

Advanced Printer Driver for South Asia Ver.4

TM Printer Manual

APD Overview

Descriptions of the APD features.

Using the APD

Descriptions of simple printings and useful functions.

Reference

Descriptions of property settings of the printer driver.

TM Flash Logo Setup Utility

Descriptions of how to set and use the
TM Flash Logo Setup Utility.

TM Flash Logo Setup Utility Ver.3

Descriptions of how to set and use the
TM Flash Logo Setup Utility Ver.3.

Paper layout set tool

This tool is dedicated to the TM-L90.
Descriptions of how to set and use the Paper layout set tool.

Restrictions

Descriptions of restrictions on use of the APD.

Printer Specification

Descriptions of the specifications of each printer driver.



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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.

CAUTION

Provides information that must be observed to avoid damage to your equipment or a malfunction.

NOTE

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 aimed to provide all the necessary information for development engineers to develop, design, and install POS system, or to develop and design printer applications.

Manual Content

The manual is made up of the following sections:

Chapter 1	APD Overview
Chapter 2	Using the APD
Chapter 3	Reference
Chapter 4	TM Flash Logo Setup Utility
Chapter 5	TM Flash Logo Setup Utility Ver.3
Chapter 6	Paper layout set tool (utility only for the TM-L90)
Chapter 7	Restrictions
Appendix	Printer Specification

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APD Overview

Introduction

The Advanced Printer Driver Version 4 (APD4) is a printer driver for the EPSON TM printers (referred to as the TM printer henceforth). Using the Status API, the APD also can be used to monitor the TM printer status in your POS system.

Manual organization

Install Manual

Descriptions of the procedures from installing the APD to performing test print, adding printer drivers, and the silent install which is an automated APD installation.

TM Printer Manual

This manual. Descriptions of how to use the APD and its functions.

Descriptions of the specifications of each printer driver.

Status API Manual

Descriptions of how to get the status of the TM printer from the user application by using the Status API.

Devmode API / PRINTERINFO Manual

Descriptions of how to configure some printer functions on your application using the Devmode API. Descriptions of the PRINTERINFO Function of Windows.

Inquiries

See the Epson homepage.

- For customers in North America, go to the following web site.
<http://www.epsonexpert.com/>
- For customers in other countries, go to the following web site.
<http://www.epson-pos.com/>

ESC/POS commands

ESC/POS commands are not open to the public. Ask your sales representative for details.

APD4 Features

Easy

- Allows you to print from commercially available applications, since the APD is a Windows driver.
- Allows you to print a Barcode and 2D-Code with the fonts built in the APD.
(["Printing a Barcode" on page 29](#))
- Allow you to print logos and graphics. (["Printing a Logo" on page 46](#))
- Allows you to send the paper cut command to the TM printer.
(["Paper Feed and Paper Cut" on page 49](#))
- Allows you to send the open command to the cash drawer. (["Drawer Control" on page 51](#))
- Allows you to select from 24 languages for text on screen and help dialog.
(["Language for displaying properties" on page 104](#))
- WHQL certified driver. (Supported depending on the combinations of model and interface.)

Fast

The printing speed differs depending on the models or interfaces of the TM printers. For more details, see the Technical Reference Guide of the TM printer.

- Achieves high speed printing using the Device fonts of the TM printer.
(["Character Printing \(Device Font\)" on page 17](#))
- Allows you to convert the Windows fonts to the Device fonts.
- Allows you to print an image such as a store logo faster by registering the image in the TM printer. (["Printing a Logo" on page 46](#))

Convenience

- By rotated printing, you can print on paper with a long width such as coupons. When using the TM printer oriented vertically (wall mount), it can print backward to make it easy to read for customers. (["Rotated Printing" on page 43](#))
- Allows you to print images as a background. (["Background printing" on page 45](#))
- Allows you to print A4 size document automatically scaled down to fit the paper width.
- With the device fonts (FontA/B), all the code pages stored in your TM printer can be printed. (Supported depending on the model.)
- The electronic journal function allows print data to be stored in an electronic file. (Supported depending on the model.)
The stored data can be printed and searched for by date. (["How to Use Electronic Journal Settings" on page 56](#))
- IP address of the TM printer can be configured. ("Install Manual")
This setting has required TMNet WinConfig so far, but now available with APD.

Expandability

- Printer sharing is supported. Allows you to share TM printer with other computers on a network. (Printer sharing through a print server is not supported.)
- Allows you to use ESC/POS commands control. (["How to Use ControlA Font" on page 53](#))

Programming

- Win32/.NET environment is supported. See the "Status API Manual" to find out which development language is supported.
- Allows you to check the status of the device (TM printer) by using the Status API.

CAUTION

In Terminal Service / Citrix XenApp environment, Status API and PRINTER_INFO_2 cannot be used.

- It can be printed as any name from your application by specifying the device font. (["Advanced Font Settings" on page 20](#))
- Character size, font, and other settings that affect the print result can be adjusted with minimal changes to your print application. (["Advanced Font Settings" on page 20](#))

Installation

- Allows you to copy the existing settings of the APD environment to other computers. (Silent Install)

- After the APD installation, the printer driver will be automatically installed to the TM printer equipped with a USB interface by the Plug and Play function.

Compatibility

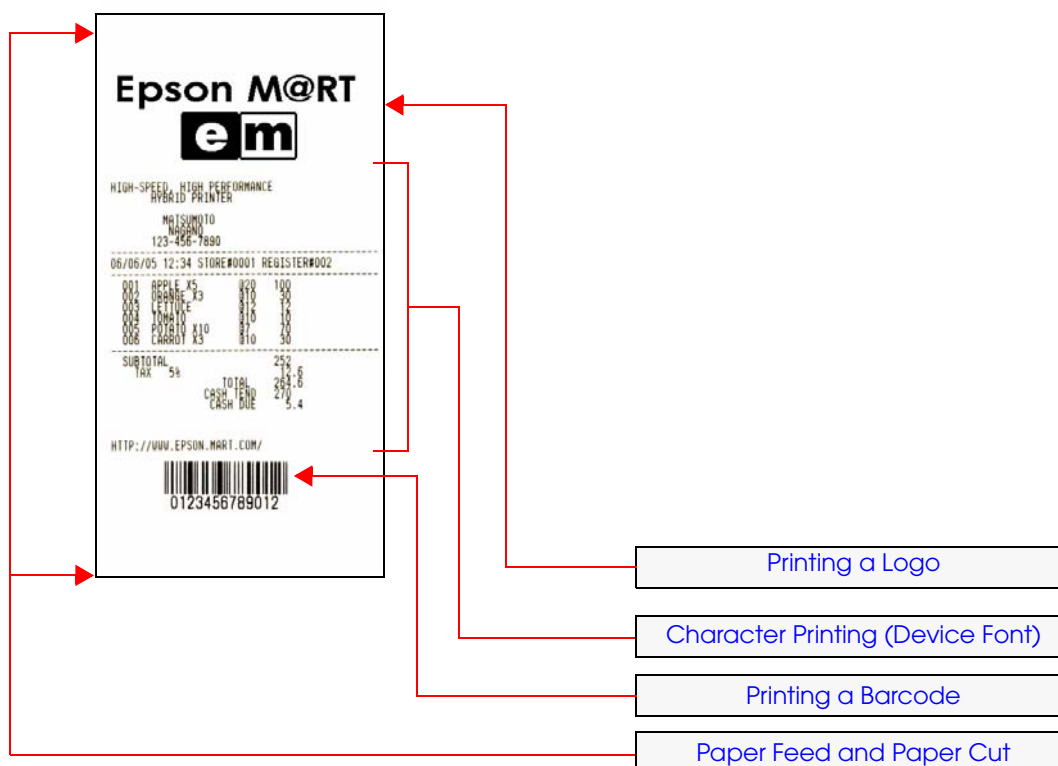
- Note that APD 4.xx cannot coexist with APD 2.xx or 3.xx.

CAUTION

- When you install APD 4.xx in an environment in which APD 2.xx or 3.xx is already installed, APD first automatically uninstalls the previous version before installing 4.xx
- APD 4.xx does not support some TM printers. Check that your TM printer is, in fact, supported by APD 4.xx. If you install APD4.xx in an environment featuring an unsupported TM printer, then you will no longer be able to use that TM printer.

- This can coexist with an OPOS driver. However, the version combination of APD and OPOS is limited. ("[Restrictions](#)" on page 145)
- When you install APD 4.5xx or later, the driver/utility of some versions become disabled. The shared printer also becomes disabled after accessed from a client computer. (See "Compatibility between APD 4.5xx or later and other driver/utility" in "Install Manual".)

Printing Example



Differences Depending on the OS

The content of the descriptions of some operations in this book may be different depending on the OS. See the following.

Item	Description
Screens shown	Screens in Windows Vista are used for the descriptions in this manual.
Setting a printer driver	Windows 8 (Desktop) - Sidebar (Settings) - (Control Panel) - (Hardware and Sound) - (Devices and Printers) Right click the printer driver, and select the (Printer properties). Windows 7 (Start) - (Control Panel) - (Hardware and Sound) - (Devices and Printers) Right click the printer driver, and select the (Printer properties). Windows Vista (Start) - (Control Panel) - (Hardware and Sound) - (Printer) Right click the printer driver, and select the (Properties). Windows XP (Start) - (Control Panel) - (Printers and Faxes) Right click the printer driver, and select the (Properties).
Windows 8 How to start the application	Click (Start), then (All apps), and select the application you want to use from the list.
Windows 8 How to display hidden folders	(Desktop) - Sidebar (Settings) - (Control Panel) - (Appearance and Personalization) - (Folder Options) On the "Folder Options" screen, select the (View) tab. Select "Show hidden files, folders, and drives", then click the (OK) button.

Using the APD

This chapter explains how to use the functions contained in the APD.

CAUTION

- Some functions cannot be used, depending on the model of TM printer.
- Administrator permission is required for property settings of the printer driver.

Application Printer Settings

The following explains the initial printer settings from the Windows application to the TM printer. Set the printer model and paper from the application you are to use. This is an example using WordPad. Run [All Programs] - [Accessories] - [WordPad] from the [Start] menu.

NOTE

When printing a device font in Microsoft Word, the following setting is necessary.

- For Word 2003 or earlier : From [Tools] - [Options] - [Compatibility], select "Microsoft Word 6.0/95" in [Recommended Options for] or make a check in "Use printer metrics to lay out document" in [Options].
- For Word 2007 : From [Word Options] - [Advanced] - [Compatibility Options for], select "Microsoft Word 6.0/95" or "Custom" in [Lay out this document as if created in], and make a check in "Use printer metrics to lay out document" in [Layout Options].

1. Printer driver specification

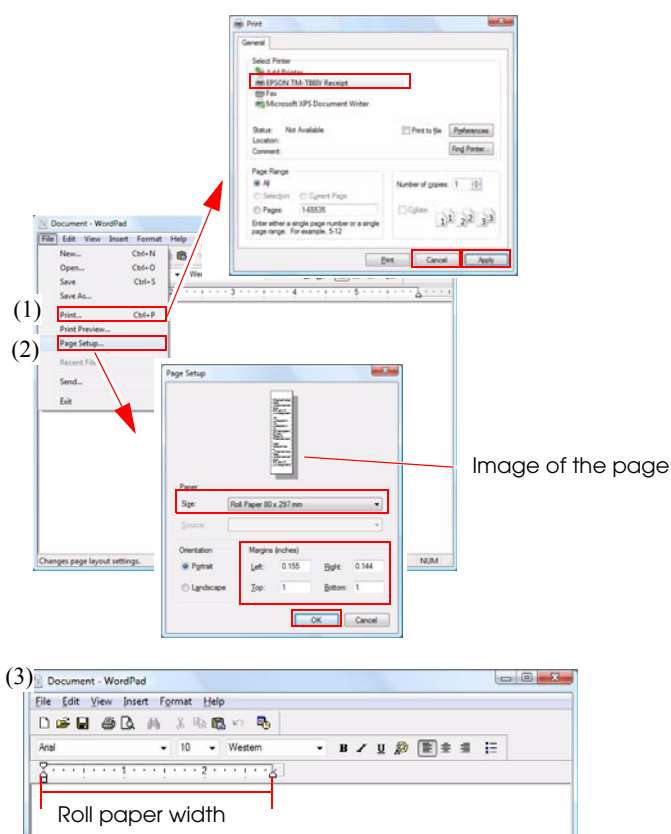
Select [File] - [Print...] to display the print dialog box. Select the printer driver you are to use. Press the [Apply] button, then press the [Cancel]. Return to WordPad screen.

2. Page Setup

Select [File] - [Page Setup] to display the Page Setup dialog box. Select the paper you are to use. At this point the Page Setup illustration changes to roll paper. Set the margins, and then press the [OK] button.

3. Exit Settings

The paper width selected with Page Setup is applied to WordPad.



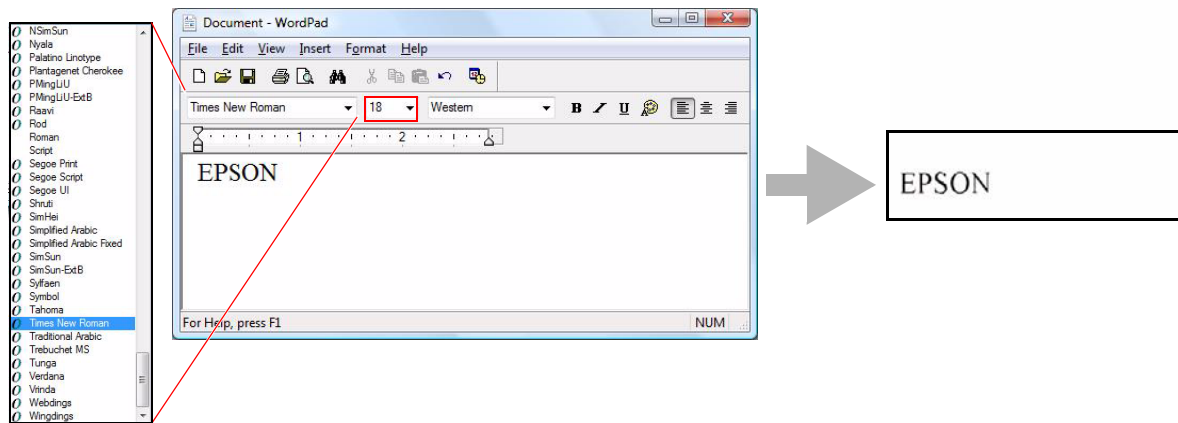
Character Printing (TrueType fonts)

Printing is performed with the TrueType fonts (Arial, Times New Roman, etc.) available with Windows. You can apply italic and other character modifications, and freely change the font size. You can also print almost exactly what you see on screen.

CAUTION

- You cannot obtain full text quality with TrueType fonts depending on TM printer model. In this case, specify device font. (See ["Character Printing \(Device Font\)"](#) on page 17.)
- When printing with a TrueType font, the data volume sent to the TM printer increases since the print image is expanded by the computer before sending to the printer. Due to this, when connected using the serial port, printing time is longer compared with other interfaces.

Specify TrueType font, Point and Style for print data.



Character Printing (Device Font)

Device Font is the font set built into the TM printer.

You can obtain text quality in line with the performance of the TM printer.

You can print text at a higher speed than TrueType font.

To print Device Font in a .NET environment, you must replace the font. See ["Device Font Printing in a .NET Environment" on page 38](#) for details.

Setting Device Font

When printing with Device Font, set the Device Font type.

Device Font Type

The xx after the font name specifies two digits, expressing the character size.

Font with [254/255] after the font name is user-defined pages. See the Technical Reference Guide for the TM printer you are using for a description of this setting.

Also see the manual regarding the number of dots for each font.

Some fonts are not supported, depending on the model of TM printer. See ["Printer Specification" on page 149](#) for details.

- FontAxx
- FontBxx
- FontCxx

Device Font Size

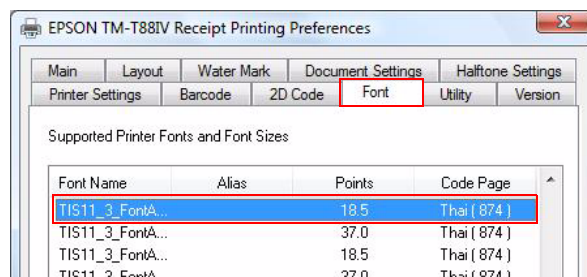
Device Font prepares fonts for each character size. As with TrueType fonts, point size is not specified separately from the font; rather, character size is specified by selecting a font.

The following sizes are available with Device Font.

Width \ Height	Standard	Double	Fourfold	Eightfold		
Standard	FontA11	FontA12			Standard	FontA11
Double	FontA21	FontA22	FontA24		Double height	FontA12
Fourfold		FontA42	FontA44	FontA48	Double width	FontA21
Eightfold			FontA84	FontA88	Double height / width	FontA22

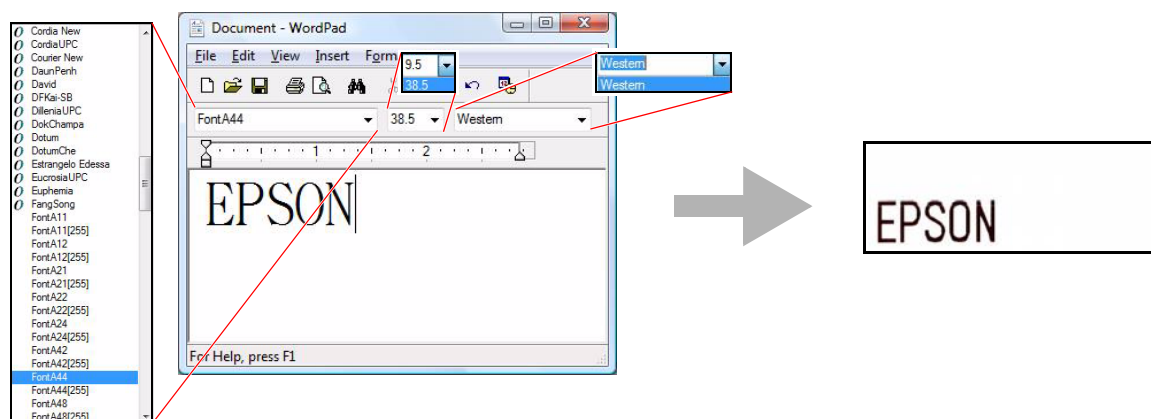
The Device Font Point varies with the TM printer. Also, Point is determined for every Device Font. Check with the Printer Settings - [Font] tab of the printer driver.

When printing Font A11 with TM-T88IV, specify 9.5 pt.



Printing Method

Specify Device Font, specified Point (check with [Font] tab) and language in print data.



CAUTION

- Not reflected in characters even when you specify bold/italic. The underline is printed but the position is offset.
- Printing is not possible when Device Font and Barcode(2D-Code) Font are arranged in one line.

NOTE

The character design and size displayed on the application screen are a little different from actual printing results.

Program

The following is an example program for reference.

```
-----  
Printer.Font.Charset = 0  
`Font  
Printer.Font.Name = "FontA44"  
`Size  
Printer.Font.Size = 38.5  
`Printing text  
Printer.Print "EPSON"  
-----
```

NOTE

Font and Point Size differ with the TM printer model. Check the Point Size of the font displayed on the [Font] tab of the printer driver. (The above example is from the TM-T88IV Receipt.)

Advanced Font Settings

When developing a print application, fine adjustment of the print layout is often necessary and font names must be changed when the device is changed. By configuring advanced settings for fonts, the desired print results can be obtained with minimal setting changes in the application.

Alias Setting

- An alias name can be specified for a printer font. This enables printing using the printer font without changing the font name in the application.

Printer Font Substitution (Special functions only on the TM-T88V)

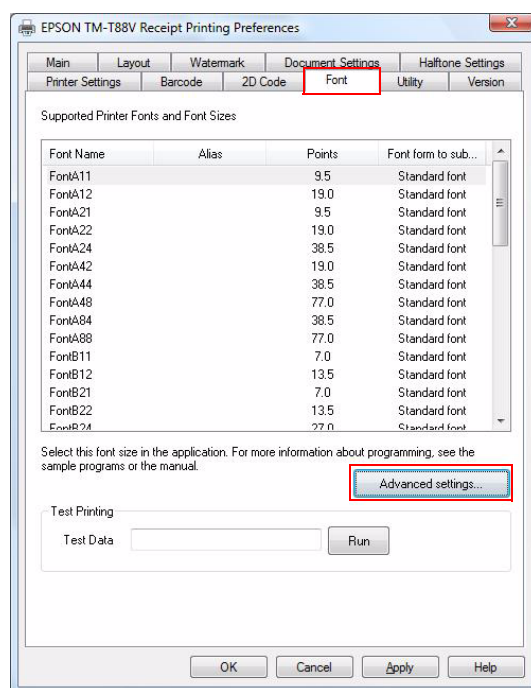
- This substitutes TrueType fonts for printer fonts. The TrueType fonts are adjusted to the size of the printer fonts to minimize disruption of the text layout. Proportional fonts are printed as fixed-width fonts. Select this setting when small differences in font sizes cause disruption of the layout.

Register Emulation Font (Special functions only on the TM-T88V)

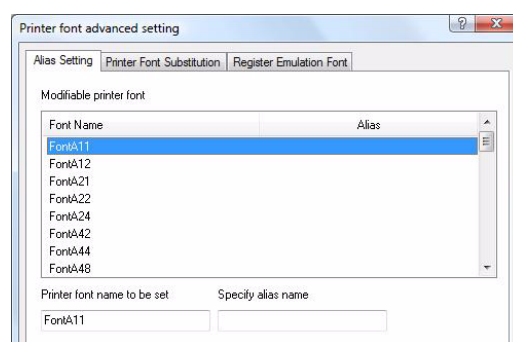
- Any font name, font size (height and width in dots), and font design (TrueType font) can be specified. Use these settings when you wish to change a font name and font size.

Follow the steps below to open the “Printer font advanced setting” screen.

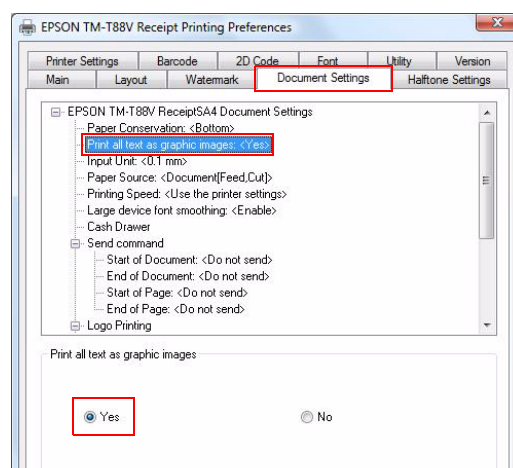
- 1 Select the (Font) tab from Printing Preferences. Click the (Advanced settings) button.



2 The “Printer font advanced setting” screen appears.



If the [Printer Font Substitution] tab does not appear when using the TM-T88V, select the [Document Settings] tab from the print settings and set [Print all text as graphic images] to [Yes].

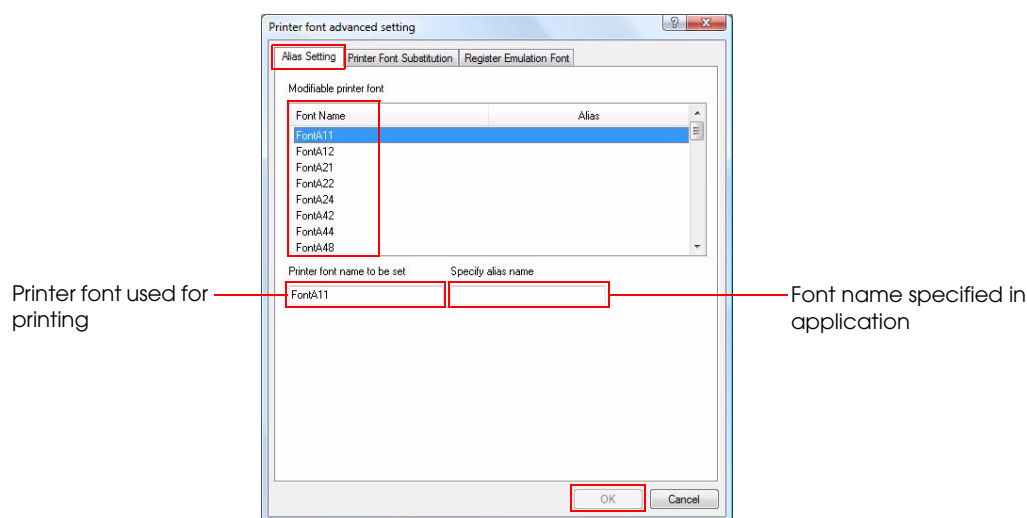


2

Alias Setting

Select the [Alias Setting] tab. Select the font from the [Modifiable printer font] list, and specify the alias name. When finished, click the [OK] button.

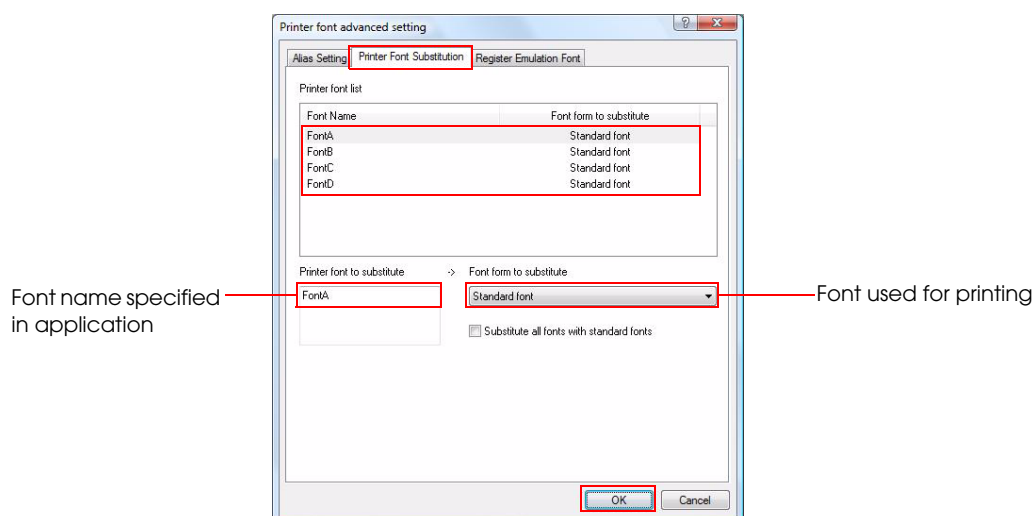
For example, by setting an application font name to an alias name for printer font - "FontA11", text can be printed using "FontA11" without changing the application.



Printer Font Substitution (Special functions only on the TM-T88V)

Select the [Printer Font Substitution] tab. Select a font from the [Printer font list], and select the font form (TrueType font) that you wish to substitute for it. When finished, click the [OK] button.

For example, when "Arial" is substituted for "FontA", specifying "FontA11" in the application will print text in Arial font at the size of "FontA11". The font size is adjusted to the same size as the printer font. This setting allows a 180 dpi printer to print 46 Arial font characters per line on 80 mm width roll paper.



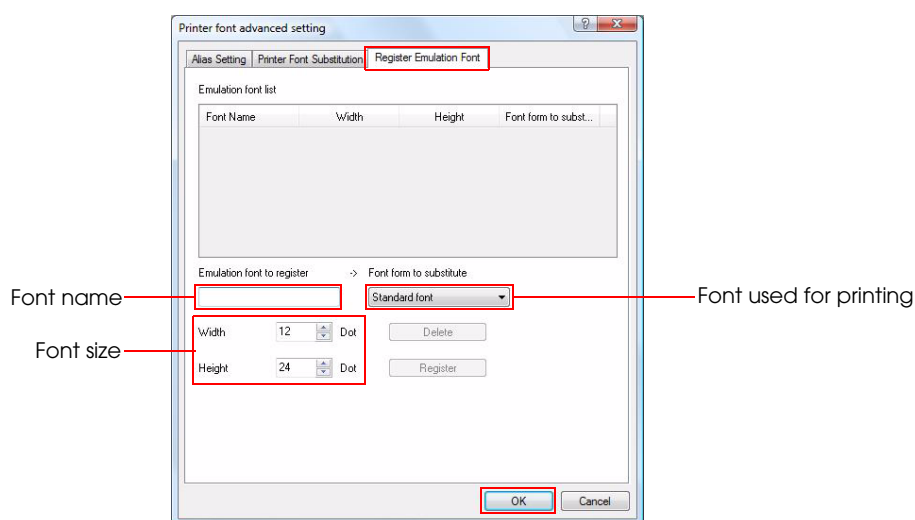
Register Emulation Font (Special functions only on the TM-T88V)

Select the [Register Emulation Font] tab. Enter the name of the emulation font you wish to register and specify the font form to be substituted (TrueType font). Enter the width and height. When finished, click the [OK] button.

The emulation font registration function makes it easy to adjust the print layout. In addition, when the device is changed in an existing application, printing is possible using the previous text size and layout without changing the application.

CAUTION

If the text size is too small or the height-width ratio is too large, the characters may be blurred. Be sure to check the print result carefully before using this function.



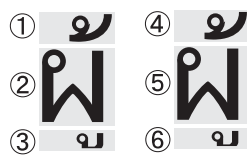
Character Printing (Thai Device Fonts)

Thai device fonts are available for printing Thai.

Compared to direct printing of TrueType fonts, these fonts make better and faster printing possible.

Configuration and Name of Thai Characters

The configuration and names of Thai characters are described below.



Name	Data transmission order	Description
Thai-1 Pass	②→③→①→⑤→⑥→④	Transmits data by the character.
Thai-3 Pass	①→④→②→⑤→③→⑥	Transmits data by the line.

Selecting the Thai Device Fonts

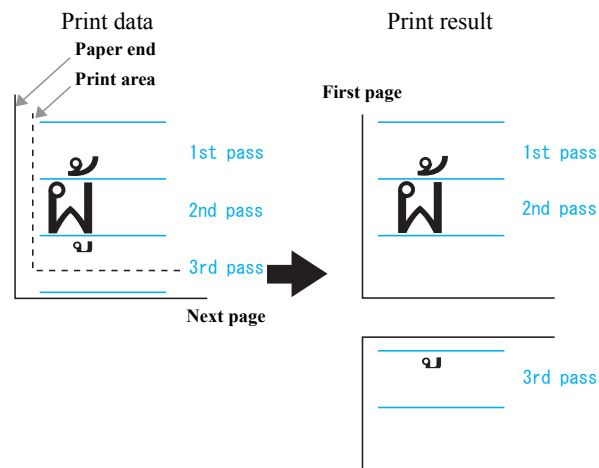
Select the device font for the driver according to your environment and printer model.

Environ ment	Data	Driver		Thai character printing mode of the printer			Feature
		Device Fonts	Model	TM-T 88IVSA	TM-T 70SA	TM-U220 SA and other	
Windows application	Thai- 1Pass	TIS11_3_ FontA/B	TM-T88IV	1Pass	-	-	Thai-1 Pass application Setting
			TM-T70	-	1Pass	-	
			TM-L90	-	-	3Pass	
			TM-T90				
			TM-T58				
			TM-U220				
	TM-U295						
	TM-U950 (TM-T88IV APD4.06a or earlier)						
	Thai- 3Pass	TIS11_Font A/B TIS14_Font A/B TIS18_Font A/B KU42_Font A/B	TM-T88IV	3Pass			Thai-3 Pass application Setting
			TM-T70	-	-	-	
			TM-L90	-	-	3Pass	
			TM-T90				
			TM-T58				
			TM-U220				
	TM-U295						
	TM-U950 (TM-T88IV APD4.06a or earlier)						

Environ ment	Data	Driver		Thai character printing mode of the printer			Feature
		Device Fonts	Model	TM-T 88IVSA	TM-T 70SA	TM-U220 SA and other	
Programming	Thai-1 Pass	TIS11_3_ FontA/B	TM-T88IV	1Pass	-	-	Program setting for creating character data with Thai-1 Pass.
			TM-T70	-	1Pass	-	
			TM-L90	-	-	3Pass	
			TM-T90				
			TM-T58				
			TM-U220				
	TM-U295						
	TM-U950 (TM-T88IV APD4.06a or earlier)						
	Thai-3 Pass	TIS11_Font A/B TIS14_Font A/B TIS18_Font A/B KU42_Font A/B	TM-T88IV	3Pass	-	-	Program setting for creat ing character data with Thai-3 Pass Issue a command to end of line for saving line space. TM-T70 does not support this.
			TM-T70	-	-	-	
TM-L90			-	-	3Pass		
TM-T90							
TM-T58							
TM-U220							
TM-U295							
TM-U950 (TM-T88IV APD4.06a or earlier)							

Cautions for Using the Thai Device Font

- Do not use another font in the same line.
- If a character does not fit in the print area of the paper, the rest of the character will be printed on the next page.



- TM-T88IV
Switches between Thai-1 Pass mode and Thai-3 Pass mode by the printer's Memory Switch. For details, see TM-T88IV Technical Reference Guide.

TIS11_3_FontA/Bxx

- Thermal printer
Do not use another font in a paragraph.
- TM-U295
Prints using the backfeed function. Compared to printing with another device font, the printing speed will be lower.

Device fonts other than TIS11_3_FontA/Bxx

When you use a font such as TIS11_FontA11, if you specify the following control font before line feeding, the amount of line feeding will be reduced and the line spacing will be smaller.

Printer	Control Font	Description
TM-U295	m	Paper Back feeding (2dots)
Others	8	1/16-inch line spacing
	9	1/8-inch line spacing

Replacing device fonts

When you use a device font in a .NET Framework environment, replace a TrueType font with the device font. The replaceable TrueType fonts are Thai TrueType fonts and AngsanaUPC is recommended. Replacing a TrueType font other than Thai with a Thai device font is not possible. See ["Device Font Printing in a .NET Environment" on page 38](#) for details.

Printing a Barcode

APD has Barcode font built in. Therefore, you can print Barcode even if you have not created Barcode on the application side.

NOTE

- When used in combination with Rotation, set a slow Printing Speed with the [Document Settings] tab. When the print speed is too fast, the barcode may not be read.
- For the models such as TM-T88V and TM-H6000IV that support the "Speed for printing pages that include a barcode or 2D symbol" function on the [Document Settings] tab, you can set the printing speed lower only for the pages that include barcode. However, this does not support the application generating image data.

Barcode font lets you register the barcode type and size as properties. Up to eight types of barcode (Barcode 1 ~ 8) can be registered using the APD.

The barcodes you can print differ with each TM printer. See ["Printer Specification" on page 149](#) for details.

Barcode font setting

Select the Barcode tab from Printing Preferences.

The image shows two screenshots of the EPSON TM-T88IV Receipt Printing Preferences dialog box. The first screenshot shows the 'Barcode' tab selected, with annotations pointing to the 'Barcode tab', 'Font Name' (Barcode1), 'Points' (65.0), 'Alias', 'Barcode type' (UPC-A), and 'Advanced settings'. The second screenshot shows the 'Barcode1' Advanced settings dialog box, with annotations pointing to 'Element width' (3 Dots), 'Element height' (162 Dots), 'HRI Position' (Do not print), 'HRI Font' (FontA), 'Rotation' (Normal), and 'Quiet Zone'.

Barcode tab

Font Name

Points

Alias

Barcode type

Open the Advanced settings

Element width
(width of the thin lines in dots)

Element height
(height of the thin lines in dots)

HRI characters

Element

HRI characters

Rotation

Quiet Zone

Make the following settings. See ["Barcode" on page 105](#) for details.

Setting	Description
Font Name	You can set Barcode font for up to 8 barcode types (Barcodes 1 ~ 8). When printing through an application, specify the font name or the alias name.

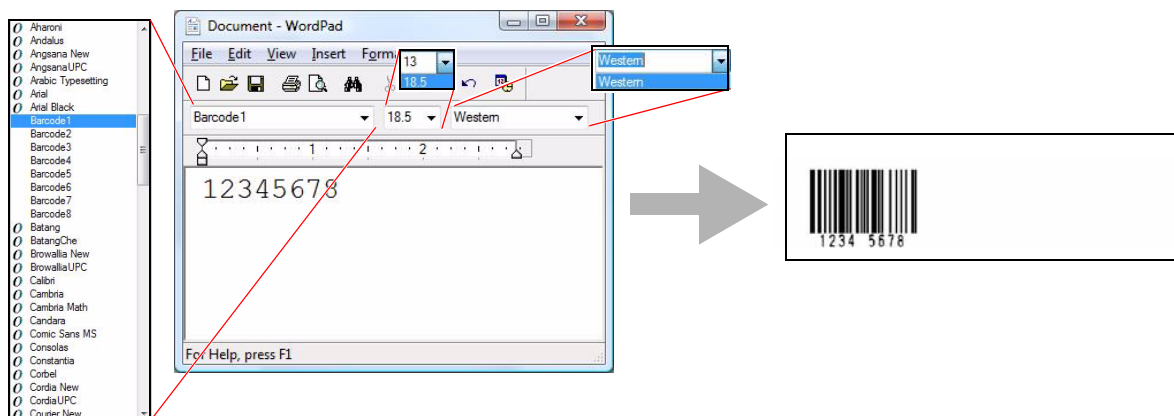
Setting	Description
Points	The barcode font size is displayed. When printing through an application, specify this value.
Alias	You can make optional settings. You can specify Alias during programming.
Barcode type	Configures the Barcode type (UPC-A, RSS, etc)
Element	Determines the Barcode size. Specifies the finest Element width and height. Units are the smallest dot of the TM printer. This result determines the Barcode font Point.
HRI characters	Sets with/without HRI characters, position and font.
Rotation	Sets whether to independently rotate Barcode.
Hex Input Mode	Allows the Barcode characters to be entered in binary.
Add Quiet Zone	The blank margin on either side of a Barcode required in order to read the Barcode.

NOTE

When Rotate is set with the [Layout] tab, the printing direction of the barcode matches [Layout] tab Rotate and the Rotation of [Barcode]-[Advanced settings] printing direction.
 Ex: When specifying [Rotate by 90 degrees] with [Layout] Rotate and [Rotate by 90 degrees] with [Barcode] Rotation, the printing direction is turned through 180 degrees.

Printing Method

Specify Barcode Font, specified Point (check with [Barcode] tab) and language in print data.



CAUTION

- Barcode Font Points determined. Check with Printing Preferences - [Barcode]. When specifying a value other than this, the Barcode is not printed.
- Since the dot resolution differs with the TM printer model, the size of the barcode to be printed varies, even if the same value is set.

NOTE

The character design and size displayed on the application screen are a little different from actual printing results.

Program

The following is an example program for reference.

```
-----  
Printer.Font.Charset = 0  
`Size  
Printer.Font.Size = 18.5  
`Font  
Printer.Font.Name = "Barcode1"  
`Printing text  
Printer.Print "12345678"  
-----
```

Printing a 2D-Code

APD has a 2D-Code font. Therefore, you can print 2D-Code without creating 2D-Code on the application side.

NOTE

- Set a slow Printing Speed with the [Document Settings] tab. When the print speed is too fast, the symbols may not be read.
- For the models such as TM-T88V and TM-H6000IV that support the "Speed for printing pages that include a barcode or 2D symbol" function on the [Document Settings] tab, you can set the printing speed lower only for the pages that include barcode. However, this does not support the application generating image data.

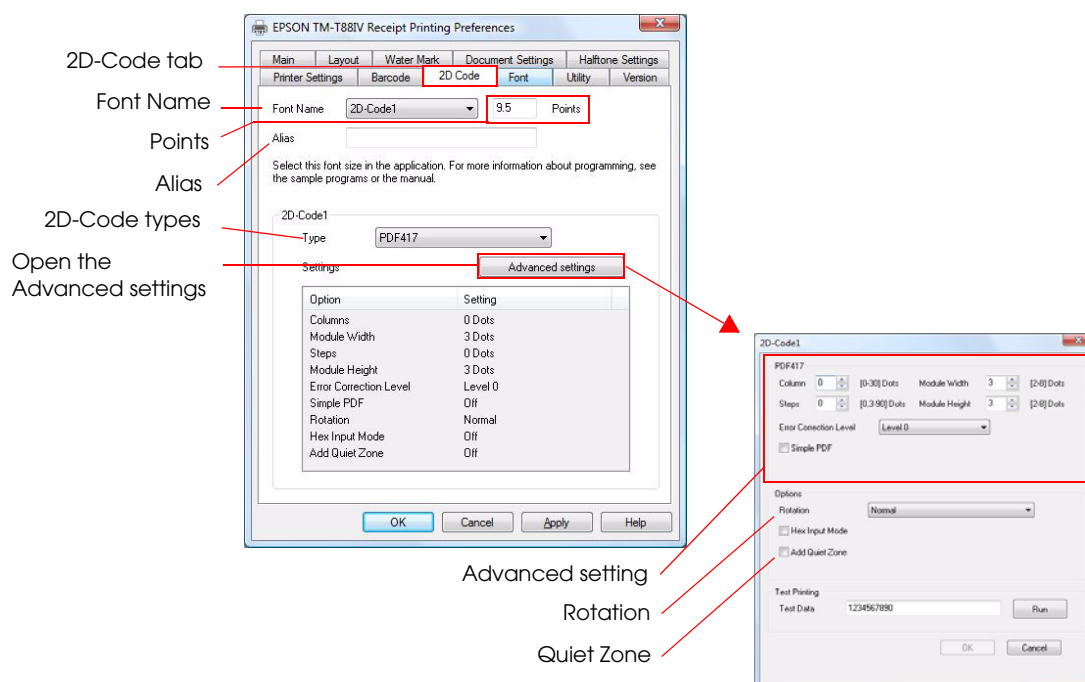
The 2D-Code font allows registration of 2D-Code type and size properties.

