# EPSON

# Epson TM Print Assistant for Android
# User's Manual

Overview

Printing using Android OS Print Function

Printing using URL Schemes

M00111904

Rev.E

## Precautions

- Unauthorized duplication, copying, reproduction, or modification of any part or all of this document is strictly prohibited.
- Contents of this manual are subject to change without prior notice. Contact us directly for the most recent information.
- Every effort is made to ensure that the contents of this manual are without error. Please contact us if any errors or other issues are found.
- The previous statement notwithstanding, we will not be liable for any negative impact as a result of use.
- Epson shall not be liable for any damages caused as a result of using this product incorrectly, failing to comply with the content of this document, or having repair or modifications performed by third parties other than Epson or those specified by Epson.
- Epson shall not be liable for any issues as a result of installing optional parts or consumables that are not genuine Epson parts or parts certified by Epson.

## Trademarks

Android™ is a trademark of Google LLC.

Google Play and the Google Play logo are trademarks of Google LLC.

The Bluetooth® word mark and logo is a registered trademark of Bluetooth SIG, Inc. Seiko Epson uses these trademarks under the terms of license. Other trademarks and tradenames are the property of their respective owners.

Other company names or product names are trademarks or registered trademarks of their respective companies.

# Safety Precautions

The following symbols are used in this manual. Make sure to understand the meaning of these symbols before using the product.

| | Describes additional explanation or other useful information. |
|---|---|

# Usage Limitations

Please use our products in environments and systems designed with consideration to safety and disaster recovery such as fail-safe configurations and redundant designs, for example, if this product is used in applications in which a high level of reliability and safety in functionality and precision is required such as in aircraft, trains, ships, automobiles and other transportation-related applications or in crime prevention equipment and safety equipment.

This product is not intended for use in applications that require extremely high levels of reliability and safety such as in aerospace equipment, trunk-line communications equipment, nuclear power control equipment, and medical equipment. Consider your usage environment and requirements carefully before using this product in such applications.

# About this Manual

## Purpose of this Manual

This manual provides information necessary for printing and system development using the Epson TM Print Assistant.

## Organization of this Manual

This manual is organized into the following chapters.

# Contents

# Overview

## Epson TM Print Assistant

Epson TM Print Assistant is a native application that relays print data between the application on a smart device and a TM printer. It offers the following two methods to print.

❏ Printing from an application that has a print function, specifying Epson TM Print Assistant instead of a printer. See Printing using Android OS Print Function for more details.

❏ Printing using a system developed to enable direct printing from an application that supports URL schemes, such as web applications. The queries defined by Epson TM Print Assistant are used in the URL schemes. See Printing using URL Schemes for more details.
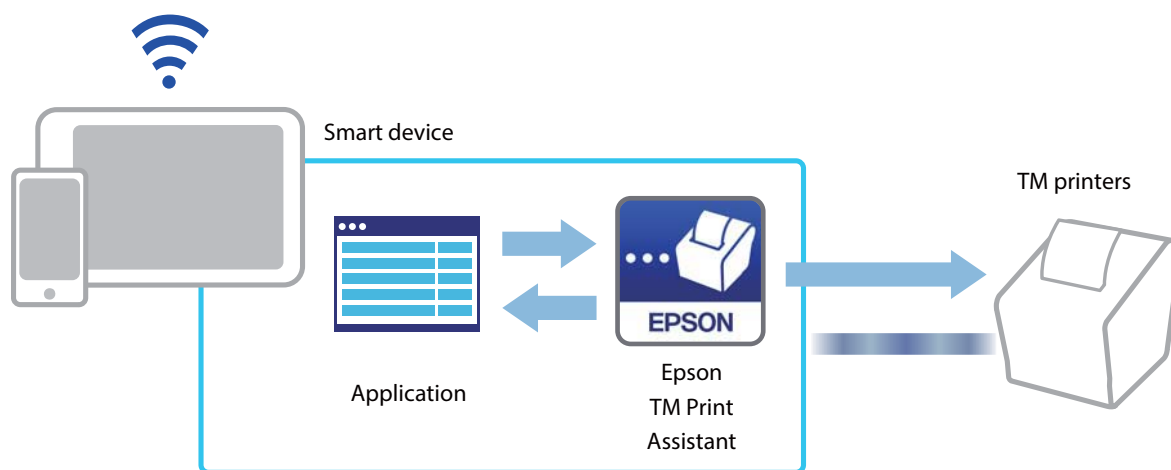


Epson TM Print Assistant supports wireless LAN connection, wired LAN connection, Bluetooth connection, and USB connection.

## Operating Environment

Refer to README file for the OSes, smart devices, Web browsers, and TM printers supported by Epson TM Print Assistant.

# Downloadable Content

## Packages

Epson TM Print Assistant packages include the following files.

| File name | Description |
|---|---|
| TM_Print_Assistant_Android_um_ja_revx.pdf | User's manual Japanese version |
| TM_Print_Assistant_Android_um_en_revx.pdf | User's manual English version (this manual) |
| README.ja.txt | README file Japanese version |
| README.en.txt | README file English version |
| TM_Print_Assistant_Android_Sample.ja.zip | Sample program files Japanese version<br>Use them for Printing using URL Schemes |
| TM_Print_Assistant_Android_Sample.en.zip | Sample program files English version<br>Use them for Printing using URL Schemes |

## Related Manuals

❏ Technical Reference Guide for each TM printer

❏ ePOS-Print XML User's Manual

 Use it for Printing using URL Schemes

These manuals can be downloaded from the following website.

https://epson.sn

# Printing using Android OS Print Function

The following is how to print using the standard Android OS print function.

