dot (Printer specifications (p.209)).

Syntax

```
addText(data);
```

Parameter

- data : (Required parameter, Object type : String)
  Specify a character string to be printed.
  For the horizontal tab/line feed, use the following escape sequences:

String	Description
\t	Horizontal tab(HT)
\n	Line feed (LF)
\\	Carriage return

Return valueReturn value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To add character strings:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addText('Hello,\t').addText('World\n');
}
//-->
</script>
```

addTextLang method

Adds the language setting to the command buffer.

Syntax

```
addTextLang(lang);
```

Parameter

- lang : (Required parameter, Object type : String)
  Specifies the target language.

Setting	Language
en(default)	English(ANK)
de	German (ANK)
fr	French (ANK)
it	Italian (ANK)
es	Spanish (ANK)
ja	Japanese (International character set changes to Japan.)
ja-jp	Japanese (International character set changes to Japan.)
ko	Korean (International character set changes to Korean.)
ko-kr	Korean (International character set changes to Korean.)
zh-hans	Simplified Chinese(in firmware Ver.2.2 and later) (International character set changes to China.)
zh-cn	Simplified Chinese (International character set changes to China.)
zh-hant	Traditional Chinese(in firmware Ver.2.2 and later)
zh-tw	Traditional Chinese
Language code besides above	English(ANK)

Characters not installed in a printer cannot be printed.

For printable character code, refer to the Technical Reference Guide of your printer.

Depending on language specification, a part of characters is printed as follows.

Language	Characters $(U+0024)	Characters \(U+005C)
Japanese	$	¥
Korean	$	₩
Simplified Chinese	¥	\
Traditional Chinese	$	\

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To set the language as English:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addTextLang('en');
}
//-->
</script>
```

To set the language as Korean:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addTextLang('ko');
}
//-->
</script>
```

To set the language as Simplified Chinese:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addTextLang('zh-hans');
}
//-->
</script>
```

To set the language as Traditional Chinese:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addTextLang('zh-hant');
}
//-->
</script>
```

addTextFont method

Adds the text font setting to the command buffer.

Syntax

```
addTextFont(font);
```

Parameter

- font : (Required parameter, Object type : String)
  Specifies the font.

Constant (font)	Language
FONT_A (default)	Font A
FONT_B	Font B
FONT_C	Font C

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To set the font B:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addTextFont(builder.FONT_B);
}
//-->
</script>
```

addTextSmooth method

Adds the smoothing setting to the command buffer.

Syntax

addTextSmooth(smooth);

Parameter

- smooth : (Required parameter, Object type : Boolean)
  Specifies whether to enable smoothing.

Setting	Description
true or 1	Specifies smoothing.
false or 0 (default)	Cancels smoothing

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To enable smoothing:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addTextSmooth(true);
}
//-->
</script>
```

addTextDouble method

Adds the double-sized text setting to the command buffer.

Syntax

```
addTextDouble(dw, dh);
```

Parameter

- dw : (Optional parameter, Object type : Boolean)
  Specifies the double-sized width.

Setting	Description
true or 1	Specifies the double-sized width.
false or 0 (default)	Cancels the double-sized width
undefined (When not specified)	Retains the current setting for double-sized width.

- dh : (Optional parameter, Object type : Boolean)
  Specifies the double-sized height.

Setting	Description
true or 1	Specifies the double-sized height
false or 0 (default)	Cancels the double-sized height
undefined (When not specified)	Retains the current setting for double-sized height

When true or 1 is set for both the dw and dh parameters, double width and height characters are printed.

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To set the size as double width and height:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addTextDouble(true, true);
}
//-->
</script>
```

addTextSize method

Adds the text scale setting to the command buffer.

Syntax

```
addTextSize(width, height);
```

Parameter

- width : (Optional parameter, Object type : Number)
  Specifies the horizontal scale of text.

Setting	Description
Integer from 1 to 8	Horizontal scale (default : 1)
undefined (When not specified)	Retains the current setting for the horizontal scale.

- height : (Optional parameter, Object type : Number)
  Specifies the vertical scale of text.

Setting	Description
Integer from 1 to 8	Vertical scale (default : 1)
undefined (When not specified)	Retains the current setting for the vertical scale.

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To set a horizontal scale of x 4 and a vertical scale of x 4:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addTextSize(4, 4);
}
//-->
</script>
```

addTextStyle method

Adds the text style setting to the command buffer.

Syntax

```
addTextStyle(reverse, ul, em, color);
```

Parameter

- reverse : (Optional parameter, Object type : Boolean)
  Specifies inversion of black and white for text.

Setting	Description
true or 1	Specifies the inversion of black and white parts of characters.
false or 0 (default)	Cancels the inversion of black and white parts of characters.
undefined (When not specified)	Retains the current setting for inversion of black and white.

- ul : (Optional parameter, Object type : Boolean)
  Specifies the underline style.

Setting	Description
true or 1	Specifies underlining.
false or 0 (default)	Cancels underlining.
undefined (When not specified)	Retains the current underlining setting.

- em : (Optional parameter, Object type : Boolean)
  Specifies the bold style.

Setting	Description
true or 1	Specifies emphasized printing of characters.
false or 0 (default)	Cancels emphasized printing of characters.
undefined (When not specified)	Retains the current setting for emphasized printing.

- color : (Optional parameter, Object type : String)
  Specifies the color.

Setting	Description
COLOR_NONE	Characters are not printed.
COLOR_1 (default)	First color
COLOR_2	Second color
COLOR_3	Third color
COLOR_4	Fourth color
undefined (When not specified)	Retains the current color setting

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To set the underline style:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addTextStyle(undefined, true);
}
//-->
</script>
```

addTextPosition method

Adds the horizontal print start position of text to the command buffer.

Syntax

addTextPosition(x);

Parameter

- x : (Required parameter, Object type : Number)
  Specifies the horizontal print start position (in dots).
  Specifies an integer from 0 to 65535.

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To set the print position at 120 dots from the left end:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addTextPosition(120);
}
//-->
</script>
```

addTextVPosition method

Adds the vertical print start position of text to the command buffer. (in firmware Ver.3.0 and later)

Use this API function by inserting it between addPageBegin to addPageEnd.

Syntax

```
addTextVPosition(y);
```

Parameter

- y : (Required parameter, Object type : Number)
  Specifies the vertical print start position (in dots).
  Specifies an integer from 0 to 65535.

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To set the print position at 120 dots from the top:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addPageBegin();
  builder.addTextVPosition(120);
  builder.addPageEnd();
}
//-->
</script>
```

addFeedUnit method

Adds paper feeding in dots to the command buffer.

Syntax

addFeedUnit(unit);

Parameter

- unit : (Required parameter, Object type : Number)
  Specifies the paper feed space (in dots). Specifies an integer from 0 to 255.

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To feed paper by 30 dots:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addFeedUnit(30);
}
//-->
</script>
```

addFeedLine method

Adds paper feeding in lines to the command buffer.

Syntax

```
addFeedLine(line);
```

Parameter

- line : (Required parameter, Object type : Number)
  Specifies the paper feed space (in lines). Specifies an integer from 0 to 255.

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To feed paper by 3 lines:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addFeedLine(3);
}
//-->
</script>
```

addFeedPosition method

Adds label/black mark paper feeding to the command buffer. (Supported in firmware Ver.2.1 and later)

- Control of label paper/black mark paper must be done in the standard mode.
- In the page mode, addFeedPosition method specification cannot be used.

Syntax

```
addFeedPosition(pos);
```

Parameter

- pos : (Required parameter, Object type : String)
  Specifies the feed position.

Setting	Description
FEED_PEELING	Feeds to the peeling position.
FEED_CUTTING	Feeds to the cutting position.
FEED_CURRENT_TOF	Feeds to the top of the current label.
FEED_NEXT_TOF	Feeds to the top of the next label.

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To print while peeling the label one by one

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
    builder.addFeedPosition(builder.FEED_CURRENT_TOF);
    builder.addBarcode('0001', builder.BARCODE_CODE39, builder.HRI_BELOW);
    builder.addFeedPosition(builder.FEED_PEELING);
}
//-->
</script>
```

To print labels consecutively

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
    builder.addFeedPosition(builder.FEED_CURRENT_TOF);
    builder.addBarcode('0001', builder.BARCODE_CODE39, builder.HRI_BELOW);
    builder.addFeedPosition(builder.NEXT_TOF);
    builder.addBarcode('0002', builder.BARCODE_CODE39, builder.HRI_BELOW);
    builder.addFeedPosition(builder.NEXT_TOF);
    builder.addBarcode('0003', builder.BARCODE_CODE39, builder.HRI_BELOW);
    builder.addFeedPosition(builder.NEXT_TOF);
}
//-->
</script>
```

To print tickets with black mark paper

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
    builder.addFeedPosition(builder.FEED_CURRENT_TOF);
    builder.addBarcode('0001', builder.BARCODE_CODE39, builder.HRI_BELOW);
    builder.addFeedPosition(builder.FEED_CUTTING);
    builder.addCut(builder.CUT_NO_FEED);
}
//-->
</script>
```

addFeed method

Adds a line feed to the command buffer.

Syntax

addFeed();

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Example

To start a new line after printing a character string:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
    builder.addText("Hello").addFeed();
    builder.addText("World").addFeed();
}
//-->
</script>
```

addImage method

Adds raster image printing to the command buffer.
Prints graphics rendered in HTML5 Canvas.
Converts the specified range in a RGBA full-color image of HTML5 Canvas into raster image data according to the settings of the halftone and brightness properties. One pixel in an image equals to one printer dot.
When an image contains any transparent color, the background color of the image is assumed to be white.

If an HTML5 Canvas image contains images downloaded from different domains, you cannot print the image. In this case, a security error occurs due to violation of the same origin policy of JavaScript.

- To print a raster image at high speed, specify ALIGN_LEFT for the addTextAlign method (p. 66), and specify a multiple of 8 not exceeding the printer's paper width for the width parameter of this API.
- In page mode, a raster image is laid out in the current print position with the reference point being its bottom left dot. The print position will not move.
- Multiple tone printing is not supported in Page Mode. Multiple tone graphic printing is supported in Standard Mode only.

Syntax

```
addImage(context, x, y, width, height, color, mode);
```

Parameter

- context : (Required parameter, Object type : Context)
  Specifies the 2D context of HTML5 Canvas.
- x : (Required parameter, Object type : Number)
  Specifies the horizontal start position in the print area. Specifies an integer from 0 to 65535.
- y : (Required parameter, Object type : Number)
  Specifies the vertical start position in the print area. Specifies an integer from 0 to 65535.
- width : (Required parameter, Object type : Number)
  Specifies the width of the print area. Specifies an integer from 0 to 65535.
- height : (Required parameter, Object type : Number)
  Specifies the height of the print area. Specifies an integer from 0 to 65535.
- color : (Optional parameter, Object type : String)
  Specifies the color.

Setting	Description
COLOR_NONE	Characters are not printed.
COLOR_1 (default)	First color
COLOR_2	Second color
COLOR_3	Third color
COLOR_4	Fourth color
undefined (When not specified)	First color

- mode : (Optional parameter, Object type : String)
  Specifies the color mode. (in firmware Ver.1.2 and later)

Setting	Description
MODE_MONO	Monochrome (two-tone)
MODE_GRAY16	Gray scale (16-tone)
undefined (When not specified)	Monochrome (two-tone)

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  var canvas = document.getElementById('canvas');
  if (canvas.getContext) {
    var context = canvas.getContext('2d');
    builder.addImage(context, 0, 0, canvas.width, canvas.height);
  }
}
//-->
</script>
```

To print an image 300 dots wide and 300 dots high in page mode:

```
var canvas = document.getElementById('myCanvas');
var context = canvas.getContext('2d');
var builder = new epson.ePOSBuilder();
builder.addPageBegin();
builder.addPageArea(0, 0, 300, 300);
builder.addPagePosition(0, 299);
builder.addImage(context, 0, 0, 300, 300);
builder.addPageEnd();
```

addLogo method

Adds NV logo printing to the command buffer.
Prints a logo registered in the NV memory of the printer.

- Using model-dedicated utility or logo registration utility (TMFLogo), register a logo in the printer in advance.
- In page mode, a logo is laid out in the current print position with the reference point being its bottom left dot.
- Multiple tone printing is not supported in Page Mode. Multiple tone graphic printing is supported in Standard Mode only.

Syntax

addLogo(key1, key2);

Parameter

- key1 : (Required parameter, Object type : Number)
  Specifies the key code 1 of an NV logo. Specifies an integer from 0 to 255.
- key2 : (Required parameter, Object type : Number)
  Specifies the key code 2 of an NV logo. Specifies an integer from 0 to 255.

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addLogo(48, 48);
}
//-->
</script>
```

addBarcode method

Adds barcode printing to the command buffer.

In page mode, a barcode is laid out in the current print position with the reference point being its bottom left dot (except for HRI).

Syntax

```
addBarcode(data, type, hri, font, width, height);
```

Parameter

- data : (Required parameter, Object type : String)
  Specifies the barcode data as a string.

Barcode type	Description
UPC-A	When an 11-digit number is specified, a check digit is automatically added. When a 12-digit number is specified, the 12th digit is processed as a check digit but the check digit is not validated.
UPC-E	Specify 0 as the first digit. Specify the manufacturer code in the digits 2 to 6. Specify (right-align) the item code in the digits 7 to 11. The number of item code digits varies depending on the manufacturer code. Specify 0s in empty digits. When an 11-digit number is specified, a check digit is automatically added. When a 12-digit number is specified, the 12th digit is processed as a check digit but the check digit is not validated.
EAN13	When an 12-digit number is specified, a check digit is automatically added. When a 13-digit number is specified, the 12th digit is processed as a check digit but the check digit is not validated.
JAN13	
EAN8	When a 7-digit number is specified, a check digit is automatically added. When an 8-digit number is specified, the 8th digit is processed as a check digit but the check digit is not validated.
JAN8	
CODE39	When the first character is *, the character is processed as the start character. In other cases, a start character is automatically added.
ITF	Start and stop codes are automatically added. Check digits are not added or validated.

Barcode type	Description
CODABAR	Specify a start character (A to D, a to d). Specify a stop character (A to D, a to d). Check digits are not added or validated.
CODE93	Start and stop characters are automatically added. A check digit is automatically calculated and added.
CODE128	Specify a start character (CODE A, CODE B, CODE C). A stop character is automatically added. A check digit is automatically calculated and added. To encode each of the following characters, specify two characters starting with the character "{": FNC1: {1 FNC2: {2 FNC3: {3 FNC4: {4 CODE A: {A CODE B: {B CODE C: {C SHIFT: {S {: {{
GS1-128	A start character, FNC1, a check digit, and a stop character are automatically added. To automatically calculate and add a check digit for an application identifier (AI) and the subsequent data, specify the character "*" in the position of the check digit. You can enclose an application identifier (AI) in parentheses. The parentheses are used as HRI print characters and are not encoded as data. You can insert spaces between an application identifier (AI) and data. The spaces are used as HRI print characters and are not encoded as data. To encode each of the following characters, specify two characters starting with the character "{": FNC1: {1 FNC3: {3 (: {( ): {) *: {* {: {{
GS1 DataBar Omnidirectional GS1 DataBar Truncated GS1 DataBar Limited	Specify a 13-digit global trade item number (GTIN) not including an application identifier (AI) or a check digit.

Barcode type	Description
BARCODE_GS1_ DATABAR_EXPANDED	You can enclose an application identifier (AI) in parentheses. The parentheses are used as HRI print characters and are not encoded as data. To encode each of the following characters, specify two characters starting with the character "{": FNC1: {1 (: {( ): {)

To specify binary data that cannot be represented by character strings, use the following escape sequences.

String	Description
\xnn	Control code
\\	Back slash

- type : (Required parameter, Object type : String)
  Specifies the barcode type.

Constant (type)	Barcode type
BARCODE_UPC_A	UPC-A
BARCODE_UPC_E	UPC-E
BARCODE_EAN13	EAN13
BARCODE_JAN13	JAN13
BARCODE_EAN8	EAN8
BARCODE_JAN8	JAN8
BARCODE_CODE39	CODE39
BARCODE_ITF	ITF
BARCODE_CODABAR	CODABAR
BARCODE_CODE93	CODE93
BARCODE_CODE128	CODE128
BARCODE_GS1_128	GS1-128
BARCODE_GS1_DATABAR_OMNIDIRECTIONAL	GS1 DataBar Omnidirectional
BARCODE_GS1_DATABAR_TRUNCATED	GS1 DataBar Truncated
BARCODE_GS1_DATABAR_LIMITED	GS1 DataBar Limited
BARCODE_GS1_DATABAR_EXPANDED	GS1 Databar Expanded

- hri : (Optional parameter, Object type : String)
  Specifies the HRI position.

Constant (hri)	Description
HRI_NONE (default)	HRI not printed
HRI_ABOVE	Above the bar code
HRI_BELOW	Below the bar code
HRI_BOTH	Both above and below the bar code

- font : (Optional parameter, Object type : String)
  Specifies the HRI font.

Constant (font)	Language
FONT_A(default)	Font A
FONT_B	Font B
FONT_C	Font C

- width : (Optional parameter, Object type : Number)
  Specifies the width of each module in dots. Specifies an integer from 2 to 6.
- height : (Optional parameter, Object type : Number)
  Specifies the barcode height in dots. Specifies an integer from 1 to 255.

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To print barcodes:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addBarcode('01234567890', builder.BAROCDE_UPC_A,
       builder.HRI_BELOW, undefined, 2, 64);
  builder.addBarcode('01234500005', builder.BAROCDE_UPC_E);
  builder.addBarcode('201234567890', builder.BAROCDE_EAN13);
  builder.addBarcode('201234567890', builder.BAROCDE_JAN13);
  builder.addBarcode('2012345', builder.BAROCDE_EAN8);
  builder.addBarcode('2012345', builder.BAROCDE_JAN8);
  builder.addBarcode('ABCDE', builder.BAROCDE_CODE39);
  builder.addBarcode('012345', builder.BAROCDE_ITF);
  builder.addBarcode('A012345A', builder.BAROCDE_CODABAR);
  builder.addBarcode('ABCDE', builder.BAROCDE_CODE93);
  builder.addBarcode('{Babcde', builder.BAROCDE_CODE128);
  builder.addBarcode('(01)201234567890*', builder.BAROCDE_GS1_128);
  builder.addBarcode('0201234567890',
       builder.BAROCDE_GS1_DATABAR_OMNIDIRECTIONAL);
  builder.addBarcode('0201234567890',
       builder.BAROCDE_GS1_DATABAR_TRUNCATED);
  builder.addBarcode('0201234567890',
       builder.BAROCDE_GS1_DATABAR_LIMITED);
  builder.addBarcode('(01)2012345678903',
       builder.BAROCDE_GS1_DATABAR_EXPANDED);
}
//-->
</script>
```

addSymbol method

Adds two-dimensional symbol printing to the command buffer.

In page mode, a two-dimensional symbol is laid out in the current print position with the reference point being its bottom left dot.

Syntax

