

## Advanced Printer Driver Ver.4

# TM/BA/EU Printer Manual

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### APD Overview

Descriptions of the APD features.

### Using the APD

Descriptions of simple printings and useful functions.

### Reference

Descriptions of property settings of the printer driver.

### TM Flash Logo Setup Utility

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

### Paper layout set tool

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

### Restrictions

Descriptions of restrictions on use of the APD.



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## ESC/POS® Command System

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

## For Safety

### Key to Symbols

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

**CAUTION**

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

**NOTE**

Provides important information and useful tips.

## Restriction of Use

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

## About this Manual

### Aim of the Manual

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

### Manual Content

The manual is made up of the following sections:

Chapter 1	<a href="#">APD Overview</a>
Chapter 2	<a href="#">Using the APD</a>
Chapter 3	<a href="#">Reference</a>
Chapter 4	<a href="#">TM Flash Logo Setup Utility</a>
Chapter 5	<a href="#">Paper layout set tool</a> (utility only for the TM-L90)
Chapter 6	<a href="#">Restrictions</a>



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# APD Overview

## Introduction

The Advanced Printer Driver (APD) is a Windows driver for the EPSON TM/BA/EU 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

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#### 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.

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#### TM Printer Manual

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

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#### Printer Specification

Descriptions of the specifications of each printer driver.

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#### TM-C100 Manual

Descriptions of how to use the TM-C100 printer driver and its functions.

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#### Customer Display Manual

Descriptions of how to use the Customer Display printer driver and its functions.

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#### Status API Manual

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

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#### 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.



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## *Inquiries*

See the Epson homepage.

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

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### ESC/POS commands

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

# APD4 Features

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## 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 20](#))
- Allow you to print logos and graphics. (["Printing a Logo" on page 38](#))
- Allows you to send the paper cut command to the TM printer. (["Paper Feed and Paper Cut" on page 41](#))
- Allows you to send the open command to the cash drawer. (["Drawer Control" on page 43](#))

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## 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 38](#))

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## Convenience

- Allows you to make horizontally long printings by rotated printing, for example landscape format receipt. 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 35](#))
- Allows you to print images as a background. (["Background printing" on page 37](#))
- Allows you to print A4 size document automatically scaled down to fit the paper width.

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## 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 45](#))

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## 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.

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## 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.

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## Compatibility

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

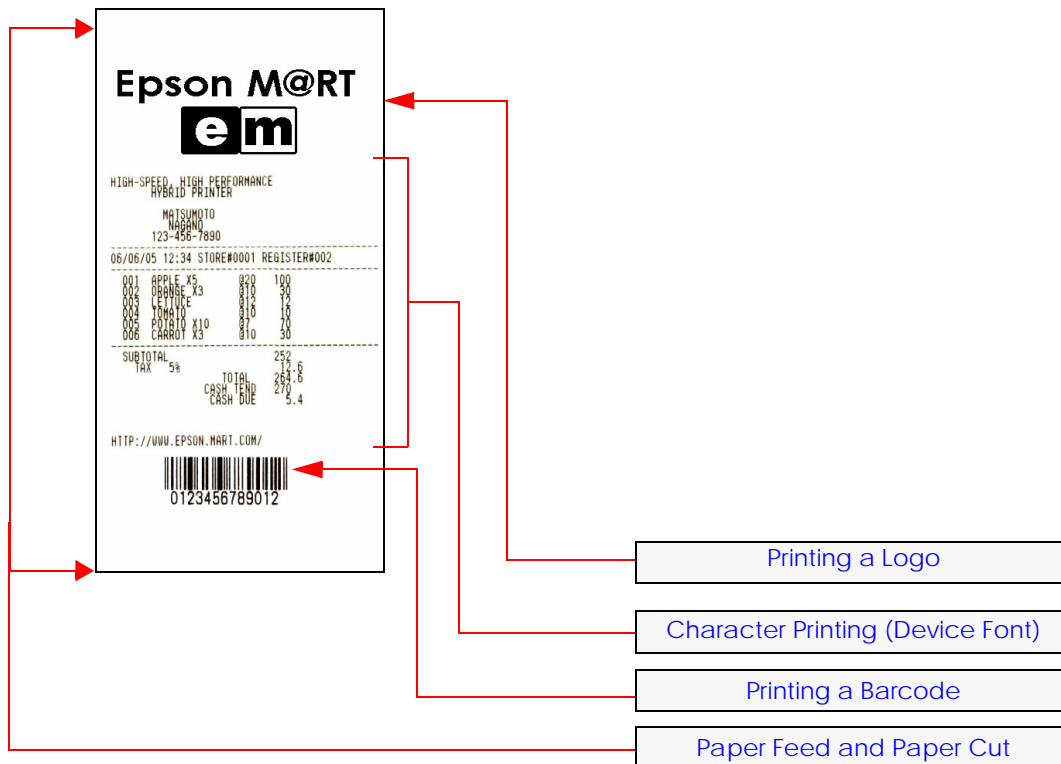
### CAUTION

- 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.

- Coexistence with OPOS in a computer is not possible.



## Printing Example



## *Differences Depending on the OS*

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

Item	Description
Screens shown	Screens in Windows Vista are used for the descriptions in this manual.
Setting a printer driver	Windows 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].

# Using the APD

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

## CAUTION

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

## Application Printer Settings

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

## NOTE

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

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

### 1. Printer driver specification

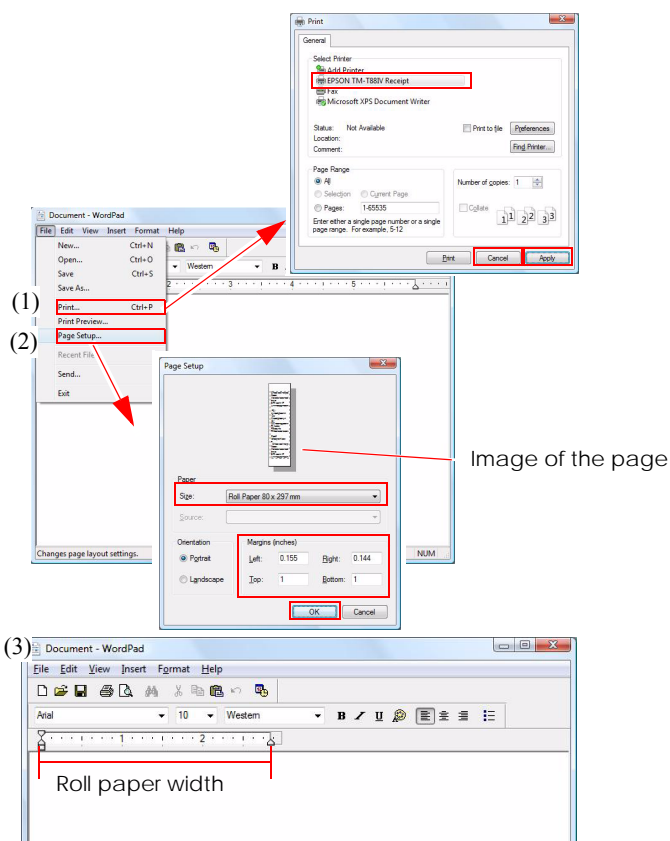
Select [File] - [Print...] to display the print dialog box. Select the printer driver you are to use. Press the [Apply] button, then press the [Cancel]. Return to WordPad screen.

### 2. Page Setup

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

### 3. Exit Settings

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



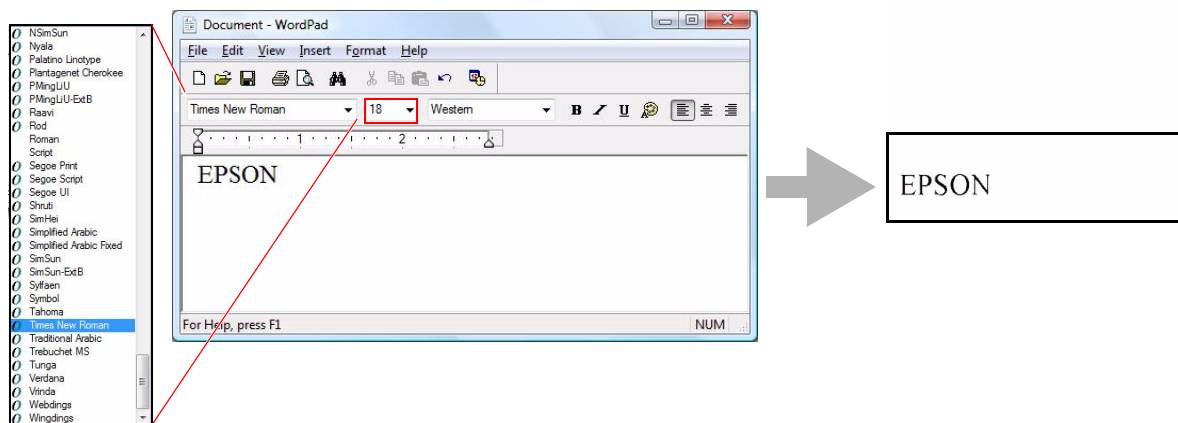
## Character Printing (TrueType fonts)

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

### CAUTION

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

Specify TrueType font, Point and Style for print data.



# Character Printing (Device Font)

Device Font is the font set built into the TM printer.  
You can obtain text quality in line with the performance of the TM printer.  
You can print text at a higher speed than TrueType font.  
To print Device Font in a .NET environment, you must replace the font. See ["Device Font Printing in a .NET Environment" on page 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.  
Some fonts are not supported, depending on the model of TM printer. See "Printer Specification" for details.

- FontAxx
- FontBxx
- FontCxx

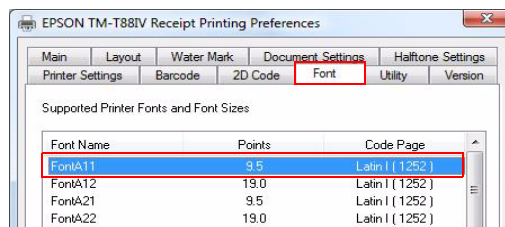
### Device Font Size

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

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

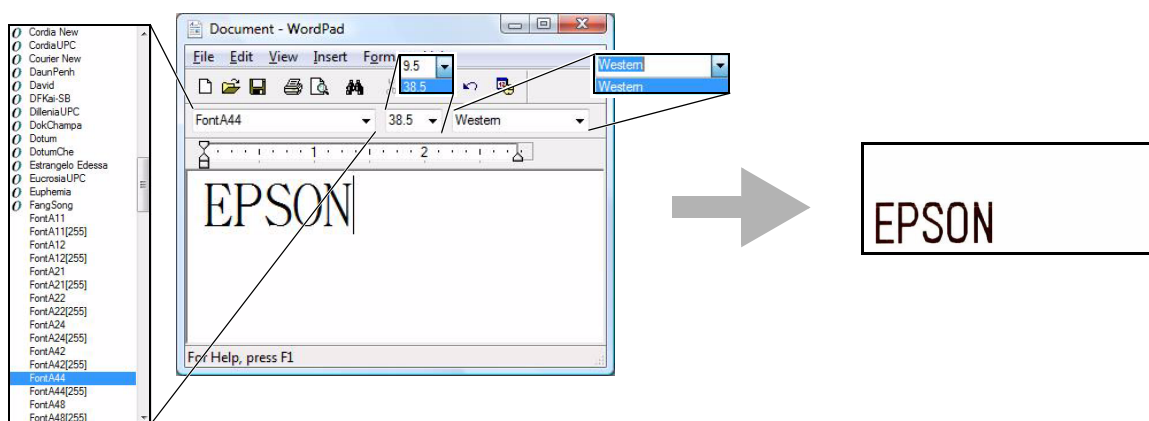
The Device Font Point varies with the TM printer. Also, Point is determined for every Device Font. Check with the Printer Settings - [Font] tab of the printer driver.

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



## Printing Method

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



### CAUTION

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

### NOTE

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

## Program

The following is an example program for reference.

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



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

## Printing a Barcode

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

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

The Barcodes you can print differ with each TM printer. See "Printer Specification" for details.

### Barcode font setting

Select the Barcode tab from Printing Preferences.

Barcode tab

Font Name

Points

Alias

Barcode type

Open the Advanced settings

Element width  
(width of the thin lines in dots)

Element height  
(height of the thin lines in dots)

HRI characters

Element

HRI characters

Rotation

Quiet Zone

Make the following settings. See ["Barcode" on page 92](#) for details.

Setting	Description
Font Name	You can set Barcode font for up to 8 Barcode types (Barcodes 1 ~ 8). When programming, specify the font using "Font Name" or "Alias".
Points	The Barcode font size is displayed. When printing, specify this value from the application side.
Alias	You can make optional settings. You can specify Alias during programming.
Barcode type	Configures the Barcode type (UPC-A, RSS, etc)



Setting	Description
Element	Determines the Barcode size. Specifies the finest Element width and height. Units are the smallest dot of the TM printer. This result determines the Barcode font Point.
HRI characters	Sets with/without HRI characters, position and font.
Rotation	Sets whether to independently rotate Barcode.
Hex Input Mode	Allows the Barcode characters to be entered in binary.
Add Quiet Zone	The blank margin on either side of a Barcode required in order to read the Barcode.

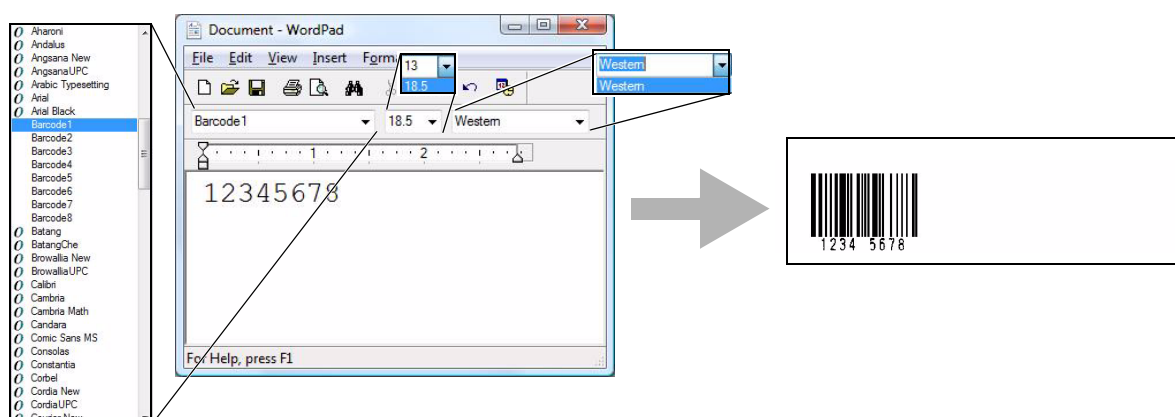
**NOTE**

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

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

## Printing Method

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

**CAUTION**

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

**NOTE**

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

## Program

The following is an example program for reference.

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

# Printing a 2D-Code

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

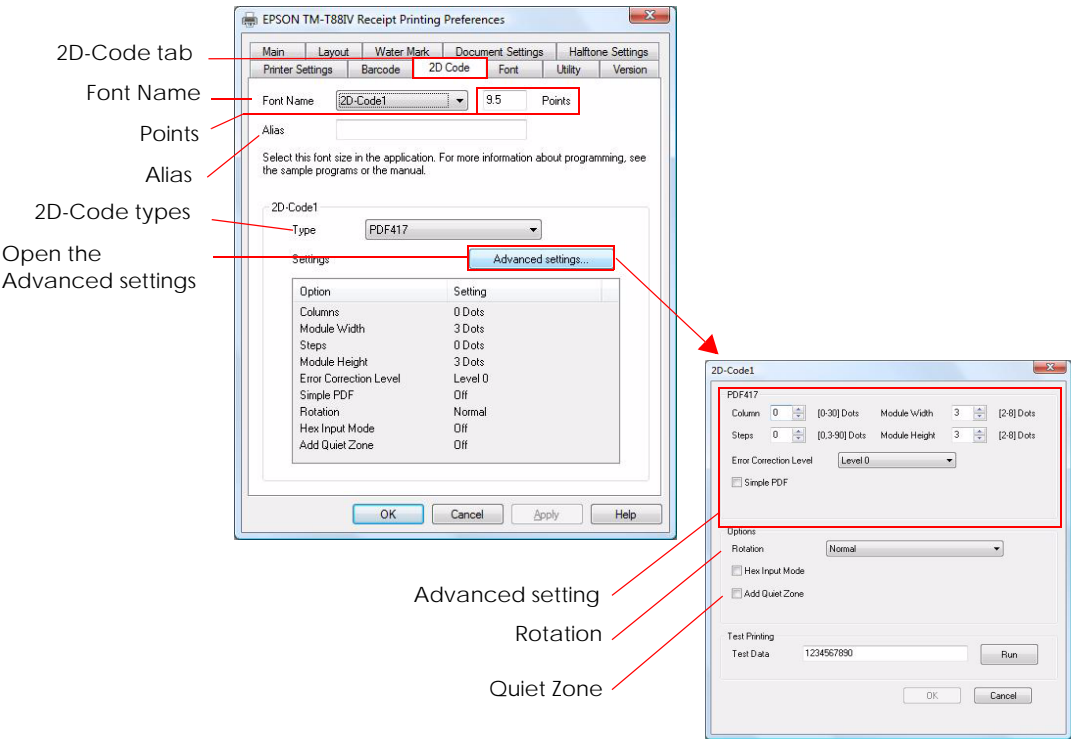
CAUTION

When used in combination with Rotation, set a slow Printing Speed with the [Document Settings] tab. It may not be possible to print clearly when the printing speed is high.

The 2D-Code font allows registration of 2D-Code type and size properties.  
Up to eight types (2D-Code 1 ~ 8) of setting can be registered using the APD. You can make fine settings of 2D-Code at one time, and also easily change the settings.  
The 2D-Codes you can print differ with each TM printer. See "Printer Specification" for details.

## Setting the 2D-Code Font

Select the 2D-Code tab from Printing Preferences.



Make the following settings. See "2D-Code" on page 95 for details.

Setting	Description
Font Name	You can set the 2D-Code font from the 8 types of 2D-Code(1 ~ 8). When programming, specify the font using "Font Name" or "Alias".
Points	The 2D-Code font size is displayed. When printing, specify this value from the application side.

Setting	Description
Alias	You can make optional settings. You can specify Alias during programming.
Barcode type	Sets the 2D-Code type. (CPU-A, JAN8([EAN], ITF, etc.)
Advanced setting	Sets the 2D-Code size and Error Correction Level, etc. Setting contents differ with the 2D-Code type.
Rotation	Sets whether to independently rotate 2D-Code.
Hex Input Mode	Allows the 2D-Code characters to be entered in binary.
Add Quiet Zone	Check this box to add a quiet zone, the blank margin on either side of a 2D-Code required to be properly read.

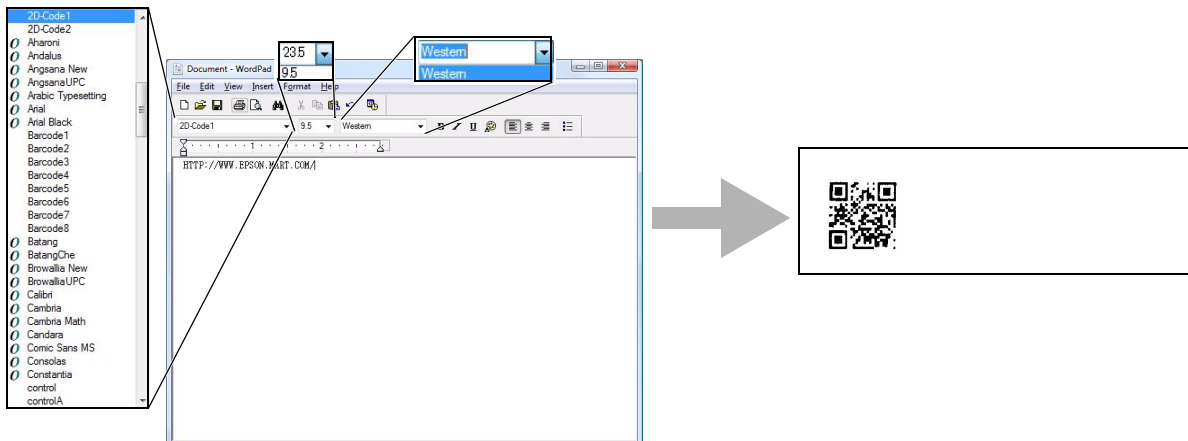
#### NOTE

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

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

## Printing Method

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



#### NOTE

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

## Program

The following is an example program for reference.

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

## 2-Color Printing

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

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

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

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

### Setting 2-Color printing

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

---

#### Memory Switch Setting

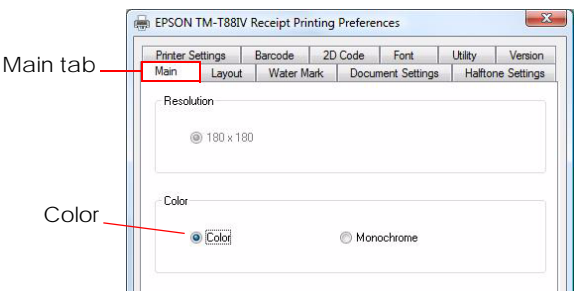
Download the Memory Switch Setting Utility from the EPSON website to use it.

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

## APD Setting

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

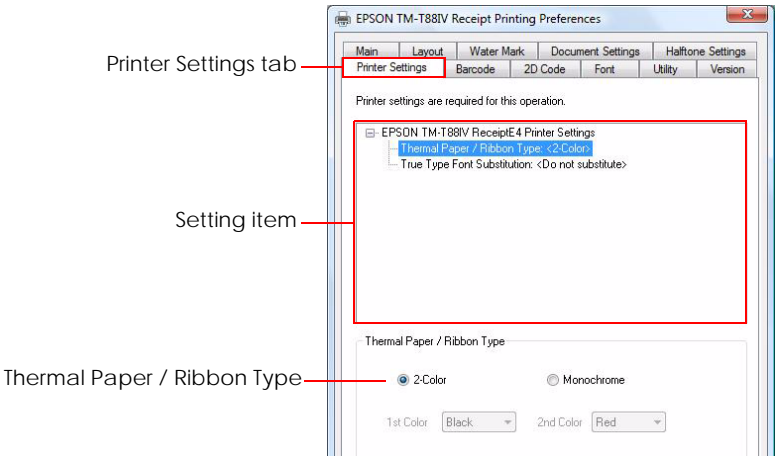
### Main



Make the following settings. See ["Main" on page 64](#) for details.

Setting	Description
Color	Select Color.