## Installing TM Print Assistant

Epson TM Print Assistant is utility software that can be downloaded on Google Play.
When you receive an update notification via Google Play, check the contents of the update and follow the
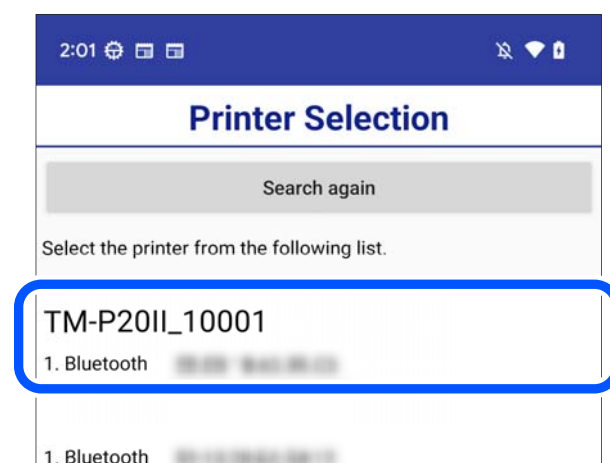notification to update the software.

## Connecting to TM Printer

**1** Start Epson TM Print Assistant.
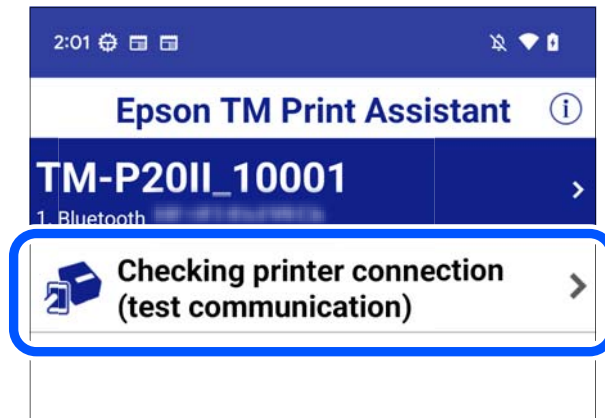
**2** Tap "Printer is not selected."



**3** Select the TM printer to be connected from the list.



> ✎ When a TM printer connected via Bluetooth is selected, pairing settings may be required depending
> on the connection status. In this case, follow the on-screen instructions.

**4**    Tap "Checking printer connection (test communication)."



**5**    If the test communication is successful, the connection to the TM printer is complete.
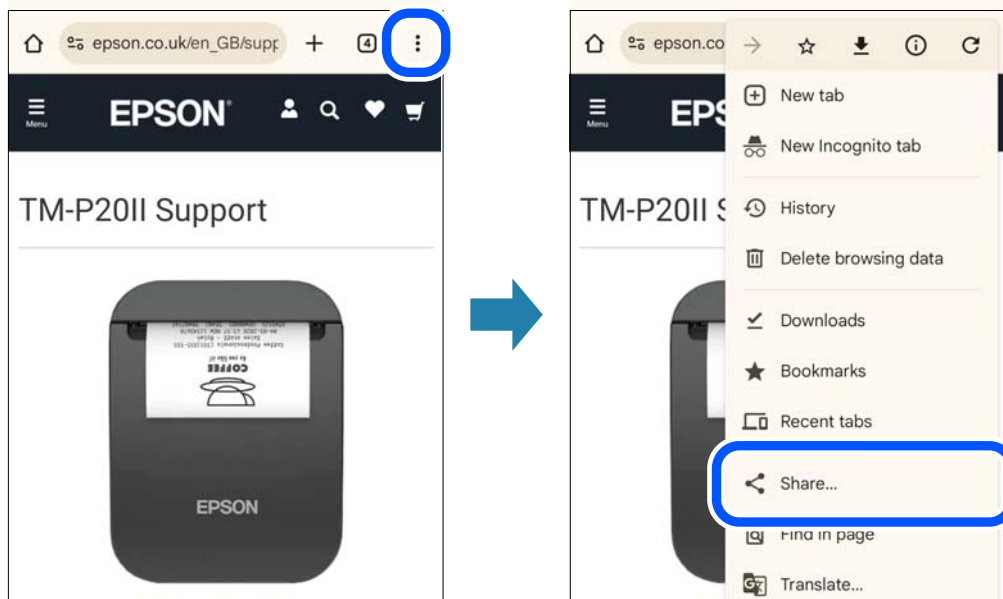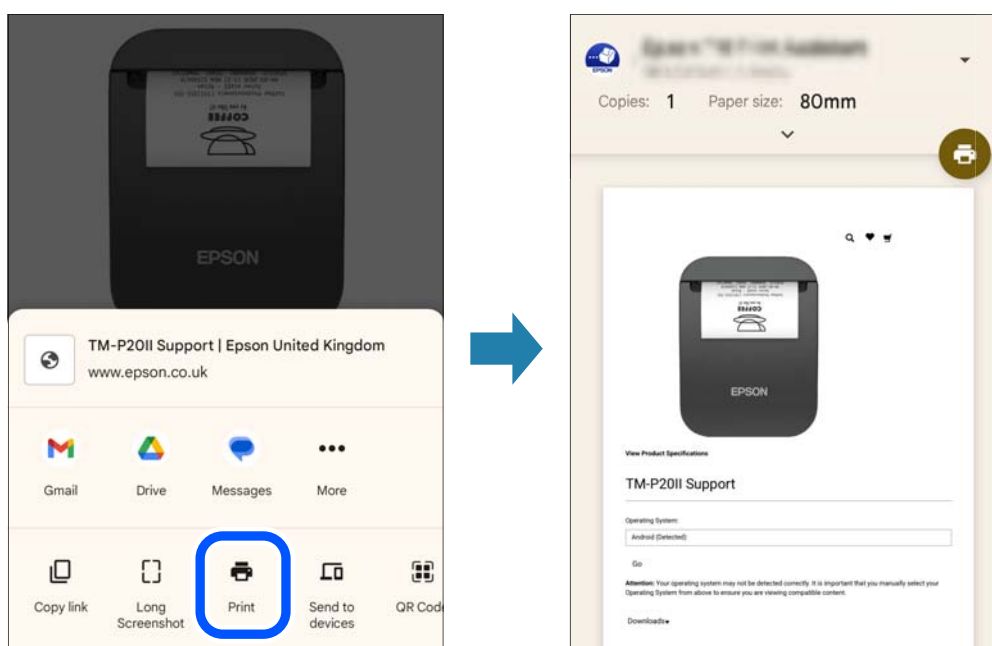
# Printing