```
addSymbol(data, type, level, width, height, size);
```

Parameter

- data : (Required parameter, Object type : String)
  Specifies two-dimensional symbol data as a character string.

2D-Code type	Description
Standard PDF417	Convert the character string to the string in UTF-8, apply the escape sequence, and then encode the string. The data area can contain up to 928 code words in a maximum of 90 rows, each of which can contain up to 30 code words.
Truncated PDF417	
QR Code Model 1	Convert the character string to the string in Shift-JIS, apply the escape sequence, and then encode the string based on the data type as shown below. Number: 0 to 9 Alphanumeric character: 0 to 9, A to Z, space, $, %, *, +, -, ., /, : Kanji character: Shift-JIS value 8-bit, byte data: 0x00 to 0xff
QR Code Model 2	

2D-Code type	Description
MaxiCode Mode 2	Convert the character string to the string in UTF-8, apply the escape sequence, and then encode the string. In Modes 2 and 3, when the first piece of data is 0)>\ x1e01\x1dyy (where yy is a two-digit number), this is processed as the message header, and the subsequent data is processed as the primary message. In other cases, from the first piece of data, data is processed as the primary message. In Mode 2, specify the primary message in the following format: Postal code (1- to 9-digit number) GS:(\x1d) ISO country code (1- to 3-digit number) GS:(\x1d) Service class code (1- to 3-digit number) In Mode 3, specify the primary message in the following format: Postal code (1 to 6 pieces of data convertible by Code Set A) GS:(\x1d) ISO country code (1- to 3-digit number) GS:(\x1d) Service class code (1- to 3-digit number)
MaxiCode Mode 3	
MaxiCode Mode 4	
MaxiCode Mode 5	
MaxiCode Mode 6	
GS1 DataBar Stacked	Convert the character string to the string in UTF-8, apply the escape sequence, and then encode the string. Specify a 13-digit global trade item number (GTIN) not including an application identifier (AI) or a check digit.
GS1 DataBar Stacked Omnidirectional	
GS1 DataBar Expanded Stacked	Convert the character string to the string in UTF-8, apply the escape sequence, and then encode the string. You can enclose an application identifier (AI) in parentheses. The parentheses are used as HRI print characters and are not encoded as data. To encode each of the following characters, specify two characters starting with the character "{": FNC1: {1 (: {( ): {)
Aztec Code	After converting the character string to UTF-8, conduct the escape sequence and encode.
DataMatrix	After converting the character string to UTF-8, conduct the escape sequence and encode.

To specify binary data that cannot be represented by character strings, use the following escape sequences.

String	Description
\xnn	Control code
\\	Back slash

- type : (Required parameter, Object type : String)
  Specifies the two-dimensional symbol type.

Constant (type)	2D-Code type
SYMBOL_PDF417_STANDARD	Standard PDF417
SYMBOL_PDF417_TRUNCATED	Truncated PDF417
SYMBOL_QRCODE_MODEL_1	QR Code Model 1
SYMBOL_QRCODE_MODEL_2	QR Code Model 2
SYMBOL_MAXICODE_MODE_2	MaxiCode Mode 2
SYMBOL_MAXICODE_MODE_3	MaxiCode Mode 3
SYMBOL_MAXICODE_MODE_4	MaxiCode Mode 4
SYMBOL_MAXICODE_MODE_5	MaxiCode Mode 5
SYMBOL_MAXICODE_MODE_6	MaxiCode Mode 6
SYMBOL_GS1_DATABAR_STACKED	GS1 DataBar Stacked
SYMBOL_GS1_DATABAR_STACKED_ OMNIDIRECTIONAL	GS1 DataBar Stacked Omnidirectional
SYMBOL_GS1_DATABAR_EXPANDED_STACKED	GS1 DataBar Expanded Stacked
SYMBOL_AZTECCODE_FULLRANGE	Aztec Code Full-Range mode (in firmware Ver.2.2 and later)
SYMBOL_AZTECCODE_COMPACT	Aztec Code Compact mode (in firmware Ver.2.2 and later)
SYMBOL_DATAMATRIX_SQUARE	DataMatrix ECC200 square (in firmware Ver.2.2 and later)
SYMBOL_DATAMATRIX_RECTANGLE_8	DataMatrix ECC200 rectangle, 8 lines (in firmware Ver.2.2 and later)
SYMBOL_DATAMATRIX_RECTANGLE_12	DataMatrix ECC200 rectangle, 12 lines (in firmware Ver.2.2 and later)
SYMBOL_DATAMATRIX_RECTANGLE_16	DataMatrix ECC200 rectangle, 16 lines (in firmware Ver.2.2 and later)

- level : (Optional parameter, Object type : String)
  Specifies the error correction level.

Constant (level)	Description
LEVEL_0	PDF417 error correction level 0
LEVEL_1	PDF417 error correction level 1
LEVEL_2	PDF417 error correction level 2
LEVEL_3	PDF417 error correction level 3
LEVEL_4	PDF417 error correction level 4
LEVEL_5	PDF417 error correction level 5
LEVEL_6	PDF417 error correction level 6
LEVEL_7	PDF417 error correction level 7
LEVEL_8	PDF417 error correction level 8
LEVEL_L	QR Code error correction level L
LEVEL_M	QR Code error correction level M
LEVEL_Q	QR Code error correction level Q
LEVEL_H	QR Code error correction level H
LEVEL_DEFAULT	Default level
Integer from 5 to 95	Aztec Code error correction level (Default: 23) (in firmware Ver.2.2 and later)

- Select the level according to the two-dimensional symbol type.
- For MaxiCode and two-dimensional GS1 DataBar, select LEVEL_DEFAULT.

- width : (Optional parameter, Object type : Number)
  Specifies the module width. Specifies an integer from 0 to 255.

2D-Code type	Valid value range	Default value
PDF417	2 to 8	3
QR Code	1 to 16	3
MaxiCode	Ignored	
2D GS1 Databar	2 to 8	2
Aztec Code	2 to 16	3
DataMatrix	2 to 16	3

- height : (Optional parameter, Object type : Number)
  Specifies the module height. Specifies an integer from 0 to 255.

2D-Code type	Valid value range	Default value
PDF417	2 to 8 (Magnification for width)	3
QR Code	Ignored	
MaxiCode		
2D GS1 Databar		
Aztec Code		
DataMatrix		

- size : (Optional parameter, Object type : Number)
  Specifies the two-dimensional symbol maximum size. Specifies an integer from 0 to 65535.

2D-Code type	Default value	Description
PDF417	0 (Auto)	Specifies the number of code words for each row
QR Code	Ignored	
MaxiCode		
2D GS1 Databar	0 (Auto)	Specifies the maximum width for the barcode (106 or above)
Aztec Code	Ignored	
DataMatrix		
(Others)	Ignored	

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To print two-dimensional symbols:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addSymbol('ABCDE', builder.SYMBOL_PDF417_STANDARD);
  builder.addSymbol('ABCDE', builder.SYMBOL_QRCODE_MODEL_2,
       builder.LEVEL_Q);
  builder.addSymbol('908063840\x1d850\x1d001\x1d\x04',
       builder.SYMBOL_MAXICODE_MODE_2);
  builder.addSymbol('0201234567890', builder.SYMBOL_
       GS1_DATABAR_STACKED);
  builder.addSymbol('0201234567890',
       builder.SYMBOL_GS1_DATABAR_STACKED_OMNIDIRECTIONAL);
  builder.addSymbol('(01)02012345678903',
       builder.SYMBOL_GS1_DATABAR_EXPANDED_STACKED);
  builder.addSymbol('ABCDE', builder.SYMBOL_AZTECCODE_FULLRANGE, 23);
  builder.addSymbol('ABCDE', builder.SYMBOL_DATAMATRIX_SQUARE);
}
//-->
</script>
```

addHLine method

Adds horizontal line printing to the command buffer.
Draws horizontal lines.

Not available in page mode.

Syntax

```
addHLine(x1, x2, style);
```

Parameter

- x 1: (Required parameter, Object type : Number)
  Specifies the start position of the horizontal line (in dots). Specifies an integer from 0 to 65535.
- x2 : (Required parameter, Object type : Number)
  Specifies the end position of the horizontal line (in dots). Specifies an integer from 0 to 65535.
- style : (Optional parameter, Object type : String)
  Specifies the line type.

Constant (style)	Description
LINE_THIN	Solid line: Thin
LINE_MEDIUM	Solid line: Medium
LINE_THICK	Solid line: Thick
LINE_THIN_DOUBLE	Double line: Thin
LINE_MEDIUM_DOUBLE	Double line: Medium
LINE_THICK_DOUBLE	Double line: Thick
undefined (When not specified)	Solid line: Thin

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To draw double horizontal lines in the following positions:

- Between 100 dots and 200 dots from the left end
- Between 400 dots and 500 dots from the left end

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addHLine(100, 200, builder.LINE_THIN_DOUBLE);
  builder.addHLine(400, 500, builder.LINE_THIN_DOUBLE);
}
//-->
</script>
```

addVLineBegin method

Adds the beginning of vertical line to the command buffer. Starts to draw vertical lines.

- Not available in page mode.
- Vertical lines are drawn until their end is specified by addVLineEnd (p. 105). Use this API function with addVLineEnd.

Syntax

```
addVLineBegin(x, style);
```

Parameter

- x : (Required parameter, Object type : Number)
  Specifies the start position of the vertical line (in dots). Specifies an integer from 0 to 65535.
- style : (Optional parameter, Object type : String)
  Specifies the line type.

Constant (style)	Description
LINE_THIN	Solid line: Thin
LINE_MEDIUM	Solid line: Medium
LINE_THICK	Solid line: Thick
LINE_THIN_DOUBLE	Double line: Thin
LINE_MEDIUM_DOUBLE	Double line: Medium
LINE_THICK_DOUBLE	Double line: Thick
undefined (When not specified)	Solid line: Thin

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To draw thin vertical lines at 100 dots and 200 dots from the left end:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addVLineBegin(100).addVLineBegin(200);
  builder.addFeedUnit(100);
  builder.addVLineEnd(100).addVLineEnd(200);
}
//-->
</script>
```

addVLineEnd method

Adds the end of vertical line to the command buffer. Finishes drawing vertical lines.

- Not available in page mode.
- Use this API function with addVLineBegin (p. 103).

Syntax

```
addVLineEnd(x, style);
```

Parameter

- x : (Required parameter, Object type : Number)
  Specifies the end position of the vertical line (in dots). Specifies an integer from 0 to 65535.
- style : (Optional parameter, Object type : String)
  Specifies the type of the line you want to finish drawing.

Constant (style)	Description
LINE_THIN	Solid line: Thin
LINE_MEDIUM	Solid line: Medium
LINE_THICK	Solid line: Thick
LINE_THIN_DOUBLE	Double line: Thin
LINE_MEDIUM_DOUBLE	Double line: Medium
LINE_THICK_DOUBLE	Double line: Thick
undefined (When not specified)	Solid line: Thin

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To draw thin vertical lines at 100 dots and 200 dots from the left end:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addVLineBegin(100).addVLineBegin(200);
  builder.addFeedUnit(100);
  builder.addVLineEnd(100).addVLineEnd(200);
}
//-->
</script>
```

addPageBegin method

Adds the switching to page mode to the command buffer. The page mode process starts.

Vertical lines are processed in page mode until their end is specified by PageEnd (p. 108). Use this API function with PageEnd.

Syntax

```
addPageBegin();
```

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Example

To print the characters "ABCDE" in page mode:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addPageBegin();
  builder.addText('ABCDE');
  builder.addPageEnd();
}
//-->
</script>
```

addPageEnd method

Adds the end of page mode to the command buffer. The page mode process ends.

Use this API function with addPageBegin (p. 107).

Syntax

***addPageEnd*()**;

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Example

To print the characters "ABCDE" in page mode:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addPageBegin();
  builder.addText('ABCDE');
  builder.addPageEnd();
}
//-->
</script>
```

addPageArea method

Adds the print area in page mode to the command buffer.
Specifies the print area in page mode (coordinates). After this API function, specify a print data API function such as the addText method.

- Specify a print area to cover the content to be printed. If the print data extends beyond the print area, the print result will be such that the print data has been printed incompletely.
- Use this API function by inserting it between addPageBegin (p. 107) and PageEnd (p. 108).

Syntax

```
addPageArea(x, y, width, height);
```

Parameter

- x : (Required parameter, Object type : Number)
  Specifies the origin of the horizontal axis (in dots). Specifies an integer from 0 to 65535. 0 is the left end of the printer's printable area.
- y : (Required parameter, Object type : Number)
  Specifies the origin of the vertical axis (in dots). Specifies an integer from 0 to 65535. 0 is the position in which no paper feed has been performed.
- width : (Required parameter, Object type : Number)
  Specifies the width of the print area (in dots). Specifies an integer from 0 to 65535.
- height : (Required parameter, Object type : Number)
  Specifies the height of the print area (in dots). Specifies an integer from 0 to 65535.

Determine the width and height of the print area according to the print direction setting. Otherwise, the print data might not be printed completely.

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To specify the print area with the origin (100, 50), a width of 200 dots, and a height of 30 dots and print the characters "ABCDE":

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addPageBegin();
  builder.addPageArea(100, 50, 200, 30);
  builder.addText('ABCDE');
  builder.addPageEnd();
}
//-->
</script>
```

addPageDirection method

Adds the page mode print direction setting to the command buffer. Specifies the print direction in page mode. This function can be omitted if rotation is not required.

Use this API function by inserting it between addPageBegin (p. 107) and PageEnd (p. 108).

Syntax

```
addPageDirection(dir);
```

Parameter

- dir : (Required parameter, Object type : String)
  Specifies the print direction in page mode.

Constant (dir)	Description
DIRECTION_LEFT_TO_RIGHT(default)	Left to right (No rotation.Data is printed from the top left corner to the right.)
DIRECTION_BOTTOM_TO_TOP	Bottom to top (Counterclockwise rotation by 90 degrees. Data is printed from the bottom left corner to the top.)
DIRECTION_RIGHT_TO_LEFT	Right to left (Rotation by 180 degrees.Data is printed from the bottom right corner to the left.)
DIRECTION_TOP_TO_BOTTOM	Top to bottom (Clockwise rotation by 90 degrees. Data is printed from the top right corner to the bottom.)

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To print the characters "ABCDE" by rotating them 90 degrees clockwise:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addPageBegin();
  builder.addPageArea(100, 50, 30, 200);
  builder.addPageDirection(builder.DIRECTION_TOP_TO_BOTTOM);
  builder.addText('ABCDE');
  builder.addPageEnd();
}
//-->
</script>
```

addPagePosition method

Adds the page mode print-position-set area to the command buffer.
Specifies the print start position (coordinates) in the area specified by the addPageArea method.

Use this API function by inserting it between addPageBegin (p. 107) and PageEnd (p. 108).

Syntax

```
addPagePosition(x, y);
```

Parameter

- x : (Required parameter, Object type : Number)
  Specifies the horizontal print position (in dots). Specifies an integer from 0 to 65535.
- y : (Required parameter, Object type : Number)
  Specifies the vertical print position (in dots). Specifies an integer from 0 to 65535.

Specify the print start position (coordinates) according to the content to be printed. Refer to the following.

* To print a character string:
  Specify the left end of the baseline for the first character. This can be omitted for left-aligned printing of standard-sized characters. To print double-sized height characters, specify a value equal to or greater than 42 for y.
* To print a barcode:
  Specify the bottom left of the symbol. And specify the barcode height for y.
* To print a graphic/logo:
  Specify the bottom left of the graphic data. And specify the graphic data height for y.
* To print a two-dimensional symbol:
  Specify the top left of the symbol. This can be omitted when printing from the top left.

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To specify (50,30) for the print start position in the area specified by the addPageArea method and print the characters "ABCDE":

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addPageBegin();
  builder.addPageArea(100, 50, 200, 100);
  builder.addPagePosition(50, 30);
  builder.addText('ABCDE');
  builder.addPageEnd();
}
//-->
</script>
```

addPageLine method

Adds line drawing in page mode to the command buffer. Draws a line in page mode.

- Diagonal lines cannot be drawn.
- Use this API function by inserting it between addPageBegin (p. 107) and PageEnd (p. 108).

Syntax

```
addPageLine(x1, y1, x2, y2, style);
```

Parameter

- x 1: (Required parameter, Object type : Number)
  Specifies the horizontal start position of the line (in dots). Specifies an integer from 0 to 65535.
- y 1: (Required parameter, Object type : Number)
  Specifies the vertical start position of the line (in dots). Specifies an integer from 0 to 65535.
- x2 : (Required parameter, Object type : Number)
  Specifies the horizontal end position of the line (in dots). Specifies an integer from 0 to 65535.
- y2 : (Required parameter, Object type : Number)
  ècSpecifies the vertical end position of the line (in dots). Specifies an integer from 0 to 65535.
- style : (Optional parameter, Object type : String)
  Specifies the line type.

Constant (style)	Description
LINE_THIN	Solid line: Thin
LINE_MEDIUM	Solid line: Medium
LINE_THICK	Solid line: Thick
LINE_THIN_DOUBLE	Double line: Thin
LINE_MEDIUM_DOUBLE	Double line: Medium
LINE_THICK_DOUBLE	Double line: Thick
undefined (When not specified)	Solid line: Thin

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To draw a thin solid line between the start position (100, 0) and the end position (500, 0):

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addPageBegin();
  builder.addPageLine(100, 0, 500, 0, builder.LINE_THIN);
  builder.addPageEnd();
}
//-->
</script>
```

addPageRectangle method

Adds rectangle drawing in page mode to the command buffer. Draws a rectangle in page mode.

Use this API function by inserting it between addPageBegin (p. 107) and PageEnd (p. 108).

Syntax

```
addPageRectangle(x1, y1, x2, y2, style);
```

Parameter

- x 1: (Required parameter, Object type : Number)
  Specifies the horizontal start position of the line (in dots). Specifies an integer from 0 to 65535.
- y 1: (Required parameter, Object type : Number)
  Specifies the vertical start position of the line (in dots). Specifies an integer from 0 to 65535.
- x2 : (Required parameter, Object type : Number)
  Specifies the horizontal end position of the line (in dots). Specifies an integer from 0 to 65535.
- y2 : (Required parameter, Object type : Number)
  ècSpecifies the vertical end position of the line (in dots). Specifies an integer from 0 to 65535.
- style : (Optional parameter, Object type : String)
  Specifies the line type.

Constant (style)	Description
LINE_THIN	Solid line: Thin
LINE_MEDIUM	Solid line: Medium
LINE_THICK	Solid line: Thick
LINE_THIN_DOUBLE	Double line: Thin
LINE_MEDIUM_DOUBLE	Double line: Medium
LINE_THICK_DOUBLE	Double line: Thick
undefined (When not specified)	Solid line: Thin

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To draw a rectangle with a thin double line, with the start position (100, 0) and the end position (500, 200) as its vertexes:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addPageBegin();
  builder.addPageLine(100, 0, 500, 200, builder.LINE_THIN_DOUBLE);
  builder.addPageEnd();
}
//-->
</script>
```

addCut method

Adds paper cut to the command buffer. Sets paper cut.

Not available in page mode.

Syntax

```
addCut(type);
```

Parameter

- type : (Optional parameter, Object type : String)
  Specifies the paper cut type.

Setting	Description
CUT_NO_FEED	Cut without feeding (The paper is cut without being fed.)
CUT_FEED	Feed cut (The paper is fed to the cut position and then is cut.)
CUT_RESERVE	Cut reservation (Printing continues until the cut position is reached, at which the paper is cut.)
undefined (When not specified)	Feed cut (The paper is fed to the cut position and then is cut.)

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To perform feed cut operation:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addCut(builder.CUT_FEED);
}
//-->
</script>
```

addPulse method

Adds the drawer kick to the command buffer. Sets the drawer kick.

- Not available in page mode.
- The drawer and the buzzer cannot be used together.

Syntax

```
addPulse(drawer, time);
```

Parameter

- drawer : (Optional parameter, Object type : String)
  Specifies the drawer kick connector.

Setting	Description
DRAWER_1	Pin 2 of the drawer kick-out connector
DRAWER_2	Pin 5 of the drawer kick-out connector
undefined (When not specified)	Pin 2 of the drawer kick-out connector

- time : (Optional parameter, Object type : String)
  Specifies the ON time of the drawer kick signal.

Setting	Description
PULSE_100	100 ms
PULSE_200	200 ms
PULSE_300	300 ms
PULSE_400	400 ms
PULSE_500	500 ms
undefined (When not specified)	100 ms

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To send a 100msec pulse signal to the pin 2 of the drawer kick connector:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addPulse(builder.DRAWER_1, builder.PULSE_100);
}
//-->
</script>
```

addSound method

Adds the turning on of the buzzer to the command buffer. Sets the buzzer.

- Not available in page mode.
- The buzzer function and the drawer cannot be used together.
- This API function cannot be used if the printer is not provided with the buzzer.

Syntax

```
addSound(pattern, repeat, cycle);
```

Parameter

- pattern : (Optional parameter, Object type : String)
  Specifies the buzzer pattern.

Setting	Description
PATTERN_NONE	Stop
PATTERN_A	Pattern A
PATTERN_B	Pattern B
PATTERN_C	Pattern C
PATTERN_D	Pattern D
PATTERN_E	Pattern E
PATTERN_ERROR	Error sound pattern
PATTERN_PAPER_END	Pattern when there is no paper
PATERN_1	Pattern 1 (in firmware Ver.2.2 and later)
PATERN_2	Pattern 2 (in firmware Ver.2.2 and later)
PATERN_3	Pattern 3 (in firmware Ver.2.2 and later)
PATERN_4	Pattern 4 (in firmware Ver.2.2 and later)
PATERN_5	Pattern 5 (in firmware Ver.2.2 and later)
PATERN_6	Pattern 6 (in firmware Ver.2.2 and later)
PATERN_7	Pattern 7 (in firmware Ver.2.2 and later)
PATERN_8	Pattern 8 (in firmware Ver.2.2 and later)
PATERN_9	Pattern 9 (in firmware Ver.2.2 and later)
PATERN_10	Pattern 10 (in firmware Ver.2.2 and later)
undefined (When not specified)	Pattern A

- repeat : (Optional parameter, Object type : String)
  Specifies the number of repeats.

Setting	Description
0	The buzzer does not stop.
1 to 255	Number of repeats
undefined (When not specified)	One time

After "0" is specified for repeat, if you want to stop the buzzer, execute this API function and specify PATTERN_NONE for pattern.

- cycle : (Optional parameter, Object type : String, When not specified : 1000)
  Specifies the buzzer sounding cycle (in units of milliseconds)

Setting	Description
1000 to 25500	1000 to 25500 milliseconds
undefined	1000 milliseconds

PATTERN_A to PATTERN_E/PATTERN_ERROR/PATTERN_PAPER_END is disregarded.

