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Advanced Printer Driver for TM-L500A 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 Ver.3

Descriptions of how to set and use the
TM Flash Logo Setup Utility Ver3.

Restrictions

Descriptions of restrictions on use of the APD.

Printer Specification

Descriptions of the specifications of the TM-L500A.

M00039903-3
Rev.D

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

For Safety

Key to Symbols

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

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:

Contents

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 TM-L500A.

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

Drivers and manuals for using the TM-L500A are not packed with it, so inquire to your dealer as for them.

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 23)

- Allow you to print logos and graphics. ("Printing a Logo" on page 37)

- Allows you to send the paper cut command to the TM printer. ("Paper Feed and Paper Cut" on page 40)

- Allows you to send the open command to the cash drawer. ("How to Use ControlA Font" on page 42)

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 37)

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 34)

- Allows you to print images as a background. ("Background printing" on page 36)

- Allows you to print A4 size document automatically scaled down to fit the paper width.

- 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 42)

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. ("Printer font advanced setting" on page 97)

- 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 19)

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 105)

- 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

Epson M@RT
em

HIGH-SPEED, HIGH PERFORMANCE
HYBRID PRINTER

MATSUMOTO
NAGANO
123-456-7890

06/06/05 12:34 STORE#0001 REGISTER#002

001 APPLE X5   ¥20   100
002 ORANGE X3   ¥10   30
003 LETTUCE   ¥10   10
004 TOMATO   ¥10   10
005 POTATO X10   ¥2   20
006 CARROT X3   ¥10   30

SUBTOTAL   252
TAX   5%   12.6

        TOTAL   ¥264.6
     CASH TEND   270
     CASH DUE   5.4

HTTP://WWW.EPSON.MART.COM/

0123456789012

Printing a Logo

Character Printing (Device Font)

Printing a Barcode

Paper Feed and Paper Cut

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	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.

(1)
(2)

Image of the page

(3)

Roll paper width
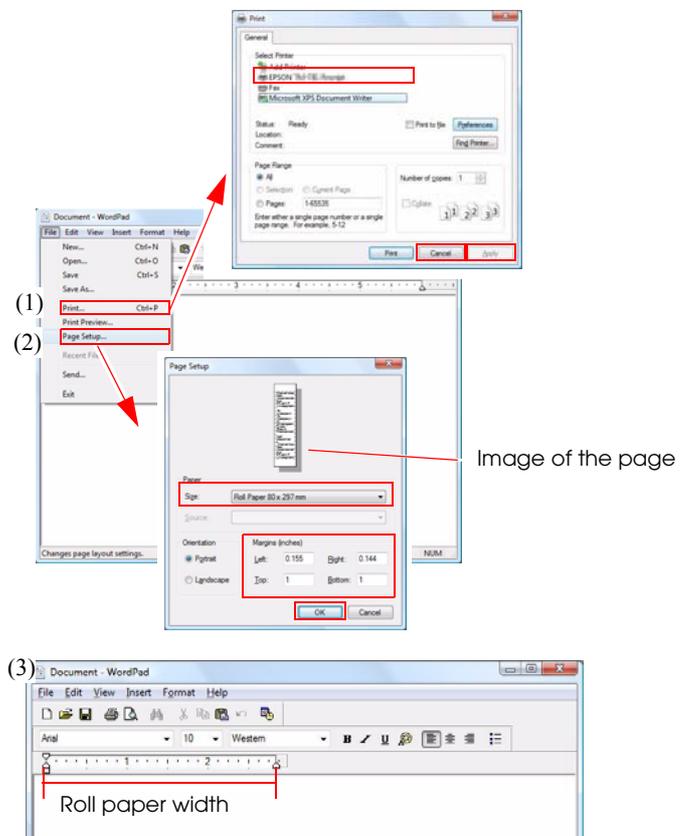
Character Printing (TrueType fonts)

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.
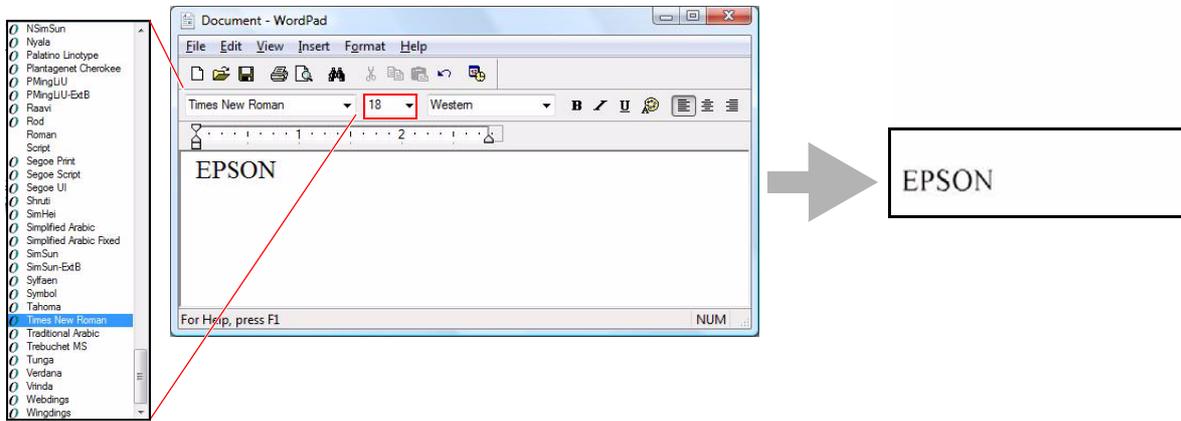
Character Printing (Device Font)

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 29 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. See "Printer Specification" on page 109 for details.

- FontAxx
- FontBxx

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		
Double	FontA21	FontA22	FontA24	
Fourfold		FontA42	FontA44	FontA48
Eightfold			FontA84	FontA88

Standard   FontA11

Double height   FontA12

Double width   FontA21

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 FontA11
with TM-L500A, specify 8.5 pt.

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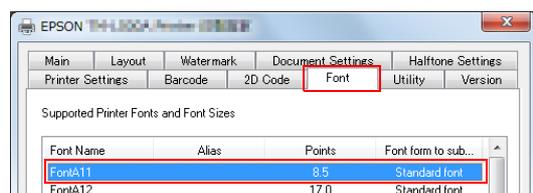
Printing Method

Specify Device Font, specified Point (check with [Font] tab) and language in print data.
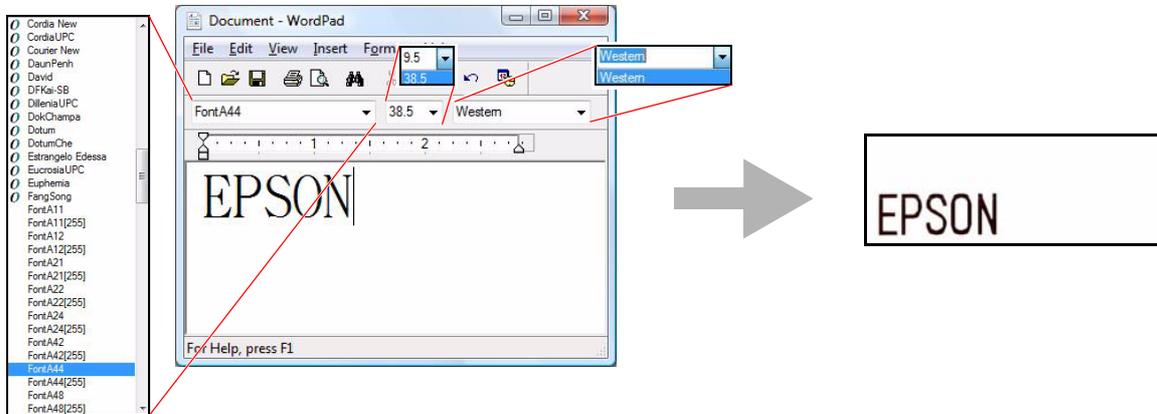
CAUTION	• Not reflected in characters even when you specify bold/italic. The underline is printed but the position is offset. • Printing is not possible when Device Font and Barcode(2D-Code) Font are arranged in one line.