✏️ The procedures described here are subject to change due to future Android OS upgrades and other factors. Please understand this in advance.
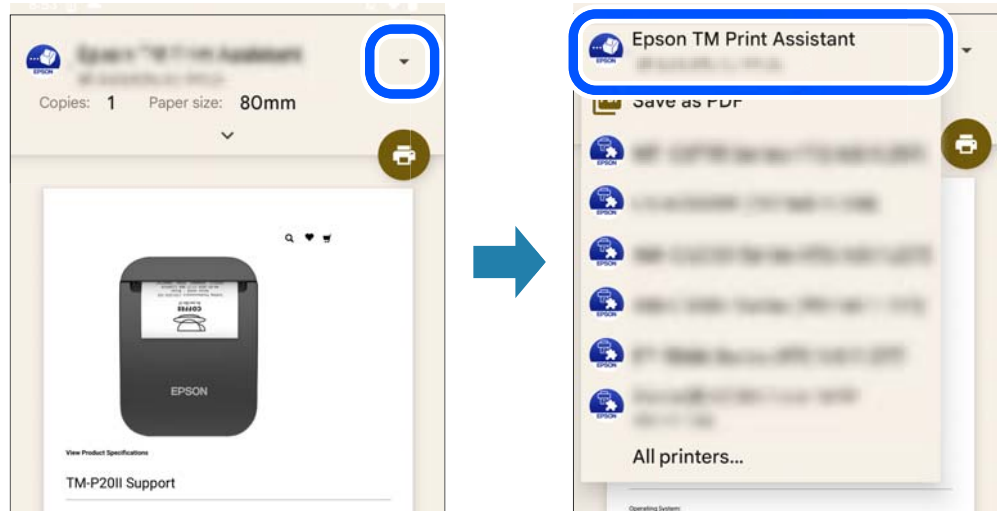
## Printing Web Pages

**1** Tap ⋮ in the upper right corner, then tap [Share].



**2** Tap [Print].
The print screen will appear.

**3** Tap ⌄ and then select "Epson TM Print Assistant."



**4** Tap ⌄ to change print settings as needed.



**5** Tap 🖶 to start printing.



If an error occurs during printing, follow the message. For information on error codes, see Error Code List.

## Printing Images and PDF Files

**1**   Tap ⋮ in the upper right corner, then tap [Print].
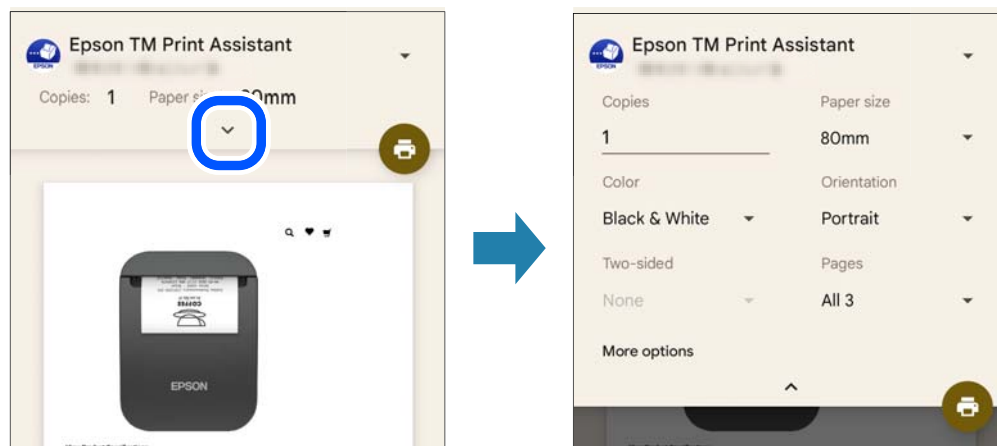The print screen will appear.
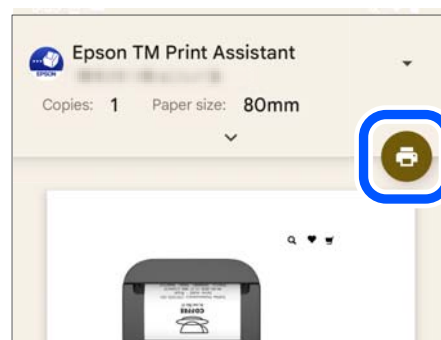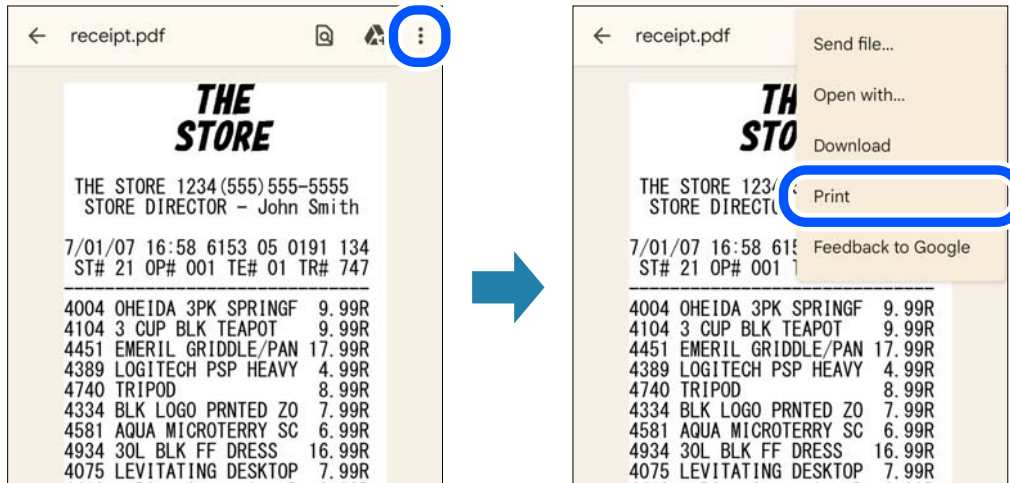