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

To repeat the sound pattern A three times:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addSound(builder.PATTERN_A, 3);
}
//-->
</script>
```

addLayout method

Adds paper layout information to the command buffer.

Setting of page layout must be done in the standard mode. In the page mode, addLayout cannot be specified.

Syntax

```
addLayout(type, width, height, margin_top,
          margin_bottom, offset_cut, offset_label);
```

Parameter

- type : (Required parameter, Object type : String)
  Specifies the paper type.

Constant (type)	Description
LAYOUT_RECEIPT	Receipt (without black mark)
LAYOUT_RECEIPT_BM	Receipt (with black mark)
LAYOUT_LABEL	Die-cut label (without black mark)
LAYOUT_LABEL_BM	Die-cut label (with black mark)

- width : (Optional parameter, Object type : Number, When not specified : 580)
  Specifies paper width (in units of 0.1mm). Specifies an integer from 290 to 600. *
- height : (Optional parameter, Object type : Number, When not specified : 0)
  Specifies paper height (in units of 0.1mm).

Paper Type	Valid value range	Description
Receipt (without black mark)	0	Setup not necessary
Receipt (with black mark)	0 (Auto) 284 to 1550 (Manual) *	Distance from the top of black mark to the top of next black mark
Die-cut label (without black mark)		Distance from the top of label to the top of next label
Die-cut label (with black mark)		Distance from the bottom of black mark to the bottom of next black mark.

- margin_top : (Optional parameter, Object type : Number, When not specified : 0)
  Specifies top margin (in units of 0.1mm).

Paper Type	Valid value range	Description
Receipt (without black mark)	0	Setup not necessary
Receipt (with black mark)	-150 to 1500 *	Distance from the top of black mark
Die-cut label (without black mark)	0 to 1500 *	Distance from the top of label
Die-cut label (with black mark)	-15 to 1500 *	Distance from the bottom of black mark

- margin_bottom :(Optional parameter, Object type : Number, When not specified : 0)
  Specifies bottom margin (in units of 0.1mm).

Paper Type	Valid value range	Description
Receipt (without black mark)	0	Setup not necessary
Receipt (with black mark)	0	
Die-cut label (without black mark)	-15 to 0 *	Distance from the bottom of label (paper feed direction is a positive number)
Die-cut label (with black mark)	-15 to 15 *	Distance from the top of black mark (paper feed direction is a positive number)

- offset_cut : (Optional parameter, Object type : Number, When not specified : 0)
  Specifies cut position (in units of 0.1mm).
  In case of die cut label paper, it is a distance from the bottom of label.
  When a paper has black mark, it is a distance from the beginning of black mark.

Paper Type	Valid value range	Description
Receipt (without black mark)	0	Setup not necessary
Receipt (with black mark)	-290 to 50 *	Distance from the top of black mark to the cutting position
Die-cut label (without black mark)	0 to 50 *	Distance from the bottom of label to the cutting position
Die-cut label (with black mark)	0 to 50 *	Distance from the top of black mark to the cutting position

- offset_label* : (Optional parameter, Object type : Number, When not specified : 0)
  Specifies label bottom position (sd) per 0.1mm unit.

Paper Type	Valid value range	Description
Receipt (without black mark)	0	Setup not necessary
Receipt (with black mark)	0	
Die-cut label (without black mark)	0	
Die-cut label (with black mark)	0 to 15 *	Distance from the top of black mark to the bottom of label

*: Valid value of range is depending on the printer model. For detail, refer to "Appendix - Printer Specifications".

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

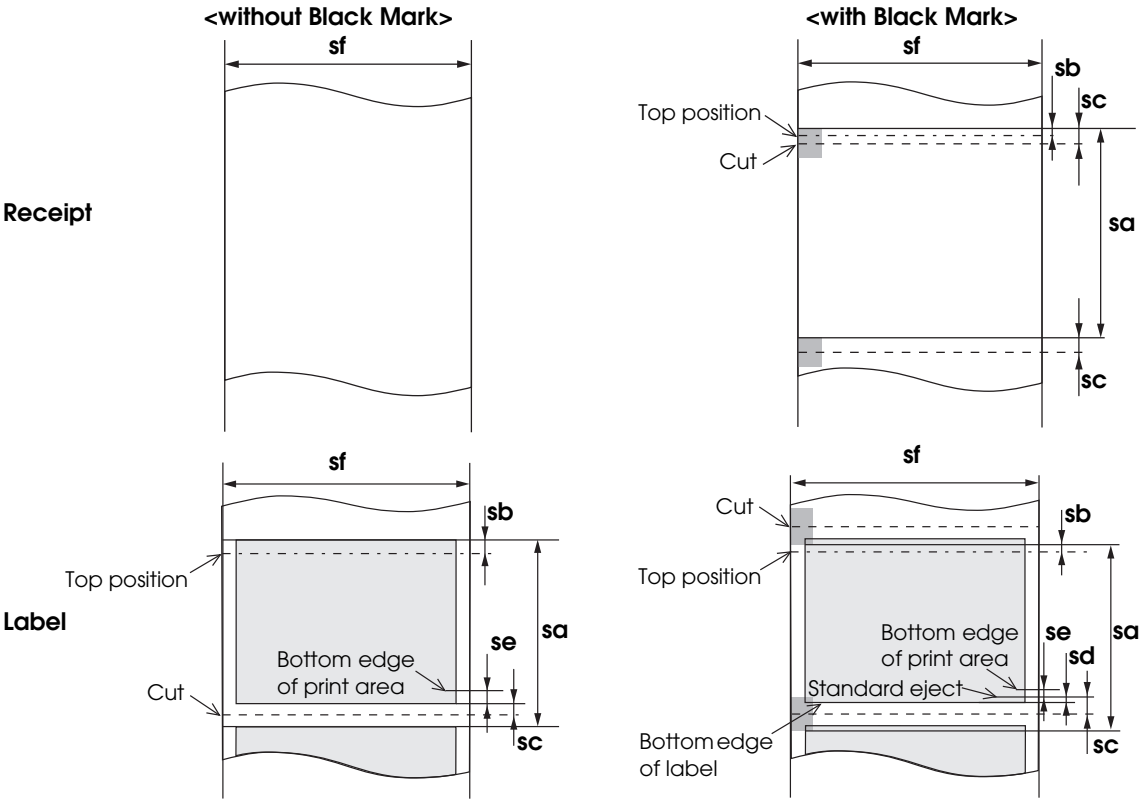
Exception

Exception	Object type
Parameter " ... " is invalid	Error

Detailed description

See below for the parameters that can be specified for each type of paper, and the positions for those parameters.

Mark	Parameter
sf	width
sa	height
sb	margin_top
se	margin_bottom
sc	offset_cut
sd	offset_label



Example

To set 58mm receipt (without black mark):

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addLayout(builder.LAYOUT_RECEIPT, 580);
}
//-->
</script>
```

To set 58mm receipt (with black mark):

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addLayout(builder.LAYOUT_RECEIPT_BM, 580, 0, 15, 0);
}
//-->
</script>
```

To set 58mm die-cut label (without black mark):

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addLayout(builder.LAYOUT_LABEL, 580, 0, 15, -15, 25);
}
//-->
</script>
```

To set 58mm die-cut label (with black mark):

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addLayout(builder.LAYOUT_LABEL_BM, 580, 0, 15, -15, 25, 15);
}
//-->
</script>
```

addRecovery method

Adds the recovery from errors to the command buffer. (in firmware Ver.3.0 and later)

Enable forced transmission mode to use this API. The printer recovers from errors that can be recovered from and clears the buffer.

Syntax

```
addRecovery();
```

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

Recovers from errors that can be recovered from and clears the buffer:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.force = true;
  builder.addRecovery();
}
//-->
</script>
```

addReset method

Adds the printer reset to the command buffer. (in firmware Ver.3.0 and later)

Other printing commands in the print document are ignored.

Syntax

```
addReset();
```

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

Resets the printer:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.addReset();
}
//-->
</script>
```

addCommand method

Adds commands to the command buffer. Sends ESC/POS commands.

ESC/POS commands are not made public. For details, contact the dealer.

Syntax

```
addCommand(data);
```

Parameter

- data : (Optional parameter, Object type : String)
  Specifies ESC/POS command as a character string.

Return value

Return value	Object type
ePOS-Print Builder Object	ePOS Builder

Exception

Exception	Object type
Parameter " ... " is invalid	Error

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  var doc = builder.addCommand('ABC\x44\x45\x0a');
}
//-->
</script>
```

toString method

Obtains a print document generated by an ePOS-Print Builder object.

Syntax

toString();

Return value

Return value	Object type
Document to be printed	String

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  var doc = builder.toString();
}
//-->
</script>
```

halftone property

Halftone processing method. (in firmware Ver.1.2 and later)

Object type

String

Description

The halftone processing method to be applied to monochrome (two-tone) printing is specified.
The default value is HALFTONE_DITHER.

Constant	Description
HALFTONE_DITHER (default)	Dithering, suitable for printing graphics only.
HALFTONE_ERROR_DIFFUSION	Error diffusion, suitable for printing text and graphics together.
HALFTONE_THRESHOLD	Threshold, suitable for printing text only.

Example

To set the halftone type as error diffusion:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
var builder = new epson.ePOSBuilder();
var canvas = document.getElementById('canvas');
if (canvas.getContext) {
  var context = canvas.getContext('2d');
  builder.halftone = epos.HALFTONE_ERROR_DIFFUSION;
  builder.addImage(context, 0, 0, canvas.width, canvas.height);
  }
}
//-->
</script>
```

brightness property

Brightness correction value. (in firmware Ver.1.2 and later)

Object type

Number

Description

A gamma value in the range 0.1-10.0 is specified for the brightness correction value.
The default value is 1.0.

Example

To set brightness as 2.2:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
var builder = new epson.ePOSBuilder();
var canvas = document.getElementById('canvas');
if (canvas.getContext) {
  var context = canvas.getContext('2d');
  builder.brightness = 2.2;
  builder.addImage(context, 0, 0, canvas.width, canvas.height);
  }
}
//-->
</script>
```

force property

This is the forced transmission mode. (in firmware Ver.3.0 and later)

Object type

Boolean

Description

If you enable forced transmission mode, print commands are forcibly sent to the printer.

- Use forced transmission mode when the printer is offline. It will result in an error if the printer is online.
- The following functions are enabled in forced transmission mode.
  - ∗ Drawer kick-out (addPulse method (p.121))
  - ∗ Stopping the buzzer (addSound method (p.123))
  - ∗ Recovery from errors that can be recovered from (addRecovery method (p.130))
  - ∗ Reset (addReset method (p.131))
  - ∗ Sending commands in real time (addCommand method (p.132))

Example

Performs a drawer kick-out when the paper is at the end:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
  var builder = new epson.ePOSBuilder();
  builder.force = true;
  builder.addPulse();
}
//-->
</script>
```

message property

Command buffer.

Object type

String

Description

Commands, which are usually added by methods of the ePOS-Print Builder object, can be operated directly from this property for addition or deletion.

Example

To clear the command and reset it to the initial state:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function buildMessage() {
var builder = new epson.ePOSBuilder();
  builder.addText('ABCDE');
  builder.message = '';
}
//-->
</script>
```

ePOS-Print Object

Sends a print document created using an ePOS-Print Builder object to control the printer and monitor the transmission result or the communication status.

Constructor

Constructor for an ePOS-Print object. Creates a new ePOS-Print object and initializes it.

Syntax

```
ePOSPrint(address);
```

Parameter

- address : (Optional parameter, Object type : String)
  Specifies the URL of the printer to send a print document to. (in firmware Ver.1.2 and later)
  The URL is as follows:

  http://(IP address of ePOS-Print supported TM printer)/cgi-bin/epos/service.cgi?devid=(device ID of printer to be used for printing)&timeout=(timeout time)

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function sendMessage() {
  var address = 'http://192.168.192.168/cgi-bin/epos/
                 service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
}
//-->
</script>
```

send method

Sends a print document created using an ePOS-Print Builder object.

A print document is obtained by executing the toString method (p. 133) of the ePOS-Print Builder object.

Syntax

```
send(request);
```

Parameter

- request : (Required parameter, Object type : String)
  Specifies the print document.

Exception

Exception	Object type
Parameter " ... " is invalid	Error
XMLHttpRequest is not supported	Error

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function printHellowWorld() {

  var builder = new epson.ePOSBuilder();
  builder.addText('Hello, World!\n');
  builder.addCut();
  var request = builder.toString();

  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.onreceive = function (res) { alert(res.success); };
  epos.onerror = function (err) { alert(err.status); };
  epos.send(request);
}
//-->
</script>
```

open method

Enables status event operation. (in firmware Ver.1.2 and later)
Sends the status of the printer specified by the address property using an event.
Updates the status at the interval specified by the interval property.

Syntax

open();

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer'
  var epos = new epson.ePOSPrint(address);
  epos.oncoveropen = function () {
    alert('coveropen');
  };

function startMonitor() {
  epos.open();
}

function stopMonitor() {
  epos.close();
}
//-->
</script>
```

close method

Disables status event operation. (in firmware Ver.1.2 and later)

Syntax

```
close();
```

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer'
  var epos = new epson.ePOSPrint(address);
  epos.oncoveropen = function () {
    alert('coveropen');
  };

function startMonitor() {
  epos.open();
}

function stopMonitor() {
  epos.close();
}
//-->
</script>
```

address property

URL of the printer. (in firmware Ver.1.2 and later)

Object type

String

Description

The URL of the printer to be used for printing is specified.
The URL is shown as follows:

http://(IP address of ePOS-Print supported TM printer)/cgi-bin/epos/service.cgi?devid=(device ID of printer to be used for printing)&timeout=(timeout time)

The default value is the address specified by the constructor.

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var epos = new epson.ePOSPrint();
  epos.address = 'http://192.168.192.168/cgi-bin/epos/
service.cgi?devid=local_printer';
  epos.oncoveropen = function () { alert('coveropen'); };
  epos.open();
//-->
</script>
```

enabled property

Retains the enabled/disabled setting for status event operation. (in firmware Ver.1.2 and later)

Object type

Boolean

Description

The enabled/disabled setting for status event operation is retained using a logical value. This is read-only. The default value is false.

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.oncoveropen = function () { alert('coveropen'); };
  epos.open();
  alert(epos.enabled);
//-->
</script>
```

interval property

Specifies the interval of upgrading the status. (in firmware Ver.1.2 and later)

Object type

Number

Description

The interval of upgrading the status is specified in milliseconds.
Default value: 3000 (three seconds)
Minimum value: 1000 (one second or longer)
When an invalid value is specified, it is assumed to be 3000.

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.interval = 1000;
  epos.oncoveropen = function () { alert('coveropen'); };
  epos.open();
//-->
</script>
```

status property

Status of the printer. (in firmware Ver.1.2 and later)

Object type

Number

Description

This is the status last obtained from the printer. This is read-only.
Default value: 0

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.onoffline = function () {
    alert(epos.status);
  };
  epos.open();
//-->
</script>
```

battery property

Battery status of the printer.

Object type

Number

Description

Battery status obtained from the last printer status. This is read-only.
Default value: 0

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.onbatterylow = function () {
    alert(epos.battery);
  };
  epos.open();
//-->
</script>
```

timeout property

Specifies connection timeout.

Object type

Number

Description

Specifies connection timeout with ePOS-Print supported printer in milliseconds. When the transmission of print document by send method times out, onerror even is generated.
Default value: 300000 (5 minutes)

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var builder = new epson.ePOSBuilder();
  builder.addText('Hello, World!\n');
  builder.addCut();
  var request = builder.toString();

  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.timeout = 60000;
  epos.onreceive = function (res) { alert(res.success); };
  epos.onerror = function (err) { alert(err.status); };
  epos.send(request);
//-->
</script>
```

onreceive event

This property registers the callback function and obtains a response message receipt event.

Syntax

```
Function (response)
```

Parameter of the callback function

Parameters: response (See "Properties of the response object" on page 148.)

Name: Response message

Object type: Object

Properties of the response object

Property	Name	Object type
success (p. 148)	Print result	Boolean
code (p. 148)	Error code	String
status (p. 149)	Status	Number
battery (p. 150)	Battery status	Number

- Value of success

Value	Description
true or 1	Printing succeeded.
false or 0	Printing failed.

- Value of code

Value	Description
'EPTR_AUTOMATICAL'	An automatically recoverable error occurred
'EPTR_COVER_OPEN'	A cover open error occurred
'EPTR_CUTTER'	An autocutter error occurred
'EPTR_MECHANICAL'	A mechanical error occurred
'EPTR_REC_EMPTY'	No paper in roll paper end sensor
'EPTR_UNRECOVERABLE'	An unrecoverable error occurred
'SchemaError'	The request document contains a syntax error
'DeviceNotFound'	The printer with the specified device ID does not exist
'PrintSystemError'	An error occurred on the printing system
'EX_BADPORT'	An error was detected on the communication port
'EX_TIMEOUT'	A print timeout occurred

- Value of status

Constant (status)	Description
ASB_NO_RESPONSE	No response from the TM printer
ASB_PRINT_SUCCESS	Printing is successfully completed
ASB_DRAWER_KICK	Status of the 3rd pin of the drawer kick-out connector = "H"
ASB_BATTERY_OFFLINE	Battery offline status (only for applicable devices) (in firmware Ver.2.2 and later)
ASB_OFF_LINE	Offline
ASB_COVER_OPEN	The cover is open
ASB_PAPER_FEED	Paper is being fed by a paper feed switch operation
ASB_WAIT_ON_LINE	Waiting to be brought back online
ASB_PANEL_SWITCH	The paper feed switch is being pressed (ON)
ASB_MECHANICAL_ERR	A mechanical error occurred
ASB_AUTOCUTTER_ERR	An autocutter error occurred
ASB_UNRECOVER_ERR	An unrecoverable error occurred
ASB_AUTORECOVER_ERR	An automatically recoverable error occurred
ASB_RECEIPT_NEAR_END	No paper in roll paper near end sensor
ASB_RECEIPT_END	No paper in roll paper end sensor
ASB_BUZZER	A buzzer is on (only for applicable devices)
ASB_WAIT_REMOVE_LABEL	Waiting for label to be removed (only for applicable devices)
ASB_NO_LABEL	No paper in label peeling sensor (only for applicable devices)
ASB_SPOOLER_IS_STOPPED	The spooler has stopped (Not used)

- Value of battery
  Status of power

Value (battery)	Description
0x30XX	The AC adapter is connected
0x31XX	The AC adapter is connected

Remaining battery

Value (battery)	Description
0xXX36	Battery amount 6
0xXX35	Battery amount 5
0xXX34	Battery amount 4
0xXX33	Battery amount 3
0xXX32	Battery amount 2
0xXX31	Battery amount 1 (Near end)
0xXX30	Battery amount 0 (Real end)

0 is shown when the model doesn't have a battery installed.

Example

To create and send a print document.
To display the print result in a message box.

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function printHellowWorld() {

var builder = new epson.ePOSBuilder();
builder.addText('Hello, World!\n');
builder.addCut();
var request = builder.toString();

var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
var epos = new epson.ePOSPrint(address);
epos.onreceive = function (res) {
  var success = res.success;
  var code = res.code;
  var status = res.status;
  alert(success);
}
epos.send(request);
}
//-->
</script>
```

onerror event

This property registers the callback function and obtains a communication error event.

Syntax

```
Function (error)
```

Parameter of the callback function

Parameters:	error (See "Properties of the error object" on page 151.)
Name:	Communication error information
Object type:	Object

Properties of the error object

Property	Name	Object type
status	HTTP Status	Number
responseText	Response text	String

Example

To create and send a print document.
To display the HTTP status code in a message box when a communication error occurs.

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function printHellowWorld() {

var builder = new epson.ePOSBuilder();
builder.addText('Hello, World!\n');
builder.addCut();
var request = builder.toString();

var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
var epos = new epson.ePOSPrint(address);
epos.onerror = function (err) {
  var status = err.status;
  var text = err.responseText;
  alert(status);
}
epos.send(request);
}
//-->
</script>
```

onstatuschange event

Registers a callback function to obtain a status change event. (in firmware Ver.1.2 and later)

Syntax

```
Function (status)
```

Parameter of the callback function

Parameters:	status
Name:	Status
Object type:	Number

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.onstatuschange = function (status) {
    alert(status);
  };
  epos.open();
//-->
</script>
```

onbatterystatuschange event

Registers call back function and obtains battery status change event. (in firmware Ver.2.2 and later)

Object type

Function (battery)

Parameter of the callback function

Parameters:	battery
Name:	Batterystatus
Object type:	Number

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.onbatterystatuschange = function (battery) {
    alert(battery);
  };
  epos.open();
//-->
</script>
```

ononline event

Registers a callback function to obtain a online event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.ononline = function () {
    alert('online');
  };
  epos.open();
//-->
</script>
```

onoffline event

Registers a callback function to obtain a offline event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.onoffline = function () {
    alert('offline');
  };
  epos.open();
//-->
</script>
```

onpoweroff event

Registers a callback function to obtain a non-response event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.onpoweroff = function () {
    alert('poweroff');
  };
  epos.open();
//-->
</script>
```

oncoverok event

Registers a callback function to obtain a cover close event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.oncoverok = function () {
    alert('coverok');
  };
  epos.open();
//-->
</script>
```

oncoveropen event

Registers a callback function to obtain a cover open event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.oncoveropen = function () {
    alert('coveropen');
  };
  epos.open();
//-->
</script>
```

onpaperok event

Registers a callback function to obtain a paper remaining event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.onpaperok = function () {
    alert('paperok');
  };
  epos.open();
//-->
</script>
```

onpapernearend event

Registers a callback function to obtain a paper near end event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.onpapernearend = function () {
    alert('papernearend');
  };
  epos.open();
//-->
</script>
```

onpaperend event

Registers a callback function to obtain a paper end event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.onpaperend = function () {
    alert('paperend');
  };
  epos.open();
//-->
</script>
```

ondrawerclosed event

Registers a callback function to obtain a drawer close event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.ondrawerclosed = function () {
    alert('drawerclosed');
  };
  epos.open();
//-->
</script>
```

ondraweropen event

Registers a callback function to obtain a drawer open event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.ondraweropen = function () {
    alert('draweropen');
  };
  epos.open();
//-->
</script>
```

onbatteryok event

Registers call back function and obtains remaining battery event. (in firmware Ver.2.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.onbatteryok = function () {
    alert('batteryok');
  };
  epos.open();
//-->
</script>
```

onbatterylow event

Registers call back function and obtains no remaining battery event. (in firmware Ver.2.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.ePOSPrint(address);
  epos.onbatterylow = function () {
    alert('batterylow');
  };
  epos.open();
//-->
</script>
```

ePOS-Print Canvas API

This chapter describes the ePOS-Print Canvas API.

List of ePOS-Print Canvas API functions

The ePOS-Print Canvas API provides the following object:

❏ ePOS-Print Canvas API (window.epson.CanvasPrint) object (p. 161)

window.epson.CanvasPrint Components

Element	API	Description	Page
Constructor			
	CanvasPrint	Initializes an ePOS-Print Canvas API object.	164
method			
	print	Prints an HTML5 Canvas image.	165
	open	Enables status event operation (in firmware Ver.1.2 and later)	167
	close	Disables status event operation (in firmware Ver.1.2 and later)	168
	recover	Recovers from an error (in firmware Ver.3.0 and later)	169
	reset	Resets the printer (in firmware Ver.3.0 and later)	169
Property			
	address	URL of the printer (in firmware Ver.1.2 and later)	170
	enabled	Enabling/disabling of status event (in firmware Ver.1.2 and later)	171
	interval	Printer status update interval (in firmware Ver.1.2 and later)	172
	status	Status (in firmware Ver.1.2 and later)	173
	battery	Battery status	174
	timeout	Connection timeout	175
	halftone	Raster image halftone processing method (in firmware Ver.1.2 and later)	176
	brightness	Raster image brightness correction value (in firmware Ver.1.2 and later)	177
	cut	Paper cut	178

Element	API	Description	Page
Property			
	mode	Color mode (in firmware Ver.1.2 and later)	179
	align	Position alignment	180
	color	Printing color	181
	feed	Control of label paper/black mark paper (in firmware Ver.2.1 and later)	182
	paper	Type of papers (in firmware Ver.2.1 and later)	183
	layout	Paper layout (in firmware Ver.2.2 and later)	184
Event			
	onreceive	Response message receipt event	189
	onerror	Communication error event	192
	onstatuschange	Status change event (in firmware Ver.1.2 and later)	193
	onbatterystatuschange	Battery status change event (in firmware Ver.2.2 and later)	194
	onbatteryok	Battery OK event (in firmware Ver.2.2 and later)	195
	onbatterylow	Battery low event (in firmware Ver.2.2 and later)	195
	ononline	Online event (in firmware Ver.1.2 and later)	196
	onoffline	Offline event (in firmware Ver.1.2 and later)	196
	onpoweroff	Non-response event (in firmware Ver.1.2 and later)	197
	oncoverok	Cover close event (in firmware Ver.1.2 and later)	197
	oncoveropen	Cover open event (in firmware Ver.1.2 and later)	198
	onpaperok	Paper remaining event (in firmware Ver.1.2 and later)	198
	onpapernearend	Paper near end event (in firmware Ver.1.2 and later)	199
	onpaperend	Paper end event (in firmware Ver.1.2 and later)	199
	ondrawerclosed	Drawer close event (in firmware Ver.1.2 and later)	200
	ondraweropen	Drawer open event (in firmware Ver.1.2 and later)	200

Element	API	Description	Page
Constant			
	ASB_*	Response document status	
	HALFTONE_*	Halftone type	
	MODE_*	Color mode	
	ALIGN_*	Position alignment	
	COLOR_*	Color specification	
	FEED_*	Paper feed position of label paper/black mark paper	
	PAPER_*	Type of papers	

ePOS-Print Canvas API Object

Prints a print image rendered in HTML5 Canvas and monitors the print result or the communication status.

Constructor

Constructor for an ePOS-Print Canvas API object.
Creates a new ePOS-Print Canvas API object and initializes it.

Syntax

```
CanvasPrint(address);
```

Parameter

- address : (Optional parameter, Object type : String)
  Specifies the address property (URL of printer to be used for printing).
  The URL is as follows:

  http://(ePOS-Print supported TM printer)/cgi-bin/epos/service.cgi?devid=(device ID of printer to be used for printing)&timeout=(timeout time)

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function printCanvas() {
 var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
 var epos = new epson.CanvasPrint(address);
}
//-->
</script>
```

print method

Prints an image rendered in HTML5 Canvas.
Converts the specified range in a RGBA full-color image of HTML5 Canvas into raster image data according to the settings of the halftone and brightness properties. One pixel in an image equals to one printer dot. When an image contains any transparent color, the background color of the image is assumed to be white.