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 = 34.0
        `Printing text
        Printer.Print "EPSON"
-----------------------------------------------------------
```

NOTE	Check the Point Size of the font displayed on the [Font] tab of the printer driver. (The above example is from the TM-L500A Printer.)

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

- 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

- 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.
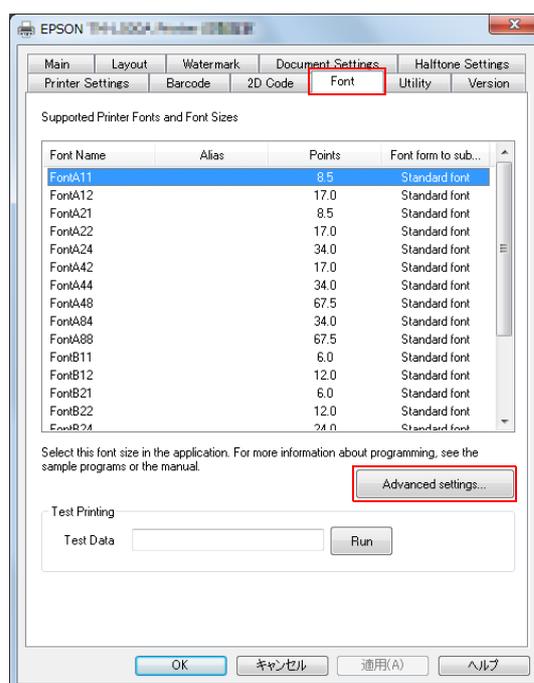
**2** The "Printer font advanced setting" screen appears.
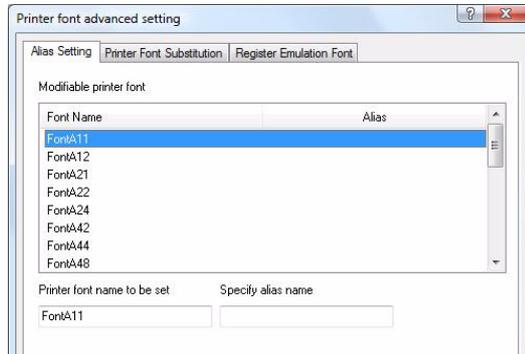
If the [Printer Font Substitution] tab does not appear when using the TM-L500A, select the [Document Settings] tab from the print settings and set [Print all text as graphic images] to [Yes].
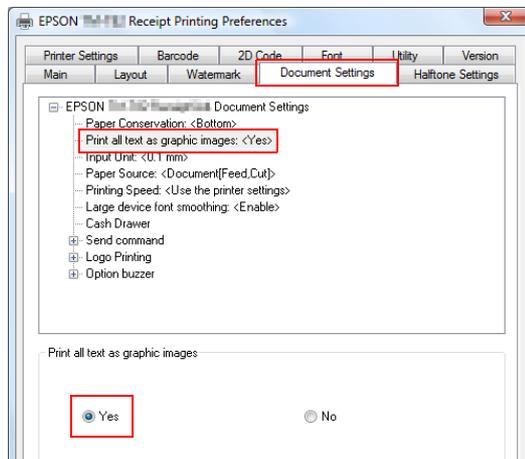
Alias Setting

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 used for printing

Font name specified in application
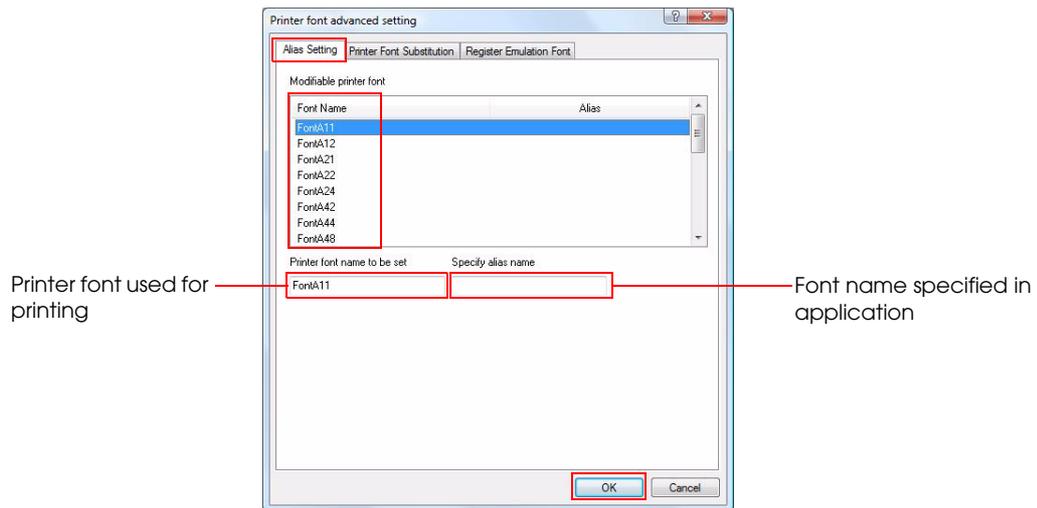
Printer Font Substitution

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.

Font name specified in application

Font used for printing
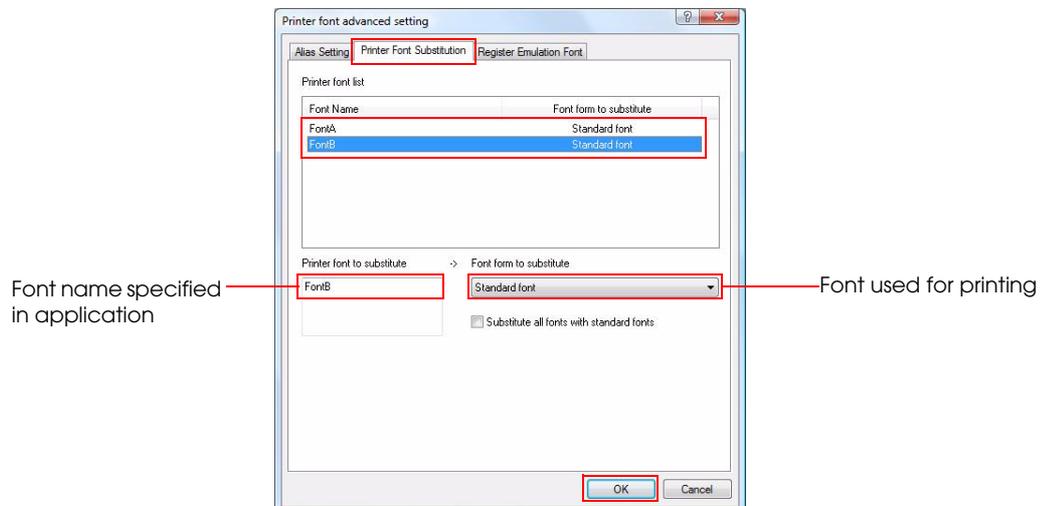
Register Emulation Font

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.
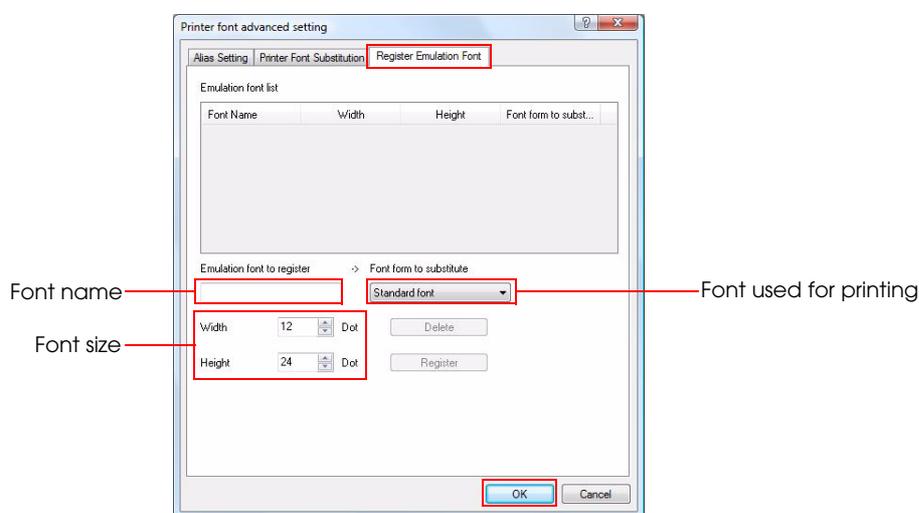
Printing a Barcode

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. • When "Barcode or 2D symbol print speed" is set on the [Document Settings] tab, the speed for printing barcodes can be set slower. However, this setting does not apply when the image data is created in the application.

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.

Barcode font setting

Select the Barcode tab from Printing Preferences.

Make the following settings. See "Barcode" on page 82 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.
Points	The barcode font size is displayed. When pri nti ng through an application, specify this value.

Setting	Description
Alias	You can make optional settings. You can specify Alias during programming.
Barcode type	Configures the Barcode type (UPC-A, Code93,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.
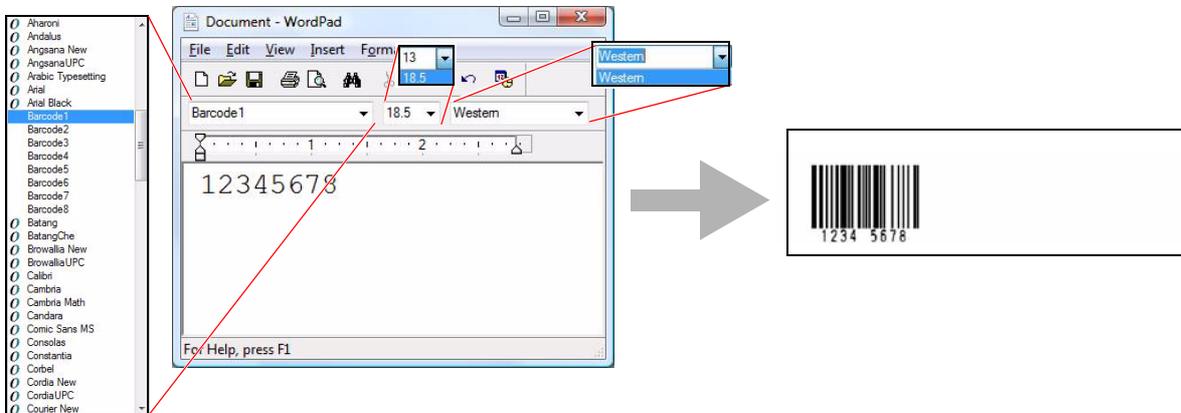
> **CAUTION**
> Barcode Font Points determined. Check with Printing Preferences - [Barcode]. When specifying a value other than this, the Barcode is not printed.

> **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	• 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. • When "Barcode or 2D symbol print speed" is set on the [Document Settings] tab, the speed for printing 2D symbols can be set slower. However, this setting does not apply when the image data is created in the application.

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.

Setting the 2D-Code Font

Select the 2D-Code tab from Printing Preferences.
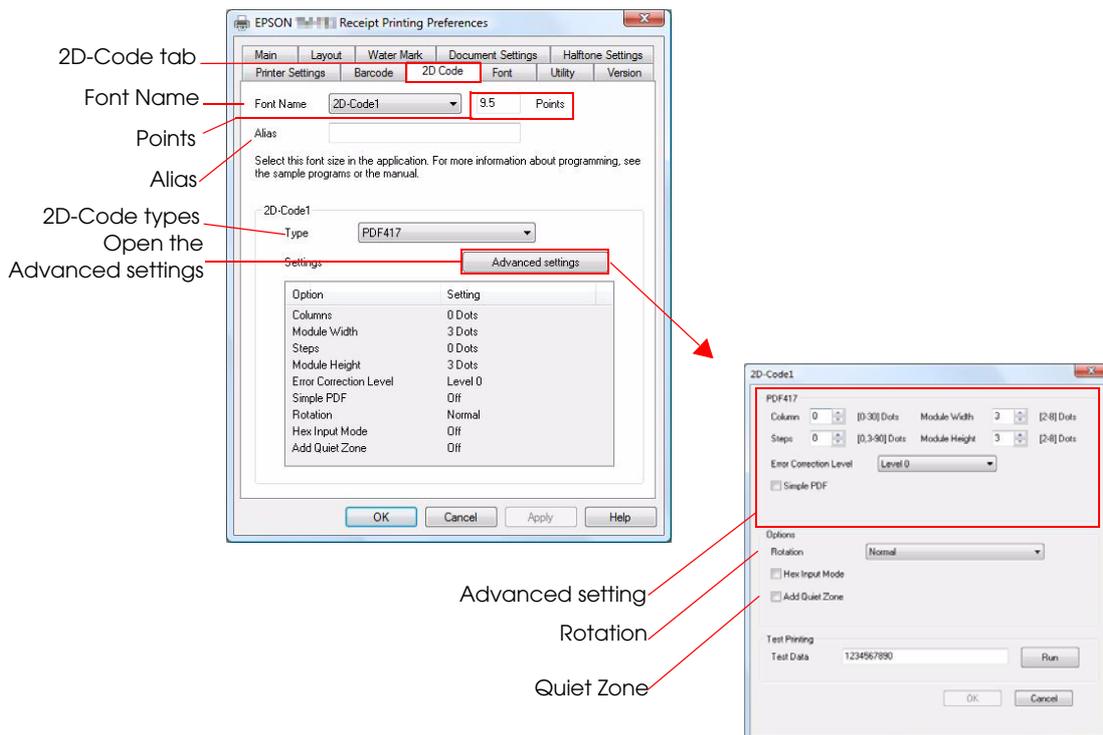
Make the following settings. See "2D-Code" on page 85 for details.

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.

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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. (PDF417, QR Code,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.
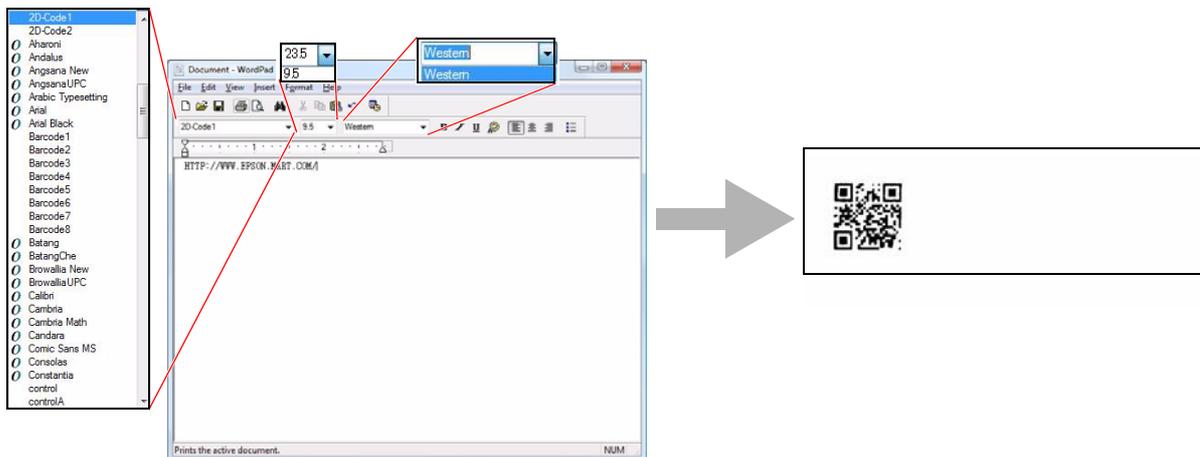
NOTE
2D-Code Font Points determined. Check with Printing Preferences - [2D-Code]. When specifying a value other than this, the 2D-Code is not printed.

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/"
-------------------------------------------------------------
```

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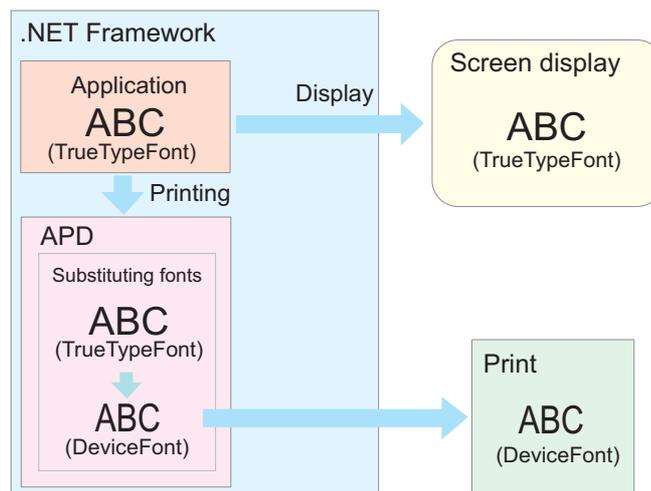
For TrueType fonts not available for the substitution, see the table below.

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

> **NOTE** Images on an application screen cannot be printed as it is because device fonts differ from TrueType fonts in characteristics such as the aspect ratio. You need to confirm print results in advance.

> **CAUTION** Device fonts whose horizontal/vertical ratio is different, such as FontA 12/21, cannot be printed.

Font Substitution Settings

Make the Substitution setting as follows. See "TrueType Font Substitution" on page 80 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.
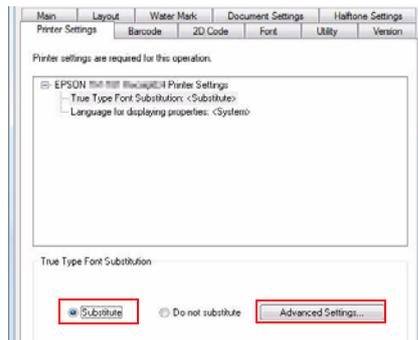
4 The TrueType Font Substitution screen is displayed. Select a TrueType font to be substituted.
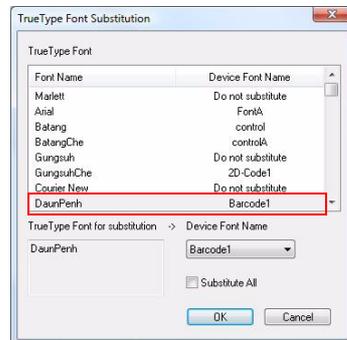
5 From the pull down list, select the device font with which you substitute the TrueType font.
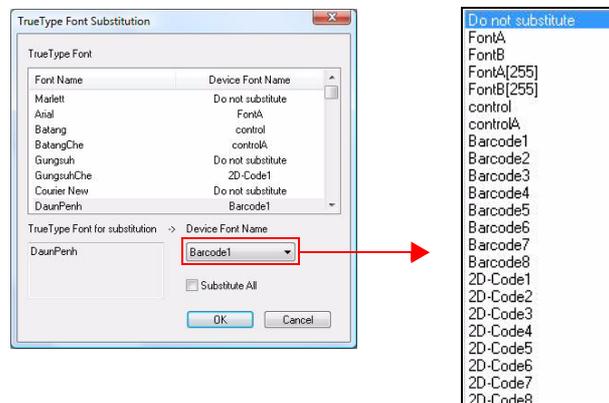
Printing Using a Device Font

| 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 29.)
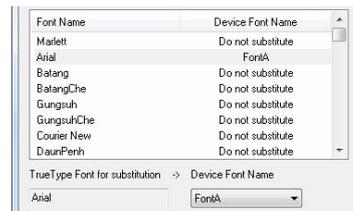
| For the print data, specify a TrueType font and size.
(Specify the size of the device font using that of the TrueType font.) |

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.
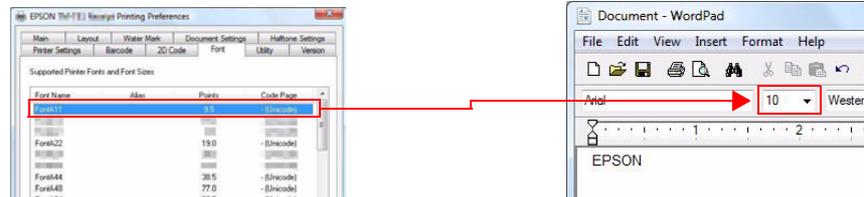
Note:
- If characters does not fit in one line and are printed on the next line, specify a smaller point size for the TrueType font.
- Only device fonts whose vertical/horizontal ratio is same, such as FontA11/22, can be printed.
- Smaller fonts whose point sizes are smaller than that of the smallest 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 = "34.5"
        `Printing text
        Printer.Print "EPSON"