**2**   Tap ▾ and then select "Epson TM Print Assistant."
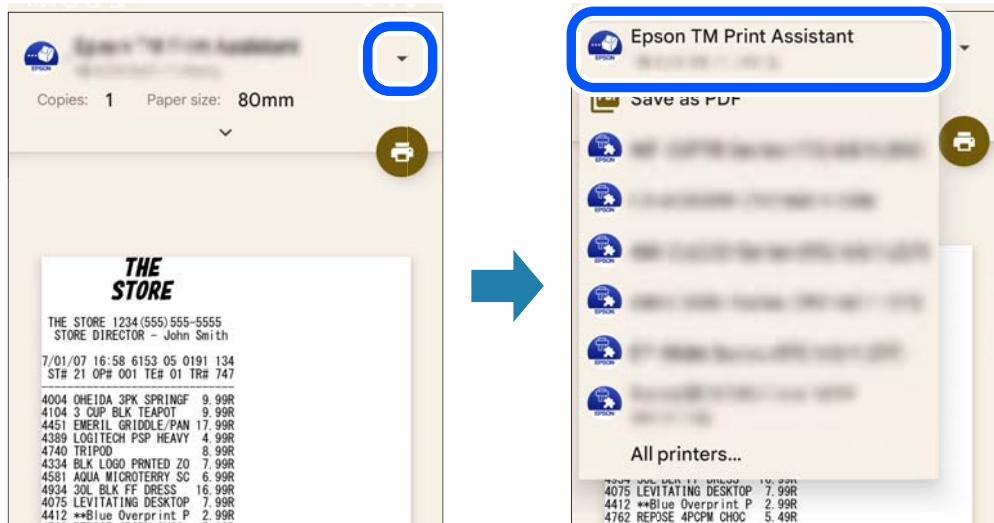
**3**   Tap ⌄ to change print settings as needed.
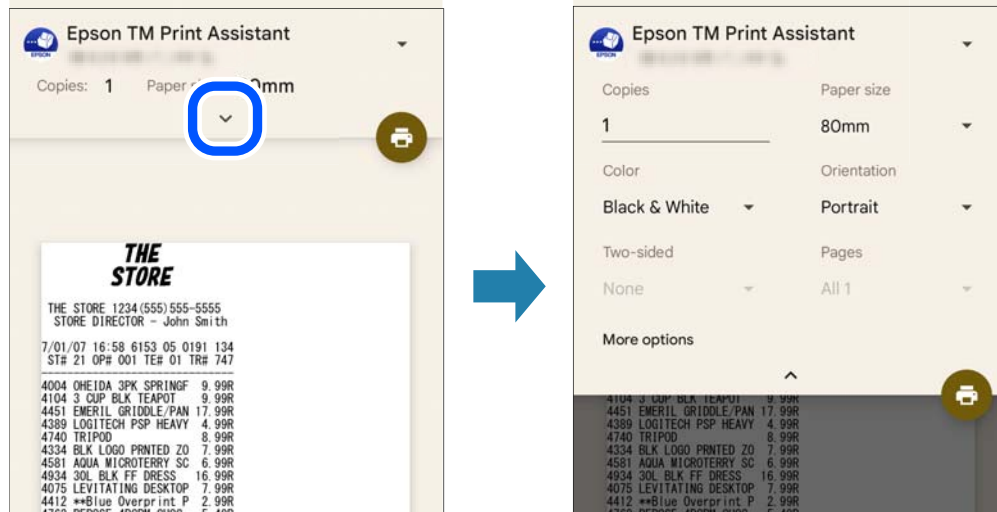


**4**   Tap 🖶 to start printing.
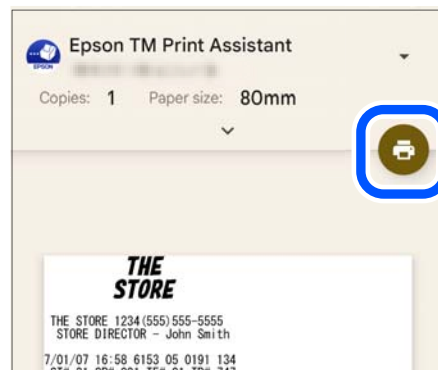


✎   If an error occurs during printing, follow the message. For information on error codes, see Error Code List.

# Printing using URL Schemes

This chapter explains how to configure a system using Epson TM Print Assistant.

## System Configuration

### System Configuration Flow

**1. Setting Up Devices**

Install the TM printer and configure your smart device.

Refer to the manual provided.

**2. Installing and Setting Up Epson TM Print Assistant**

Install Epson TM Print Assistant on your smart device and connect the smart device and TM printer.

Refer to the Installing TM Print Assistant and Connecting to TM Printer procedures in Printing using Android OS Print Function.

**3. Setting Up Application**

Set up the application to use it on your smart device.

Refer to Application Development for application development.

**4. Operation Test**

Use the application to perform test printing on the TM printer.