If an HTML5 Canvas image contains images downloaded from different domains, you cannot print the image. In this case, a security error occurs due to violation of the same origin policy of JavaScript.

Syntax

1 `print(canvas);`

2 `print(canvas, cut, mode);`

2 is the syntax of compatible version. It is recommended to use the syntax of 1.

Parameter

- canvas : (Required parameter, Object type : canvas)
  Specify the HTML5 Canvas object to be printed.
- cut : (Optional parameter, Object type : Boolean)
  Sets whether to cut paper.

Setting	Decription
true or 1	Cuts the paper after printing
false or 0	Does not cut the paper after printing
undefined	Does not cut the paper after printing

- mode : (Optional parameter, Object type : String)
  Specifies the color mode. (in firmware Ver.1.2 and later)

Setting	Decription
MODE_MONO	Monochrome (two-tone)
MODE_GRAY16	Multiple tones (16-tone)
undefined	Monochrome (two-tone)

Exception

Exception	Object type
Parameter " ... " is invalid	Error
XMLHttpRequest is not supported	Error
Canvas is not supported	Error

Example

To print Canvas(ID='myCanvas'):

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function printCanvas() {
var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
var canvas = document.getElementById('myCanvas');

var epos = new epson.CanvasPrint(address);
epos.onreceive = function (res) { alert(res.success); };
epos.onerror = function (err) { alert(err.status); };
epos.print(canvas);
}
//-->
</script>
```

open method

Enables status event operation. (in firmware Ver.1.2 and later)
Sends the status of the printer specified by the address property using an event.
Updates the status at the interval specified by the interval property.

Syntax

```
open();
```

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
var epos = new epson.CanvasPrint(address);
  epos.oncoveropen = function () {
    alert('coveropen');
  };

function startMonitor() {
  epos.open();
}

function stopMonitor() {
  epos.close();
}
//-->
</script>
```

close method

Disables status event operation. (in firmware Ver.1.2 and later)

Syntax

```
close();
```

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
var epos = new epson.CanvasPrint(address);
  epos.oncoveropen = function () {
    alert('coveropen');
  };

function startMonitor() {
  epos.open();
}

function stopMonitor() {
  epos.close();
}
//-->
</script>
```

recover method

Recovers from an error.(in firmware Ver.3.0 and later)
Recovers from errors that can be recovered from and clears the buffer.

Syntax

```
recover();
```

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
var epos = new epson.CanvasPrint(address);
  epos.oncoveropen = function () {
    alert('coveropen');
  };

function recover() {
  epos.recover();
}
//-->
</script>
```

reset method

Resets the printer. (in firmware Ver.3.0 and later)

Syntax

```
reset();
```

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
var epos = new epson.CanvasPrint(address);
  epos.oncoveropen = function () {
    alert('coveropen');
  };

function reset() {
  epos.reset();
}
//-->
</script>
```

address property

URL of the printer. (in firmware Ver.1.2 and later)

Object type

String

Description

The URL of the printer to be used for printing is specified.
The URL is shown as follows:

http://(IP address of ePOS-Print supported TM printer)/cgi-bin/epos/service.cgi?devid=(device ID of printer to be used for printing)&timeout=(timeout time)

The default value is the address specified by the constructor.

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var epos = new epson.CanvasPrint();
  epos.address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  epos.oncoveropen = function () { alert('coveropen'); };
  epos.open();
//-->
</script>
```

enabled property

Retains the enabled/disabled setting for status event operation. (in firmware Ver.1.2 and later)

Object type

Boolean

Description

The enabled/disabled setting for status event operation is retained using a logical value. This is read-only. The default value is false.

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.oncoveropen = function () { alert('coveropen'); };
  epos.open();
  alert(epos.enabled);
//-->
</script>
```

interval property

Specifies the interval of upgrading the status. (in firmware Ver.1.2 and later)

Object type

Number

Description

The interval of upgrading the status is specified in milliseconds.
Default value: 3000 (three seconds)
Minimum value: 1000 (one second or longer)
When an invalid value is specified, it is assumed to be 3000.

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.interval = 1000;
  epos.oncoveropen = function () { alert('coveropen'); };
  epos.open();
//-->
</script>
```

status property

Status of the printer. (in firmware Ver.1.2 and later)

Object type

Number

Description

This is the status last obtained from the printer. This is read-only.
Default value: 0

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.onoffline = function () {
    alert(epos.status);
  };
  epos.open();
//-->
</script>
```

battery property

Battery status of the printer.

Object type

Number

Description

Battery status obtained from the last printer status. This is read-only.
Default value: 0

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.onbatterylow = function () {
    alert(epos.battery);
  };
  epos.open();
//-->
</script>
```

timeout property

Specifies connection timeout.

Object type

Number

Description

Specifies connection timeout with ePOS-Print supported printer in milliseconds.
When the transmission of print document by print method times out, onerror even is generated.
Default value: 300000 (5 minutes)

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var canvas = document.getElementById('myCanvas');

  var epos = new epson.CanvasPrint(address);
  epos.timeout = 60000;
  epos.onreceive = function (res) { alert(res.success); };

  epos.onerror = function (err) { alert(err.status); };
  epos.print(canvas);
//-->
</script>
```

halftone property

Halftone processing method. (in firmware Ver.1.2 and later)

Object type

String

Description

The halftone processing method to be applied to monochrome (two-tone) printing is specified.
The default value is HALFTONE_DITHER.

Constant	Description
HALFTONE_DITHER	Dithering, suitable for printing graphics only.
HALFTONE_ERROR_DIFFUSION	Error diffusion, suitable for printing text and graphics together.
HALFTONE_THRESHOLD	Threshold, suitable for printing text only.

Example

To set the halftone type as error diffusion:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var canvas = document.getElementById('myCanvas');

  var epos = new epson.CanvasPrint(address);
  epos.halftone = epos.HALFTONE_ERROR_DIFFUSION;
  epos.print(canvas);
//-->
</script>
```

brightness property

Brightness correction value. (in firmware Ver.1.2 and later)

Object type

Number

Description

A gamma value in the range 0.1-10.0 is specified for the brightness correction value.
The default value is 1.0.

Example

To set brightness as 2.2:

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var canvas = document.getElementById('myCanvas');

  var epos = new epson.CanvasPrint(address);
  epos.brightness = 2.2;
  epos.print(canvas);
//-->
</script>
```

cut property

It sets with or without paper cut.

Object type

Boolean

Description

It specifies with or without paper cut.

Value	Decription
true/1	Cut paper after printing
false/0 (Default)	Do not cut paper

Example

It sets paper cut after printing.

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var canvas = document.getElementById('myCanvas');

  var epos = new epson.CanvasPrint(address);
  epos.cut = true;
  epos.print(canvas);
//-->
</script>
```

mode property

It sets the color mode.

Object type

String

Description

It specifies the color mode.

Value	Decription
MODE_MONO (Default)	Monochrome (2-tone)
MODE_GRAY16	Multiple tones (16-tone)

Example

Prints with multiple tones.

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var canvas = document.getElementById('myCanvas');

  var epos = new epson.CanvasPrint(address);
  epos.mode = epos.MODE_GRAY16;
  epos.print(canvas);
//-->
</script>
```

align property

It sets the position alignment.

Object type

String

Description

It specifies the position alignment.

Value	Decription
ALIGN_LEFT (Default)	Alignment to the left
ALIGN_CENTER	Alignment to the center
ALIGN_RIGHT	Alignment to the right

Example

Prints with center alignment.

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var canvas = document.getElementById('myCanvas');

  var epos = new epson.CanvasPrint(address);
  epos.align = epos.ALIGN_CENTER;
  epos.print(canvas);
//-->
</script>
```

color property

It sets printing color.

Object type

String

Description

It specifies printing color.

Value	Decription
COLOR_NONE	No printing
COLOR_1	1st color
COLOR_2	2nd color
COLOR_3	3rd color
COLOR_4	4th color

Example

Prints with the 2nd color.

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var canvas = document.getElementById('myCanvas');

  var epos = new epson.CanvasPrint(address);
  epos.color = epos.COLOR_2;
  epos.print(canvas);
//-->
</script>
```

feed property

It sets paper feed of label paper/black mark paper. (in firmware Ver.2.1 and later)

Object type

String

Description

Paper feed position of label paper/black mark paper.

Value	Decription
FEED_PEELING	Feeds to the peeling position.
FEED_CUTTING	Feeds to the cutting position.
FEED_CURRENT_TOF (Default)	Feeds to the top of the current label.
FEED_NEXT_TOF	Feeds to the top of the next label.

Example

After printing a label, it feeds paper to the peeling position.

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var canvas = document.getElementById('myCanvas');

  var epos = new epson.CanvasPrint(address);
  epos.paper = epos.PAPER_LABEL;
  epos.feed = epos.FEED_PEELING;
  epos.print(canvas);
//-->
</script>
```

paper property

It sets paper type. (in firmware Ver.2.1 and later)

Object type

String

Description

It specifies paper type.

Value	Decription
PAPER_RECEIPT (Default)	Receipt (without black mark)
PAPER_RECEIPT_BM	Receipt (with black mark)
PAPER_LABEL	Die-cut label (without black mark)
PAPAER_LABEL_BM	Die-cut label (with black mark)

Example

Prints a label.

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var canvas = document.getElementById('myCanvas');

  var epos = new epson.CanvasPrint(address);
  epos.paper = epos.PAPER_LABEL;
  epos.feed = epos.FEED_PEELING;
  epos.print(canvas);
//-->
</script>
```

layout property

It sets paper layout. (in firmware Ver.2.2 and later)

Object type

Object

Description

It specifies paper layout.

Property of layout being setup

Property	Name	Object type
width	Paper width	Number
height	Paper height	Number
margin_top	Top margin	Number
margin_bottom	Bottom margin	Number
offset_cut	Cutting position	Number
offset_label	Bottom position of label	Number

- Value of width (Object type : Number, When not specified : 580)
  Specifies paper width (in units of 0.1mm). Specifies an integer from 290 to 600. *
- Value of height (Object type : Number, When not specified : 0)
  Specifies paper height (in units of 0.1mm).

Paper type	Valid value range	Description
Receipt (without black mark)	0	Setup not necessary
Receipt (with black mark)	0 (auto) 284 to 1550 (manual) *	Distance from the top of black mark to the top of next black mark
Die-cut label (without black mark)		Distance from the top of label to the top of next label
Die-cut label (with black mark)		Distance from the bottom of black mark to the bottom of next black mark

- Value of margin_top (Object type : Number, When not specified : 0)
  Specifies top margin (in units of 0.1mm).

Paper type	Valid value range	Description
Receipt (without black mark)	0	Setup not necessary
Receipt (with black mark)	-150 to 1500 *	Distance from the top of black mark
Die-cut label (without black mark)	0 to 1500 *	Distance from the top of label
Die-cut label (with black mark)	-15 to 1500 *	Distance from the bottom of black mark

- Value of margin_bottom (Object type : Number, When not specified : 0)
  Specifies bottom margin (in units of 0.1mm).

Paper type	Valid value range	Description
Receipt (without black mark)	0	Setup not necessary
Receipt (with black mark)	0	
Die-cut label (without black mark)	-15 to 0 *	Distance from the bottom of label (paper feed direction is a positive number)
Die-cut label (with black mark)	-15 to 15 *	Distance from the top of black mark (paper feed direction is a positive number)

- Value of offset_cut (Object type : Number, When not specified : 0)
  Specifies cut position (in units of 0.1mm).
  In case of die cut label paper, it is a distance from the bottom of label.
  When a paper has black mark, it is a distance from the beginning of black mark.

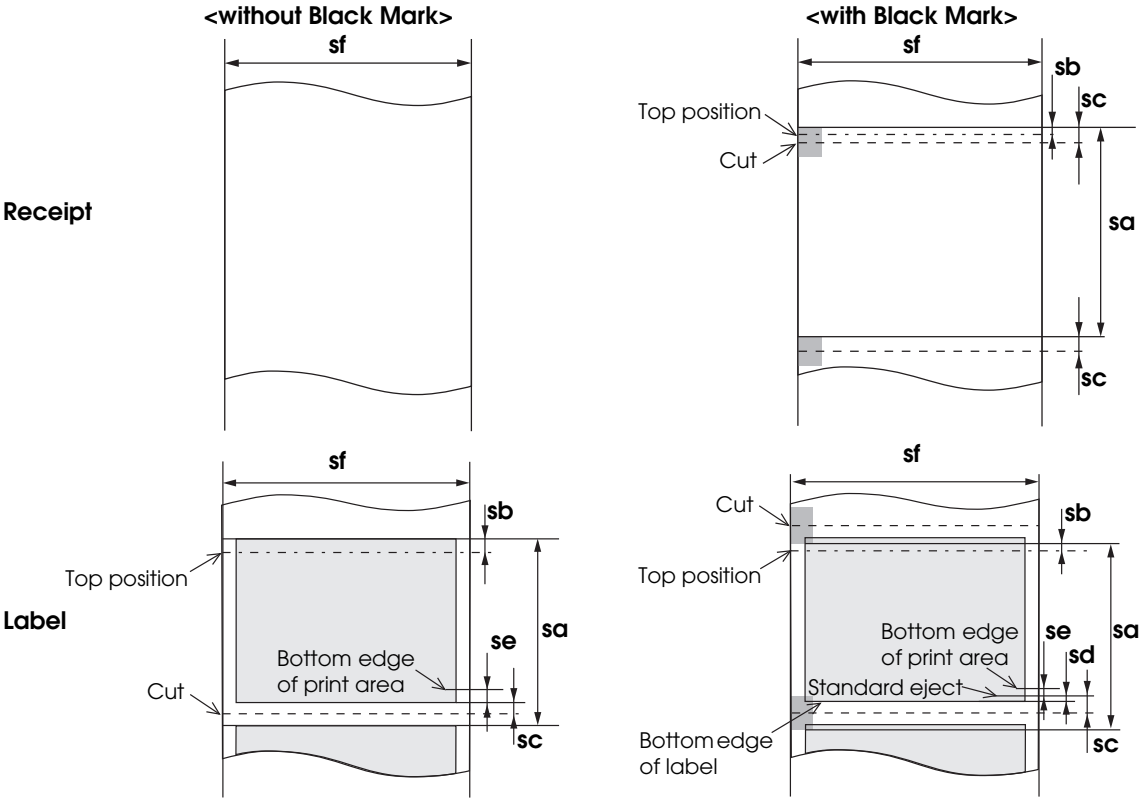
Paper type	Valid value range	Description
Receipt (without black mark)	0	Setup not necessary
Receipt (with black mark)	-290 to 50 *	Distance from the top of black mark to the top of next black mark
Die-cut label (without black mark)	0 to 50 *	Distance from the bottom of label to the cutting position
Die-cut label (with black mark)	0 to 50 *	Distance from the top of black mark to the cutting position

- Value of offset_label (Object type : Number, When not specified : 0)
  Specifies label bottom position (sd) per 0.1mm unit.

Paper type	Valid value range	Description
Receipt (without black mark)	0	Setup not necessary
Receipt (with black mark)	0	
Die-cut label (without black mark)	0	
Die-cut label (with black mark)	0 to 15 *	Distance from the top of black mark to the bottom of label

*: Valid value of range is depending on the printer model. For detail, refer to "Appendix - Printer Specifications".

Layout property positions that can be designated for each type of paper



Mark	Parameter
sf	width
sa	height
sb	margin_top
se	margin_bottom
sc	offset_cut
sd	offset_label

Example

To set 58mm receipt (without black mark):

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var canvas = document.getElementById('myCanvas');

  var epos = new epson.CanvasPrint(address);
  epos.paper = epos.PAPER_RECEIPT;
  epos.layout = { width: 580 };
  epos.cut = true;
  epos.print(canvas);
//-->
</script>
```

To set 58mm receipt (with black mark):

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var canvas = document.getElementById('myCanvas');

  var epos = new epson.CanvasPrint(address);
  epos.paper = epos.PAPER_RECEIPT_BM;
  epos.layout = { width: 580, height: 0, margin_top:15, offset_cut: 0 };
  epos.cut = true;
  epos.print(canvas);
//-->
</script>
```

To set 58mm die-cut label (without black mark):

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var canvas = document.getElementById('myCanvas');

  var epos = new epson.CanvasPrint(address);
  epos.paper = epos.PAPER_LABEL;
  epos.layout = { width: 580, height: 0, margin_top: 15, margin_bottom: -15,
                  offset_cut: 25 };
  epos.cut = true;
  epos.print(canvas);
//-->
</script>
```

To set 58mm die-cut label (with black mark):

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var canvas = document.getElementById('myCanvas');

  var epos = new epson.CanvasPrint(address);
  epos.paper = epos.PAPER_LABEL_BM;
  epos.layout = { width: 580, height: 0, margin_top: 15, margin_bottom: -15
                  offset_cut: 25, offset_label: 15 };
  epos.cut = true;
  epos.print(canvas);
//-->
</script>
```

onreceive event

This property registers the callback function and obtains a response message receipt event.

Syntax

```
Function (response)
```

Parameter of the callback function

Parameter: response (See "Properties of the response object" on page 189.)
Name: Response message
Object type: Object

Properties of the response object

Parameter	Name	Object type
success (p. 189)	Print result	Boolean
code (p. 189)	Error code	String
status (p. 190)	Status	Number
battery (p. 190)	Battery status	Number

- Value of success

Value	Decription
true or 1	Printing succeeded.
false or 0	Printing failed.

- Value of code

Value	Decription
'EPTR_AUTOMATICAL'	An automatically recoverable error occurred
'EPTR_COVER_OPEN'	A cover open error occurred
'EPTR_CUTTER'	An autocutter error occurred
'EPTR_MECHANICAL'	A mechanical error occurred
'EPTR_REC_EMPTY'	No paper in roll paper end sensor
'EPTR_UNRECOVERABLE'	An unrecoverable error occurred
'SchemaError'	The request document contains a syntax error
'DeviceNotFound'	The printer with the specified device ID does not exist
'PrintSystemError'	An error occurred on the printing system
'EX_BADPORT'	An error was detected on the communication port
'EX_TIMEOUT'	A print timeout occurred

- Value of satus

Constant (status)	Decription
ASB_NO_RESPONSE	No response from the TM printer
ASB_PRINT_SUCCESS	Printing is successfully completed
ASB_DRAWER_KICK	Status of the 3rd pin of the drawer kick-out connector = "H"
ASB_BATTERY_OFFLINE	Off line status from remaining battery (only for applicable devices) (in firmware Ver.2.2 and later)
ASB_OFF_LINE	Offline
ASB_COVER_OPEN	The cover is open
ASB_PAPER_FEED	Paper is being fed by a paper feed switch operation
ASB_WAIT_ON_LINE	Waiting to be brought back online
ASB_PANEL_SWITCH	The paper feed switch is being pressed (ON)
ASB_MECHANICAL_ERR	A mechanical error occurred
ASB_AUTOCUTTER_ERR	An autocutter error occurred
ASB_UNRECOVER_ERR	An unrecoverable error occurred
ASB_AUTORECOVER_ERR	An automatically recoverable error occurred
ASB_RECEIPT_NEAR_END	No paper in roll paper near end sensor
ASB_RECEIPT_END	No paper in roll paper end sensor
ASB_BUZZER	A buzzer is on (only for applicable devices)
ASB_WAIT_REMOVE_LABEL	Waiting period for removal of label (only for applicable devices) (in firmware Ver.2.1 and later)
ASB_NO_LABEL	No paper in label peeling sensor (only for applicable devices) (in firmware Ver.2.1 and later)
ASB_SPOOLER_IS_STOPPED	The spooler has stopped (Not used)

- Value of battery

  0 is shown when the model doesn't have a battery installed.

  Status of power

Value (battery)	Description
0x30XX	AC adapter is connected
0x31XX	AC adapter is not connected

Remaining battery

Value (battery)	Description
0xXX36	Remaining battery 6
0xXX35	Remaining battery 5
0xXX34	Remaining battery 4
0xXX33	Remaining battery 3
0xXX32	Remaining battery 2
0xXX31	Remaining battery 1 (Near end)
0xXX30	Remaining battery 0 (Real end)

Example

To print Canvas(ID=myCanvas):
To display the print result in a message box.

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function printCanvas() {
var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
var canvas = document.getElementById('myCanvas');

var epos = new epson.CanvasPrint(address);
epos.onreceive = function (res) {
  var success = res.success;
  var code = res.code;
  var status = res.status;
  alert(success);
};
epos.print(canvas);
}
//-->
</script>
```

onerror event

This property registers the callback function and obtains a communication error event.

