

EPSON

**Advanced Printer Driver
for TM Series Ver.3.04
TM Driver Manual**

EPSON

Rev.C
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Revision Information

Revision	APD Version	Page	Altered Items and Contents
Rev. A	3.02	All pages	Newly authorized
Rev. B	3.03	1-2,2-55,56	Add the PRINTER_INFO_2
Rev. C	3.04	3-26	Change of Paper Conservation

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Chapter 1

Epson Advanced Printer Driver Overview

Introduction

EPSON Advanced Printer Driver (APD) is a Windows driver for EPSON TM printers and customer displays. Built into a POS, it allows the TM printer status to be monitored using the Status API.

This manual describes how to print from a Windows application using the APD for TM Series along with the APD functions.

For details on how to add a printer or change the interface, see the "Installation Manual."



Note:

The procedures in this manual are described using the Windows XP Professional screens. When using a different OS, the screens may look different.

Not all the functions described here are available for all TM printers and printer drivers. See the "Printer Driver Specifications" for more information on the printer driver specifications.

APD packages

The following types of APD package are available.

- APD for TM Series TM printers.
- APD for DM-D Customer displays.

Manual organization

The following manuals are available for the APD for TM Series. For information on how to acquire the manuals, see the "Installation Manual."

- Installation Manual Describes the procedures from installing the APD to printing the Windows test page, for adding a printer, and changing the interface.
- TM Driver Manual This manual. Describes how to use the APD and its functions. For information on TM-C100, see the "TM-C100 Printer Driver Operation Manual."
- Printer Driver Specifications Describes the specifications of each APD printer driver.
- Status API Reference Manual Describes how to acquire the printer status from an application using Status API.
- TM-C100 Printer Driver Operation Manual Describes how to use the TM-C100 printer driver and its functions.

Downloading Drivers, Utilities, and Manuals

Drivers, utilities, and manuals can be downloaded from one of the following URLs.

For customers in North America, go to the following web site.
<http://www.epsonexpert.com/> and follow the on-screen instructions.

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

Select the product name from the "Select any product" pulldown menu.

APD Features

- As with to normal Windows drivers, allows you to print from commercial text editor or spreadsheet applications easily, without any programming.
It also allows you to print from applications created using Visual Basic, Visual C++, etc. (See "Printing with an printer embedded font" on page 2-4)
- Allows you to print not only using Windows TrueType Fonts but using printer embedded fonts. It also allows you to print graphics data (for example, a store's logo) registered in the printer. (See "Printing with an printer embedded font" on page 2-4)
- Allows you to print Barcodes even if you do not have Barcode Fonts installed separately. (See "Printing a barcode" on page 2-7)
- Allows you to cut the roll paper using the printer's autocutter. (See "Controlling the Paper Cut" on page 2-32)
- Allows you to sound the buzzer if the printer is equipped with one. (See "Sounding the Buzzer" on page 2-36)
- Allows you to open the cash drawer. (See "Opening the Drawer" on page 2-40)
- Allows you to display on a customer display. (Possible in environments where, for example, the APD for DM-D is installed and DM-D Font available)
- Allows you to configure the color print settings if your printer supports color printing. (See "2-Color printing" on page 2-14)
- Allows you to print Water Marks. (See "Printing a Water Mark" on page 2-21)
- Allows you to specify orientation. You can print upside down to make it is easier for your customer to read the print result in vertical installation printers. (See "Rotated Printing and Upside-down Character Printing" on page 2-18)
- Allows you to perform condensed printing. That is, you can print an A4 size ledger sheet in receipt width. (See "Condensed Printing" on page 2-34)
- Allows you to acquire printer status such as "no paper" or "printer cover open" by using the Status API. (See the "Status API Reference Manual").
- Allows you to copy the printer driver settings to another computer easily by using its Silent Installation function. (See the "Installation Manual")
- Allows you to acquire printer information by using PRINTER_INFO_2. (See "TM PRINTER_INFO_2.Status Converting Table" on page 2-52)



Note:

- Coexistence with OPOS is not possible.

Print Example

The image shows two versions of an Epson M@RT receipt. The left version is a standard receipt, and the right version is a receipt with a large diagonal watermark that reads 'Epson M@RT'. Red lines with labels point to various features on both receipts.