Use the provided sample program for the operation test.

Refer to Sample Programs for more information.

# Application Development

This section provides the information needed to develop applications that use Printing using URL Schemes.

## Overview
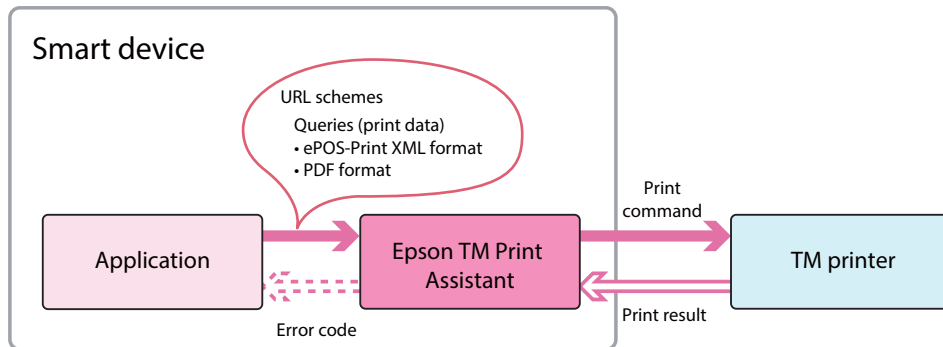


An application invokes Epson TM Print Assistant by the URL scheme and uses queries to transfer print data to it.

When Epson TM Print Assistant receives print data, it sends a print command to the TM printer.

The TM printer returns the print result to Epson TM Print Assistant.

When the print result is an error, Epson TM Print Assistant displays an error message according to received status.

> You can choose to display the error message in the application or Epson TM Print Assistant depending on the system requirements. Refer to Application Guide for more information.

Print data can be in one of the following formats:

• ePOS-Print XML format

• PDF format

## URL Scheme

This section explains the queries used in a URL scheme.

URL encode (RFC3986) is used for the data format in URL schemes.

### Syntax

[scheme]://[host]/[action]?[action parameters]

### Parameter

### scheme

Specifies "tmprintassistant" as the URL scheme name to invoke Epson TM Print Assistant.

### host

Specifies "tmprintassistant.epson.com" as the URL host.

### action

Specifies "print" as the identifier of the action executed by Epson TM Print Assistant.

### action parameters

Specifies action parameters such as caller application name, print data and its option parameters, and so on.

Specified format: "key1=value1&key2=value2"

| Query | Functionality | Description | | |
|---|---|---|---|---|
| | | Input condition | Set value | Default |
| success | URL displayed when Epson TM Print Assistant has terminated normally | Can be omitted | URL encoding format (RFC3986) | - |
| error | URL displayed when an error has occurred in Epson TM Print Assistant | Can be omitted | URL encoding format (RFC3986) | - |
| ver | Version number | Required | Integer: 1 (fixed) | - |
| data-type | Print data type | Required | • ePOS-Print XML format: eposprintxml<br>• PDF format: pdf | - |
| data | Print data | Required | Data type: eposprintxml[*1]<br>• Maximum data length: Approximately 200 KB | - |
| | | | Data type: pdf<br>• Base64 data format<br>• Maximum data length: Approximately 200 KB (PDF size: Approximately 150KB[*2]) | - |
| timeout | Operation timeout period (ms) of Epson TM Print Assistant | Can be omitted | Integer: 10000 to 300000 | 15000 |

| Query | Functionality | Description | | |
|---|---|---|---|---|
| | | Input condition | Set value | Default |
| error-dialog | Error Notification in Epson TM Print Assistant | Can be omitted | • yes<br>• no | yes |
| reselect | Printer reconfiguration upon communication error | Can be omitted | • yes<br>• no | no |
| drawer-open | Drawer setting | Can be omitted | • pin2<br>• pin5<br>• no | no |
| cut | Cutter setting | Can be omitted | • feed<br>• no-feed<br>• feed-full-cut[*7]<br>• no-feed-full-cut[*7]<br>• no | no |
| fit-to-width[*3] | Expanding or reducing the PDF's page in accordance with either of the following:<br>• the paper width specified in paper-width<br>• the printable width specified in printable-width | Can be omitted | • yes<br>• no | no |
| paper-width[*3] | Paper width specification (mm)[*4] | Can be omitted | • 58<br>• 80 | 80 |
| printable-width[*3] | Printable width specification (mm)[*5]<br><br>Use when setting the printable width in detail | Can be omitted | 20.0 to 80.0 | 72 |
| feed-position[*6] | Specify the paper feed position for book mark paper | Can be omitted | • cutting<br>• no | no |

*1: In JavaScript, special characters can be described using an escape sequence.
    When using the ¥ (yen) mark, specify two marks together as ¥¥.

*2: Approximate data size before Base64 conversion

*3: Available when pdf is specified in data-type

*4: When 80mm selected: the width of PDF's page is adjusted to 72 mm.
    When 58mm selected: the width is adjusted to 50.8mm.

*5: Configure according to your TM printer's printable width. Refer to the printable width list of TM printers in README for the specifications.

*6: Exclusively for book mark paper

*7: Only TM printers that support full-cut can be used.

### Print data

| Print data format | Description |
|---|---|
| ePOS-Print XML | Use XML command of ePOS-Print XML to create ePOS-Print XML format data.<br>Refer to "XML Reference" in the ePOS-Print XML User's Manual for details of XML commands.<br>You can create XML print data using the ePOS-Print Editor supplied with ePOS-Print XML. Refer to ePOS-Print Editor for more information. |

| PDF | Create PDF data according to your TM printer's printable width. |
|---|---|
| | Refer to README for the specifications of your printer's printable width. |
| | Otherwise, use fit-to-width/paper-width/printable-width queries. |
| | Use the data converted with Base64 for this format. |

### *Example*

The following is an example of transferring print data in the ePOS-Print XML format.