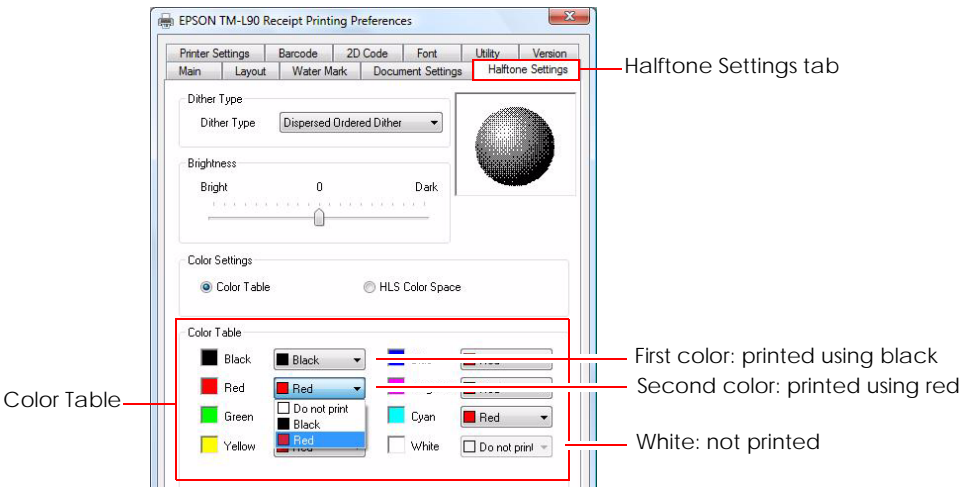
### Printer Settings



Make the following settings. See ["Printer Settings" on page 88](#) for details.

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

Halftone Settings



Make the following settings. See ["Halftone Settings" on page 86](#) for details.

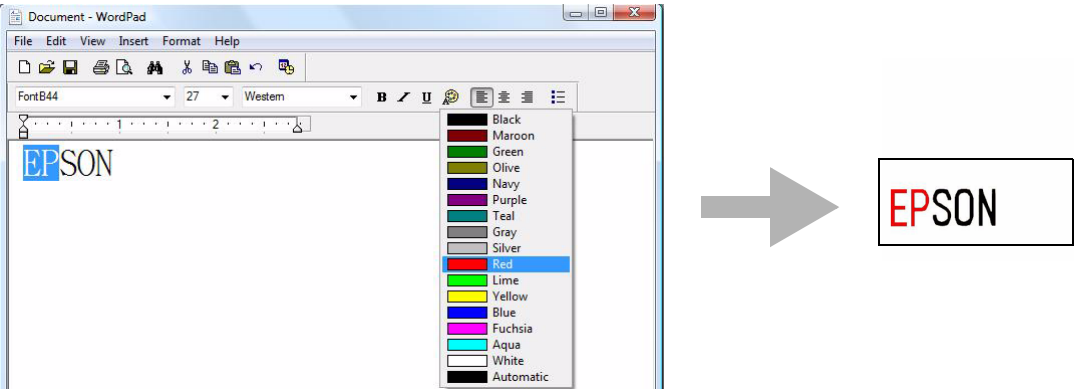
Setting	Description
Color Table	The Color Table specifies the color ("White - not printed," "Black - First color," "Red - Second color") that will be used for printing specified colors ("Black," "Red," "Green," "Yellow," "Blue," "Magenta," "Cyan," and "White").

CAUTION

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

Printing Method

Specify color in the print data.





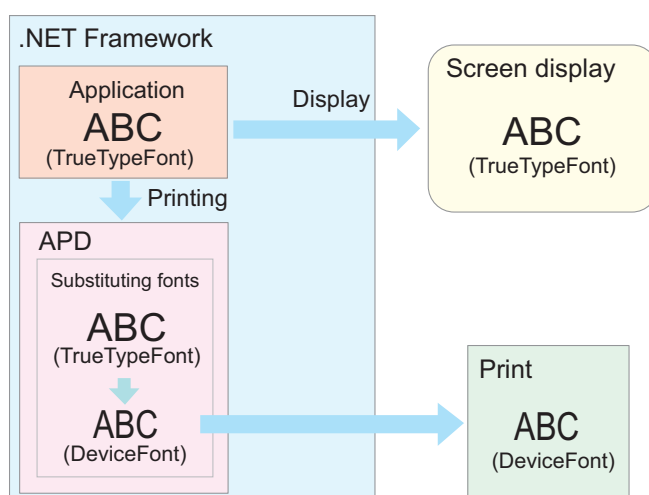
## Device Font Printing in a .NET Environment

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

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

### Substituting Fonts

The APD font substitution function replaces a TrueType font with a device font. By specifying a device font to be used as a substitute for a given TrueType font, printing can be done using a device font. While it may appear that a TrueType font is selected, the actual printing will be done using the device font.



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	

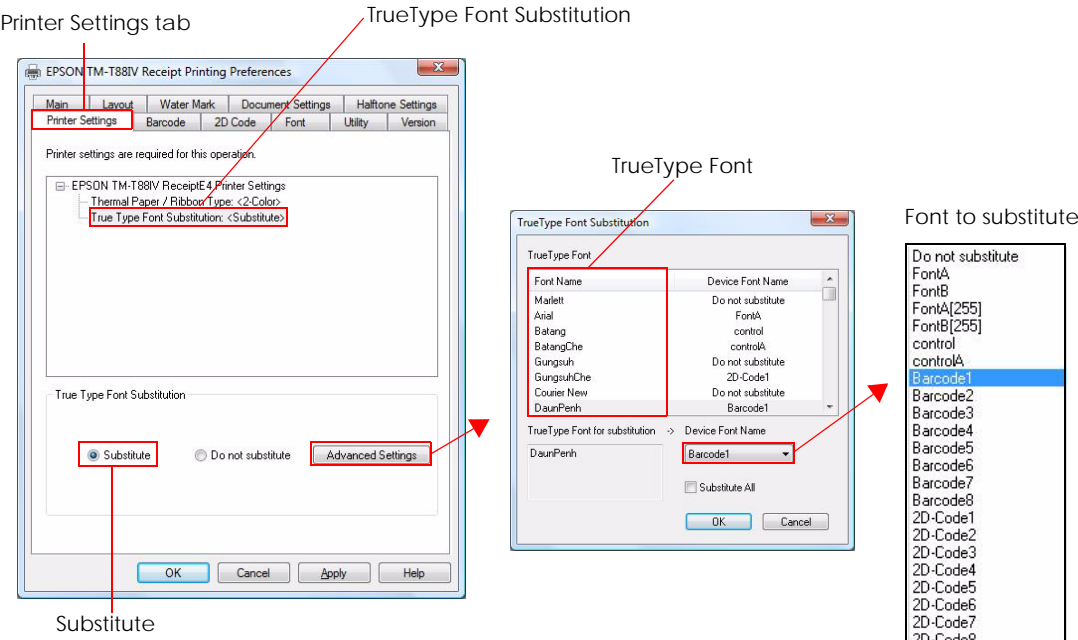
#### NOTE

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.

Select the Printer Settings tab from Printing Preferences.



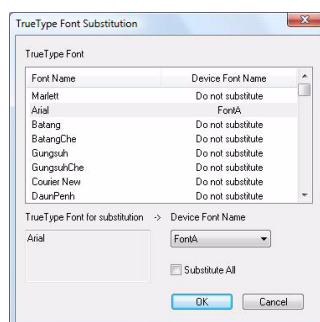
Make the following settings. See ["TrueType Font Substitution" on page 90](#) for details.

Setting	Description
TrueType Font Substitution	Select "Substitute".
TrueType Font	Specifies TrueType font to substitute.
Replacement font	Specifies the device font for substitution.
Substitute All	Do not check.

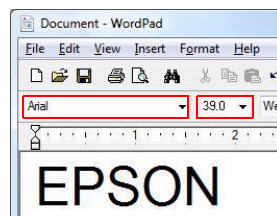
## Printing Using a Device Font

Select the TrueType font to be substituted.

Font Substitution Settings



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



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

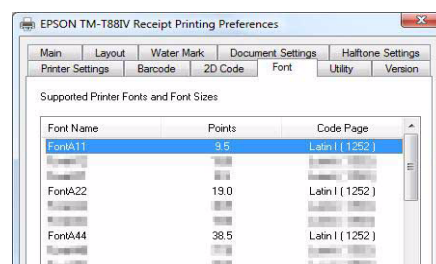
Make the [Printer Settings] - TrueType Font Substitution settings. The example specifies Arial for font substitution.

(See "Substituting Fonts" on page 29.)

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.



Example:

If you specify "39.0," "FontA44" is specified. If you specify "10.0," "FontA11" is specified.

**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.

---

## Program

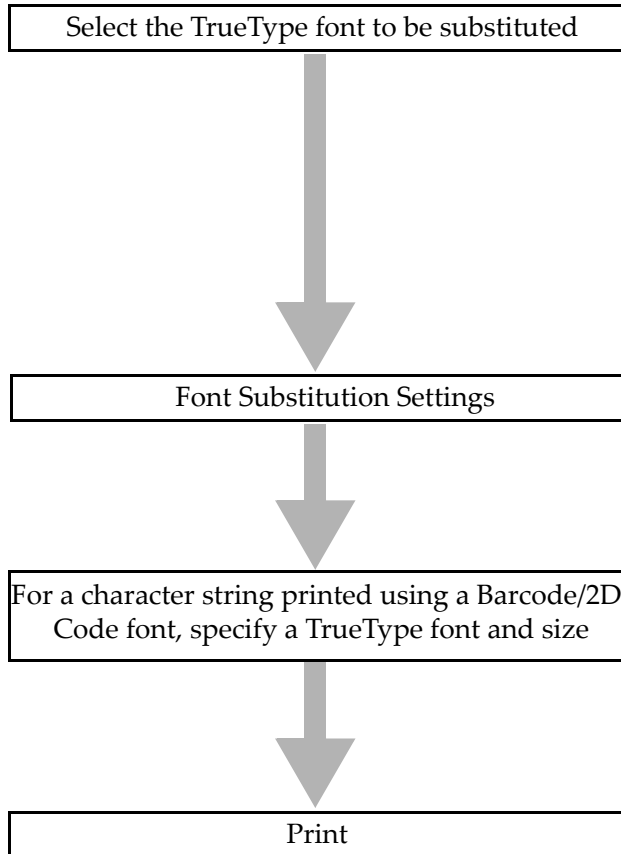
The following is an example program for reference.

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

### NOTE

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

## Printing Barcodes/2D-Code Fonts



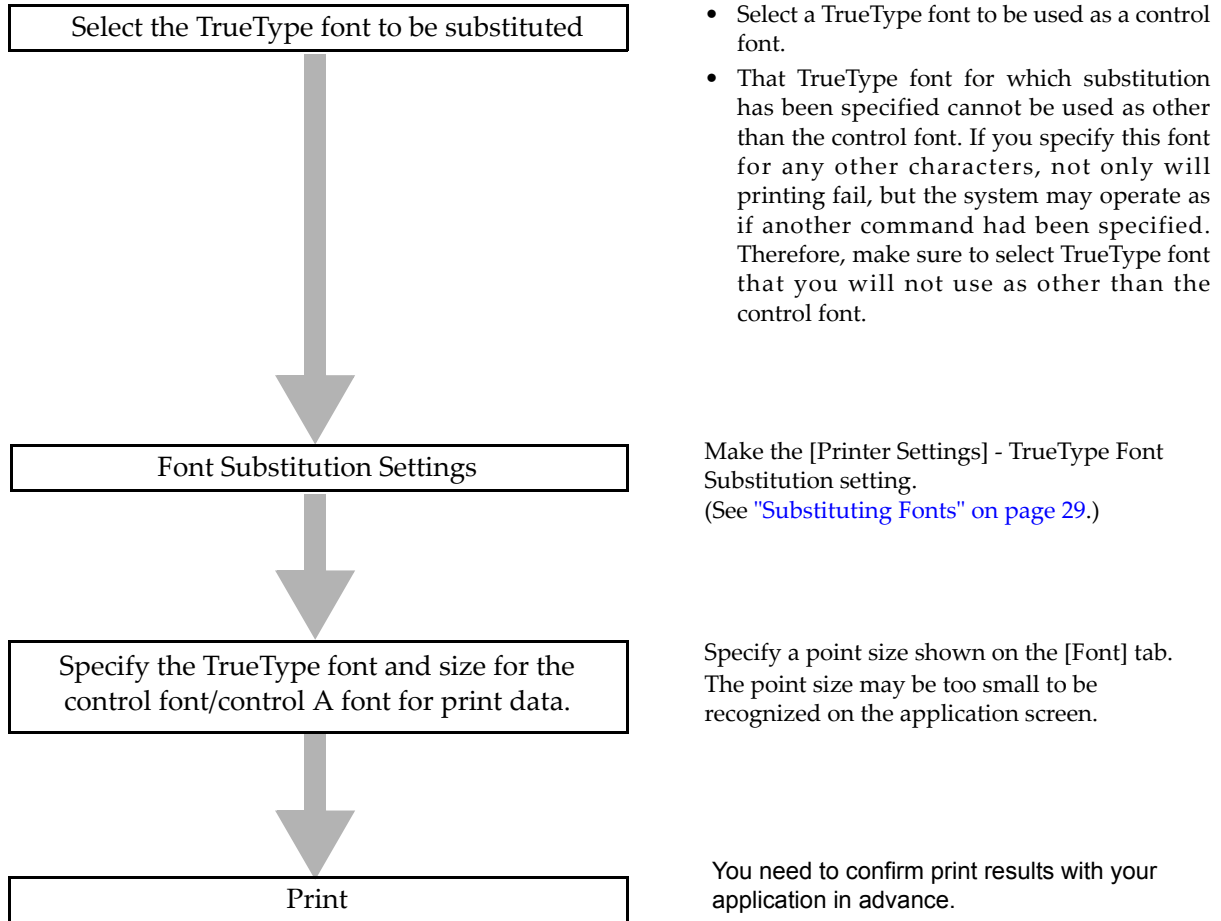
- That TrueType font for which substitution has been specified will always be output as the device font. Make sure to select TrueType font that you will not use for other than the Barcode.
- Wide fonts such as FONT A12/24/48, and tall fonts such as FONT A21/42/84 cannot be substituted.

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

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.

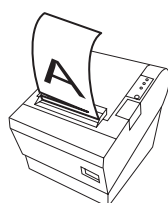
You need to confirm print results with your application in advance.

## Controlling the TM Printer: Control Font/Control A Font

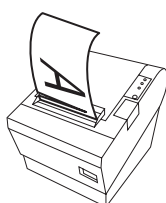


## Rotated Printing

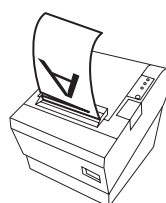
You can rotate data for printing. When using a TM printer oriented vertically, printing with 180° rotation (inverted printing) enables printing with an orientation that is easy for customers to see. Otherwise, when you want to print characters horizontally, for receipts, etc., you can make the rotation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



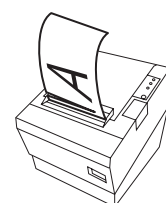
Normal



90° rotation



180° rotation

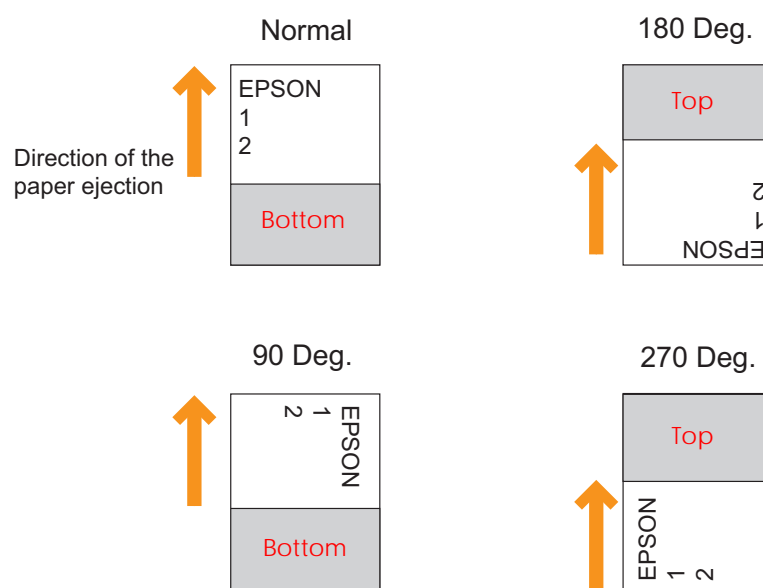


270° rotation

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.

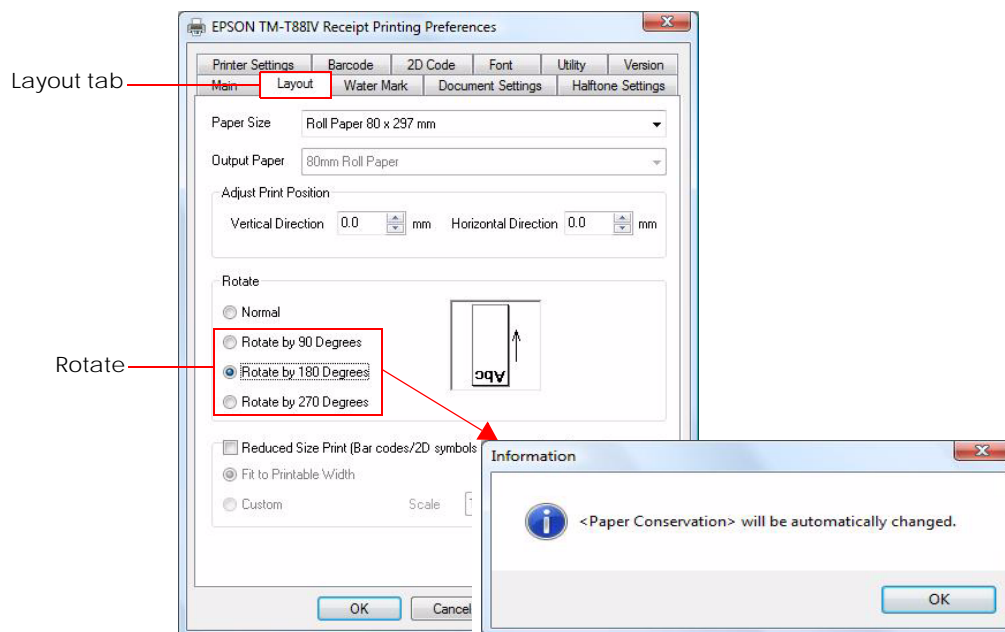


### NOTE

See ["Paper Conservation" on page 71](#) for margin setting.

## Rotate Printing Settings

Select the Layout tab from Printing Preferences.



Make the following settings. See "[Layout](#)" on page 65 for details.

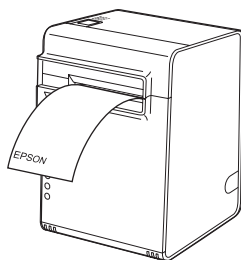
Setting	Description
Rotate	<p>Select the printing orientation you want. With settings other than Normal, all text is printed as a graphic image, and Paper Conservation is changed automatically. When the Information screen is displayed, click "OK".</p> <p>When Slip Rotate is specified for the TM-H6000III, the mounted fonts are used for printing whatever print direction is specified.</p>

### CAUTION

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

### Printing Example

Rotate by 180 Degrees





# Background printing

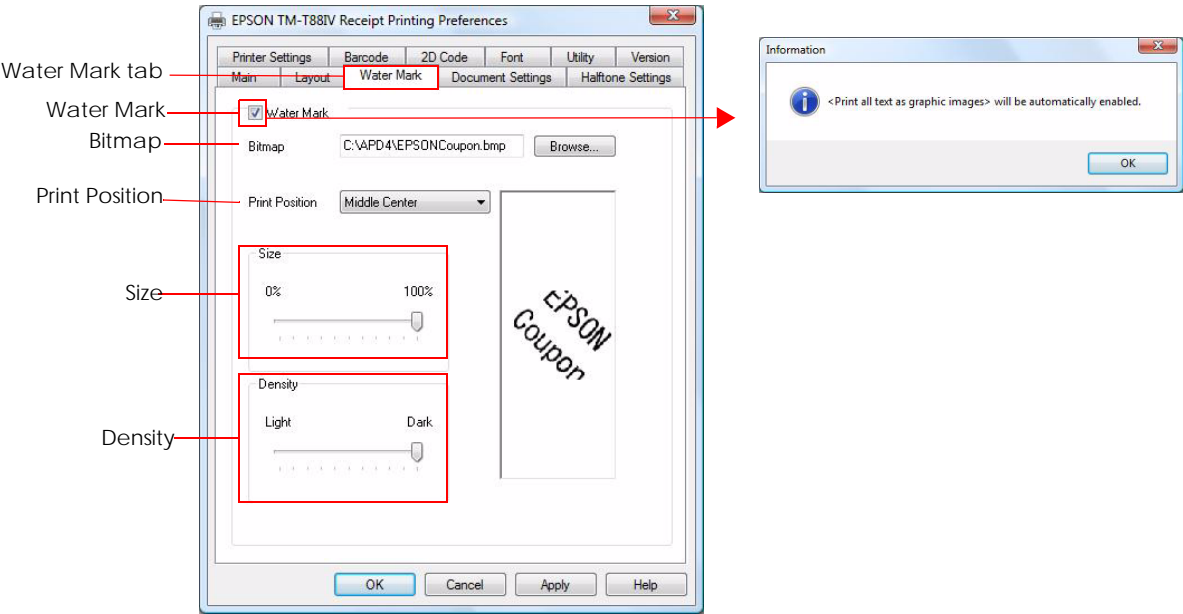
Use Water Mark to print background. A bitmap file is necessary for Water Mark setting.

**CAUTION**

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

## Water Mark setting

Select the Water Mark tab from Printing Preferences.



Make the following settings. See "Water Mark" on page 68 for details.

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

## Printing a Logo

Use the following method to print graphics.

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

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

### CAUTION

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

## Bitmap data registration

Register the bitmap data in the TM printer's NV (Non Volatile) memory with the TM Flash Logo Setting Utility.

This memory retains its data even when the TM printer is switched off.

For more details, see ["TM Flash Logo Setup Utility" on page 105](#).