----------------------------------------------------------------
```

Printing Barcodes/2D-Code Fonts

Select the TrueType font to be substituted

- That TrueType font for which substitution has been specified will always be output as the device font. Make sure to select TrueType font that you will not use for other than the Barcode.
- Wide fonts such as FONT A12/24/48, and tall fonts such as FONT A21/42/84 cannot be substituted.

Font Substitution Settings

Make the [Printer Settings] - TrueType Font Substitution setting.
(See "Substituting Fonts" on page 29.)

For a character string printed using a Barcode/2D-Code font, specify a TrueType font and size

Specify a point size specified on the [Barcode]/[2D-Code] tab. Note that the layout will be adversely affected if you specify a point size other than one of those shown here.

Print

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

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 29.)

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.

2

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.
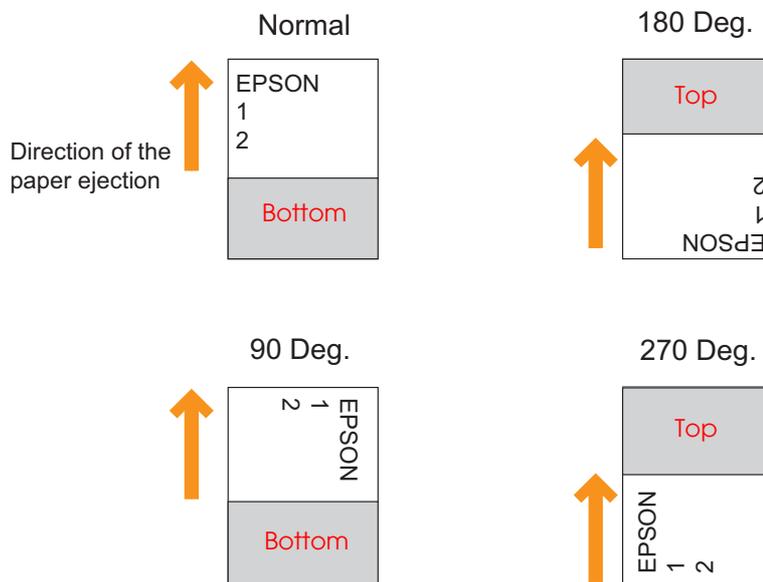
> **NOTE**
>
> See "Paper Conservation" on page 66 for margin setting.

Rotate Printing Settings

Select the Layout tab from Printing Preferences.

Layout tab
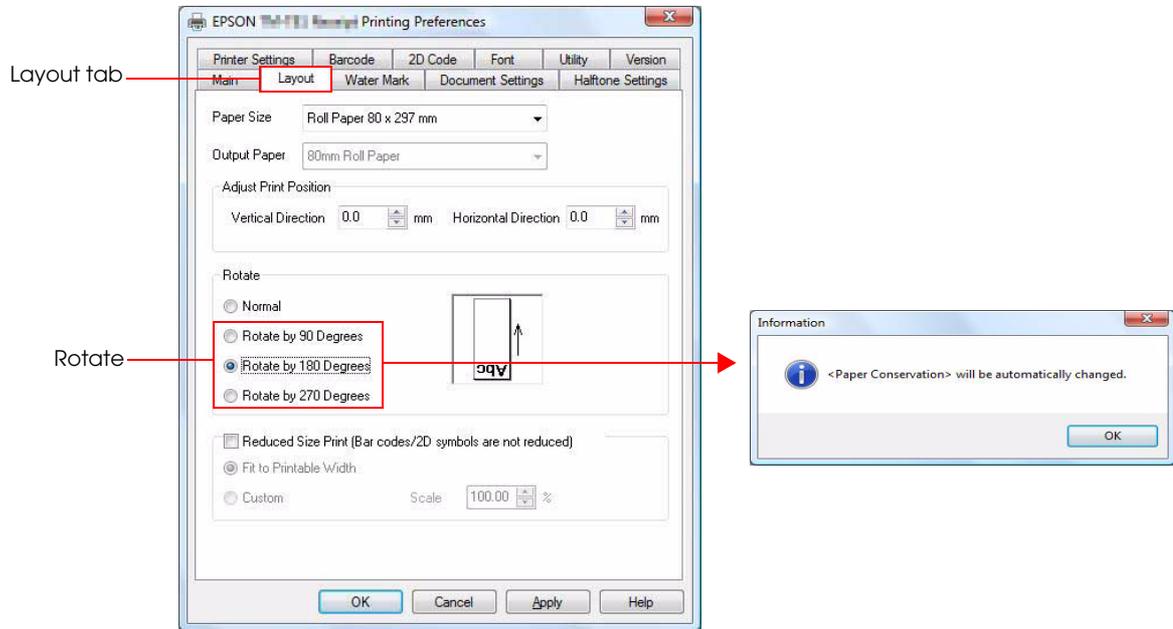
Rotate

Make the following settings. See "Layout" on page 61 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. |

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.
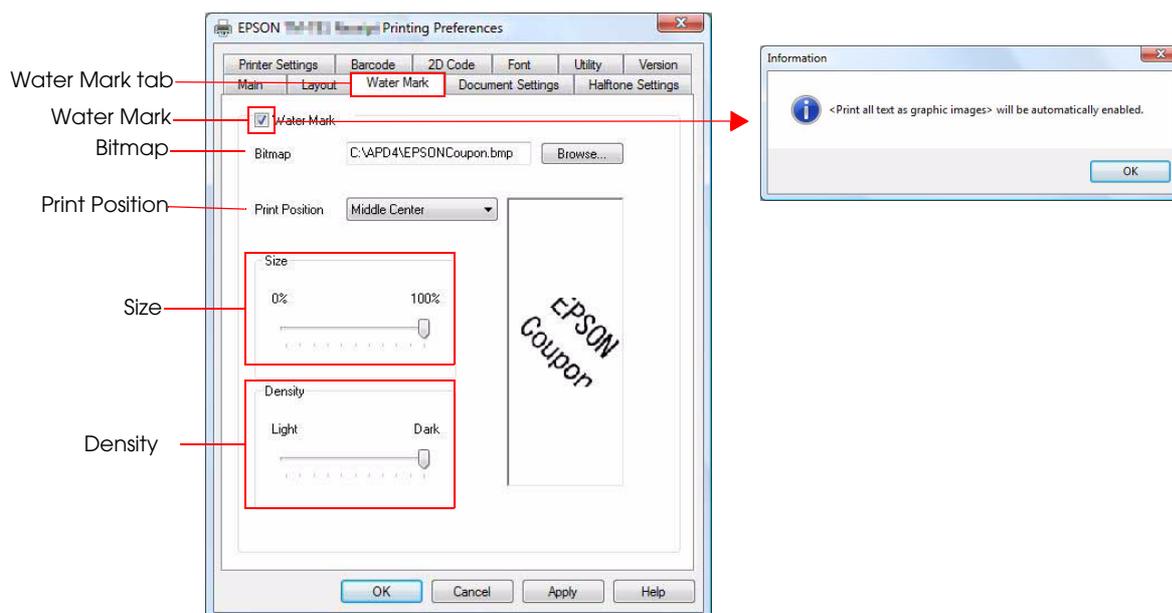
Make the following settings. See "Water Mark" on page 64 for details.

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 logo data on the application screen	Large data volume, printing is slow.
Specify logo data 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 logo data 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 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 Ver.3" on page 99.

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

Logo printing

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

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

Setting by printer driver for printing

Select the Document Settings tab from Printing Preferences.

Document Settings tab

Logo Printing (printing area)

Select logo registered in printer

Specify the registered
NV graphic number's Key code.
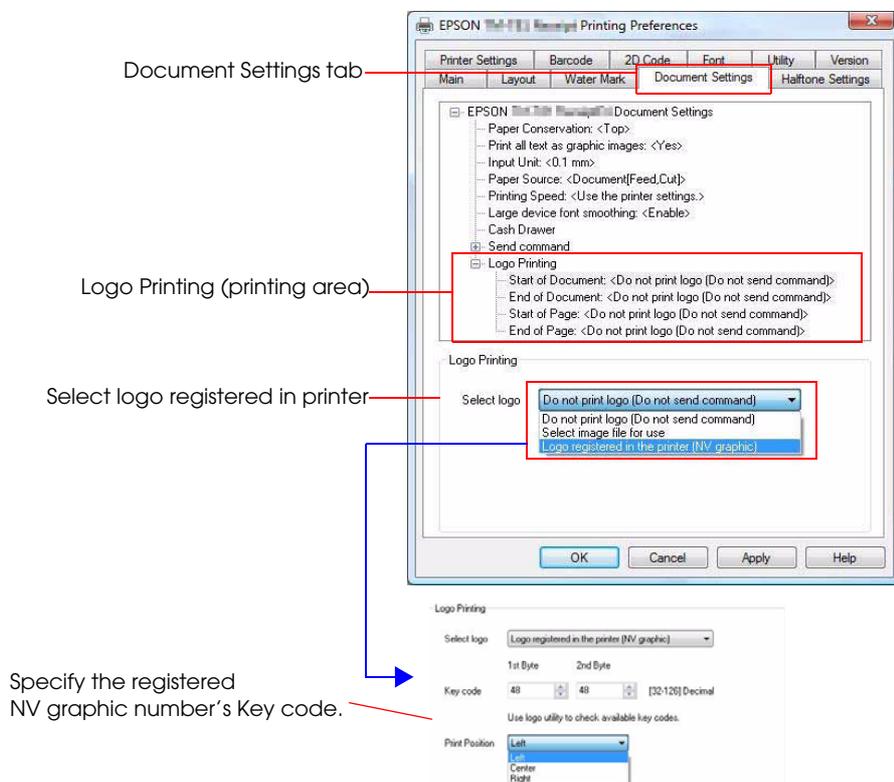
Make the following settings. See "Logo Printing" on page 77 for details.

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.
Select logo	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 by key code the logo registered in the TM printer's NV memory.

* 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

Logo data is printed using Control Font.
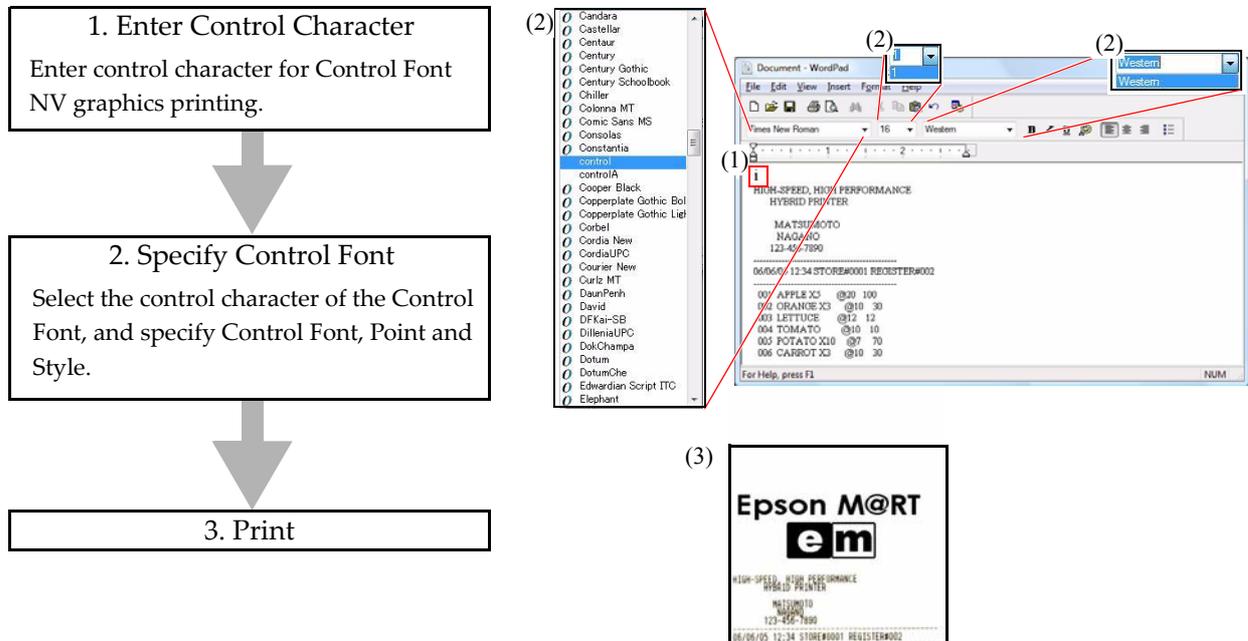
```
┌─────────────────────────────────┐
│    1. Enter Control Character    │
│                                  │
│  Enter control character for     │
│  Control Font NV graphics        │
│  printing.                       │
└─────────────────────────────────┘
              ↓
┌─────────────────────────────────┐
│    2. Specify Control Font       │
│                                  │
│  Select the control character    │
│  of the Control Font, and        │
│  specify Control Font, Point      │
│  and Style.                      │
└─────────────────────────────────┘
              ↓
┌─────────────────────────────────┐
│            3. Print              │
└─────────────────────────────────┘
```

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.
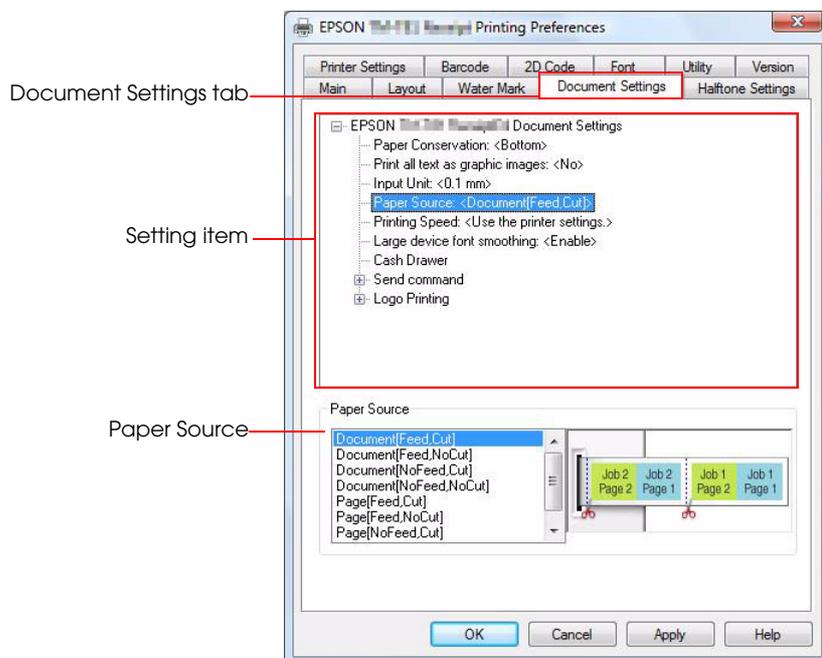
Make the following settings. See for details.

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"
-------------------------------------------------------------
```

2

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.
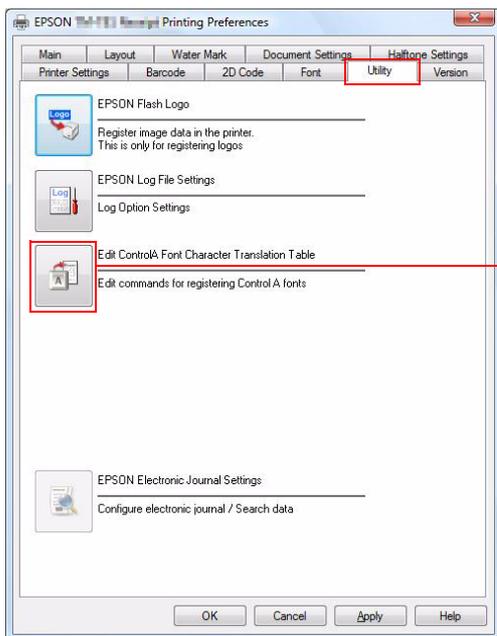
Edit controlA font Character Translation Table
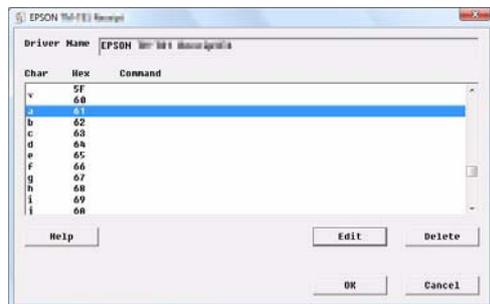
Define ESC/POS commands in the record you want to define.