Syntax

```
Function (error)
```

Parameter of the callback function

Parameter: error (See "Properties of the error object" on page 192.)

Name: Communication error information

Object type: Object

Properties of the error object

property	Name	Object type
status	HTTP status	Number
responseText	Responce text	String

Example

To print Canvas(ID=myCanvas):
To display the HTTP status code in a message box when a communication error occurs.

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
function printCanvas() {
var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
var canvas = document.getElementById('myCanvas');

var epos = new epson.CanvasPrint(address);
epos.onerror = function (err) {
  var status = err.status;
  var text = err.responseText;
  alert(status);
};
epos.print(canvas);
}
//-->
</script>
```

onstatuschange event

Registers a callback function to obtain a status change event. (in firmware Ver.1.2 and later)

Syntax

```
Function (status)
```

Parameter of the callback function

Parameters:	status
Name:	Status
Object type:	Number

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.onstatuschange = function (status) {
    alert(status);
  };
  epos.open();
//-->
</script>
```

onbatterystatuschange event

Registers call back function and obtains battery status change event. (in firmware Ver.2.2 and later)

Syntax

```
Function (battery)
```

Parameter of the callback function

Parameters:	battery
Name:	Battery status
Object type:	Number

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.onbatterystatuschange = function (battery) {
    alert(battery);
  };
  epos.open();
//-->
</script>
```

onbatteryok event

Registers call back function and obtains remaining battery event. (in firmware Ver.2.2 and later)

Syntax

```
Function ()
```

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.onbatteryok = function () {
    alert('batteryok');
  };
  epos.open();
//-->
</script>
```

onbatterylow event

Registers call back function and obtains no remaining battery event. (in firmware Ver.2.2 and later)

Syntax

```
Function ()
```

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.onbatterylow = function () {
    alert('batterylow');
  };
  epos.open();
//-->
</script>
```

ononline event

Registers a callback function to obtain a online event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.ononline = function () {
    alert('online');
  };
  epos.open();
//-->
</script>
```

onoffline event

Registers a callback function to obtain a offline event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.onoffline = function () {
    alert('offline');
  };
  epos.open();
//-->
</script>
```

onpoweroff event

Registers a callback function to obtain a non-response event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.onpoweroff = function () {
    alert('poweroff');
  };
  epos.open();
//-->
</script>
```

oncoverok event

Registers a callback function to obtain a cover close event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.oncoverok = function () {
    alert('coverok');
  };
  epos.open();
//-->
</script>
```

oncoveropen event

Registers a callback function to obtain a cover open event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.oncoveropen = function () {
    alert('coveropen');
  };
  epos.open();
//-->
</script>
```

onpaperok event

Registers a callback function to obtain a paper remaining event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.onpaperok = function () {
    alert('paperok');
  };
  epos.open();
//-->
</script>
```

onpapernearend event

Registers a callback function to obtain a paper near end event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.onpapernearend = function () {
    alert('papernearend');
  };
  epos.open();
//-->
</script>
```

onpaperend event

Registers a callback function to obtain a paper end event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.onpaperend = function () {
    alert('paperend');
  };
  epos.open();
//-->
</script>
```

ondrawerclosed event

Registers a callback function to obtain a drawer close event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.ondrawerclosed = function () {
    alert('drawerclosed');
  };
  epos.open();
//-->
</script>
```

ondraweropen event

Registers a callback function to obtain a drawer open event. (in firmware Ver.1.2 and later)

Object type

Function ()

Example

```
<script type="text/javascript" src="epos-print-3.x.x.js"></script>
<script type="text/javascript">
<!--
  var address = 'http://192.168.192.168/cgi-bin/epos/service.cgi?devid=local_printer';
  var epos = new epson.CanvasPrint(address);
  epos.ondraweropen = function () {
    alert('draweropen');
  };
  epos.open();
//-->
</script>
```

ePOS-Print Editor

This section describes how to use ePOS-Print Editor included in the contents in the package.
This tool allows you to create an ePOS-Print API (p. 59) sample code as you like. Use this tool for your Web application development.

ePOS-Print Editor Operating Environment

❏ Web Browser

- Windows Internet Explorer 9 or later
- Mozilla Firefox 13 or later
- Google Chrome 19 or later
- Apple Safari 5.1.7 or later
- iPad Safari in iOS 5.1 or later

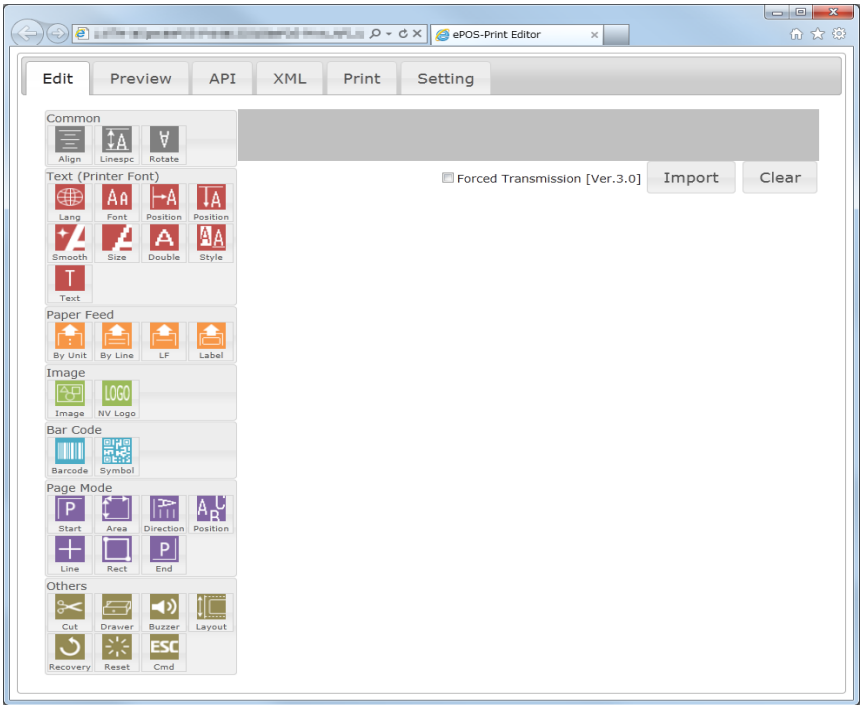
Displaying ePOS-Print Editor

- If opening a page with ePOS-Print Editor's HTML file placed on the local disk, some functionality does not operate due to your Web browser's security policy. Place the HTML file of ePOS Editor to a folder under Web server.
- In Google Chrome, when a preview image including pictures is displayed, a "SECURITY_ERR: DOM Exception 18" error occurs.
- In Windows Internet Explorer 9, when printing is performed, a "SCRIPT5: Access is denied." error occurs.

1 Open the following URL page using the Web browser.

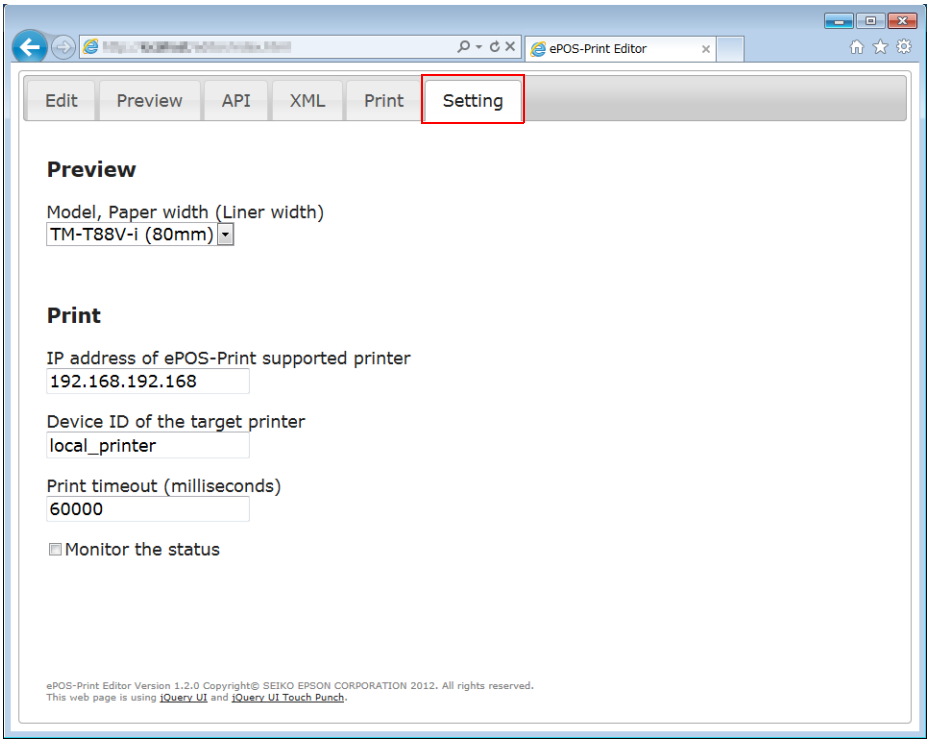
http://(Web server IP address)/editor/index.html

2 ePOS-Print Editor appears.



Setting

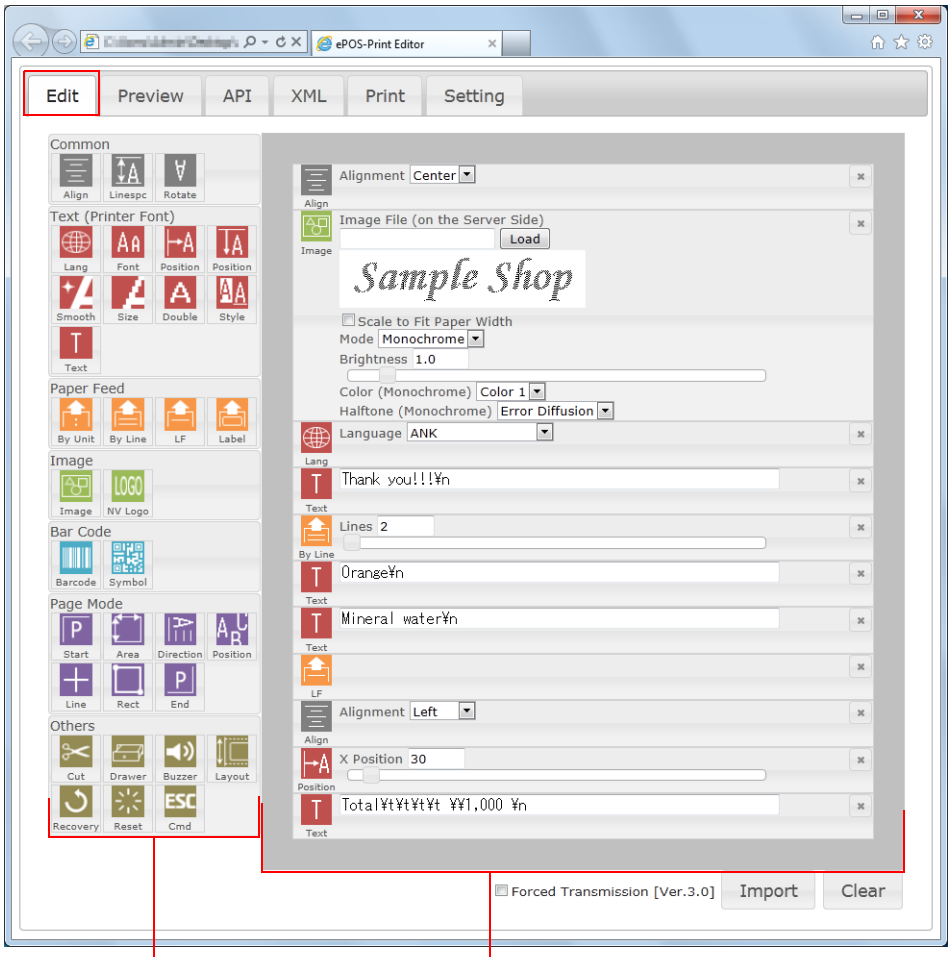
Perform the print setting and the preview setting. Select the (Setting) tab to display the Setting screen.



Item	Description
Model, Paper width (Liner width)	Select printer model to be used and paper width (for label paper, the mount width). The Preview screen resizes according to the paper width set to the model.
IP address of ePOS-Print supported TM printer	Specify the IP address of the printer. Be sure to specify this item.
Device ID of the target printer	Specify the device ID of the printer. Be sure to specify this item.
Print timeout (milliseconds)	Specify the print timeout time in milliseconds. The maximum value is 60000 (60 seconds).
Monitor the status	When this checkbox is checked, the printer's status is monitored.

Creating a Sample Code

Select the (Edit) tab to display the Edit screen. Create an ePOS-Print API sample code in the Edit screen.



Item	Description
Menu area	Displays the available functions. Click an icon to add it to the bottom of the edit area, and drag an icon to insert it anywhere in the edit area.
Edit area	Displays the functions selected in the menu area. Drag an element to change its position. An element can be deleted using the x button located on its right side.
Import	Using ePOS-Print XML, ePOS-Print Editor can import XML data stored in the past. For details, refer to Import (p.208).
Clear	Deletes the edited details.
Forced Transmission	Sets forced transmission mode.

Create a sample code as follows:

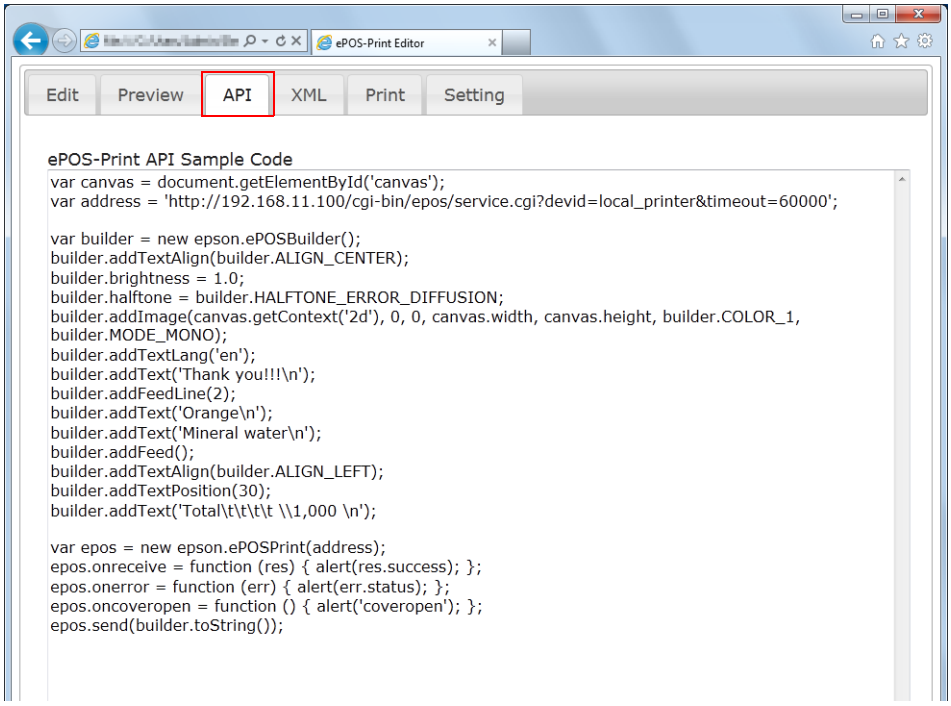
1 Click an icon in the menu area to add an element in the edit area.
The position of the added function can be changed by dragging.

2 Configure the added element.
Example: When the NV logo is added, set the key code.

3 Select the (Preview) tab to check the preview image.
When a printer is connected, you can also check the image by printing.
For details, refer to Print (p.207).

- Logo printing, barcode printing, 2D code printing, ESC command, buzzer sound, drawer kick, and paper cut are displayed as icons.
- The layout may change depending on the preview settings.
(For details, refer to Setting (p.203)).

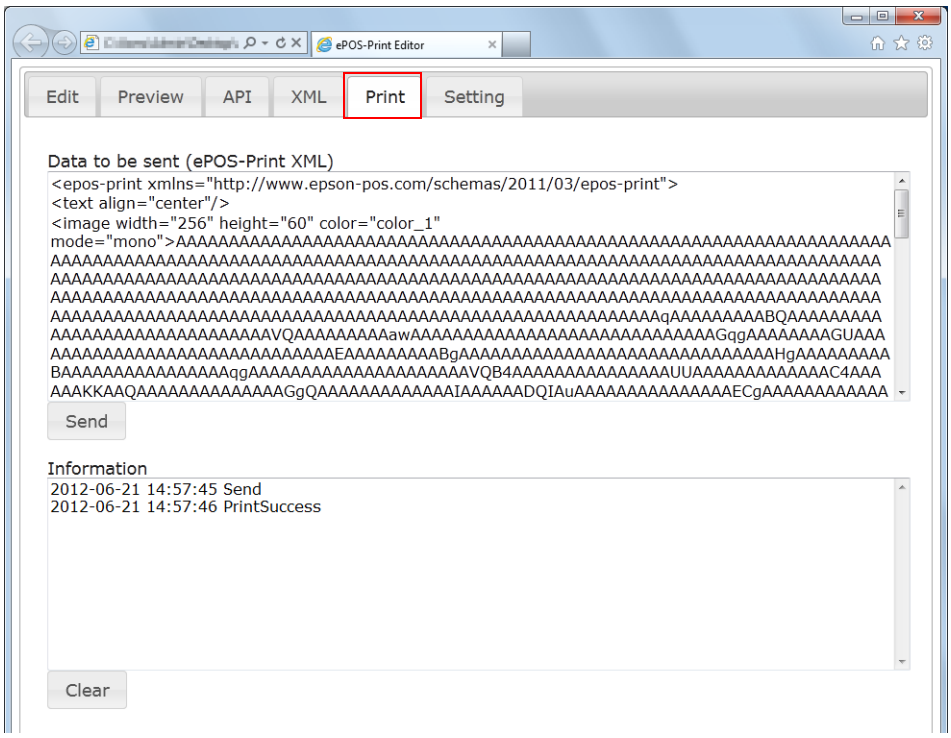
4 Select the (API) tab. The ePOS-Print API sample code appears. Use it by copying.



The ePOS-Print XML print document is used for importing. If necessary, select the XML tab and save the content of the ePOS-Print XML print document by copying.

Print

Using the printer, print the print document according to the printer's settings to perform test printing..
(For details on the printer settings, refer to Setting (p.203)).



Item	Description
Data to be sent (ePOS-Print XML)	The ePOS-Print XML document is displayed.
Send	Sends data to the printer and performs printing.
Information	Displays the print status.
Clear	Deletes the content in the (Information) box.

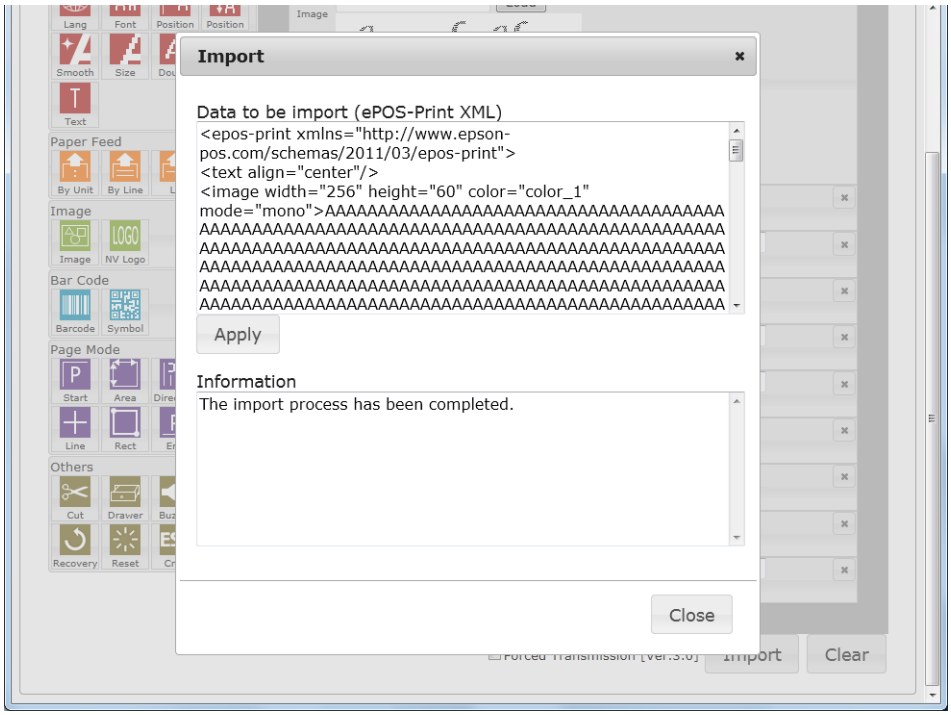
Perform printing as follows:

1. Select the (Print) tab.
2. Check the content in the (Data to be sent (ePOS-Print XML)) box and press the (Send) button.
   The ePOS-Print XML print document created using the (Edit) tab page is displayed in "Data to be sent (ePOS-Print XML)".
3. The print document is printed to ePOS-Print supported TM printer. The acquired status is displayed in the Information box.