### CAUTION

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

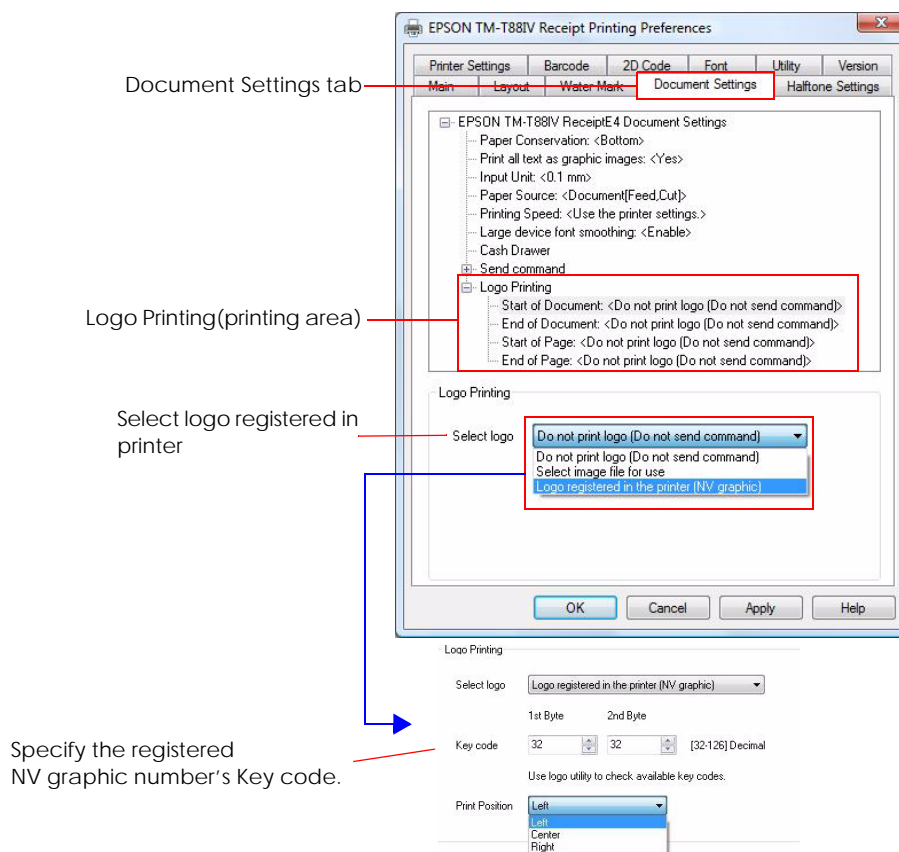
## Bitmap data printing

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

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

## Setting by printer driver for printing

Select the Document Settings tab from Printing Preferences.



Make the following settings. See ["Logo Printing" on page 85](#) for details.

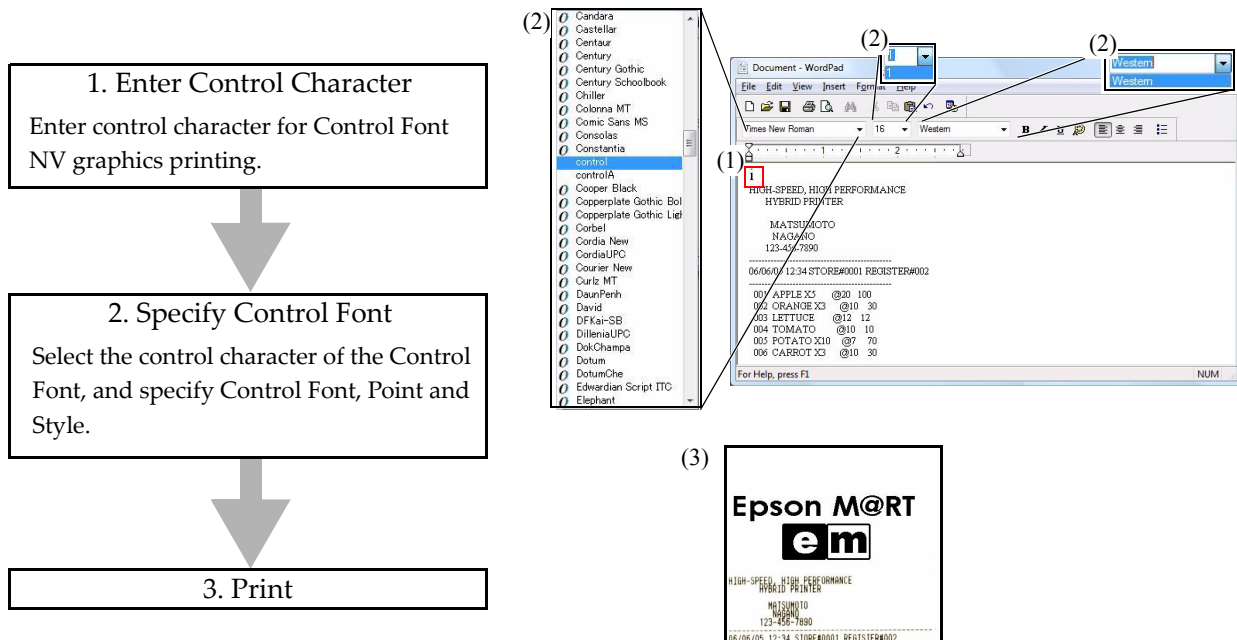
Setting	Description
Logo Printing (printing area)	Specify an area for a logo printing (before or after a document or each page.)
Print Position	Specify a logo print position. Select Left, Center, or Right.
Specifying the bitmap to print	Select whether to use the logo registered in the TM printer or to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

Bitmap is printed using Control Font.



## Program

The following is an example program for reference.

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

# Paper Feed and Paper Cut

There are two methods for controlling the paper cut.

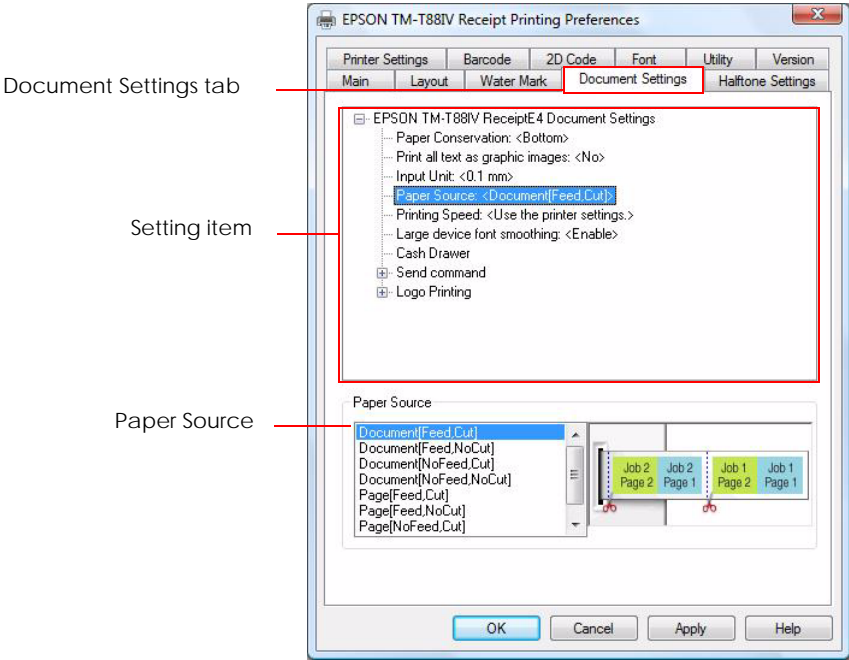
- Configure the APD to feed and cut the paper automatically at the end of each printing.  
This method is valid even when [Print all text as graphics image] is set.
- Cut the paper using Control Font in the program.

CAUTION

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

## Setting paper cut with the printer driver

Select the Document Settings tab from Printing Preferences.



Make the following settings. See ["Paper Source" on page 74](#) for details.

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

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

## Specifying Control Font and performing paper cut in programming.

The following is an example program for reference.

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

## Drawer Control

The methods for controlling the drawer are as follows.

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

### CAUTION

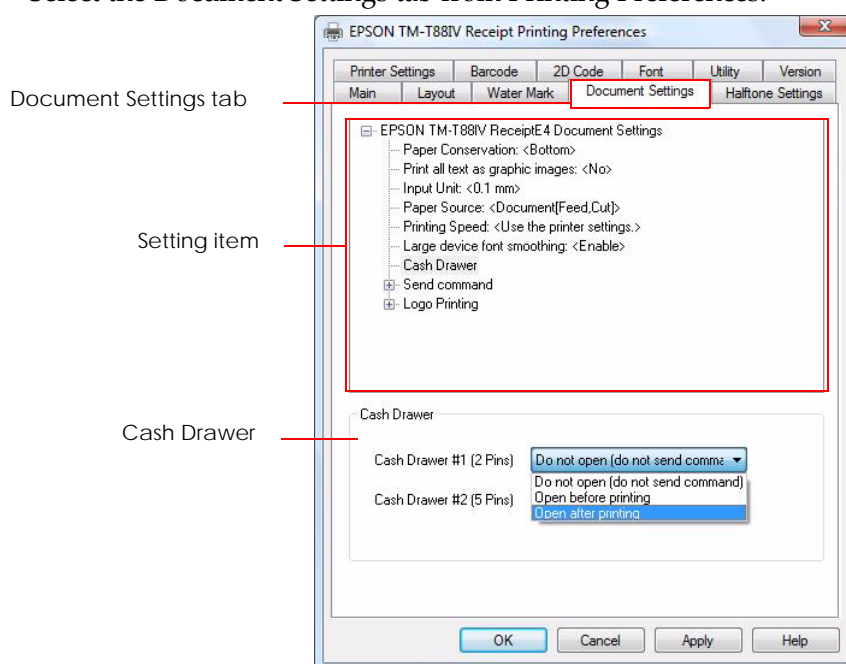
When using Control Font, you cannot use it in combination with the <Print all text as graphics image> setting such as Rotated Printing/Water Mark/Scale-down Printing.

### NOTE

For closing the drawer, push manually.

## Opening Drawer with printer driver setting

Select the Document Settings tab from Printing Preferences.



Make the following settings. See "[Cash drawer](#)" on [page 83](#) for details.

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

### NOTE

For closing the drawer, push manually.

## Opening Drawer by Control Font

Use the Open drawer Control Font to open Drawer.

### NOTE

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

### 1. Enter Control Character

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

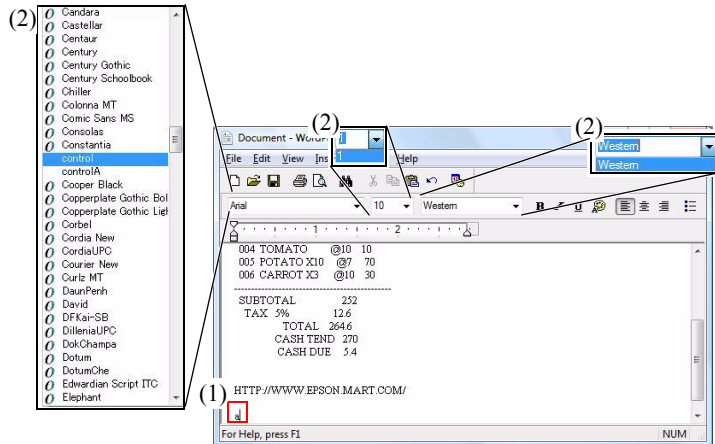
### 2. Specify Control Font

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



### 3. Print

Drawer opens.



## Program

The following is an example program for reference.

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



# How to Use ControlA Font

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

NOTE

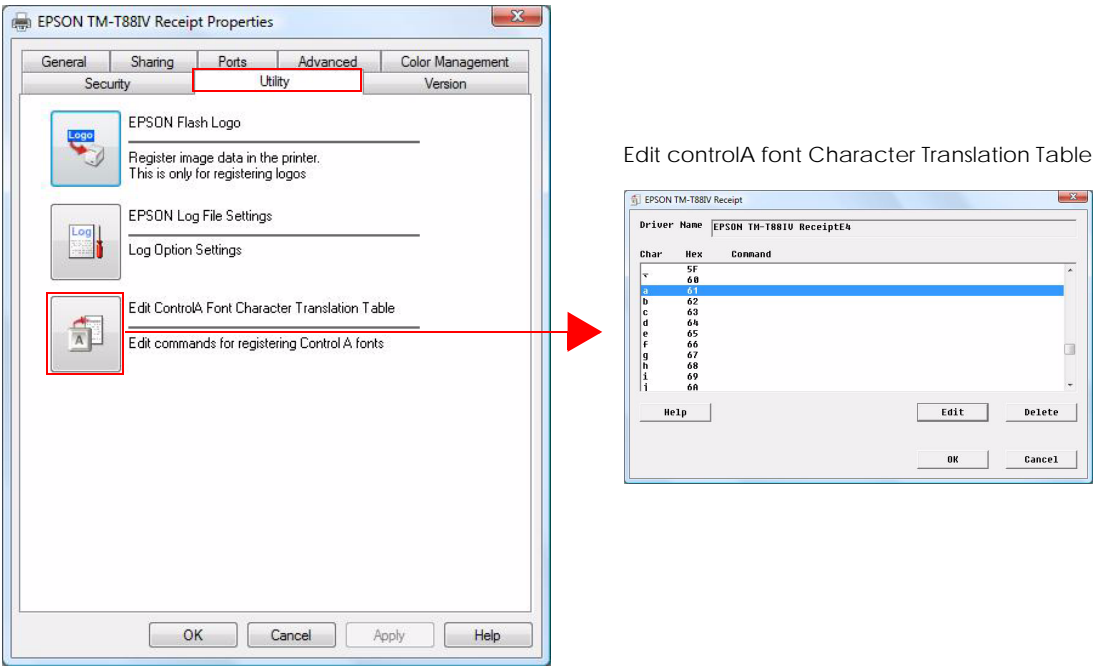
ESC/POS commands are not open to the public. Ask your sales representative for more information.

CAUTION

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

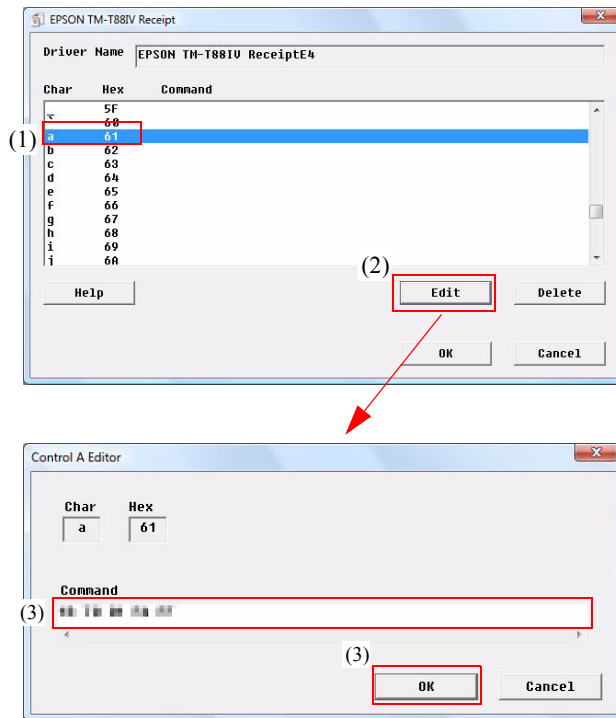
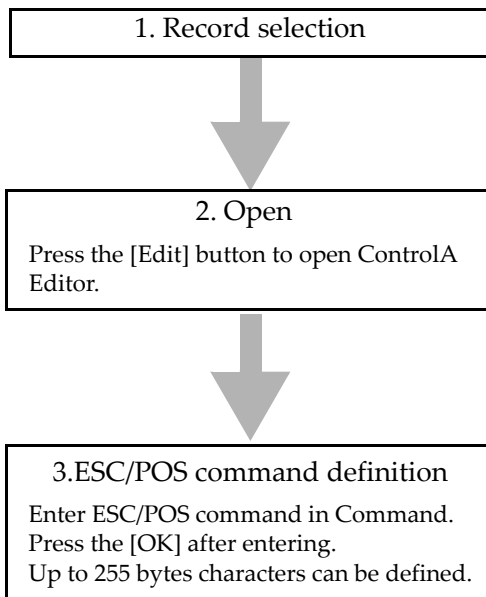
## Setting ControlA Font

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



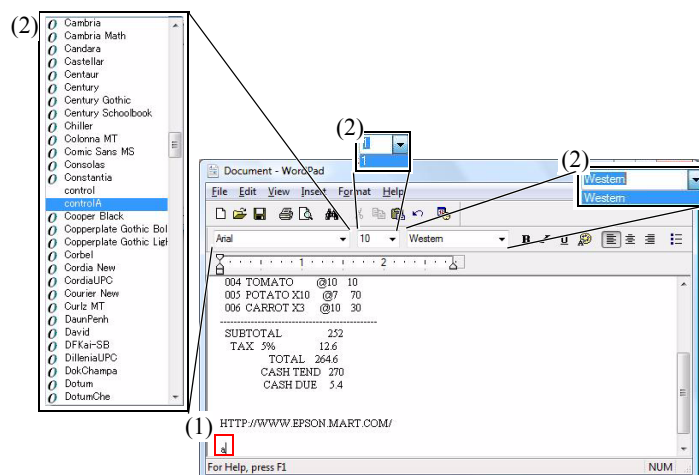
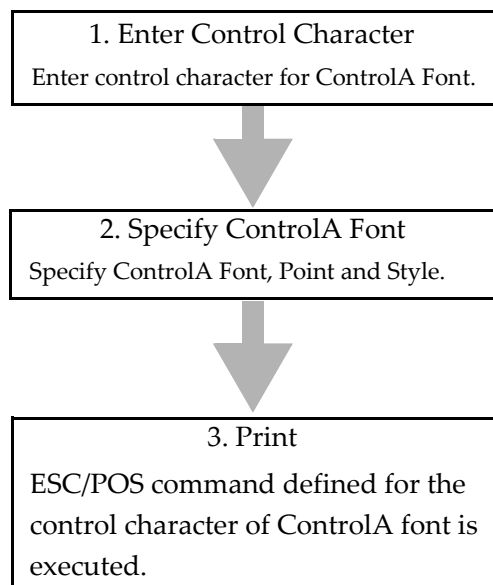
2

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



## Using ControlA Font

Use the defined ControlA Font.



## Program

The following is an example program for reference.

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



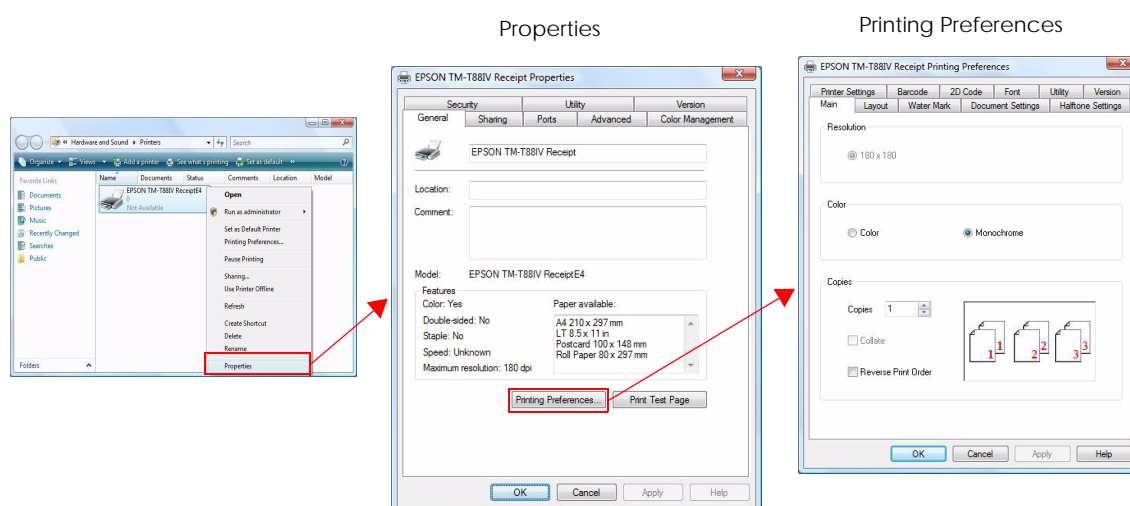
# Reference

This chapter describes the APD settings.

## CAUTION

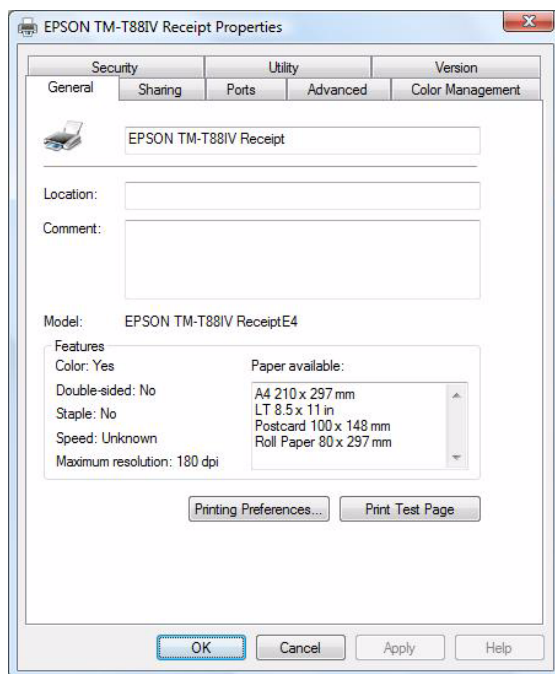
- Some settings are not available for some printer models.
- Administrator permission is required for property settings of the printer driver.

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



## Properties

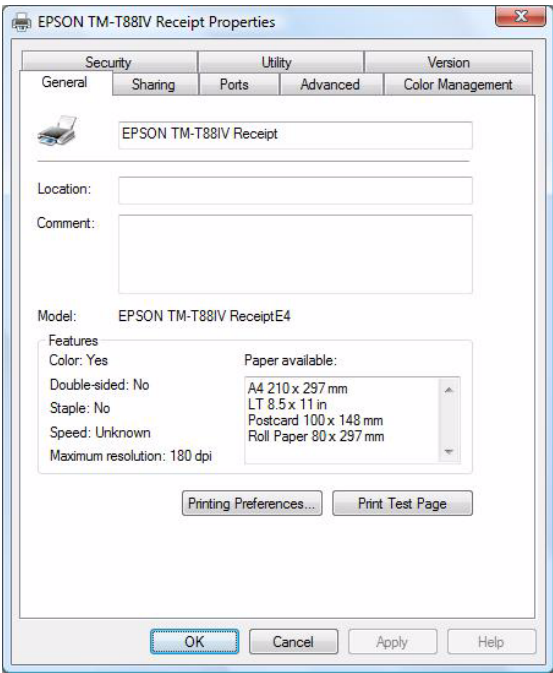
The following settings are available in the Property.