1. Record selection

2. Open Press the [Edit] button to open ControlA Editor.

3.ESC/POS command definition Enter ESC/POS command in Command. Press the [OK] after entering. Up to 255 bytes characters can be defined.
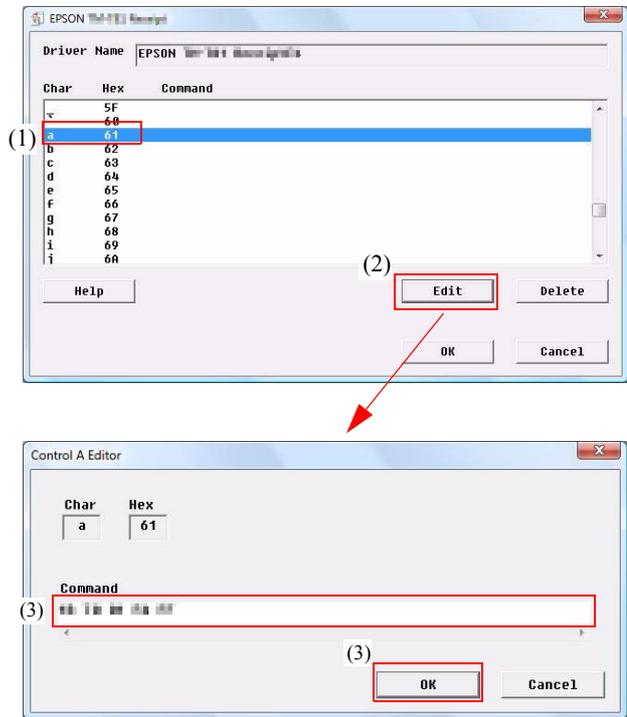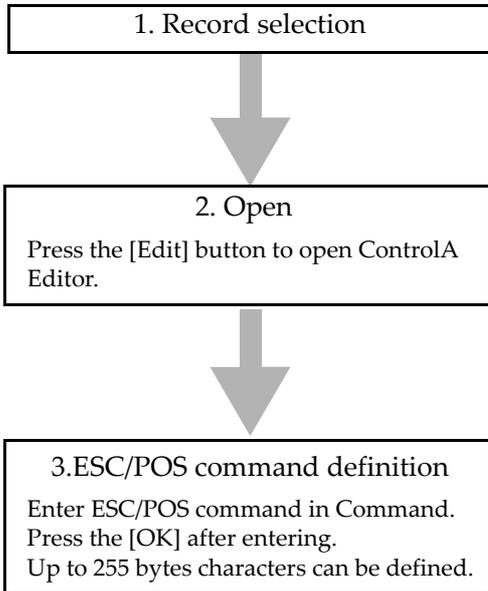
Using ControlA Font

Use the defined ControlA Font.
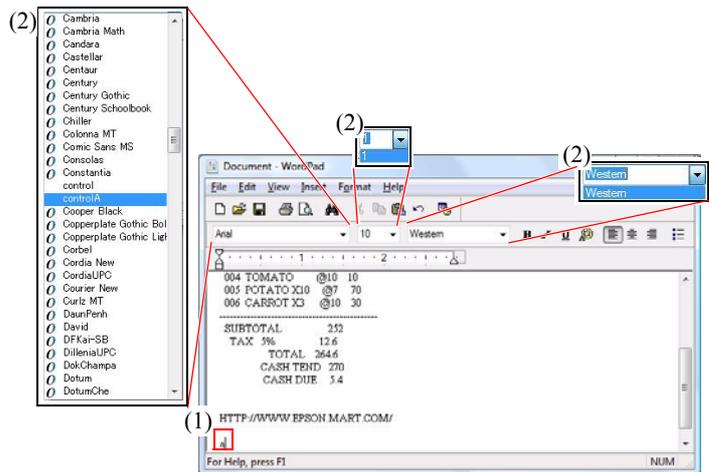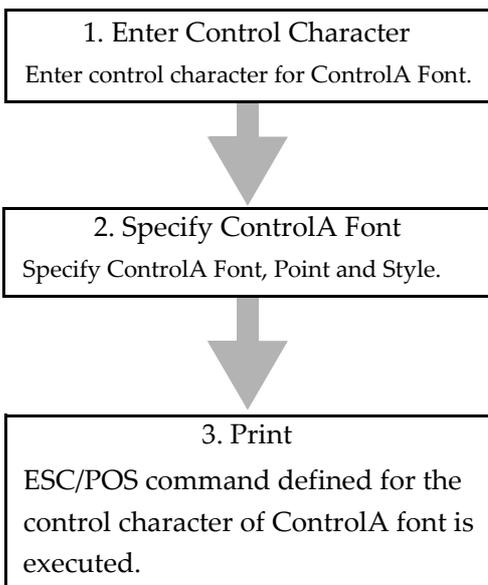
1. Enter Control Character Enter control character for ControlA Font.