Up to eight types (2D-Code 1 ~ 8) of setting can be registered using the APD. You can make fine settings of 2D-Code at one time, and also easily change the settings.

The 2D-Codes you can print differ with each TM printer. See ["Printer Specification" on page 149](#) for details.

Setting the 2D-Code Font

Select the 2D-Code tab from Printing Preferences.



Make the following settings. See ["2D-Code" on page 108](#) for details.

Setting	Description
Font Name	You can set the 2D-Code font from the 8 types of 2D-Code(1 ~ 8). When printing through an application, specify the font name or the alias name.

Setting	Description
Points	The 2D-Code font size is displayed. When printing through an application, specify this value.
Alias	You can put a name to 2-dimensional symbol fonts. Through an application, you can specify a font by this alias name instead of specifying 2-dimensional symbol font itself.
Barcode type	Sets the 2D-Code type. (CPU-A, JAN8((EAN), ITF, etc.)
Advanced setting	Sets the 2D-Code size and Error Correction Level, etc. Setting contents differ with the 2D-Code type.
Rotation	Sets whether to independently rotate 2D-Code.
Hex Input Mode	Allows the 2D-Code characters to be entered in binary.
Add Quiet Zone	Check this box to add a quiet zone, the blank margin on either side of a 2D-Code required to be properly read.

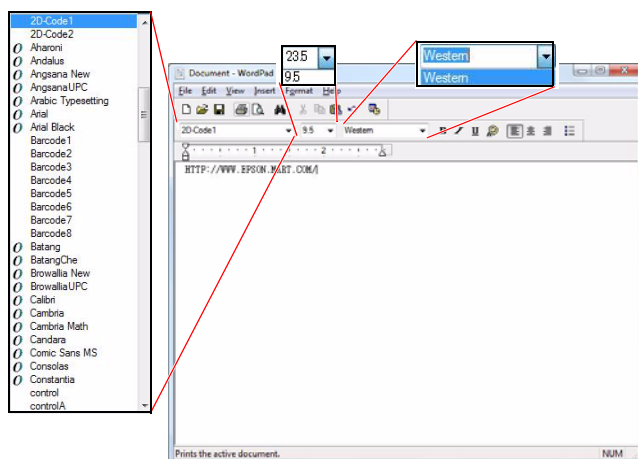
NOTE

When Rotate is set with the [Layout] tab, the printing direction of the barcode matches [Layout] tab Rotate and the Rotation of [Barcode]-[Advanced settings] printing direction.

Ex: When specifying [Rotate by 90 degrees] with [Layout] Rotate and [Rotate by 90 degrees] with [2D-Code] Rotation, the printing direction is turned through 180 degrees.

Printing Method

Specify 2D-Code Font, specified Point (check with [2D-Code] tab) and language in print data.

**NOTE**

- 2D-Code Font Points determined. Check with Printing Preferences - [2D-Code]. When specifying a value other than this, the 2D-Code is not printed.
- Since the dot resolution differs with the TM printer model, the size of the 2D-Code to be printed varies, even if the same value is set.

Program

The following is an example program for reference.

```
-----  
Printer.Font.Charset = 0  
`Size  
Printer.Font.Size = 9.5  
`Font  
Printer.Font.Name = "2D-Code1"  
`Printing text  
Printer.Print "http://www.epson.mart.com/"  
-----
```

2-Color Printing

Some printer models support 2-Color printing. Printing differs according to the printer model as follows.

- A thermal printer can print by two colors, Black/Red, by using the exclusive roll paper. It is realized because the print temperature of the thermal head is controlled by two steps, (First Color: Black; Second Color: Red). The print result depends on the coloring temperature of the thermal paper.

In the setting about color in the printer driver, some text says that "Black" is the First Color and "Red" is the Second Color. Set the colors as First Color and Second Color. The actual print result depends on the paper used.

- A ink-jet printer can print by two colors, with using the color ink cartridge.
- A dot-impact printer can print by two colors, Black/Red, by using the exclusive ribbon cassette.

Setting 2-Color printing

To perform 2-Color printing, you must set the Memory Switch and APD.

Memory Switch Setting

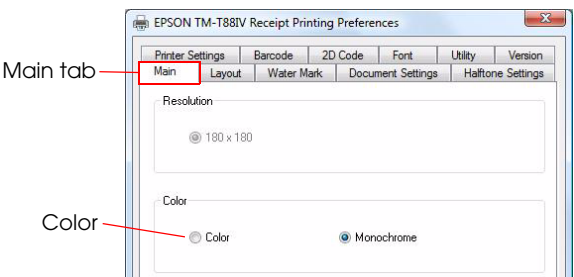
Download the Memory Switch Setting Utility from the EPSON website to use it.

As for the procedure for setting the 2-Color printing to the printer by the Memory Switch Setting Utility, refer to the attached manual in the Memory Switch Setting Utility.

APD Setting

From Printing Preferences, select Main tab, Printer Settings tab and Halftone Settings tab, and make the settings.

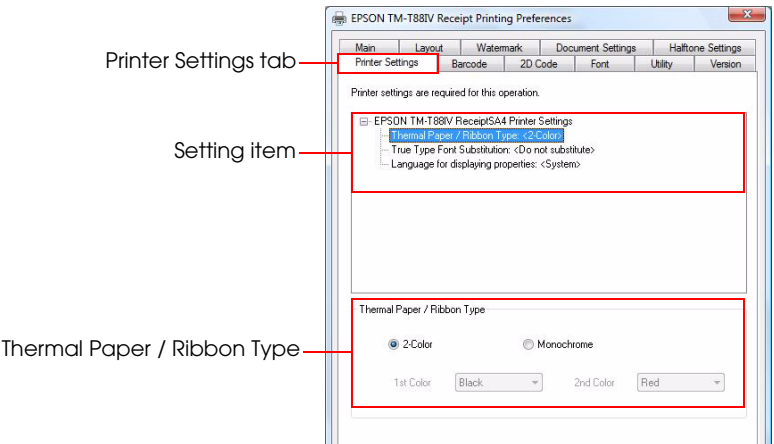
Main



Make the following settings. See ["Main" on page 75](#) for details.

Setting	Description
Color	Select Color.

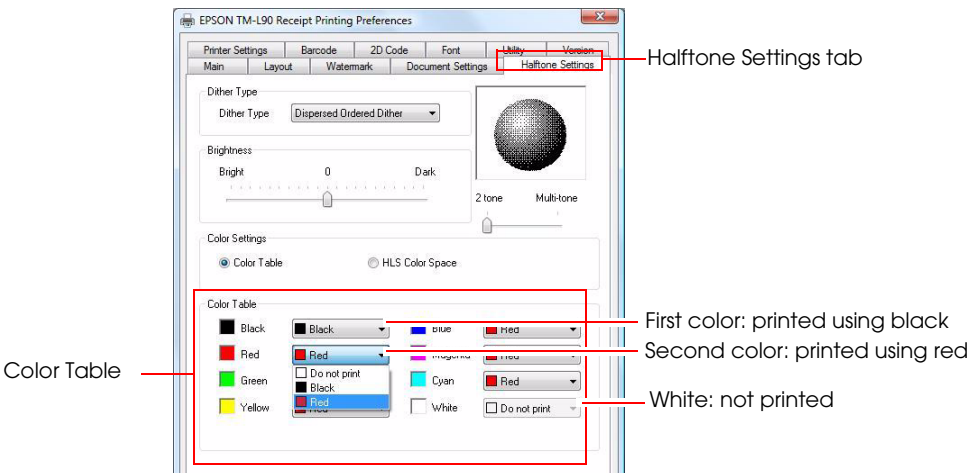
Printer Settings



Make the following settings. See ["Printer Settings" on page 101](#) for details.

Setting	Description
Setting item	Select Thermal Paper/Ribbon Type.
Thermal Paper/Ribbon Type	Select Color.

Halftone Settings



Make the following settings. See ["Halftone Settings" on page 99](#) for details.

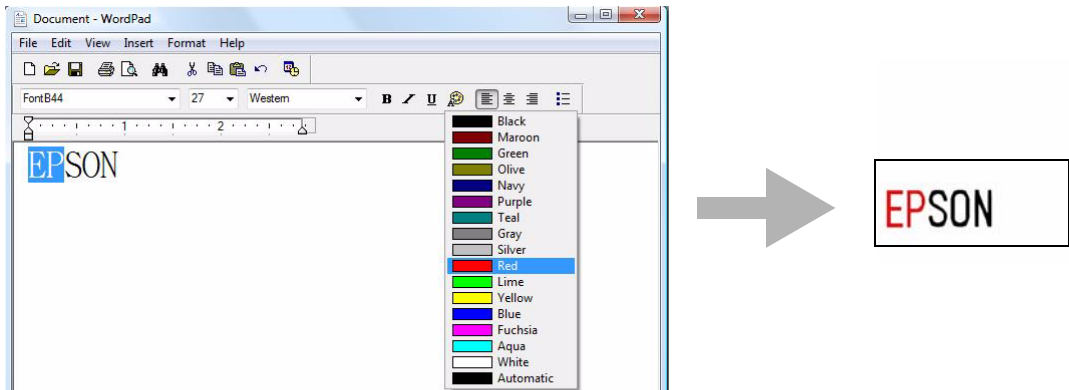
Setting	Description
Color Table	The Color Table specifies the color ("White - not printed," "Black - First color," "Red - Second color) that will be used for printing specified colors ("Black," "Red," "Green," "Yellow," "Blue," "Magenta," "Cyan," and "White").

CAUTION

All colors other than black and white (not printed) are printed using red.

Printing Method

Specify color in the print data.



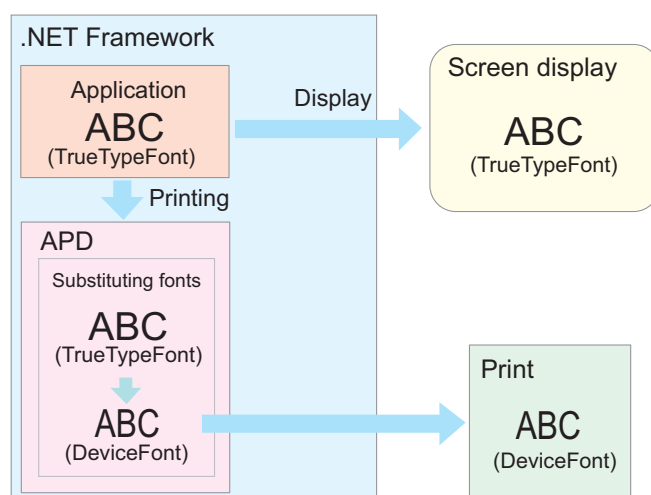
Device Font Printing in a .NET Environment

.NET Framework supports only TrueType and OpenType fonts. Therefore, the printer's device fonts cannot be used. In the APD, therefore, a font substitution function is provided to allow you to use device fonts even with .NET Framework.

This function is not only useful in a .NET Framework environment: it also allows you to use the device fonts from an application that only supports TrueType fonts.

Substituting Fonts

The APD font substitution function replaces a TrueType font with a device font. By specifying a device font to be used as a substitute for a given TrueType font, printing can be done using a device font. True Type fonts are used for the application's screen display, but they are substituted by the device font when printed.



For TrueType fonts not available for the substitution, see the table below.

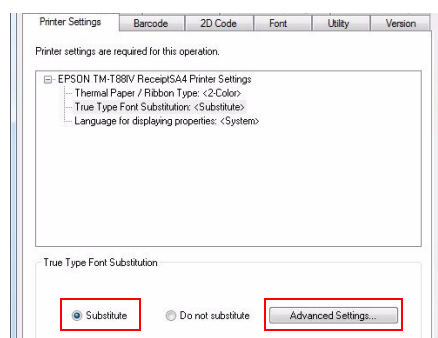
TrueType fonts not available for the substitution			
Marlett	Symbol	MS Outlook	Wingdings 3
Wingdings	Webdings	Wingdings 2	

See ["Character Printing \(Thai Device Fonts\)" on page 24](#) for Thai device fonts.

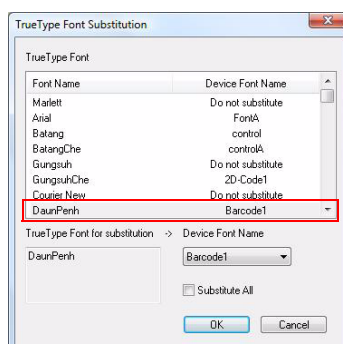
Font Substitution Settings

Make the Substitution setting as follows. See ["TrueType Font Substitution" on page 102](#) for details.

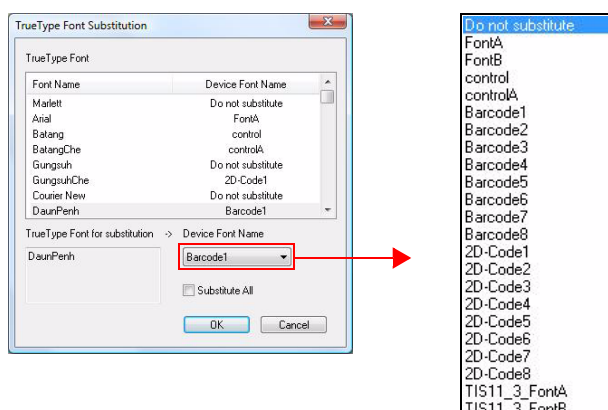
- 1 Select the Printer Settings tab from Printing Preferences.
- 2 Select (True Type Font Substitution) from the selection items.
- 3 Select (Substitute) and click the (Advanced Settings) button.



- 4 The TrueType Font Substitution screen is displayed. Select a TrueType font to be substituted.



- 5 From the pull down list, select the device font with which you substitute the TrueType font.



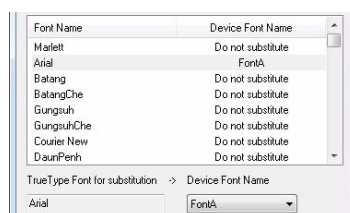
Printing Using a Device Font

Select the TrueType font to be substituted.

That TrueType font for which substitution has been specified will always be output as the device font. Otherwise, therefore, always select another TrueType font.

Font Substitution Settings

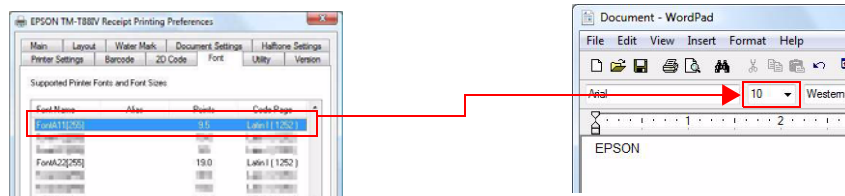
Make the [Printer Settings] - TrueType Font Substitution settings. The example specifies Arial for font substitution. (See "Substituting Fonts" on page 38.)



For the print data, specify a TrueType font and size.
(Specify the size of the device font using that of the TrueType font.)

Specify the font size by adding 1 point to the size in the [Font] tab and dropping the fractional part.

Example: If the device font size is 9.5pt, specify 10.0pt.



Note:

- If characters does not fit in one line and are printed on the next line, specify a smaller point size for the TrueType font.
- Only device fonts whose vertical/horizontal ratio is same, such as FontA11/22, can be printed.
- Smaller fonts whose point sizes are smaller than that of the smallest device font (example: FontA11) cannot be printed.
- If a point size between those of FontA11 and FontA22 is specified for the point size of the TrueType font, the smaller device font will be printed.

Example: If Arial 12 point is specified with the TM-T88IV, FontA11 will be printed.

Print

You need to confirm print results with your application in advance.

NOTE

Even if you specify bold or italic font settings to the text in TrueType font, it will not be reflected in the printings. The underline is printed but the position is offset.

Program

The following is an example program for reference.

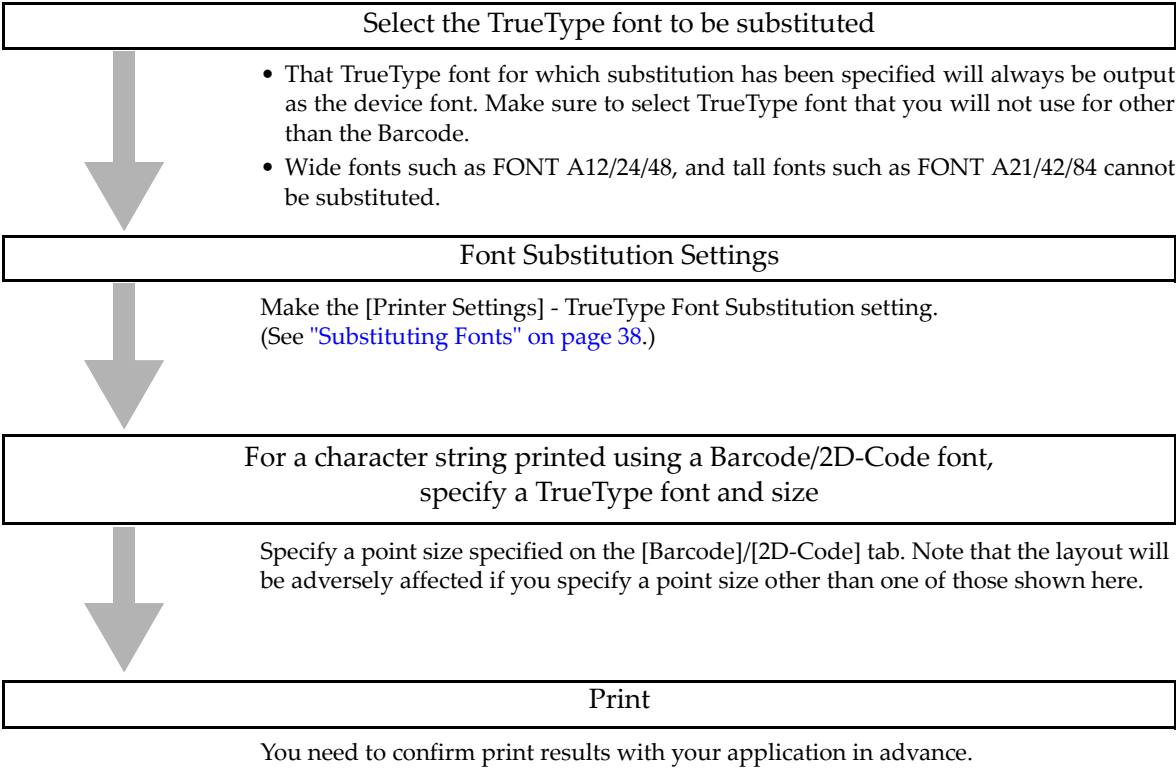
```
-----
Printer.Font.Charset = 0
`Font
Printer.Font.Name = "Arial"
`Size
Printer.Font.Size = 39.0
`Printing text
Printer.Print "EPSON"
-----
```

NOTE

Font and Point Size differ with the TM printer model. Check the Point Size of the font displayed on the [Font] tab of the printer driver. (The above example is from the TM-T88IV Receipt.)

Printing Barcodes/2D-Code Fonts

2



Controlling the TM Printer: Control Font/Control A Font

Select the TrueType font to be substituted

- Select a TrueType font to be used as a control font.
- That TrueType font for which substitution has been specified cannot be used as other than the control font. If you specify this font for any other characters, not only will printing fail, but the system may operate as if another command had been specified. Therefore, make sure to select TrueType font that you will not use as other than the control font.

Font Substitution Settings

Make the [Printer Settings] - TrueType Font Substitution setting.
(See "[Substituting Fonts](#)" on page 38.)

Specify the TrueType font and size for the control font/control A font for print data.

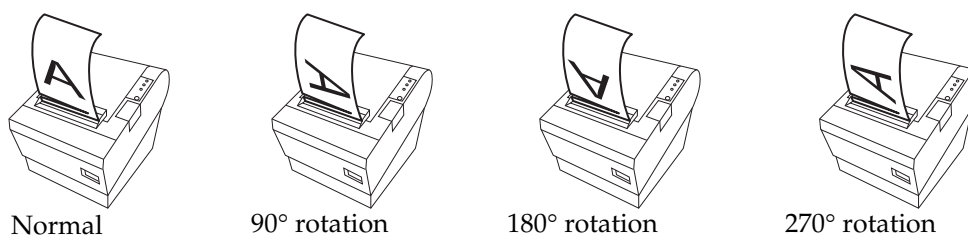
Specify a point size shown on the [Font] tab.
The point size may be too small to be recognized on the application screen.

Print

You need to confirm print results with your application in advance.

Rotated Printing

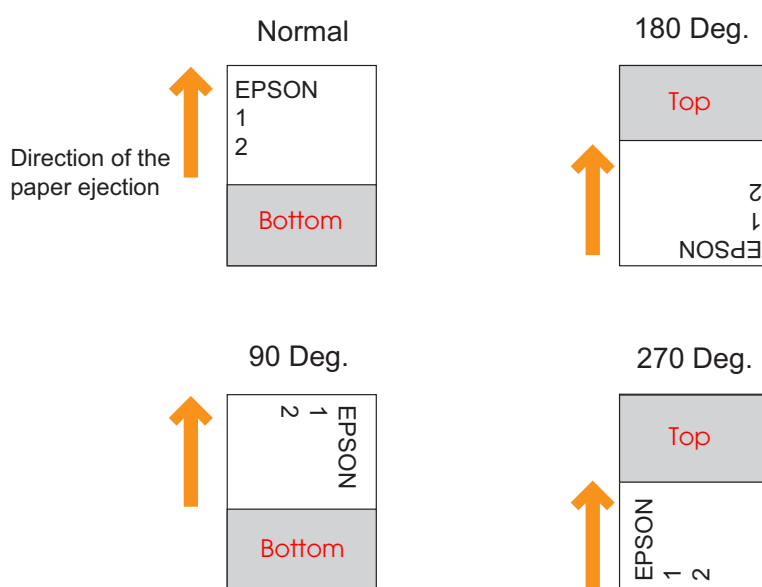
You can rotate data for printing. When using a TM printer oriented vertically, printing with 180° rotation (inverted printing) enables printing with an orientation that is easy for customers to see. Otherwise, when you want to print characters horizontally, for receipts, etc., you can make the rotation setting on the printer driver side.



When setting rotated printing, "paper conservation" is enabled automatically.

- Top: Paper can be saved because the top blank is not printed.
- Bottom: Paper can be saved because the bottom blank is not printed

Printing direction and margin conservation have the following relations.

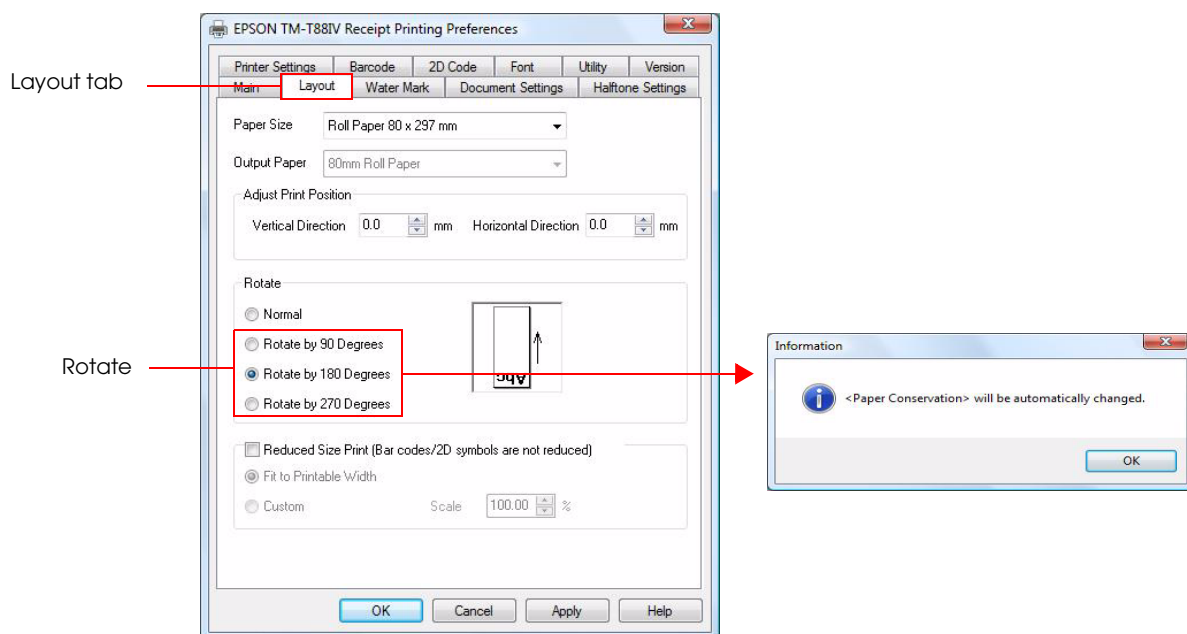


NOTE

See "Paper Conservation" on page 81 for margin setting.

Rotate Printing Settings

Select the Layout tab from Printing Preferences.



Make the following settings. See "[Layout](#)" on page 76 for details.

Setting	Description
Rotate	Select the printing orientation you want. With settings other than Normal, all text is printed as a graphic image, and Paper Conservation is changed automatically. When the Information screen is displayed, click "OK".

CAUTION

- When the printing orientation setting is other than standard, since [Print all text as graphics] under Document Settings is "Yes", you cannot use Device Font, Control Font (logo printing using NV memory, etc.) or ControlA Font.
- Do not use with your own independently developed application's rotated printing function. Use only one or the other rotated printing function.

Printing Example

Rotate by 180 Degrees



Background printing

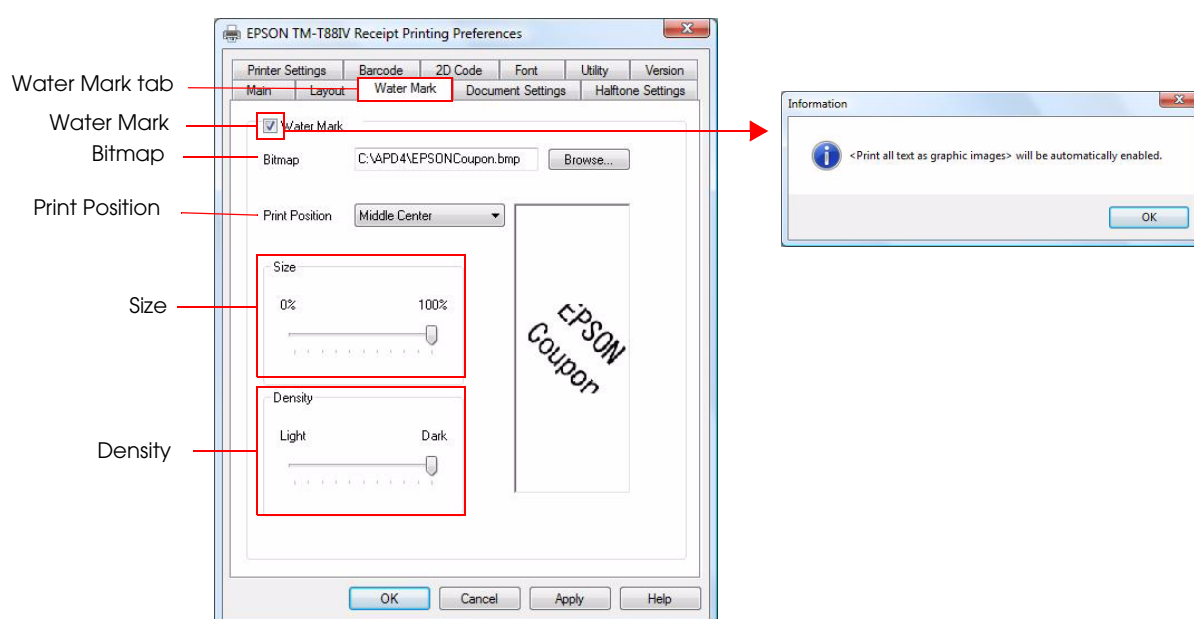
Use Water Mark to print background. A bitmap file is necessary for Water Mark setting.

CAUTION

- You may not be able to print a Water Mark depending on the application.
- When the printing orientation setting is other than standard, since [Print all text as graphics] under Document Settings is "Yes" you cannot use Device Font, Control Font control (logo printing using NV memory, etc.) or ControlA Font.
- Since a large volume of data is sent to the TM printer for Water Mark printing, in the case of serial connection printing time is longer compared with other interfaces.
- When printing in the shared printer environment, save the data file in a folder accessible from the shared environment.

Water Mark setting

Select the Water Mark tab from Printing Preferences.



Make the following settings. See ["Water Mark" on page 79](#) for details.

Setting	Description
Water Mark	Check to print Water Mark. When checked, (Print all text as graphics) under Document Settings is automatically set to "Yes".
Bitmap	Specifies the background bitmap data file.
Print Position	Make the following settings.
Size	Configures the size of the Water Mark.
Density	Configures the density of the Water Mark.

Printing a Logo

Use the following method to print graphics.

Method	Features
Print bitmap on the application screen	Large data volume, printing is slow.
Specify bitmap file in the printer driver for printing.	Slow, because file is read each time for printing.
Register bitmap in TM printer for printing	Data volume is small, therefore you can print fast.

The following explains how to register a bitmap in the TM printer and print. Method that applies the bitmap of a fixed format such as a store logo.

CAUTION

When registering a bitmap file in the shared printer environment, save the data file in a folder accessible from the shared environment.

Bitmap data registration

Register the bitmap data in the TM printer's NV (Non Volatile) memory with the TM Flash Logo Setup Utility. This memory retains its data even when the TM printer is switched off.

For more details, see ["TM Flash Logo Setup Utility" on page 117](#) or ["TM Flash Logo Setup Utility Ver.3" on page 127](#).

CAUTION

You cannot register bitmap data in a TM printer unless it has NV (Non Volatile) memory.

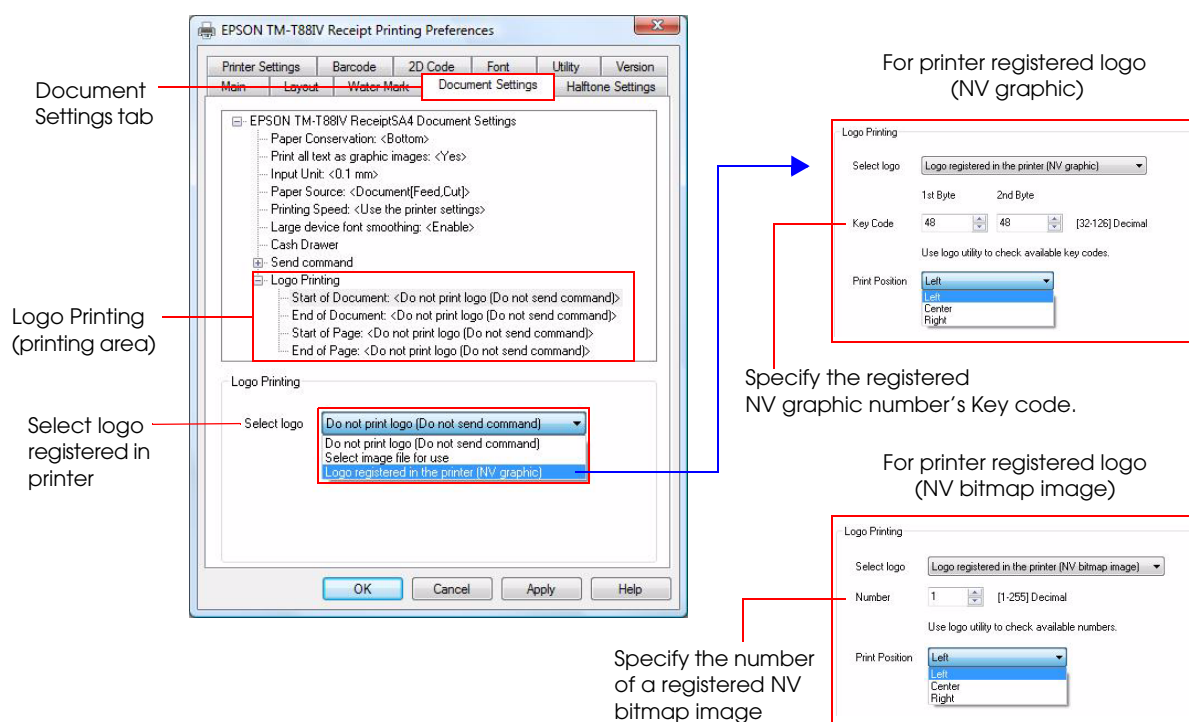
Bitmap data printing

The following method is for printing bitmaps registered in a TM printer.

Method	Features
Setting by printer driver	Prints the bitmap in a document or before and after a page.
Specifying by Control Font.	Specifies control font at the position for bitmap printing.

Setting by printer driver for printing

Select the Document Settings tab from Printing Preferences.



Make the following settings. See ["Logo Printing" on page 97](#) for details.

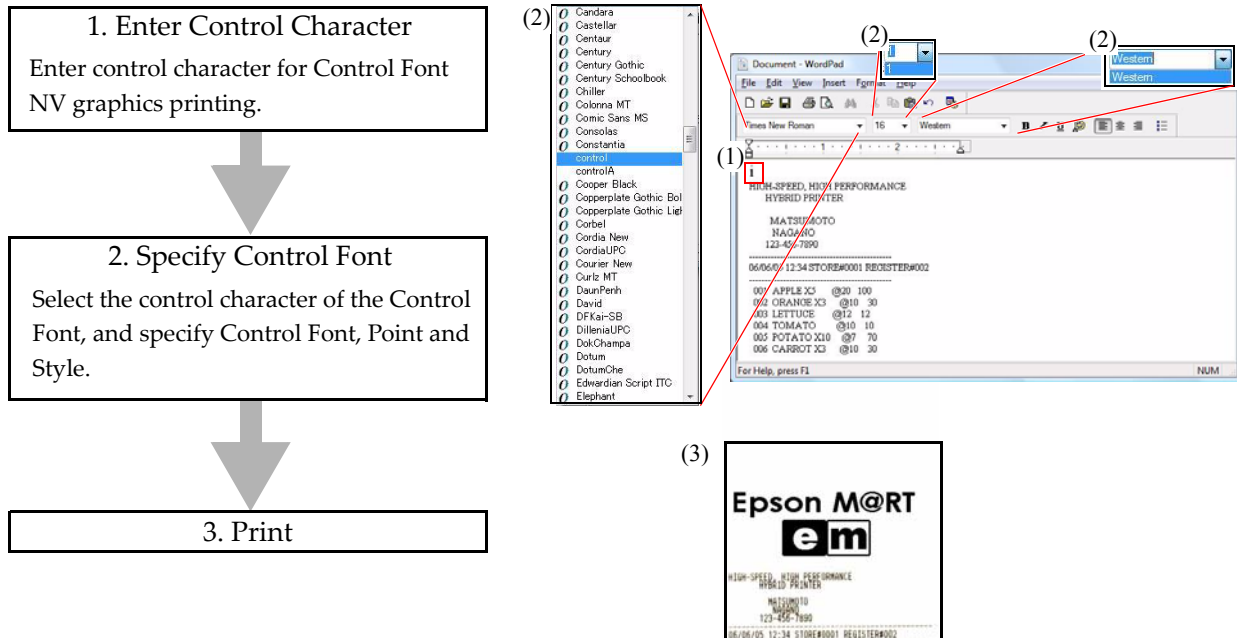
Setting	Description
Logo Printing (printing area)	Specify an area for a logo printing (before or after a document or each page.)
Print Position	Specify a logo print position. Select Left, Center, or Right.
Specifying the bitmap to print	Select whether to use the logo registered in the TM printer or to specify and use an image file.
Specify logo registered in printer*	Specify a logo registered in the TM printer.
NV graphic	Specify the key code of a logo registered using TM Flash Logo Setup Utility.
NV bitmap image	Specify the number of a logo registered using TM Flash Logo Setup Utility.

* The Key code and graphic in the NV memory for printing are as follows.

NV graphics number	Key code	
	1st byte	2nd byte
NV graphics 0	48	48
NV graphics 1	48	49
NV graphics 2	48	50
NV graphics 3	48	51
NV graphics 4	48	52

Specify Control Font to print

Bitmap is printed using Control Font.



Program

The following is an example program for reference.

```
-----  
Printer.Font.Charset = 0  
`Font  
Printer.Font.Name = "control"  
`Size  
Printer.Font.Size = 1  
`Printing text  
Printer.Print "i"  
-----
```

Paper Feed and Paper Cut

There are two methods for controlling the paper cut.

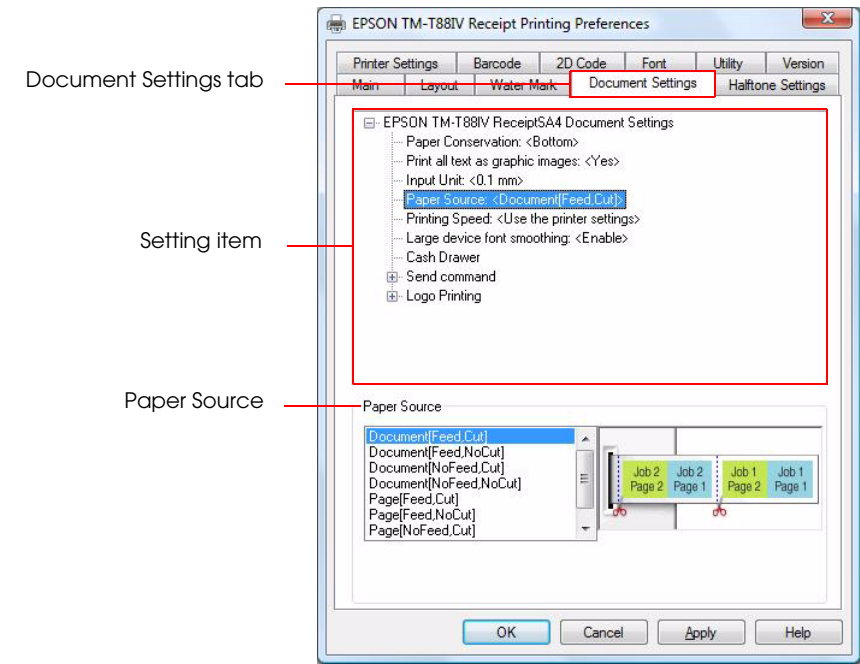
- Configure the APD to feed and cut the paper automatically at the end of each printing.
This method is valid even when [Print all text as graphics image] is set.
- Cut the paper using Control Font in the program.

CAUTION

When using Control Font, you cannot use it in combination with a <Print all text as graphics image> setting such as Rotated Printing/Water Mark/Scale-down Printing.

Setting paper cut with the printer driver

Select the Document Settings tab from Printing Preferences.



Make the following settings. See ["Paper Source" on page 84](#) for details.

Setting	Description
Setting item	Select Paper Source
Paper Source	Select whether to feed paper per job (document) or page, and whether to cut paper with the auto-cutter or not.

Making this setting controls paper feed and paper cut when printing a document.

Specifying Control Font and performing paper cut in programming.

The following is an example program for reference.

```
-----  
Printer.Font.Charset = 0  
`Font  
Printer.Font.Name = "control"  
`Size  
Printer.Font.Size = 1  
`Printing text  
Printer.Print "P"  
-----
```

Drawer Control

The methods for controlling the drawer are as follows.

- Make the drawer open automatically by configuring the printer driver.
- Open the drawer from the application using the Open Drawer Control Font.