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

General

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



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

## Sharing

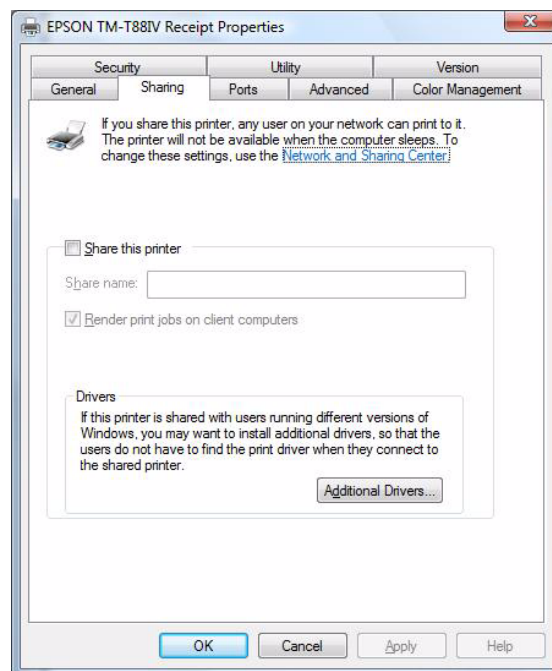
Allows you to configure the settings for sharing the printer.

### CAUTION

Printer sharing through a print server is not supported.

### NOTE

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

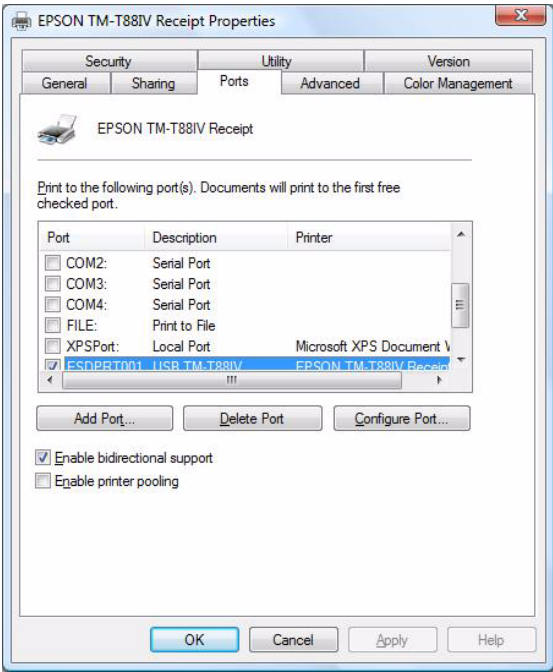


Setting	Description
Change sharing options	Check this box when a printer is to be shared.
Share this printer	When this box is checked, network users can access a printer connected to this computer.
Share name	Specifies the name of a shared printer.



Ports

Allows you to configure Epson Port settings.



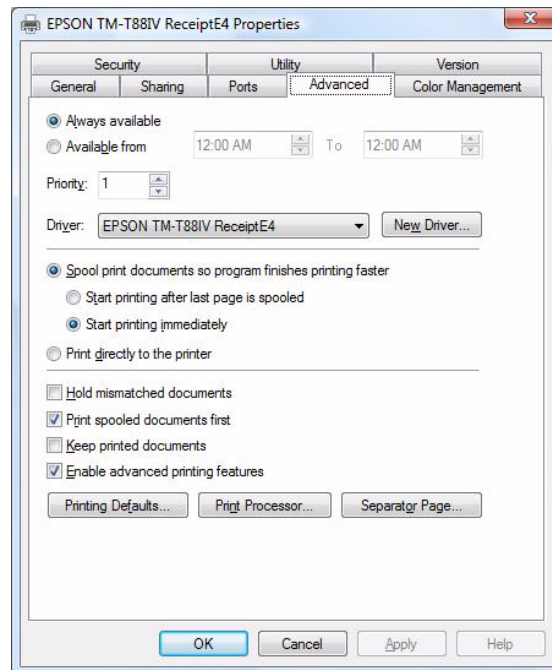
Setting	Description
Add Port...	Creates a new Epson Port.
Delete Port	Deletes an Epson Port.
Configure Port...	Configures an Epson Port.
Enable bidirectional support	Do not uncheck. The APD will become unusable.
Enable printer pooling	Enables printing to two or more identical print devices through one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

CAUTION

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

## Advanced

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

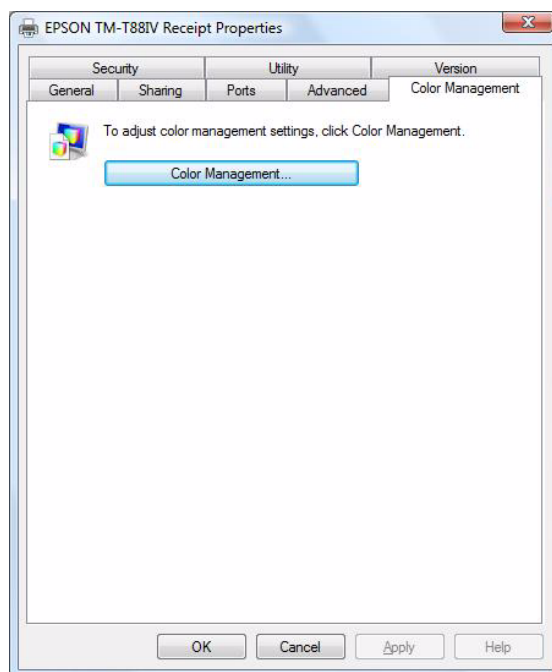


Setting	Description
Always available	Makes the printer always available.
Available from	Configures the printer for limited availability. If you send a document to a printer when it is unavailable, the document will be held (spooled) until the printer is available.
Priority	Indicates the current priority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

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

## Color Management

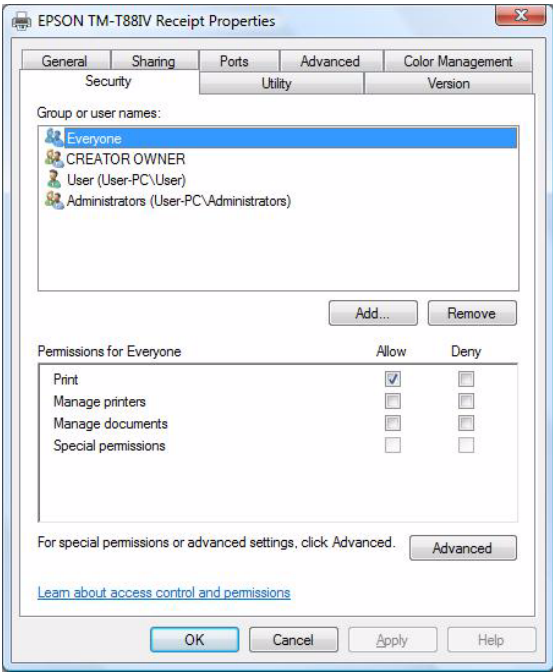
Allows you to set color displayed on the screen.



Setting	Description
Color Management	Set the color management.

Security

Security setting for Windows.

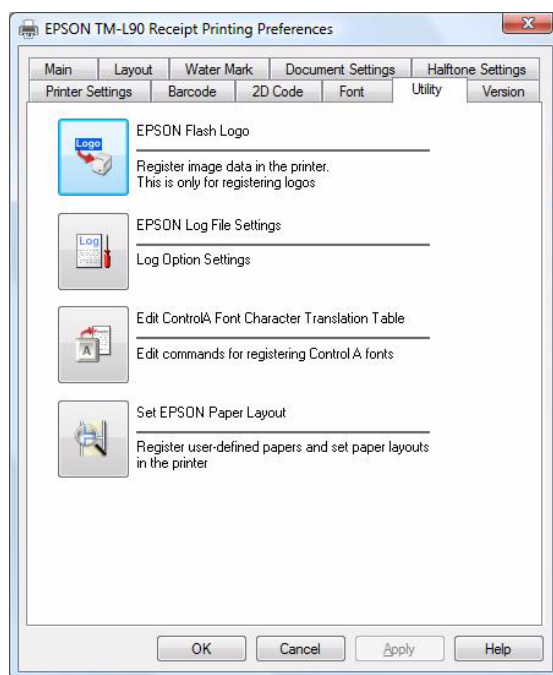


Setting	Description
Group or user names	Lists the users and groups with assigned permissions for this object. The permissions for the highlighted group or user appear in the list box below.
Add	If you want to add permissions for users or groups, click their names.
Remove	Removes highlighted permission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

## Utility

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

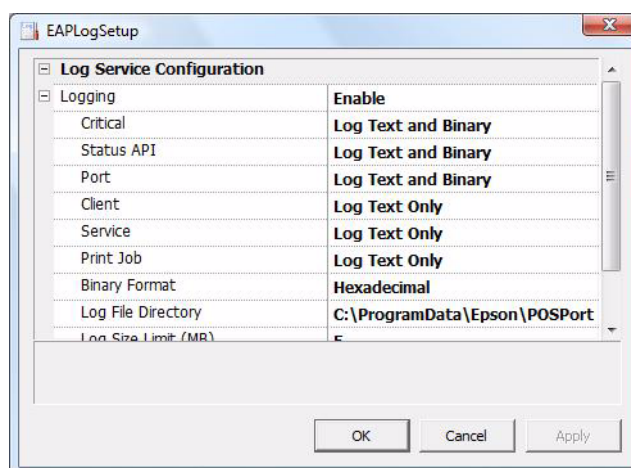
Some utilities may not be supported depending on the printer model. In that case, the utility will not be displayed.



Setting	Description
EPSON Flash Logo	The TM Flash logo registration screen appears. For more details, see <a href="#">"TM Flash Logo Setup Utility" on page 105.</a>
EPSON Log File Settings	Opens the Log File Setting screen.
Edit ControlA Font Character Translation Table	Opens the EPSON controlA font setting screen.
Set EPSON Paper Layout	The EPSON paper layout setting screen appears. For more details, see <a href="#">"Paper layout set tool" on page 115.</a>

## 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.
Critical	Select how the Windows error information is output.	
	Log Text Only	Outputs the log as text data.
	Log Text and Binary (Default)	Outputs the log as text and binary data.
Status API	Select how the Status API log is output.	
	Do Not log	A Status API log is not output.
	Log Text Only	Outputs the log as text data.
	Log Text and Binary (Default)	Outputs the log as text and binary data.
Port	Select how the log of the communication port is output.	
	Do Not log	A communications port log is not output.
	Log Text Only	Outputs the log as text data.
	Log Text and Binary (Default)	Outputs the log as text and binary data.
Client	Select how the log of the application on the client-server system is output.	
	Do Not log	A client log is not output.
	Log Text Only (Default)	Outputs the log as text data.
	Log Text and Binary	Outputs the log as text and binary data.
Service	Select how the log of the server on the client-server system is output.	
	Do Not log	A service log is not output.
	Log Text Only (Default)	Outputs the log as text data.
	Log Text and Binary	Outputs the log as text and binary data.
Print Job	Select how the log of print jobs is output.	
	Do Not log	A print job information log is not output.
	Log Text Only (Default)	Outputs the log as text data.
	Log Text and Binary	Outputs the log as text and binary data.

Setting	Description
Binary Format	Configures the binary data format.
	Hexadecimal (Default)
	Base64
Log File Directory	Specify where to output the log file. (Default) Windows XP: C:\Documents and Settings\All Users\Application Data\Epson\POSPort Windows 7 / Vista: C:\ProgramData\Epson\POSPort
Log Size Limit (MB)	Specify the upper limit of the log file size. When the upper limit is exceeded, the log file is compressed using zip format and saved as a BAK file. The subsequent log information is saved as a new log file. A sequential number is added to the name of the BAK files. (example: EpsonPOSPort1.bak). Specify the number of log files to be backed up. (Range: 1 to 1024 , Default: 5)
Backup File Count	Specify the number of log files to be backed up. (Range 1 to 9 , Default: 1)



Output function of hexadecimal dumping list is not supported.

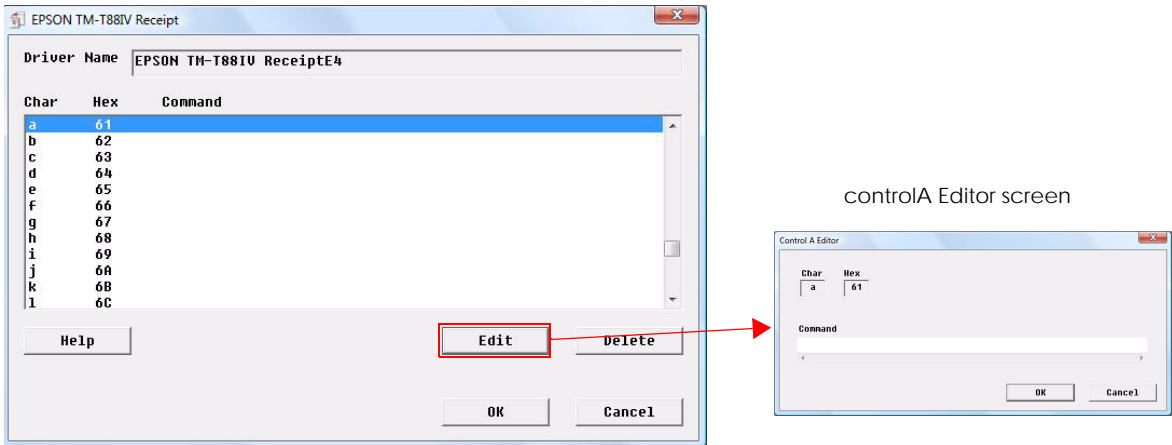


## Edit controlA font character translation table

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

**NOTE**

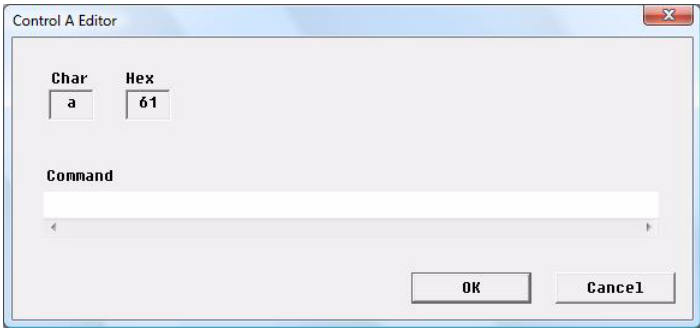
- Up to 255 bytes characters can be assigned.
- ESC/POS commands are not open to the public. Ask your sales representative for more information.



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

controlA Editor screen

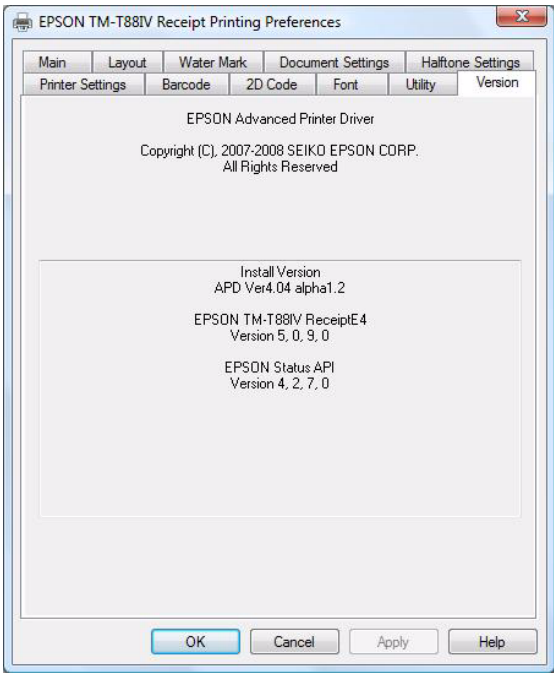
An ESC/POS command to be assigned to the selected character can be entered.



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

Version

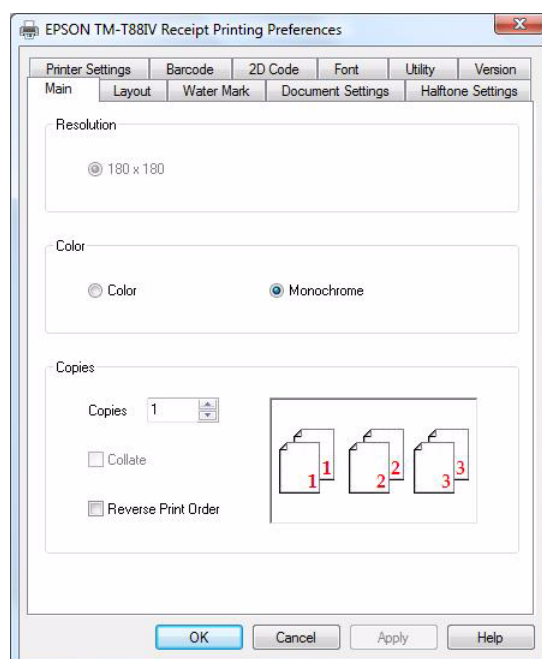
Displays the printer driver version information.



## Printing Preferences

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

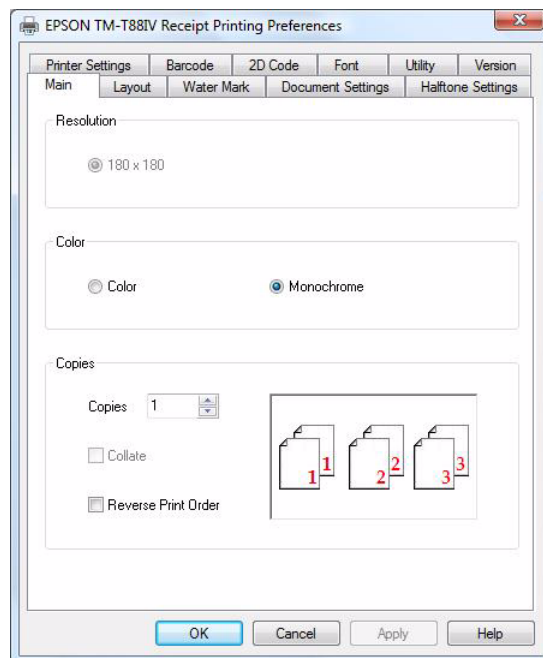
You can configure the following settings in the Printing Preferences screen.



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

## Main

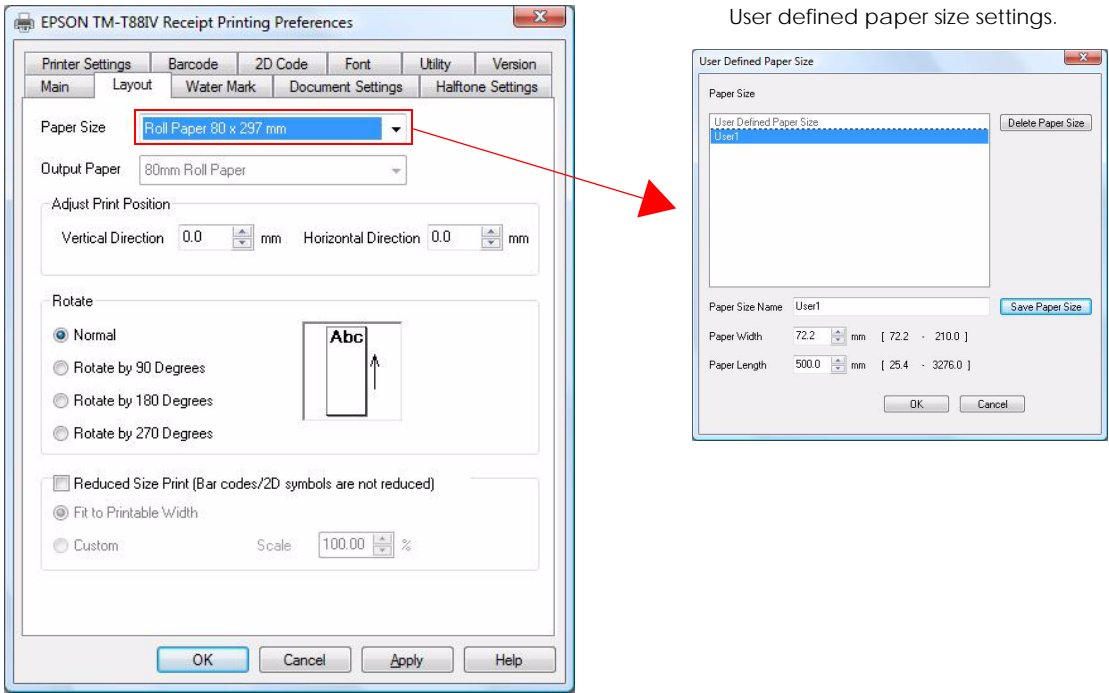
Allows you to configure the print resolution, color mode, and the number of copies.



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

Layout

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



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

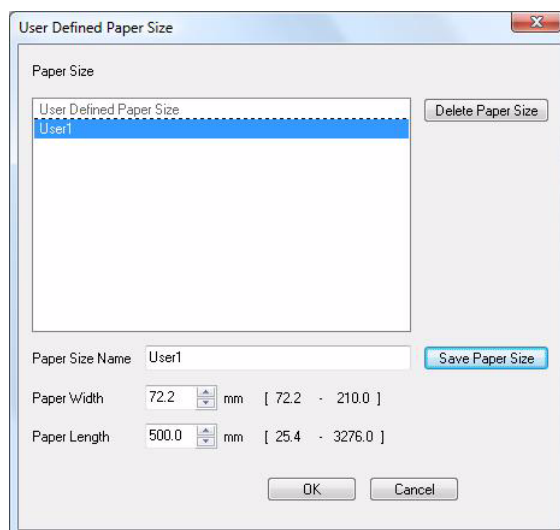
Setting		Description
Adjust Print Position		Allows you to fine adjust the print start position. You can adjust the print position without making changes in margins and print area defined by the applications. This also can be used for changing print position of rotated or reduced image. This adjustment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

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

## User defined paper size.

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

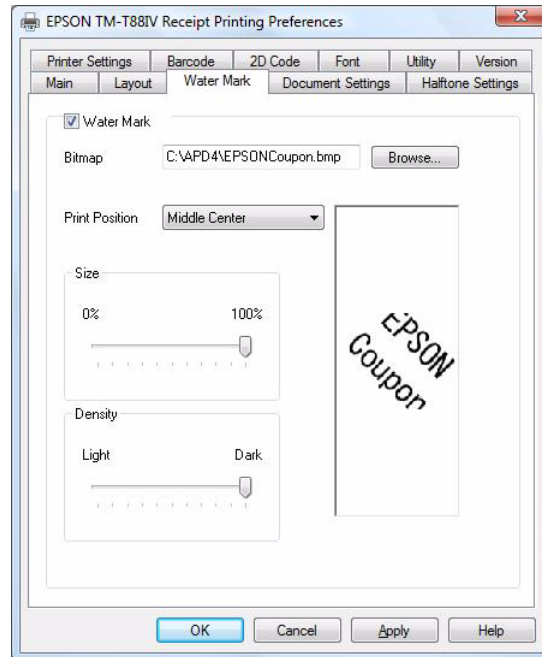
In the Printing Preferences - [Layout] tab, select [User Defined Paper Size] from the Paper Size pull-down menu. The following screen appears.