Import

ePOS-Print Editor can import and re-edit the ePOS-Print XML print document once created.

> Note that you cannot perform import operation using ePOS-Print API source code.
> Perform import operation using ePOS-Print XML print data.



Item	Description
Data to be import (ePOS-Print XML)	Paste and check the ePOS-Print XML print document to be imported.
Apply	Imports the ePOS-Print XML print document.
Information	Displays the import information.
Close	Closes the Import screen.

ePOS-PrintEditor can import an ePOS-Print XML print document as follows:

1. Select the (Edit) tab and click the (Import) button.
2. The "Import" screen appears. Paste the ePOS-Print XML print document in the (Data to be import (ePOS-Print XML)) box.
3. Click the (Apply) button.
4. The "Confirmation" screen appears. Click the (Yes) button.

Appendix

Printer specifications

TM-T88V-i

		80mm
Interface		Ethernet, Wireless LAN
Resolution		180 dpi x 180 dpi (W x H)
Print Width		512 dots
Font		Font A, Font B For more information about what character codes can be printed, refer to the user's manual that came with the printer.
Characters in a Line	Font A	ANK: 42 characters
	Font B	ANK: 56 characters
Character Size	Font A	ANK: 12 dots x 24 dots (W x H)
	Font B	ANK: 9 dots x 17 dots (W x H)
Character Baseline	Font A	At the 21st dot from the top of the character
	Font B	At the 16th dot from the top of the character
Default Line Feed Space		30 dots
Color Specification		First color
Page Mode Default Area		512 dots x 831 dots (W x H)
Page Mode Maximum Area		512 dots x 1662 dots (W x H)
Raster image		Monochrome image, two-color image
Logo		Monochrome image, two-color image
Bar Code		UPC-A, UPC-E, EAN13, JAN13, EAN8, JAN8, CODE39, ITF, CODABAR, CODE93, CODE128, GS1-128,GS1 DataBar Omnidirectional, GS1 DataBar Truncated, GS1 DataBar Limited, GS1 Databar Expanded
Two-Dimensional Code		PDF417, QR Code, MaxiCode, GS1 DataBar Stacked, GS1 DataBar Stacked Omnidirectional, GS1 DataBar Expanded Stacked (Composite Symbology not supported)

	80mm
Ruled Line	Not supported
Paper Cut	Cut, Feed cut
Specification of the paper feed position for labels / black mark paper	Not supported
Drawer Kick-Out	Supported
Buzzer	Optional (Pattern A ~ Pattern E, Error, No paper, Stop)
Paper Layout Settings	Not supported
Forced transmission mode	Supported
Recovery from an error	Supported
Reset	Supported
Command	Supported

TM-T88V

		80mm	58mm
Interface		Ethernet, Wireless LAN	
Resolution		180 dpi x 180 dpi (W x H)	
Print Width		512 dots	360 dots
Font		Font A, Font B For more information about what character codes can be printed, refer to the user's manual that came with the printer.	
Characters in a Line	Font A	ANK: 42 characters	ANK: 30 characters
	Font B	ANK: 56 characters	ANK: 40 characters
Character Size	Font A	ANK: 12 dots x 24 dots (W x H)	
	Font B	ANK: 9 dots x 17 dots (W x H)	
Character Baseline	Font A	At the 21st dot from the top of the character	
	Font B	At the 16th dot from the top of the character	
Default Line Feed Space		30 dots	
Color Specification		First color	
Page Mode Default Area		512 dots x 831 dots (W x H)	360 dots x 831 dots (W x H)
Page Mode Maximum Area		512 dots x 1662 dots (W x H)	360 dots x 1662 dots (W x H)
Raster image		Monochrome image, two-color image	
Logo		Monochrome image, two-color image	
Bar Code		UPC-A, UPC-E, EAN13, JAN13, EAN8, JAN8, CODE39, ITF, CODABAR, CODE93, CODE128, GS1-128,GS1 DataBar Omnidirectional, GS1 DataBar Truncated, GS1 DataBar Limited, GS1 Databar Expanded	
Two-Dimensional Code		PDF417, QR Code, MaxiCode, GS1 DataBar Stacked, GS1 DataBar Stacked Omnidirectional, GS1 DataBar Expanded Stacked (Composite Symbology not supported)	
Ruled Line		Not supported	
Paper Cut		Cut, Feed cut	
Specification of the paper feed position for labels / black mark paper		Not supported	
Drawer Kick-Out		Supported	

	80mm	58mm
Buzzer	Optional (Pattern A ~ Pattern E, Error, No paper, Stop)	
Paper Layout Settings	Not supported	
Forced transmission mode	Supported	
Recovery from an error	Supported	
Reset	Supported	
Command	Supported	

TM-T88IV

		80mm	58mm
Interface		Ethernet, Wireless LAN	
Resolution		180 dpi x 180 dpi (W x H)	
Print Width		512 dots	360 dots
Font		Font A, Font B For more information about what character codes can be printed, refer to the user's manual that came with the printer.	
Characters in a Line	Font A	ANK: 42 characters	ANK: 30 characters
	Font B	ANK: 56 characters	ANK: 40 characters
Character Size	Font A	ANK: 12 dots x 24 dots (W x H)	
	Font B	ANK: 9 dots x 17 dots (W x H)	
Character Baseline	Font A	At the 21st dot from the top of the character	
	Font B	At the 16th dot from the top of the character	
Default Line Feed Space		30 dots	
Color Specification		First color First color, Second color (when two-color printing is set)	
Page Mode Default Area		512 dots x 831 dots (W x H)	360 dots x 831 dots (W x H)
	when two-color printing is set	512 dots x 415 dots (W x H)	360 dots x 415 dots (W x H)
Page Mode Maximum Area		512 dots x 1662 dots (W x H)	360 dots x 1662 dots (W x H)
	when two-color printing is set	512 dots x 831 dots (W x H)	360 dots x 831 dots (W x H)
Raster image		Monochrome image, two-color image	
Logo		Monochrome image, two-color image (To perform two-color printing, change the settings of the printer using the memory switch setting utility.)	
Bar Code		UPC-A, UPC-E, EAN13, JAN13, EAN8, JAN8, CODE39, ITF, CODABAR, CODE93, CODE128, GS1-128	
Two-Dimensional Code		PDF417, QR Code	
Ruled Line		Not supported	
Paper Cut		Cut, Feed cut	

	80mm	58mm
Specification of the paper feed position for labels / black mark paper	Not supported	
Drawer Kick-Out	Supported	
Buzzer	Not supported	
Paper Layout Settings	Not supported	
Forced transmission mode	Supported	
Recovery from an error	Supported	
Reset	Supported	
Command	Supported	

TM-T70-i

		80mm
Interface		Ethernet, Wireless LAN
Resolution		180 dpi x 180 dpi (W x H)
Print Width		512 dots
Font		Font A, Font B For more information about what character codes can be printed, refer to the user's manual that came with the printer.
Characters in a Line	Font A	ANK: 42 characters
	Font B	ANK: 56 characters
Character Size	Font A	ANK: 12 dots x 24 dots (W x H)
	Font B	ANK: 9 dots x 17 dots (W x H)
Character Baseline	Font A	At the 21st dot from the top of the character
	Font B	At the 15th dot from the top of the character
Default Line Feed Space		30 dots
Color Specification		First color
Page Mode Default Area		512 dots x 1662 dots (W x H)
Page Mode Maximum Area		512 dots x 1662 dots (W x H)
Raster image		Monochrome image
Logo		Monochrome image
Bar Code		UPC-A, UPC-E, EAN13, JAN13, EAN8, JAN8, CODE39, ITF, CODABAR, CODE93, CODE128
Two-Dimensional Code		PDF417, QR Code
Ruled Line		Not supported
Paper Cut		Cut, Feed cut
Specification of the paper feed position for labels / black mark paper		Not supported
Drawer Kick-Out		Supported
Buzzer		Not supported
Paper Layout Settings		Not supported

	80mm
Forced transmission mode	Supported
Recovery from an error	Supported
Reset	Supported
Command	Supported

TM-T70-i (Multi-language model)

		80mm
Interface		Ethernet, Wireless LAN
Resolution		203 dpi x 203 dpi (W x H)
Print Width		576 dots
Font		Font A, Font B For more information about what character codes can be printed, refer to the user's manual that came with the printer.
Characters in a Line	Font A	ANK: 48 characters
	Font B	ANK: 64 characters
Character Size	Font A	ANK: 12 dots x 24 dots (W x H)
	Font B	ANK: 9 dots x 17 dots (W x H)
Character Baseline	Font A	At the 21st dot from the top of the character
	Font B	At the 15th dot from the top of the character
Default Line Feed Space		30 dots
Color Specification		First color
Page Mode Default Area		576 dots x 1662 dots (W x H)
Page Mode Maximum Area		576 dots x 1662 dots (W x H)
Raster image		Monochrome image
Logo		Monochrome image
Bar Code		UPC-A, UPC-E, EAN13, JAN13, EAN8, JAN8, CODE39, ITF, CODABAR, CODE93, CODE128
Two-Dimensional Code		PDF417, QR Code
Ruled Line		Not supported
Paper Cut		Cut, Feed cut
Specification of the paper feed position for labels / black mark paper		Not supported
Drawer Kick-Out		Supported
Buzzer		Not supported
Paper Layout Settings		Not supported

	80mm
Forced transmission mode	Supported
Recovery from an error	Supported
Reset	Supported
Command	Supported

TM-T70

		80mm
Interface		Ethernet, Wireless LAN
Resolution		180 dpi x 180 dpi (W x H)
Print Width		512 dots
Font		Font A, Font B For more information about what character codes can be printed, refer to the user's manual that came with the printer.
Characters in a Line	Font A	ANK: 42 characters
	Font B	ANK: 56 characters
Character Size	Font A	ANK: 12 dots x 24 dots (W x H)
	Font B	ANK: 9 dots x 17 dots (W x H)
Character Baseline	Font A	At the 21st dot from the top of the character
	Font B	At the 15th dot from the top of the character
Default Line Feed Space		30 dots
Color Specification		First color
Page Mode Default Area		512 dots x 1662 dots (W x H)
Page Mode Maximum Area		512 dots x 1662 dots (W x H)
Raster image		Monochrome image
Logo		Monochrome image
Bar Code		UPC-A, UPC-E, EAN13, JAN13, EAN8, JAN8, CODE39, ITF, CODABAR, CODE93, CODE128
Two-Dimensional Code		PDF417, QR Code
Ruled Line		Not supported
Paper Cut		Cut, Feed cut
Specification of the paper feed position for labels / black mark paper		Not supported
Drawer Kick-Out		Supported
Buzzer		Not supported

	80mm
Paper Layout Settings	Not supported
Forced transmission mode	Supported
Recovery from an error	Supported
Reset	Supported
Command	Supported

TM-T70 (Multi-language model)

		80mm	58mm
Interface		Ethernet, Wireless LAN	
Resolution		203 dpi x 203 dpi (W x H)	
Print Width		576 dots	416 dots
Font		Font A, Font B For more information about what character codes can be printed, refer to the user's manual that came with the printer.	
Characters in a Line	Font A	ANK: 42 characters	ANK: 34 characters
	Font B	ANK: 56 characters	ANK: 46 characters
Character Size	Font A	ANK: 12 dots x 24 dots (W x H)	
	Font B	ANK: 9 dots x 17 dots (W x H)	
Character Baseline	Font A	At the 21st dot from the top of the character	
	Font B	At the 15th dot from the top of the character	
Default Line Feed Space		30 dots	
Color Specification		First color	
Page Mode Default Area		576 dots x 1662 dots (W x H)	416 dots x 1662 dots (W x H)
Page Mode Maximum Area		576 dots x 1662 dots (W x H)	416 dots x 1662 dots (W x H)
Raster image		Monochrome image	
Logo		Monochrome image	
Bar Code		UPC-A, UPC-E, EAN13, JAN13, EAN8, JAN8, CODE39, ITF, CODABAR, CODE93, CODE128	
Two-Dimensional Code		PDF417, QR Code	
Ruled Line		Not supported	
Paper Cut		Cut, Feed cut	
Specification of the paper feed position for labels / black mark paper		Not supported	
Drawer Kick-Out		Supported	
Buzzer		Not supported	
Paper Layout Settings		Not supported	

	80mm	58mm
Forced transmission mode	Supported	
Recovery from an error	Supported	
Reset	Supported	
Command	Supported	

TM-L90-i

		Receipt	Die-cut label
Interface		Ethernet, Wireless LAN	
Resolution		203 dpi x 203 dpi (W x H)	
Print Width		256 dots (38mm) to 576 dots (80mm)	224 dots (38mm) to 560 dots (80mm)
Font		Font A, Font B, Font C For more information about what character codes can be printed, refer to the user's manual that came with the printer.	
Characters in a Line	Font A	ANK: 48 characters,	ANK: 46 characters
	Font B	ANK: 57 characters	ANK: 56 characters
	Font C	ANK: 72 characters	ANK: 70 characters
Character Size	Font A	ANK: 12 dots x 24 dots (W x H)	
	Font B	ANK: 10 dots x 24 dots (W x H)	
	Font C	ANK: 8 dots x 16 dots (W x H)	
Character Baseline	Font A	At the 21st dot from the top of the character	
	Font B	At the 21 st dot from the top of the character	
	Font C	At the 15 st dot from the top of the character	
Default Line Feed Space		30 dots	
Color Specification		First color First color, Second color (when two-color printing is set)	
Raster Image		Monochrome image, Two color image	
Logo		Monochrome image, Two color image (To perform two-color printing, change the settings of the printer using the memory switch setting utility.)	
Bar Code		UPC-A, UPC-E, EAN13, JAN13, EAN8, JAN8, CODE39, ITF, CODABAR, CODE93, CODE128	
Two-Dimensional Code		PDF417, QR Code, MaxiCode	
Ruled Line		Not supported	

		Receipt	Die-cut label
Page Mode Default Area		576 dots x 738 dots (W x H)	560 dots x 738 dots (W x H)
	when two-color printing is set	576 dots x 369 dots (W x H)	560 dots x 369 dots (W x H)
Page Mode Maximum Area		576 dots x 1476 dots (W x H)	560 dots x 1476 dots (W x H)
	when two-color printing is set	576 dots x 738 dots (W x H)	560 dots x 738 dots (W x H)
Page Mode	Line	Not supported	
	Rectangle		
Paper Cut		Cut, Feed cut	
Specification of the paper feed position for labels / black mark paper		Supported	
Drawer Kick-Out		Supported	
Buzzer		Not supported	
Paper Layout Settings		Not supported (With automatic setup mode)	
Forced transmission mode		Supported	
Recovery from an error		Supported	
Reset		Supported	
Command		Supported	

TM-L90

		Receipt	Die-cut label
Interface		Ethernet, Wireless LAN	
Resolution		203 dpi x 203 dpi (W x H)	
Print Width		256 dots (38mm) to 576 dots (80mm)	224 dots (38mm) to 560 dots (80mm)
Font		Font A, Font B, Font C For more information about what character codes can be printed, refer to the user's manual that came with the printer.	
Characters in a Line	Font A	ANK: 48 characters,	ANK: 46 characters
	Font B	ANK: 57 characters	ANK: 56 characters
	Font C	ANK: 72 characters	ANK: 70 characters
Character Size	Font A	ANK: 12 dots x 24 dots (W x H)	
	Font B	ANK: 10 dots x 24 dots (W x H)	
	Font C	ANK: 8 dots x 16 dots (W x H)	
Character Baseline	Font A	At the 21st dot from the top of the character	
	Font B	At the 21 st dot from the top of the character	
	Font C	At the 15 st dot from the top of the character	
Default Line Feed Space		30 dots	
Color Specification		First color First color, Second color (when two-color printing is set)	
Raster Image		Monochrome image, Two color image	
Logo		Monochrome image, Two color image (To perform two-color printing, change the settings of the printer using the memory switch setting utility.)	
Bar Code		UPC-A, UPC-E, EAN13, JAN13, EAN8, JAN8, CODE39, ITF, CODABAR, CODE93, CODE128	
Two-Dimensional Code		PDF417, QR Code, MaxiCode	
Ruled Line		Not supported	

		Receipt	Die-cut label
Page Mode Default Area		576 dots x 738 dots (W x H)	560 dots x 738 dots (W x H)
	when two-color printing is set	576 dots x 369 dots (W x H)	560 dots x 369 dots (W x H)
Page Mode Maximum Area		576 dots x 1476 dots (W x H)	560 dots x 1476 dots (W x H)
	when two-color printing is set	576 dots x 738 dots (W x H)	560 dots x 738 dots (W x H)
Page Mode	Line	Not supported	
	Rectangle		
Paper Cut		Cut, Feed cut	
Specification of the paper feed position for labels / black mark paper		Supported	
Drawer Kick-Out		Supported	
Buzzer		Not supported	
Paper Layout Settings		Not supported (With automatic setup mode)	
Forced transmission mode		Supported	
Recovery from an error		Supported	
Reset		Supported	
Command		Supported	

TM-T90

		58mm	60mm	80mm
Interface		Ethernet, Wireless LAN		
Resolution		180 dpi x 180 dpi (W x H)		
Print Width		360 dots	384 dots	512 dots
Font		Font A, Font B For more information about what character codes can be printed, refer to the user's manual that came with the printer.		
Characters in a Line	Font A	ANK: 30 characters,	ANK: 32 characters	ANK: 42 characters
	Font B	ANK: 40 characters	ANK: 42 characters	ANK: 56 characters
Character Size	Font A	ANK: 12 dots x 24 dots (W x H)		
	Font B	ANK: 9 dots x 17 dots (W x H)		
Character Baseline	Font A	At the 21st dot from the top of the character		
	Font B	At the 16 th dot from the top of the character		
Default Line Feed Space		30 dots		
Color Specification		First color First color, Second color (when two-color printing is set)		
Raster Image		Monochrome image, Two color image		
Logo		Monochrome image, Two color image (To perform two-color printing, change the settings of the printer using the memory switch setting utility.)		
Bar Code		UPC-A, UPC-E, EAN13, JAN13, EAN8, JAN8, CODE39, ITF, CODABAR, CODE93, CODE128		
Two-Dimensional Code		PDF417		
Ruled Line		Not supported		
Page Mode Default Area		360 dots x 831 dots (W x H)	384 dots x 831 dots (W x H)	512 dots x 831 dots (W x H)
	when two-color printing is set	360 dots x 415 dots (W x H)	384 dots x 415 dots (W x H)	512 dots x 415 dots (W x H)

		58mm	60mm	80mm
Page Mode Maximum Area		360 dots x 1662 dots (W x H)	384 dots x 1662 dots (W x H)	512 dots x 1662 dots (W x H)
when two-color printing is set		360 dots x 831 dots (W x H)	384 dots x 831 dots (W x H)	512 dots x 831 dots (W x H)
Page Mode	Line	Not supported		
	Rectangle			
Specification of the paper feed position for labels / black mark paper		Not supported		
Paper Cut		Cut, Feed cut		
Drawer Kick-Out		Supported		
Buzzer		Supported via Drawer Kick-Out		
Paper Layout Settings		Not supported		
Forced transmission mode		Supported		
Recovery from an error		Supported		
Reset		Supported		
Command		Supported		

TM-P60II

		Receipt 58mm	Receipt 60mm
Interface		Wireless LAN	
Resolution		203 dpi x 203 dpi (W x H)	
Print Width		420 dots	432 dots
Font		Font A, Font B, Font C For more information about what character codes can be printed, refer to the user's manual that came with the printer.	
Characters in a Line	Font A	ANK: 35 characters,	ANK: 36 characters
	Font B	ANK: 42 characters	ANK: 43 characters
	Font C	ANK: 52 characters	ANK: 54 characters
Character Size	Font A	ANK: 12 dots x 24 dots (W x H)	
	Font B	ANK: 10 dots x 24 dots (W x H)	
	Font C	ANK: 8 dots x 16 dots (W x H)	
Character Baseline	Font A	At the 21st dot from the top of the character	
	Font B	At the 21 st dot from the top of the character	
	Font C	At the 15 th dot from the top of the character	
Default Line Feed Space		30 dots	
Color Specification		First color	
Raster Image		Monochrome image	
Logo		Monochrome image	
Bar Code		UPC-A, UPC-E, EAN13, JAN13, EAN8, JAN8, CODE39, ITF, CODABAR, CODE93, CODE128, GS1-128, GS1 DataBar Omnidirectional, GS1 DataBar Truncated, GS1 DataBar Limited, GS1 DataBar Expanded	
Two-Dimensional Code		PDF417, QR Code, MaxiCode, GS1 DataBar Stacked, GS1 DataBar Stacked Omnidirectional, GS1 DataBar Expanded Stacked, Aztec Code, DataMatrix (Composit Symbology : Not supported)	
Ruled Line		Not supported	
Page Mode Default Area		420 dots x 1200 dots (W x H)	432 dots x 1200 dots (W x H)
Page Mode Maximum Area		420 dots x 1200 dots (W x H)	432 dots x 1200 dots (W x H)

		Receipt 58mm	Receipt 60mm
Page Mode	Line	Supported (Only solid line)	
	Rectangle		
Paper Cut		Cut, Feed cut	
Specification of the paper feed position for labels / black mark paper		Not supported	
Drawer Kick-Out		Not supported	
Buzzer		Support (Pattern1 ~ Pattern 10, Stop)	
Paper Layout Settings		Not supported	
Forced transmission mode		Supported	
Recovery from an error		Supported	
Reset		Supported	
Command		Supported	