CAUTION

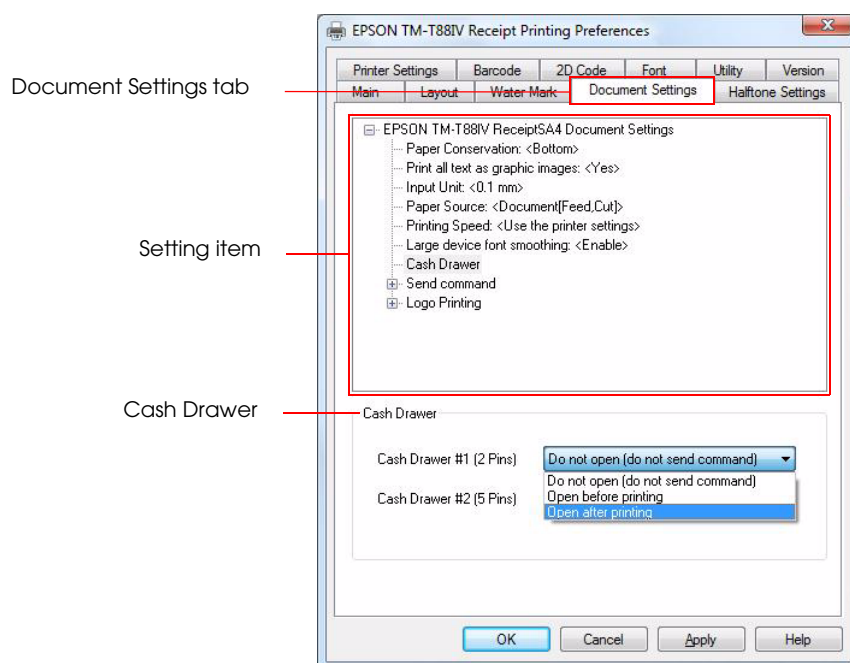
When using Control Font, you cannot use it in combination with the <Print all text as graphics image> setting such as Rotated Printing/Water Mark/Scale-down Printing.

NOTE

For closing the drawer, push manually.

Opening Drawer with printer driver setting

Select the Document Settings tab from Printing Preferences.



Make the following settings. See ["Cash drawer" on page 95](#) for details.

Setting	Description
Setting item	Selecting Cash drawer
Cash Drawer	With a drawer provided by Epson, if you set "Open after printing" for Cash drawer #2 (5pins), the drawer opens after printing.

NOTE

For closing the drawer, push manually.

Opening Drawer by Control Font

Use the Open drawer Control Font to open Drawer.

NOTE

Set "Do not open (do not send command)" for Cash Drawer in Document Settings.

1. Enter Control Character

Enter control character of the Open drawer Control Font in the position you want the drawer to open.

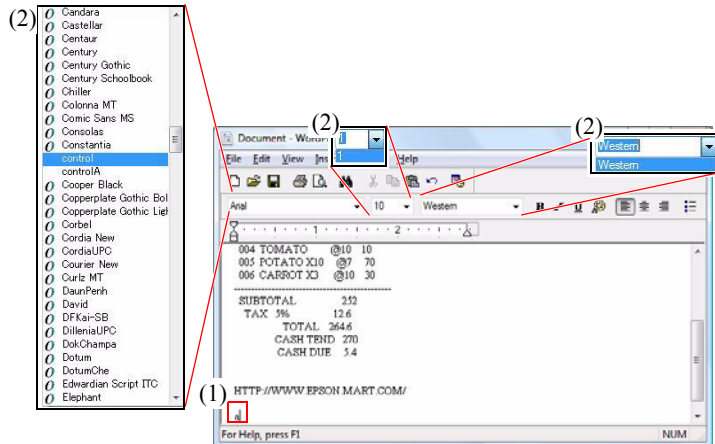
2. Specify Control Font

Select the control character of the Control Font, and specify Control Font, Point and Style.



3. Print

Drawer opens.



Program

The following is an example program for reference.

```
Printer.Font.Charset = 0
`Font
Printer.Font.Name = "control"
`Size
Printer.Font.Size = 1
`Printing text
Printer.Print "a"
```

How to Use ControlA Font

With the ControlA Font, ESC/POS commands can be assigned to the selected characters, and on printing the assigned characters can be executed as defined ESC/POS commands.

NOTE

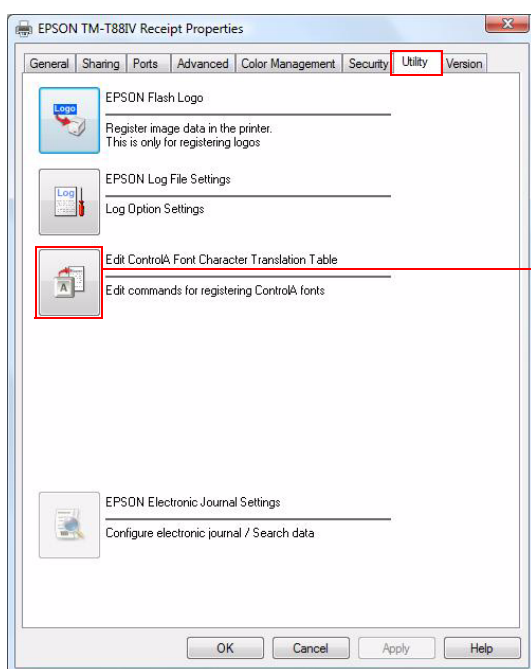
ESC/POS commands are not open to the public. Ask your sales representative for more information.

CAUTION

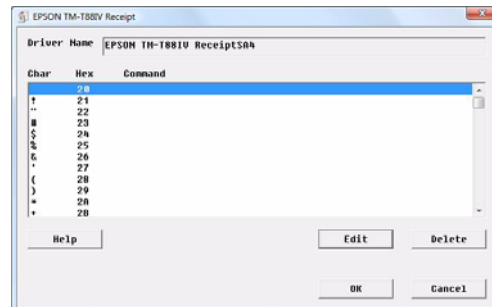
When using ControlA Font, you cannot use it in combination with the <Print all text as graphics image> setting such as Rotated Printing/Water Mark/Scale-down Printing.

Setting ControlA Font

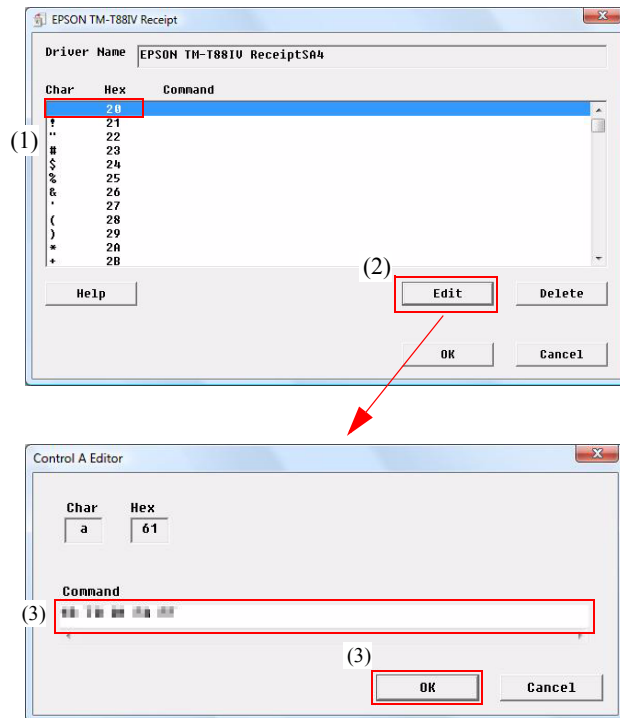
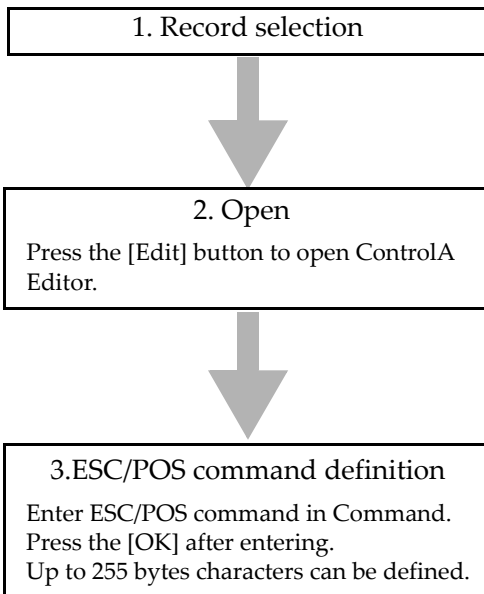
Select [Utility] from Properties, and then press the [Edit controlA font Character Translation Table] button. Edit controlA font character translation table is displayed.



Edit controlA font Character Translation Table

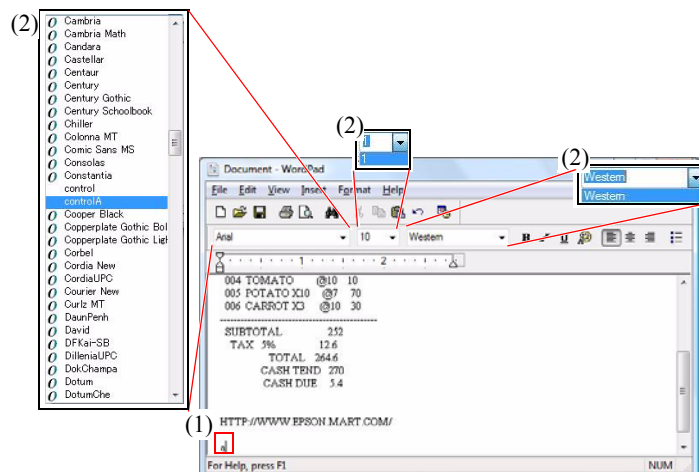
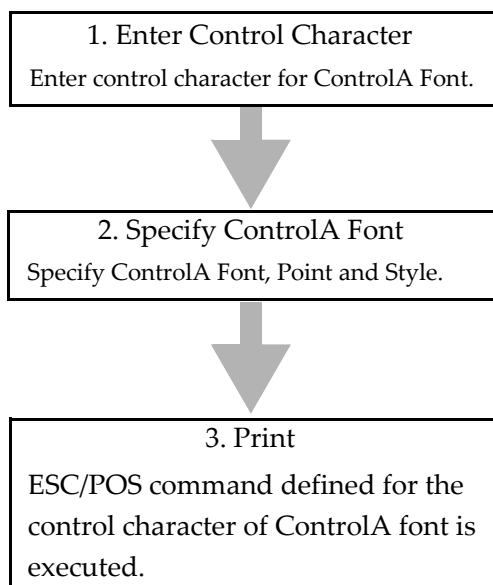


Define ESC/POS commands in the record you want to define.



Using ControlA Font

Use the defined ControlA Font.



Program

The following is an example program for reference.

```
-----  
Printer.Font.Charset = 0  
`Font  
Printer.Font.Name = "controlA"  
`Size  
Printer.Font.Size = 1  
`Printing text  
Printer.Print "a"  
-----
```

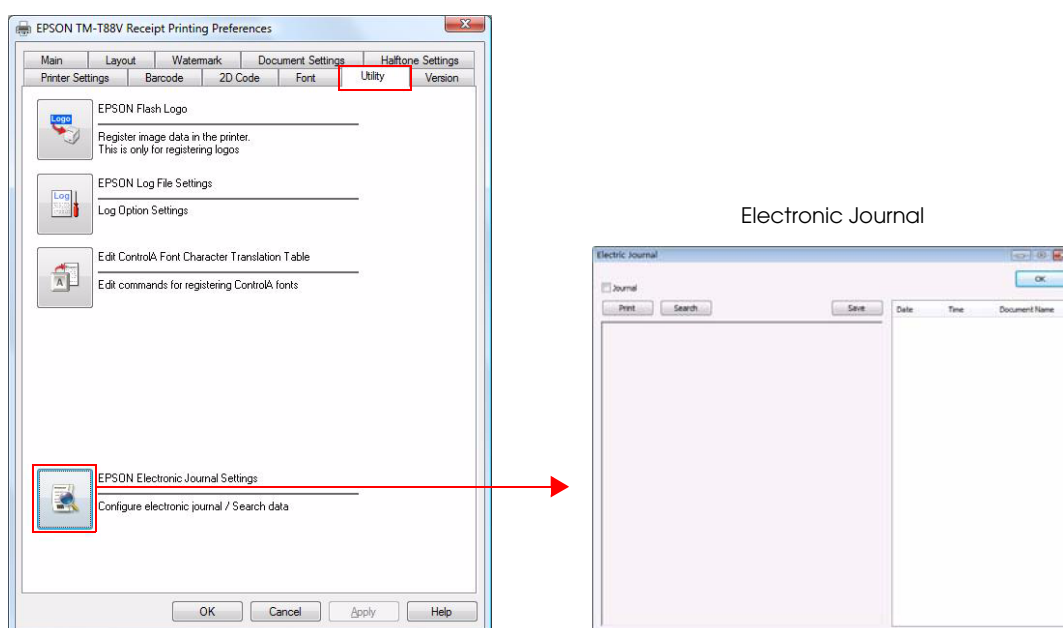
How to Use Electronic Journal Settings

The electronic journal stores a copy of a printed receipt as an image file (jpeg). This allows copies to be stored even without a journal printer. Because the copies are stored as electronic data, paper is not used.

The electronic journal stores a file for each printed document. A stored file can be viewed in the viewer, printed, and searched for by date.

Electronic Journal Settings

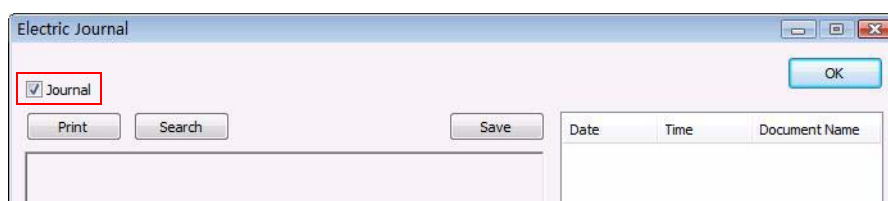
- 1 Select the (Utility) tab in the Printing Preferences and click the (EPSON Electronic Journal Settings) button. The Electronic Journal screen will open.



- 2 Select the (Journal) checkbox.

CAUTION

To create an electronic journal, set [Print all text as graphic images] to "Yes" on the [Document Settings] tab.



- 3** Once the checkbox is selected, printed data will be saved as a file (jpeg). If you need to change the file storage location, click the (Save) button and change the location. The default location is shown below.

OS	Storage location
Windows XP	C:\Documents and Settings\All Users\Application Data
Windows 8/ Windows 7/Vista	C:\ProgramData In Windows 8, the ProgramData folder is a hidden folder.

NOTE

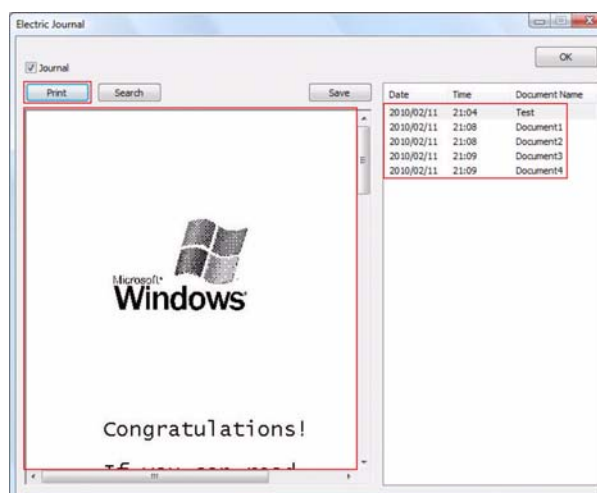
If the file cannot be saved in the folder you specified, it will be saved in the default location.

File Storage

After the electronic journal function is enabled, a file is automatically saved when the printer prints. The stored file can be viewed from the electronic journal list. The filename of the printed file is registered in [Document Name].

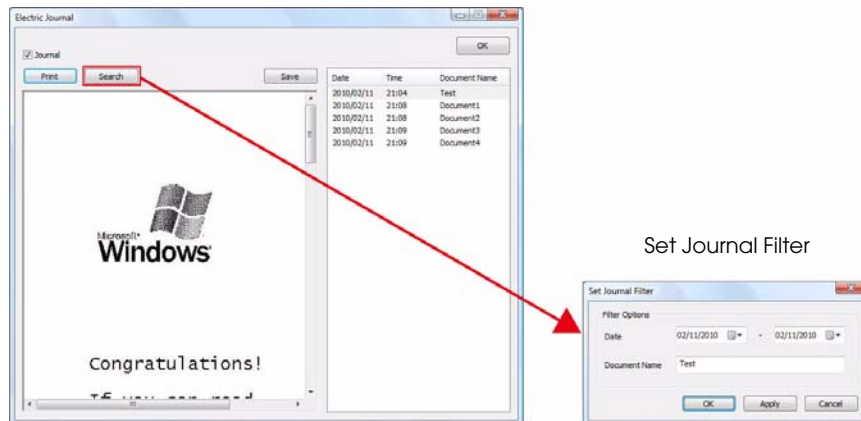
Printing a Stored File

Select the file that you wish to print from the list on the right side of the Electronic Journal screen. The file will appear in the viewer. Click the [Print] button to print the file.

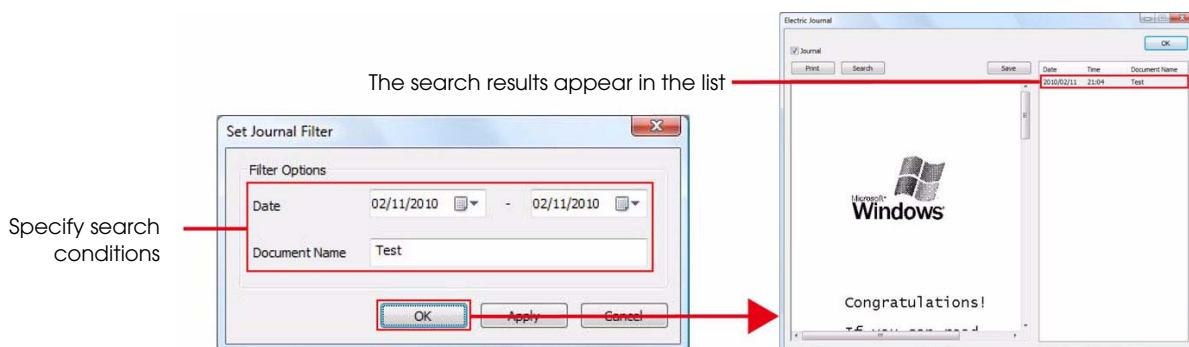


Searching for a Stored File

- 1 Click the (Search) button in the Electronic Journal screen to open the search screen.



- 2 Specify a date in (Date) in the search screen or enter a filename in (Document Name). Click the (OK) button. You will return to the Electronic Journal screen, and the search results will appear in the list on the right side of the screen.



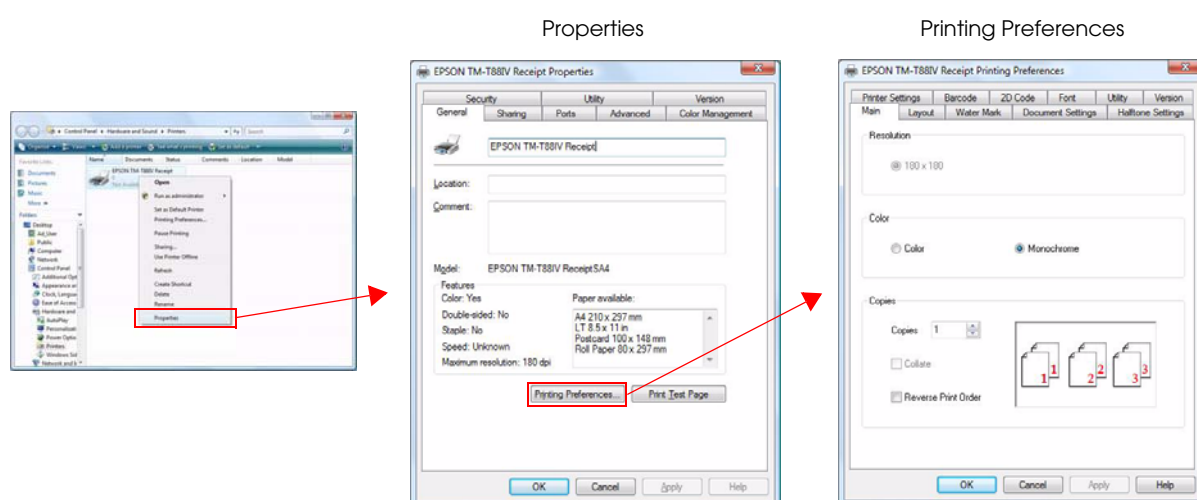
Reference

This chapter describes the APD settings.

CAUTION

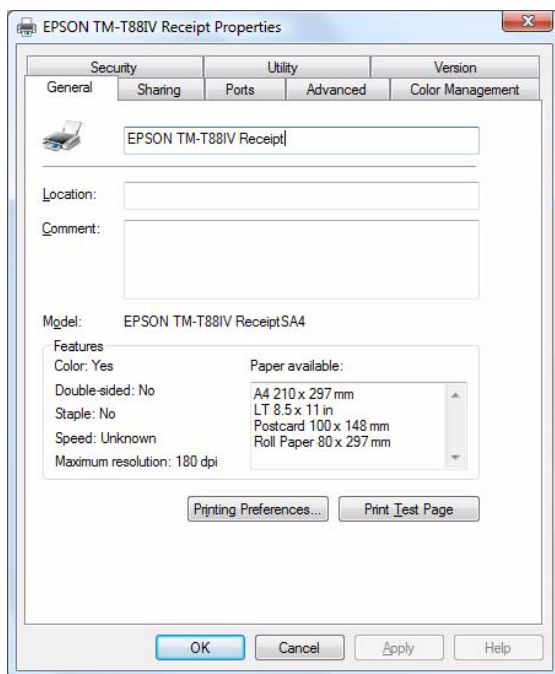
- Some settings are not available for some printer models.
- Administrator permission is required for property settings of the printer driver.

To open the setting screen of the printer driver Properties, right click the printer driver from [Start] - [Control Panel] - [Printers] and select [Properties] ([Reference page of other OS](#)). Select the [General] tab on the Properties screen and click the [Printing Preferences...] button to open the Printing Preference screen.



Properties

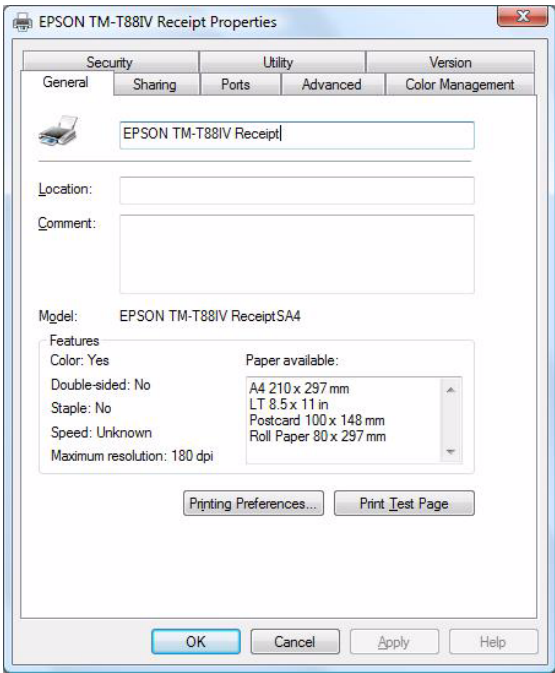
The following settings are available in the Property.



Tab	Description
General	Configures printer name and printing preference, or makes a test print.
Sharing	Configures settings for sharing the printer.
Ports	Configures ports settings.
Advanced	Configures detailed settings for printing.
Color Management	Configures color management settings.
Security	Configures Windows security setting.
Utility	Configures Log File and ControlA font settings.
Version	Displays version information.

General

Allows you to check/change the printer name, check the print settings, and make a test print (Print Test Page).



Setting	Description
Printer Name	Displays the printer driver name.
Location	Accepts the printer location to be input.
Comment	Accepts comments about the printer driver to be input.
Model	Displays the driver name of the TM printer.
Features	Displays functions and papers available with the TM printer.
Printing Preferences...	Displays the Printing Preferences screen.
Print Test Page	Prints the Windows test page.

Sharing

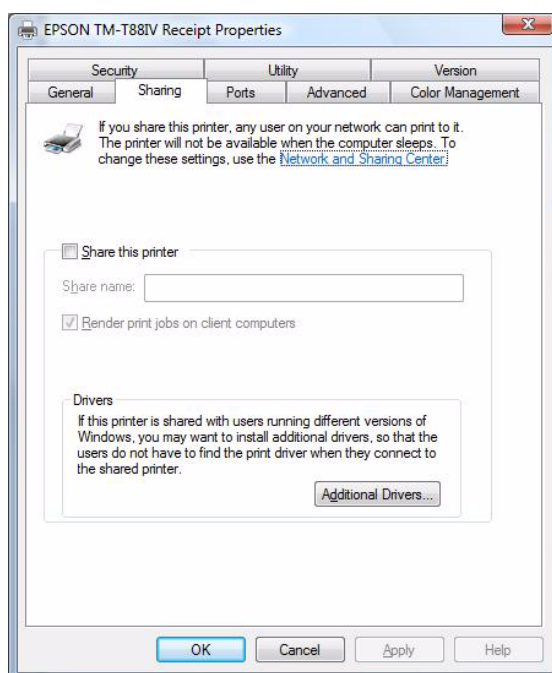
Allows you to configure the settings for sharing the printer.

CAUTION

Printer sharing through a print server is not supported.

NOTE

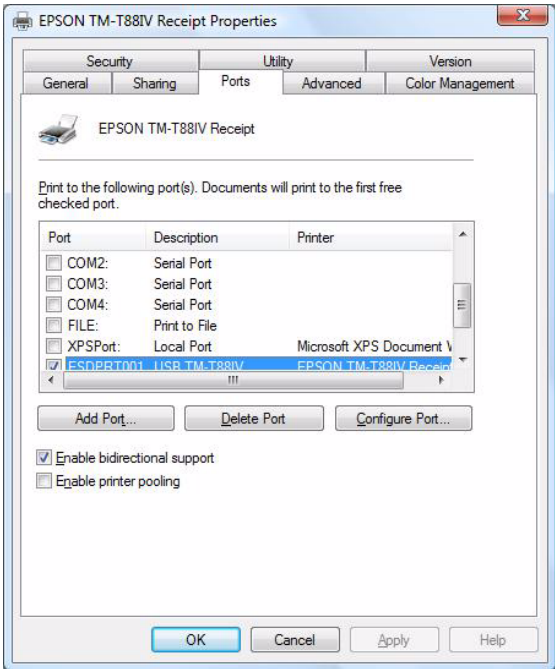
In Windows 7 / Vista, elevation of UAC is required.



Setting	Description
Change sharing options	Check this box when a printer is to be shared.
Share this printer	When this box is checked, network users can access a printer connected to this computer.
Share name	Specifies the name of a shared printer.

Ports

Allows you to configure Epson Port settings.



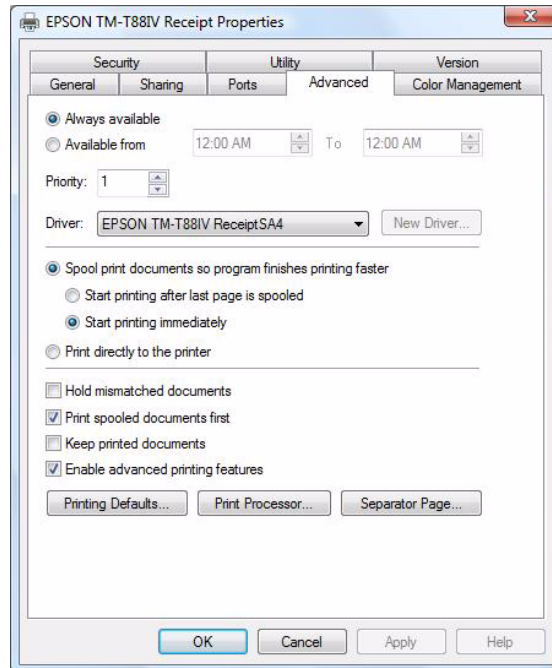
Setting	Description
Add Port...	Creates a new Epson Port.
Delete Port	Deletes an Epson Port.
Configure Port...	Configures an Epson Port.
Enable bidirectional support	Do not uncheck. The APD will become unusable.
Enable printer pooling	Enables printing to two or more identical print devices through one logical printer.

CAUTION

Select the Epson Port Driver (ESDPRTxxx) to be used for printing. Do not use COM or USB, or any other ports. The APD works only with the Epson Port Driver.

Advanced

Allows you to configure the detailed settings for printing. Basically, use as they are configured by default.

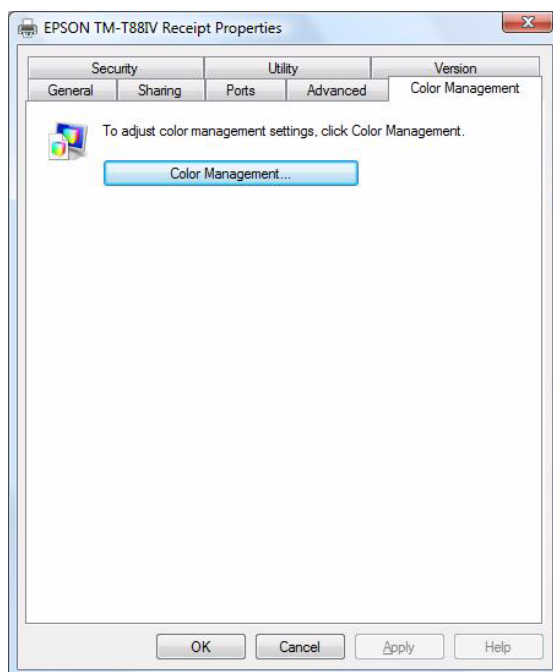


Setting	Description
Always available	Makes the printer always available.
Available from	Configures the printer for limited availability. If you send a document to a printer when it is unavailable, the document will be held (spooled) until the printer is available.
Priority	Indicates the current priority setting. Higher-priority documents will print before lower-priority documents.
Driver	Lists the name of the installed printer driver. The printer driver name usually corresponds to the name of the print device.
Spool print documents so program finishes printing faster	Specifies that documents should be spooled before being printed.
Start printing after last page is spooled	Specifies that the print device should wait to begin printing until after the last page of the document is spooled. The printing program is unavailable until the document has finished spooling. However, using this option ensures that the whole document is available to the print device. Configurable when (Spool print documents so program finishes printing faster) is set.

Setting	Description
Start printing immediately	Specifies that the print device should begin printing after the first page of the document is spooled. This makes the printing program available sooner. Configurable when (Spool print documents so program finishes printing faster) is set.
Print directly to the printer	Specifies that the document should be sent directly to the print device and not spooled. Use this if you cannot print using either of the print spooling options.
Hold mismatched documents	Directs the spooler to check the printer setup and match it to the document setup before sending the document to the print device. If the information does not match, the document is held in the queue. A mismatched document in the queue will not prevent correctly matched documents from printing. Configurable when (Spool print documents so program finishes printing faster) is set.
Print spooled documents first	Specifies that the spooler should favor documents that have completed spooling when deciding which document to print next, even if the completed documents are a lower priority than documents that are still spooling. If there are no documents that have completed spooling, the spooler will favor larger spooling documents over smaller ones. Use this option if you want to maximize printer efficiency. When this option is disabled, the spooler picks documents based only on priority. Configurable when (Spool print documents so program finishes printing faster) is set.
Keep printed documents	Specifies that the spooler should not delete documents after they are printed. This allows a document to be resubmitted to the printer from the printer queue instead of from the program. Configurable when (Spool print documents so program finishes printing faster) is set.
Enable advanced printing features	Specifies whether the advanced printing feature is enabled. When enabled, metafile spooling is turned on and options such as Page Order, Booklet Printing, and Pages Per Sheet are available, depending on your printer. For normal printing, leave the advanced printing feature set to the default (Enabled). If compatibility problems occur, you can disable the feature. When disabled, metafile spooling is turned off and the printing options might be unavailable. Configurable when (Spool print documents so program finishes printing faster) is set.
Printing Defaults...	Click to configure the Printing Preferences.
Print Processor...	Click to specify the data type. In general, you do not need to change either the default print processor or data type. However, a few programs might require a specialized print processor and a particular data type to print.
Separator Page...	Not available.

Color Management

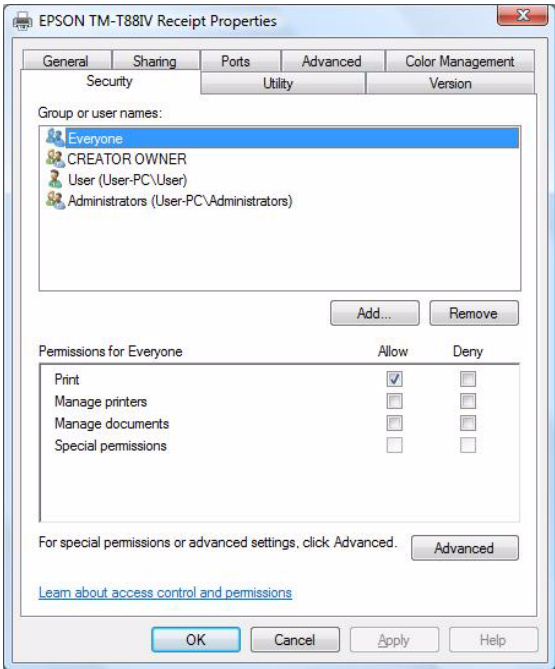
Allows you to set color displayed on the screen.



Setting	Description
Color Management	Set the color management.

Security

Security setting for Windows.

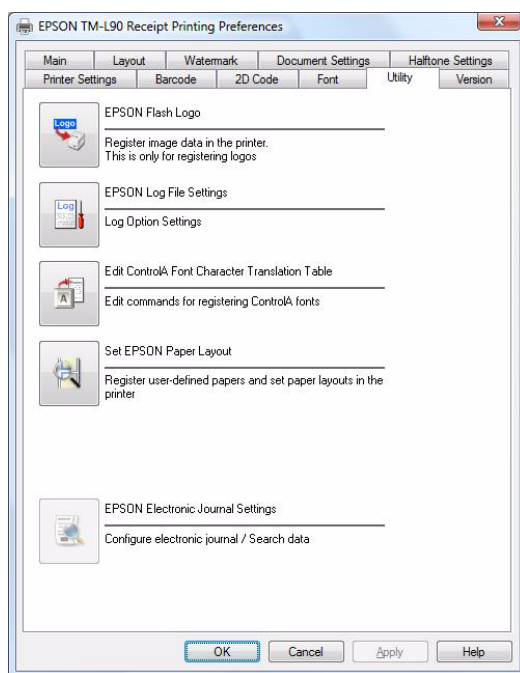


Setting	Description
Group or user names	Lists the users and groups with assigned permissions for this object. The permissions for the highlighted group or user appear in the list box below.
Add	If you want to add permissions for users or groups, click their names.
Remove	Removes highlighted permission entry. More than one permission entry can be connected with a user or group.
Permissions for Administrators	Permissions you can allow or deny for each user or group are listed. To allow or deny the permission, check or clear the appropriate check- box. Shaded checkboxes indicate inherited permissions. To see additional information on permissions or inheritance, click Advanced.
Advanced	Click for viewing and setting special permissions, auditing information, owner information, and permissions effective for this object.

Utility

Allows you to use EPSON Log File Settings, Edit ControlA Font Character Translation Table, and other utilities.

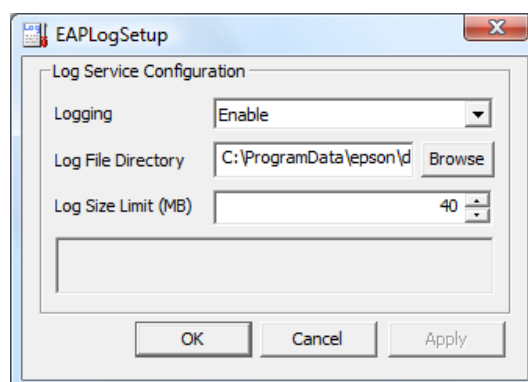
Some utilities may not be supported depending on the printer model. In that case, the utility will not be displayed.



Setting	Description
EPSON Flash Logo	Displays EPSON TM Flash Logo Setup ("TM Flash Logo Setup Utility" on page 117) or TM Flash Logo Setup Utility Ver.3 ("TM Flash Logo Setup Utility Ver.3" on page 127).
EPSON Log File Settings	Opens the Log File Setting screen.
Edit ControlA Font Character Translation Table	Opens the EPSON controlA font setting screen.
Set EPSON Paper Layout	The EPSON paper layout setting screen appears. For more details, see "Paper layout set tool" on page 133 .
EPSON Electronic Journal Settings	Displays the Electronic Journal screen.

EPSON Log File Setting

Allows you to create a log file which can help you to troubleshoot a problem quickly. See the Status API Manual for more details about the log file.



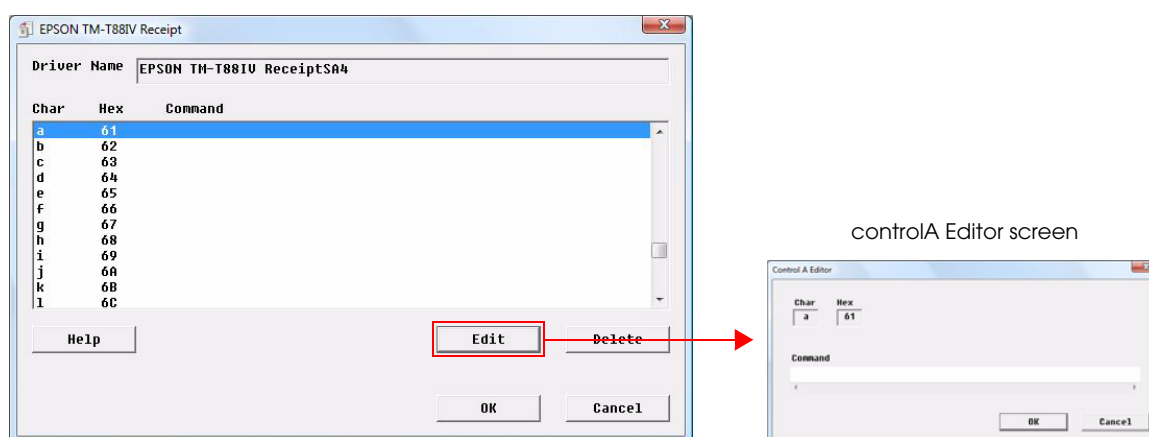
Setting		Description
Logging	Enable (Default)	Enables log output.
	Disable	Disables log output.
Log File Directory	Specify where to output the log file. (Default) - Windows XP: C:\Documents and Settings\All Users\Application Data\EPSON\devicecontrollog - Windows 7 / Vista: C:\ProgramData\EPSON\devicecontrollog - Windows 8 C:\ProgramData\epson\devicecontrollog The ProgramData folder is a hidden folder.	
Log Size Limit (MB)	Specify the upper limit of the log file size. (Range: 10 to 1024, Default: 40) When the upper limit is exceeded, the log file is compressed in zip format. The subsequent log information is saved as a new log file. The file compression date is used as the zip file name. (example: 201107071130.zip)	

Edit controlA font character translation table

Allows you to edit EPSON controlA Font settings. You can assign ESC/POS commands to the selected controlA Font characters. When the assigned characters are printed, the corresponding ESC/POS commands are executed.

NOTE

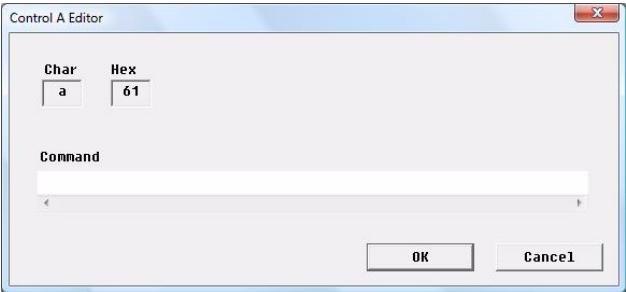
- Up to 255 bytes characters can be assigned.
- ESC/POS commands are not open to the public. Ask your sales representative for more information.