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

## Water Mark

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



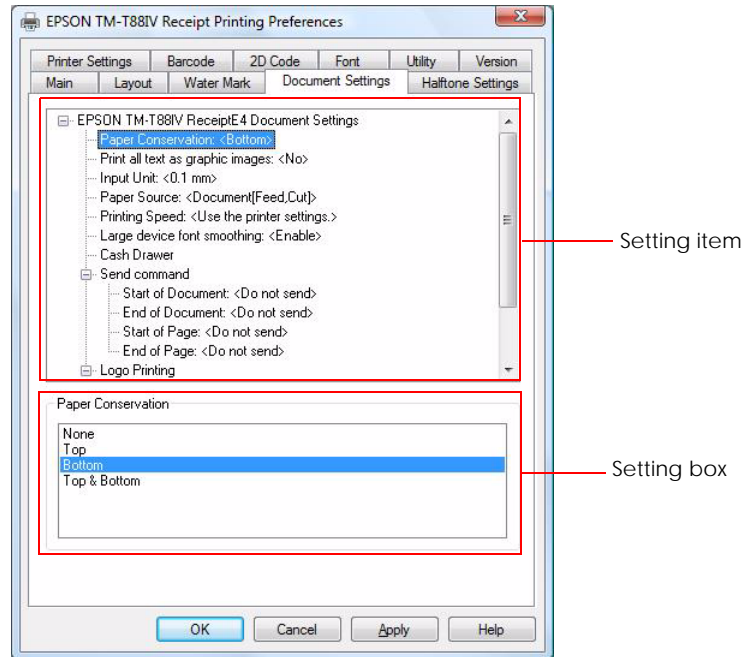
Setting	Description
Water Mark	<p>Tick the checkbox to set a Water Mark.</p> <p>The following message is displayed; "&lt;Print all text as graphics image&gt; will be automatically set to yes.". When Water Mark is enabled, the print image is printed as a graphics image, therefore, the Device font is replaced with TrueType font, and control font and controlA font cannot be used.</p>
Bitmap	Specifies a bitmap file to be used as a Water Mark.
Print Position	<p>Select a desired print position from the pull-down menu.</p> <p>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</p>



Setting	Description
Size	<p>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.</p> <p>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.</p>
Density	<p>Configures the density of the Water Mark. The density can be adjusted in the "Light" to "Dark" range.</p>

## Document Settings

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

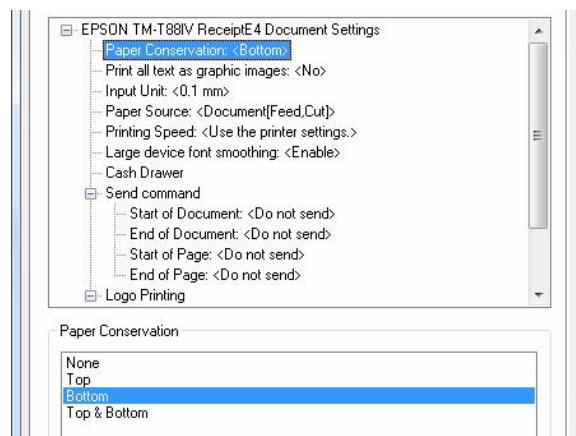


### NOTE

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

## Paper Conservation

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



Setting	Description
None	Does not save paper.
Top	Saves the top margin.
Bottom (Default)	Saves the bottom margin.
Top & Bottom	Saves both top and bottom margins.

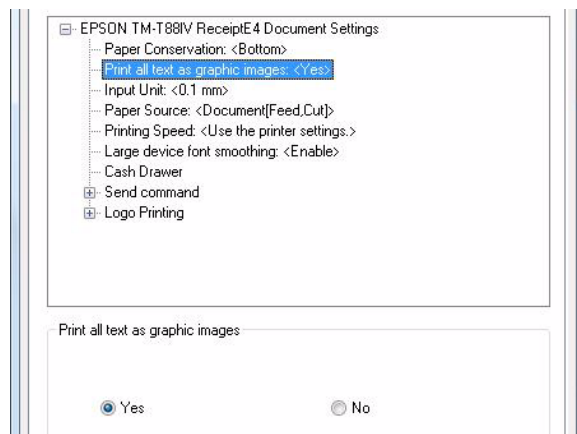
### NOTE

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 control font and controlA font.

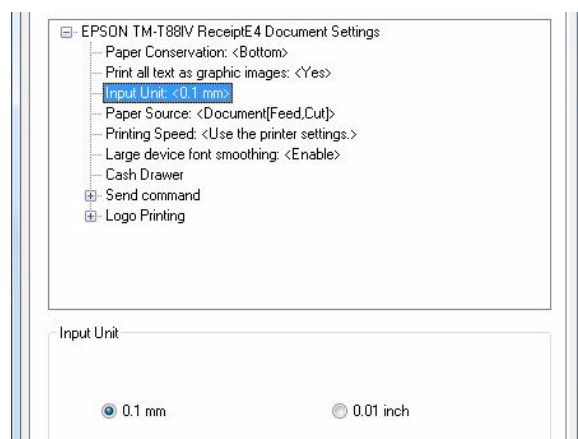
Related APD settings.

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)
2D-Code	Type (when not installed on the device)
	Add Quiet Zone
	Rotation
	Type (when not installed on the device)

## Input Unit

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



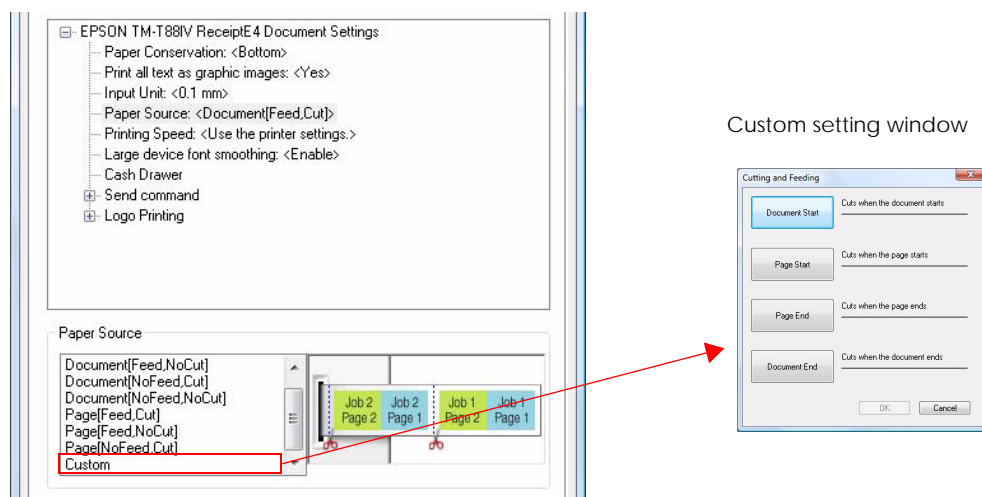
Setting	Description
0.1mm (Default)	The length settings in the user interface can be made in increments of "0.1mm".
0.01inch	The length settings in the user interface can be made in increments of "0.01inch".

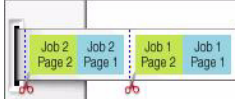
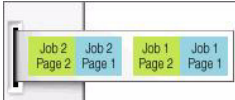
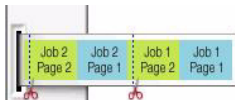
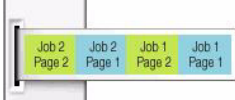
Related APD settings.

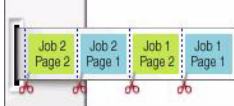
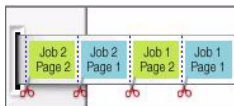
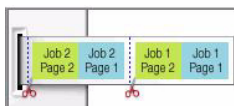
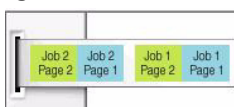
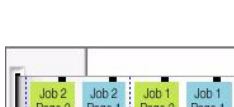
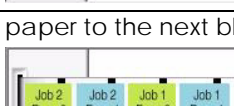
Setting tab	Item
Layout	Paper Size (User Defined Paper Size : Paper Width, Paper Length)
	Adjust Print Position (Vertical Direction, Horizontal Direction)
Barcode	Element Height

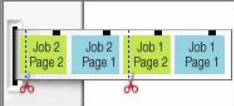





## Paper Source

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



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

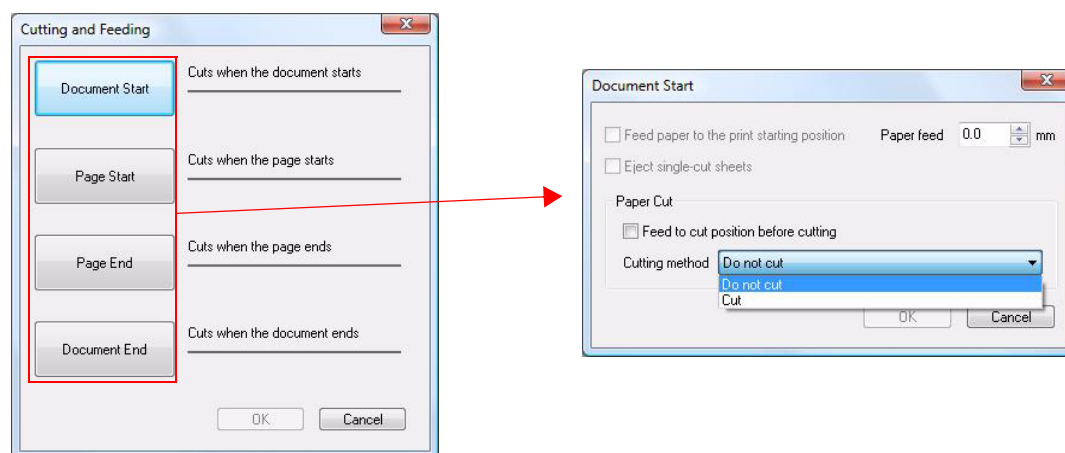
Setting	Description
Page[Feed,Cut]	The paper is advanced and cut each time a page is printed. 
Page[Feed,No Cut]	The paper is advanced, but not cut each time a page is printed. 
Page[No Feed,Cut]	The paper is cut, but not advanced each time a page is printed. 
Label_Single[Cut]	Cuts after printing a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

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



## Custom

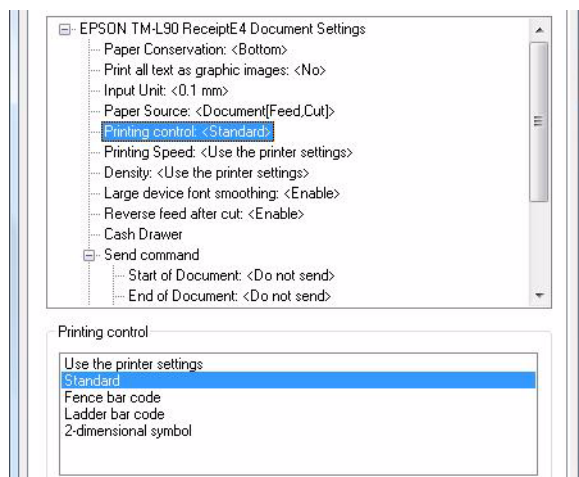
When "Custom" is selected from the Paper Source list for printing on black mark papers, labels or cut sheets of paper, the Custom setting screen appears.



Setting	Description
Feed paper to the print starting position	Specifies whether to advance labels or black mark papers to the print start position. When this box is checked, the paper is advanced to the start position. When not checked, the paper is not advanced.
Paper feed	Specifies the amount of paper to be advanced. When a positive value is specified, the paper is fed in the print direction. When 0 is specified, the paper is not advanced. When a negative value is specified, the paper is fed in the direction opposite to the print direction (reverse-feed may not be possible depending on the TM printer model).
Eject single-cut sheets	Specifies whether to send a form feed command when using cut sheets. When this box is checked, the command is sent. When not checked, the command is not sent.
Feed to cut position before cutting	Specifies whether to advance the paper to the cut position before cutting operation. When this box is checked, the paper is advanced to the cut position. When not checked, the paper is not advanced.
Cutting method	Select the cutting operation. <ul style="list-style-type: none"> <li>• Do not cut</li> <li>• Cut</li> <li>• Feed to black mark and do not cut</li> <li>• Feed to black mark and cut</li> </ul>

## Printing control

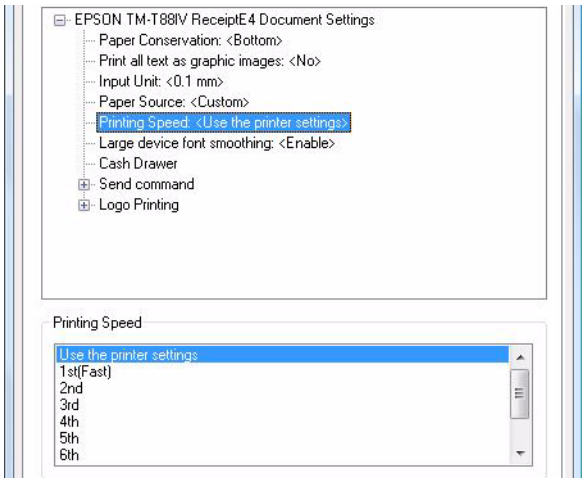
When using a printer whose print speed is controllable, the print speed suited for the print data, paper, and other uses can be specified here.



Setting	Description
Use the printer settings	Performs printing using the printer settings.
Standard	Performs printing using the print settings other than that for Printing control.
Fence Barcode	Prints at the speed suited for Fence bar code printing.
Ladder Barcode	Prints at the speed suited for Ladder bar code printing.
2-dimensional symbol	Prints at the speed suited for 2-dimensional symbol printing.
Normal	Performs printing using the print settings other than that for Printing control.
High speed	Performs high-speed printing.
Economy	Performs printing using the print settings other than that for Printing control.
Fine	Performs printing more evenly colored than usual printing.
Energizing	Performs printing using the print settings other than Non-divided print head energization.
Two-part print head energizing	Performs two-part print head energization.
Four-part print head energizing	Performs four-part print head energization.

## 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.

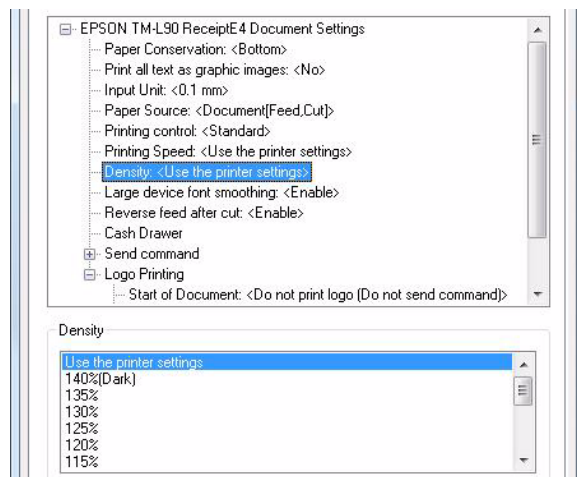


Setting	Description
Use the printer setting. (Default)	The print speed set at the TM Printer is applied.
1st to 9th	The 1st is the fastest print speed, and the 9th is the slowest.

---

## Density

Adjusts print density according to thickness or type of thermal paper.

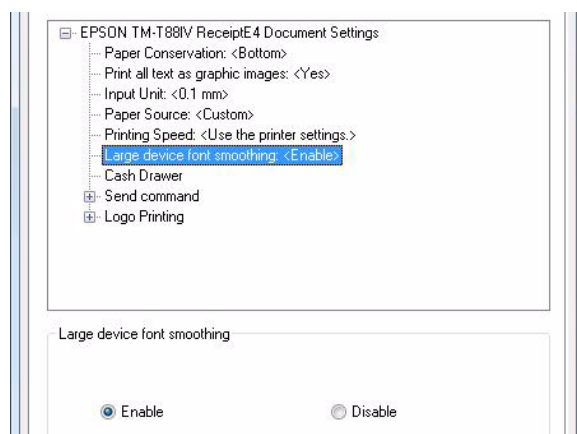


Setting	Description
Use the printer setting. (Default)	Prints with print density set in the TM printer.
70% to 140%	Set print density. 70% is lightest and 140% is densest.

---

## Large device font smoothing

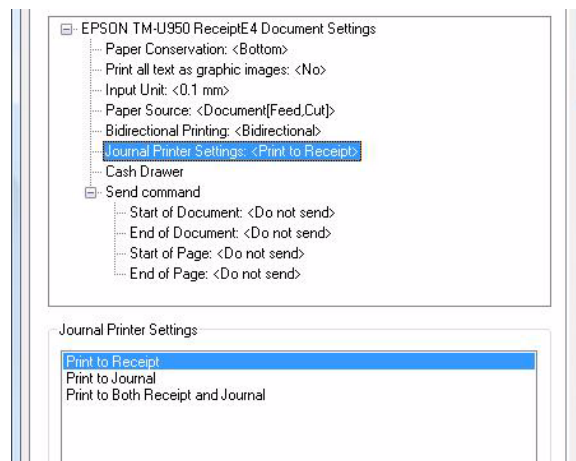
Large device fonts can be clearly and neatly printed.



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.

## Journal Printer Settings

The user can set the printer to work in receipt, journal, or receipt and journal mode.

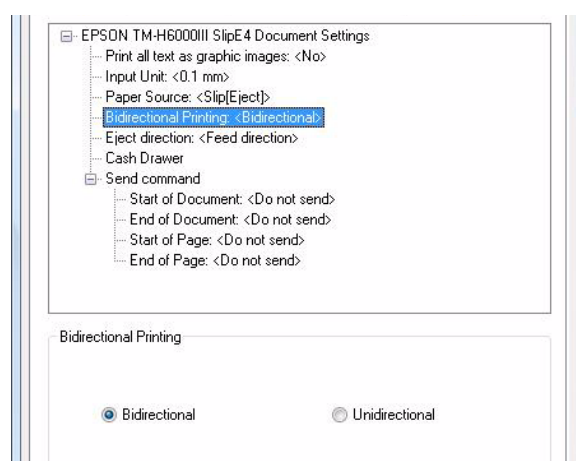


Setting	Description
Print to Receipt	Prints in receipt mode.
Print to Journal	Prints in journal mode.
Print to Both Receipt and Journal	Prints using both the receipt function and the journal function.

## Bi-directional Printing

The bi-directional printing can be enabled or disabled.

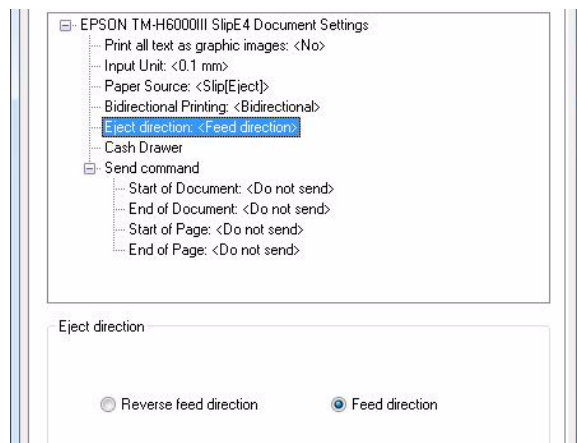
When you are using an inkjet printer or dot impact printer, high-speed printing can be made by enabling the bi-directional printing. Unidirectional printing can print the graphics, Barcodes or 2D-codes clearly.



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

## Eject direction

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



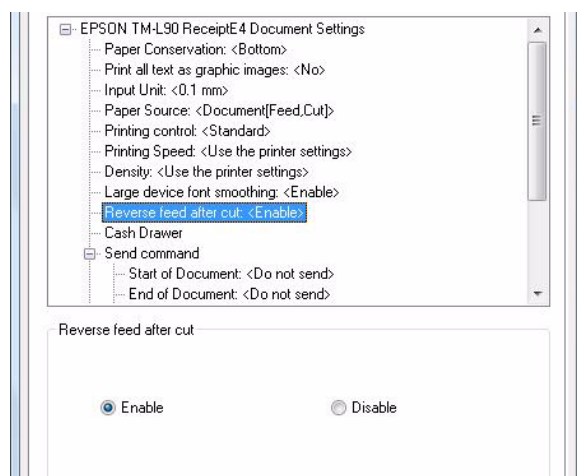
Setting	Description
Reverse feed direction	Ejects paper in the direction opposite to the print direction.
Feed direction (Default)	Ejects paper in the print direction.



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

## Reverse feed after cut

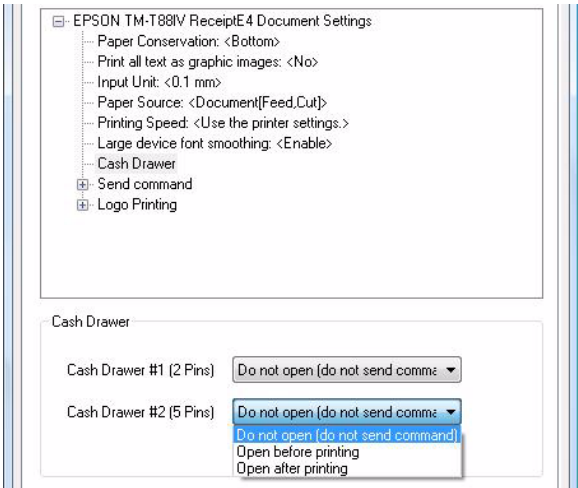
This allows you to avoid wasting paper due to a gap between the printer cutter and the print head by feeding paper backward.