2. Specify ControlA Font Specify ControlA Font, Point and Style.

3. Print ESC/POS command defined for the control character of ControlA font is executed.

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"
-----------------------------------------------------------------
```

Reference

This chapter describes the APD settings.

> **CAUTION**   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   Printing Preferences
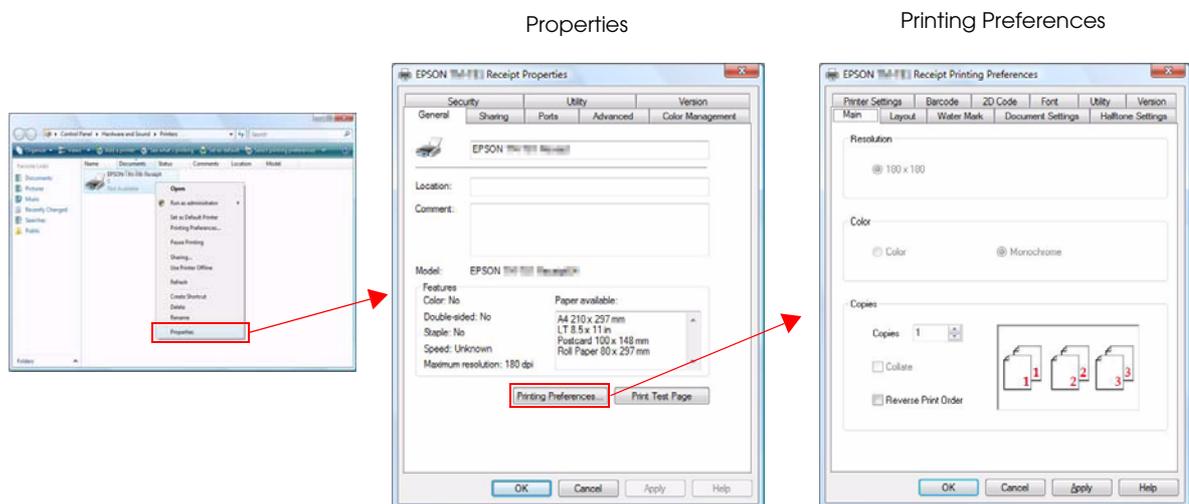
Properties

The following settings are available in the Property.
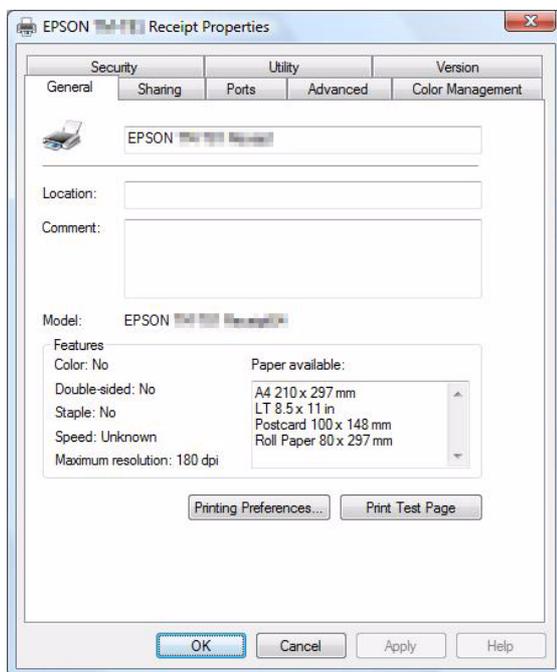
Tab	Description
General	Configures printer name and printing preference, or makes a test print.
Sharing	Configures settings for sharing the printer.
Ports	Configures ports settings.
Advanced	Configures detailed settings for printing.
Color Management	Configures color management settings.
Security	Configures 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).
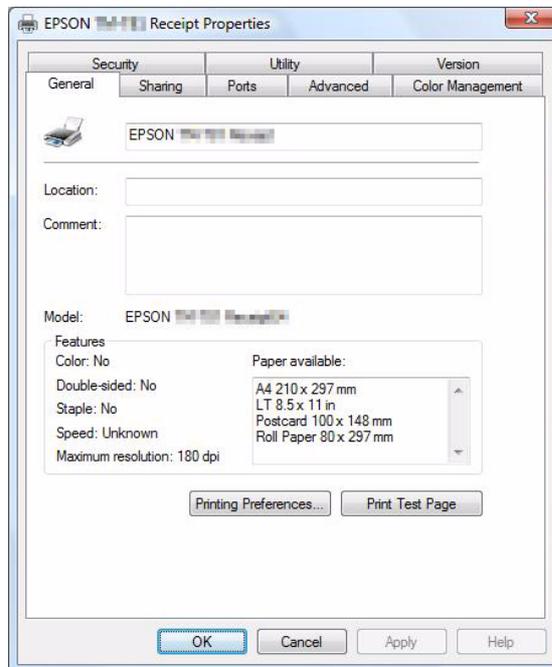
| Setting	Description
Printer Name	Displays the printer driver name.
Location	Accepts the printer location to be input.
Comment	Accepts comments about the printer driver to be input.
Model	Displays the driver name of the TM printer.
Features	Displays functions and papers available with the TM printer.
Printing Preferences...	Displays the Printing Preferences screen.
Print Test Page	Prints the Windows test page.

3

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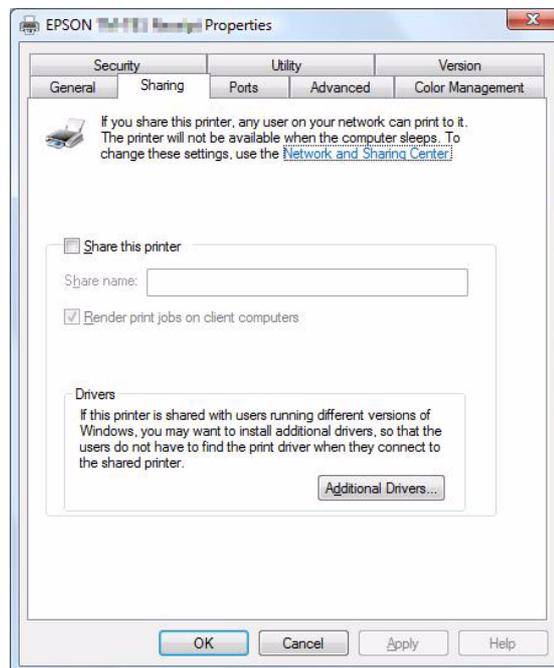
| Setting	Description
Change sharing options	Check this box when a printer is to be shared.
Share this printer	When this box is checked, network users can access a printer connected to this computer.
Share name	Specifies the name of a shared printer.

Ports

Allows you to configure Epson Port settings.
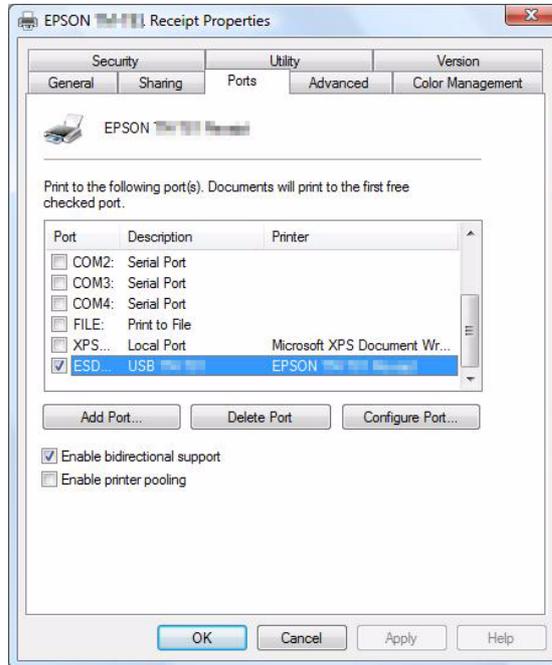
Setting	Description
Add Port...	Creates a new Epson Port.
Delete Port	Deletes an Epson Port.
Configure Port...	Configures an Epson Port.
Enable bidirectional support	Do not uncheck. The APD will become unusable.
Enable printer pooling	Enables printing to two or more identical print devices through one 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.
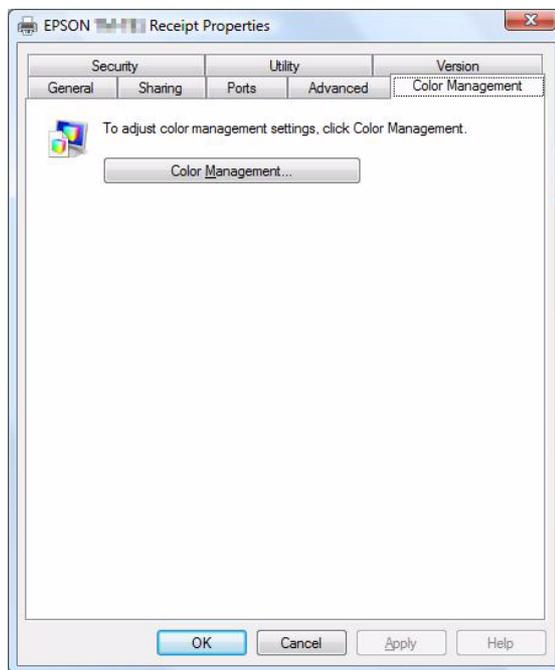
| Setting	Description
Color Management	Set the color management.

Security

Security setting for Windows.
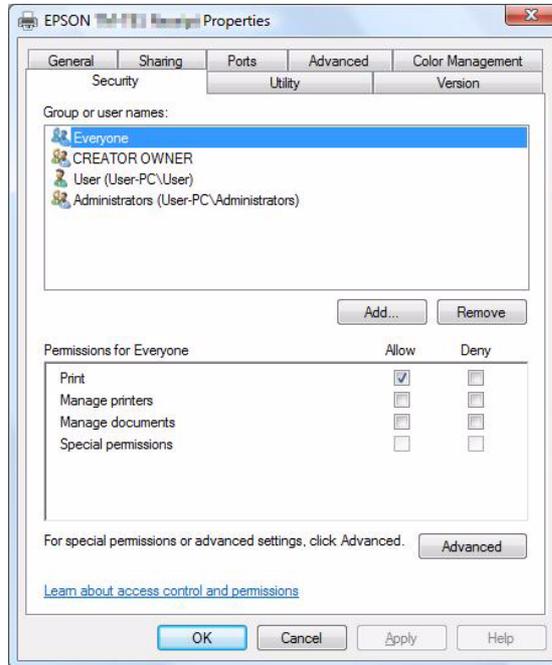
| Setting	Description
Group or user names	Lists the users and groups with assigned permissions for this object. The permissions for the highlighted group or user appear in the list box below.
Add	If you want to add permissions for users or groups, click their names.
Remove	Removes highlighted permission 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.

3

Utility

Allows you to use EPSON Log File Settings, Edit CotrolA Font Character Translation Table, and other utilities.
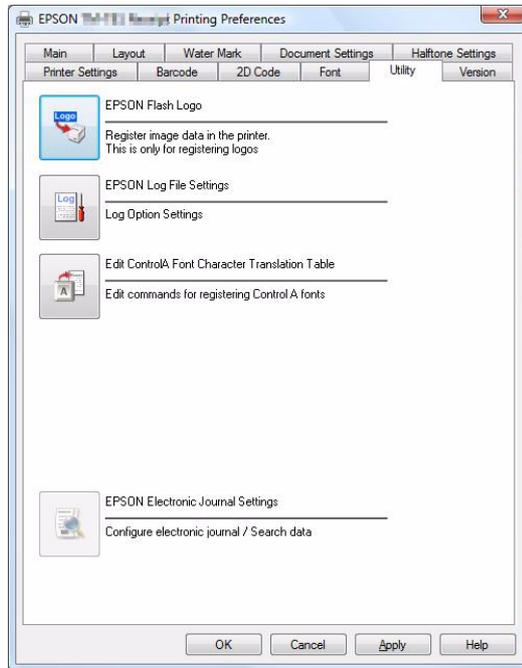
Setting	Description
EPSON Flash Logo	The EPSON TM Flash Logo Setup Utility Ver.3 ("TM Flash Logo Setup Utility Ver.3" on page 99) screen of the printer appears.
EPSON Log File Settings	Opens the Log File Setting screen.
Edit ControlA Font Character Translation Table	Opens the EPSON controlA font setting 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.

Control A Editor screen
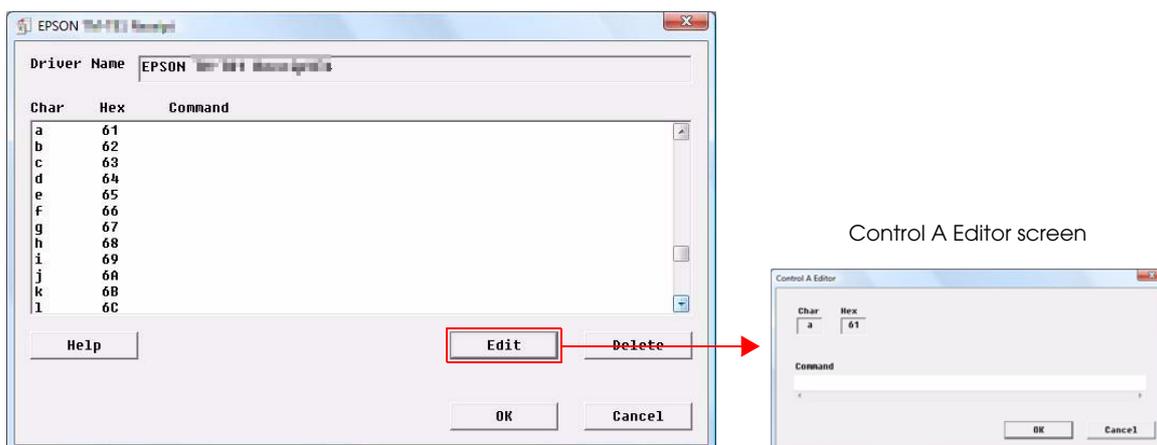
| Setting	Description
Driver Name	Displays the printer driver name for which the controlA Font will be configured.
Char	Displays the selected ASCII code as characters.
Hex	Displays the selected ASCII code as hexadecimals.
Command	Displays the ESC/POS command corresponding to the ASCII code. It is displayed 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.
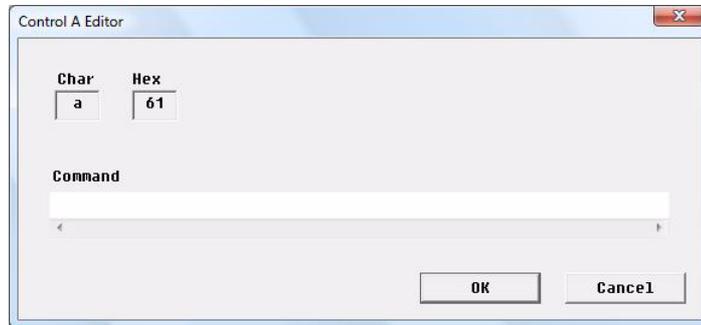
| Setting	Description
Char	Displays the selected ASCII code as characters. The content cannot be changed.
Hex	Displays the selected ASCII code as hexadecimals. The content cannot be changed.
Command	Enter the ESC/POS command that will correspond to the ASCII code. Enter using hexadecimal.

3

Version

Displays the printer driver version information.
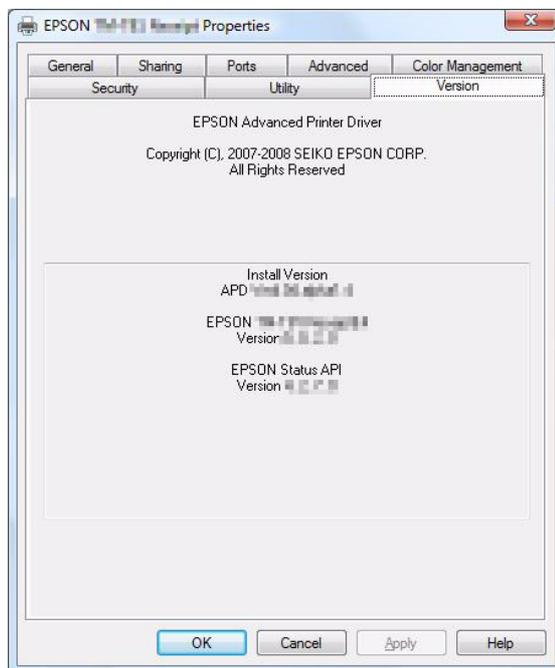
Printing Preferences

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.
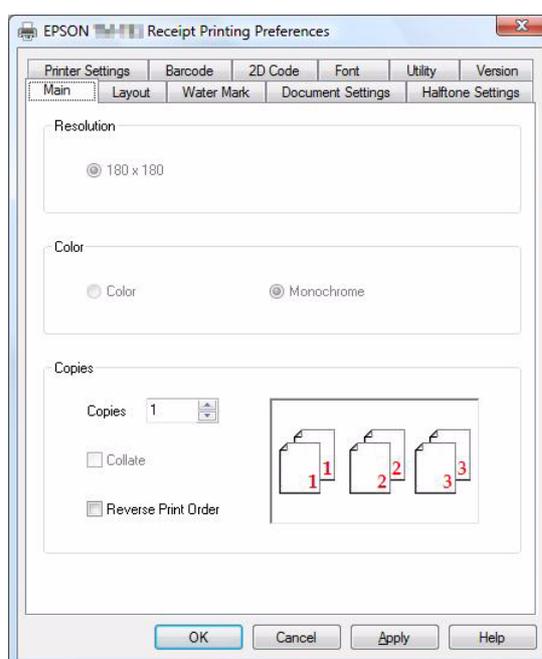
| Tab	Description
Main	Configures basic print settings, such as the number of copies, and color setting.
Layout	Configures paper size and rotation of print images.
Water Mark	Configures Water Mark setting.
Document Settings	Configures the Document Settings.
Halftone Settings	Configures the Dither Type 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.
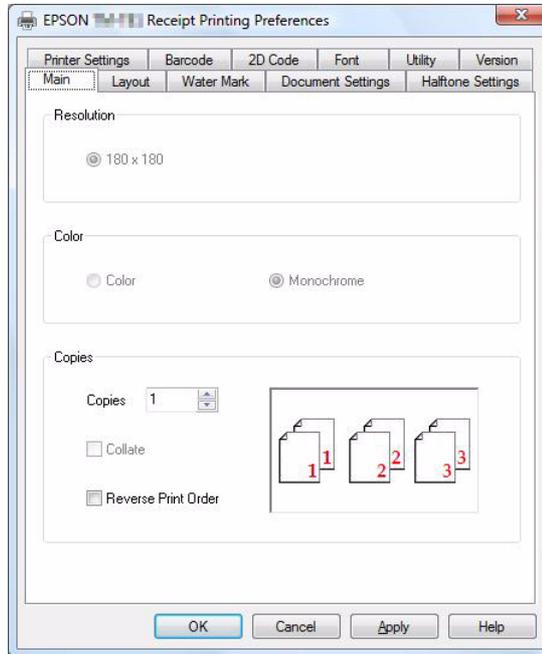
Setting	Description
Resolution	The resolution of the TM printer is specified.
Color	Select whether to print in color or monochrome. Select the (Color) for making color print (two-color printing is made when the printer is two-color printer). Select (Monochrome) to print using a single color (black is 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.
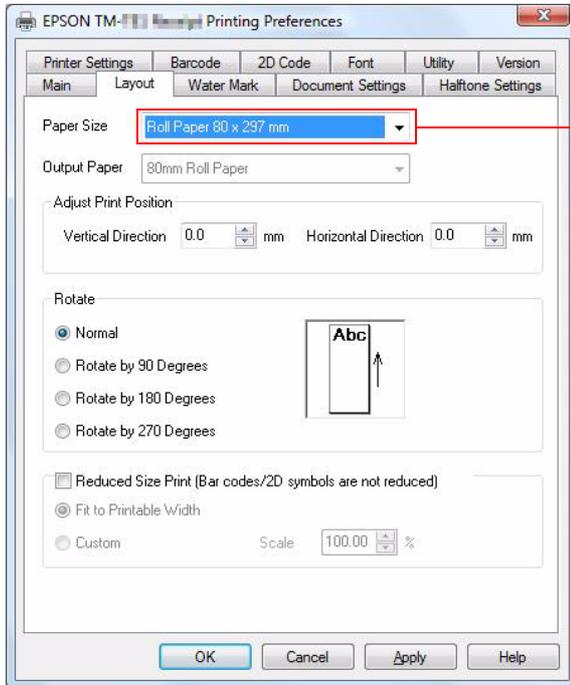
User defined paper size settings.
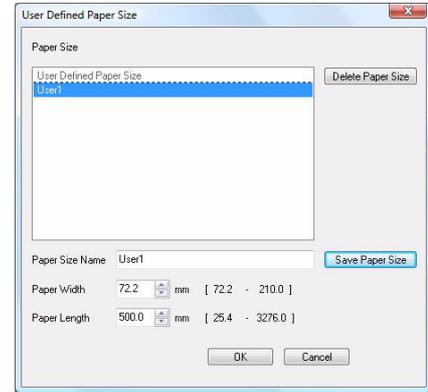
| Setting		Description
Paper Size		Select the paper size from list. The list shows all the paper sizes (including the logic paper sizes and user defined sizes) supported by the printer driver.
Paper size		The sizes of paper which can be set in the TM printers.
	Logic paper size	The original size of a 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.

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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) 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. The rotated print image 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	
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. Reduced Print setting does not change the size of Barcode and 2D-Code.
	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.
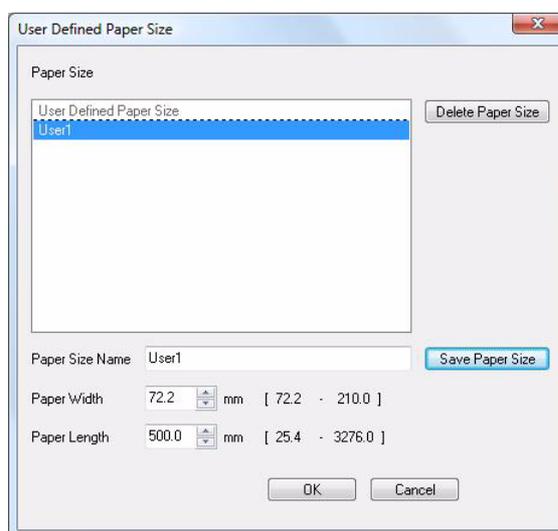
| Setting	Description
Paper Size	This shows the list of saved User defined paper sizes.
	"To define a new custom size, select "User Defined Paper Size".
	When one of the saved custom sizes is selected from the list, the configured (Paper Size name), (Paper Width), and (Paper Length) are displayed and 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.
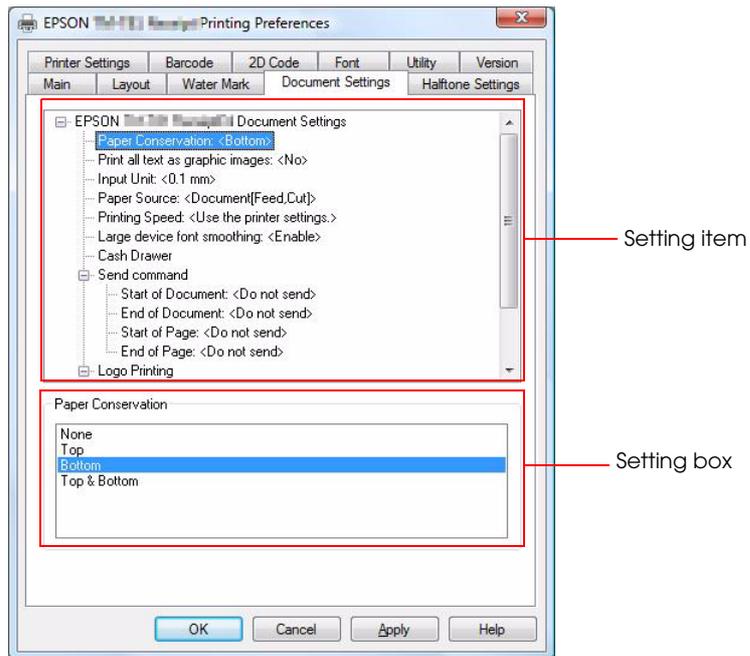
Paper Conservation

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.
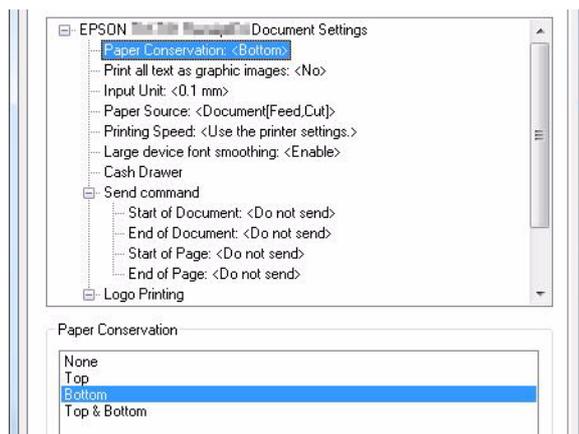
| Setting	Description
None	Does not save paper.
Top	Skips the margin from the beginning of printing to the first print data.
Bottom (Default)	Skips the margin from the last line of the printout to the auto cut point.