Setting	Description
Driver Name	Displays the printer driver name for which the controlA Font will be configured.
Char	Displays the selected ASCII code as characters.
Hex	Displays the selected ASCII code as hexadecimal.
Command	Displays the ESC/POS command corresponding to the ASCII code. It is displayed in hexadecimal.
Help	Displays the EPSON controlA Font help.
Edit	Displays the controlA Editor screen. Allows the (Command) to be edited.
Delete	Deletes the (Command) selected from the list box.
OK	Saves the configured settings and closes the EPSON controlA Font.
Cancel	Closes EPSON controlA Font without reflecting the changes.

controlA Editor screen

An ESC/POS command to be assigned to the selected character can be entered.



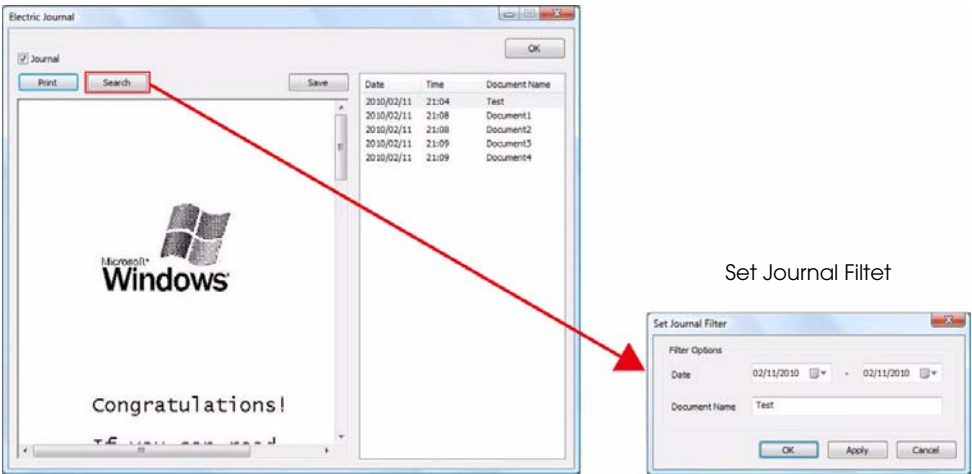
Setting	Description
Char	Displays the selected ASCII code as characters. The content cannot be changed.
Hex	Displays the selected ASCII code as hexadecimals. The content cannot be changed.
Command	Enter the ESC/POS command that will correspond to the ASCII code. Enter using hexadecimal.

Electronic Journal Settings

Allows you to select the Electronic Journal settings. The Electronic Journal stores a copy of a printed receipt as an image file (jpeg). The stored data can be printed and searched for by date. This is a special utility only for the TM-T88V.

CAUTION

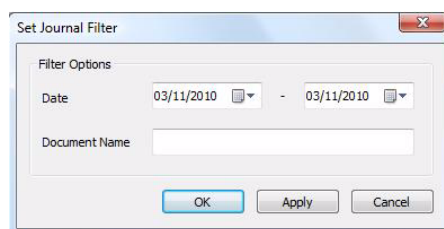
To create an electronic journal, set "Print all text as graphic images" to "Yes" on the [Document Settings] tab.



Setting	Description
Journal	To enable the Electronic Journal function, select this checkbox. When selected, printed data is stored as an image file (jpeg). (Default setting is not selected.)
Print	Print the selected file. The selected file will appear in the viewer.
Search	The Set Journal Filter screen appears.
Save	Specify the location where the print data will be stored. (Default) Windows XP: C:\Documents and Settings\All Users\Application Data Windows 8/Windows 7/Vista:C:\ProgramData In Windows 8, the ProgramData folder is a hidden folder.

Search

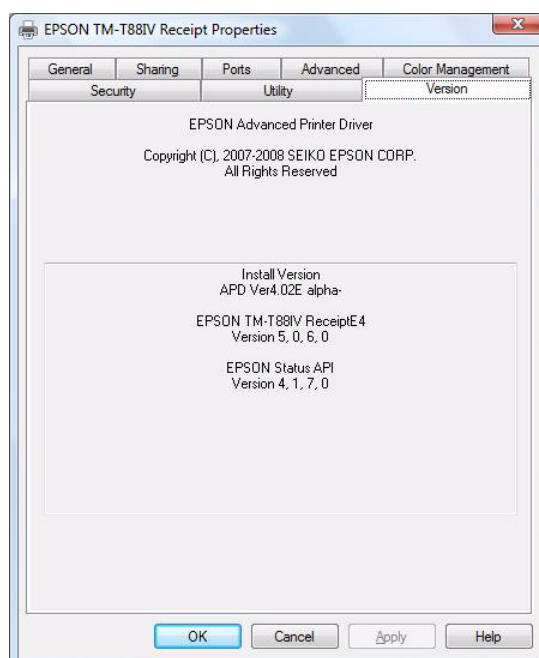
Search for a stored file.



Setting	Description
Date	Specify the starting day and ending day of the search.
Document Name	Specify the name of the document you are searching for.

Version

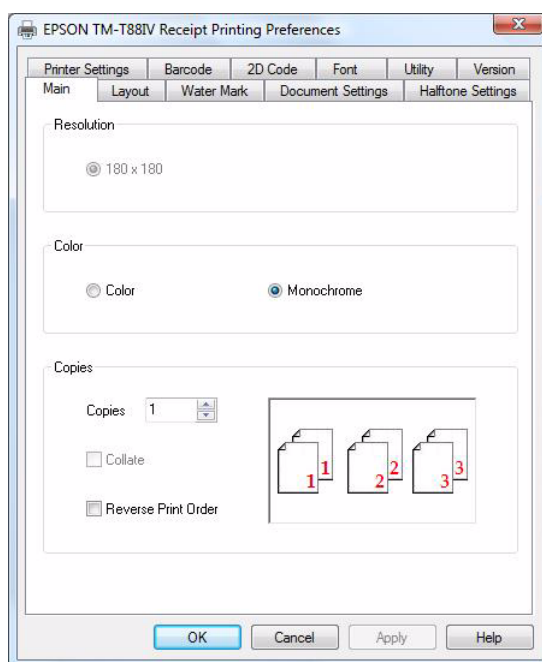
Displays the printer driver version information.



Printing Preferences

The Printing Preferences screen is displayed by selecting the Properties - [General] tab and clicking the [Printing Preferences...].

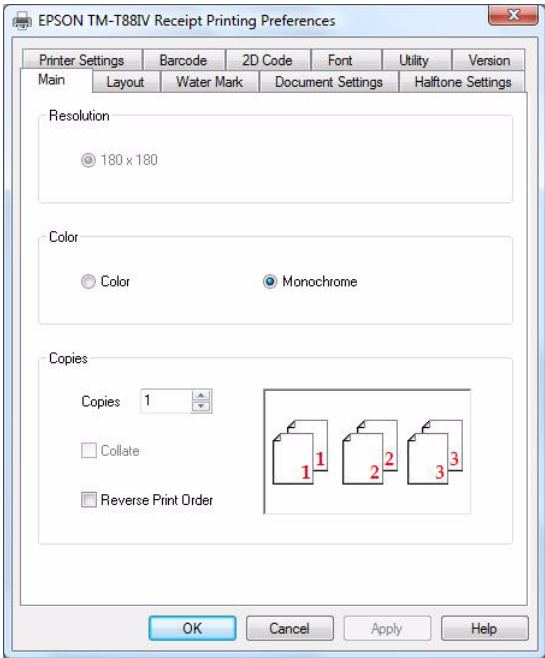
You can configure the following settings in the Printing Preferences screen.



Tab	Description
Main	Configures basic print settings, such as the number of copies, and color setting.
Layout	Configures paper size and rotation of print images.
Water Mark	Configures Water Mark setting.
Document Settings	Configures the Document Settings.
Halftone Settings	Configures the Dither Type and color assignment settings.
Printer Settings	Configures paper width for the TM printer.
Barcode	Configures the barcode settings. (Displayed only when the printer supports the barcode printing.)
2D Code	Configures the 2D-Code settings. (Displayed only when the printer supports the 2D-Code printing.)
Font	Displays the list of Device fonts.

Main

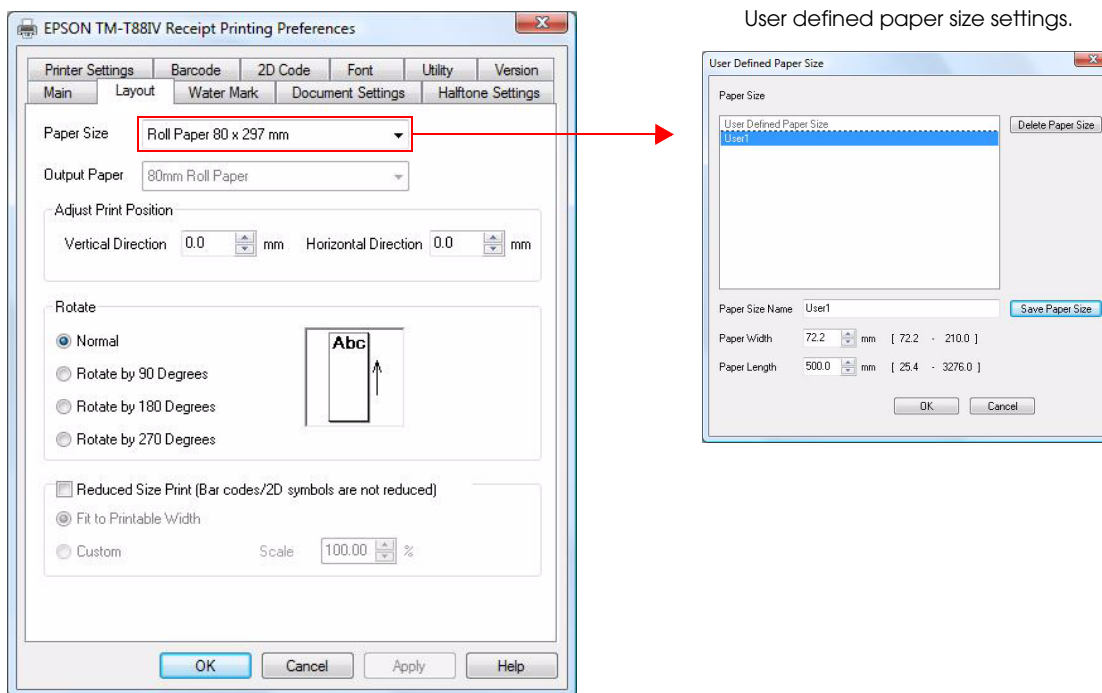
Allows you to configure the print resolution, color mode, and the number of copies.



Setting	Description
Resolution	The resolution of the TM printer is specified.
Color	Select whether to print in color or monochrome. Select the (Color) for making color print (two-color printing is made when the printer is two-color printer). Select (Monochrome) to print using a single color (black is uses as default). Some TM printer models require memory switch configuration.)
Copies	Configures the number of copies.
Collate	Configures the number of copies of document with multiple pages.
Reverce Print Order	Prints the document with multiple pages in backward order.

Layout

Allows you to configure the paper size, rotation, and reduced print settings.



Setting		Description
Paper Size		Select the paper size from list. The list shows all the paper sizes (including the logic paper sizes and user defined sizes) supported by the printer driver.
	Paper size	The sizes of paper which can be set in the TM printers.
	Logic paper size	The original size of a print image which can be scaled down by the printer driver. An image is scaled down to the size of paper loaded on the TM printer.
	User Defined Paper Size	The paper size defined by the users. Setting the paper size can be made in the User Defined Paper Size screen.
Output Paper		Displays paper types available with the TM printer.

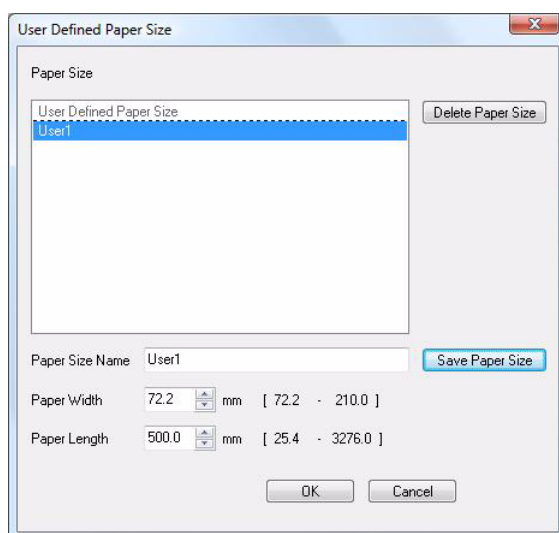
Setting		Description
Adjust Print Position		Allows you to fine adjust the print start position. You can adjust the print position without making changes in margins and print area defined by the applications. This also can be used for changing print position of rotated or reduced image. This adjustment is limited within the printable area of the selected (Paper Size). If you change the (Paper Size) to the smaller one without changing the print position setting, causing the position settings to fall outside the new printable area, the settings will be automatically changed so that the print image fits inside the new printable area. The print position of the logo registered in the TM printer (NV Graphics/ NV bitmap image) will not be changed.
	Vertical Direction	This adjusts the print position in horizontal direction. Enter a negative value to make the top margin smaller, or positive value to make it larger.
	Horizontal Direction	This adjusts the print position in vertical direction. Enter a negative value to make the left margin smaller, or positive value to make it larger.
Rotate		This configures print direction. The graphic shown on the right changes according to the selected setting. Select a desired setting for rotating a print image. When other than (Normal) is selected, the following message is displayed; "<Print all text as graphics image> will be automatically set to yes. <Paper Conservation> will be automatically changed.".
	Normal	This prints in normal direction. This is the default.
	Rotate by 90 Degrees	This rotates a print image as specified.
	Rotate by 180 Degrees	The rotated print image is printed as a graphics image, therefore, the Device fonts, control font, and controlA font cannot be used.
	Rotate by 270 Degrees	
Reduced Size Print *		This configures reduced print, (Fit to Printable Width) or (Custom). When (Reduced Print) is selected, the following message is displayed; "<Print all text as graphics image> will be automatically set to yes.". The reduced print image is printed as a graphics image, therefore, the Device fonts, control font, and controlA font cannot be used. When Logic paper size is selected, deselecting (Reduced Print) automatically changes the paper size to Paper size or User Defined Paper Size.
	Fit to Printable Width	A print image is automatically scaled down so that it fits inside the width of the paper loaded on the TM printer.
	Custom	You can manually set the reduction percentage.

* Reduced Print setting does not change the size of Barcode and 2D-Code.

User defined paper size.

Allows the users to define custom paper sizes. Up to 30 sizes can be saved as the User Defined Paper Sizes.

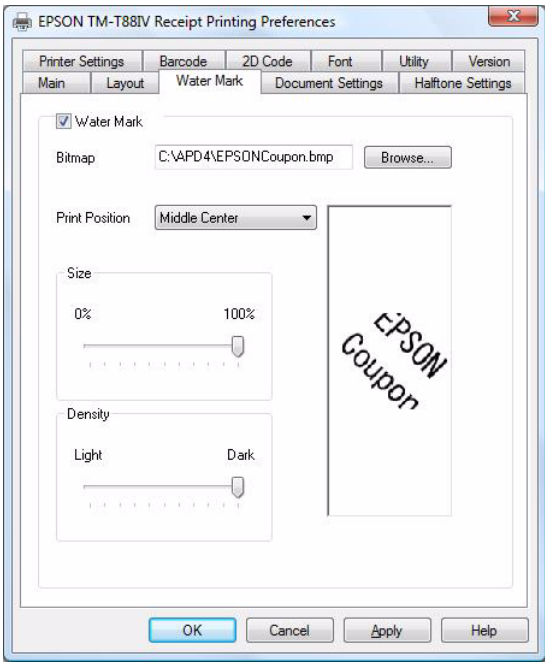
In the Printing Preferences - [Layout] tab, select [User Defined Paper Size] from the Paper Size pull-down menu. The following screen appears.



Setting	Description
Paper Size	This shows the list of saved User defined paper sizes. "To define a new custom size, select "User Defined Paper Size". When one of the saved custom sizes is selected from the list, the configured (Paper Size name), (Paper Width), and (Paper Length) are displayed and you can edit the setting.
Paper Size Name	An arbitrary name of each custom paper size can be specified using up to 24 characters. You can not use the name of the physical paper sizes, already shown in the Paper Sizes list in (Layout) tab.
Paper Width	Specifies a paper width.
Paper Length	Specifies a paper length.
Delete Paper Size	Deletes a selected custom paper size shown in the list.
Save Paper Size	Saves a configured custom paper size. The information of (Paper Size Name), (Paper Width), and (Paper Length) will be saved. If you edit the existing User defined paper size and click this button, the setting is overwritten.
OK	Saves the selected User Defined paper size.
Cancel	Cancels changes made on an existing User Defined paper size.

Water Mark

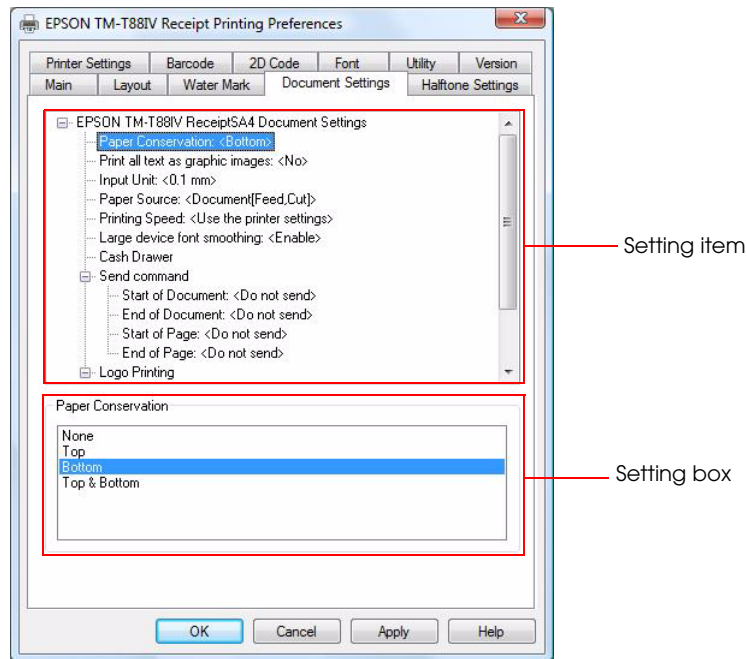
Allows you to set a bitmap file to be used as a Water Mark. The preview window shows the specified Water Mark image reflecting the selected Print Position, Size, and Density.



Setting	Description
Water Mark	Tick the checkbox to set a Water Mark. The following message is displayed; "<Print all text as graphics image> will be automatically set to yes.". When Water Mark is enabled, the print image is printed as a graphics image, therefore, the Device font is replaced with TrueType font, and control font and controlA font cannot be used.
Bitmap	Specifies a bitmap file to be used as a Water Mark.
Print Position	Select a desired print position from the pull-down menu. The following position settings are provided: Top Left/Top Center/Top Right/Middle Left/Middle Center/Middle Right/Bottom Left/Bottom Center/Bottom Right/Tiled
Size	Configures the size of Water Mark in a percentage of print area. The percentage can be specified within the range of 0 to 100. However, if you select "0", the Water Mark becomes too small and cannot be printed. When "100" is specified, the Water Mark will be enlarged or reduced so that it fits in the print area of the selected paper. However, depending on the horizontal to vertical ratio of the Water Mark image, such as a vertically long image, some portions of the image may exceed the print area and may not be printed. The length of paper is not changed according to the length of the Water Mark image.
Density	Configures the density of the Water Mark. The density can be adjusted in the "Light" to "Dark" range.

Document Settings

The Document Settings allows you to configure the document property. In the upper area of the window, the setting items are displayed in a tree view format, and the current settings of each setting items are shown on the right. If you select a setting item, the setting options for the selected item are displayed in the lower box.

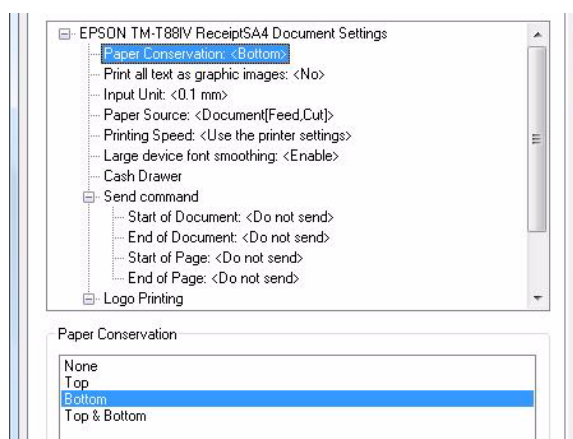


NOTE

If the connected TM printer does not have the function, the corresponding setting item is not displayed.

Paper Conservation

You can save paper by skipping page margins. Printing in the Windows environment is made based on standard paper sizes, such as A4, A5 size. Therefore, regardless of whether print data has been received or not, paper is advanced automatically by a predetermined amount each time after a receipt is printed. This function allows you to save paper by disabling the automatic paper feeding.



Setting	Description
None	Does not save paper.
Top	Skips the margin from the beginning of printing to the first print data.
Bottom (Default)	Skips the margin from the last line of the printout to the auto cut point.
Top & Bottom	Skips both margin from the beginning of printing to the first print data and margin from the last line of the print to the auto cut point.

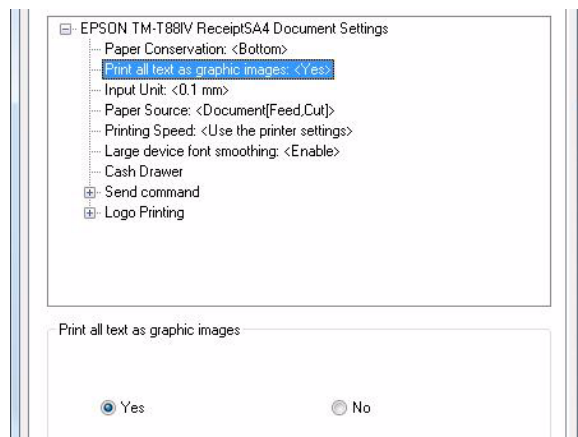
NOTE

According to the Rotate setting in the Layout tab, the Paper Conservation setting is automatically set as follows.

When the Rotate setting is set to "Normal" or "Rotate by 90 Degrees", the Paper Conservation is set to "Bottom". When "Rotate by 180 Degrees" or "Rotate by 270 Degrees" is specified, the Paper Conservation is set to "Top".

Print all text as graphic images

All the data will be printed as a graphic images.



Setting	Description
Yes	All print data is printed as a graphics image. The computer creates the print data in the same way as Windows driver does, therefore, the print data size becomes larger. In addition to that, Device fonts are replaced with TrueType fonts, and Device fonts are not displayed in the Font tab.
No * (Default)	Device fonts are printed. The TM printer creates the print data, therefore, the data size becomes smaller. In addition to the Device fonts, you can also use control font, and controlA font. Due to some settings, you may not be able to change the setting from "Yes" to "No". In such case, a message appears to notify you of the setting that prevents the change.

* When this setting is changed to "Yes" because of other settings, a message appears to notify you of the change.

CAUTION

"If you select "Yes", you can not use device font / control font / controlA font.

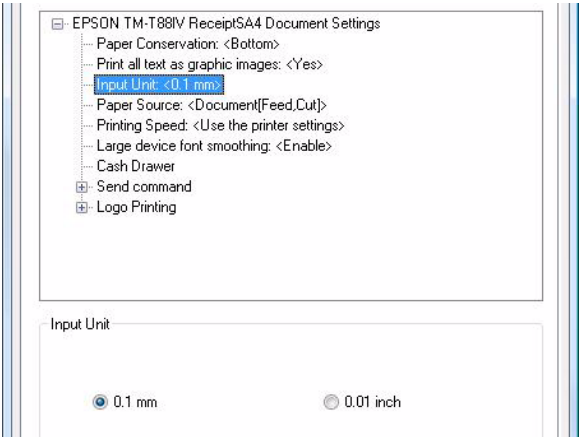
Related APD settings.

The following settings automatically change this setting to "Yes".

Setting tab	Item
Layout	Rotate
	Reduced print
Water Mark	Water Mark
Barcode	Add Quiet Zone
	Rotation
	Composite (when not installed on the device)
	Type (when not installed on the device)
2D-Code	Add Quiet Zone
	Rotation
	Type (when not installed on the device)

Input Unit

The unit to express a length in the Property screen can be changed. Paper size or any other length settings are expressed in the selected unit in the user interface.



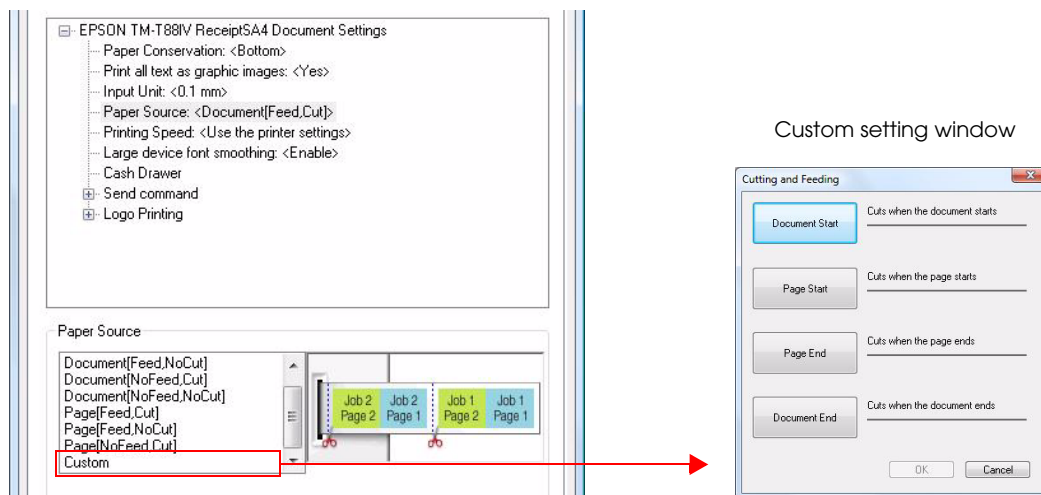
Setting	Description
0.1mm (Default)	The length settings in the user interface can be made in increments of "0.1mm".
0.01inch	The length settings in the user interface can be made in increments of "0.01inch".

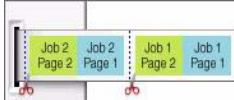
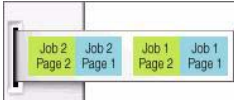
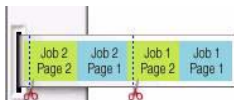
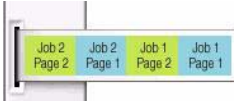
Related APD settings.

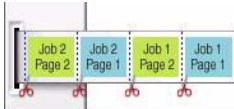
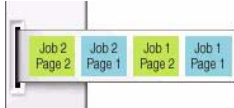
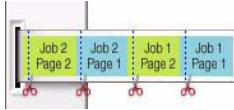
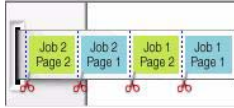
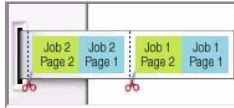
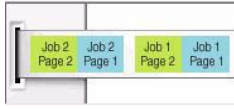
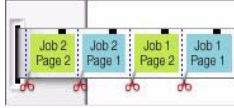
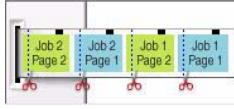
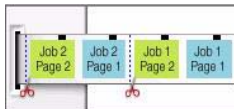
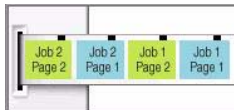
Setting tab	Item
Layout	Paper Size (User Defined Paper Size : Paper Width, Paper Length)
	Adjust Print Position (Vertical Direction, Horizontal Direction)
Barcode	Element Height

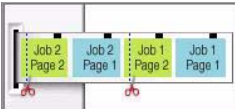
Paper Source

This setting allows you to select operations of the autocutter and paper feed between pages, and between print jobs.



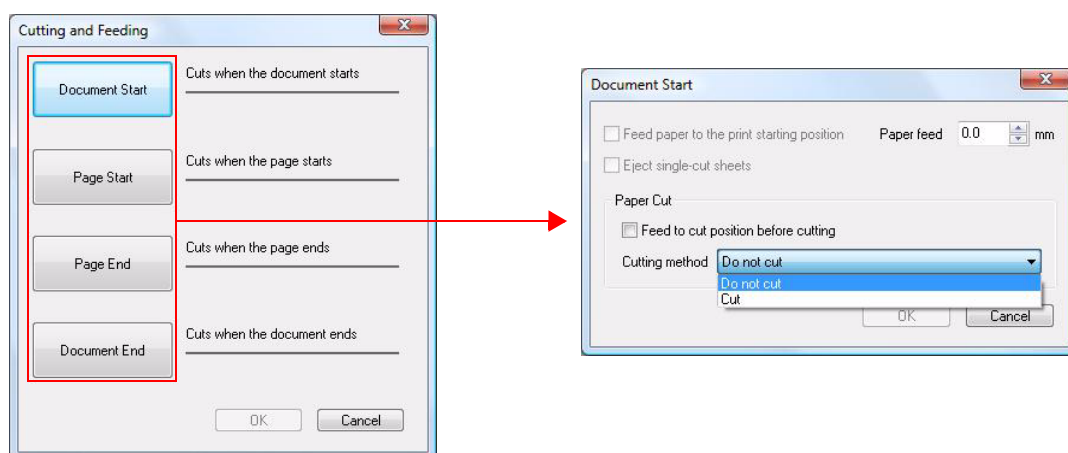
Setting	Description
Document[Feed,Cut]	The paper is advanced and cut each time a print job is finished. 
Document[Feed,No Cut]	The paper is advanced, but not cut each time a print job is finished. 
Document[No Feed,Cut]	The paper is cut, but not advanced each time a print job is finished. Because of the space between the autocutter and the print head (1 to 2 cm, depends on the TM printer model), a minimum top margin is provided even if you set the top margin to 0. To avoid the waste, this setting allows you to print the top of the next page (e.g. store logos) on the bottom of the previous page and then cut the paper without advancing it. In this way, the top margin created by the physical space of the TM printer can be used. 
Document[No Feed,No Cut]	The paper is not advanced and not cut each time a print job is finished. 

Setting	Description
Page(Feed,Cut)	The paper is advanced and cut each time a page is printed. 
Page(Feed,No Cut)	The paper is advanced, but not cut each time a page is printed. 
Page(No Feed,Cut)	The paper is cut, but not advanced each time a page is printed. 
Label_Single(Cut)	Cuts after printing a label. 
Label_Multiple(Cut)	Cuts after printing a document. 
Label_Multiple(NoCut)	Does not cut after printing a document. 
BM_Single(Feed,Cut)	Feeds and cuts paper to the next black mark after printing. 
BM_Single(NoFeed,Cut)	Does not feed, but cuts paper at each black mark after printing. 
BM_Multiple(Feed,Cut)	Feeds paper to the next black mark and cuts after printing each document. 
BM_Multiple(Feed,NoCut)	Does not cut, but feeds paper to the next black mark after printing. 

Setting	Description
BM_Multiple(NoFeed,Cut)	Does not feed, but cuts paper after printing a document. 
Slip(Eject)	Ejects slip paper after printing. 
Slip(NoEject)	Does not eject slip paper after printing. 
Custom	Use this setting when printing on black mark papers or labels. When this is selected, the Custom setting screen appears.

Custom

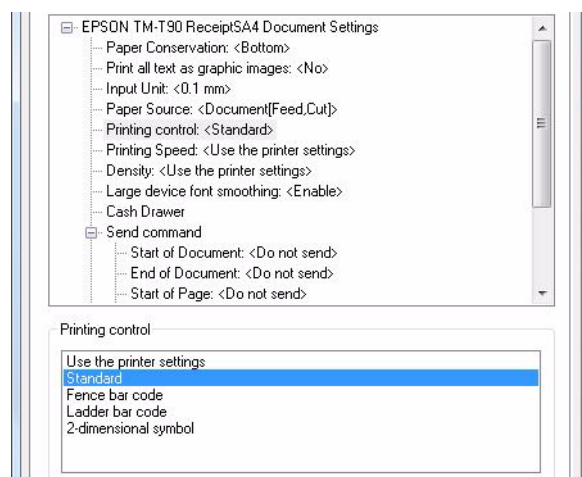
When "Custom" is selected from the Paper Source list for printing on black mark papers, labels or cut sheets of paper, the Custom setting screen appears.



Setting	Description
Feed paper to the print starting position	Specifies whether to advance labels or black mark papers to the print start position. When this box is checked, the paper is advanced to the start position. When not checked, the paper is not advanced.
Paper feed	Specifies the amount of paper to be advanced. When a positive value is specified, the paper is fed in the print direction. When 0 is specified, the paper is not advanced. When a negative value is specified, the paper is fed in the direction opposite to the print direction (reverse-feed may not be possible depending on the TM printer model).
Eject single-cut sheets	Specifies whether to send a form feed command when using cut sheets. When this box is checked, the command is sent. When not checked, the command is not sent.
Feed to cut position before cutting	Specifies whether to advance the paper to the cut position before cutting operation. When this box is checked, the paper is advanced to the cut position. When not checked, the paper is not advanced.
Cutting method	Select the cutting operation. • Do not cut • Cut • Feed to black mark and do not cut • Feed to black mark and cut

Printing control

For the printers for which printing control is available, printing control according to the purposes can be configured. Setting items vary between printers.



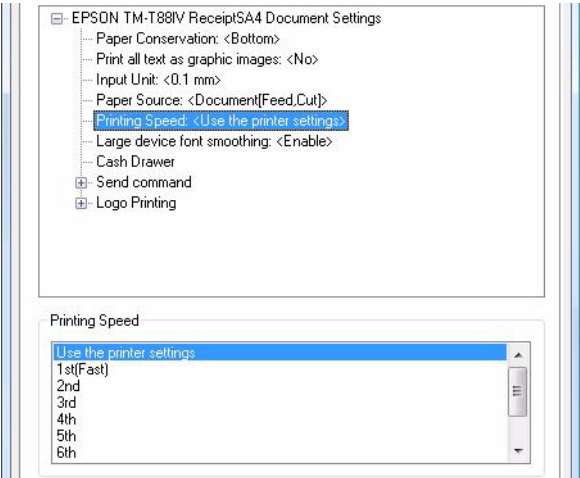
Setting	Description
Use the printer settings	Controls at the speed set for the printer. For thermal printers, controls them at the preset normal speed for the printer.
Non-divided print head energizing	The printing speed is fast but discoloration in print density may possibly occur.
Two-part print head energizing	Controls the head by dividing it into two sections.
Four-part print head energizing	Controls the head by dividing it into four sections. The print density is stabilized but the speed is slower.
Use the printer settings	Controls at the speed set for the printer.
Standard	Controls at the preset normal speed for the printer.
Fence Barcode	Prints at the speed suited for Fence bar code printing.
Ladder Barcode	Prints at the speed suited for Ladder bar code printing.
2-dimensional symbol	Prints at the speed suited for 2-dimensional symbol printing.
Use the printer settings	Controls at the speed set for the printer.
High speed	Performs high-speed printing.
Fine	Prints finely.
Use the printer settings	Controls at the speed set for the printer.
Normal	Prints in the Normal mode. Prints in high density.
High speed	Prints in the High speed mode. Performs high-speed printing while saving ink.
Economy	Prints in the Economy speed mode while saving more ink than printed in the High speed mode.

Printing Speed

You can change the print speed (paper feed speed), if that of your TM Printer is changeable.

When a large bitmap is printed using a thermal printer with the print speed set to higher, the data transmission may not be able to keep up with the print speed. This can cause the printer to pause during printing. Should this occur, the bitmap may not be printed correctly.

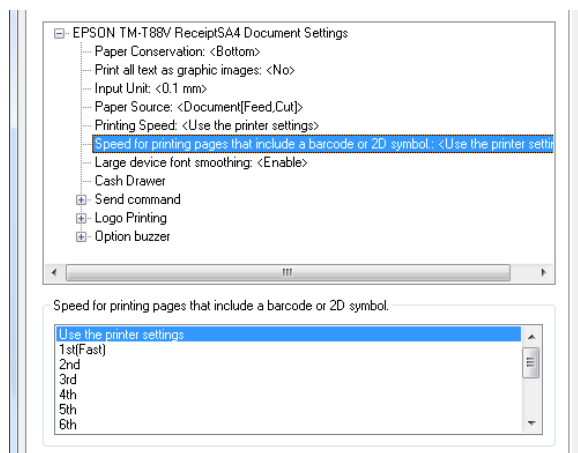
Adjust the print speed by changing the setting to 1st (fast), then 2nd (slightly slower), and then 3rd (slowest) in that order, until the image is printed properly without causing the printer to pause.



Setting	Description
Use the printer setting. (Default)	The print speed set at the TM Printer is applied.
1st to maximum (slowest)	1st is the fastest, and the maximum is the slowest.

Speed for printing pages that include a barcode or 2D symbol

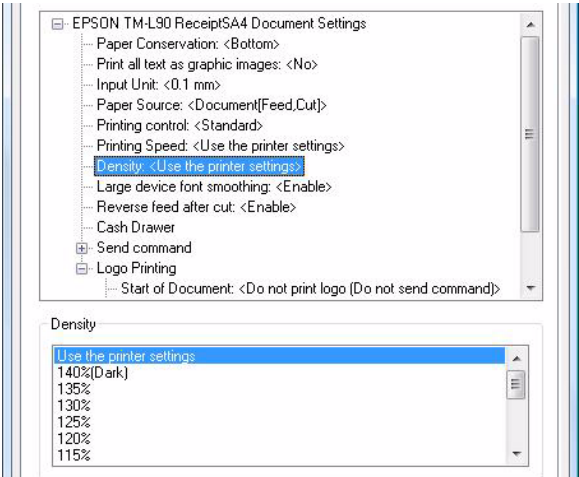
When "Print all text as graphic images" is enabled, you can set the printing speed lower for the pages that include barcode or 2D symbol.



Setting	Description
Use the printer setting. (Default)	The print speed set at the TM Printer is applied.
1st to maximum (slowest)	1st is the fastest, and the maximum is the slowest.

Density

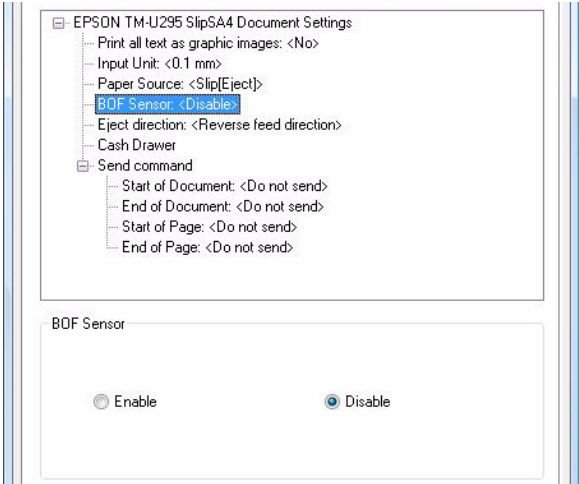
For thermal printers, the print density of the whole print data can be controlled according to the type and the thickness of the used thermal paper.



Setting	Description
Use the printer setting. (Default)	Prints with print density set in the TM printer.
70% ~ 140%	Set print density. 70% is lightest and 140% is densest.

BOF Sensor

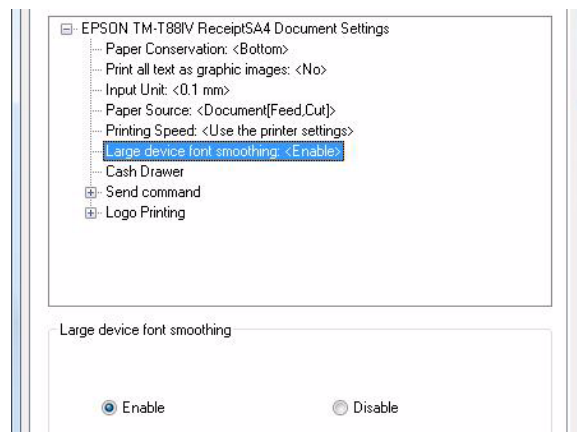
Can shorten the print area by 12 mm.



Setting	Description
Enable	Enables the BOF Sensor setting.
Disable (Default)	Disables the BOF Sensor setting.

Large device font smoothing

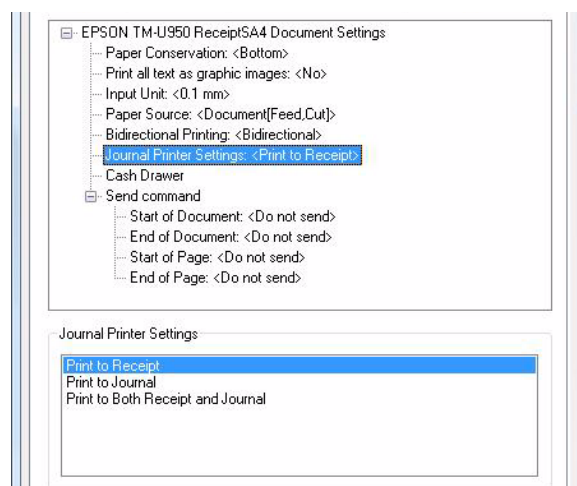
Large device fonts can be clearly and neatly printed.