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

## Cash drawer

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



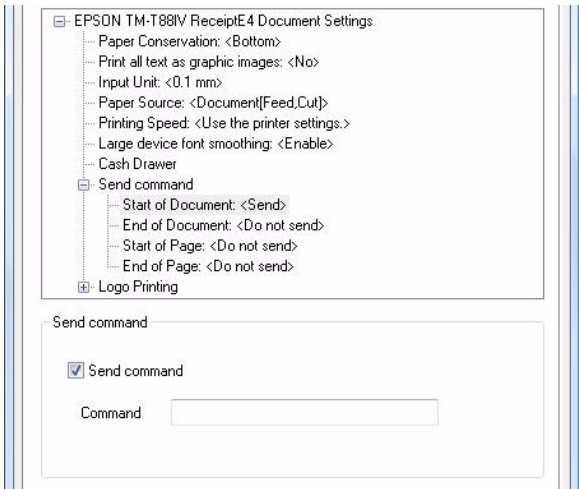
Setting		Description
Cash drawer #1 [2pins]	Do not open (do not send command) (Default)	The drawer does not open.
	Open before printing	The drawer opens when printing starts.
	Open after printing	The drawer opens when printing is finished.
Cash drawer #2 [5pins]	Do not open (do not send command) (Default)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

# Send command

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

NOTE

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

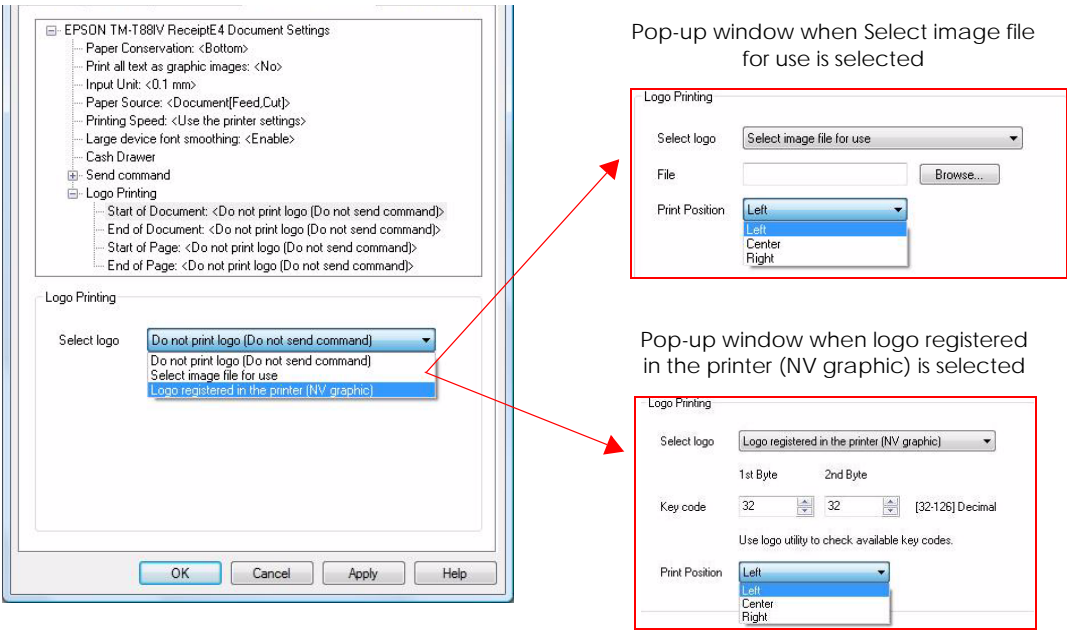


Setting		Description
Start of Document	Send command	Check this box to send a command when printing.
End of Document	Command	Enter a desired ESC/POS command to be sent to the TM printer.
Start of Page		You cannot enter the command without checking the "Send command" box.
End of Page		



# Logo Printing

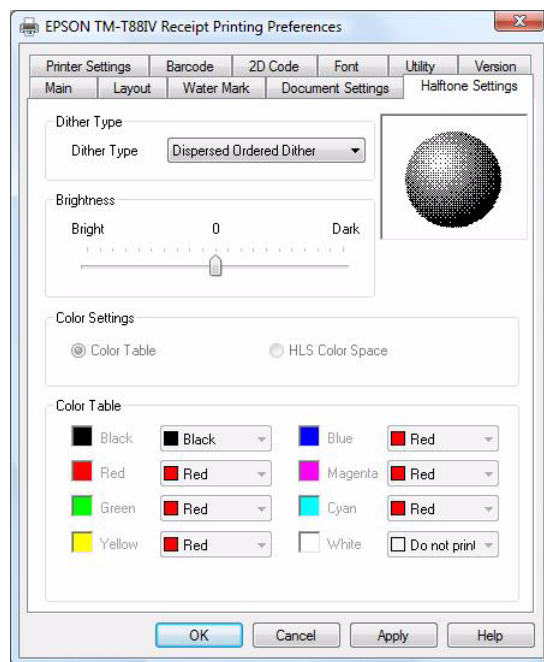
A desired logo can be specified to be printed.



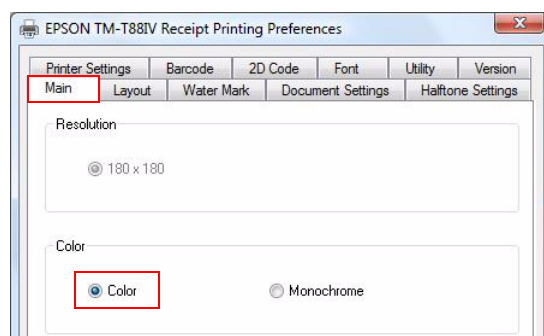
Setting		Description
Start of Document End of Document Start of Page End of Page	Do not print logo (Do not send command)	Does not print a logo.
	Select Image file for use	Prints a logo using an image file.
	File	Specify a bitmap file in the "File" box.
	Print Position	Specify a logo print position. Select Left, Center, or Right.
	Logo registered in the printer (NV graphic)	Prints a logo registered in the NV memory of the TM printer.
	Key code	Enter a Keycode of the desired logo. Use the "TM Flash Logo Setup Utility" to register a logo. See "TM Flash Logo Setup Utility" on page 105 for details.
	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 or two-color printer.



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

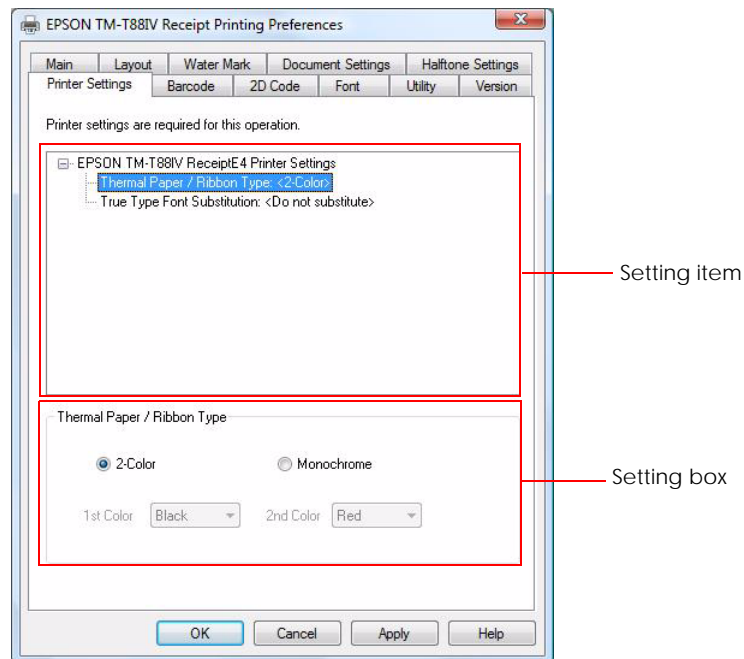


Setting	Description
Dither Type	<p>Defines the dithering algorithm. Depending on the dither type selected, the image is displayed with a different pattern of dots. The following 4 options are available.</p> <ul style="list-style-type: none"> <li>• Dispersed Ordered Dither</li> <li>• Clustered Ordered Dither</li> <li>• Error Diffusion</li> <li>• Threshold</li> </ul>

Setting		Description
Brightness (A function dedicated for the printer driver for thermal printers)		Sets the brightness of image data. Dots are displayed based on the arrangement set by [Brightness].
Color Settings	Color Table	Displays the Color Table and makes the table enabled.
	HLS Color Space	Displays the HLS Color Space Separation and makes it enabled.
Color Table		<p>This item is displayed when "Color Table" is selected in [Color Settings].</p> <p>Assigns the colors for the 2-Color printing in accordance with the Color Table. The driver uses the following 2 methods to reduce the number of color used for printing color image data in two colors.</p> <ul style="list-style-type: none"> <li>• Using the reducing color function provided by the GDI, the user can make the full color reduced to 8 colors.</li> <li>• 8-Color Printing can be reduced to 3-Color Printing. (the first color, the second color and the white color)</li> </ul> <p>The Color Table includes 8 colors: black, red, green, yellow, blue, magenta, cyan and white. The user can click the right list of the above colors to specify the color that the user prefers. (White is fixed.)</p>
HLS Colorspace Separation		<p>This item is displayed when "HLS Color Space" is selected in [Color Settings].</p> <p>This item is available only for the 2-Color printing. Hue is set using the slider or by entering a value manually to the edit box. As Hue is decreased, Hue becomes grayer. Setting Hue to the minimum value of 1 makes it closest to gray. If "Ignore Hue" is checked, the Hue value is not used in the color reduction. The color mapping result is shown in the color wheel (the bigger one) at the right.</p>

## Printer Settings

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

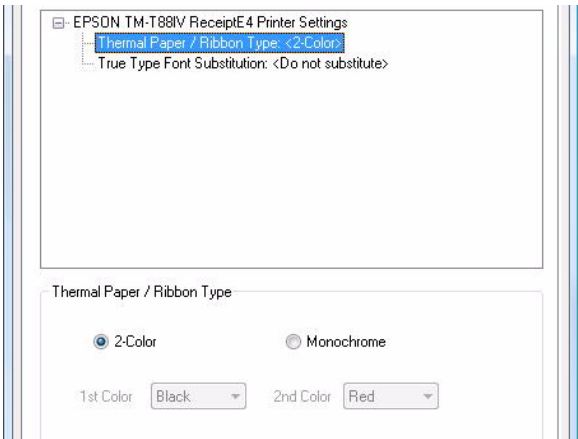


### NOTE

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

## Thermal Paper / Ribbon Type

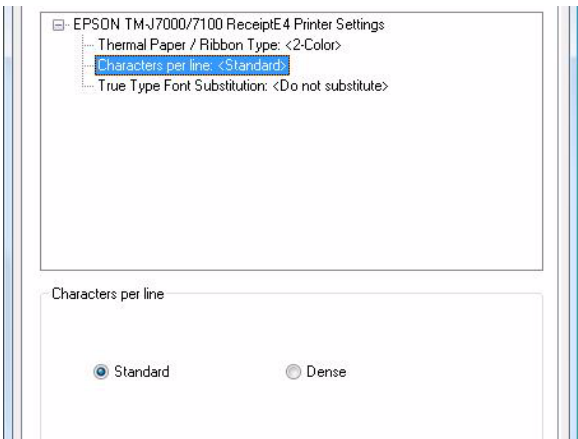
Colors to be used for printing can be specified.



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

## Characters per line

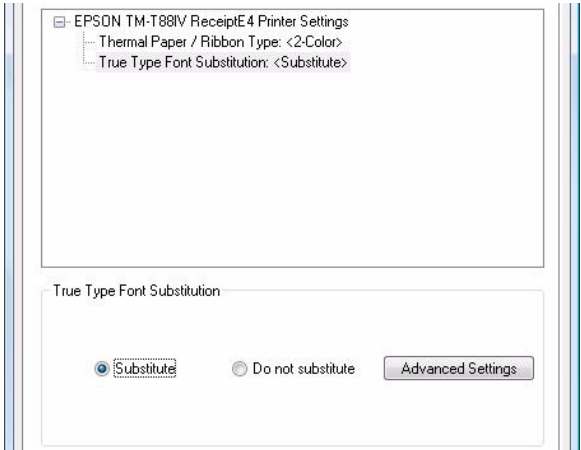
You can set characters per line.



Setting	Description
Standard (Default)	This is the standard setting.
Dense	Uses device font in multiple columns.

# TrueType Font Substitution

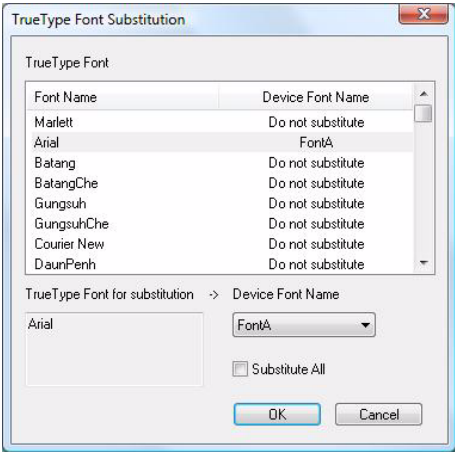
Allows you to replace TrueType Font with Device font, Barcode font, 2D-Code font, control font, or controlA font.



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

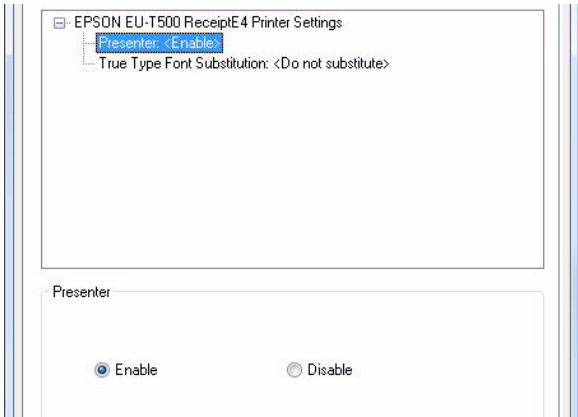
Allows you to configure TrueType substitution settings. In the case that Device fonts cannot be used, the substitution setting is ignored and TrueType fonts are printed as they are.



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.

### Presenter

Allows you to set for the presenter function.



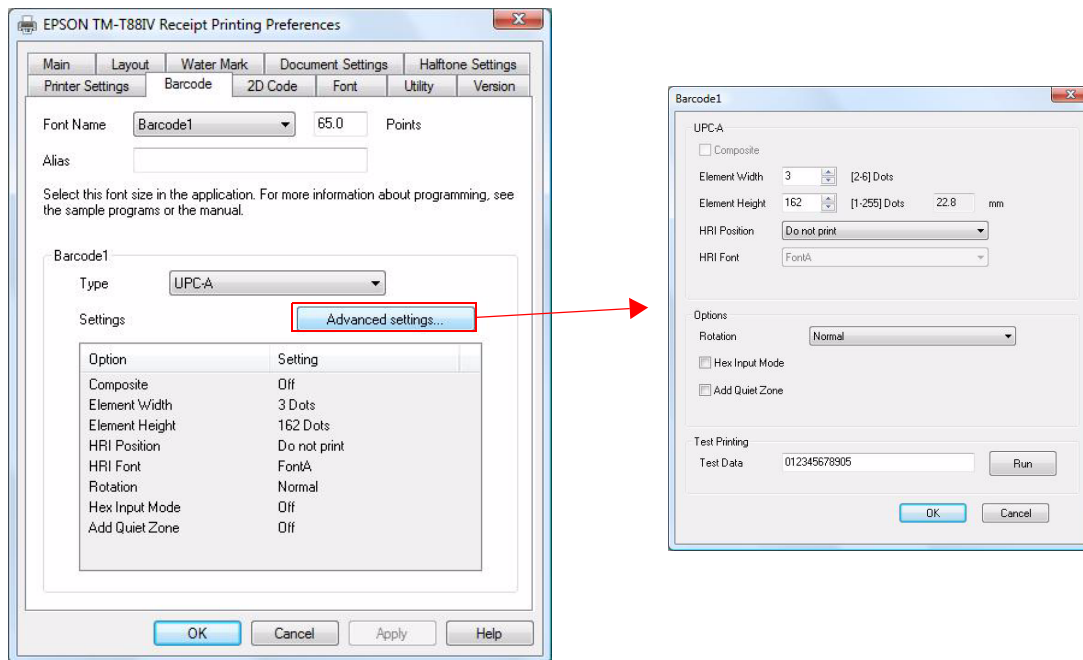
Setting	Description
Enable (Default)	Enables the presenter function.
Disable	Disables the presenter function.

## Barcode

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

### NOTE

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



Setting	Description
Font Name	Select a desired Barcode font from the pull-down list. The point value changes according to the height of the element.
Alias	An alias name can be specified for the selected Barcode font. Up to 31 characters can be entered. Alphanumeric characters, spaces, and the following symbols can be used. Available characters: !"#\$%&'()*+,-./:;<=>?@[\]^_`{ }~
Type	Select a desired Barcode type from the pull-down list (UPC-A, UPC-E, JAN13 (EAN), JAN8 (EAN), Code39, ITF, Codabar, Code93, Code128, GS1-128, GS1 DataBar Omni-directional, GS1 DataBar Truncated, GS1 DataBar Expanded, GS1 DataBar Limited, UCC / EAN-128, RSS14, RSS14 Truncated, RSS Expanded, RSS Limited). Select "Not Use" when not specifying the Barcode type. GS1 Barcode and RSS Barcode are the same. See <a href="#">"GS1 Barcode and RSS Barcode" on page 93</a> .
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.



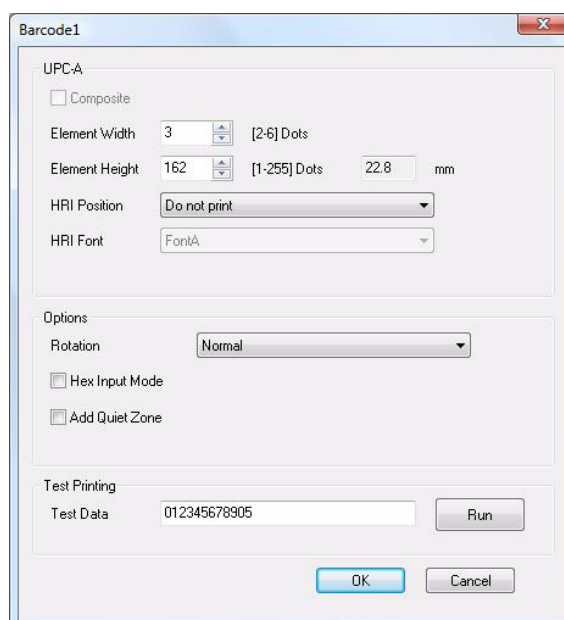
## GS1 Barcode and RSS Barcode

GS1 Barcode and RSS Barcode are the same. See the table below.

GS1 Barcode	RSS Barcode
GS1 DataBar Truncated	RSS14 Truncated
GS1 DataBar Limited	RSS Limited
GS1 DataBar Expanded	RSS Expanded
GS1-128	UCC/EAN-128
GS1 DataBar Omni-directional	RSS14

## 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
Composite	Specifies the Composite Symbology. Check this box to print a Barcode with a Composite Symbology. When not checked, the Composite Symbology is not printed. This option is grayed out if the Composite Symbology is not supported by the printer driver.
Element Width	Specifies the Barcode element width. The thin element width is expressed in the number of dots. The setting can be changed within the range of 2 to 6.

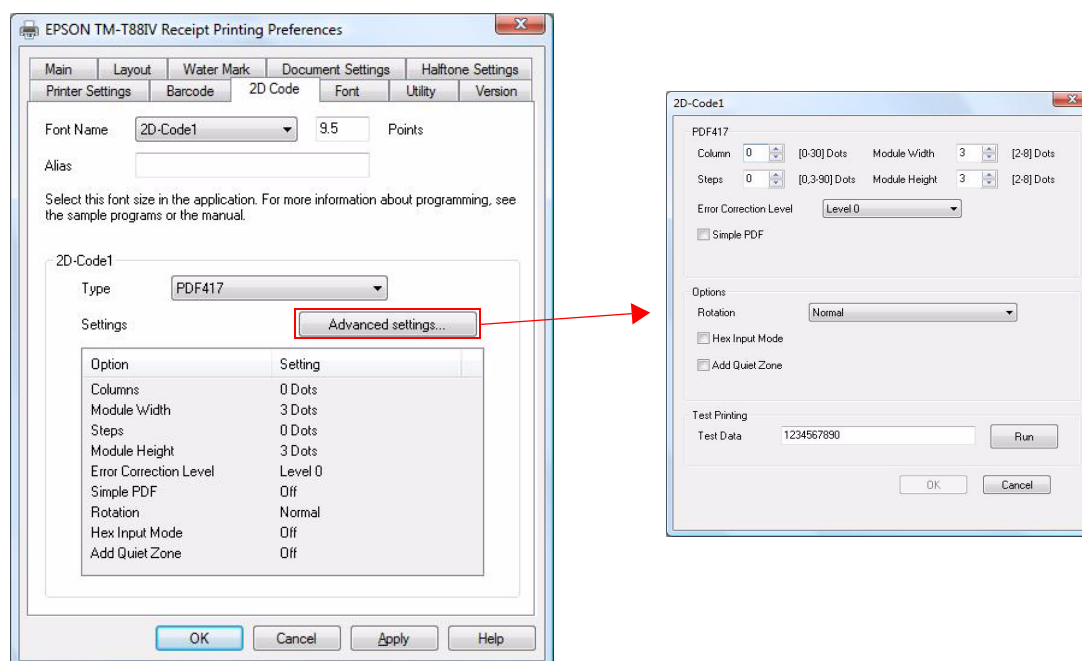
Setting		Description
Element Height		Specifies the Barcode element height using the number of dots. The setting can be changed within the range of 1 to 255 dots. According to the specified number of dots, the actual height is expressed in mm or point. Use the point value to specify the height in the application.
HRI Position		Specifies the position of the HRI characters (Barcode data) from the pull-down list (Do not print, Above the Barcode, Below the Barcode, Both above and below the Barcode).
HRI Font		Specifies the font of the HRI characters from the pull-down list (FontA, FontB, FontC). The FontC is available only with some specific TM printers. This option is grayed out when "No printing" is selected in the [HRI Position].
Rotation		Specifies the print direction of Barcode. When other than "Normal" is selected in the Rotation setting, the following message is displayed: "<Print all text as graphics image> will be automatically set to yes." When other than "Normal" is specified for the Rotation setting both in the [Layout] tab and the [Barcode] - [Advanced settings], the both settings are applied to the printed Barcode at a time.
	Normal	Prints the Barcode without rotating it.
	Rotate by 90 Degrees	Rotates the Barcode to print it. The whole print data is printed as a graphics image, therefore, the Device fonts, control font, and controlA font cannot be used.
	Rotate by 180 Degrees	
	Rotate by 270 Degrees	
Hex Input Mode		Allows the Barcode characters to be entered in binary. Ex : "00010203" → 0x00 0x01 0x02 0x03
Add Quiet Zone		Check this box to add a quiet zone, the blank margin on either side of a Barcode, required to be properly read by a Barcode reader. The quiet zone is added without changing the Barcode position.
Test Printing		Prints a set Barcode as test printing.
	Test Data	Inputs data for test printing.
	Run	Prints input data.