Top & Bottom	Skips both margin from the beginning of printing to the first print data 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.
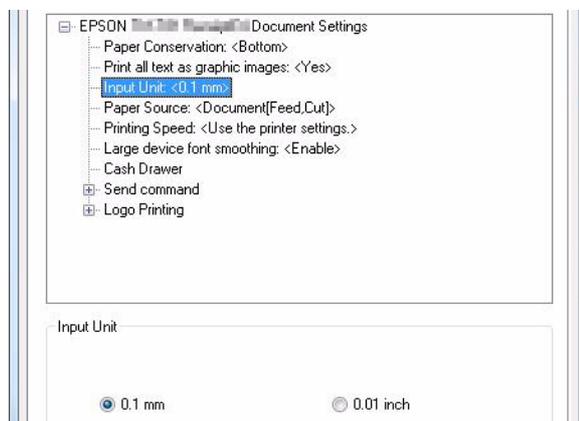
Setting	Description
0.1mm (Default)	The length settings in the user interface can be made in increments of "0.1mm".
0.01inch	The length settings in the user interface can be made in increments of "0.01inch".

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

Reissue

When printing stops in the middle due to an error or printer power-off, printing resumes from the beginning of the page where printing stopped.
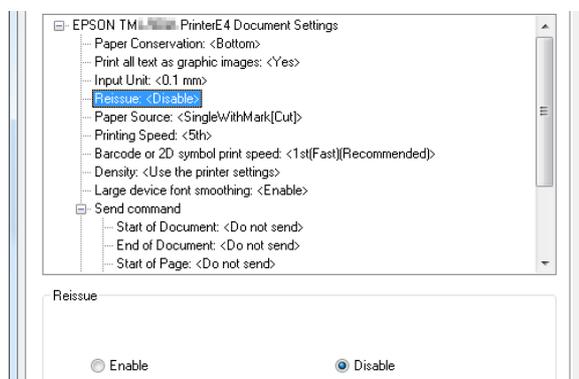
Setting	Description
Enable	Printing resumes from the beginning of the page where printing stopped.

Setting	Description
Disable (Default)	When printing stops in the middle, printing resumes, with the page where printing stopped omitted.

Retry Printing

If printing stops in the middle because the printer cover was open/the FEED button was pressed/ the RELEASE button was pressed/the printer power was cut off/the paper has ended, printing resumes from the beginning of the page where printing stopped.

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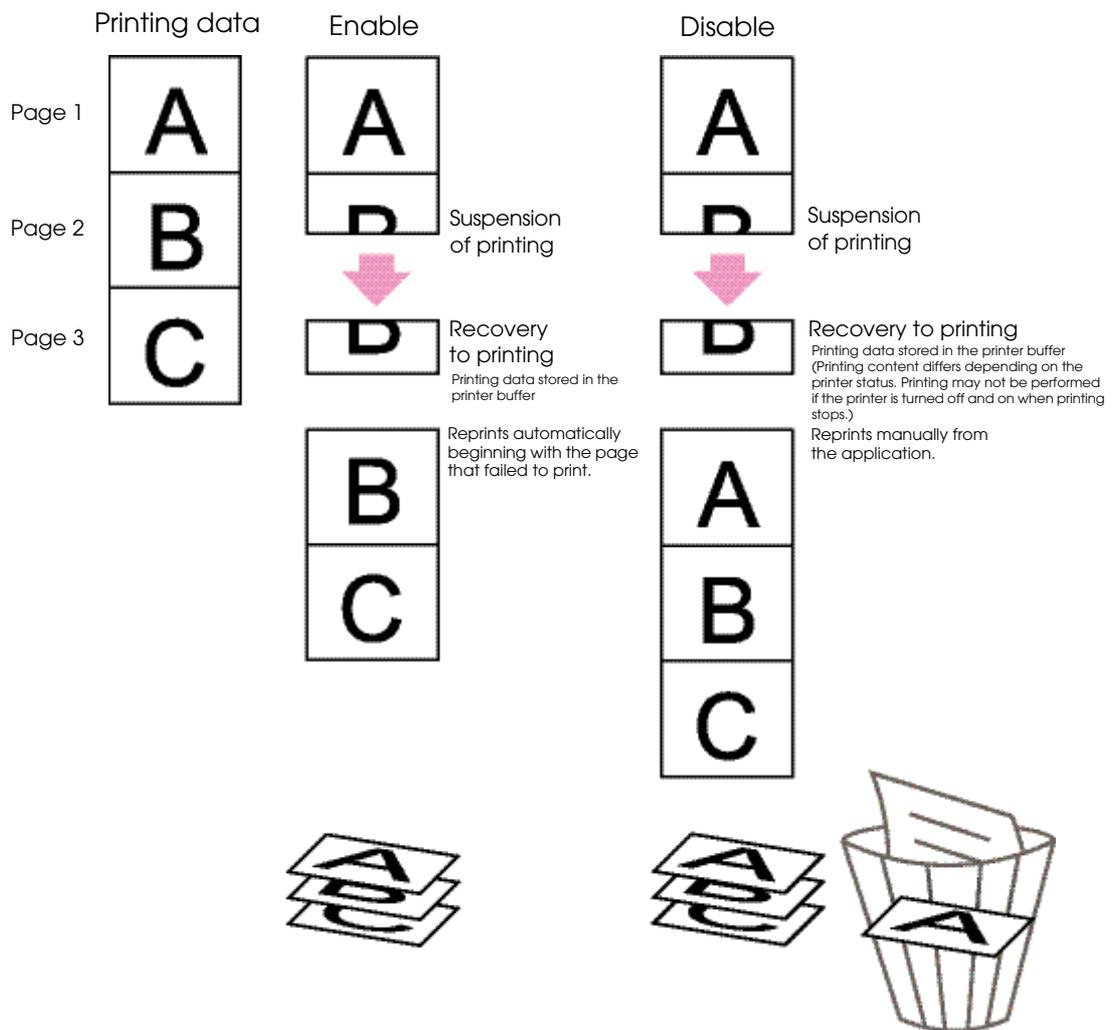
Paper Source

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

Custom setting window
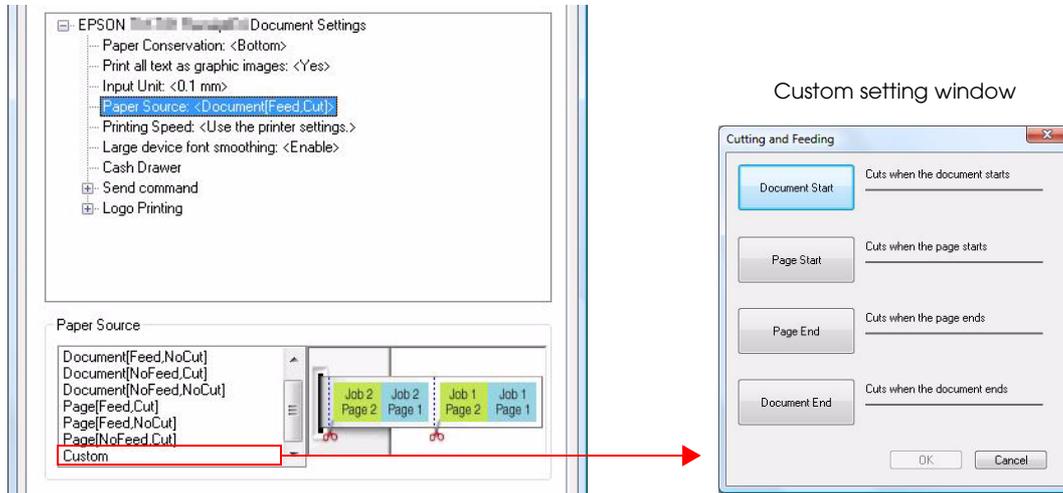
Setting	Description
Single_with_Mark(Cut)	The paper is advanced and cut each time a single page is printed. When the next print job begins, the paper is fed back to the print start position.
Multiple_with_Mark(Cut)	The paper is advanced and cut each time a document is printed. When the next print job begins, the paper is fed back to the print start position.
Multiple_with_Mark(NoCut)	The paper is advanced to the manual cut position each time a print job is finished. When the next print job begins, the paper is fed back to the print start position.
Document(Feed,Cut)	The paper is advanced and cut each time a print job is finished.
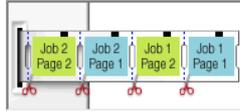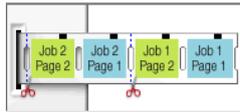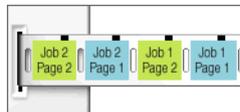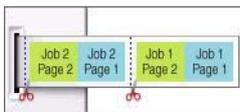
Setting	Description
Document(Feed,No Cut)	The paper is advanced, but not cut each time a print job is finished. Job 2 Page 2 | Job 2 Page 1 | Job 1 Page 2 | Job 1 Page 1
Document(No Feed,No Cut)	The paper is not advanced and not cut each time a print job is finished. Job 2 Page 2 | Job 2 Page 1 | Job 1 Page 2 | Job 1 Page 1
Page(Feed,Cut)	The paper is advanced and cut each time a page is printed. Job 2 Page 2 | Job 2 Page 1 | Job 1 Page 2 | Job 1 Page 1
Page(Feed,No Cut)	The paper is advanced, but not cut each time a page is printed. Job 2 Page 2 | Job 2 Page 1 | Job 1 Page 2 | Job 1 Page 1
Custom	Use this setting when printing on black mark papers or labels. When this is selected, the Custom setting screen appears.
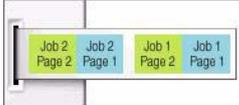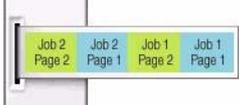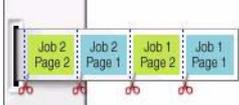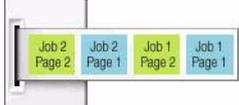
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Custom

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.
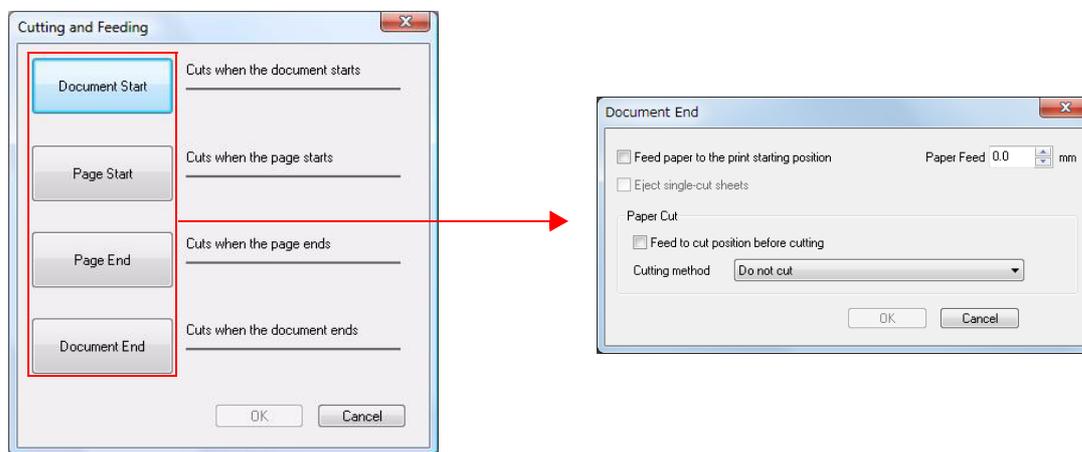
Setting	Description
Feed paper to the print starting position	Specifies whether to advance labels or black mark papers to the print start position. When this box is checked, the paper is advanced to the start position. When not checked, the paper is not advanced.
Paper feed	Specifies the amount of paper 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.
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 • Do not cut and return to the start position • Cut and return to the start position

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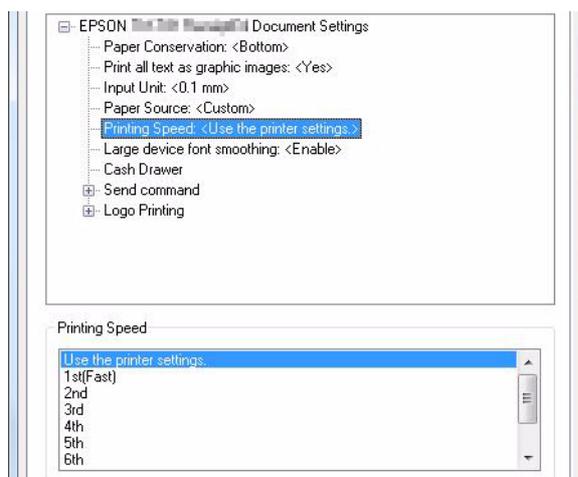
Setting	Description
Use the printer setting. (Default)	The print speed set at the TM Printer is applied.
1st to maximum (slowest)	1st is the fastest, and the maximum is the slowest.

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Barcode or 2D symbol print speed

When "Barcode or 2D symbol print speed" is enabled, the speed for printing barcodes or 2D images can be set slower.
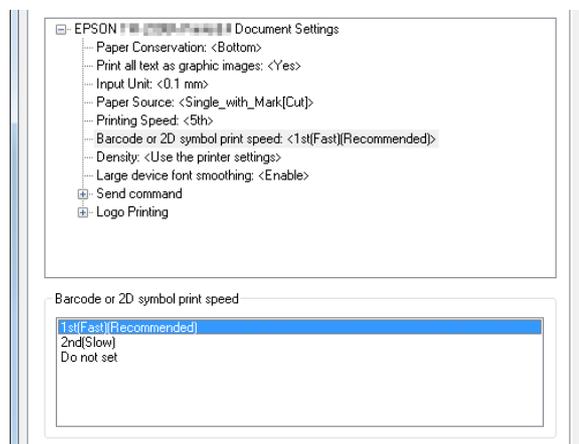
Setting	Description
Do not set	"Barcode or 2D symbol print speed" is disabled.
1st to maximum (slowest)	1st is the fastest, and the maximum is the slowest.

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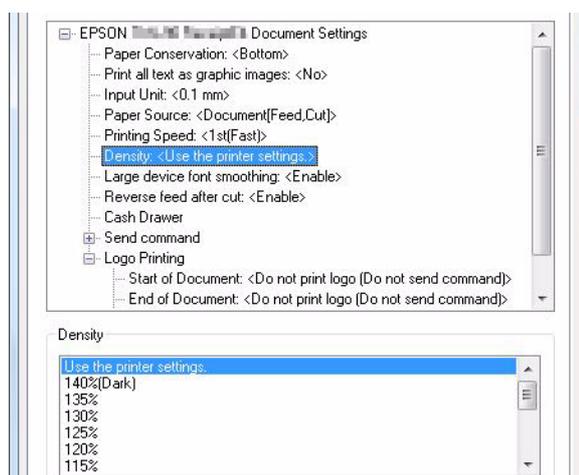
Setting	Description
Use the printer setting. (Default)	Prints with print density set in the TM printer.
70% to 140%	Set print density. 70% is lightest and 140% is densest.

Large device font smoothing

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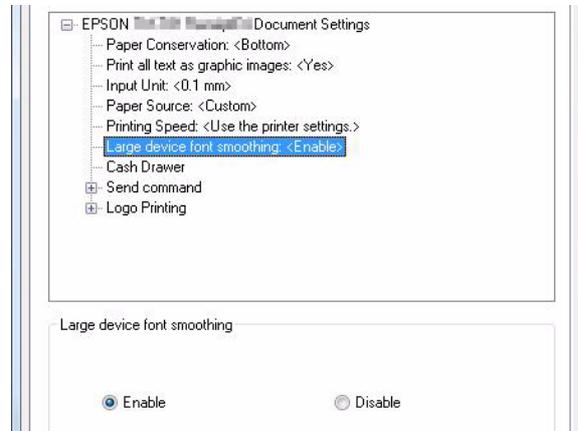
Setting	Description
Enable (Default)	Performs smoothing of the large Device fonts to print them neatly.
Disable	The corners of large device fonts may be printed with jaggies.

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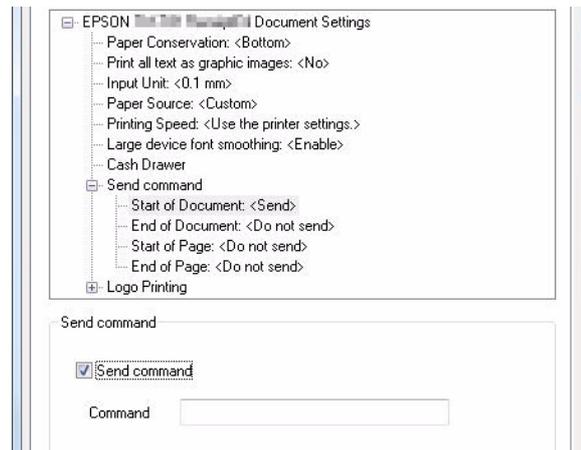
Setting		Description
Start of Document End of Document Start of Page End of Page	Send command	Check this box to send a command when printing.
	Command	Enter a desired ESC/POS command to be sent to the TM printer. You cannot enter the command without checking the "Send command" box.

Logo Printing

A desired logo can be specified to be printed.

Pop-up window when Select image file for use is selected

Pop-up window when logo registered in the printer (NV graphic) is selected
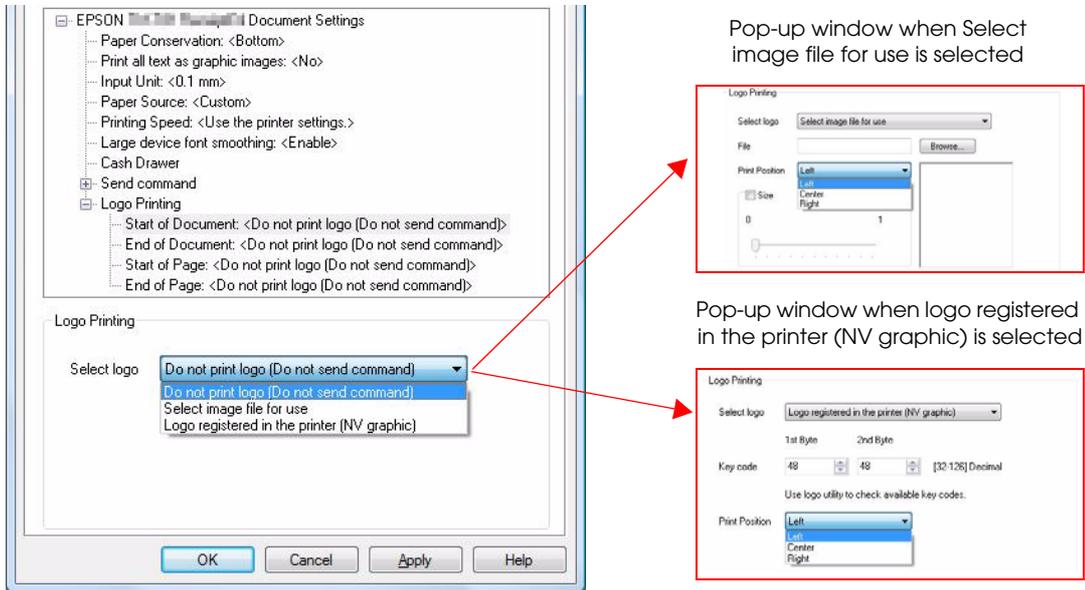
Setting			Description
Start of Document End of Document Start of Page End of Page	Do not print logo (Do not send command)		Does not print a logo.
	Select Image file for use		Prints a logo using an image file.
		File	Specify an image file. The following file types are available: bmp, jpeg, gif, and png.
		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 (NV graphic)		Print a logo registered in the TM printer.
		Key code	Enter a Keycode of the desired logo.
		Print Position	Specify a logo print position. Select Left, Center, or Right.

Halftone Settings

Allows you to select the color treatment and dither type to print color graphics with a single-color printer.

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).

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.

Setting item

Setting box
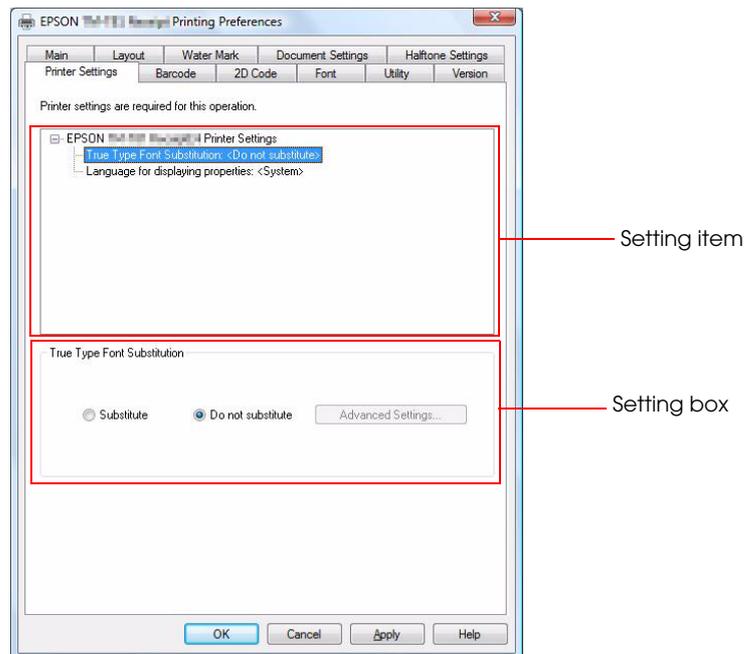
TrueType Font Substitution

Allows you to replace TrueType Font with Device font, Barcode font, 2D-Code font, control font, or controlA font.
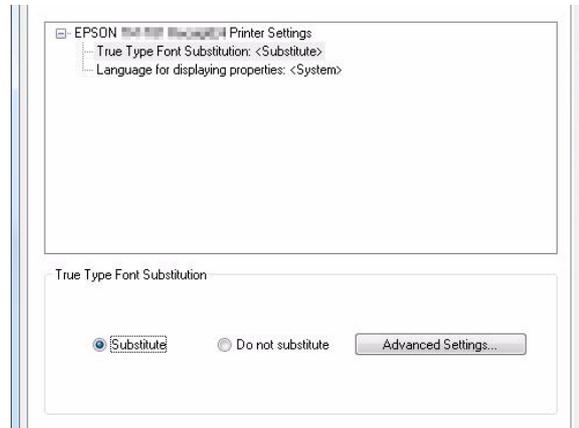
Setting	Description