When printing is successful, control is returned to the caller application. When an error occurs, Epson TM Print Assistant opens a dialog to report the error.

Replace "%%%" with the IP address of the server.

```
tmprintassistant://tmprintassistant.epson.com/print?
   success=http://%%%/success.html&
   ver=1&
   data-type=eposprintxml&
   data=**XMLData**&
   error-dialog=yes
```

### *Execution result*

Print result returned by Epson TM Print Assistant.

To display error messages in Epson TM Print Assistant, specify "yes" in the error-dialog query of the print command.

To display error messages in the application, specify the application path in the error query of the print command and program the application to process the code and message queries.

| | Refer to Application Guide. |
|---|---|

| Query | Functionality | Description | | |
|---|---|---|---|---|
| | | Input condition | Set value | Default |
| code | Print result error code | - | Refer to Error Code List | - |
| message | Explanation of print result | - | Refer to Error Code List | - |

### *Example*

The following is an example of reporting an error in the application.

The application displays the error code "101" and the error message "Could not communicate with the printer".

Replace "%%%" with the IP address of the server.

```
http://%%%/page.html?code=101&message=Could not communicate with the printer.
```

## Error Code List

| Error code | Message displayed | |
|---|---|---|
| | **Cause** | **Counteraction** |
| 101 | Could not communicate with the printer. | Check the power and communication status of the printer. |
| 102 | Process running time exceeded the specified timeout period. | Check the power and communication status of the printer. If the power and communication status of the printer is OK, adjust the timeout period. If the timeout period cannot be adjusted, consult the application developer. |
| 103 | Cover is open. | Close the printer cover. |
| 104 | Auto cutter error occurred. | Remove the error cause and power off and then on the printer. |
| 105 | Mechanical error occurred. | |
| 106 | Unrecoverable error occurred. | Power off and then on the printer. Contact the distributor or Epson Information Center if the problem persists. |
| 107 | No paper. | Refill the paper. |
| 108 | Printer is too hot to run the process. | Run the process after the error lamp of the printer turns off. |
| 109 | | |
| 110 | | |
| 111 | Printer battery has run out. | Replace the battery or use the AC adapter. |
| 112 | A waiting for paper removal error has occurred. | Remove paper from the printer. |
| 113 | A voltage error occurred. | Turn the power supply to the printer off and then on again. If the error recurs, check the power supply status of the printer. |
| 114 | A voltage error occurred. | Turn the power supply to the printer off and then on again. If the error recurs, check the power supply status of the printer. |
| 199 | Printer communication error occurred. | Check the power and communication status of the printer. Power off and then on the device and try again. Contact the distributor or Epson Information Center if the problem persists. |
| 201 | Could not communicate with the printer. | Check the power and communication status of the printer. |

| Error code | Message displayed | |
|---|---|---|
| | **Cause** | **Counteraction** |
| 401 | Character string specified in the query is invalid. | Transmission data contains an error. Contact the application developer with the following information. query: xxx. |
| 402 | Print data is not specified. | |
| 403 | PDF data conversion failed. | |
| 404 | XML data conversion failed. | |
| 405 | Print data exceeded the upper limit. | |
| 406 | Process running time exceeded the specified timeout period. | Adjust the timeout period. If the timeout period cannot be adjusted, consult the application developer. |
| 501 | Printer is not selected. | Choose the printer in Epson TM Print Assistant. |
| 502 | Error occurred within Epson TM Print Assistant. | Power off and then on the device and try again. Contact the distributor or Epson Information Center if the problem persists. |
| 503 | Unsupported printer is selected. | Contact the distributor or Epson Information Center. |
| 599 | Error occurred within Epson TM Print Assistant. | Power off and then on the device and try again. Contact the distributor or Epson Information Center if the problem persists. |

# ePOS-Print Editor

You can create ePOS-Print XML print data using the ePOS-Print Editor supplied with ePOS-Print XML.

> Refer to the ePOS-Print XML User's Manual for how to use the ePOS-Print Editor.
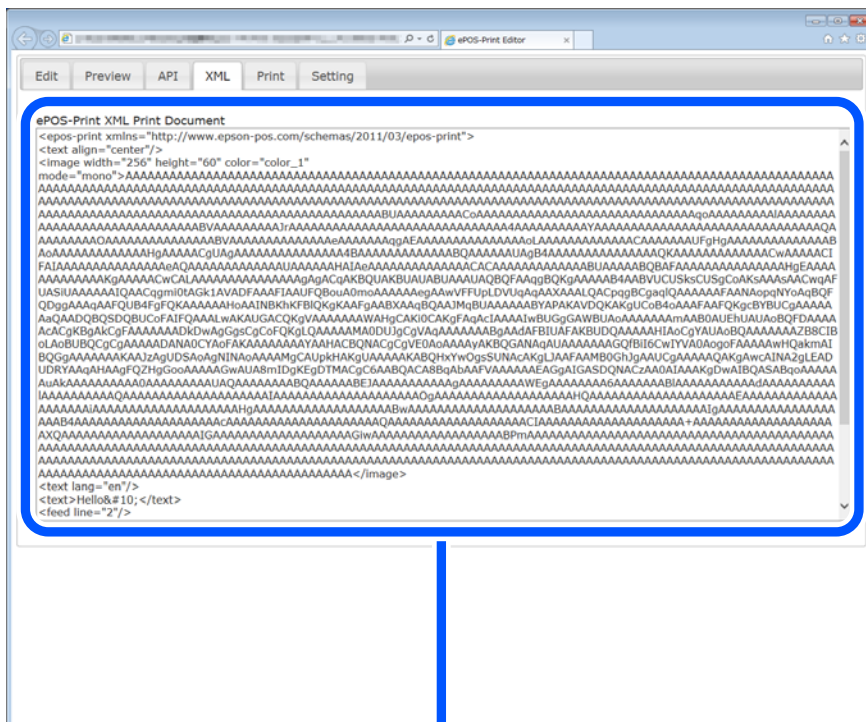
**1** Unzip the ePOS-Print_Sample_XML_Vx.x.xE.zip file.