## 2D-Code

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

### NOTE

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



Setting	Description
Font Name	Select a desired 2D-Code font from the pull-down list. The point value changes according to the height of the 2D-Code.
Alias	An alias name can be specified for the selected 2D-Code font. Up to 31 characters can be entered. Alphanumeric characters, spaces, and the following symbols can be used. Available characters: !"#\$%&'()*+,-./:;<=>?@[\]^_`{ }~
Type	Select a desired 2D-Code type from the pull-down list (PDF417, QR Code, Maxi Code, RSS14 Stacked, RSS14 Stacked Omni-directional, RSS14 Expanded Stacked, GS1 DataBar Stacked, GS1 DataBar Stacked Omni-directional, GS1 DataBar Expanded Stacked). Select "Not Use" when not specifying the type. GS1 2D-Code and RSS 2D-Code are the same. See <a href="#">"GS1 2D-Code and RSS 2D-Code" on page 96</a> .
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.

---

## GS1 2D-Code and RSS 2D-Code

GS1 2D-Code and RSS 2D-Code are the same. See the table below.

GS1 2D-Code	RSS 2D-Code
GS1 DataBar Stacked	RSS14 Stacked
GS1 DataBar Stacked Omni-directional	RSS14 Stacked Omni-directional
GS1 DataBar Expanded Stacked	RSS14 Expanded Stacked

---

## 2D-Code advanced settings

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

PDF417

2D-Code1

PDF417

Column 0 [0-30] Dots    Module Width 3 [2-8] Dots

Steps 0 [0-30] Dots    Module Height 3 [2-8] Dots

Error Correction Level Level 0

☐ Simple PDF

Options

Rotation Normal

☐ Hex Input Mode

☐ Add Quiet Zone

Test Printing

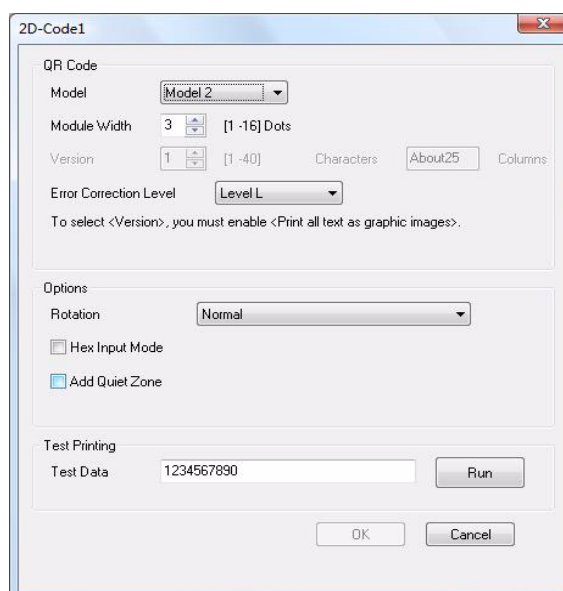
Test Data 1234567890    Run

OK    Cancel

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

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

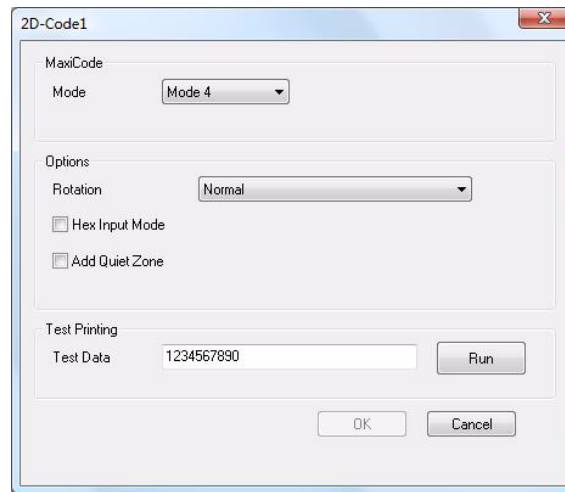
## QR Code



Setting	Description
Model	Specifies a QR Code model (Model1 or Model 2).

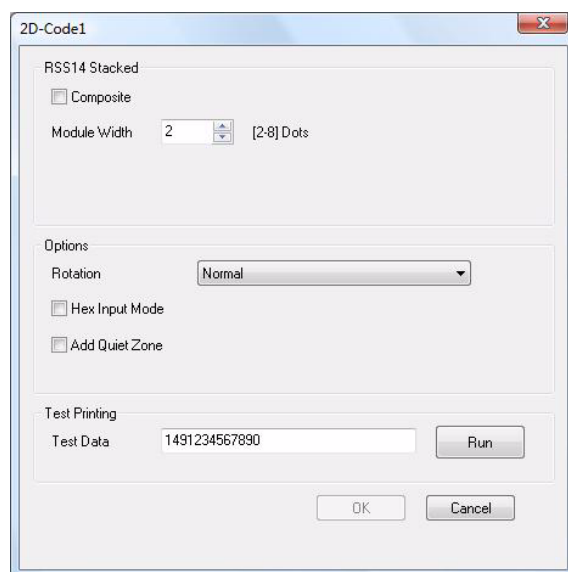
Setting		Description
Module Width		Configures the cell (module) of QR Code to be printed. The setting can be changed within the range of 1 to 16.
Version		Specifies the QR Code version. Depending on the QR Code version, the number of characters to be used for the 2D-Code changes. The settable versions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

## Maxi Code



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

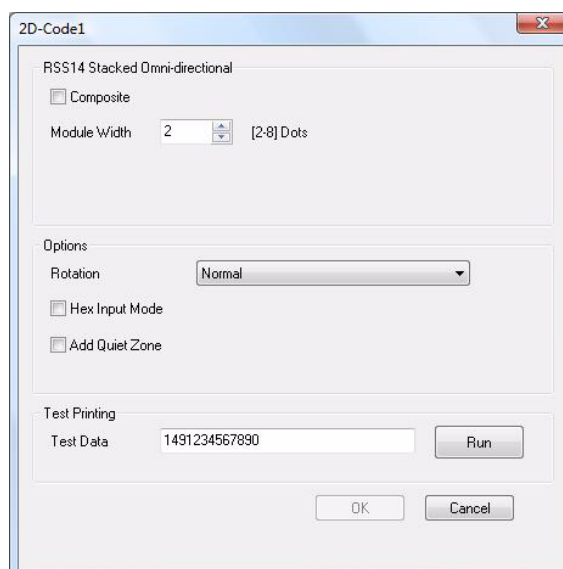
## GS1 DataBar Stacked / RSS14 Stacked



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.	
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.

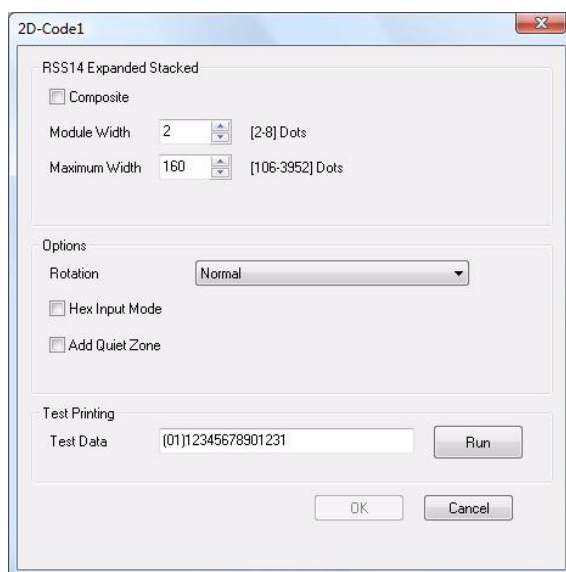


## GS1 DataBar Stacked Omni-directional / RSS14 Stacked Omni-directional



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.	
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 / RSS14 Expanded Stacked

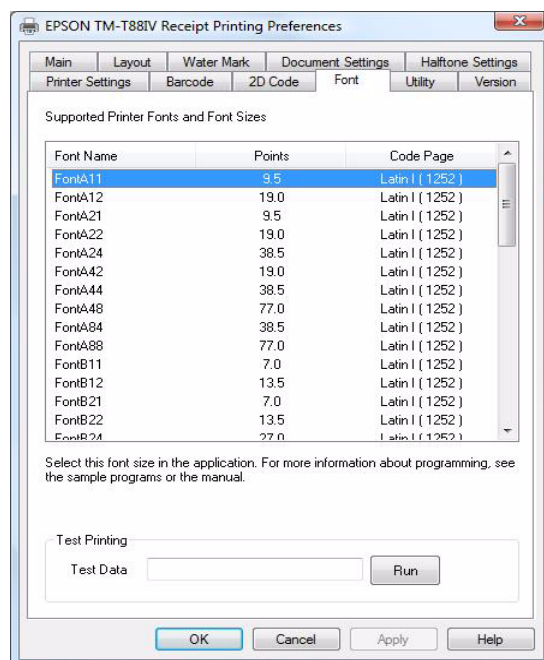


Setting		Description	
Composite		Adds a composite symbol to a two-dimensional symbol.	
Module Width		Specifies the cell (module) width of GS1 DataBar Expanded Stacked to be printed. The setting can be changed within the range of 2 to 8.	
Maximum Width		Specifies maximum width of GS1 DataBar Expanded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

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.

## Font

Displays a list of the device font names, points, and code pages that the TM printer supports. When using a Device font, make sure to specify the corresponding point indicated in the list. When programming, also specify the font and point as indicated in the list.



Setting		Description
Test Printing		Prints the device font as test printing.
	Test Data	Inputs data for test printing.
	Run	Prints input data.

# TM Flash Logo Setup Utility

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

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

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

## *Saving a Logo File*

Follow the procedure below to save your logo file to the NV memory. For more details about the settings, see ["Reference" on page 109](#).

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

Example: when printing a 60mm (W) x 20 mm (H) logo on 80 mm-width paper using the TM-L90, calculate the logo file size using the following formula.

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

Width: 6.0 2.54 x 203 = 480 dots

Height: 2.0 2.54 x 203 = 160 dots

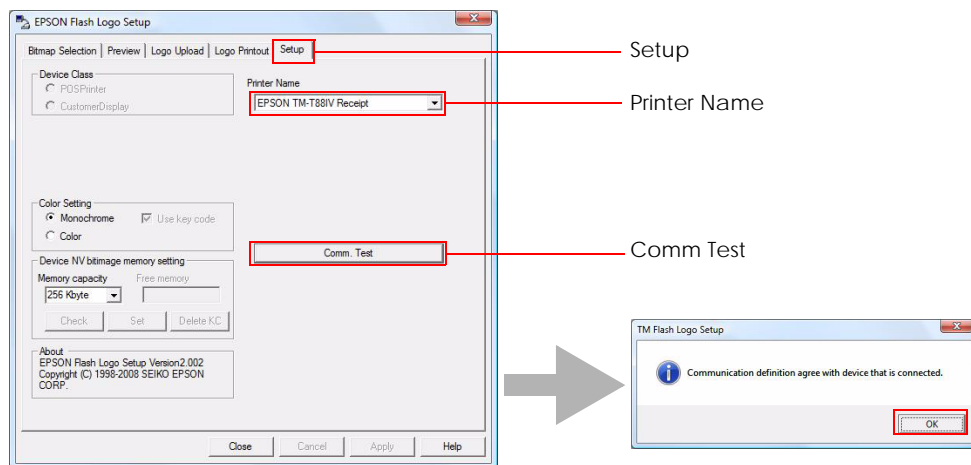
In this case, your logo file (bitmapped image) should be 480 x 160-dot image.

### NOTE

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

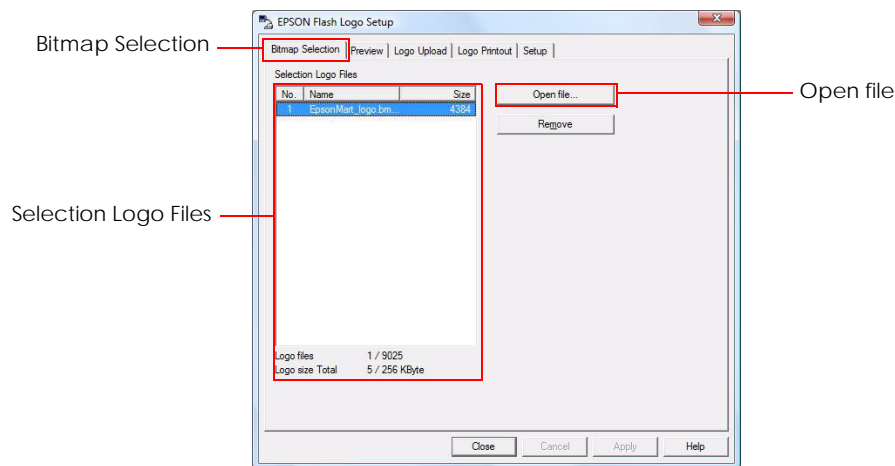
- 2 Select [EPSON Flash Logo] from [Start] - [All Programs] - [EPSON] - [EPSON Advanced Printer Driver 4].

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



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

- 4** Select the [Bitmap Selection] tab and make the following settings.

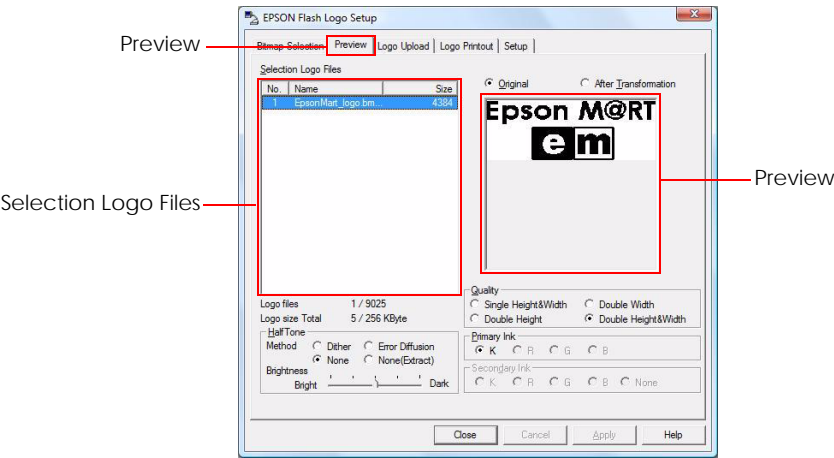


Setting	Description
Open file	Add a logo file (*.bmp) to save. You cannot add a logo file if the total number or size of the logo files listed in the "Selection Logo Files" box exceed the allowable numbers or size.
Selection Logo Files	Displays a list of selected logo files.



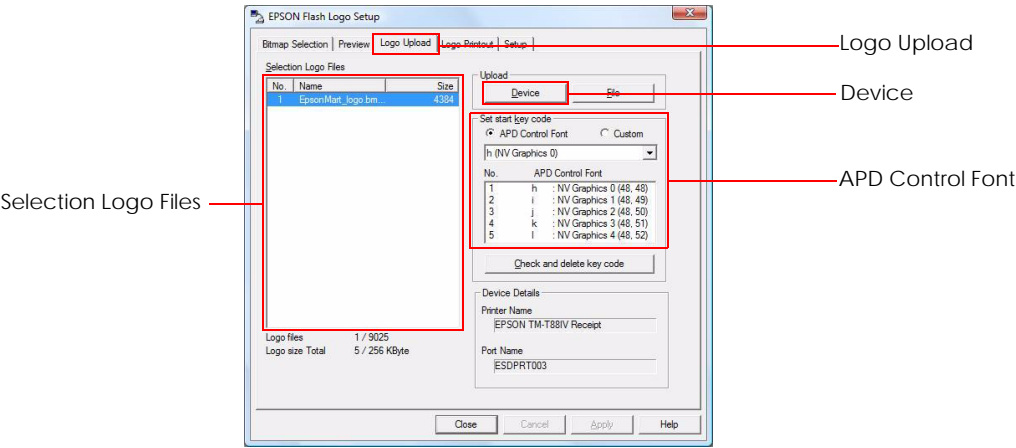
The allowable number of logo files varies depending on the TM printer's NV memory capacity and size of the saved logo files. For more details, see the User's Manual supplied with the TM printer or the Technical Reference Guide.

5 Select the [Preview] tab. Make the following settings on the tab.



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

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

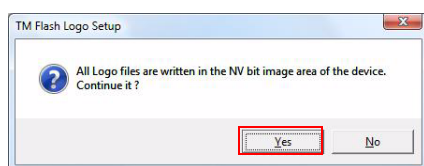


Setting	Description
Selection Logo Files	Select a logo file to be saved to the TM printer in this box.
APD Control Font	Specify the destination to where the logo file is saved. The destination NV memory address of the TM printer is specified using a control font that is used for specifying the logo file to print.
Device	Starts to upload the selected logo file to the TM printer.

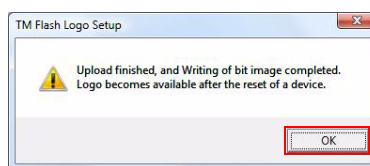
**7** A write start confirmation screen is displayed. Click the [OK] button. Uploading the logo file is started.

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

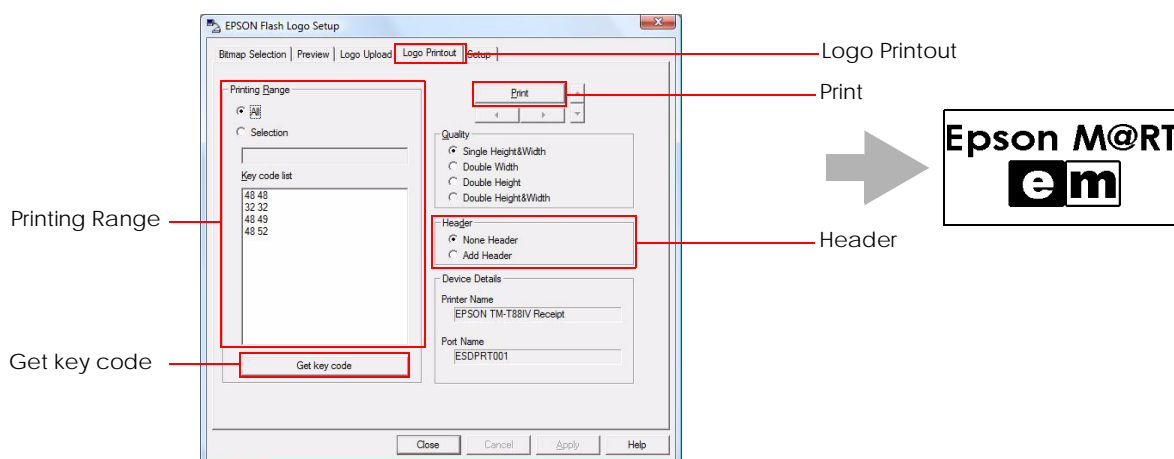
7 >



8 >



**9** Select the [Logo Printout] tab. You can check whether the logo file is properly saved to the TM printer by making a test print.



Setting	Description
Printing Range	Select a logo file saved to the TM printer. Select "All" to print the all saved logo files. In the case of NV graphics, select a desired logo file in the "Key code list" box. Click the "Get key code" to display the available key code list in the box.
Get key code	Displays a list of key codes of logo files saved to the TM printer in the "Key code list" box.
Header	Select whether to print the logo file with additional information such as its logo number.
Print	Starts to print the logo as specified on this tab.

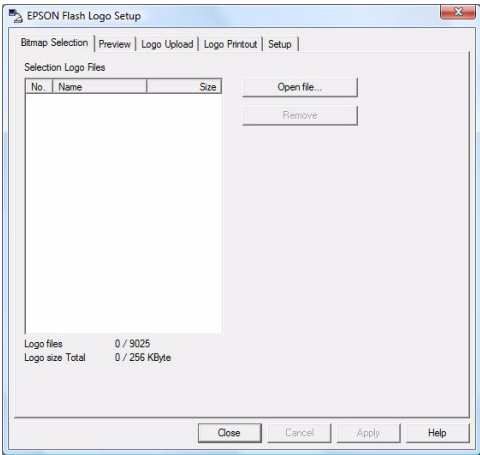
**10** Click the [Close] button to finish the logo entry.



# Reference

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

## Selection Logo Files



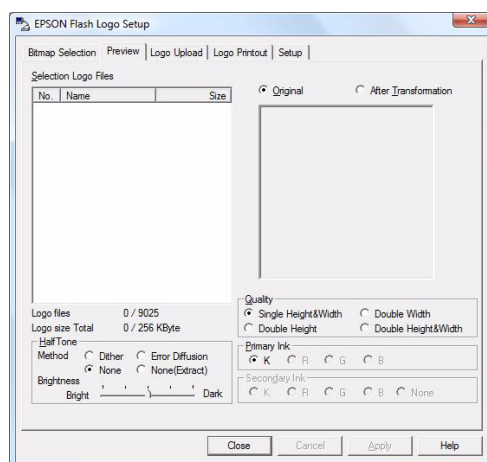
Setting	Description
Selection Logo Files	A list of selected logo files is displayed.
Open file	Specify a logo file (*.bmp) to be newly added to the TM printer. The specified logo file is added in the "Selection Logo Files" list.
Remove	Delete a logo file selected in the "Selection Logo Files" box from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

### CAUTION

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

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

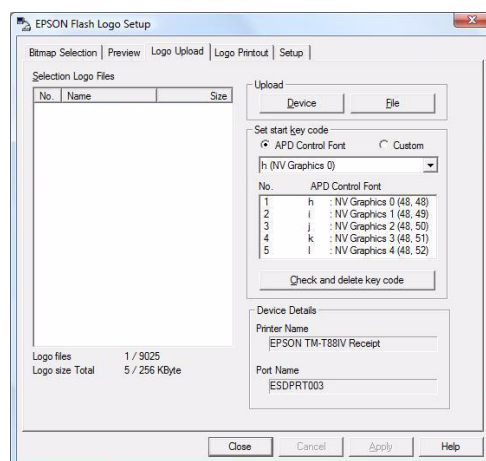
## Preview



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

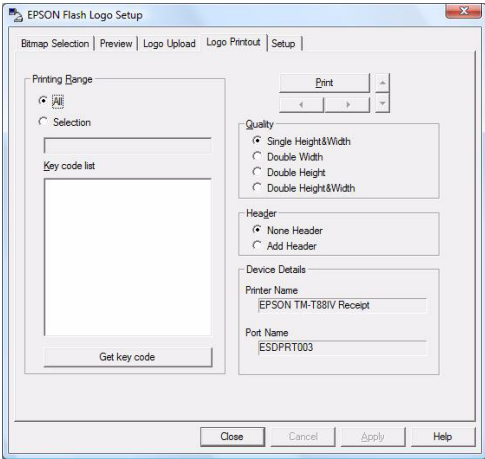
Setting	Description
Quality	Select the resolution used to display the image in the preview window.
Primary Ink	Select an ink color to be used as the Primary Ink. When [Color Setting] on the [Setup] tab has been set to "Monochrome", the color is fixed to "K".
Secondary Ink	Select an ink color to be used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

## Logo Upload



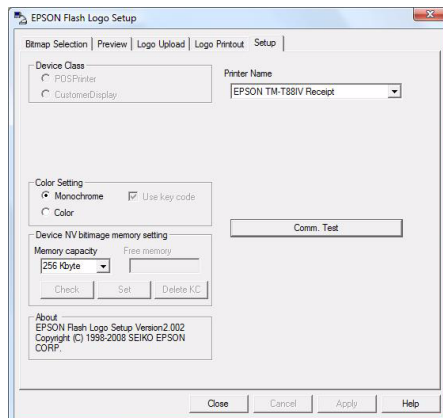
Setting	Description
Selection Logo Files	Displays a list of logo files selected in the [Bitmap Selection] tab. The logo file selected here is saved to the TM printer.
Upload	Starts to upload the selected logo file to the device or output as a file.
Device	Starts to upload the selected logo file to the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

Logo Printout



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

## Setup



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

### CAUTION

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

# Paper layout set tool

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

The main features are as follows.