Setting	Description
Enable (Default)	Performs smoothing of the large Device fonts to print them neatly.
Disable	The corners of large device fonts may be printed with jaggies.

Journal Printer Settings

For the printer mounting a journal printer, the receipt printer and journal printer can be configured respectively.

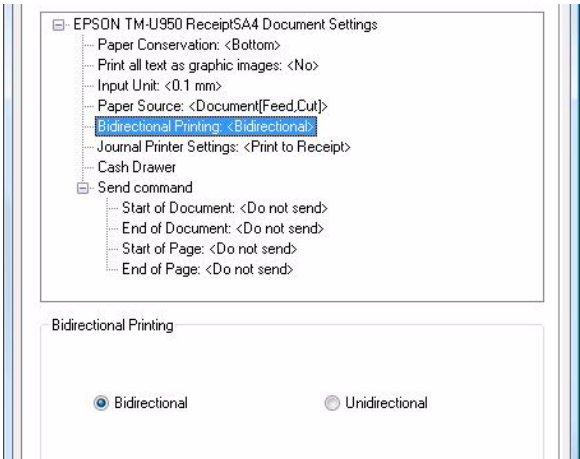


Setting	Description
Print to Receipt	Prints by the receipt printer.
Print to Journal	Prints by the journal printer.
Print to Both Receipt and Journal	Prints by both the receipt printer and the journal printer.

Bi-directional Printing

The bi-directional printing can be enabled or disabled.

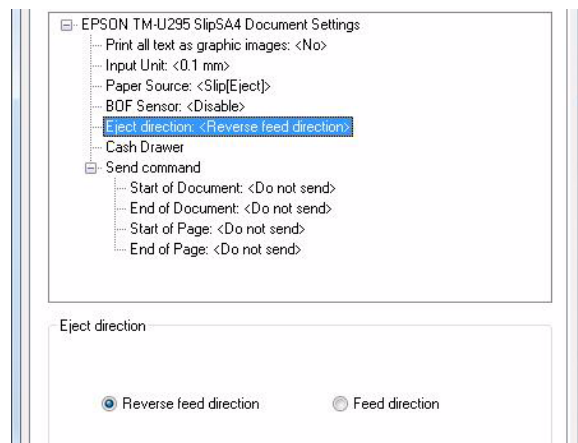
When you are using an inkjet printer or dot impact printer, high-speed printing can be made by enabling the bi-directional printing. Unidirectional printing can print the graphics, barcodes or 2D-codes clearly.



Setting	Description
Bidirectional (Default)	Performs bi-directional printing.
Unidirectional	Performs unidirectional printing.

Eject direction

The paper can be fed in the direction opposite to the print direction.



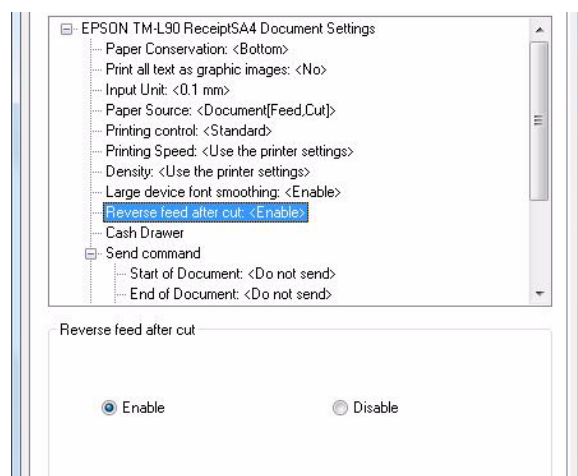
Setting	Description
Reverse feed direction	Ejects paper in the direction opposite to the print direction.
Feed direction (Default)	Ejects paper in the print direction.



When you set "Reverse feed direction" to use slip paper with the TM-H6000III, set 46.2 mm or more for the bottom margin in your application.

Reverse feed after cut

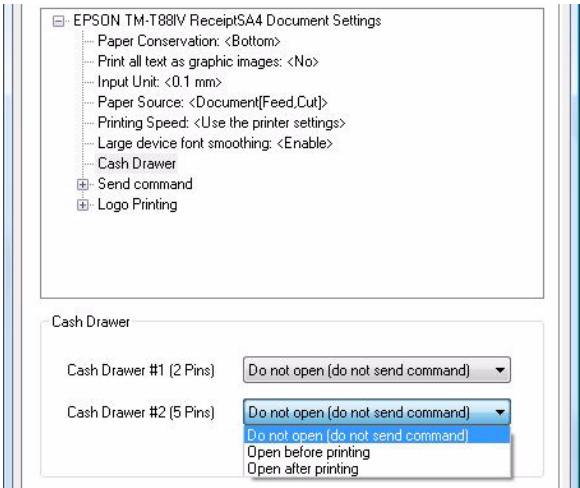
For the printer with the reverse feed function after cutting, the margin from the top end to the print start position can be reduced by feeding paper backward after cutting.



Setting	Description
Enable (Default)	Paper is fed backward after printing.
Disable	Paper is not fed backward after printing.

Cash drawer

You can configure the setting for opening the Cash drawer. A command for opening the Cash drawer is sent to the drawer connected to the TM Printer through the DK connector. See the Cash drawer specifications to check the connector number for the Cash drawer.



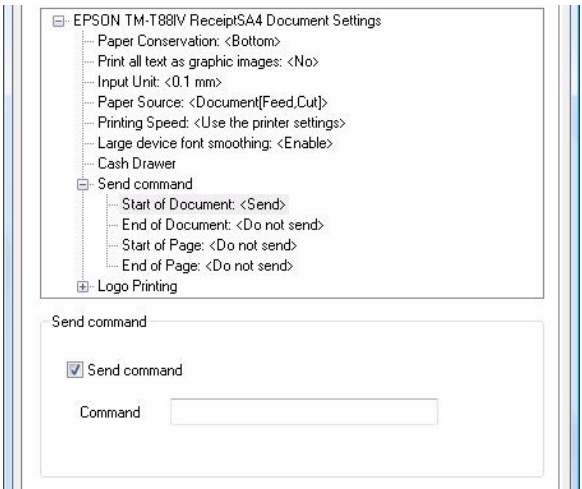
Setting		Description
Cash drawer #1 (2pins)	Do not open (do not send command) (Default)	The drawer does not open.
	Open before printing	The drawer opens when printing starts.
	Open after printing	The drawer opens when printing is finished.
Cash drawer #2 (5pins)	Do not open (do not send command) (Default)	The drawer does not open.
	Open before printing	The drawer opens when printing starts.
	Open after printing	The drawer opens when printing is finished.

Send command

ESC/POS commands can be sent to the TM printer directly.

NOTE

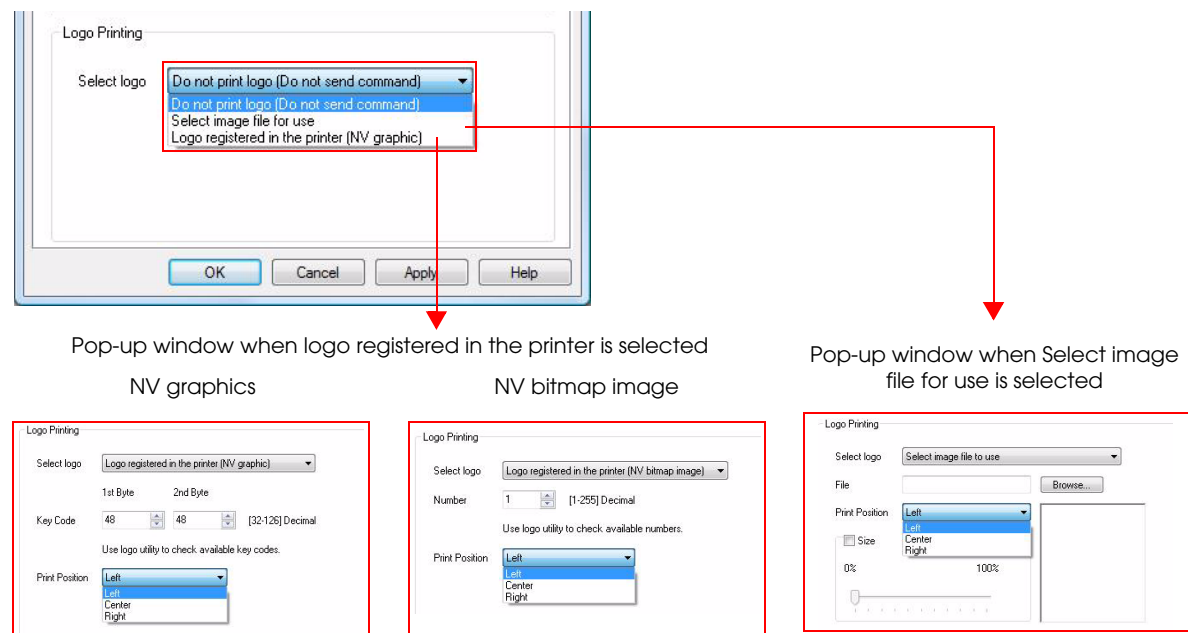
ESC/POS commands are not open to the public. Ask your sales representative for more information.



Setting		Description
Start of Document	Send command	Check this box to send a command when printing.
End of Document	Command	Enter a desired ESC/POS command to be sent to the TM printer.
Start of Page		You cannot enter the command without checking the "Send command" box.
End of Page		

Logo Printing

A desired logo can be specified to be printed.



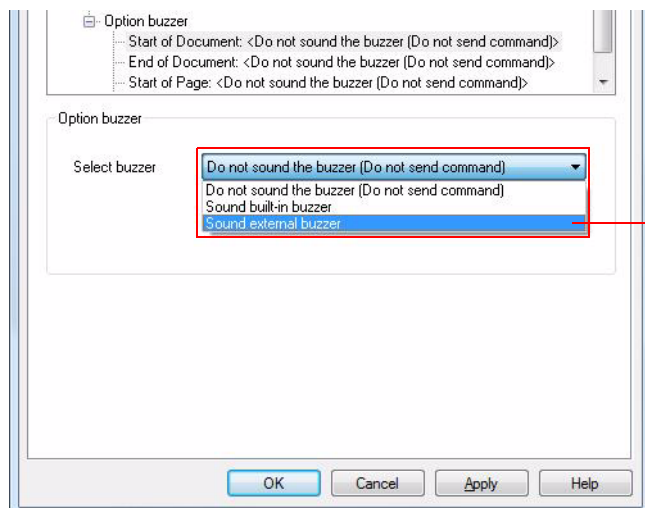
Setting		Description
Start of Document End of Document Start of Page End of Page	Do not print logo (Do not send command)	Does not print a logo.
	Select Image file for use	Prints a logo using an image file.
	File	Specify a bitmap file in the "File" box.
	Print Position	Specify a logo print position. Select Left, Center, or Right.
	Size	Specify the logo size for printing. Refer to the layout displayed in the preview window.
	Logo registered in the printer	Print a logo registered in the TM printer.
	NV graphic	Specify an NV graphic registered using the TM Flash Logo Setup Utility.
	Key code	Enter the key code of the logo that you want to print.
	Print Position	Specify a logo print position. Select Left, Center, or Right.
	NV bitmap image	Specify an NV bitmap image registered using the TM Flash Logo Setup Utility.
	Number	Enter the number of the logo that you want to print.
	Print Position	Specify a logo print position. Select Left, Center, or Right.

Option buzzer

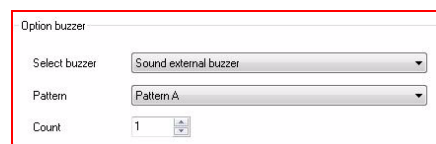
Set the pattern and number of times the buzzer sounds for the built-in buzzer and external buzzer.

NOTE

If [Select buzzer] is set to other than the default "Do not sound the buzzer (do not send command)", the setting of Cash Drawer #2 (5 Pins) on the [Document Settings] tab changes to "Do not open (do not send command)".



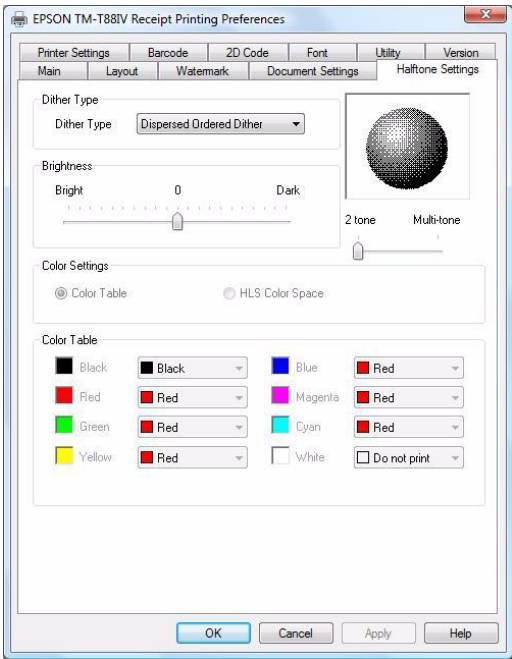
Screen when "Sound external buzzer" is selected.



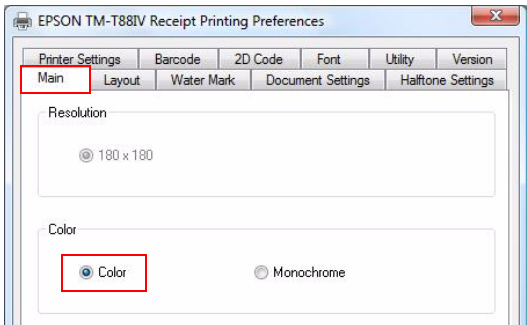
Setting		Description
Start of Document End of Document Start of Page End of Page	Do not sound the buzzer (do not send command) (Default)	Do not sound the buzzer.
	Sound built-in buzzer	Sound the built-in buzzer in the TM printer. (Only available on models that support this function.)
	Sound external buzzer	Sound the optional external buzzer.
	Pattern	Specify the buzzer pattern. One of patterns A to E can be specified.
	Count	Specify the number of times the buzzer sounds. Any number from 1 to 255 can be specified.

Halftone Settings

Allows you to select the color treatment and dither type to print color graphics with a single-color or two-color printer. The brightness of the image data can be specified for thermal printers. Image data gradation can be specified for some TM printer models. For two-color printers, this can be used for color reduction processing.



The Halftone Settings become enabled when the [Color] of the [Printing Preferences] - [Main] tab is set to "Color".

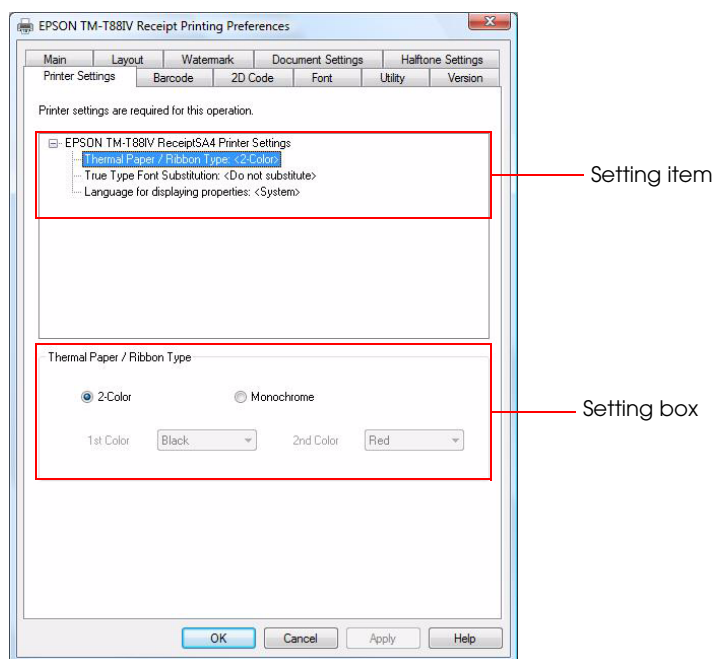


Setting	Description
2 tone / Multi-tone (Special functions only on the TM-T88V)	Set the color gradation. Select "Multi-tone" to express color smoothly. The image screen shows the dot arrangement of the specified gradation.

Setting		Description
Dither Type		Defines the dithering algorithm. Depending on the dither type selected, the image is displayed with a different pattern of dots. The following 4 options are available. • Dispersed Ordered Dither • Clustered Ordered Dither • Error Diffusion • Threshold
Brightness (A function dedicated for the printer driver for thermal printers)		Sets the brightness of image data. Dots are displayed based on the arrangement set by (Brightness).
Color Settings	Color Table	Displays the Color Table and makes the table enabled.
	HLS Color Space	Displays the HLS Color Space Separation and makes it enabled.
Color Table		This item is displayed when "Color Table" is selected in (Color Settings). Assigns the colors for the 2-Color printing in accordance with the Color Table. The driver uses the following 2 methods to reduce the number of color used for printing color image data in two colors. • Using the reducing color function provided by the GDI, the user can make the full color reduced to 8 colors. • 8-Color Printing can be reduced to 3-Color Printing. (the first color, the second color and the white color) The Color Table includes 8 colors: black, red, green, yellow, blue, magenta, cyan and white. The user can click the right list of the above colors to specify the color that the user prefers. (White is fixed.)
HLS Colorspace Separation		This item is displayed when "HLS Color Space" is selected in (Color Settings). This item is available only for the 2-Color printing. Hue is set using the slider or by entering a value manually to the edit box. As Hue is decreased, Hue becomes grayer. Setting Hue to the minimum value of 1 makes it closest to gray. If "Ignore Hue" is checked, the Hue value is not used in the color reduction. The color mapping result is shown in the color wheel (the bigger one) at the right.

Printer Settings

Allows you to make settings of the printer. The setting items are displayed in the upper box of the Printer Settings screen. If you select a setting item, the setting options for the selected item are displayed in the lower box.

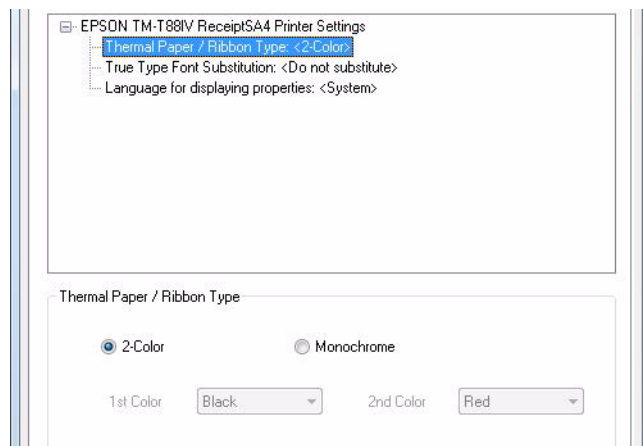


NOTE

If the connected TM printer does not have the function, the corresponding setting item is not displayed.

Thermal Paper / Ribbon Type

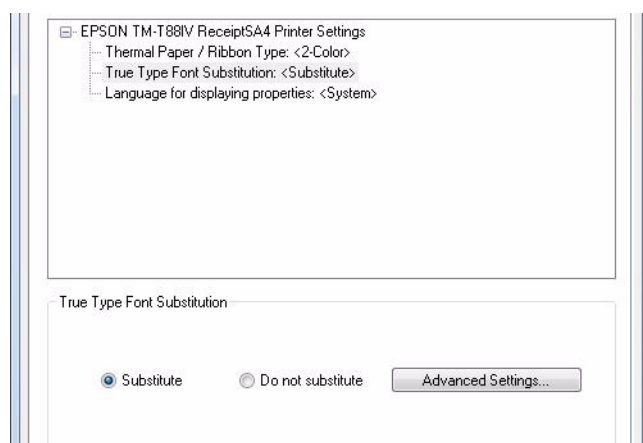
Colors to be used for printing can be specified.



Setting	Description
2-Color	Printing is made using two colors.
Monochrome (Default)	Printing is made using a single color.
1st Color	Displays the color name used as the first color.
2nd Color	Displays the color name used as the second color.

TrueType Font Substitution

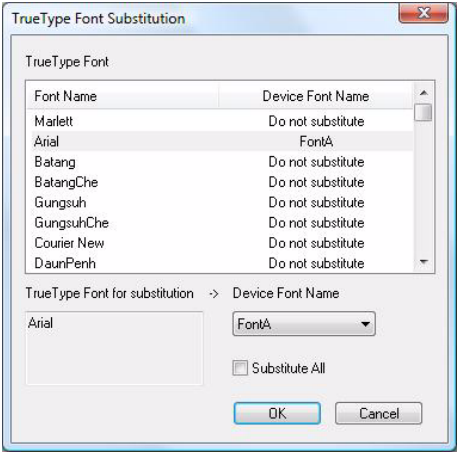
Allows you to replace TrueType Font with Device font, Barcode font, 2D-Code font, control font, or controlA font.



Setting	Description
Substitute (Default)	Replaces TrueType font with Device font, Barcode font, 2D-Code font, control font, or controlA font.
Do not Substitute	Does not replace the TrueType font.
Advanced settings	Displays the "TrueType Font Substitution" screen. This button is enabled when the "Replace" is selected.

TrueType Font Substitution settings

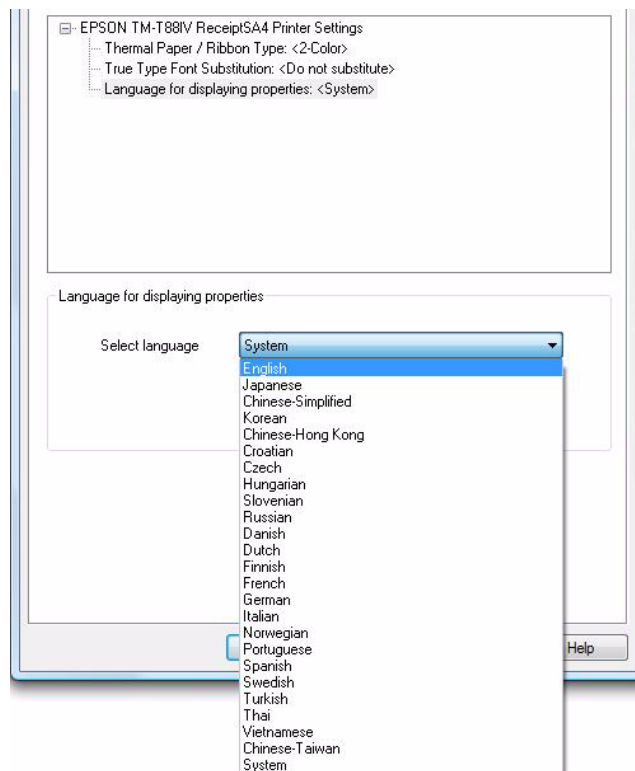
Allows you to configure TrueType substitution settings. In the case that Device fonts cannot be used, the substitution setting is ignored and TrueType fonts are printed as they are.



Setting	Description
TrueType Font	Displays the TrueType font list. Select TrueType fonts to be replaced.
TrueType Font for substitution	Displays the fonts selected by the "TrueType Font" list.
Device Font Name	Specify the device fonts to be replaced, "Barcode","Control","ControlA" and "2D-Code".
Substitute All	Replace all the TrueType Font on the "TrueType Font" list to the fonts selected on (Device Font Name). If you put a check mark next to this item, (TrueType Font) will be grayed out.

Language for displaying properties

Allows you to select from 24 languages for text on screen and help dialog.



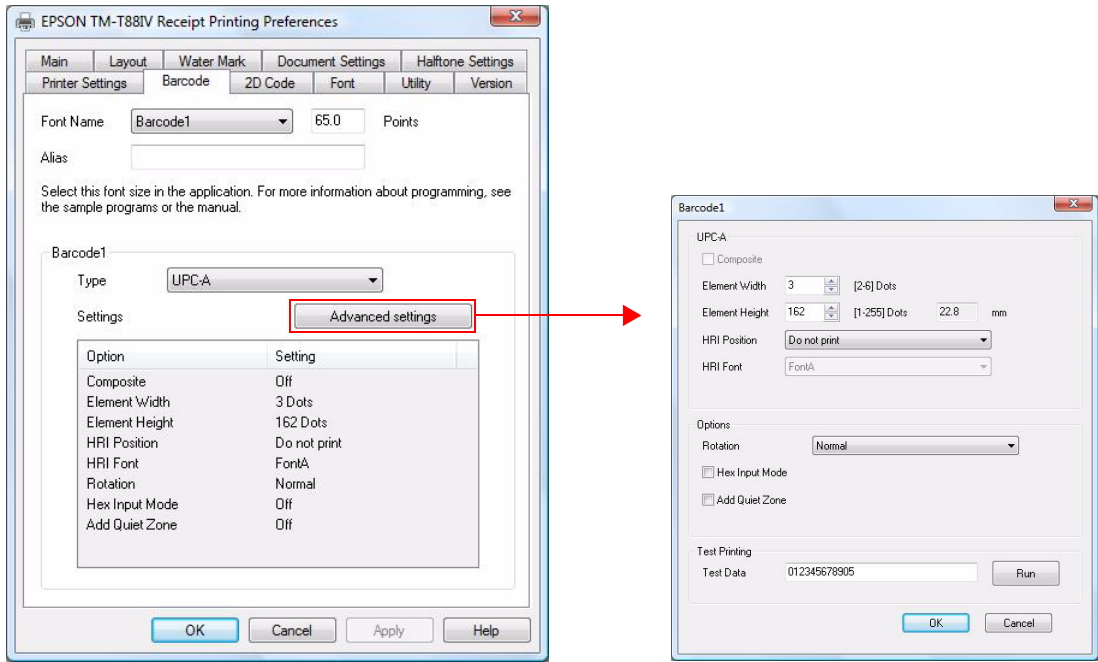
Setting	Description
Select language	Select a language from the pull-down list for text on screen and help dialog. You can select from the following 24 languages. English, Japanese, Chinese-Simplified, Korean, Chinese-Hongkon, Croatian, Czech, Hungarian, Slovenian, Russian, Danish, Dutch, Finnish, French, German, Italian, Norwegian, Portuguese, Spanish, Swedish, Turkish, Thai, Vietnamese, Chinese-Traditional

Barcode

Allows you to configure Barcode fonts. The barcode type and size can be registered. Up to eight types of barcodes (Barcode 1 to 8) can be registered using the APD.

NOTE

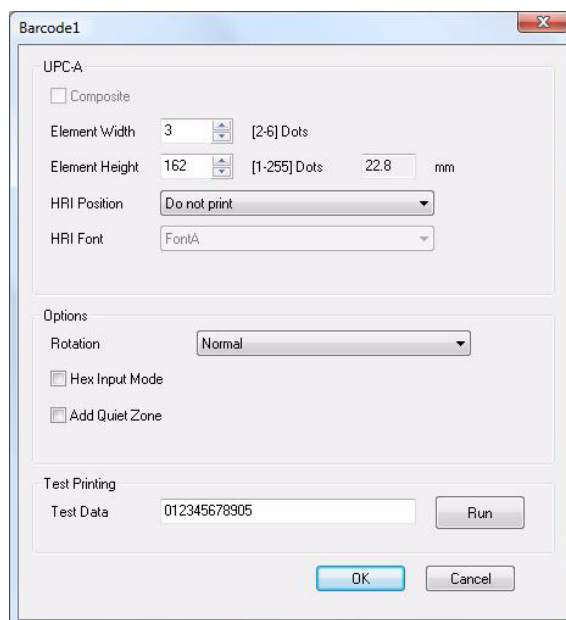
This Barcode tab is not displayed when the printer driver does not support barcode.



Setting	Description
Font Name	Select a desired barcode font from the pull-down list. The point value changes according to the height of the element.
Alias	An alias name can be specified for the selected barcode font. Up to 31 characters can be entered. Alphanumeric characters, spaces, and the following symbols can be used. Available characters: !"#%&'()*+,-./:;<=>?@(\)^_`{ }~
Type	Select a desired barcode type from the pull-down list (UPC-A, UPC-E, JAN13 (EAN), JAN8 (EAN), Code39, ITF, Codabar, Code93, Code128). Select "Not Use" when not specifying the barcode type.
Advanced settings	Displays the barcode advanced setting screen that allows you to select the barcode size, HRI characters and so on.
Settings	Displays the barcode font settings.

Barcode advanced setting

The barcode advanced setting screen is displayed by clicking the Advanced settings button. This allows you to select the barcode size, HRI characters and so on.

A screenshot of the 'Barcode1' dialog box. It has a title bar with a close button. The dialog is divided into several sections. The 'UPC-A' section contains a 'Composite' checkbox, 'Element Width' (3 dots, range [2-6]), 'Element Height' (162 dots, range [1-255]), a unit '22.8 mm', 'HRI Position' (Do not print), and 'HRI Font' (FontA). The 'Options' section has a 'Rotation' dropdown (Normal), 'Hex Input Mode' checkbox, and 'Add Quiet Zone' checkbox. The 'Test Printing' section has a 'Test Data' field (012345678905) and a 'Run' button. At the bottom are 'OK' and 'Cancel' buttons.

Setting	Description
Composite	Generates a GS1 composite symbol. Type selection between CC-A, CC-B or CC-C is automatically done based on the data. This option is grayed out if the Composite Symbology is not supported by the printer driver.
Element Width	Specify the width of thin elements by the number of dots. The settable range is between 2 to 6. The width of a barcode is determined with this value and the number of characters in the barcode. If the width of the barcode becomes wider than the printable area of the paper, the barcode cannot be printed or may be printed even out of the area.
Element Height	Specify the height of elements by the number of dots. The settable range is between 1 to 255 (unit: dot). The specified dots is displayed in the actual size (mm, the number of points) when printed.
HRI Position	Specifies the position of the HRI characters (barcode data) from the pull-down list (Do not print, Above the barcode, Below the barcode, Both above and below the barcode).
HRI Font	Specifies the font of the HRI characters from the pull-down list (FontA, FontB, FontC). The FontC is available only with some specific TM printers. This option is grayed out when "No printing" is selected in the (HRI Position).

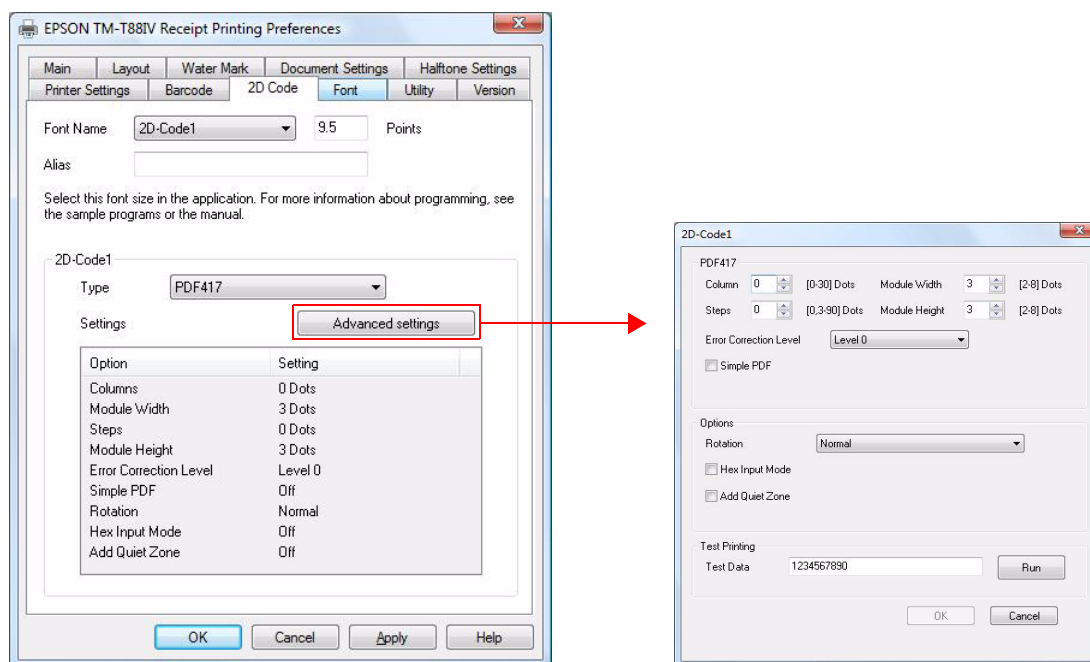
Setting		Description
Rotation		Specifies the print direction of barcode. When other than "Normal" is selected in the Rotation setting, the following message is displayed: "<Print all text as graphics image> will be automatically set to yes." When other than "Normal" is specified for the Rotation setting both in the (Layout) tab and the (Barcode) - (Advanced settings), the both settings are applied to the printed barcode at a time.
	Normal	Prints the barcode without rotating it.
	Rotate by 90 Degrees	Rotates the barcode to print it. The whole print data is printed as a graphics image, therefore, the Device fonts, control font, and controlA font cannot be used.
	Rotate by 180 Degrees	
	Rotate by 270 Degrees	
Hex Input Mode		Allows the barcode characters to be entered in binary. Ex : "00010203" → 0x00 0x01 0x02 0x03
Add Quiet Zone		Check this box to add a quiet zone, the blank margin on either side of a barcode, required to be properly read by a barcode reader. The quiet zone is added without changing the barcode position.
Test Printing		Prints a set barcode as test printing.
	Test Data	Inputs data for test printing.
	Run	Prints input data.

2D-Code

Allows you to configure 2D-Code fonts. The 2D-Code type and size can be registered. Up to eight types of barcodes (2D-Code 1 to 8) can be registered using the APD.

NOTE

This 2D-Code tab is not displayed when the printer driver does not support 2D-Code.

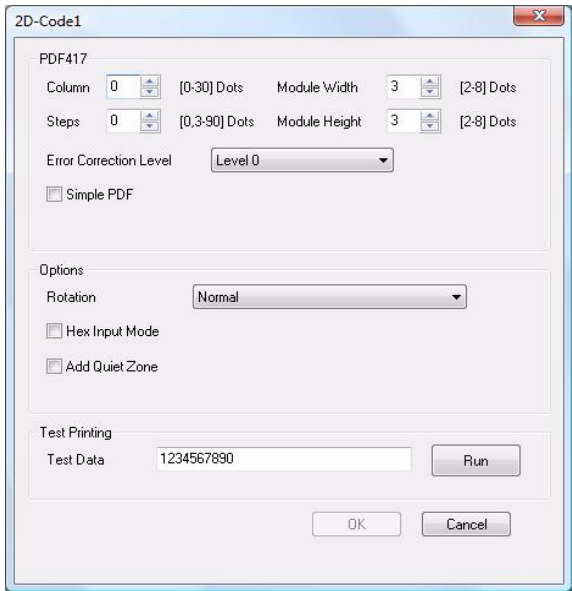


Setting	Description
Font Name	Select a desired 2D-Code font from the pull-down list. The point value changes according to the height of the 2D-Code.
Alias	An alias name can be specified for the selected 2D-Code font. Up to 31 characters can be entered. Alphanumeric characters, spaces, and the following symbols can be used. Available characters: !"#%&'()*+,-./:;<=>?@(\)^_`{ }~
Type	Select a desired 2D-Code type from the pull-down list (PDF417 or QR Code). Select "Not Use" when not specifying the type.
Advanced settings	Displays the 2D-Code advanced setting screen that allows you to make the detailed settings for each type of the 2D-Code.
Settings	Displays the current 2D-Code font settings.

2D-Code advanced settings

The 2D-Code advanced setting screen is displayed by clicking the Advanced settings button.

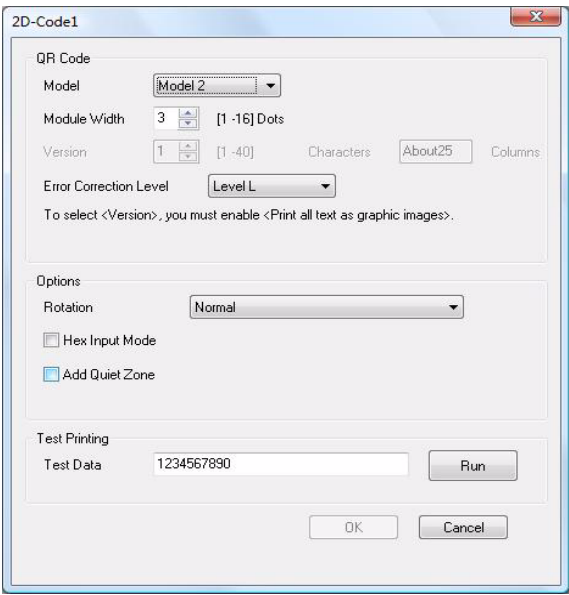
PDF417



Setting	Description
Column	Specifies the number of columns of PDF417 to be printed. The setting can be changed within the range of 0 to 30.
Steps	Specifies the number of steps of PDF417 to be printed. The setting can be changed within the range of 0 to 30.
Module Width	Specifies the cell (module) width of PDF417 to be printed. The setting can be changed within the range of 2 to 8.
Module Height	Specifies the cell (module) height of PDF417 to be printed. The setting can be changed within the range of 2 to 8.
Error Correction Level	Specifies the error correction level for PDF417 (Level 0 to Level 8).
Simple PDF	Specifies the option of PDF417 to be printed.

Setting		Description
Rotation		Specifies the print direction of 2D-Code. When other than "Normal" is selected in the Rotation setting, the following message is displayed: "<Print all text as graphics image> will be automatically set to yes." When other than "Normal" is specified for the Rotation setting both in the (Layout) tab and the (2D-Code) - (Advanced settings), the both settings are applied to the printed 2D-Code at a time.
	Normal	Prints the 2D-Code without rotating it.
	Rotate by 90 Degrees	Rotates the 2D-Code to print it. The whole print data is printed as a graphics image, therefore, the Device fonts, control font, and controlA font cannot be used.
	Rotate by 180 Degrees	
	Rotate by 270 Degrees	
Hex Input Mode		Allows the 2D-Code characters to be entered in binary. Ex : "00010203" → 0x00 0x01 0x02 0x03
Add Quiet Zone		Check this box to add a quiet zone, the blank margin around the 2D-Code, required to be properly read by a 2D-Code reader. The quiet zone is added without changing the 2D-Code position.
Test Printing		Prints a set PDF417 as test printing.
	Test Data	Inputs data for test printing.
	Run	Prints input data.

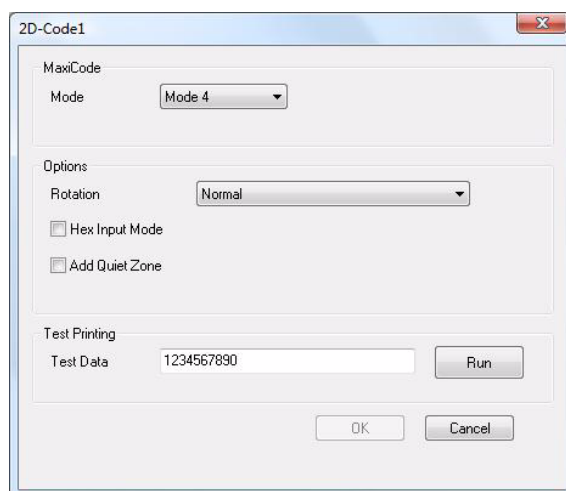
QR Code



Setting		Description
Model		Specifies a QR Code model (Model 1 and Model 2).
Module Width		Configures the cell (module) of QR Code to be printed. The setting can be changed within the range of 1 to 16.
Version		Specifies the QR Code version. Depending on the QR Code version, the number of characters to be used for the 2D-Code changes. The settable versions are 1 to 16 when the "Model 1" is selected in the (Model), and 1 to 40 when the "Model 2" is selected.
Error Correction Level		Specifies the error correction level for QR Code (Level L, Level M, Level Q, Level H).
Rotation		Specifies the print direction of 2D-Code. When other than "Normal" is selected in the Rotation setting, the following message is displayed: "<Print all text as graphics image> will be automatically set to yes." When other than "Normal" is specified for the Rotation setting both in the (Layout) tab and the (2D-Code) - (Advanced settings), the both settings are applied to the printed 2D-Code at a time.
	Normal	Prints the 2D-Code without rotating it.
	Rotate by 90 Degrees	Rotates the 2D-Code to print it. The whole print data is printed as a graphics image, therefore, the Device fonts, control font, and controlA font cannot be used.
	Rotate by 180 Degrees	
	Rotate by 270 Degrees	
Hex Input Mode		Allows the 2D-Code characters to be entered in binary. Ex : "00010203" → 0x00 0x01 0x02 0x03

Setting		Description
Add Quiet Zone		Check this box to add a quiet zone, the blank margin around the 2D-Code, required to be properly read by a 2D-Code reader. The quiet zone is added without changing the 2D-Code position.
Test Printing		Prints a set QR Code as test printing.
	Test Data	Inputs data for test printing.
	Run	Prints input data.