**2** Open index.html in the editor folder in the web browser.

**3** Click an icon in the Menu area to add an element to the Edit area.



Menu area                    Edit area
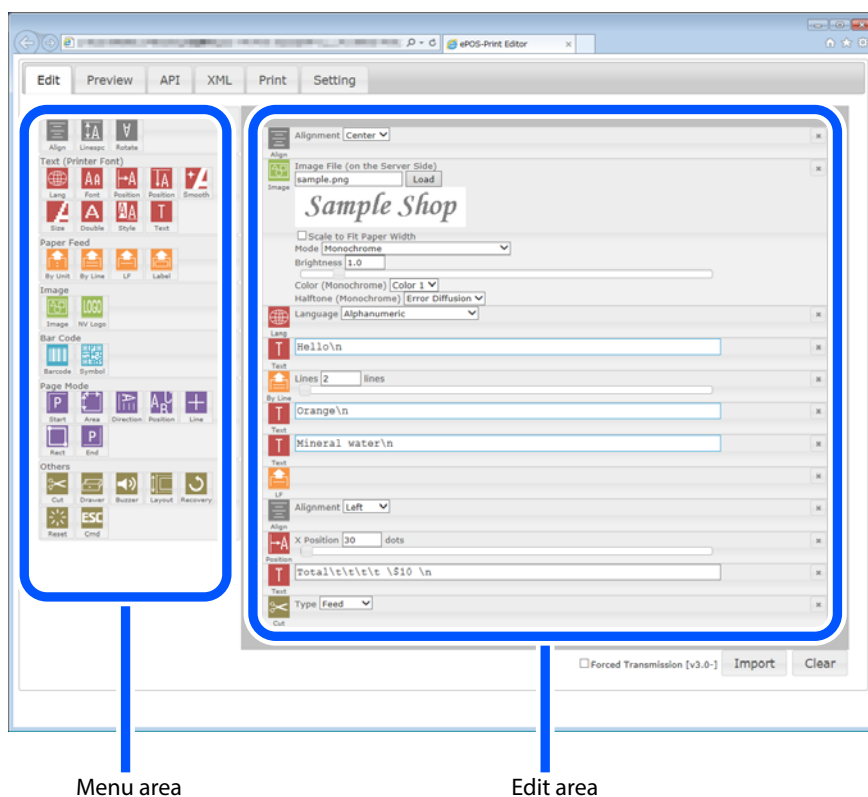
**4** Click the Preview tab to display the preview.
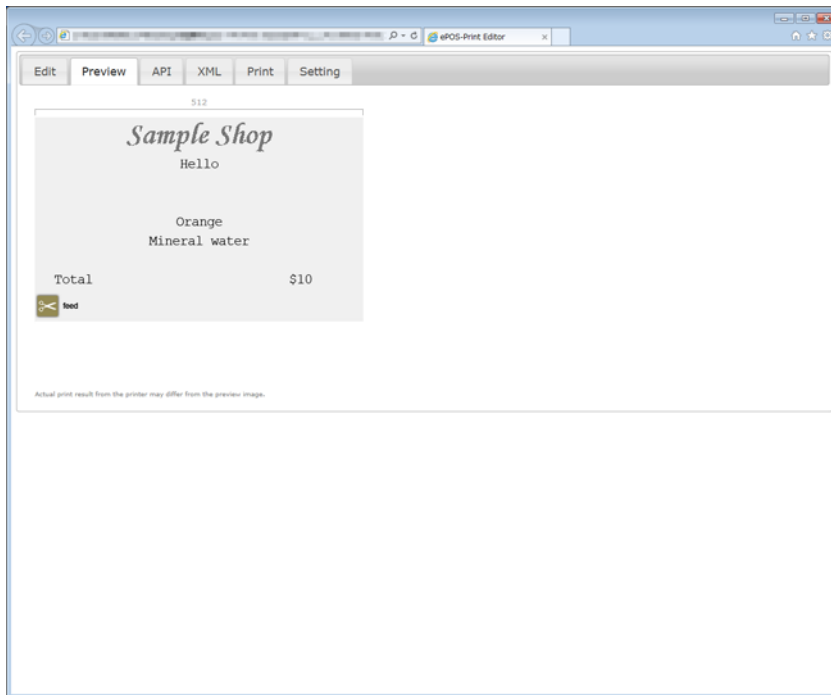


**5** XML data can be copied from the text area in the XML tab.



Text area

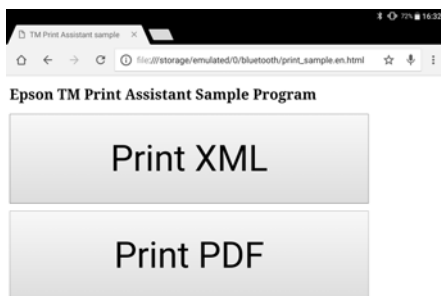# Sample Programs

This section explains the sample application programs included in the Epson TM Print Assistant package.

## Functionality

The sample programs provide the following functionality.

- Print XML: Prints XML print data created by ePOS-Print XML.
- Print PDF: Prints PDF data.



## Operating Environment

Refer to the README file for the operating environment of the sample programs.