TM-P60II with Peeler

		Receipt 58mm	Receipt 60mm	Die-cut label
Interface		Wireless LAN		
Resolution		203 dpi x 203 dpi (W x H)		
Print Width		420 dots	432 dots	160 dots ~ 400 dots
Font		Font A, Font B, Font C For more information about what character codes can be printed, refer to the user's manual that came with the printer.		
Characters in a Line	Font A	ANK: 35 characters,	ANK: 36 characters	ANK: 33 characters
	Font B	ANK: 42 characters	ANK: 43 characters	ANK: 40 characters
	Font C	ANK: 52 characters	ANK: 54 characters	ANK: 50 characters
Character Size	Font A	ANK: 12 dots x 24 dots (W x H)		
	Font B	ANK: 10 dots x 24 dots (W x H)		
	Font C	ANK: 8 dots x 16 dots (W x H)		
Character Baseline	Font A	At the 21st dot from the top of the character		
	Font B	At the 21 st dot from the top of the character		
	Font C	At the 15 th dot from the top of the character		
Default Line Feed Space		30 dots		
Color Specification		First color		
Raster Image		Monochrome image		
Logo		Monochrome image		
Bar Code		UPC-A, UPC-E, EAN13, JAN13, EAN8, JAN8, CODE39, ITF, CODABAR, CODE93, CODE128, GS1-128, GS1 DataBar Omnidirectional, GS1 DataBar Truncated, GS1 DataBar Limited, GS1 DataBar Expanded		
Two-Dimensional Code		PDF417, QR Code, MaxiCode, GS1 DataBar Stacked, GS1 DataBar Stacked Omnidirectional, GS1 DataBar Expanded Stacked, Aztec Code, DataMatrix (Composit Symbology : Not supported)		
Ruled Line		Not supported		
Page Mode Default Area		420 dots x 1200 dots (W x H)	432 dots x 1200 dots (W x H)	400 dots x 1200 dots (W x H)

		Receipt 58mm	Receipt 60mm	Die-cut label
Page Mode Maximum Area		420 dots x 1200 dots (W x H)	432 dots x 1200 dots (W x H)	400 dots x 1200 dots (W x H)
Page Mode	Line	Supported (Only solid line)		
	Rectangle			
Paper Cut		Feed cut (Feeds paper to cutting position)		
Specification of the paper feed position for labels / black mark paper		Supported		
Drawer Kick-Out		Not supported		
Buzzer		Support (Pattern1 ~ Pattern 10, Stop)		
Paper Layout Settings		Supported		
Forced transmission mode		Supported		
Recovery from an error		Supported		
Reset		Supported		
Command		Supported		

Paper Layout

Paper type	Receipt paper (without black mark)	Receipt paper (with black mark)	Die-cut label paper (without black mark)	Die-cut label paper (with black mark)
width (sf)	290 to 600	290 to 600	290 to 600	290 to 600
height (sa)	0	0, 284 to 1550	0, 284 to 1550	0, 284 to 1550
margin_top (sb)	0	-130 to 1500	0 to 1500	-15 to 1500
margin_bottom (se)	0	0	-15 to 0	-15 to 15
offset_cut (sc)	0	-256 to 50	0 to 50	0 to 50
offset_label (sd)	0	0	0	0 to 15

TM-P80

		Receipt 80 mm
Interface		Wireless LAN
Resolution		203 dpi x 203 dpi (W x H)
Print Width		576 dots, 546 dots (42 column mode)
Font		Font A, Font B For more information about what character codes can be printed, refer to the user's manual that came with the printer.
Characters in a Line	Font A	ANK: 48 characters,
	Font B	ANK: 64 characters
	Font A (42 column mode)	ANK: 42 characters
	Font B (42 column mode)	ANK: 60 characters
Character Size	Font A	ANK: 12 dots x 24 dots (W x H)
	Font B	ANK: 9 dots x 17 dots (W x H)
	Font A	ANK: 13 dots x 24 dots (W x H)
	Font B	ANK: 9 dots x 17 dots (W x H)
Character Baseline	Font A	At the 21st dot from the top of the character
	Font B	At the 15 th dot from the top of the character
Default Line Feed Space		3.75 mm {0.15"}
Color Specification		First color
Raster Image		Monochrome image
Logo		Monochrome image
Bar Code		UPC-A, UPC-E, EAN13, JAN13, EAN8, JAN8, CODE39, ITF, CODABAR, CODE93, CODE128, GS1-128, GS1 DataBar Omnidirectional, GS1 DataBar Truncated, GS1 DataBar Limited, GS1 DataBar Expanded

		Receipt 80 mm
Two-Dimensional Code		PDF417, QR Code, MaxiCode, GS1 DataBar Stacked, GS1 DataBar Stacked Omnidirectional, GS1 DataBar Expanded Stacked, Aztec Code, DataMatrix
Ruled Line		Not supported
Page Mode Default Area		576 dots x 1662 dots (W x H), 546 dots x 1662 dots (W x H) (42 column mode)
Page Mode Maximum Area		576 dots x 1662 dots (W x H), 546 dots x 1662 dots (W x H) (42 column mode)
Page Mode	Line	Supported (Only solid line)
	Rectangle	
Paper Cut		Feed cut (Feeds paper to cutting position)
Specification of the paper feed position for labels / black mark paper		Supported (Only for black mark paper)
Drawer Kick-Out		Not supported
Buzzer		Support (Pattern1 ~ Pattern 10, Stop)
Paper Layout Settings		Supported (Only for receipt paper)
Forced transmission mode		Supported
Recovery from an error		Supported
Reset		Supported
Command		Supported

Paper Layout

Paper type	Receipt paper (without black mark)	Receipt paper (with black mark)
width (sf)	800	800
height (sa)	0	0, 284 to 3100
margin_top (sb)	0	-98 to 3100
margin_bottom (se)	0	0
offset_cut (sc)	0	-173 to 50
offset_label (sd)	0	0

TM-T20

		58mm	80mm
Interface		Ethernet	
Resolution		203 dpi x 203 dpi (W x H)	
Print Width		420 dots	576 dots
Font		Font A, Font B For more information about what character codes can be printed, refer to the user's manual that came with the printer.	
Characters in a Line	Font A	ANK: 35 characters,	ANK: 48 characters
	Font B	ANK: 46 characters	ANK: 64 characters
Character Size	Font A	ANK: 12 dots x 24 dots (W x H)	
	Font B	ANK: 9 dots x 17 dots (W x H)	
Character Baseline	Font A	At the 21st dot from the top of the character	
	Font B	At the 16 st dot from the top of the character	
Default Line Feed Space		30 dots	
Color Specification		First color	
Raster Image		Monochrome image	
Logo		Monochrome image	
Bar Code		UPC-A, UPC-E, EAN13, JAN13, EAN8, JAN8, CODE39, ITF, CODABAR, CODE93, CODE128, GS1-128, GS1 DataBar Omnidirectional, GS1 DataBar Truncated, GS1 DataBar Limited, GS1 DataBar Expanded	
Two-Dimensional Code		PDF417, QR Code, MaxiCode, GS1 DataBar Stacked, GS1 DataBar Stacked Omnidirectional, GS1 DataBar Expanded Stacked (Composit Symbology : Not supported)	
Ruled Line		Not supported	
Page Mode Default Area		420 dots x 831 dots (W x H)	576 dots x 831 dots (W x H)
Page Mode Maximum Area		420 dots x 1662 dots (W x H)	576 dots x 1662 dots (W x H)
Page Mode	Line	Not supported	
	Rectangle		
Paper Cut		Cut, Feed cut	

	58mm	80mm
Specification of the paper feed position for labels / black mark paper	Not supported	
Drawer Kick-Out	Supported	
Buzzer	Optional (Pattern A ~ Pattern E, Error, No paper, Stop)	
Paper Layout Settings	Not supported	
Forced transmission mode	Supported	
Recovery from an error	Supported	
Reset	Supported	
Command	Supported	

TM-U220

		76mm	70mm	58mm
Interface		Ethernet, Wireless LAN		
Resolution		80 dpi x 72 dpi (W x H)		
Print Width		200 dots	180 dots	150 dots
Font		Font A, Font B For more information about what character codes can be printed, refer to the user's manual that came with the printer.		
Characters in a Line	Font A	ANK: 33 characters,	ANK: 30 characters	ANK: 25 characters
	Font B	ANK: 40 characters	ANK: 36 characters	ANK: 30 characters
Character Size	Font A	ANK: 4.5 dots x 9 dots (W x H)		
	Font B	ANK: 3.5 dots x 9 dots (W x H)		
Character Baseline	Font A	Bottom of the characters		
	Font B	Bottom of the characters		
Default Line Feed Space		12 dots		
Color Specification		First color First color, Second color (When using a two-color ribbon cassette)		
Raster Image		Monochrome image		
Logo		Not supported		
Bar Code		Not supported		
Two-Dimensional Code		Not supported		
Ruled Line		Not supported		
Page Mode Default Area		Not supported		
Page Mode Maximum Area		Not supported		
Page Mode	Line	Not supported		
	Rectangle			
Paper Cut		Cut, Feed cut		

	76mm	70mm	58mm
Specification of the paper feed position for labels / black mark paper	Not supported		
Drawer Kick-Out	Supported		
Buzzer	Not supported		
Paper Layout Settings	Not supported		
Forced transmission mode	Not supported		
Recovery from an error	Not supported		
Reset	Supported		
Command	Supported		

Paper setting function of TM-L90

Setting Paper Width

It sets the paper width with memory switch setting mode.

1. Turn the printer's power off and set the receipt paper.
2. While the cover is opened, turn the power on while pressing the FEED button.
3. After confirming the ERROR LED lights up, press the FEED button twice and close the cover.
4. Select the paper width according to the operation method to be printed.

Automatic setting of paper layout

1. Turn the printer's power off and set the paper.
2. While the cover is opened, turn the power on while pressing the FEED button.
3. After confirming the ERROR LED lights up, press the FEED button 6 times and close the cover.

In case of TM-L90-i, keep pressing the FEED button after the ERROR LED gets turned off once and lights up again.

Rendering in HTML5 Canvas

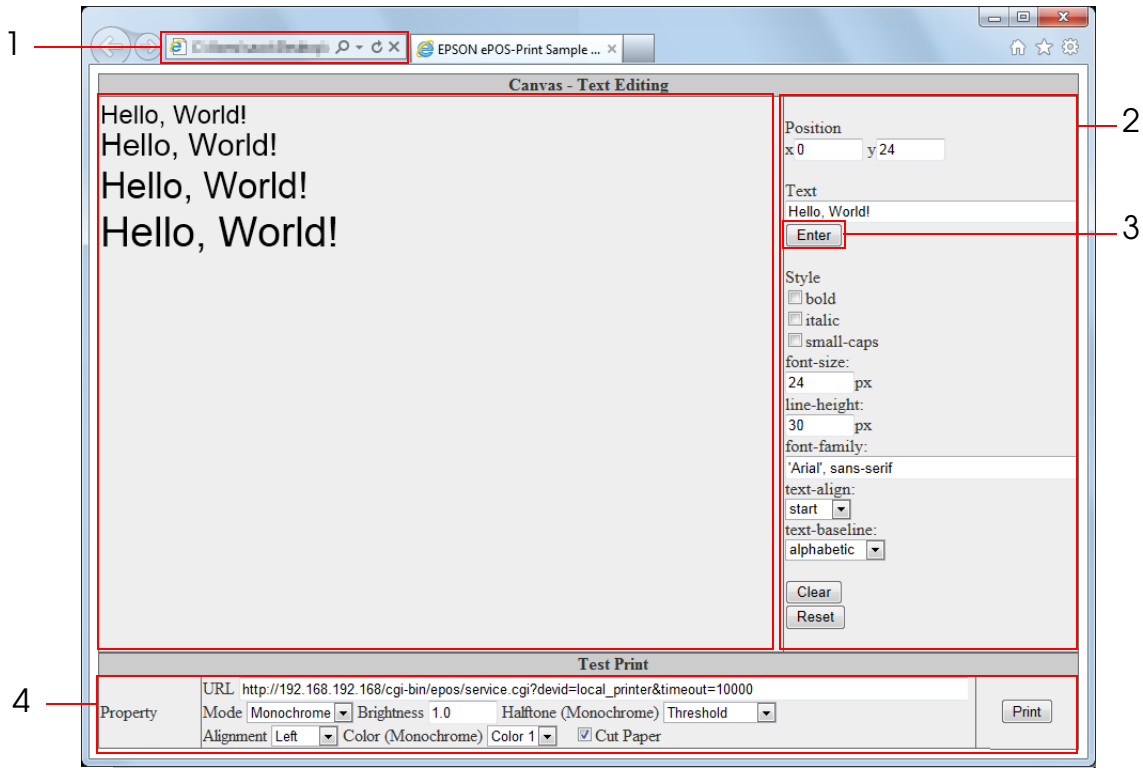
This section describes how to use Web pages using the ePOS-Print Canvas API in the package. You can try how to render images in HTML5 Canvas and see what images can be rendered. The following Web pages are available:

- Rendering Text (canvas-print-text.html) (p.241)
- Rendering Images (canvas-print-image.html) (p.243)
- Rendering Graphics (canvas-print-graph.html) (p.245)
- Rendering Handwritten Images (canvas-print-hand.html) (p.247)
- Rendering Barcode (canvas-print-barcode.html) (p.249)
- Rendering Barcode (canvas-print-barcode.html) (p.249)

The Web pages introduced here are embedded into the sample program. For the details about how to place them, refer to Environment Settings (p.33).

Rendering Text (canvas-print-text.html)

Print text in HTML5 Canvas and perform a test print.



1 Open the following URL page using the Web browser.

http://(Web server IP address)/canvas/canvas-print-text.html

2 "EPSON ePOS-Print Sample Program" appears.

Set items on the right of the page. The following items can be set:

Item	Dscription
Position	Specify the rendering coordinates
Text	Specify the text to be printed
Style	Specify the text style
Clear	Clears the image drawn in the Canvas
Reset	Clears the image drawn in the Canvas. In addition, the settings are reset to their default values.

3 Click the (Enter) button.
The text is printed on Canvas on the left of the page according to the settings made on the right of the page.

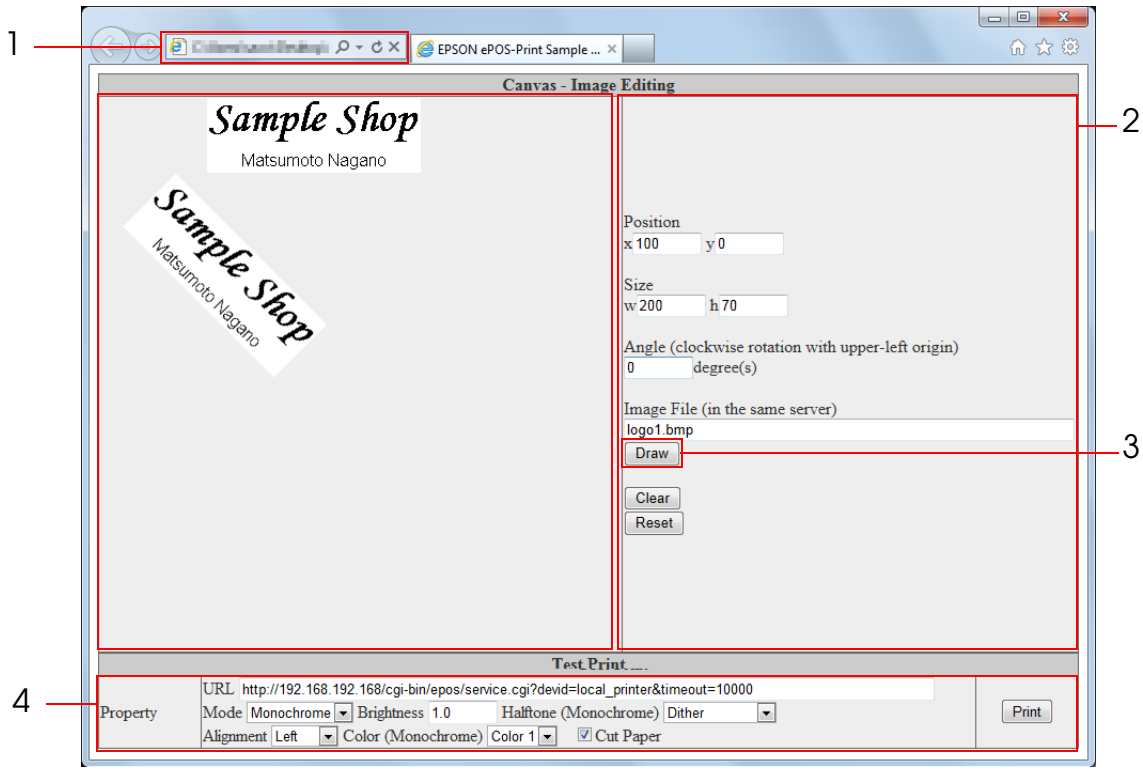
4 Set the following and click the (Print) button.

Item	Dscription
URL	Enter the following URL: http://(IP address of ePOS-Print supported TM printer)/cgi-bin/epos/service.cgi?devid=(device ID of printer to be used for printing)&timeout=(timeout time)
Mode	Set the color mode (Monochrome, Grayscale).
Brightness	Adjust the brightness. (Gamma value in the range 0.1-10.0)
Halftone	Set the halftone processing method for monochrome printing (two-tone).
Cut Paper	When this item is selected, feed cut is performed after printing.
Alignment	Specify the printing position alignment.
Color(Monochrome)	Specify the printing color in 2-tone.

5 The print result is displayed.

Rendering Images (canvas-print-image.html)

Draw an image in HTML5 Canvas and perform a test print.



1 Open the following URL page using the Web browser.
http://(Web server IP address)/canvas/canvas-print-image.html

2 "EPSON ePOS-Print Sample Program" appears.
Set items on the right of the page. The following items can be set:

Item	Description
Position	Specify the rendering coordinates
Size	Specify the width and height of the image.
Angle	Specify the rotation angle of the image. The rotation angle is counted clockwise from the top left corner.
Image File (in the same server)	Specify the path to the image file. In this Web page, specify the name of an image file placed under the same directory as this Web page.
Clear	Clears the image drawn in the Canvas.
Reset	Clears the image drawn in the Canvas. In addition, the settings are reset to their default values.

3 Click the (Draw) button.
The image is drawn on Canvas on the left of the page according to the settings made on the right of the page.

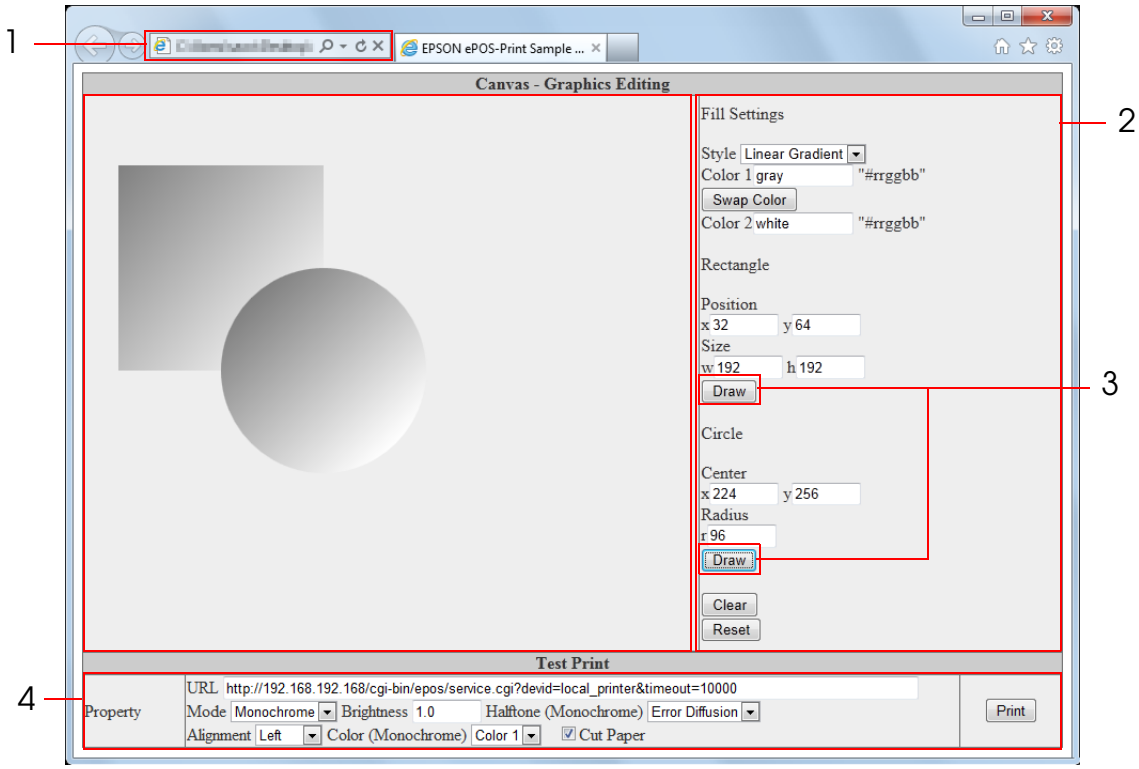
4 Set the following and click the (Print) button.

Item	Description
URL	Enter the following URL: http://(IP address of ePOS-Print supported TM printer)/cgi-bin/epos/service.cgi?devid=(device ID of printer to be used for printing)&timeout=(timeout time)
Mode	Set the color mode (Monochrome, Grayscale).
Brightness	Adjust the brightness. (Gamma value in the range 0.1-10.0)
Halftone	Set the halftone processing method for monochrome printing (two-tone).
Cut Paper	When this item is selected, feed cut is performed after printing.
Alignment	Specify the printing position alignment.
Color(Monochrome)	Specify the printing color in 2-tone.

5 The print result is displayed.

Rendering Graphics (canvas-print-graph.html)

Draw an image in HTML5 Canvas and perform a test print.



1 Open the following URL page using the Web browser.

http://(Web server IP address)/canvas/canvas-print-graph.html

2 "EPSON ePOS-Print Sample Program" appears.