Maxi Code



Setting		Description
Mode		Specifies Mode (2 to 6) of Maxi Code. Check the (Hex Input Mode) box when specifying "Mode2" and "Mode3".
Rotation*		Specifies the print direction of 2D-Code. When other than "Normal" is selected in the Rotation setting, the following message is displayed: "<Print all text as graphics image> will be automatically set to yes." When other than "Normal" is specified for the Rotation setting both in the (Layout) tab and the (2D-Code) - (Advanced settings), the both settings are applied to the printed 2D-Code at a time.
	Normal	Prints the 2D-Code without rotating it.
	Rotate by 90 Degrees	Rotates the 2D-Code to print it. The whole print data is printed as a graphics image, therefore, the Device fonts, control font, and controlA font cannot be used.
	Rotate by 180 Degrees	
	Rotate by 270 Degrees	
Hex Input Mode		Allows the 2D-Code characters to be entered in binary. Ex : "00010203" → 0x00 0x01 0x02 0x03

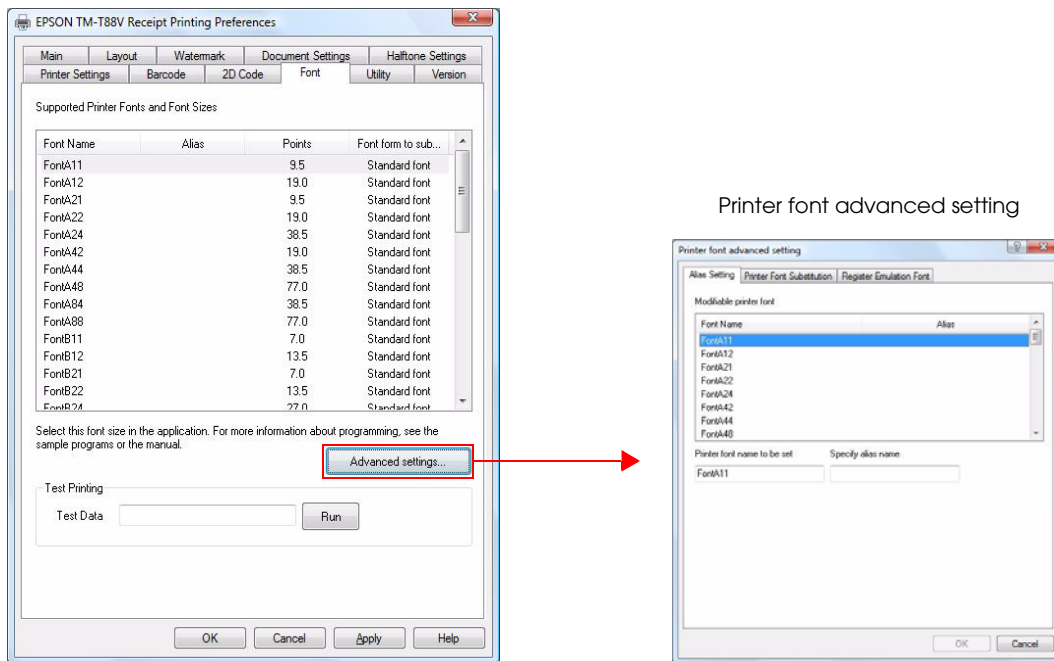
Setting		Description
Add Quiet Zone		Check this box to add a quiet zone, the blank margin around the 2D-Code, required to be properly read by a 2D-Code reader. The quiet zone is added without changing the 2D-Code position.
Test Printing		Prints a set Maxi Code as test printing.
	Test Data	Inputs data for test printing.
	Run	Prints input data.

Font

The device fonts; supported by TM printers, their points, and the code pages are listed.

An alias can be specified for a device font in the printer font advanced settings. Printer font substitution and registration of emulation font is possible for some TM printer models.

In addition, alias names can be specified to the device fonts. When using device fonts, specify their points in "Supported Printer Fonts and Font Sizes". When programming, designate the fonts and their points specified here.



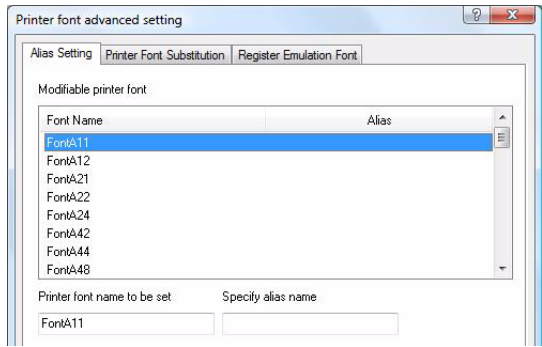
Setting		Description
Advanced settings		Displays the Printer font advanced setting screen.
Test Printing	Test Data	Prints the device font as test printing.
	Run	Inputs data for test printing.
		Prints input data.

Printer font advanced setting

Click the Advanced settings button to open the Printer font advanced setting screen.

Alias Setting

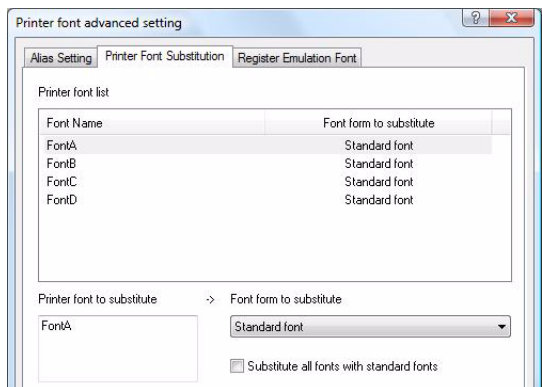
Specify an alias for a device font. This allows you to print using a device font without changing the application font name.



Setting	Description
Modifiable printer font	The device fonts to which their alias names can be specified are displayed.
Printer font name to be set	The fonts selected from the "Modifiable printer font" list are displayed.
Specify alias name	Specify an alias name.

Printer Font Substitution

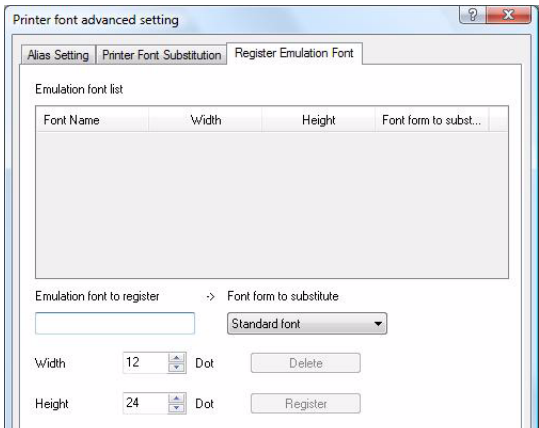
Specify a TrueType font to be substituted for a device font. Printer font substitution is possible when "Print all text as graphic images" is set to "Yes" in the [Document Settings] tab of [Printing Preferences].



Setting	Description
Printer font list	Lists the replaceable device fonts.
Printer font to substitute	The font selected in the "Printer font list" appears.
Font form to substitute	Specify the substitute font.

Register Emulation Font

Specify the font name, font size (height and width in dots), and font design (TrueType font). Set this to change a font name and size.



Setting	Description
Emulation font list	A list of the registered emulation fonts appears.
Emulation font to register	Specify the emulation font name to register.
Width	Specify the width in dots.
Height	Specify the height in dots.
Font form to substitute	Specify the substitute font from the pull-down list.

TM Flash Logo Setup Utility

This chapter explains how to save your logo and how to use TM Flash Logo Setup Utility.

The TM Flash Logo Setup Utility allows you to save a bitmapped image (logo file) to the NV memory of the TM printer and make a test print of the image. The main features are as follows.

- Once a logo file is saved to the memory, you can print the logo file only by specifying to do so using APD. You do not need to send the logo file from your application each time you need to print it.
- Because the logo file (bitmapped image) is saved on the printer and does not need to be transmitted, you can print it faster even when using serial connection, whose data transmission speed is relatively slow.



TM Flash Logo Setup Utility Ver.3 is used for storing logos for some printer model. See "TM Flash Logo Setup Utility Ver.3" on page 127 for details.

Saving a Logo File

Follow the procedure below to save your logo file to the NV memory. For more details about the settings, see ["Reference" on page 121](#).

- 1 Prepare your logo file (bitmapped image). For information about allowable file size of the logo file, refer to the resolution and paper size provided in the "Print Specification".

Example: when printing a 60mm (W) x 20 mm (H) logo on 80 mm-width paper using the TM-T88IV, calculate the logo file size using the following formula.

Formula: No. of dots = Length (cm) 2.54 (one inch) x TM printer resolution (dpi)

Width: $6.0 / 2.54 \times 180 = 425$ dots

Height: $2.0 / 2.54 \times 180 = 142$ dots

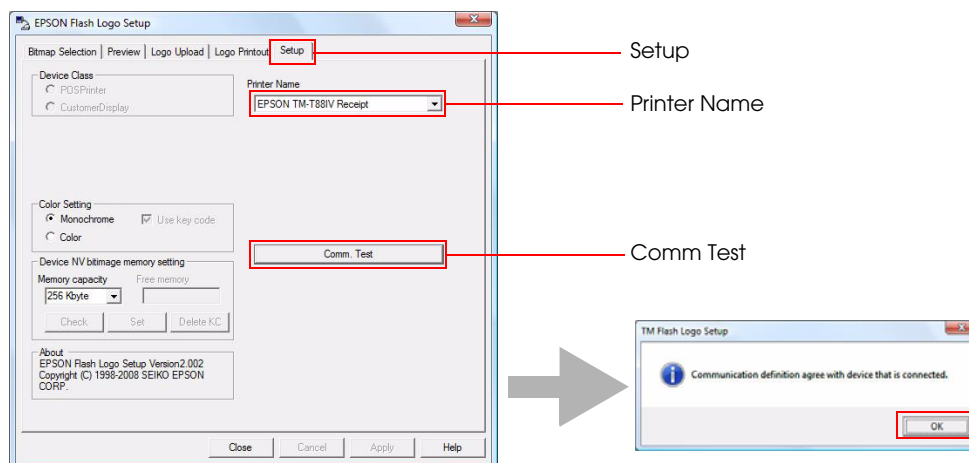
In this case, your logo file (bitmapped image) should be 480 x 160-dot image.



- 24-bit bitmap files can not be saved.
- You can use the TM Flash Logo Setup Utility to change a full-color bitmapped image to a two-color or single-color image.
- See "[Printer Specification](#)" of your TM printer to check the printer resolution.

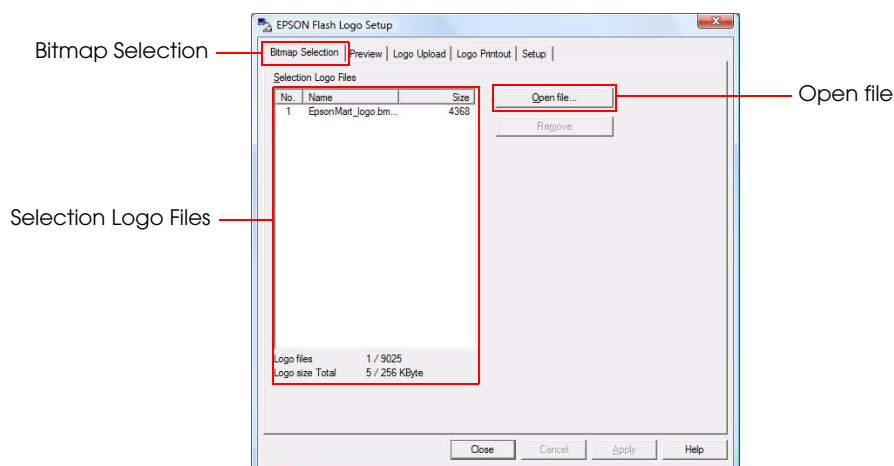
- 2 Select (EPSON Flash Logo) from (Start) - (All Programs) - (EPSON) - (EPSON Advanced Printer Driver 4).

- 3** The EPSON Flash Logo Setup screen is displayed. Select the (Setup) tab. After specifying the printer name, click the (Comm.Test) button.



Setting	Description
Printer Name	Specify the printer to save a logo.
Comm Test	Checks whether the communication between devices is normally established and displays a message to show the test result.

- 4** Select the (Bitmap Selection) tab and make the following settings.

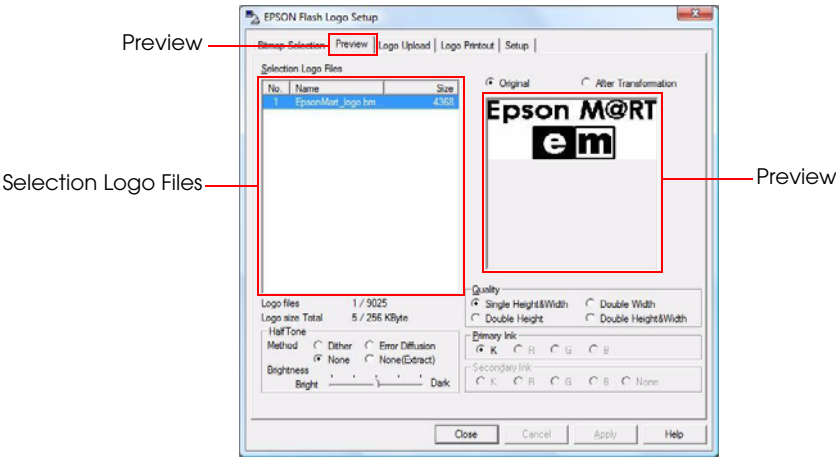


Setting	Description
Open file	Add a logo file (*.bmp) to save. You cannot add a logo file if the total number or size of the logo files listed in the "Selection Logo Files" box exceed the allowable numbers or size.
Selection Logo Files	Displays a list of selected logo files.



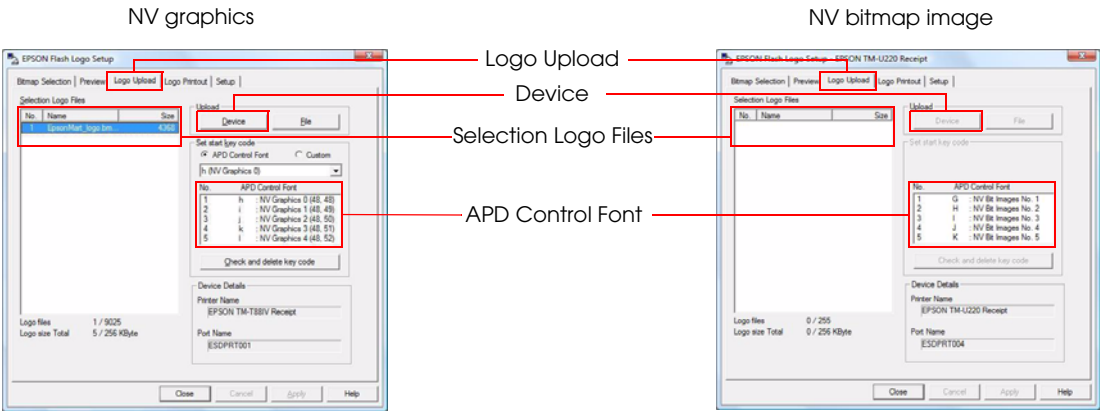
The allowable number of logo files varies depending on the TM printer's NV memory capacity and size of the saved logo files. For more details, see the User's Manual supplied with the TM printer or the Technical Reference Guide.

5 Select the (Preview) tab. Make the following settings on the tab.



Setting	Description
Selection Logo Files	Displays a list of logo files selected in the (Bitmap Selection) tab. Select a desired logo file in the list to preview it in the preview window on the right.
Preview	Previews a logo file selected in the "Selection Logo Files" box.

6 Select the (Logo Upload) tab. Make the following settings and start to upload the logo file to the TM printer.

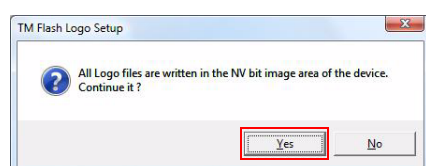


Setting	Description
Selection Logo Files	Select a logo file to be saved to the TM printer in this box.
APD Control Font	Specify the destination to where the logo file is saved.
NV graphics	Specify the registered logo key code in the control font name to be logo printed.
NV bitmap image	Specify the registration number of the logo in the control font name to be logo printed.
Device	Starts to upload the selected logo file to the TM printer.

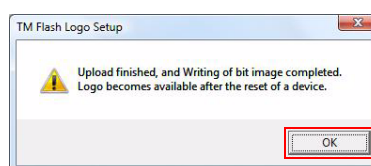
7 A write start confirmation screen is displayed. Click the (Yes) button. Uploading the logo file is started.

8 The logo file is saved to the NV memory of the TM printer. A completion screen is displayed when saving the logo is finished successfully. Click the (OK) button and reset the TM printer.

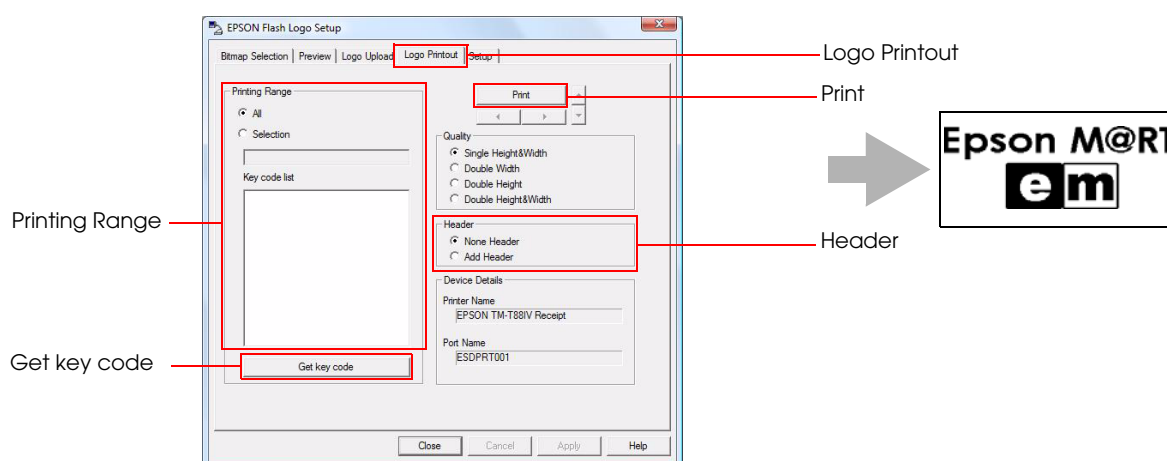
7 >



8 >



9 Check the logos registered in the TM printer. Select the (Logo Printout) tab and check the logos that have been printed and registered.



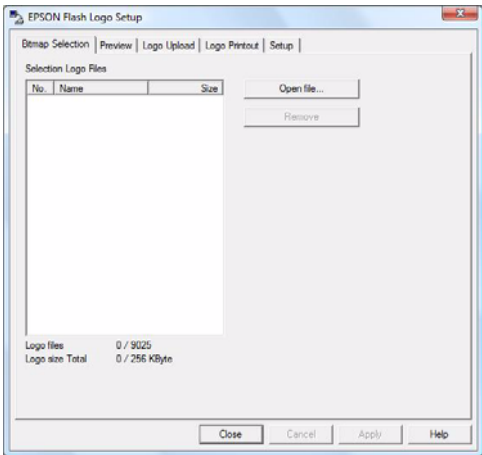
Setting			Description
Printing Range			Specify the print range of logos registered in the TM printer.
Sele ction	All		All registered logos are printed.
	NV graphics	Select the key code of the logo to be printed from the key code list. To display the key code, click the "Get key code" button.	
	NV bitmap image	Specify the registration number of the logo to be printed.	
Get key code			Displays a list of key codes of logo files saved to the TM printer in the "Key code list" box.
Header			Select whether to print the logo file with additional information such as its logo number.
Print			Starts to print the logo as specified on this tab.

10 Click the (Close) button to finish the logo entry.

Reference

This section explains about the settings of TM Flash Logo Setup Utility.

Selection Logo Files



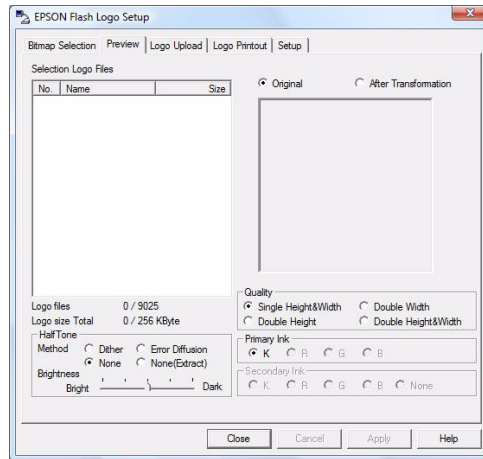
Setting	Description
Selection Logo Files	A list of selected logo files is displayed.
Open file	Specify a logo file (*.bmp) to be newly added to the TM printer. The specified logo file is added in the "Selection Logo Files" list.
Remove	Delete a logo file selected in the "Selection Logo Files" box from the box. Multiple logo files can be selected at a time.

CAUTION

In the following cases, a logo file cannot be selected.

- * When a specified logo file itself exceeds the NV memory capacity or when adding the logo file makes the total size of logo files exceed the NV memory capacity.
- * When the specified logo file is not a bitmap file.
- * When the specified logo file is a full-color (24-bit) bitmap file.
- * When adding the logo file exceeds the allowable number of logo files.

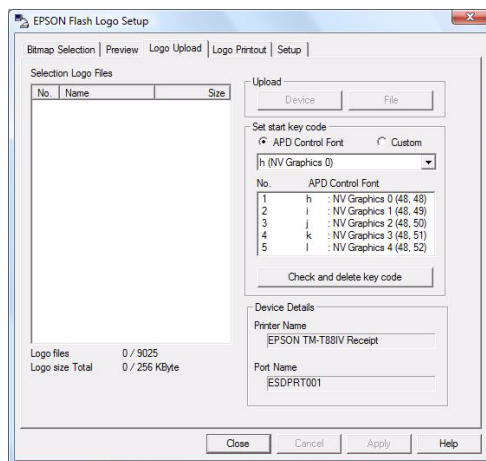
Preview



Setting		Description
Selection Logo Files		Displays a list of logo files selected in the (Bitmap Selection) tab. Select a logo file in the list to preview the bitmapped image in the preview window on the right.
Preview		Previews a bitmapped image selected in the "Selection Logo Files" list.
Original		Displays an original bitmapped image.
After Transformation		Displays a bitmapped image reflecting the (Half Tone), (Quality), (Primary Ink), and (Secondary Ink) settings.
Half Tone		Select a desired half tone setting. This setting is applied to the selected logo image when the logo is saved to the printer or output as a file.
Method		Select one of the options for converting a color bitmap file into monochrome or two-color image, or reducing colors from a color bitmap file.
	Dither	Reproduces the image tones as rich as possible within the allowable gray-scale range. The darker portions of the image are printed using the Primary Ink and the Secondary Ink is used for the lighter portions of the image. Each one of image pixels is expressed by one dot.
	Error Diffusion	Reproduces the image tones as rich as possible within the allowable gray-scale range. The darker portions of the image are printed using the Primary Ink and the Secondary Ink is used for the lighter portions of the image. For error diffusion, each one of image pixels is expressed with multiple dots.
	None	Reduces colors from the original image. The original bitmapped image is binary and trinary. The darker portions of the image are printed using the Primary Ink and the Secondary Ink is used for the lighter portions of the image.
	None	Select this to print a simple bitmapped image such as a shop logo. Expresses the image using the same color extracted from Primary Ink and Secondary Ink.
Brightness		Specifies the brightness of the bitmapped image.

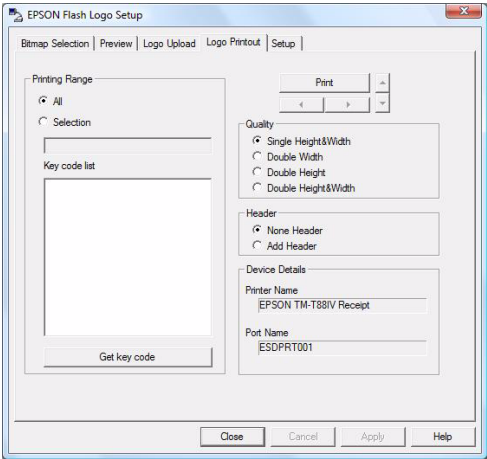
Setting	Description
Quality	Select the resolution used to display the image in the preview window.
Primary Ink	Select an ink color to be used as the Primary Ink. When (Color Setting) on the (Setup) tab has been set to "Monochrome", the color is fixed to "K".
Secondary Ink	Select an ink color to be used as the Secondary Ink. This setting is enabled when (Color Setting) on the (Setup) tab is set to "Color". When using a thermal printer and special paper, select "K" or "R". When selecting "Monochrome" using the NV graphics, select "None".

Logo Upload



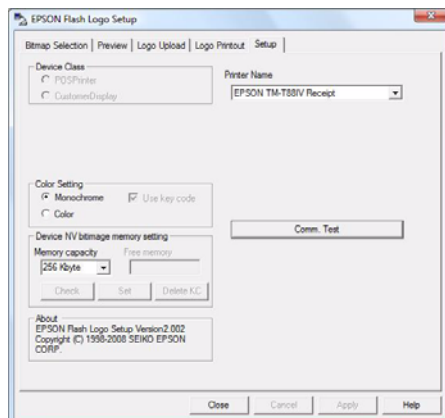
Setting	Description
Selection Logo Files	Displays a list of logo files selected in the (Bitmap Selection) tab. The logo file selected here is saved to the TM printer.
Upload	Starts to upload the selected logo file to the device or output as a file.
Device	Starts to upload the selected logo file to the NV memory of the device.
File	Starts to output the selected logo file as a binary file.
APD Control Font	Specifies the destination NV memory using a control font that is used for specifying the logo file to print.
Custom	Specify any key code to register the logo.
Device Details	Displays device information of the device to where the logo file is saved.
Printer Name	Displays the printer model name.
Port Name	Displays the port setting of the destination device.

Logo Printout



Setting	Description
Printing Range	Specifies a print range of the logo image.
All	Prints all logo files saved in the NV memory of the device.
Selection	Enter a print range of an NV monochrome bitmapped image in the edit box using "," and "-". Example) "1,5,10" "1-5,8,20-22" In the case of NV graphics, select the corresponding key code from the Key code list.
Key code list	When the (Get key code) button is clicked, a list of key codes obtained from the device is displayed.
Get key code	Obtains key codes from the device.
Print	Prints a logo file selected in the Printing Range box.
Quality	Specifies the print resolution.
Header	Prints the selected logo file with its logo number added above the logo image.
Device Details	Displays device information of the device that prints the logo file.
Printer Name	Displays the printer model name.
Port Name	Displays the port setting of the destination device.

Setup



Setting	Description
Device Class	Select the device type to be displayed in the (Printer Name) box.
POS Printer	Displays TM printer model names in the (Printer Name).
CustomerDisplay	Displays Customer Display model names in the (Printer Name).
Printer Name	Select a device to where the logo file is saved.
Color Setting	Select the color setting of the logo file to save. When the selected device does not support color printing, the "Color" option is disabled.
Monochrome	Saves the selected logo file as a NV bitmapped image.
Color	Saves the selected logo file as a NV graphics.
Device NV bitimage memory setting	NV memory check and setting can be made.
Memory capacity	Displays the NV memory capacity. You can change the memory capacity here as long as the selected device supports the change. Click the (Set) button to change the memory capacity.
Free memory	Displays free space of the NV memory when "Color" is selected in (Color Setting). Click the (Check) button to display the free space.
Check	Displays the current capacity or free space of the NV memory when the selected device supports change of memory capacity or supports color printing.
Set	When the selected device supports change of NV memory capacity, changes the capacity to the amount specified in (Memory capacity).
Delete KC	When NV graphics is selected, you can check or delete key codes saved in the device.
Comm.Test	Performs a communication test with the selected device.
About	Displays the version information of the TM Flash Logo Setup Utility.

CAUTION

If you change the memory setting, the logo data already registered is not guaranteed. It may be lost. Be sure to confirm the registered logos.

TM Flash Logo Setup Utility Ver.3

This chapter explains how to store logos and how to use TM Flash Logo Setup Utility Ver.3.

TM Flash Logo Setup Utility Ver.3 allows users to print and delete the logos stored in the printer but not to edit, restore or save them in a file format.

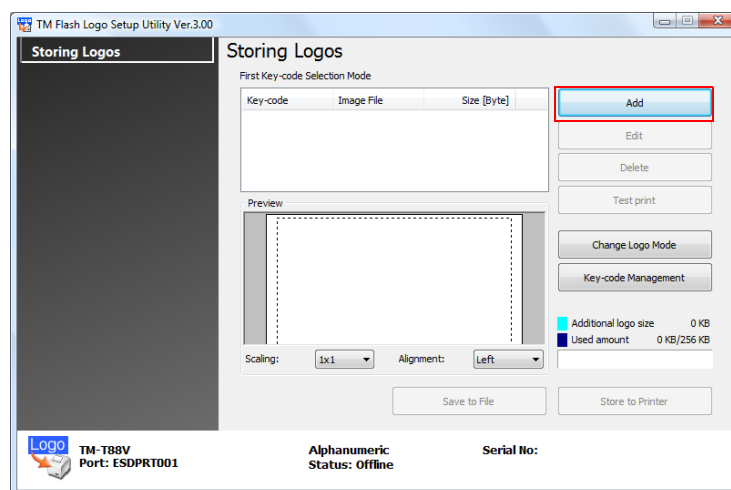
NOTE

TM Flash Logo Setup Utility is used for storing logos for some printer model.
See "TM Flash Logo Setup Utility" on page 117 for details.

Storing Logos

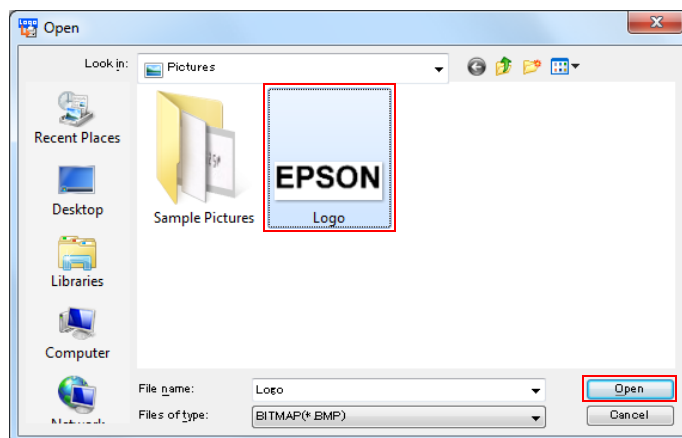
Follow the procedure below to save your logo file to the NV memory.

- 1** Prepare your logo file.
A size of 2047 (W) x 831 (H) dots ((Key-code Nonuse Mode (not recommended)): 1023 (W) x 288 (H) dots) or less can be specified, and the format can be bmp, jpeg, gif or png.
- 2** From the printer driver properties, select (Utility)-(EPSON Flash Logo).
The (TM Flash Logo Setup Utility Ver.3) screen appears.
- 3** Click the (Add) button.



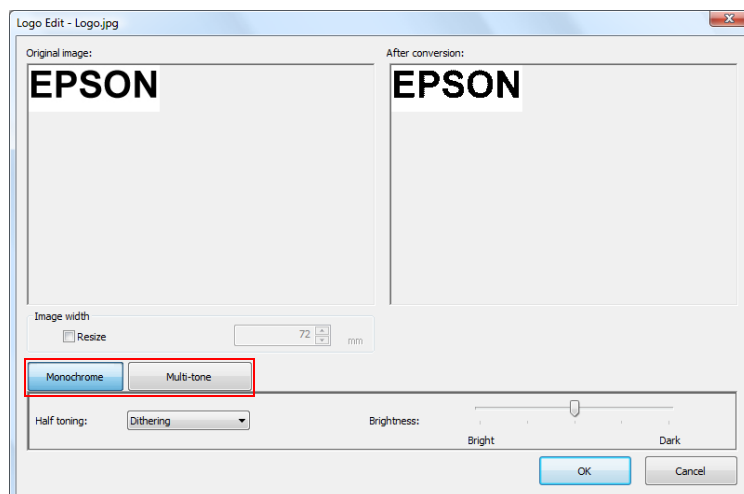
4 Specify the image data to be used as a logo.

If the logo width is greater than the paper width (greater than 512 dots for 80 mm width, or greater than 360 dots for 58 mm width), a warning message will appear. Click the (OK) button and reduce the logo size in the (Logo Edit) screen of step 5.



5 The (Logo Edit) screen appears. Click the (Monochrome) or (Multi-tone) button to select the format of the image to be printed.

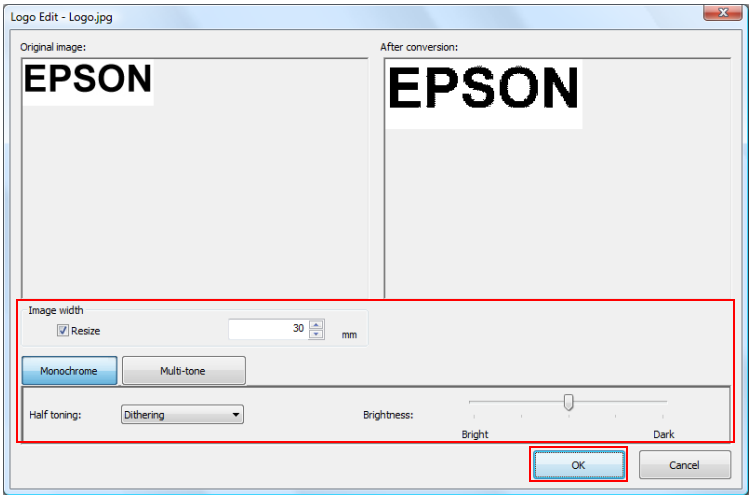
The (Multi-tone) button does not appear when the mode for storing logo is set to (Key-code Nonuse Mode (not recommended)). Colors are reduced to 2 colors with (Monochrome) selected and to 16 colors (shades) in grayscale with (Multi-tone) selected.



CAUTION

Some printer models may not support the [Multi-tone] function.

- 6** Edit the logo image while checking the image previewed on the upper portion of the screen. When finished, click the (OK) button.

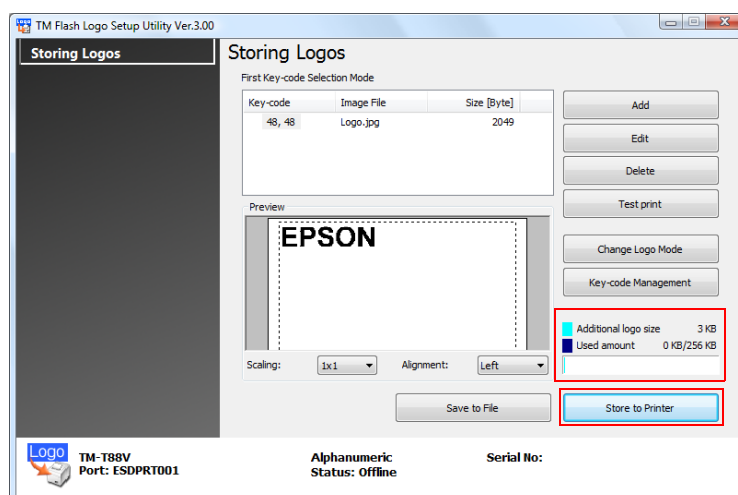


You can edit the followings.

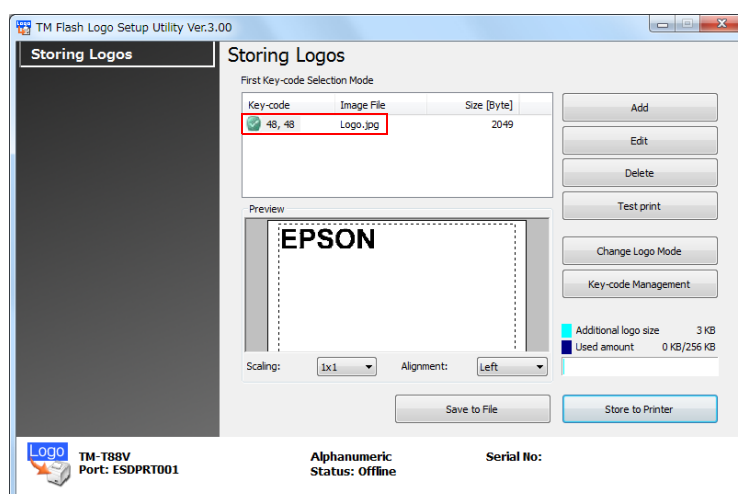
Setting	Description
Resize	Specifies whether or not the image is resized. If the image width is greater than the paper width and resizing is not specified, the part of the image that exceeds the paper width will be cut off.
Width	Specifies the width to which the image is resized (in mm).
Half toning	Configures the halftone setting of the image. Select from (Dithering)/(Error Diffusion)/(None) when (Monochrome) is selected in Step 5 and from (Dithering)/(None) when (Multi-tone) is selected.
Brightness	Configures the brightness of the image. Select from 5 levels when (Monochrome) is selected in Step 5 and from 15 levels when (Multi-tone) is selected.

- 7** The logo data is added on the list. When storing multiple logo data, repeat Step 3 through 6.

- 8 After storing all the logo data to be added to the printer, check the indicator on the right side of the screen to see if the data size is acceptable to be stored on the printer, and then click the (Store to Printer) button.

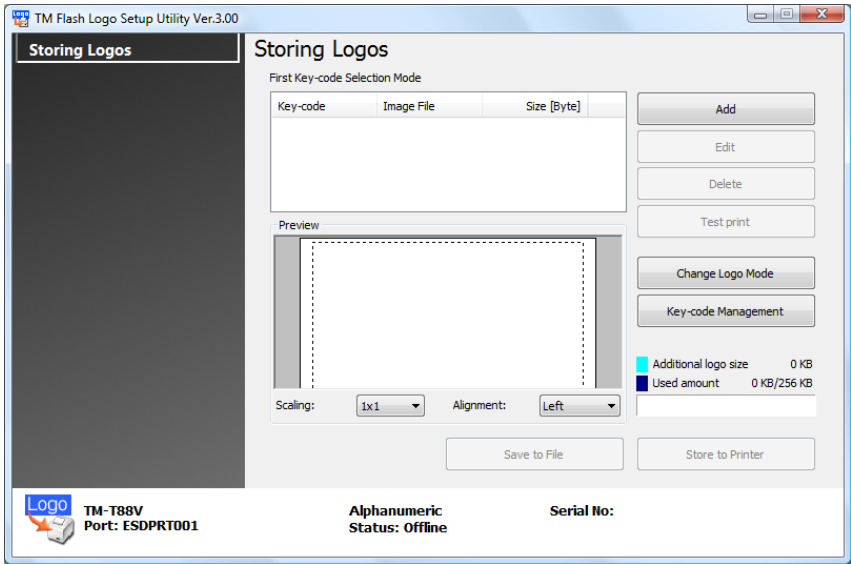


- 9 The logo data is stored to the printer.

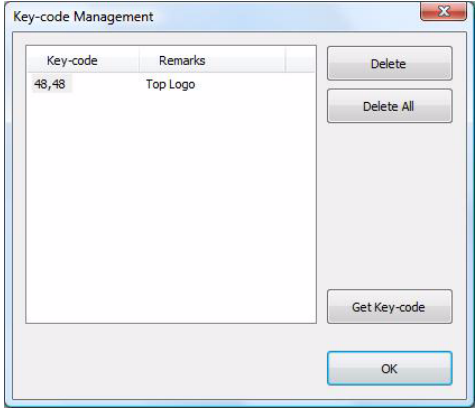


Reference

This section explains about the settings of TM Flash Logo Setup Utility.