## Set Up

### *Preparation*

**1** Install Epson TM Print Assistant on your smart device.

**2** Start Epson TM Print Assistant and choose the TM printer to use.

**3** Tap the [Test communication] button to check connection with the TM printer.

### *HTML Sample*

**1** Unzip the TM_Print_Assistant_Android_Sample.en.zip file.

**2** Register print_sample.en.html and receipt.pdf from the unzipped folder to the server.
Change the value of the pdfPath variable of print_sample.en.html according to the actual location of receipt.pdf.

**3** Launch the web browser on your smart device and access to print_sample.en.html.
Example of access URL) http://%%%/print_sample.en.html
Replace "%%%" with the IP address of the server.

**4** Tap the [Print XML] button or [Print PDF] button to use the sample program.

# Application Guide

## Error Handling by Web Application

### Error Notification by Epson TM Print Assistant

```
<!DOCTYPE html>
<html lang="ja">
<head>
<meta charset="utf-8" />

<!-- Script -->
<script type="text/javascript">

//Print process
function send() {
    //URL displayed when Epson TM Print Assistant has terminated normally
    var success = window.location.href;
    //Version number (fixed value)
    var ver = '1';
    //Print data type
    var datatype = 'eposprintxml';
    //Pint data (ePOS-Print XML format)
    var data = '<epos-print xmlns="http://www.epson-pos.com/schemas/2011/03/epos-print">' +
        '<text>Test Print</text><feed/>' +
        '<cut/>' +
        '</epos-print>';
    //Setting to display an error dialog in Epson TM Print Assistant
    var errordialog = 'yes';

    //Transfer destination and data creation
    var urldata = 'tmprintassistant://tmprintassistant.epson.com/print?' +
        'success=' + encodeURIComponent(success) + '&' +
        'ver=' + ver + '&' +
        'data-type=' + datatype + '&' +
        'data=' + encodeURIComponent(data)+ '&' +
        'error-dialog=' + errordialog;

    //Data transmission using a URL scheme
    window.location.href = urldata;
}

</script>
</head>
<body>
    <p><button onclick="send()">Print</button></p>
</body>
</html>
```

### Error Notification by Web Application

```html
<!DOCTYPE html>
<html lang="ja">
<head>
<meta charset="utf-8" />

<!-- Script -->
<script type="text/javascript">

//Print process
function send() {
   //URL displayed when Epson TM Print Assistant has terminated normally
   var success = window.location.href;
   //URL displayed when an error has occurred in Epson TM Print Assistant
   var error = window.location.href;
   //Version number (fixed value)
   var ver = '1';
   //Print data type
   var datatype = 'eposprintxml';
   //Pint data (ePOS-Print XML format)
   var data = '<epos-print xmlns="http://www.epson-pos.com/schemas/2011/03/epos-print">' +
      '<text>Test Print</text><feed/>' +
      '<cut/>' +
      '</epos-print>';

   //Transfer destination and data creation
   var urldata = 'tmprintassistant://tmprintassistant.epson.com/print?' +
      'success=' + encodeURIComponent(success) + '&' +
      'error=' + encodeURIComponent(error) + '&' +
      'ver=' + ver + '&' +
      'data-type=' + datatype + '&' +
      'data=' + encodeURIComponent(data);

   //Data transmission using a URL scheme
   window.location.href = urldata;
}

//Print result process
function init() {
   //Process by web application upon error
   var alertMsg = '';
   var errCode = window.location.search.match(/code=(.*?)(&|$)/);
   var errMsg = window.location.search.match(/message=(.*?)(&|$)/);

   if (errCode[1] && errMsg[1]) {
      alertMsg = 'ERROR CODE : ' + decodeURIComponent(errCode[1]) +
         '\nERROR MESSAGE : ' + decodeURIComponent(errMsg[1]);
      alert(alertMsg);
   }
}
</script>
</head>
<body onload="init()">
      <p><button onclick="send()">Print</button></p>
</body>
</html>
```

## Outputting Application Log

When you contact us about an error encountered during application development or system operation, we may ask you to submit us a log file for troubleshooting the error.
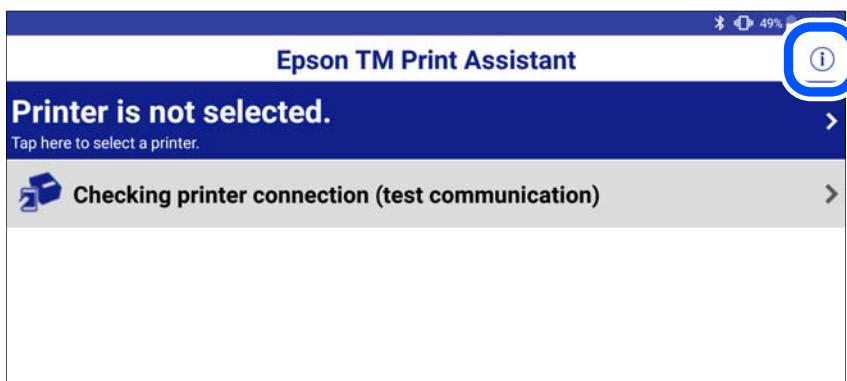Use the log output function of Epson TM Print Assistant to acquire the log file.

> ✎ This function is disabled by default.

### *Enabling Log Output Function*

**1** Start Epson TM Print Assistant.

**2** Tap ⓘ to open the Information screen.



**3** Tap [Application Version] 5 times within 2 seconds.

> ✎ You must wait for 1 second before tapping 5 times.



The log output function is enabled.
To disable the log output function, tap [Application Version] 5 times again.

### *Log Output Location*

When the log output function is enabled, the log file is output to the following location of the smart device.

| Path | Filename |
| --- | --- |
| /***/Android/data/com.epson.tmassistant/files/Log/ | appLog |
| /***/Android/data/com.epson.tmassistant/files/Epos2Log/ | • Epos2Log.txt<br>• Epos2Log.zip |