Substitute (Default)	Replaces TrueType font with Device font, Barcode font, 2D-Code font, control font, or controlA font.
Do not Substitute	Does not replace the TrueType font.
Advanced settings	Displays the "TrueType Font Substitution" screen. This button is enabled when the "Replace" 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.
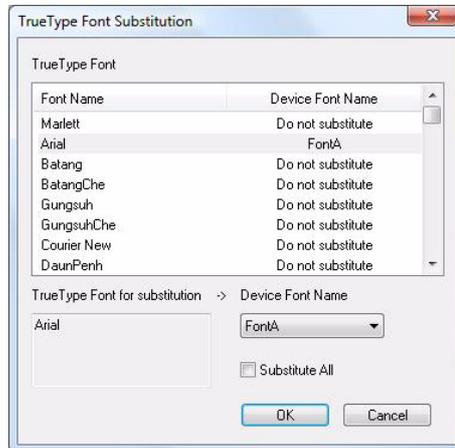
Setting	Description
TrueType Font	Displays the TrueType font list. Select TrueType fonts to be replaced.
TrueType Font for substitution	Displays the fonts selected by the "TrueType Font" list.
Device Font Name	Specify the device fonts to be replaced, "Barcode","Control","ControlA" and "2D-Code".
Substitute 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.

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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.

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, GS1-128, GS1 DataBar Omni-directional, GS1 DataBar Truncated, GS1 DataBar Expanded, GS1 DataBar Limited, Code 2 of 5, Code39 with check digit, ITF with check digit, Code 2 of 5 with check digit). Select "Do 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.

Setting	Description
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). 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.
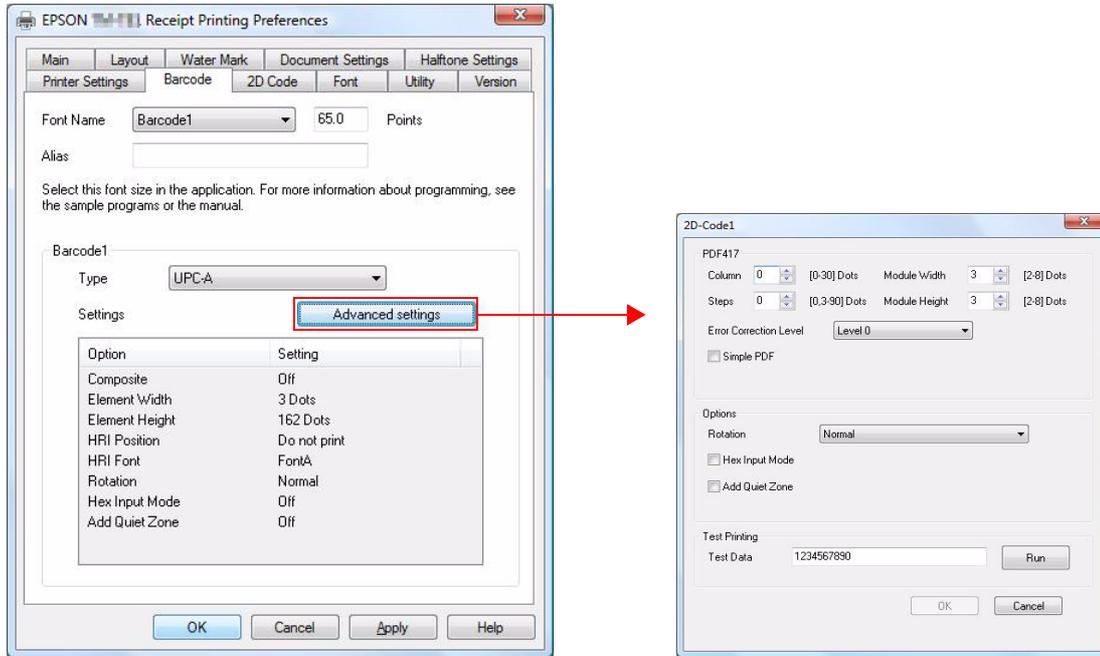
Setting	Description
Font Name	Select a desired 2D-Code font from the pull-down list. The point value changes according to the height of the 2D-Code.
Alias	An alias name can be specified for the selected 2D-Code font. Up to 31 characters can be entered. Alphanumeric characters, spaces, and the following symbols can be used. Available characters: !"#$%&'()*+,-./:;<=>?@(\)^_`{|}~
Type	Select a desired 2D-Code type from the pull-down list (PDF417,QRCode,MaxiCode,GS1 DataBar Stacked,GS1 DataBar Stacked Omni-directional,GS1 DataBar Expanded Stacked). Select "Do 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.
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	

Setting		Description
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
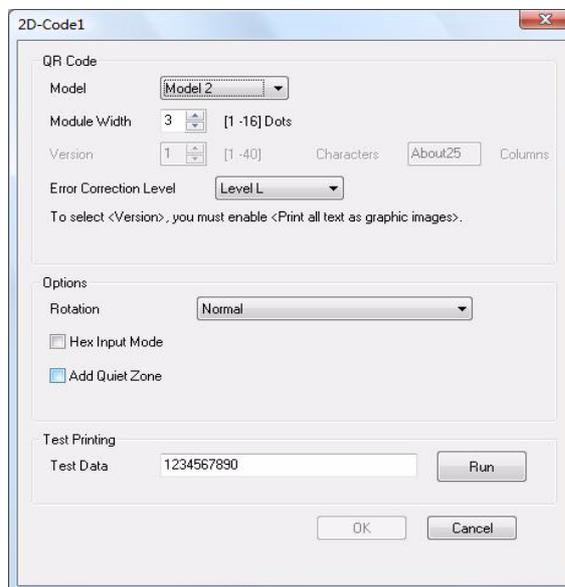
Setting	Description
Model	Specifies a QR Code model (Model 1 and Model 2).
Module Width	Configures the cell (module) of QR Code to be printed. The setting can be changed within the range of 1 to 16.
Version	Specifies the QR Code version. Depending on the QR Code version, the number of characters to be 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).

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 QR Code as test printing.
	Test Data	Inputs data for test printing.
	Run	Prints input data.

Maxi Code
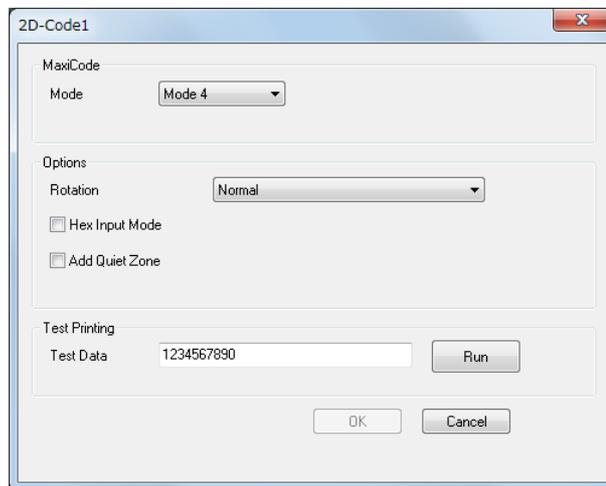
Setting	Description
Mode	Specifies Mode (2 to 6) of Maxi Code. Check the (Hex Input Mode) box when specifying "Mode2" and "Mode3".

| 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 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.

GS1 DataBar Stacked

Setting	Description
Composite	Adds a composite symbol to a two-dimensional symbol.
Module Width	Specifies the cell (module) width of GS1 DataBar Stacked to be printed. The setting can be changed within the range of 2 to 8.

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 GS1 DataBar Stacked as test printing.
	Test Data	Inputs data for test printing.
	Run	Prints input data.

GS1 DataBar Stacked Omni-directional

Setting	Description
Composite	Adds a composite symbol to a two-dimensional symbol.
Module Width	Specifies the cell (module) width of GS1 DataBar Stacked Omni-directional to be printed. The setting can be changed within the range of 2 to 8.

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 GS1 DataBar Stacked Omni-directional as test printing.
	Test Data	Inputs data for test printing.
	Run	Prints input data.

GS1 DataBar Expanded Stacked

Setting	Description
Composite	Adds a composite symbol to a two-dimensional symbol.

| Setting		Description
Module Width		Specifies the cell (module) width of GS1 DataBar Expanded Stacked to be printed. The setting can be changed within the range of 2 to 8.
Maximum Width		Specifies maximum width of GS1 DataBar Expanded Stacked to be printed. The setting can be changed within the range of 106 to 3952.
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 GS1 DataBar Expanded Stacked as test printing.
	Test Data	Inputs data for test printing.
	Run	Prints input data.

Aztec

| Setting		Description
Symbol Type		Select the symbol type (Full Range Mode, Compact Mode).
Module Width		Configures the cell (module) of Aztec to be printed. The setting can be changed within the range of 1 to 16.
Error Correction Level		Set the Aztec error correction level (0: Auto, 1 - 99%).
Number of Layers		Set the number of layers. The setting range will vary according to the symbol type selected: "Auto" and 1 - 4 for "Compact Mode", and "Auto" and 4 - 32 for "Full Range Mode".
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.

| Setting		Description
Test Printing		Prints a set GS1 DataBar Expanded Stacked as test printing.
	Test Data	Inputs data for test printing.
	Run	Prints input data.

Data Matrix

Setting		Description
Module Width		Specifies the cell (module) width of Data Matrix to be printed. The setting can be changed within the range of 1 to 16.
Number of Cells		Select the cell size. Auto 10x10 12x12 14x14 16x16 18x18 20x20 22x22 24x24 26x26 32x32 36x36 40x40 44x44 48x48 52x52 64x64 72x72 80x80 88x88 96x96 104x104 120x120 132x132 144x144
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 GS1 DataBar Expanded Stacked 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.

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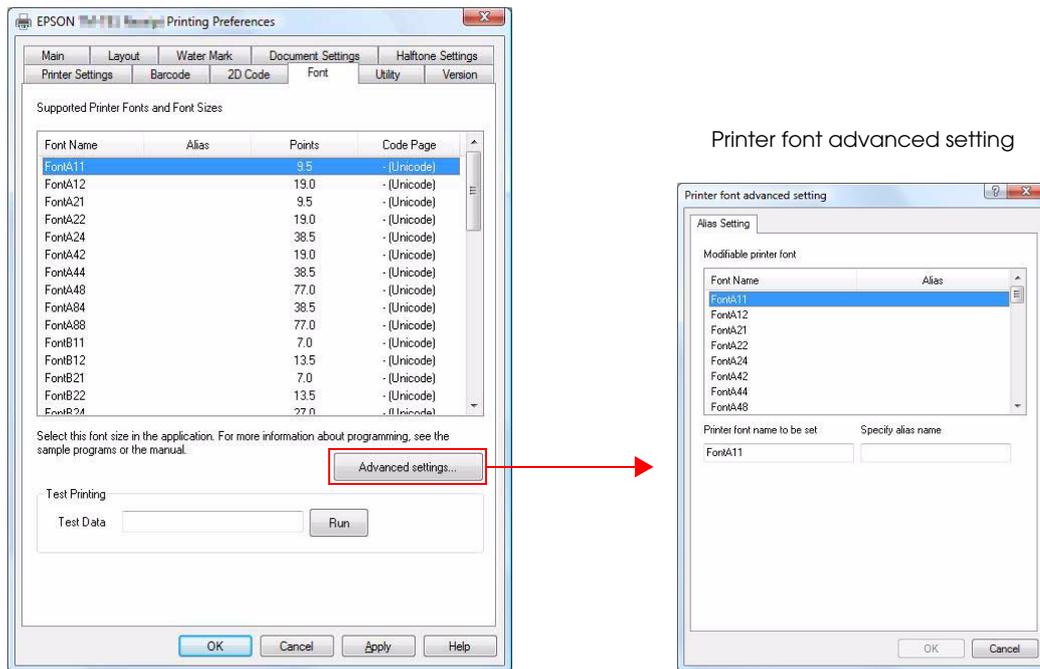
Setting		Description
Advanced settings		Displays the Printer font advanced setting screen.
Test Printing		Prints the device font as test printing.
	Test Data	Inputs data for test printing.
	Run	Prints input data.

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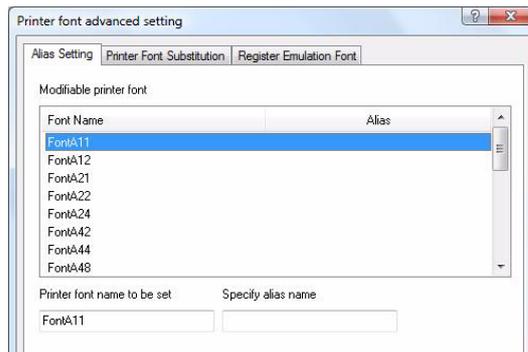
Setting	Description
Modifiable printer font	The device fonts to which their alias names can be specified are displayed.
Printer font name to be set	The fonts selected from the "Modifiable printer font" list are displayed.
Specify alias name	Specify an alias name.

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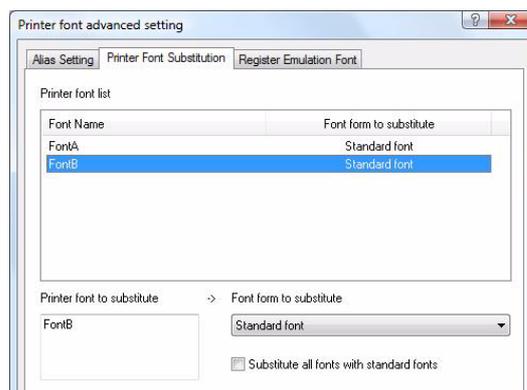
Setting	Description
Printer font list	Lists the replaceable device fonts.
Printer font to substitute	The font selected in the "Printer font list" appears.
Font form to substitute	Specify the substitute font.

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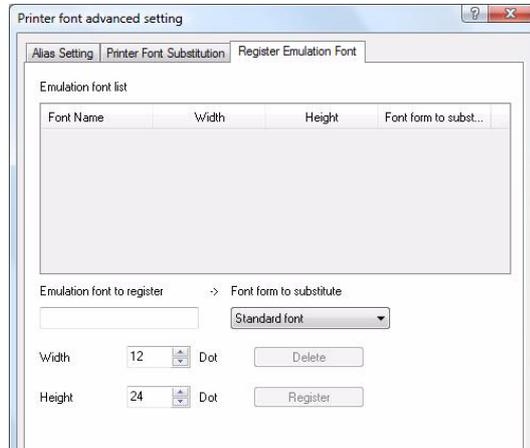
Setting	Description