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

**CAUTION**

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

## *How to use Paper layout set tool*

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

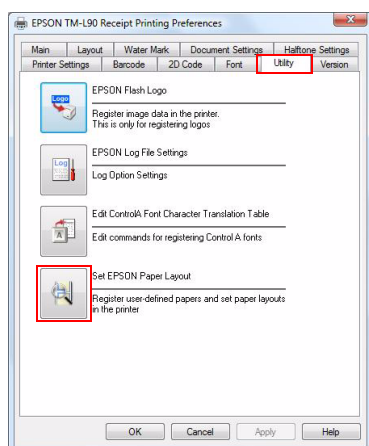
- Automatic setting
- Manual setting

## Automatic setting

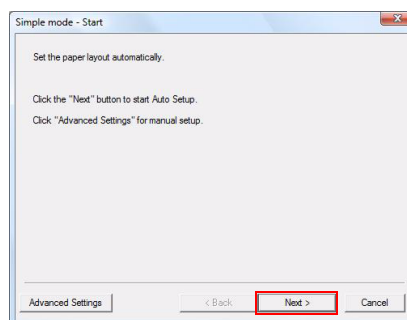
The TM printer detects paper size and sets the detected paper size automatically. Follow the procedure below to configure a paper layout setting using the automatic detection.

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

2 >

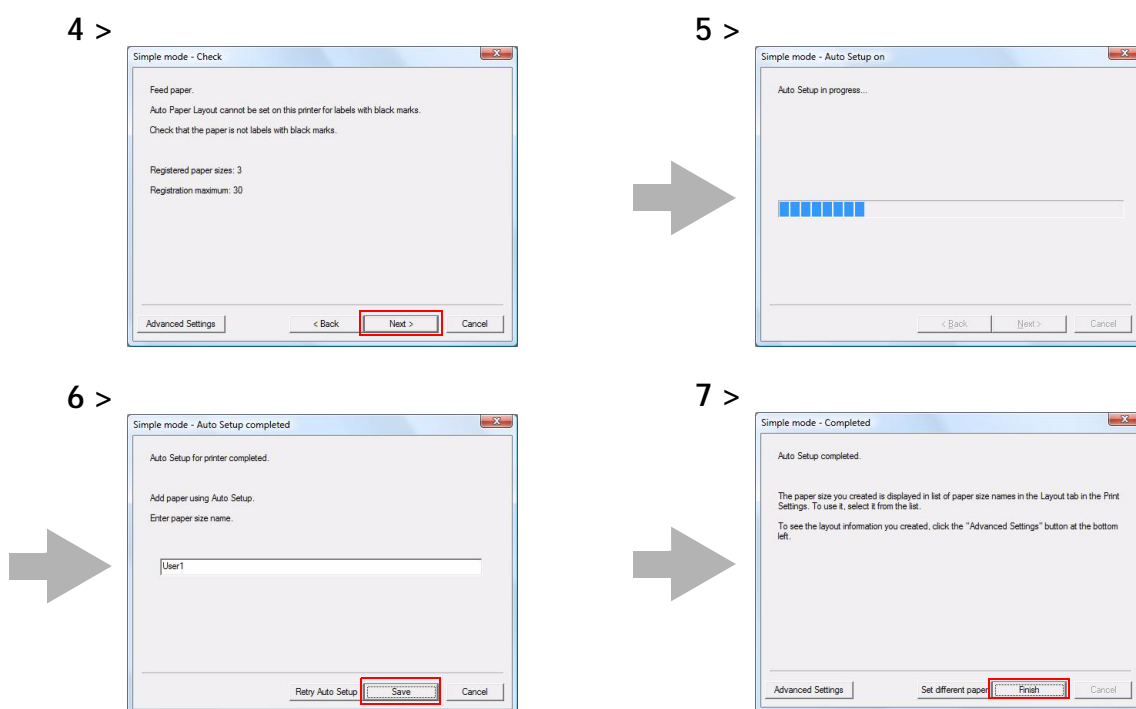


3 >





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

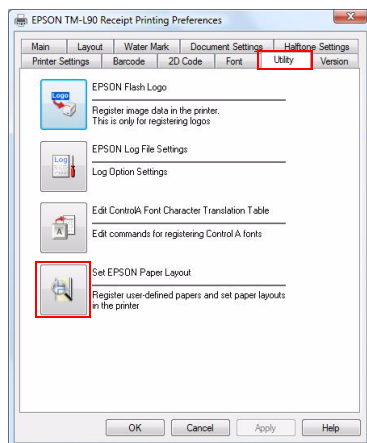


## Manual setting

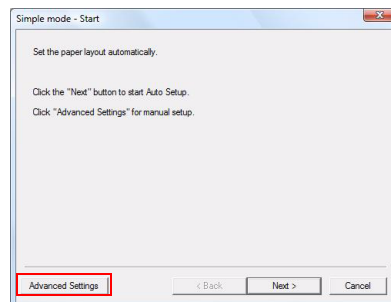
This method allows you to manually configure paper layout settings. The following explains the procedure.

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

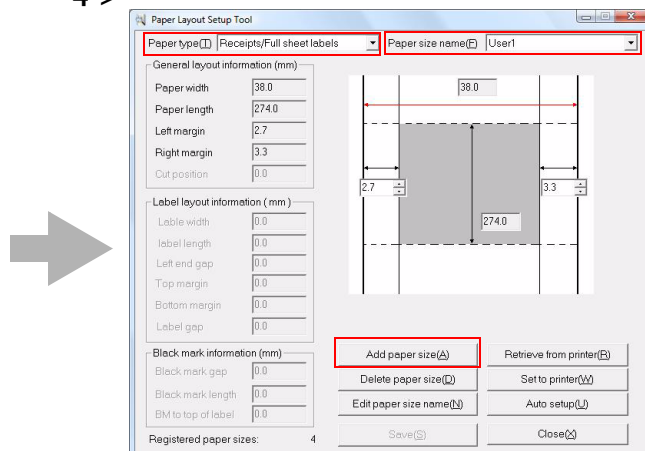
2 >



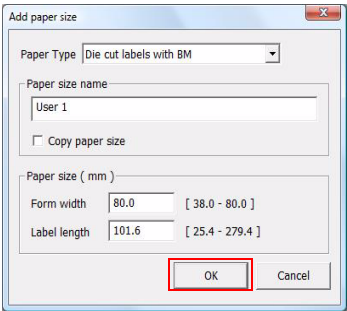
3 >



4 >



- 5** The Add paper size screen is displayed. Specify paper type, paper size name, and paper size, and click the [OK] button.

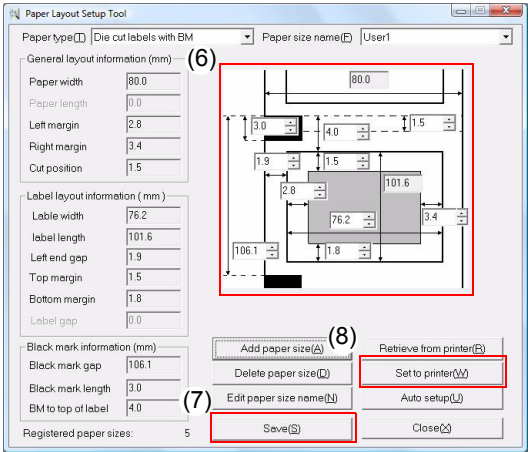


- 6** Configure the "General layout information" and "Label layout information", and "Black mark information". For more details about the settings, see ["Reference" on page 121](#).

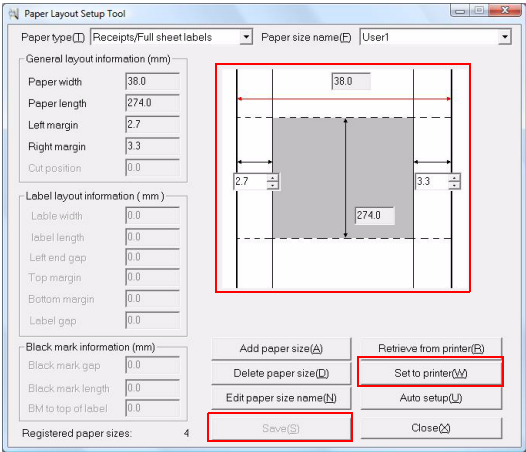
**NOTE**

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

- 7** Click the [Save] button.
- 8** Click the [Set to printer] button.



Setting a label

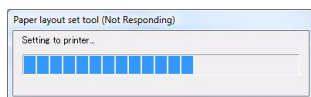


Setting a roll

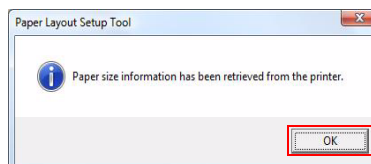
**9** The settings made at step 6 are set to the TM printer.

**10** The printer setting completion screen is displayed. Click the [OK] button.

**9 >**



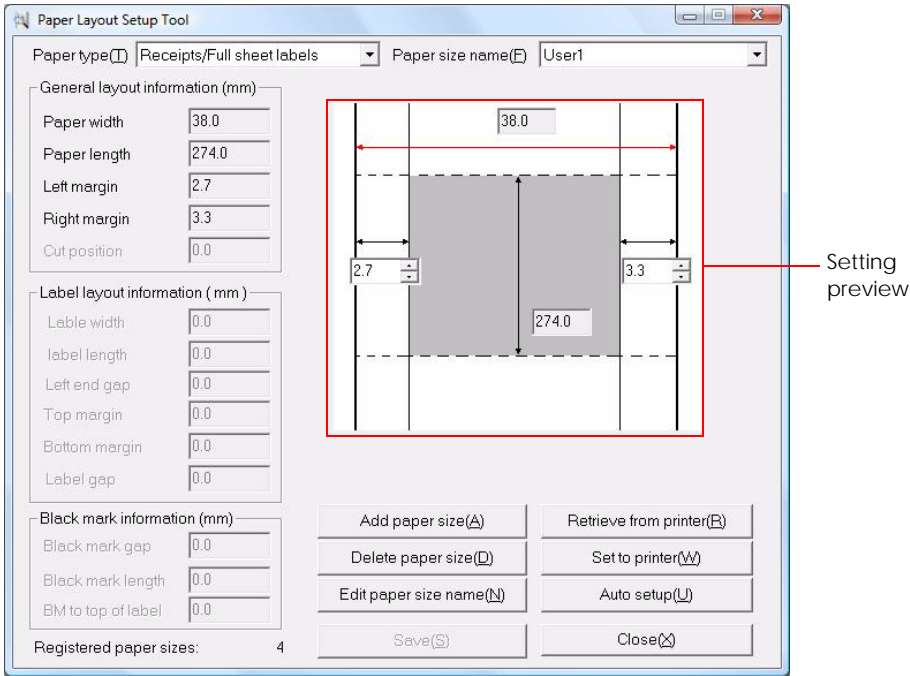
**10 >**



**11** Click the [Close] button to quit the paper layout setting.

# Reference

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



Setting	Explanation
Paper type	<p>Select a paper type to configure a paper layout. Select from the following options.</p> <ul style="list-style-type: none"><li>• Receipts/Full sheet labels</li><li>• Receipts/Full sheet labels with BM</li><li>• Die cut labels</li><li>• Die cut labels with BM</li></ul> <p>The paper type selection is also available using the [Add paper size]. Depending on the selected paper type, the layout displayed in the preview window changes.</p>
Paper size name	<p>The paper size name is created combining the paper size and the user defined paper size name. The printer driver has the paper size settings including the layout setting as default and those default settings are displayed with [*] (asterisk). You cannot change the default settings. The user defined paper size is a paper size and layout setting defined and saved by the user under a desired name. The [Paper size name] is a combination of the paper size and user defined paper size. A Paper size name defined here is added to Paper size list in Printing Preferences - [Layout] of the printer driver and you can use the setting by selecting it using the printer driver. The list of Paper size names is displayed for each [Paper type].</p>

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

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

Setting		Explanation
	Right margin	<p>Specify the right margin of paper.</p> <p>When selecting die cut label, make the margin setting in the setting preview screen.</p> <p>The minimum margin for "Receipt/overall label paper" and "BM sheet/overall label paper" varies depending on the paper width.</p> <ul style="list-style-type: none"> <li>• When [Paper width] is 80mm, the minimum margin is 5.3mm.</li> <li>• When [Paper width] is 79mm, the minimum margin is 4.3mm.</li> <li>• When [Paper width] is 78mm, the minimum margin is 3.3mm.</li> </ul> <p>The maximum margin is a value that makes a value obtained by subtracting double [Right margin] values from [Paper width] 24mm or more. Specify a value within the range.</p> <p>The default for "Die Cut label" and "BM Die Cut label" is 2.8mm (minimum margin).</p> <p>The maximum margin is a value that makes a value obtained by subtracting double [Right margin] values from [Paper width] 24mm or more. Specify a value within the range.</p>
	Cut position	<p>Specify a cut position. Make the setting in the setting preview window.</p> <p>You can specify the cut position for the following paper types.</p> <ul style="list-style-type: none"> <li>• Receipts/Full sheet labels with BM</li> <li>• Die cut labels</li> <li>• Die cut labels with BM</li> </ul> <p>The default is 2.0mm and the minimum value is 2.8mm. Do not enter a value larger than the gap width between labels.</p>



Setting	Explanation
Label layout information	<p>This information is required for the following paper types.</p> <ul style="list-style-type: none"> <li>• Die cut labels</li> <li>• Die cut labels with BM</li> </ul> <p>Label width, Label length, Left end gap, Top margin, Bottom margin and Label gap settings can be made and viewed.</p>
Label width	<p>Specify the label width. Make the setting in the setting preview window. The default is the maximum width settable with the [Paper width].</p> <p>Specify a value so that a value obtained by subtracting double [Right margin] values from [Paper width] becomes 24mm or more. Because the minimum [Right margin] and [Left margin] is 2.8mm, the minimum value for [Label width] is 29.6mm.</p> <p>The maximum margin is a value obtained by subtracting [Right end gap] and [Left end gap] from [Paper width]. The following explains how to determine the right end gap.</p> <ul style="list-style-type: none"> <li>• When [Paper width] is 80mm and [Right margin] is smaller than 5.3mm, the right end gap is obtained by subtracting [Right margin] from 5.3mm. When [Right margin] is 5.3mm or larger, the right end gap should be 0 (zero).</li> <li>• When [Paper width] is 79mm and [Right margin] is smaller than 4.3mm, the right end gap is obtained by subtracting [Right margin] from 4.3mm. When [Right margin] is 4.3mm or larger, the right end gap should be 0 (zero).</li> <li>• When [Paper width] is smaller than 78mm and [Right margin] is smaller than 3.3mm, the right end gap is obtained by subtracting [Right margin] from 3.3mm. When [Right margin] is 4.3mm or larger, the right end gap should be 0 (zero).</li> </ul>
Label length	<p>Specify the label length.</p> <p>When the label length is specified in this Label layout information, the paper length specified in the Common layout information is ignored. You cannot change label length of the default paper sizes preset on the printer driver. User defined paper sizes and paper sizes defined using the Paper layout set tool can be edited using the [Add paper size] button. You cannot edit in the setting preview window.</p> <p>The settable label length is from 25.4mm to 279.4mm.</p>
Left end gap	<p>Specify a gap from the left edge of the backing sheet to the left edge of label. Make the setting in the setting preview window.</p> <p>The default is 1.9mm. You cannot specify a value smaller than 0 (zero).</p> <p>Specify a value so that [Left end gap] plus [Left margin] becomes 4.7mm or more.</p> <p>The maximum value is determined so that the sum of [Label width] and [Left end gap] falls within the range of [Paper width] to 2.5mm.</p>

Setting		Explanation
	Top margin	Specify the top margin that determines the print start position. Make the setting in the setting preview window. The default is 1.5mm. You cannot specify a value smaller than 1.5mm. The maximum margin is determined so that a value obtained by subtracting [Top/Bottom margin] from [Label length] becomes 3.8mm or more.
	Bottom margin	Specify the bottom margin that defines a gap between the end of print area and bottom edge of the die cut label. Make the setting in the setting preview window. The default is 1.8mm. You cannot specify a value smaller than 1.5mm. The maximum margin is determined so that a value obtained by subtracting [Top/Bottom margin] from [Label length] becomes 3.8mm or more.
	Label gap	Specify a gap between labels. Make the setting in the setting preview window. The default is 5.2mm. You cannot specify a value smaller than 1.5mm. The maximum margin is determined so that a value obtained by subtracting [Top/Bottom margin] from [Label length] becomes 3.8mm or more.
Black mark information		This information is required for the following paper types. <ul style="list-style-type: none"> <li>• Receipts/Full sheet labels with BM</li> <li>• Die cut labels with BM</li> </ul> BM (black mark) related settings can be made and viewed.
	BM gap	Specify a gap between black marks. <ul style="list-style-type: none"> <li>• For "Receipt/overall label paper", the [Paper length] and [BM gap] settings are the same. You cannot change the value.</li> <li>• For "Die Cut label", the default is 106.1mm. You can change the value. The minimum value is the sum of [Label length] plus a length from the black mark to the top edge of the label. The maximum value is 300mm.</li> </ul>
	BM length	Specify a black mark length. Make the setting in the setting preview window. The minimum value is 2.5mm and the default is 3mm. The maximum value is 10mm which from the black mark to the top edge of the label.
	BM top or label	Specify a gap from the top black mark to the top edge of label. Make the setting in the setting preview window. This setting is available only with "Die Cut label". The minimum value is [BM length], and the maximum value is obtained by subtracting [Label length] from [BM gap].

# Restrictions

This chapter describes the restrictions that apply to the APD.

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## OS Settings

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

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## Printing

1. Print data outside of the printable area will not be printed.
2. When printing on receipt paper, blank space appears at the top of the paper which is greater than the top margin setting value. This is caused by the fact that the paper cutting position (autocutter) and the printing position (printer head) are separated and the distance between them results in extra margin.
3. Device fonts cannot be used in rotated, condensed or enlarged printing. Use Windows fonts.
4. If a device font and graphics data (Windows font or ruled line, etc.) are defined on the same line, the print result may be misaligned.
5. Printing takes longer with serial models than with other interfaces. If you want to print faster, other than a serial model is recommended.
6. With some TM printers using parallel connection, if the printer is turned on with the paper at near end position, a "no paper" error that prevents printing may occur. In such cases, after installing new paper, turn off the power, then turn it on again.
7. Euro currency symbol cannot be printed.
8. The paper size displayed in the printer driver Properties - [General] tab may differ from what is stated in the "Printer Specification." In such cases, select the paper size stated in the user's manual.
9. With Windows 7/ Vista/ XP, printing of codes 80H, 8EH, or 9EH from an application when device Font A or B, or blank page Font A or B (254 or 255) is specified may not operate correctly.
10. Align center or left using Control Font cannot be used with graphics printing.
11. [Separator Page] in the printer driver Properties - [Advanced] tab is not available.

12. With some applications, several device font size options are displayed, however, device font is always printed in a fixed size regardless of your size selection.
13. With some applications, print settings such as "Collate" and "Orientation" configured on the application side may differ from the printer driver settings. In such cases, the settings on the application side take priority. However, it is not possible to print beyond the printer's capabilities. (For example, printing in landscape format using device font)
14. Even when you specify bold or italic font settings, it will not be reflected in the printings. The underline is printed but the position is offset.
15. The color format is fixed to 24 BPP. So check that dmColor setting for Devmode is set to "Color" on the application side.
16. When water mark and 2-D symbol are used in a single data, the printout could be misaligned (displaced).
17. When you print a narrow width Barcode with a high-resolution printer, all of the HRI characters may not be printed. In such case, specify narrow width fonts; FontB/C for the HRI characters.
18. If you manually remove printed paper when the paper source selection is set to [No Eject] with the slip driver, the following printing will not be performed correctly. In that case, turn off the power of the printer, and then turn it on again.
19. If you print color logos with a printer that does not support color printing of slip/validation/endorsement and so on, only the black parts will be printed.

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## Printer model information

1. In the printer DIP switches, configure the Busy condition only for the receive buffer full. Note that this setting is configured automatically in the following printers.
  - TM-T90
  - TM-L90
  - TM-J2000/2100
2. With TM-T90 and TM-L90, a margin of approximately 10 dots may be inserted at the Start of printing (Start of paper feed) if 3rd or 4th is specified for Printing Speed in the printer driver Properties - [General] - [Printing Preferences] - [Document Settings] tab. Also, blank lines may be inserted into the print result.
3. When you perform the Test Printing provided in [Font] menu with TM-L90 Label printer, the printer ejects extra labels. In such case, change the paper conservation setting of the Document Setting to Bottom (saves the bottom margin).

4. To use the TM-L90 with Peeler in the label peeler issuing mode, set as follows.  
Select [Properties] - [Document Settings] -[Paper Source]-[Custom], and then the [Cutting and Feeding] screen will appear.  
Uncheck the checkboxes of "Feed paper to the print starting position"/"Feed to cut position before cut" for [Start of Document] / [Start of Page] / [End of Page].  
For [End of Document], uncheck the checkbox of "Feed paper to the print starting position" and check the checkbox of "Feed to cut position before cut."
5. With TM-U210/U220 drivers, it is not possible to print device fonts of different colors to the same line.
6. You cannot use the TM-U375 print width compatibility mode with the TM-U675.
7. Use the printer drivers for the TM-T88IV and the TM-T88IV ReStick as shown in the table below.

Model	Printer Driver	
	EPSON TM-T88IV ReceiptE4	EPSON TM-T88IV ReStickE4
TM-T88IV	Support	Not Support
TM-T88IV ReStick	Not Support	Support