Setting	Description
Add	Adds the logo data.
Edit	Edits the halftone and brightness settings of the selected logo data.
Delete	Deletes the selected logo data from the list or deletes logos stored on the printer.
Test print	Prints the selected logos.
Change Logo Mode	Displays “Select Mode for Storing Logo” screen to allow you to change the setting mode of the (Storing Logos). The current setting is displayed below (Storing Logos).
First Key-code Selection Mode	Specifies the logo identifying code.
Advanced Printer Driver Control Font Setting Mode	The Advanced Printer Driver allows you to assign a control font (h to 1) to your logo instead of using a key code.
Key-code Nonuse Mode (not recommended)	Not recommended.

Setting	Description
Key-code Management	You can check the Key-code of the logo stored in the printer, or delete the logos. 
Preview	Displays the logo image to be stored on the printer. Logo images stored on the printer are not displayed.
Save to File	Saves the configured logo data as a file to store it to the printer. The data can also be stored as a bmp file.
Store to Printer	Stores the configured logo data to the printer.

Paper layout set tool

This chapter explains how to use the Paper layout set tool. This tool is dedicated to the TM-L90. The Paper layout set tool allows you to make paper layout settings to print. Paper layout settings configured using this tool are added to Paper Size list in Printing Preferences - [Layout].

The main features are as follows.

- Four types of paper layouts are available; "Receipt / overall label", "BM receipt / overall label", "Die cut label", and "BM die cut label".
- Once you configure a paper layout, the setting is added as one of paper layout options.
- Paper layout settings can be directly stored on the TM printer.

CAUTION

Use the Paper layout set tool on an environment connected to the TM printer.

How to use Paper layout set tool

The Paper layout set tool provides the following two methods to configure paper layout settings.

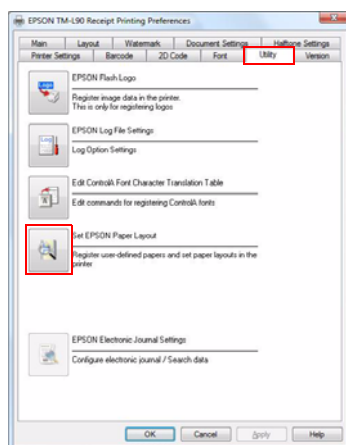
- Automatic setting
- Manual setting

Automatic setting

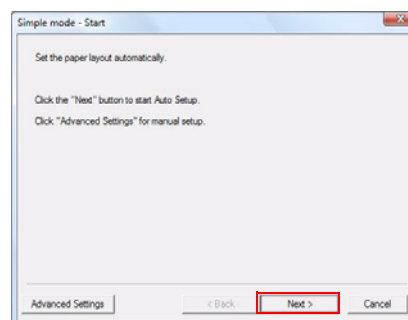
The TM printer detects paper size and sets the detected paper size automatically. Follow the procedure below to configure a paper layout setting using the automatic detection.

- 1 Connect the TM printer.
- 2 Select the (Utility) tab from Printing Preferences, and click the (Set EPSON Paper Layout) button.
- 3 The Start screen is displayed. Click the (Next) button.

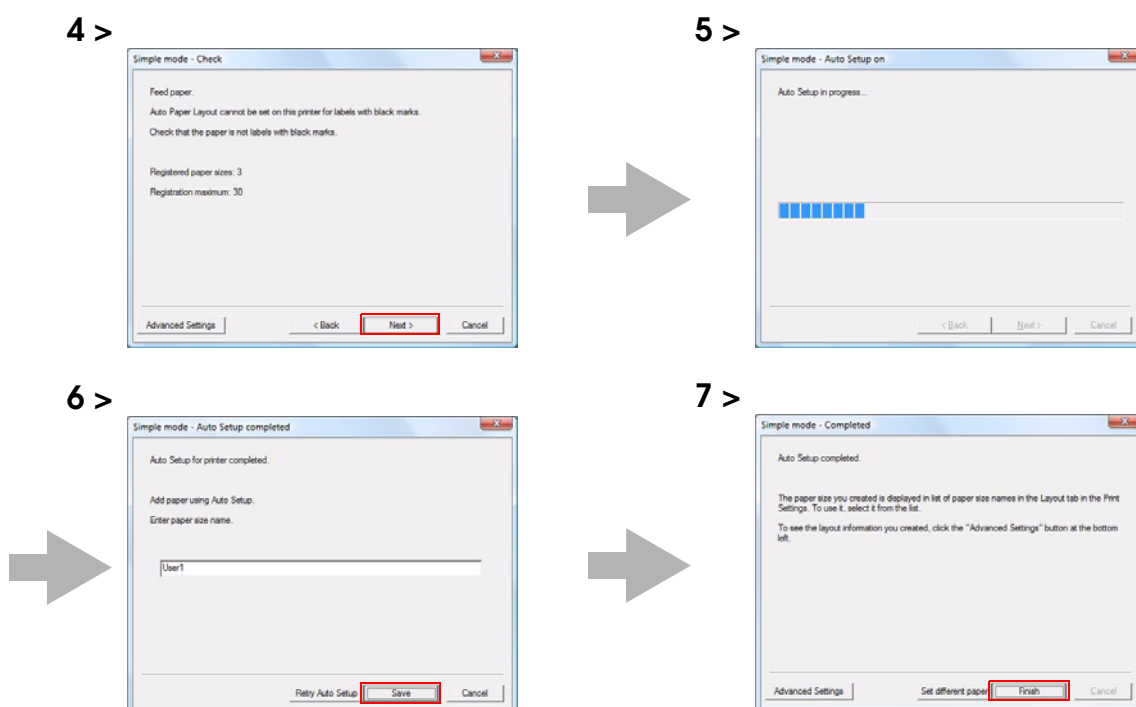
2 >



3 >



- 4 The Check screen is displayed. Click the (Next) button.
- 5 The printer starts to feed paper and automatically detects the paper size.
- 6 The On auto setting screen is displayed. Enter a paper size name and click the (Save) button. If an error occurs, click the (Retry Auto Setup) button to let the printer perform the automatic detection again.
- 7 The Completed screen is displayed. Click the (Finish) button to quit the paper layout automatic setting.

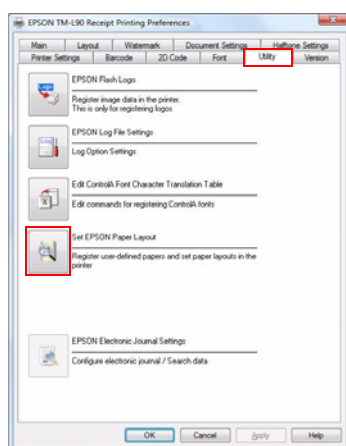


Manual setting

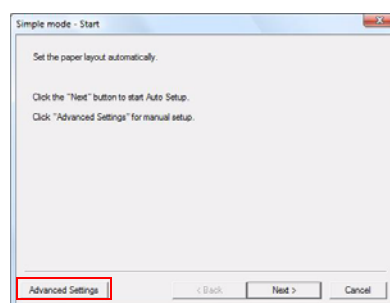
This method allows you to manually configure paper layout settings. The following explains the procedure.

- 1 Connect the TM printer.
- 2 Select the (Utility) tab from Printing Preferences, and click the (Set EPSON Paper Layout) button.
- 3 The Start screen is displayed. Click the (Advanced Settings) button.
- 4 The Paper Layout Setup Tool screen is displayed. When you create a new setting, click the (Add paper size) button. When you change an existing paper size setting, go to step 6.

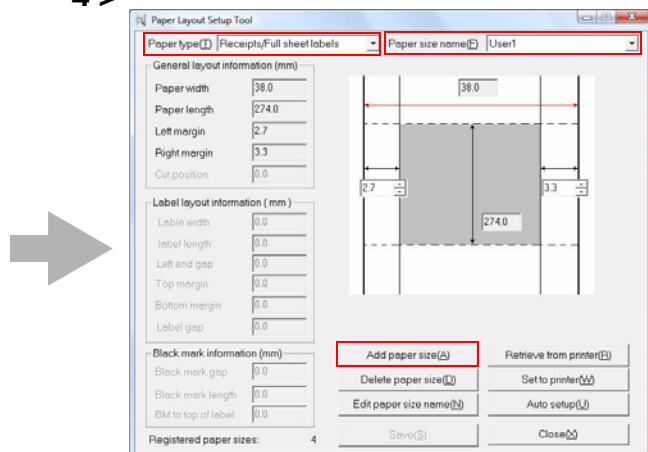
2 >



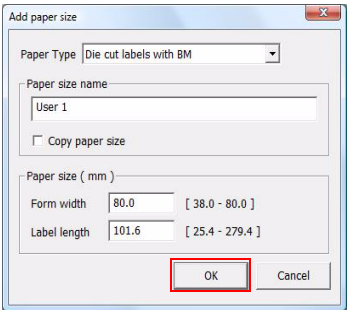
3 >



4 >



- 5 The Add paper size screen is displayed. Specify paper type, paper size name, and paper size, and click the (OK) button.

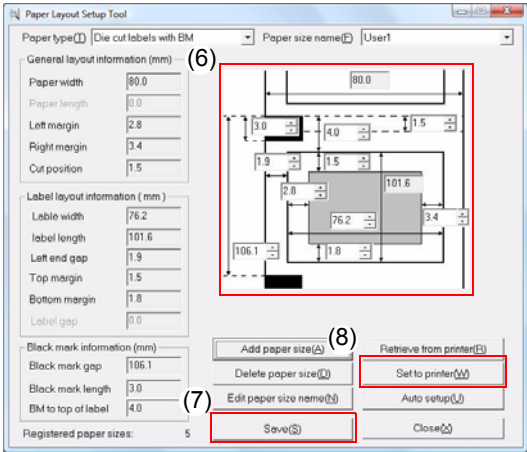


- 6 Configure the "General layout information" and "Label layout information", and "Black mark information". For more details about the settings, see ["Reference" on page 139](#).

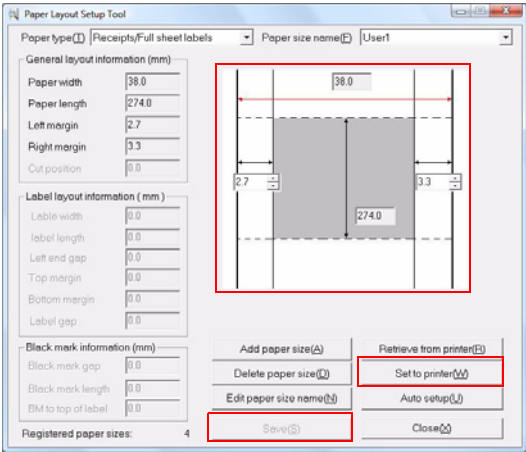
NOTE

Depending on the selected paper type, the "Label layout information" cannot be set.

- 7 Click the (Save) button.
- 8 Click the (Set to printer) button.



Setting a label

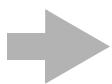
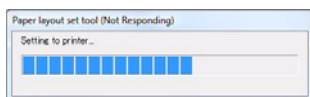


Setting a roll

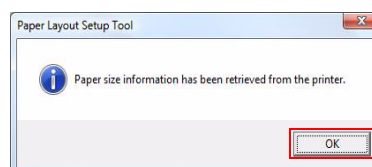
9 The settings made at step 6 are set to the TM printer.

10 The printer setting completion screen is displayed. Click the (OK) button.

9 >



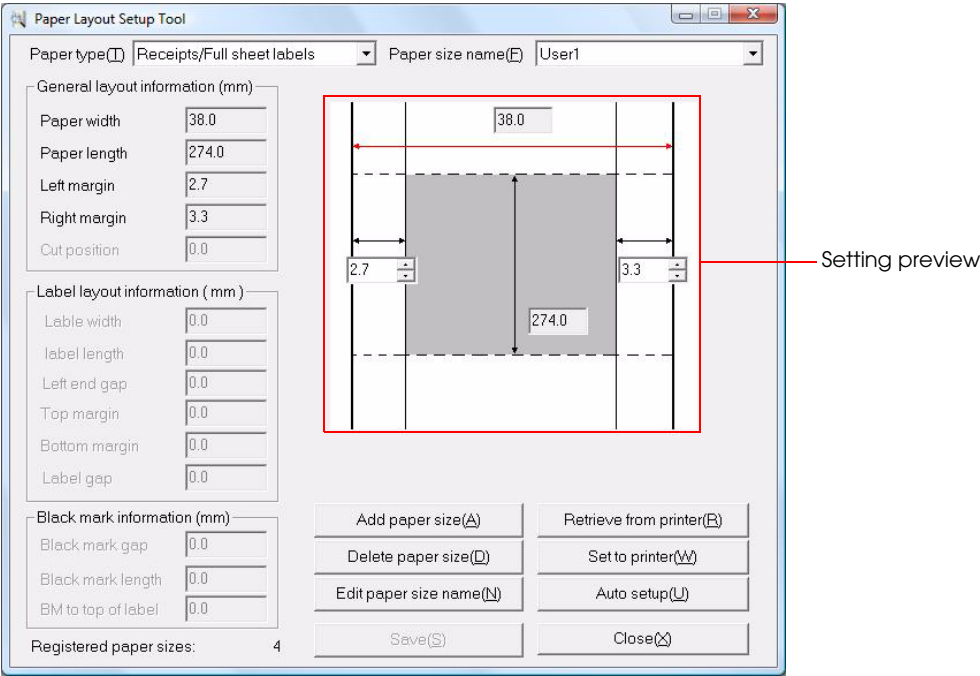
10 >



11 Click the (Close) button to quit the paper layout setting.

Reference

This section explains about the settings of Paper Layout Setup Tool.



Setting	Explanation
Paper type	Select a paper type to configure a paper layout. Select from the following options. • Receipts/Full sheet labels • Receipts/Full sheet labels with BM • Die cut labels • Die cut labels with BM The paper type selection is also available using the (Add paper size). Depending on the selected paper type, the layout displayed in the preview window changes.
Paper size name	The paper size name is created combining the paper size and the user defined paper size name. The printer driver has the paper size settings including the layout setting as default and those default settings are displayed with (*) (asterisk). You cannot change the default settings. The user defined paper size is a paper size and layout setting defined and saved by the user under a desired name. The (Paper size name) is a combination of the paper size and user defined paper size. A Paper size name defined here is added to Paper size list in Printing Preferences - (Layout) of the printer driver and you can use the setting by selecting it using the printer driver. The list of Paper size names is displayed for each (Paper type).

Setting	Explanation
Add paper size	Define a new Paper size name. When using a printer driver dedicated to "receipt/overall label", select "Receipt / overall label paper" or "BM sheet / overall label paper"" in the (Paper type) box. When using a printer driver dedicated to "die cut label", select "Die Cut label" or "BM Die Cut label" in the (Paper type) box.
Delete paper size	Deletes a Paper size name currently displayed. A confirmation message is displayed before deleting.
Edit paper size name	A Paper size name already added can be edited. A list of Paper size names is displayed. Select a Paper size name to edit from the list, and edit the name.
Save	Saves the Paper size name settings. This saves the all Paper size name settings and does not save per Paper size name. To use the added Paper size name, you need to write the paper size setting to the TM printer using the (Set to printer) button.
Retrieve from printer	Loads the settings of the TM printer. When the loading is finished, (Paper type) and other paper-related settings are changed to those of the TM printer. The (Paper size name) is grayed out.
Set to printer	Writes the selected (Paper size name) settings to the printer.
Auto setup	An automatic setting wizard is started. The printer performs an automatic setting and the result is displayed. The (Paper type) and other paper-related settings are changed to those of the printer. The (Paper size name) is grayed out.
Close	Quits the Paper layout set tool.
General layout information	Paper width, Paper length, Left margin, Right margin, and Cut position settings can be made and viewed.
Paper width	Specify the paper width. You cannot change paper width of the default paper sizes preset on the printer driver. User defined paper sizes and paper sizes defined using the Paper layout set tool can be edited using the (Add paper size) button. You cannot edit in the setting preview window. The settable paper width is from 38mm to 80mm.

Setting	Explanation
Paper length	Specify the paper length. The settable paper types are "Receipt/overall label paper" and "BM sheet/overall label paper". You cannot change paper length of the default paper sizes preset on the printer driver. User defined paper sizes and paper sizes defined using the Paper layout set tool can be edited using the (Add paper size) button. You cannot edit in the setting preview window. The settable range for "Receipt/overall label paper" is from 25.4mm to 3276mm. For "BM sheet/overall label paper", the settable range is from 22.6mm to 300mm, however, you cannot specify a length that exceeds the range specified in (BM gap).
Left margin	Specify the left margin of paper. When selecting die cut label, make the margin setting in the setting preview screen. (The default for "Receipt/overall label paper" and "BM sheet/overall label paper" is 2.7mm. The maximum margin is 50.7mm, however, specify a value so that a value obtained by subtracting (Left/Right margin) from (Paper width) falls within the range of 24mm to 72mm. The default for "Die Cut label" and "BM Die Cut label" is 2.8mm. The maximum margin is 50.7mm, however, specify a value so that a value obtained by subtracting (Left/Right margin) from (Paper width) falls within the range of 24mm to 70mm.

Setting	Explanation
Right margin	Specify the right margin of paper. When selecting die cut label, make the margin setting in the setting preview screen. The minimum margin for "Receipt/overall label paper" and "BM sheet/overall label paper" varies depending on the paper width. • When (Paper width) is 80mm, the minimum margin is 5.3mm. • When (Paper width) is 79mm, the minimum margin is 4.3mm. • When (Paper width) is 78mm, the minimum margin is 3.3mm. The maximum margin is a value that makes a value obtained by subtracting double (Right margin) values from (Paper width) 24mm or more. Specify a value within the range. The default for "Die Cut label" and "BM Die Cut label" is 2.8mm (minimum margin). The maximum margin is a value that makes a value obtained by subtracting double (Right margin) values from (Paper width) 24mm or more. Specify a value within the range.
Cut position	Specify a cut position. Make the setting in the setting preview window. You can specify the cut position for the following paper types. • Receipts/Full sheet labels with BM • Die cut labels • Die cut labels with BM The default is 2.0mm and the minimum value is 2.8mm. Do not enter a value larger than the gap width between labels.

Setting	Explanation
Label layout information	This information is required for the following paper types. • Die cut labels • Die cut labels with BM Label width, Label length, Left end gap, Top margin, Bottom margin and Label gap settings can be made and viewed.
Label width	Specify the label width. Make the setting in the setting preview window. The default is the maximum width settable with the (Paper width). Specify a value so that a value obtained by subtracting double (Right margin) values from (Paper width) becomes 24mm or more. Because the minimum (Right margin) and (Left margin) is 2.8mm, the minimum value for (Label width) is 29.6mm. The maximum margin is a value obtained by subtracting (Right end gap) and (Left end gap) from (Paper width). The following explains how to determine the right end gap. • When (Paper width) is 80mm and (Right margin) is smaller than 5.3mm, the right end gap is obtained by subtracting (Right margin) from 5.3mm. When (Right margin) is 5.3mm or larger, the right end gap should be 0 (zero). • When (Paper width) is 79mm and (Right margin) is smaller than 4.3mm, the right end gap is obtained by subtracting (Right margin) from 4.3mm. When (Right margin) is 4.3mm or larger, the right end gap should be 0 (zero). • When (Paper width) is smaller than 78mm and (Right margin) is smaller than 3.3mm, the right end gap is obtained by subtracting (Right margin) from 3.3mm. When (Right margin) is 4.3mm or larger, the right end gap should be 0 (zero).
Label length	Specify the label length. When the label length is specified in this Label layout information, the paper length specified in the Common layout information is ignored. You cannot change label length of the default paper sizes preset on the printer driver. User defined paper sizes and paper sizes defined using the Paper layout set tool can be edited using the (Add paper size) button. You cannot edit in the setting preview window. The settable label length is from 25.4mm to 279.4mm.
Left end gap	Specify a gap from the left edge of the backing sheet to the left edge of label. Make the setting in the setting preview window. The default is 1.9mm. You cannot specify a value smaller than 0 (zero). Specify a value so that (Left end gap) plus (Left margin) becomes 4.7mm or more. The maximum value is determined so that the sum of (Label width) and (Left end gap) falls within the range of (Paper width) to 2.5mm.

Setting		Explanation
	Top margin	Specify the top margin that determines the print start position. Make the setting in the setting preview window. The default is 1.5mm. You cannot specify a value smaller than 1.5mm. The maximum margin is determined so that a value obtained by subtracting (Top/Bottom margin) from (Label length) becomes 3.8mm or more.
	Bottom margin	Specify the bottom margin that defines a gap between the end of print area and bottom edge of the die cut label. Make the setting in the setting preview window. The default is 1.8mm. You cannot specify a value smaller than 1.5mm. The maximum margin is determined so that a value obtained by subtracting (Top/Bottom margin) from (Label length) becomes 3.8mm or more.
	Label gap	Specify a gap between labels. Make the setting in the setting preview window. The default is 5.2mm. You cannot specify a value smaller than 1.5mm. The maximum margin is determined so that a value obtained by subtracting (Top/Bottom margin) from (Label length) becomes 3.8mm or more.
Black mark information		This information is required for the following paper types. • Receipts/Full sheet labels with BM • Die cut labels with BM BM (black mark) related settings can be made and viewed.
	BM gap	Specify a gap between black marks. • For "Receipt/overall label paper", the (Paper length) and (BM gap) settings are the same. You cannot change the value. • For "Die Cut label", the default is 106.1mm. You can change the value. The minimum value is the sum of (Label length) plus a length from the black mark to the top edge of the label. The maximum value is 300mm.
	BM length	Specify a black mark length. Make the setting in the setting preview window. The minimum value is 2.5mm and the default is 3mm. The maximum value is 10mm which from the black mark to the top edge of the label.
	BM top or label	Specify a gap from the top black mark to the top edge of label. Make the setting in the setting preview window. This setting is available only with "Die Cut label". The minimum value is (BM length), and the maximum value is obtained by subtracting (Label length) from (BM gap).

Restrictions

This chapter describes the restrictions that apply to the APD.

OS Settings

1. When connecting Windows 8 / Windows 7 / Vista / XP to a printer using serial I/F, printing may not operate correctly depending on the computer and printer combination. In such cases, disable FIFO in the Windows COM port detailed settings.
2. With a serial connection, when the OS recovers from a sleep or hibernate status, the printer may print "??.
3. With some computers, if the ECP mode is set for the parallel operation mode, printing may not operate correctly or Status API may become unavailable. In such cases, clear the ECP mode setting in the computer BIOS setting.
4. With Windows 8 / Windows 7 / Vista / XP, use [Enable advanced printing features] (EMF spool) in the printer driver Properties - [Advanced] tab set to ON. Setting otherwise (RAW spool) applies the following restrictions to the GDI functions:
 - Raster operation cannot be printed as specified by StrtchBlt()/BitBlt().
 - When transferring bit information from display device context to the printer device context using StretchBlt(), the GDI function returns "Failure" and prevents the driver from printing.
5. When printing multiple pages, if you change the paper orientation from one page to another and/or other settings using ResetDC(), the print result may be incorrect. In such cases, set RAW spool (with Windows XP/Vista, set [Enable advanced printing features] to OFF) although some restrictions apply. See the previous paragraph for the restrictions.
6. When printing a device font in Microsoft Word, the following setting is necessary.
 - For Word 2003 or earlier :
From [Tools] - [Options] - [Compatibility], select "Microsoft Word 6.0/95" in [Recommended Options for] or make a check in "Use printer metrics to lay out document" in [Options].
 - For Word 2007:
From [Word Options] - [Advanced] - [Compatibility Options for], select "Microsoft Word 6.0/95" or "Custom" in [Lay out this document as if created in], and make a check in "Use printer metrics to lay out document" in [Layout Options].
 - For Word 2010:
From [File] - [Options] - [Advanced] - [Compatibility Options for], select "Microsoft Word 6.0/95" or "Custom" in [Lay out this document as if created in], and make a check in "Use printer metrics to lay out document" in [Layout Options].

7. If you print more than one Excel sheet at the same time when different print settings are set for each sheet, the setting for the last sheet is effective.
8. When printing with Microsoft ACCESS, the text in the print result may be misaligned or align left may not be possible.
9. Operation in a Windows XP multi-user environment is not guaranteed.
10. When creating multiple queues and executing printing on one printer, make sure not to use a Microsoft standard USB port and the ESDPRT port simultaneously.
11. Refer to the table below for the coexistence of APD4 and OPOS drivers.

	OPOS 2.65 or earlier	OPOS 2.65 to 2.67	OPOS 2.68 or later
APD 4.08 or below	-	-	-
APD 4.09 to 4.17	-	✓	-
APD 4.50 or later	-	-	✓

12. If printing is performed with the driver switched when the TM printer with the serial interface coexists with OPOS, restarting the TM printer may be demanded. In this case, change the port settings of the printer driver and change Busy Condition. (For details, see "Changing the port settings of the printer driver" in "Install Manual".)

Restrictions in the environment where redirected from a server (Environment such as Terminal Service and the remote desktop)

1. When printing a device font with some applications, the characters may not be printed completely since the print position setting may be changed. and character may not printed.
2. Functions to print by sending the print data directly to the printer, such as WritePrinter cannot be used.
3. The properties for the printer driver cannot be set. Setting for the server reflects in that for the properties.
4. The utilities in the [Utility] tab in the properties of the printer driver cannot be used.
5. Help for the printer driver is not displayed.
6. When printing the device font TIS11_3_FontA/Bxx with some applications, the print position and the line feed position may not be specified correctly.
7. If [Substitute All] is executed by selecting the [Printer Settings] tab - [TrueType Font Substitution] - [Advanced settings] - [TrueType Font Substitution] settings under the terminal service environment, the print result may get garbled. In such a case, replace the fonts individually or print it as a graphic.

Printing

1. Print data outside of the printable area will not be printed.
2. When printing on receipt paper, blank space appears at the top of the paper which is greater than the top margin setting value. This is caused by the fact that the paper cutting position (autocutter) and the printing position (printer head) are separated and the distance between them results in extra margin.
3. Device fonts cannot be used in rotated, condensed or enlarged printing. Use Windows fonts.
4. If a device font and graphics data (Windows font or ruled line, etc.) are defined on the same line, the print result may be misaligned.
5. Printing takes longer with serial models than with other interfaces. If you want to print faster, other than a serial model is recommended.
6. With some TM printers using parallel connection, if the printer is turned on with the paper at near end position, a "no paper" error that prevents printing may occur. In such cases, after installing new paper, turn off the power, then turn it on again.
7. Euro currency symbol cannot be printed.
8. The paper size displayed in the printer driver Properties - [General] tab may differ from what is stated in the "Printer Specification." In such cases, select the paper size stated in the user's manual.
9. With Windows 8 / Windows 7 / Vista / XP, printing of codes 80H, 8EH, or 9EH from an application when device Font A or B, or blank page Font A or B (254 or 255) is specified may not operate correctly.
10. Align center or left using Control Font cannot be used with graphics printing.
11. [Separator Page] in the printer driver Properties - [Advanced] tab is not available.
12. With some applications, several device font size options are displayed, however, device font is always printed in a fixed size regardless of your size selection.
13. With some applications, print settings such as "Collate" and "Orientation" configured on the application side may differ from the printer driver settings. In such cases, the settings on the application side take priority. However, it is not possible to print beyond the printer's capabilities. (For example, printing in landscape format using device font)
14. Even when you specify bold or italic font settings, it will not be reflected in the printings. The underline is printed but the position is offset.
15. The color format is fixed to 24 BPP. So check that dmColor setting for Devmode is set to "Color" on the application side.
16. When water mark and 2-D symbol are used in a single data, the printout could be misaligned (displaced).

17. When you print a narrow width barcode with a high-resolution printer, all of the HRI characters may not be printed. In such case, specify narrow width fonts; FontB/C for the HRI characters.
18. If you manually remove printed paper when the paper source selection is set to [No Eject] with the slip driver, the following printing will not be performed correctly. In that case, turn off the power of the printer, and then turn it on again.
19. If you print color logos with a printer that does not support color printing of slip/validation/endorsement and so on, only the black parts will be printed.

Printer model information

1. In the printer DIP switches, configure the Busy condition only for the receive buffer full. Note that this setting is configured automatically in the following printers.
 - TM-T90
 - TM-L90
2. With TM-T90 and TM-L90, a margin of approximately 10 dots may be inserted at the Start of printing (Start of paper feed) if 3rd or 4th is specified for Printing Speed in the printer driver Properties - [General] - [Printing Preferences] - [Document Settings] tab. Also, blank lines may be inserted into the print result.
3. When you perform the Test Printing provided in [Font] menu with TM-L90 Label printer, the printer ejects extra labels. In such case, change the paper conservation setting of the Document Setting to Bottom (saves the bottom margin).
4. To use the TM-L90 with Peeler in the label peeler issuing mode, set as follows. Select [Properties] - [Document Settings] -[Paper Source]-[Custom], and then the [Cutting and Feeding] screen will appear. Uncheck the checkboxes of "Feed paper to the print starting position"/"Feed to cut position before cut" for [Start of Document] / [Start of Page] / [End of Page]. For [End of Document], uncheck the checkbox of "Feed paper to the print starting position" and check the checkbox of "Feed to cut position before cut."
5. With TM-U220 drivers, it is not possible to print device fonts of different colors to the same line.
6. The printers which can be changed to the USB Class such as TM-T88V, Status API cannot be used if the port is specified to the OS's standard port (USBxxx and such). When using the Status API, specify Epson Port Driver (ESDPRTxxx) to the port.
7. If APD is installed from the TM-T88V Software Disc, TM Flash Logo Setup Utility is not installed. In this case, custom-install the TM Flash Logo Setup Utility.
8. For TM-T88V, APD 4.00 to 4.04 cannot be used. Use "TM-T88V Receipt" of APD 4.09 or later, or use "TM-T88IV" of APD4.05 to 4.08 instead.

Printer Specification

This chapter explains the setting items of Device Font, Control Font, ControlA Font, Resolution, Paper Size, Rotate, Reduce, and Water Mark.

CAUTION

- Some settings are not available for some printer models.
- Administrator permission is required for property settings of the printer driver.

The page for each printer is as follows.

Printer	Color	Paper	Printer Driver	Page
TM-L90	Two color	Label	EPSON TM-L90 LabelSA4	150
		Receipt	EPSON TM-L90 ReceiptSA4	153
TM-T58	Single color	Receipt	EPSON TM-T58 ReceiptSA4	156
TM-T70	Single color	Receipt	EPSON TM-T70 ReceiptSA4	158
TM-T81	Single color	Receipt	EPSON TM-T81 ReceiptSA4	160
TM-T88IV	Two color	Receipt	EPSON TM-T88IV ReceiptSA4	162
TM-T88V	Single color	Receipt	EPSON TM-T88V ReceiptSA4	164
TM-T90	Two color	Receipt	EPSON TM-T90 ReceiptSA4	167
TM-U220	Two color	Receipt	EPSON TM-U220 ReceiptSA4	169
TM-U295	Single color	Slip	EPSON TM-U295 SlipSA4	171
TM-U950	Single color	Receipt	EPSON TM-U950 ReceiptSA4	172
		Slip	EPSON TM-U950 SlipSA4	174

TM-L90

Item	Description				
Driver Name	EPSON TM-L90 LabelSA4				
Device Font	Prohibited when rotation is selected. Prohibited when resizing a font in a smaller size or when Water Mark is selected.				
	FontA11	FontA12	FontA21	FontA22	FontA24
	FontA44	FontA48	FontA84	FontA88	FontB11
	FontB21	FontB22	FontB24	FontB42	FontB44
	FontB84	FontB88			FontB48
	• Code Page WPC1252				
	TIS11_FontA11	TIS11_FontA12	TIS11_FontA21	TIS11_FontA22	TIS11_FontA24
	TIS11_FontA42	TIS11_FontA44	TIS11_FontA48	TIS11_FontA84	TIS11_FontA88
	TIS11_FontB11	TIS11_FontB12	TIS11_FontB21	TIS11_FontB22	TIS11_FontB24
	TIS11_FontB42	TIS11_FontB44	TIS11_FontB48	TIS11_FontB84	TIS11_FontB88
Barcode Font	TIS18_FontA11	TIS18_FontA12	TIS18_FontA21	TIS18_FontA22	TIS18_FontA24
	TIS18_FontA42	TIS18_FontA44	TIS18_FontA48	TIS18_FontA84	TIS18_FontA88
	TIS18_FontB11	TIS18_FontB12	TIS18_FontB21	TIS18_FontB22	TIS18_FontB24
	TIS18_FontB42	TIS18_FontB44	TIS18_FontB48	TIS18_FontB84	TIS18_FontB88
	TIS11_3_FontA11	TIS11_3_FontA12	TIS11_3_FontA21	TIS11_3_FontA22	TIS11_3_FontA24
	TIS11_3_FontA42	TIS11_3_FontA44	TIS11_3_FontA48	TIS11_3_FontA84	TIS11_3_FontA88
	TIS11_3_FontB11	TIS11_3_FontB12	TIS11_3_FontB21	TIS11_3_FontB22	TIS11_3_FontB24
	TIS11_3_FontB42	TIS11_3_FontB44	TIS11_3_FontB48	TIS11_3_FontB84	TIS11_3_FontB88
	KU42_FontA11	KU42_FontA12	KU42_FontA21	KU42_FontA22	KU42_FontA24
	KU42_FontA42	KU42_FontA44	KU42_FontA48	KU42_FontA84	KU42_FontA88
2D-Code Font	Barcode1~Barcode8		Layout possible Barcode Codabar Code39 ITF JAN13(EAN) JAN8(EAN) UPC-A UPC-E Code93 Code128		
	2D-Code1~2D-Code8		Layout possible 2D-Code PDF417,QRCode,MaxiCode		

Item	Description			
Control Font	Font Name : control , Point : 1			
	- No operations for characters other than those mentioned above. - Prohibited when rotation is selected. - Prohibited when resizing a font in a smaller size or when Water Mark is selected.			
	Char	Function	Char	Function
	0	Select default line spacing	j	NV graphics 2 printing (48,50)
	5	Transmits HT	k	NV graphics 3 printing (48,51)
	6	Transmits LF	l	NV graphics 4 printing (48,52)
	7	Transmits CR	w	Position alignment left
	8	1/16-inch line spacing	x	Position alignment center
	9	1/8-inch line spacing	y	Position alignment right
	a	Open Drawer 5pin(50ms)	z	Cut Receipt with black mark
	b	Open Drawer 5pin(100ms)	A	Open Drawer 2pin(50ms)
	c	Open Drawer 5pin(150ms)	B	Open Drawer 2pin(100ms)
	d	Open Drawer 5pin(200ms)	C	Open Drawer 2pin(150ms)
	e	Open Drawer 5pin(250ms)	D	Open Drawer 2pin(200ms)
	g	No paper feeding + Partial cut	E	Open Drawer 2pin(250ms)
	h	NV graphics 0 printing (48,48)	P	Paper feeding +Partial cut
	i	NV graphics 1 printing (48,49)		
ControlA Font	Font Name : controlA , Point : 1			
	- Characters defined by ControlA Font Character Translation Table. - No operations for characters not defined. No printing for spaces. - No paper feeding for any functions that do not include paper feeding. - Prohibited when rotation is selected. - Prohibited when resizing a font in a smaller size or when Water Mark is selected.			
Resolution	203x203DPI			
Paper Size	80mm			
	1inch Label 80mm x 25.4mm	(639dot x 203dot)		
	2inch Label 80mm x 50.8mm	(639dot x 406dot)		
	3inch Label 80mm x 76.2mm	(639dot x 609dot)		
	4inch Label 80mm x 101.6mm	(639dot x 812dot)		
	Margin top 1.5mm(12dot)	bottom2.8mm(22dot)		
	left 6.1mm(49dot)	right 5.0mm(40dot)		
	60mm			
	1inch Label 60mm x 25.4mm	(479dot x 203dot)		
	2inch Label 60mm x 50.8mm	(479dot x 406dot)		
	3inch Label 60mm x 76.2mm	(479dot x 609dot)		
	4inch Label 60mm x 101.6mm	(479dot x 812dot)		
	Margin top 1.5mm(12dot)	bottom2.8mm(22dot)		
	left 6.1mm(49dot)	right 5.0mm(40dot)		
	38mm			
	1inch Label 38mm x 25.4mm	(303dot x 203dot)		
	Margin top 1.5mm(12dot)	bottom2.8mm(22dot)		
	left 6.1mm(49dot)	right 5.0mm(40dot)		
	User Defined Paper Size			
	Width 26.8 ~ 210.0mm, Height 21.1 ~ 297.0mm			

Item	Description
Rotate	Normal Rotate by 180 Degrees Rotate by 90 Degrees Rotate by 270 Degrees
Reduce Printing	ON/OFF Fit to Printable Width/Custom(10 - 100%)
Water Mark	Supported When Water Mark is specified to the printer, the printer cannot use Device Font, Control Font and ControlA Font

Item	Description
Driver Name	EPSON TM-L90 ReceiptSA4
Device Font	Prohibited when rotation is selected. Prohibited when resizing a font in a smaller size or when Water Mark is selected.
	FontA11 FontA12 FontA21 FontA22 FontA24 FontA42 FontA44 FontA48 FontA84 FontA88 FontB11 FontB12 FontB21 FontB22 FontB24 FontB42 FontB44 FontB48 FontB84 FontB88 • Code Page WPC1252
	TIS11_FontA11 TIS11_FontA12 TIS11_FontA21 TIS11_FontA22 TIS11_FontA24 TIS11_FontA42 TIS11_FontA44 TIS11_FontA48 TIS11_FontA84 TIS11_FontA88 TIS11_FontB11 TIS11_FontB12 TIS11_FontB21 TIS11_FontB22 TIS11_FontB24 TIS11_FontB42 TIS11_FontB44 TIS11_FontB48 TIS11_FontB84 TIS11_FontB88
	TIS18_FontA11 TIS18_FontA12 TIS18_FontA21 TIS18_FontA22 TIS18_FontA24 TIS18_FontA42 TIS18_FontA44 TIS18_FontA48 TIS18_FontA84 TIS18_FontA88 TIS18_FontB11 TIS18_FontB12 TIS18_FontB21 TIS18_FontB22 TIS18_FontB24 TIS18_FontB42 TIS18_FontB44 TIS18_FontB48 TIS18_FontB84 TIS18_FontB88
	TIS11_3_FontA11 TIS11_3_FontA12 TIS11_3_FontA21 TIS11_3_FontA22 TIS11_3_FontA24 TIS11_3_FontA42 TIS11_3_FontA44 TIS11_3_FontA48 TIS11_3_FontA84 TIS11_3_FontA88 TIS11_3_FontB11 TIS11_3_FontB12 TIS11_3_FontB21 TIS11_3_FontB22 TIS11_3_FontB24 TIS11_3_FontB42 TIS11_3_FontB44 TIS11_3_FontB48 TIS11_3_FontB84 TIS11_3_FontB88
	KU42_FontA11 KU42_FontA12 KU42_FontA21 KU42_FontA22 KU42_FontA24 KU42_FontA42 KU42_FontA44 KU42_FontA48 KU42_FontA84 KU42_FontA88 KU42_FontB11 KU42_FontB12 KU42_FontB21 KU42_FontB22 KU42_FontB24 KU42_FontB42 KU42_FontB44 KU42_FontB48 KU42_FontB84 KU42_FontB88
Barcode Font	Barcode Font Points determined. When specifying a value other than this, the Barcode is not printed.
	Barcode1~Barcode8 Layout possible Barcode Codabar Code39 ITF JAN13(EAN) JAN8(EAN) UPC-A UPC-E Code93 Code128
2D-Code Font	2D-Code1~2D-Code8 Layout possible 2D-Code PDF417,QRCode,MaxiCode

Item	Description			
Control Font	Font Name : control , Point : 1			
	- No operations for characters other than those mentioned above. - Prohibited when rotation is selected. - Prohibited when resizing a font in a smaller size or when Water Mark is selected.			
	Char	Function	Char	Function
	0	Select default line spacing	j	NV graphics 2 printing (48,50)
	5	Transmits HT	k	NV graphics 3 printing (48,51)
	6	Transmits LF	l	NV graphics 4 printing (48,52)
	7	Transmits CR	w	Position alignment left
	8	1/16-inch line spacing	x	Position alignment center
	9	1/8-inch line spacing	y	Position alignment right
	a	Open Drawer 5pin(50ms)	z	Cut Receipt with black mark
	b	Open Drawer 5pin(100ms)	A	Open Drawer 2pin(50ms)
	c	Open Drawer 5pin(150ms)	B	Open Drawer 2pin(100ms)
	d	Open Drawer 5pin(200ms)	C	Open Drawer 2pin(150ms)
	e	Open Drawer 5pin(250ms)	D	Open Drawer 2pin(200ms)
	g	No paper feeding + Partial cut	E	Open Drawer 2pin(250ms)
	h	NV graphics 0 printing (48,48)	P	Paper feeding +Partial cut
	i	NV graphics 1 printing (48,49)		
ControlA Font	Font Name : controlA , Point : 1 - Characters defined by ControlA Font Character Translation Table. - No operations for characters not defined. No printing for spaces. - No paper feeding for any functions that do not include paper feeding. - Prohibited when rotation is selected. - Prohibited when resizing a font in a smaller size or when Water Mark is selected.			
Resolution	203x203DPI			
Paper Size	80mm Roll Paper Paper Size 80mm x 297mm (639dot x 2373dot) Printing Width 72.1mm (576dot) Margin top 0mm(0dot) bottom 0mm(0dot) left 2.6mm(21dot) right 5.2mm(42dot) 60mm Roll Paper Paper Size 60mm x 297mm (479dot x2373dot) Printing Width 54.1mm (432dot) Margin top 0mm(0dot) bottom 0mm(0dot) left 2.6mm(21dot) right 3.2mm(26dot) 38mm Roll Paper Paper Size 38mm x 297mm (303dot x 2373dot) Printing Width 32.0mm (256dot) Margin top 0mm(0dot) bottom 0mm(0dot) left 2.6mm(21dot) right 3.2mm(26dot) User Defined Paper Size Width 32.0 ~ 210.0mm, Height 25.4 ~ 3276.0mm Logic paper size (when resizing in a smaller size) A4 210mm x 297mm LT. 8.5 x 11 in. Postcard 100 x 148 mm			

Item	Description
Rotate	Normal Rotate by 180 Degrees Rotate by 90 Degrees Rotate by 270 Degrees
Reduce Printing	ON/OFF Fit to Printable Width/Custom(10 - 100%)
Water Mark	Supported When Water Mark is specified to the printer, the printer cannot use Device Font, Control Font and ControlA Font

TM-T58

Item	Description				
Driver Name	EPSON TM-T58 ReceiptSA4				
Device Font	Prohibited when rotation is selected. Prohibited when resizing a font in a smaller size or when Water Mark is selected.				
	FontA11	FontA12	FontA21	FontA22	
	• Code Page WPC1252				
	TIS11_FontA11	TIS11_FontA12	TIS11_FontA21	TIS11_FontA22	
	TIS18_FontA11	TIS18_FontA12	TIS18_FontA21	TIS18_FontA22	
	TIS11_3_FontA11	TIS11_3_FontA12	TIS11_3_FontA21	TIS11_3_FontA22	
	KU42_FontA11	KU42_FontA12	KU42_FontA21	KU42_FontA22	
	CTVN-3_30_FontA11	CTVN-3_30_FontA12	CTVN-3_30_FontA21	CTVN-3_30_FontA22	
CTVN-3_31_FontA11	CTVN-3_31_FontA12	CTVN-3_31_FontA21	CTVN-3_31_FontA22		
Barcode Font	Barcode Font Points determined. When specifying a value other than this, the Barcode is not printed.				
	Barcode1~Barcode8		Layout possible Barcode Code39 ITF Code93 Code128		
2D-Code Font	Not supported				
Control Font	Font Name : control , Point : 1				
	• No operations for characters other than those mentioned above.				
	• Prohibited when rotation is selected.				
	• Prohibited when resizing a font in a smaller size or when Water Mark is selected.				
	Char	Function		Char	Function
	6	Transmits LF		C	Open Drawer 2pin(150ms)
	7	Transmits CR		D	Open Drawer 2pin(200ms)
A	Open Drawer 2pin(50ms)		E	Open Drawer 2pin(250ms)	
B	Open Drawer 2pin(100ms)				
ControlA Font	Font Name : controlA , Point : 1				
	• Characters defined by ControlA Font Character Translation Table.				
	• No operations for characters not defined. No printing for spaces.				
	• No paper feeding for any functions that do not include paper feeding.				
	• Prohibited when rotation is selected.				
	• Prohibited when resizing a font in a smaller size or when Water Mark is selected.				
Resolution	203x203DPI				
Paper Size	58mm Roll Paper				
	Paper Size	58mm x 297mm	(463dot x 2373dot)		
	Printing Width	48.0mm	(384dot)		
	Margin	top 0mm	bottom 0mm		
		left 4.6mm(37dot)	right 5.2mm(42dot)		
	User Defined Paper Size				
	Width 48.0 ~ 210.0mm, Height 25.4 ~ 3276.0mm				
	Logic paper size (when resizing in a smaller size)				
	A4 210mm x 297mm				
	LT. 8.5 x 11 in.				
	Postcard 100 x 148 mm				

Item	Description
Rotate	Normal Rotate by 180 Degrees Rotate by 90 Degrees Rotate by 270 Degrees
Reduce Printing	ON/OFF Fit to Printable Width/Custom(10 - 100%)
Water Mark	Supported When Water Mark is specified to the printer, the printer cannot use Device Font, Control Font and ControlA Font.