Emulation font list	A list of the registered emulation fonts appears.
Emulation font to register	Specify the emulation font name to register.
Width	Specify the width in dots.
Height	Specify the height in dots.
Font form to substitute	Specify the substitute font from the pull-down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

TM Flash Logo Setup Utility 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.

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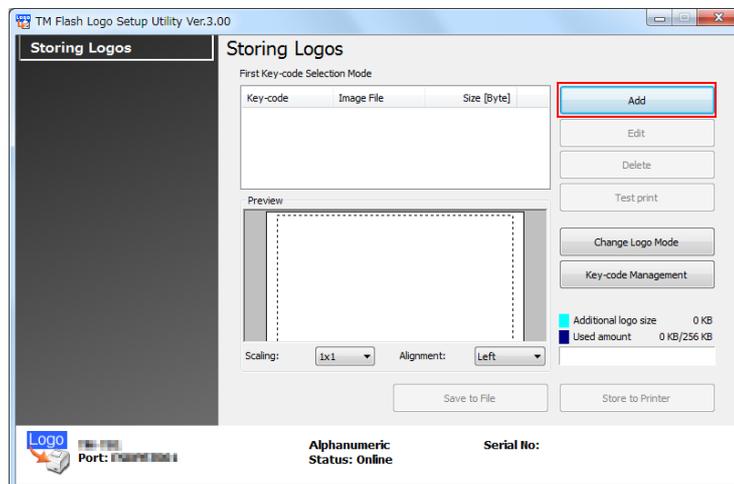
4 Specify the image data to be used as a logo.

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.
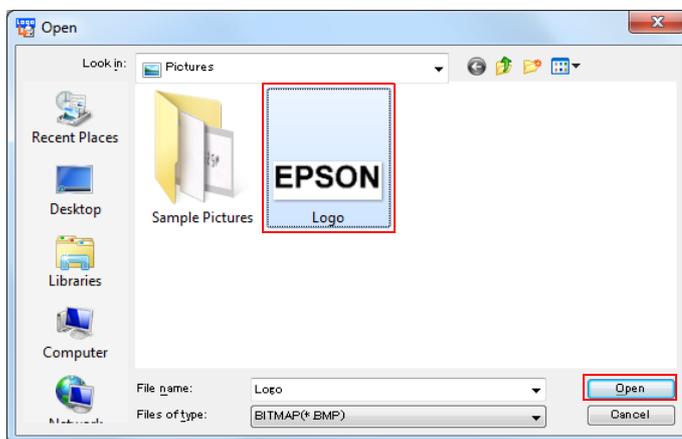
5 The (Logo Edit) screen appears. Edit the logo image while checking the image previewed on the upper portion of the screen. When finished, click the (OK) button.
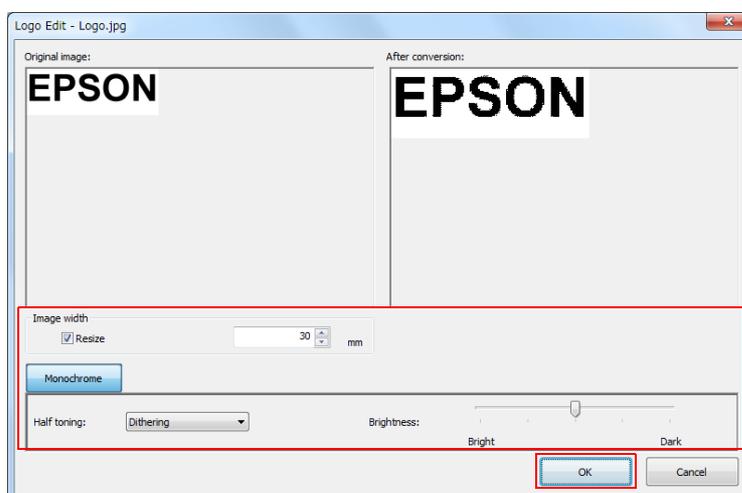
You can edit the followings.

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).
Brightness	Configures the brightness of the image. Select from 5 levels.

6   The logo data is added on the list. When storing multiple logo data, repeat Step 3 through 5.

7   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.
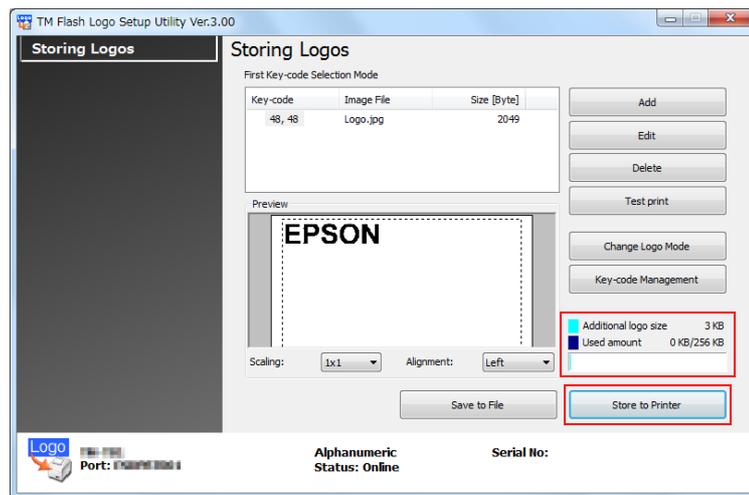
8   The logo data is stored to the printer.
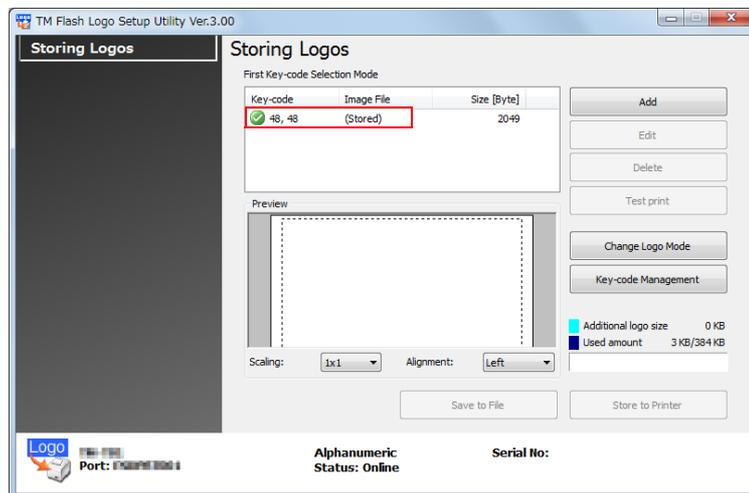
Reference

This section explains about the settings of TM Flash Logo Setup Utility.
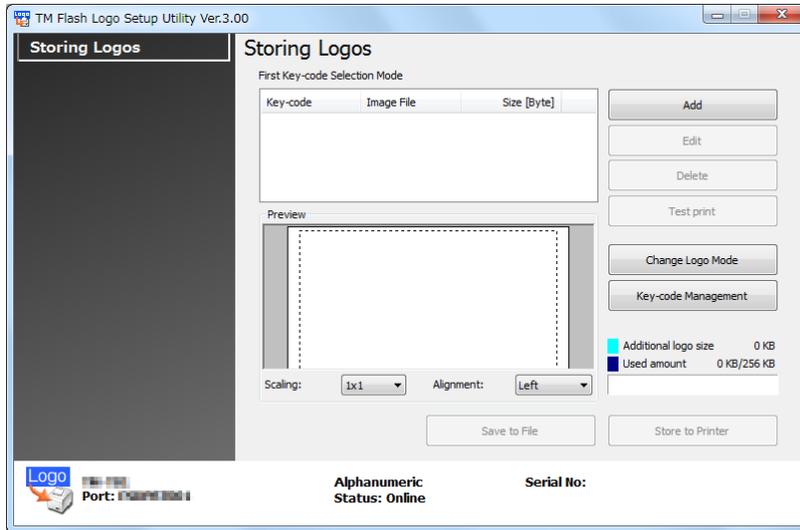
Setting	Description
Add	Adds the logo data.
Edit	Edits the halftone and brightness settings of the selected logo data.
Delete	Deletes the selected logo data from the list or deletes logos stored on the printer.
Test print	Prints the selected logos.
Change Logo Mode	Displays "Select Mode for Storing Logo" 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 l) to your logo instead of using a key code.
Key-code Nonuse Mode (not recommended)	Not recommended.
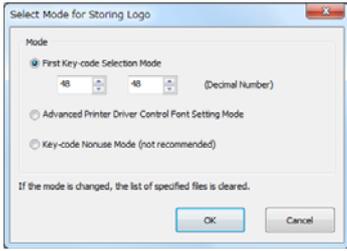
Setting	Description
Key-code Management	You can check the Key-code of the logo stored in the printer, or delete the logos. Key-code Management Key-code 48, 48 Delete Delete All Get Key-code OK
Preview	Displays the logo image to be stored on the printer. Logo images stored on the printer are not displayed.
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.
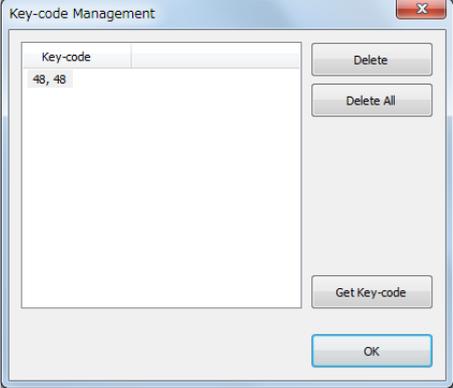
Restrictions

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 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.

4. 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.

5. 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].

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6. 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.

7. When printing with Microsoft ACCESS, the text in the print result may be misaligned or align left may not be possible.

8. Operation in a Windows XP multi-user environment is not guaranteed.

9. 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	-	-	✓

10. 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. 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. Euro currency symbol cannot be printed.

7. 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.

8. 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.

9. Align center or left using Control Font cannot be used with graphics printing.

10. [Separator Page] in the printer driver Properties - [Advanced] tab is not available.

11. 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.

12. 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)

13. 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.

14. The color format is fixed to 24 BPP. So check that dmColor setting for Devmode is set to "Color" on the application side.

15. When water mark and 2-D symbol are used in a single data, the printout could be misaligned (displaced).

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16. 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.

17. 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.

18. 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 Specification

This chapter explains the specifications of the Device Font, the Control Font, the Control A Font, the Resolution, the Paper Size, the Rotate, the Reduce and the Water Mark.

> **CAUTION** Administrator permission is required for property settings of the printer driver.

Item	Description
Driver Name	EPSON TM-L500A PrinterE4
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
	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)
Barcode Font	Barcode Font Points determined. When specifying a value other than this, the Barcode is not printed.

Barcode Font		
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 QR Code PDF417 MaxiCode GS1 DataBar Stacked GS1 DataBar Stacked Omni-directional GS1 DataBar Expanded Stacked Aztec Data Matrix	

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
g	No paper feeding + Partial cut	x	Position alignment center
h	NV graphics 0 printing (48,48)	y	Position alignment right
i	NV graphics 1 printing (48,49)	P	Paper feeding +Partial cut
j	NV graphics 2 printing (48,50)		

Item	Description
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	102x102DPI, 204x204DPI

Paper Size	Boarding Pass 82.5mm x 203.2mm
	    Paper Size 82.5mm x 203.2mm (662dot x 1632dot)
	    Printing Width 79.7mm (640dot)
	    Margin top 4.0mm(32dot) bottom 0.5mm(4dot)
	                   left 1.3mm(11dot) right 1.3mm(11dot)
	
	Boarding Pass 82.5mm x 187.3mm
	    Paper Size 82.5mm x 187.3mm (662dot x 1504dot)
	    Printing Width 79.7mm (640dot)
	    Margin top 4.0mm(32dot) bottom 0.5mm(4dot)
	                   left 1.3mm(11dot) right 1.3mm(11dot)
	
	Boarding Pass 79.5mm x 203.2mm
	    Paper Size 79.5mm x 203.2mm (638dot x 1632dot)
	    Printing Width 76.7mm (616dot)
	    Margin top 4.0mm(32dot) bottom 0.5mm(4dot)
	                   left 1.3mm(11dot) right 1.3mm(11dot)
	
	Boarding Pass 82.5mm x 187.3mm
	    Paper Size 79.5mm x 187.3mm (638dot x 1504dot)
	    Printing Width 76.7mm (616dot)
	    Margin top 4.0mm(32dot) bottom 0.5mm(4dot)
	                   left 1.3mm(11dot) right 1.3mm(11dot)
	
	Baggage Tag 54mm x 540mm
	    Paper Size 54mm x 540mm (433dot x 4337dot)
	    Printing Width 50.6mm (406dot)
	    Margin top 4.0mm(32dot) bottom 2.0mm(16dot)
	                   left 1.4mm(12dot) right 1.8mm(15dot)
	
	Baggage Tag 54mm x 514.3mm
	    Paper Size 54mm x 514.3mm (433dot x 4130dot)
	    Printing Width 50.6mm (406dot)
	    Margin top 4.0mm(32dot) bottom 2.0mm(16dot)
	                   left 1.4mm(12dot) right 1.8mm(15dot)
	
	User Defined Paper Size
	    Width 50.6~210.0mm, Height 25.4~3276.0mm

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.