Set items on the right of the page. The following items can be set:

Item	Desctiption
Fill Settings	Specify the fill type and color
Rectangle	Specify the start coordinates, width and height.
Circle	Specify the central coordinates and radius.
Clear	Clears the image drawn in the Canvas
Reset	Clears the image drawn in the Canvas. In addition, the settings are reset to their default values.

3 Click the (Draw) button.

The image is drawn on Canvas on the left of the page according to the settings made on the right of the page.

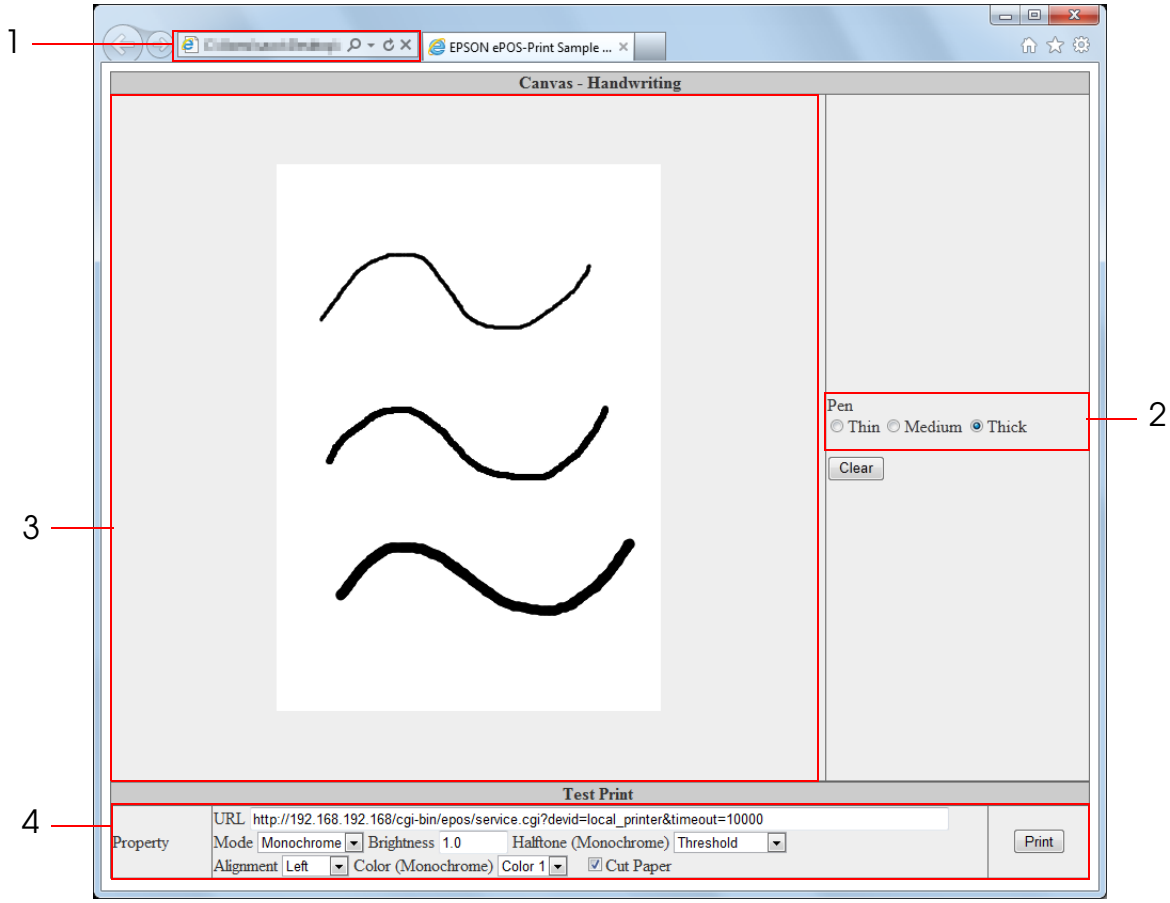
4 Set the following and click the (Print) button.

Item	Description
URL	Enter the following URL: http://(IP address of ePOS-Print supported TM printer)/cgi-bin/epos/service.cgi?devid=(device ID of printer to be used for printing)&timeout=(timeout time)
Mode	Set the color mode (Monochrome, Grayscale).
Brightness	Adjust the brightness. (Gamma value in the range 0.1-10.0)
Halftone	Set the halftone processing method for monochrome printing (two-tone).
Cut Paper	When this item is selected, feed cut is performed after printing.
Alignment	Specify the printing position alignment.
Color(Monochrome)	Specify the printing color in 2-tone.

5 The print result is displayed.0

Rendering Handwritten Images (canvas-print-hand.html)

Draw a handwritten image and perform a test print.



1 Open the following URL page using the Web browser.
http://(Web server IP address)/canvas/canvas-print-hand.html

2 "EPSON ePOS-Print Sample Program" appears. Set the size of the pen on the right of the page.

3 Draw a freehand line on Canvas on the left of the page. For the mouse, drag it to draw a line; for the touch screen monitor, draw a line on the touch screen.

> To erase the drawn image, click the [Clear] button.

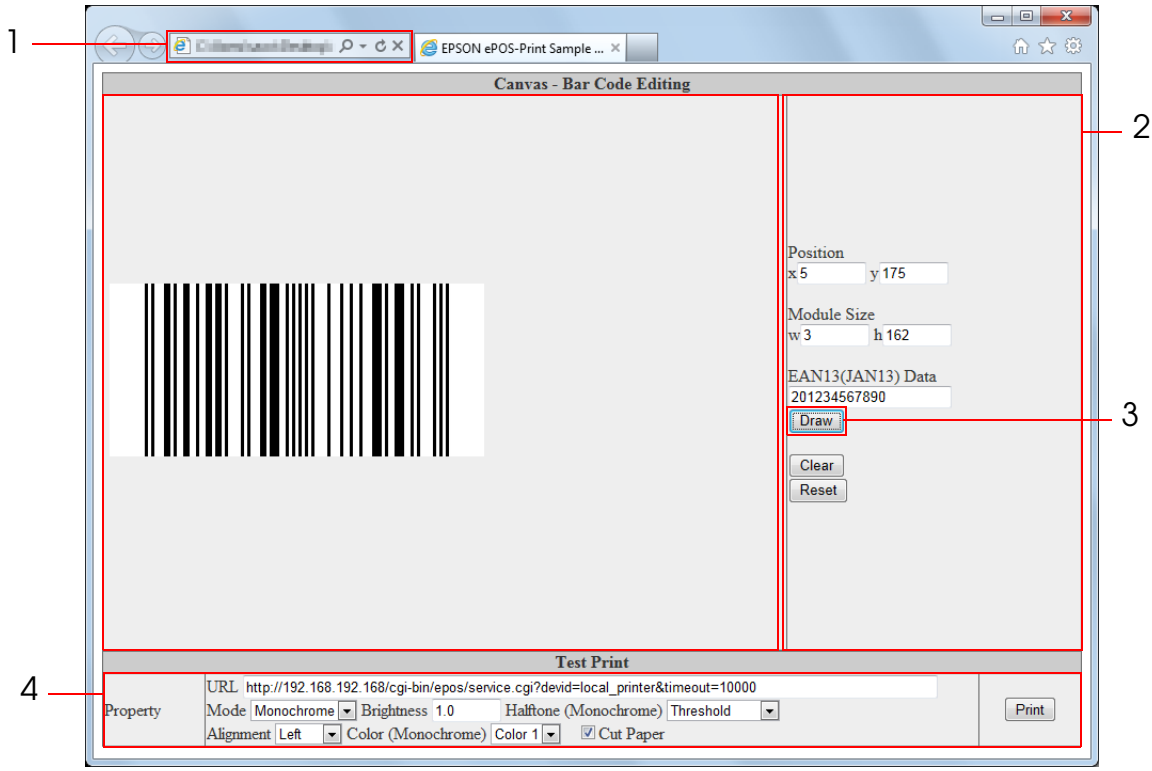
4 Set the following and click the (Print) button.

Item	Description
URL	Enter the following URL: http://(IP address of ePOS-Print supported TM printer)/cgi-bin/epos/service.cgi?devid=(device ID of printer to be used for printing)&timeout=(timeout time)
Mode	Set the color mode (Monochrome, Grayscale).
Brightness	Adjust the brightness. (Gamma value in the range 0.1-10.0)
Halftone	Set the halftone processing method for monochrome printing (two-tone).
Cut Paper	When this item is selected, feed cut is performed after printing.
Alignment	Specify the printing position alignment.
Color(Monochrome)	Specify the printing color in 2-tone.

5 The print result is displayed.

Rendering Barcode (canvas-print-barcode.html)

Draw a barcode in HTML5 Canvas and perform a test print.
In the following example, an EAN13, JAN13 or UPC-A is drawn.



1 Open the following URL page using the Web browser.
http://(Web server IP address)/canvas/canvas-print-barcode.html

2 "EPSON ePOS-Print Sample Program" appears.
Set items on the right of the page. The following items can be set:

Item	Description
Position	Specify the rendering coordinates.
Module Size	Specify the width and height of the bars.
Data	Specify EAN13 (JAN13) data. For 12-digit numerical data, calculate and add the check digit. For 13-digit numerical data, verify the check digit. For UPC-A data, add 0 at the start of the string to make it 12-or 13-digit data.
Clear	Clears the image drawn in the Canvas.
Reset	Clears the image drawn in the Canvas. In addition, the settings are reset to their default values.

3 Click the (Draw) button.
The image is drawn on Canvas on the left of the page according to the settings made on the right of the page.

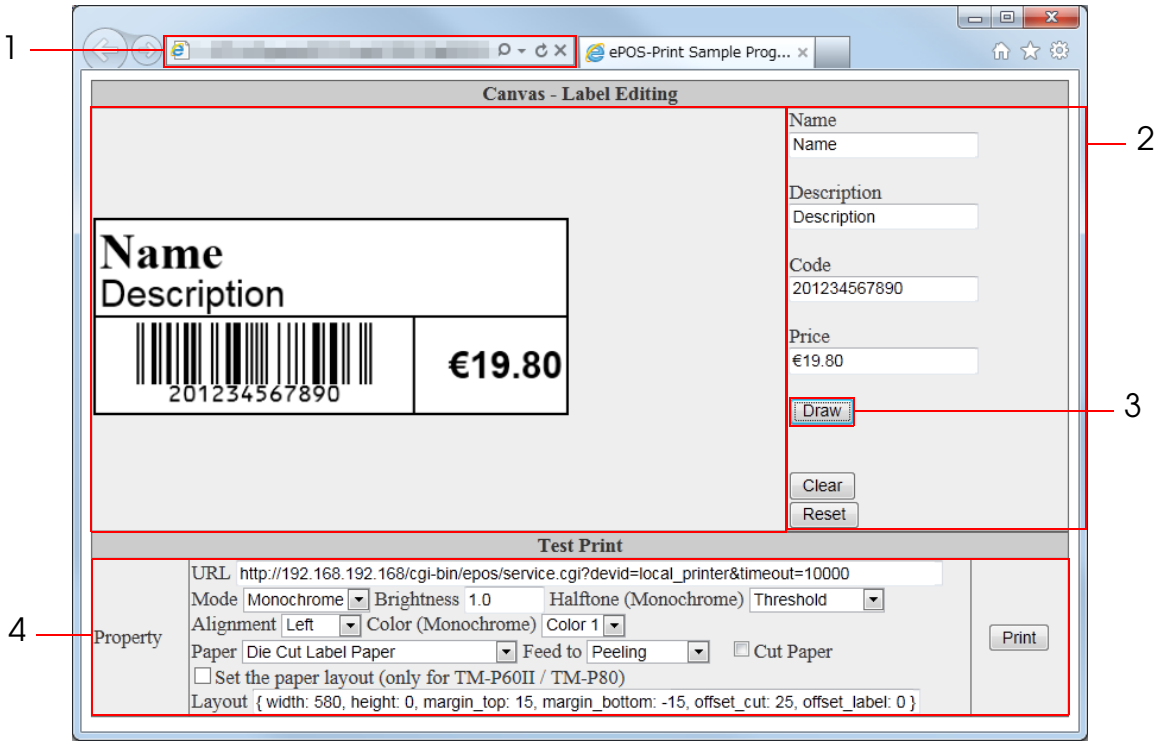
4 Set the following and click the (Print) button.

Item	Description
URL	Enter the following URL: http://(IP address of ePOS-Print supported TM printer)/cgi-bin/epos/service.cgi?devid=(device ID of printer to be used for printing)&timeout=(timeout time)
Mode	Set the color mode (Monochrome, Grayscale).
Brightness	Adjust the brightness. (Gamma value in the range 0.1-10.0)
Halftone	Set the halftone processing method for monochrome printing (two-tone).
Cut Paper	When this item is selected, feed cut is performed after printing.
Alignment	Specify the printing position alignment.
Color(Monochrome)	Specify the printing color in 2-tone.

5 The print result is displayed.

Rendering Label (canvas-print-label.html)

Draw a label in HTML5 Canvas and perform a test print.



1 Open the following URL page using the Web browser.
http://(Web server IP address)/canvas/canvas-print-label.html

2 "EPSON ePOS-Print Sample Program" appears.
Set items on the right of the page. The following items can be set:

Item	Description
Name	Specifies print data in the name field of label.
Description	Specifies print data in the description field of label.
Code	Prints barcode corresponding to the value. • EAN13(JAN13) In case of 12 digits, check digit is added. In case of 13 digits, check digit is added. • UPC-A Add 0 at the beginning and adjust to 12 to 13 digits.
Price	Specifies print data in the price field of label.
Clear	Clears the image drawn in the Canvas.
Reset	Clears the image drawn in the Canvas. In addition, the settings are reset to their default values.

3 Click the (Draw) button.
The image is drawn on Canvas on the left of the page according to the settings made on the right of the page.

4 Set the following and click the (Print) button.

Item	Description
URL	Enter the following URL: http://(IP address of ePOS-Print supported TM printer)/cgi-bin/epos/service.cgi?devid=(device ID of printer to be used for printing)&timeout=(timeout time)
Mode	Set the color mode (Monochrome, Grayscale).
Brightness	Adjust the brightness. (Gamma value in the range 0.1-10.0)
Halftone(Monochrome)	Set the halftone processing method for monochrome printing (two-tone).
Alignment	Specify the printing position alignment.
Color(Monochrome)	Specify the printing color in 2-tone.
Paper	Specifie the paper type.
Feed to	Specify the paper feeding position.
Cut Paper	When this item is selected, feed cut is performed after printing.
Set the paper layout (only for TM-P60II/TM-P80)	Check when printing labels with paper layout specified.
Layout	Specify the label paper layout. Setting become effective when (Set the paper layout) is checked.

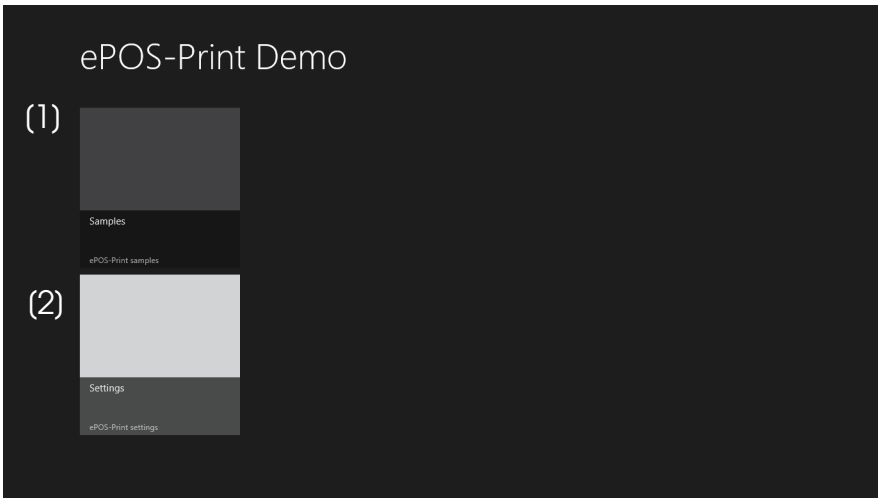
5 The print result is displayed.

Windows Store Apps

In this section, how to use the sample program with Windows store apps is described.

Sample Program Screen

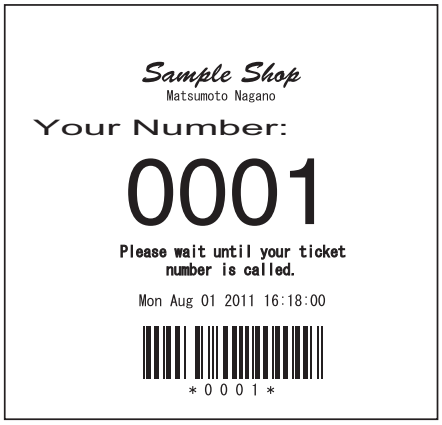
Display the (Sample) screen. Executes printing. It can print the following.



Item	Description	Page
(1)Samples	Display the (Sample) screen. Executes printing. It can print the following. • Queue Ticket • Coupon • Label	255
(2)Settings	Display the (Settings) screen. Set up the following. • Specifies the IP address of the ePOS-Print supported printer. (Default value: 192.168.192.168) • Specifies the Device ID of the printer to print queue ticket numbers and coupons. (Default value: local_printer) • Specifies the timeout time. (default : 60000) • Prints coupons in gray scale. (Only for supported models) (Default: No) • Specifies paper layout and print. (Only for TM-P60II Peeler) (Default: No)	256

Print Image

Your Number
(ePOS-Print API)



Coupon
(ePOS-Print Canvas API)

Label*
(ePOS-Print API)

*: Die cut label: mount width 58mm or above
Label size: width 54 mm x height 25.4 mm or above

Environment of Sample Program

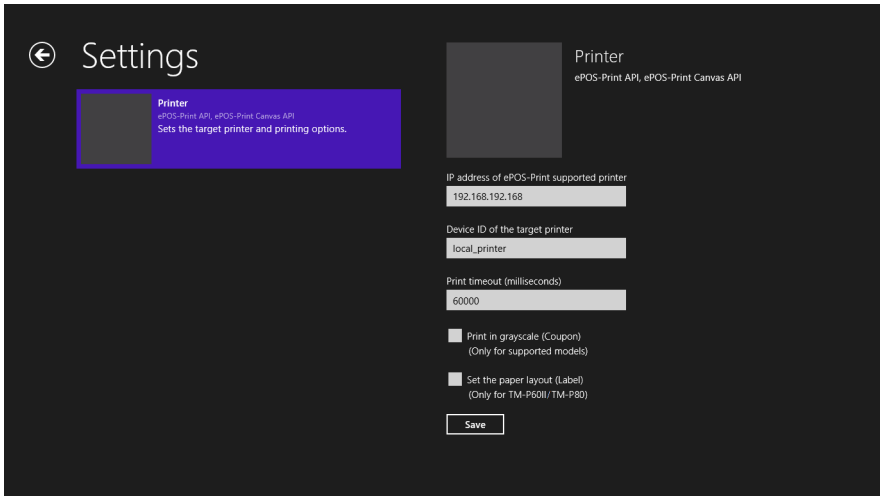
The environment of sample program is shown below.

Item	Description
Development environment (example)	Microsoft Visual Studio 2012
Required than	Windows 8
Sample program file name	win8/ePOS-Print Demo.zip

Environment setting Procedure

1. Configure your computer and ePOS-Print supported TM printer so that they can connect to the network.
2. Uncompress the sample program into any folder.
3. Open the sample program solution file using Visual Studio.
4. Start debugging.

Sample Program Settings

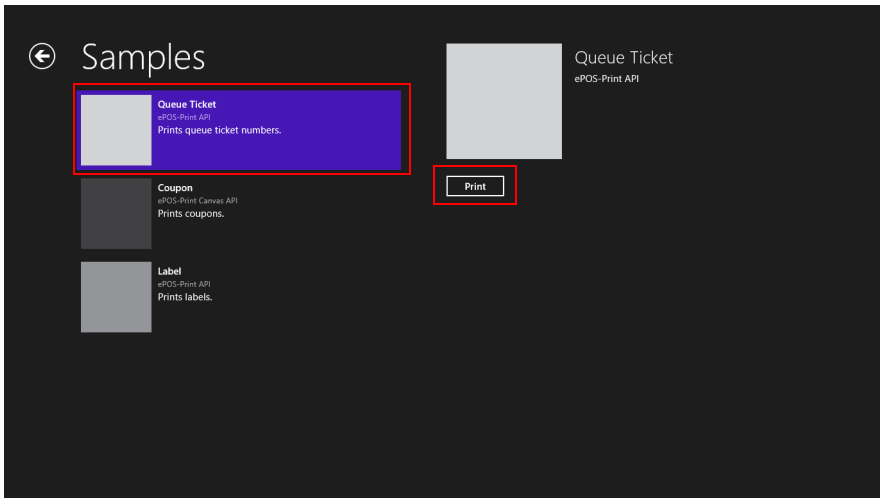


The screen is used to set the following:

Item	Description
IP address of the ePOS-Print supported printer	Specifies the IP address of the ePOS-Print supported printer. (Default value: ∗ TM-i: DHCP (If an address fails to be assigned via DHCP, the value becomes "192.168.192.168".) ∗ TM Printer: 192.168.192.168)
Device ID of the target printer	Specifies the Device ID of the printer to print queue ticket numbers and coupons. (Default value: local_printer)
Print timeout (milliseconds)	Specifies the timeout time. (default : 60000)
Print in grayscale (Coupon) (Only for supported models)	Prints coupons in gray scale. (Default: No)
Set the paper layout (Label) (Only for TM-P60II/TM-P80)	Prints a label in a specified layout. (Default: No)

Printing

It executes printing.



Run the program according to the following procedure:

1 Select a type of printing from the left screen. There are following printing types.

Item	Description
Queue Ticket	Prints queue ticket numbers. This is a sample program using the ePOS-Print API.
Coupon	Prints coupons. This is a sample program using the ePOS-Print Canvas API.
Label	Prints labels. This is a sample program using the ePOS-Print API.

2 Press (Print).