TM-T70

Item	Description
Driver Name	EPSON TM-T70 ReceiptSA4
Device Font	Prohibited when rotation is selected. Prohibited when resizing a font in a smaller size or when Water Mark is selected.
	FontA11 FontA12 FontA21 FontA22 FontA24 FontA42 FontA44 FontA48 FontA84 FontA88 FontB11 FontB12 FontB21 FontB22 FontB24 FontB42 FontB44 FontB48 FontB84 FontB88 • Code Page WPC1252
	FontA11(255) FontA12(255) FontA21(255) FontA22(255) FontA24(255) FontA42(255) FontA44(255) FontA48(255) FontA84(255) FontA88(255) FontB11(255) FontB12(255) FontB21(255) FontB22(255) FontB24(255) FontB42(255) FontB44(255) FontB48(255) FontB84(255) FontB88(255) • Space Page (255)
	TIS11_3_FontA11 TIS11_3_FontA12 TIS11_3_FontA21 TIS11_3_FontA22 TIS11_3_FontA24 TIS11_3_FontA42 TIS11_3_FontA44 TIS11_3_FontA48 TIS11_3_FontA84 TIS11_3_FontA88 TIS11_3_FontB11 TIS11_3_FontB12 TIS11_3_FontB21 TIS11_3_FontB22 TIS11_3_FontB24 TIS11_3_FontB42 TIS11_3_FontB44 TIS11_3_FontB48 TIS11_3_FontB84 TIS11_3_FontB88 TIS11_3_FontC11 TIS11_3_FontC12 TIS11_3_FontC21 TIS11_3_FontC22 TIS11_3_FontC24 TIS11_3_FontC42 TIS11_3_FontC44 TIS11_3_FontC48 TIS11_3_FontC84 TIS11_3_FontC88 TIS11_3_FontD11 TIS11_3_FontD12 TIS11_3_FontD21 TIS11_3_FontD22 TIS11_3_FontD24 TIS11_3_FontD42 TIS11_3_FontD44 TIS11_3_FontD48 TIS11_3_FontD84 TIS11_3_FontD88
	CTVN-3_30_FontA11 CTVN-3_30_FontA12 CTVN-3_30_FontA21 CTVN-3_30_FontA22 CTVN-3_30_FontA24 CTVN-3_30_FontA42 CTVN-3_30_FontA44 CTVN-3_30_FontA48 CTVN-3_30_FontA84 CTVN-3_30_FontA88 CTVN-3_30_FontB11 CTVN-3_30_FontB12 CTVN-3_30_FontB21 CTVN-3_30_FontB22 CTVN-3_30_FontB24 CTVN-3_30_FontB42 CTVN-3_30_FontB44 CTVN-3_30_FontB48 CTVN-3_30_FontB84 CTVN-3_30_FontB88 CTVN-3_31_FontA11 CTVN-3_31_FontA12 CTVN-3_31_FontA21 CTVN-3_31_FontA22 CTVN-3_31_FontA24 CTVN-3_31_FontA42 CTVN-3_31_FontA44 CTVN-3_31_FontA48 CTVN-3_31_FontA84 CTVN-3_31_FontA88 CTVN-3_31_FontB11 CTVN-3_31_FontB12 CTVN-3_31_FontB21 CTVN-3_31_FontB22 CTVN-3_31_FontB24 CTVN-3_31_FontB42 CTVN-3_31_FontB44 CTVN-3_31_FontB48 CTVN-3_31_FontB84 CTVN-3_31_FontB88
Barcode Font	Barcode Font Points determined. When specifying a value other than this, the Barcode is not printed.
	Barcode1 ~ Barcode8 Layout possible Barcode Codabar Code39 ITF JAN13(EAN) JAN8(EAN) UPC-A UPC-E Code93 Code128
2D-Code Font	2D-Code1 ~ 2D-Code8 Layout possible 2D-Code QR Code



TM-T81

Item	Description
Driver Name	EPSON TM-T81 ReceiptSA4
Device Font	Prohibited when rotation is selected. Prohibited when resizing a font in a smaller size or when Water Mark is selected.
	FontA11 FontA12 FontA21 FontA22 FontA24 FontA42 FontA44 FontA48 FontA84 FontA88 FontB11 FontB12 FontB21 FontB22 FontB24 FontB42 FontB44 FontB48 FontB84 FontB88
	Code Page PC437 (USA:Standard Europe) KU42 (Thai) TIS11 (Thai) TIS18 (Thai) TCVN-3 (Vietnamese) TCVN-3 (Vietnamese)
	TIS11_3_FontA11 TIS11_3_FontA12 TIS11_3_FontA21 TIS11_3_FontA22 TIS11_3_FontA24 TIS11_3_FontA42 TIS11_3_FontA44 TIS11_3_FontA48 TIS11_3_FontA84 TIS11_3_FontA88 TIS11_3_FontB11 TIS11_3_FontB12 TIS11_3_FontB21 TIS11_3_FontB22 TIS11_3_FontB24 TIS11_3_FontB42 TIS11_3_FontB44 TIS11_3_FontB48 TIS11_3_FontB84 TIS11_3_FontB88 TIS11_3_FontC11 TIS11_3_FontC12 TIS11_3_FontC21 TIS11_3_FontC22 TIS11_3_FontC24 TIS11_3_FontC42 TIS11_3_FontC44 TIS11_3_FontC48 TIS11_3_FontC84 TIS11_3_FontC88 TIS11_3_FontD11 TIS11_3_FontD12 TIS11_3_FontD21 TIS11_3_FontD22 TIS11_3_FontD24 TIS11_3_FontD42 TIS11_3_FontD44 TIS11_3_FontD48 TIS11_3_FontD84 TIS11_3_FontD88
	CTVN-3_30_FontA11 CTVN-3_30_FontA12 CTVN-3_30_FontA21 CTVN-3_30_FontA22 CTVN-3_30_FontA24 CTVN-3_30_FontA42 CTVN-3_30_FontA44 CTVN-3_30_FontA48 CTVN-3_30_FontA84 CTVN-3_30_FontA88 CTVN-3_30_FontB11 CTVN-3_30_FontB12 CTVN-3_30_FontB21 CTVN-3_30_FontB22 CTVN-3_30_FontB24 CTVN-3_30_FontB42 CTVN-3_30_FontB44 CTVN-3_30_FontB48 CTVN-3_30_FontB84 CTVN-3_30_FontB88 CTVN-3_31_FontA11 CTVN-3_31_FontA12 CTVN-3_31_FontA21 CTVN-3_31_FontA22 CTVN-3_31_FontA24 CTVN-3_31_FontA42 CTVN-3_31_FontA44 CTVN-3_31_FontA48 CTVN-3_31_FontA84 CTVN-3_31_FontA88 CTVN-3_31_FontB11 CTVN-3_31_FontB12 CTVN-3_31_FontB21 CTVN-3_31_FontB22 CTVN-3_31_FontB24 CTVN-3_31_FontB42 CTVN-3_31_FontB44 CTVN-3_31_FontB48 CTVN-3_31_FontB84 CTVN-3_31_FontB88
Barcode Font	Barcode Font Points determined. When specifying a value other than this, the Barcode is not printed.
	Barcode1~Barcode8 Layout possible Barcode Codabar Code39 ITF JAN13(EAN) JAN8(EAN) UPC-A UPC-E Code93 Code128
2D-Code Font	2D-Code1~2D-Code8 Layout possible 2D-Code PDF417,QRCode

Item	Description			
Control Font	Font Name : control , Point : 1			
	- No operations for characters other than those mentioned above. - Prohibited when rotation is selected. - Prohibited when resizing a font in a smaller size or when Water Mark is selected.			
	Char	Function	Char	Function
	5	Transmits HT	k	NV graphics 3 printing (48,51)
	6	Transmits LF	l	NV graphics 4 printing (48,52)
	7	Transmits CR	w	Position alignment left
	a	Open Drawer 5pin(50ms)	x	Position alignment center
	b	Open Drawer 5pin(100ms)	y	Position alignment right
	c	Open Drawer 5pin(150ms)	A	Open Drawer 2pin(50ms)
	d	Open Drawer 5pin(200ms)	B	Open Drawer 2pin(100ms)
	e	Open Drawer 5pin(250ms)	C	Open Drawer 2pin(150ms)
	g	No paper feeding + Partial cut	D	Open Drawer 2pin(200ms)
	h	NV graphics 0 printing (48,48)	E	Open Drawer 2pin(250ms)
	i	NV graphics 1 printing (48,49)	P	Paper feeding +Partial cut
j	NV graphics 2 printing (48,50)			
ControlA Font	Font Name : controlA , Point : 1			
	- Characters defined by ControlA Font Character Translation Table. - No operations for characters not defined. No printing for spaces. - No paper feeding for any functions that do not include paper feeding. - Prohibited when rotation is selected. - Prohibited when resizing a font in a smaller size or when Water Mark is selected.			
Resolution	203 x 203 DPI			
Paper Size	80mm Roll Paper			
	Paper Size	80mm x 297 mm	(639 dot x 2373 dot)	
	Printing Width	72.1mm	(576 dot)	
	Margin	top 0 mm(0 dot)	bottom 0 mm(0 dot)	
		left 3.7 mm(30 dot)	right 4.1 mm(33 dot)	
	User Defined Paper Size			
	Width 72.1 ~ 210.0 mm, Height 25.4 ~ 3276.0 mm			
	Logic paper size (when resizing in a smaller size)			
	A4 210 mm x 297 mm			
	LT. 8.5 x 11 in.			
	Postcard 100 x 148 mm			
Rotate	Normal		Rotate by 90 Degrees	
	Rotate by 180 Degrees		Rotate by 270 Degrees	
Reduce Printing	ON/OFF			
	Fit to Printable Width/Custom(10 - 100%)			
Water Mark	Supported			
	When Water Mark is specified to the printer, the printer cannot use Device Font, Control Font and ControlA Font			

TM-T88IV

Item	Description				
Driver Name	EPSON TM-T88IV ReceiptSA4				
Device Font	Prohibited when rotation is selected. Prohibited when resizing a font in a smaller size or when Water Mark is selected.				
	FontA11	FontA12	FontA21	FontA22	FontA24
	FontA44	FontA48	FontA84	FontA88	FontB11
	FontB21	FontB22	FontB24	FontB42	FontB44
	FontB84	FontB88			FontB48
	Code Page PC437 (USA:Standard Europe) KU42 TIS11(Thai) TIS18(Thai) TCVN-3(Vietnamese)				
	TIS11_FontA11	TIS11_FontA12	TIS11_FontA21	TIS11_FontA22	TIS11_FontA24
	TIS11_FontA42	TIS11_FontA44	TIS11_FontA48	TIS11_FontA84	TIS11_FontA88
	TIS11_FontB11	TIS11_FontB12	TIS11_FontB21	TIS11_FontB22	TIS11_FontB24
	TIS11_FontB42	TIS11_FontB44	TIS11_FontB48	TIS11_FontB84	TIS11_FontB88
	TIS18_FontA11	TIS18_FontA12	TIS18_FontA21	TIS18_FontA22	TIS18_FontA24
	TIS18_FontA42	TIS18_FontA44	TIS18_FontA48	TIS18_FontA84	TIS18_FontA88
	TIS18_FontB11	TIS18_FontB12	TIS18_FontB21	TIS18_FontB22	TIS18_FontB24
	TIS18_FontB42	TIS18_FontB44	TIS18_FontB48	TIS18_FontB84	TIS18_FontB88
	TIS11_3_FontA11	TIS11_3_FontA12	TIS11_3_FontA21	TIS11_3_FontA22	TIS11_3_FontA24
	TIS11_3_FontA42	TIS11_3_FontA44	TIS11_3_FontA48	TIS11_3_FontA84	TIS11_3_FontA88
	TIS11_3_FontB11	TIS11_3_FontB12	TIS11_3_FontB21	TIS11_3_FontB22	TIS11_3_FontB24
	TIS11_3_FontB42	TIS11_3_FontB44	TIS11_3_FontB48	TIS11_3_FontB84	TIS11_3_FontB88
	TIS11_3_FontC11	TIS11_3_FontC12	TIS11_3_FontC21	TIS11_3_FontC22	TIS11_3_FontC24
	TIS11_3_FontC42	TIS11_3_FontC44	TIS11_3_FontC48	TIS11_3_FontC84	TIS11_3_FontC88
	TIS11_3_FontD11	TIS11_3_FontD12	TIS11_3_FontD21	TIS11_3_FontD22	TIS11_3_FontD24
	TIS11_3_FontD42	TIS11_3_FontD44	TIS11_3_FontD48	TIS11_3_FontD84	TIS11_3_FontD88
	KU42_FontA11	KU42_FontA12	KU42_FontA21	KU42_FontA22	KU42_FontA24
	KU42_FontA42	KU42_FontA44	KU42_FontA48	KU42_FontA84	KU42_FontA88
	KU42_FontB11	KU42_FontB12	KU42_FontB21	KU42_FontB22	KU42_FontB24
	KU42_FontB42	KU42_FontB44	KU42_FontB48	KU42_FontB84	KU42_FontB88
	CTVN-3_30_FontA11	CTVN-3_30_FontA12	CTVN-3_30_FontA21	CTVN-3_30_FontA22	CTVN-3_30_FontA24
	CTVN-3_30_FontA42	CTVN-3_30_FontA44	CTVN-3_30_FontA48	CTVN-3_30_FontA84	CTVN-3_30_FontA88
	CTVN-3_30_FontB11	CTVN-3_30_FontB12	CTVN-3_30_FontB21	CTVN-3_30_FontB22	CTVN-3_30_FontB24
	CTVN-3_30_FontB42	CTVN-3_30_FontB44	CTVN-3_30_FontB48	CTVN-3_30_FontB84	CTVN-3_30_FontB88
	CTVN-3_31_FontA11	CTVN-3_31_FontA12	CTVN-3_31_FontA21	CTVN-3_31_FontA22	CTVN-3_31_FontA24
	CTVN-3_31_FontA42	CTVN-3_31_FontA44	CTVN-3_31_FontA48	CTVN-3_31_FontA84	CTVN-3_31_FontA88
	CTVN-3_31_FontB11	CTVN-3_31_FontB12	CTVN-3_31_FontB21	CTVN-3_31_FontB22	CTVN-3_31_FontB24
	CTVN-3_31_FontB42	CTVN-3_31_FontB44	CTVN-3_31_FontB48	CTVN-3_31_FontB84	CTVN-3_31_FontB88
Barcode Font	Barcode Font Points determined. When specifying a value other than this, the Barcode is not printed.				
	Barcode1~Barcode8		Layout possible Barcode Codabar Code39 ITF JAN13(EAN) JAN8(EAN) UPC-A UPC-E Code93 Code128		
2D-Code Font	2D-Code1~2D-Code8		Layout possible 2D-Code PDF417,QRCode		

TM-T88V

Item	Description				
Driver Name	EPSON TM-T88V ReceiptSA4				
Device Font	Prohibited when rotation is selected.				
	Prohibited when resizing a font in a smaller size or when Water Mark is selected.				
	FontA11	FontA12	FontA21	FontA22	FontA24
	FontA44	FontA48	FontA84	FontA88	FontB11
	FontB21	FontB22	FontB24	FontB42	FontB44
	FontB84	FontB88	FontC11	FontC12	FontC21
	FontC24	FontC42	FontC44	FontC48	FontC84
	FontD11	FontD12	FontD21	FontD22	FontD24
	FontD44	FontD48	FontD84	FontD88	
	Code Page				
	PC437 (USA:Standard Europe)				
	PC850 (Multilingual)				
	PC863(Canadian-French)				
	PC851 (Greek)				
	PC857 (Turkish)				
	ISO8859-7 (Greek)				
	PC866 (Cyrillic #2)				
	PC858 (Euro)				
	TIS11 (Thai)				
	TCVN-3 (Vietnamese)				
	WPC775				
	PC861 (Icelandic)				
	PC864 (Arabic)				
	ISO8859-2 (Latin2)				
	PC1098 (Farsi)				
	PC1119 (Lithuanian)				
	WPC1250				
	WPC1253				
	WPC1255				
	WPC1257				
	KZ-1048 (Kazakhstan)				
	TIS11_FontA11	TIS11_FontA12	TIS11_FontA21	TIS11_FontA22	TIS11_FontA24
	TIS11_FontA42	TIS11_FontA44	TIS11_FontA48	TIS11_FontA84	TIS11_FontA88
	TIS11_FontB11	TIS11_FontB12	TIS11_FontB21	TIS11_FontB22	TIS11_FontB24
	TIS11_FontB42	TIS11_FontB44	TIS11_FontB48	TIS11_FontB84	TIS11_FontB88
	TIS18_FontA11	TIS18_FontA12	TIS18_FontA21	TIS18_FontA22	TIS18_FontA24
	TIS18_FontA42	TIS18_FontA44	TIS18_FontA48	TIS18_FontA84	TIS18_FontA88
	TIS18_FontB11	TIS18_FontB12	TIS18_FontB21	TIS18_FontB22	TIS18_FontB24
	TIS18_FontB42	TIS18_FontB44	TIS18_FontB48	TIS18_FontB84	TIS18_FontB88
	TIS11_3_FontA11	TIS11_3_FontA12	TIS11_3_FontA21	TIS11_3_FontA22	TIS11_3_FontA24
	TIS11_3_FontA42	TIS11_3_FontA44	TIS11_3_FontA48	TIS11_3_FontA84	TIS11_3_FontA88
	TIS11_3_FontB11	TIS11_3_FontB12	TIS11_3_FontB21	TIS11_3_FontB22	TIS11_3_FontB24
	TIS11_3_FontB42	TIS11_3_FontB44	TIS11_3_FontB48	TIS11_3_FontB84	TIS11_3_FontB88
	TIS11_3_FontC11	TIS11_3_FontC12	TIS11_3_FontC21	TIS11_3_FontC22	TIS11_3_FontC24
	TIS11_3_FontC42	TIS11_3_FontC44	TIS11_3_FontC48	TIS11_3_FontC84	TIS11_3_FontC88
	TIS11_3_FontD11	TIS11_3_FontD12	TIS11_3_FontD21	TIS11_3_FontD22	TIS11_3_FontD24
	TIS11_3_FontD42	TIS11_3_FontD44	TIS11_3_FontD48	TIS11_3_FontD84	TIS11_3_FontD88
	KU42_FontA11	KU42_FontA12	KU42_FontA21	KU42_FontA22	KU42_FontA24
	KU42_FontA42	KU42_FontA44	KU42_FontA48	KU42_FontA84	KU42_FontA88
	KU42_FontB11	KU42_FontB12	KU42_FontB21	KU42_FontB22	KU42_FontB24
	KU42_FontB42	KU42_FontB44	KU42_FontB48	KU42_FontB84	KU42_FontB88

Item	Description			
	CTVN-3_30_FontA11	CTVN-3_30_FontA12	CTVN-3_30_FontA21	CTVN-3_30_FontA22
	CTVN-3_30_FontA24	CTVN-3_30_FontA42	CTVN-3_30_FontA44	CTVN-3_30_FontA48
	CTVN-3_30_FontA84	CTVN-3_30_FontA88	CTVN-3_30_FontB11	CTVN-3_30_FontB12
	CTVN-3_30_FontB21	CTVN-3_30_FontB22	CTVN-3_30_FontB24	CTVN-3_30_FontB42
	CTVN-3_30_FontB44	CTVN-3_30_FontB48	CTVN-3_30_FontB84	CTVN-3_30_FontB88
	CTVN-3_31_FontA11	CTVN-3_31_FontA12	CTVN-3_31_FontA21	CTVN-3_31_FontA22
	CTVN-3_31_FontA24	CTVN-3_31_FontA42	CTVN-3_31_FontA44	CTVN-3_31_FontA48
	CTVN-3_31_FontA84	CTVN-3_31_FontA88	CTVN-3_31_FontB11	CTVN-3_31_FontB12
	CTVN-3_31_FontB21	CTVN-3_31_FontB22	CTVN-3_31_FontB24	CTVN-3_31_FontB42
	CTVN-3_31_FontB44	CTVN-3_31_FontB48	CTVN-3_31_FontB84	CTVN-3_31_FontB88
Barcode Font	Barcode Font Points determined. When specifying a value other than this, the Barcode is not printed.			
	Barcode1~Barcode8		Layout possible Barcode Codabar Code39 ITF JAN13(EAN) JAN8(EAN) UPC-A UPC-E Code93 Code128 GS1-128 GS1 DataBar Omni-directional GS1 DataBar Truncated GS1 DataBar Expanded GS1 DataBar Limited	
2D-Code Font	2D-Code1~2D-Code8		Layout possible 2D-Code PDF417 QRCode MaxiCode GS1 DataBar Stacked GS1 DataBar Stacked Omni-directional GS1 DataBar Expanded Stacked RSS14 Stacked	
Control Font	Font Name : control , Point : 1			
	• No operations for characters other than those mentioned above.			
	• Prohibited when rotation is selected.			
	• Prohibited when resizing a font in a smaller size or when Water Mark is selected.			
	Char	Function	Char	Function
	5	Transmits HT	k	NV graphics 3 printing (48,51)
	6	Transmits LF	l	NV graphics 4 printing (48,52)
	7	Transmits CR	w	Position alignment left
	a	Open Drawer 5pin(50ms)	x	Position alignment center
	b	Open Drawer 5pin(100ms)	y	Position alignment right
	c	Open Drawer 5pin(150ms)	A	Open Drawer 2pin(50ms)
	d	Open Drawer 5pin(200ms)	B	Open Drawer 2pin(100ms)
	e	Open Drawer 5pin(250ms)	C	Open Drawer 2pin(150ms)
	g	No paper feeding + Partial cut	D	Open Drawer 2pin(200ms)
	h	NV graphics 0 printing (48,48)	E	Open Drawer 2pin(250ms)
i	NV graphics 1 printing (48,49)	P	Paper feeding +Partial cut	
j	NV graphics 2 printing (48,50)			
ControlA Font	Font Name : controlA , Point : 1			
	• Characters defined by ControlA Font Character Translation Table.			
	• No operations for characters not defined. No printing for spaces.			
	• No paper feeding for any functions that do not include paper feeding.			
	• Prohibited when rotation is selected.			
	• Prohibited when resizing a font in a smaller size or when Water Mark is selected.			
Resolution	180x180DPI			

TM-T90

Item	Description					
Driver Name	EPSON TM-T90 ReceiptSA4					
Device Font	Prohibited when rotation is selected. Prohibited when resizing a font in a smaller size.					
	FontA11	FontA12	FontA21	FontA22	FontA24	FontA42
	FontA44	FontA48	FontA84	FontA88	FontB11	FontB12
	FontB21	FontB22	FontB24	FontB42	FontB44	FontB48
	FontB84	FontB88	• Code Page WPC1252			
	TIS11_FontA11	TIS11_FontA12	TIS11_FontA21	TIS11_FontA22	TIS11_FontA24	
	TIS11_FontA42	TIS11_FontA44	TIS11_FontA48	TIS11_FontA84	TIS11_FontA88	
	TIS11_FontB11	TIS11_FontB12	TIS11_FontB21	TIS11_FontB22	TIS11_FontB24	
	TIS11_FontB42	TIS11_FontB44	TIS11_FontB48	TIS11_FontB84	TIS11_FontB88	
	TIS18_FontA11	TIS18_FontA12	TIS18_FontA21	TIS18_FontA22	TIS18_FontA24	
TIS18_FontA42	TIS18_FontA44	TIS18_FontA48	TIS18_FontA84	TIS18_FontA88		
TIS18_FontB11	TIS18_FontB12	TIS18_FontB21	TIS18_FontB22	TIS18_FontB24		
TIS18_FontB42	TIS18_FontB44	TIS18_FontB48	TIS18_FontB84	TIS18_FontB88		
TIS11_3_FontA11	TIS11_3_FontA12	TIS11_3_FontA21	TIS11_3_FontA22	TIS11_3_FontA24		
TIS11_3_FontA42	TIS11_3_FontA44	TIS11_3_FontA48	TIS11_3_FontA84	TIS11_3_FontA88		
TIS11_3_FontB11	TIS11_3_FontB12	TIS11_3_FontB21	TIS11_3_FontB22	TIS11_3_FontB24		
TIS11_3_FontB42	TIS11_3_FontB44	TIS11_3_FontB48	TIS11_3_FontB84	TIS11_3_FontB88		
KU42_FontA11	KU42_FontA12	KU42_FontA21	KU42_FontA22	KU42_FontA24		
KU42_FontA42	KU42_FontA44	KU42_FontA48	KU42_FontA84	KU42_FontA88		
KU42_FontB11	KU42_FontB12	KU42_FontB21	KU42_FontB22	KU42_FontB24		
KU42_FontB42	KU42_FontB44	KU42_FontB48	KU42_FontB84	KU42_FontB88		
Barcode Font	Barcode Font Points determined. When specifying a value other than this, the Barcode is not printed.					
	Barcode1~Barcode8		Layout possible Barcode Codabar Code39 ITF JAN13(EAN) JAN8(EAN) UPC-A UPC-E Code93 Code128			
2D-Code Font	2D-Code1~2D-Code8		Layout possible 2D-Code PDF417			
Control Font	Font Name : control , Point : 1					
	• No operations for characters other than those mentioned above. • Prohibited when rotation is selected.					
	Char	Function	Char	Function		
	0	Select default line spacing	i	NV graphics 1 printing (48,49)		
	5	Transmits HT	j	NV graphics 2 printing (48,50)		
	6	Transmits LF	k	NV graphics 3 printing (48,51)		
	7	Transmits CR	l	NV graphics 4 printing (48,52)		
	8	1/16-inch line spacing	w	Position alignment left		
	9	1/8-inch line spacing	x	Position alignment center		
	a	Open Drawer 5pin(50ms)	y	Position alignment right		
	b	Open Drawer 5pin(100ms)	A	Open Drawer 2pin(50ms)		
	c	Open Drawer 5pin(150ms)	B	Open Drawer 2pin(100ms)		
	d	Open Drawer 5pin(200ms)	C	Open Drawer 2pin(150ms)		
	e	Open Drawer 5pin(250ms)	D	Open Drawer 2pin(200ms)		
	g	No paper feeding + Partial cut	E	Open Drawer 2pin(250ms)		
	h	NV graphics 0 printing (48,48)	P	Paper feeding +Partial cut		

TM-U220

Item	Description
Driver Name	EPSON TM-U220 ReceiptSA4
Device Font	Prohibited when rotation is selected. Prohibited when resizing a font in a smaller size or when Water Mark is selected.
	FontA11 FontA12 FontA21 FontA22 FontB11 FontB12 FontB21 FontB22
	Code Page PC437 (USA:Standard Europe) Katakana PC850 (Multilingual) PC860 (Portuguese) PC863(Canadian-French) PC865 (Nordic) WPC1252 PC866 (Cyrillic #2) PC852 (Latin 2) PC858 (Euro) KU42 TIS11(Thai) TIS13(Thai) TIS14(Thai) TIS16(Thai) TIS17(Thai) TIS18(Thai)
	TIS11_FontA11 TIS11_FontA12 TIS11_FontA21 TIS11_FontA22 TIS11_FontB11 TIS11_FontB12 TIS11_FontB21 TIS11_FontB22
	TIS18_FontA11 TIS18_FontA12 TIS18_FontA21 TIS18_FontA22 TIS18_FontB11 TIS18_FontB12 TIS18_FontB21 TIS18_FontB22
	TIS11_3_FontA11 TIS11_3_FontA12 TIS11_3_FontA21 TIS11_3_FontA22 TIS11_3_FontB11 TIS11_3_FontB12 TIS11_3_FontB21 TIS11_3_FontB22
	KU42_FontA11 KU42_FontA12 KU42_FontA21 KU42_FontA22 KU42_FontB11 KU42_FontB12 KU42_FontB21 KU42_FontB22
	CTVN-3_30_FontA11 CTVN-3_30_FontA12 CTVN-3_30_FontA21 CTVN-3_30_FontA22 CTVN-3_30_FontB11 CTVN-3_30_FontB12 CTVN-3_30_FontB21 CTVN-3_30_FontB22 CTVN-3_31_FontA11 CTVN-3_31_FontA12 CTVN-3_31_FontA21 CTVN-3_31_FontA22 CTVN-3_31_FontB11 CTVN-3_31_FontB12 CTVN-3_31_FontB21 CTVN-3_31_FontB22
Barcode Font	Not supported.
2D-Code Font	Not supported.

Item	Description			
Control Font	Font Name : control , Point : 1			
	• No operations for characters other than those mentioned above. • Prohibited when rotation is selected. • Prohibited when resizing a font in a smaller size or when Water Mark is selected.			
	Char	Function	Char	Function
	0	Select default line spacing	x	Position alignment center
	5	Transmits HT	y	Position alignment right
	6	Transmits LF	A	Open Drawer 2pin(50ms)
	7	Transmits CR	B	Open Drawer 2pin(100ms)
	8	1/16-inch line spacing	C	Open Drawer 2pin(150ms)
	9	1/8-inch line spacing	D	Open Drawer 2pin(200ms)
	a	Open Drawer 5pin(50ms)	E	Open Drawer 2pin(250ms)
	b	Open Drawer 5pin(100ms)	G	NV bit images No. 1 printing.(Normal mode).
	c	Open Drawer 5pin(150ms)	H	NV bit images No. 2 printing.(Normal mode).
	d	Open Drawer 5pin(200ms)	I	NV bit images No. 3 printing.(Normal mode).
	e	Open Drawer 5pin(250ms)	J	NV bit images No. 4 printing.(Normal mode).
	g	No paper feeding + Partial cut	K	NV bit images No. 5 printing.(Normal mode).
w	Position alignment left	P	Paper feeding +Partial cut	
ControlA Font	Font Name : controlA , Point : 1			
	• Characters defined by ControlA Font Character Translation Table. • No operations for characters not defined. No printing for spaces. • No paper feeding for any functions that do not include paper feeding. • Prohibited when rotation is selected. • Prohibited when resizing a font in a smaller size or when Water Mark is selected.			
Resolution	160x144DPI, 80x72DPI			
Paper Size	76mm Roll Paper Paper Size 76mm x 297mm (478dot x 1683dot) Printing Width 63.5mm (400dot) Margin top 0mm(0dot) bottom 0mm(0dot) left 6.8mm(43dot) right 5.5mm(35dot) 70mm Roll Paper Paper Size 70mm x 440mm (297dot x1683dot) Printing Width 57.2mm (360dot) Margin top 0mm(0dot) bottom 0mm(0dot) left 6.8mm(43dot) right 5.8mm(37dot) 58mm Roll Paper Paper Size 58mm x 365mm (297dot x 1683dot) Printing Width 47.6mm (300dot) Margin top 0mm(0dot) bottom 0mm(0dot) left 4.2mm(27dot) right 6.0mm(38dot) User Defined Paper Size Width 47.6 ~ 210.0mm, Height 25.4 ~ 3276.0mm			
Rotate	Normal		Rotate by 90 Degrees	
	Rotate by 180 Degrees		Rotate by 270 Degrees	
Reduce Printing	Not supported.			
Water Mark	Not supported.			

TM-U295

Item	Description																																				
Driver Name	EPSON TM-U295 SlipSA4																																				
Device Font	Prohibited when rotation is selected. Prohibited when resizing a font in a smaller size.																																				
	FontA11 FontA12 FontA21 FontA22 FontB11 FontB12 FontB21 FontB22 • Code Page WPC1252																																				
	TIS11_FontA11 TIS11_FontA12 TIS11_FontA21 TIS11_FontA22 TIS11_FontB11 TIS11_FontB12 TIS11_FontB21 TIS11_FontB22																																				
	TIS18_FontA11 TIS18_FontA12 TIS18_FontA21 TIS18_FontA22 TIS18_FontB11 TIS18_FontB12 TIS18_FontB21 TIS18_FontB22																																				
	TIS11_3_FontA11 TIS11_3_FontA12 TIS11_3_FontA21 TIS11_3_FontA22 TIS11_3_FontB11 TIS11_3_FontB12 TIS11_3_FontB21 TIS11_3_FontB22																																				
	KU42_FontA11 KU42_FontA12 KU42_FontA21 KU42_FontA22 KU42_FontB11 KU42_FontB12 KU42_FontB21 KU42_FontB22																																				
Barcode Font	Not supported.																																				
2D-Code Font	Not supported.																																				
Control Font	Font Name : control , Point : 1 • No operations for characters other than those mentioned above. • Prohibited when rotation is selected. • Prohibited when resizing a font in a smaller size.																																				
	<table><tr><th>Char</th><th>Function</th><th>Char</th><th>Function</th></tr><tr><td>4</td><td>Transmits FF</td><td>e</td><td>Open Drawer 5pin(250ms)</td></tr><tr><td>5</td><td>Transmits HT</td><td>m</td><td>Paper Back feeding (2dots)</td></tr><tr><td>6</td><td>Transmits LF</td><td>A</td><td>Open Drawer 2pin(50ms)</td></tr><tr><td>7</td><td>Transmits CR</td><td>B</td><td>Open Drawer 2pin(100ms)</td></tr><tr><td>a</td><td>Open Drawer 5pin(50ms)</td><td>C</td><td>Open Drawer 2pin(150ms)</td></tr><tr><td>b</td><td>Open Drawer 5pin(100ms)</td><td>D</td><td>Open Drawer 2pin(200ms)</td></tr><tr><td>c</td><td>Open Drawer 5pin(150ms)</td><td>E</td><td>Open Drawer 2pin(250ms)</td></tr><tr><td>d</td><td>Open Drawer 5pin(200ms)</td><td></td><td></td></tr></table>	Char	Function	Char	Function	4	Transmits FF	e	Open Drawer 5pin(250ms)	5	Transmits HT	m	Paper Back feeding (2dots)	6	Transmits LF	A	Open Drawer 2pin(50ms)	7	Transmits CR	B	Open Drawer 2pin(100ms)	a	Open Drawer 5pin(50ms)	C	Open Drawer 2pin(150ms)	b	Open Drawer 5pin(100ms)	D	Open Drawer 2pin(200ms)	c	Open Drawer 5pin(150ms)	E	Open Drawer 2pin(250ms)	d	Open Drawer 5pin(200ms)		
	Char	Function	Char	Function																																	
	4	Transmits FF	e	Open Drawer 5pin(250ms)																																	
	5	Transmits HT	m	Paper Back feeding (2dots)																																	
	6	Transmits LF	A	Open Drawer 2pin(50ms)																																	
	7	Transmits CR	B	Open Drawer 2pin(100ms)																																	
	a	Open Drawer 5pin(50ms)	C	Open Drawer 2pin(150ms)																																	
	b	Open Drawer 5pin(100ms)	D	Open Drawer 2pin(200ms)																																	
	c	Open Drawer 5pin(150ms)	E	Open Drawer 2pin(250ms)																																	
d	Open Drawer 5pin(200ms)																																				
ControlA Font	Font Name : controlA , Point : 1 • Characters defined by ControlA Font Character Translation Table. • No operations for characters not defined. No printing for spaces. • No paper feeding for any functions that do not include paper feeding. • Prohibited when rotation is selected. • Prohibited when resizing a font in a smaller size.																																				
Resolution	160 x 60DPI																																				
Paper Size	182mm Paper Size 182mm x 257mm (1146dot x 1618dot) Printing Width 66.7mm (420dot) Margin top 26.7mm(63dot) bottom 27.1mm(64dot) left 110.1mm(694dot) right 5.0mm(32dot) User Defined Paper Size Width 79.6~181.9mm, Height 68.6~257.0mm																																				
Rotate	Normal																																				

TM-U950

Item	Description																																																				
Driver Name	EPSON TM-U950 ReceiptSA4																																																				
Device Font	Prohibited when rotation is selected. Prohibited when resizing a font in a smaller size.																																																				
	FontA11 FontA12 FontA21 FontA22 FontB11 FontB12 FontB21 FontB22 • Code Page WPC1252																																																				
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Rotate	Normal Rotate by 180 Degrees Rotate by 90 Degrees 																																								