Left Receipt Labels:

- Top margin (depending on printer, the size of the margin is different)
- NV Logo
- Printer embedded font
- Barcode Font
- HRI characters

Right Receipt Labels:

- TrueType Font
- Water Mark
- Automatic paper feed
- Autocutter cutting

Receipt Content (Left):

HIGH-SPEED, HIGH PERFORMANCE
HYBRID PRINTER

Epson M@RT
em

MATSUMOTO
NAGANO
123-456-7890

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

001	APPLE X5	200	100
002	ORANGE X3	100	30
003	LETTUCE	12	12
004	TOMATO	10	10
005	POTATO X10	70	70
006	CARROT X3	30	30

SUBTOTAL	252
TAX 5%	12.6
TOTAL	264.6
CASH TEND	270
CASH DUE	5.4

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

0123456789012

Right Receipt Content:

HIGH-SPEED, HIGH PERFORMANCE
HYBRID PRINTER

Epson M@RT

MATSUMOTO
NAGANO
123-456-7890

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

001	APPLE X5	@20	100
002	ORANGE X3	@10	30
003	LETTUCE	@12	12
004	TOMATO	@	10
005	POTATO X10	@7	70
006	CARROT X3	@10	30

SUBTOTAL	252
TAX 5%	12.6
TOTAL	264.6
CASH TEND	270
CASH DUE	5.4

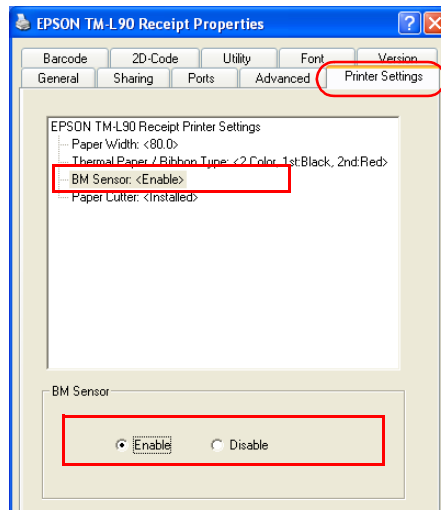
HTTP://WWW.EPSON.MART.COM/

Printer Driver for Each Type of Paper and Its Setting

With TM-C100, the paper and feed method are configured using the Properties screen of the printer driver. With other TM printers, the printer driver to be used is different depending on the paper.

Paper	Driver type
Receipt roll paper	Receipt
Continuous label paper	Receipt
Die-cut label paper	Label
Validation paper	Validation

To enable the Black Mark Sensor in a printer capable of handling papers with Black Mark, enable BM Sensor on the the Properties - [Printer Settings] tab of the printer driver.



Environment

Development tool

- Microsoft Visual Basic
- Microsoft Visual C++

Application

Allows printing from Windows applications. Printing from commercial text editor or spreadsheet applications is possible without any programming.

To be able to acquire printer information such as "no paper" or "error" from an application, the Status API must be used. In such case, the user must develop the application him/herself.



Note:

To print from Microsoft Word, the file must be saved in Word 6.0/95 format.

Fonts

The APD allows you to make eye catching prints using various Windows Fonts or print at high speed using printer embedded fonts. Furthermore, it is equipped with special Fonts for executing instructions for controlling a printer or a drawer.

The Fonts available in the APD are as follows.

Font	Explanation	Restrictions
TrueType Font (Windows standard Font)	Font of Windows standard support. The Font may be standard Windows or provided by other vendors. Windows develops the print image using the characters and graphics data and transmits the developed print image to the printer. The print result is very similar to what is displayed on the screen. This is similar to general printer drivers.	As the amount of data to be transmitted to the printer is large, this is not suitable for slow communication speed interfaces such as the serial. If a high speed printer such as the thermal printer is connected using serial interface, printing may stop from time to time to wait for data as printing speed is faster than the communication speed.
Printer embedded font	Font embedded in the printer. When a character code and Font type are sent to the printer, the character code is mapped to the printer embedded font and printed. As the amount of data to be transmitted to the printer is small, it is possible to print at high speed even when using a slow communication speed interface such as the serial. To check the Font size, use the "Print Font" sample program.	Landscape/upside-down character printing, condensed printing, and Water Mark printing is not possible using embedded fonts as the print image needs to be developed on the Windows side. The types and sizes of Font that can be used are limited. The printed result is different from what is displayed on the screen.
Barcode Font 2D-Code Font for Ver.3.xx	Font for printing Barcodes. The font is available if registered in the printer driver. Parameters such as the type of Barcode, size, availability of HRI characters, and orientation must be registered for the Barcode Font in the printer driver Properties in advance. On the application side, the Barcode Font must be specified to the character string to be converted into barcode. There are 8 types of Font available. The 2D-Code Font is for printing 2D codes and is used in a similar way.	The Barcode that can be configured differs depending on the printer model. There are 8 types of Barcode/2D-Code Font available. Barcodes cannot be printed if the Barcode/2D-Code Font is not configured in advance. Print images cannot be previewed from the application screen.
Barcode Font Ver.2.xx Compatible	Font for printing Barcodes. ITF, JAN13(EAN), JAN8(EAN), UPC-A, UPC-E, Code39, Codabar, Code93, and Code128 are supported. The HRI characters are specified using Control Fonts. On the application side, the Font with Barcode name must be specified for the character string to be converted into Barcode.	The Barcode that can be configured differs depending on the printer model. Print images cannot be previewed from the application screen.

Control Font	Special Font for executing special functions. It consists of a letter or symbol to which a special instruction is assigned and executes the function when printed. It allows you to execute functions such as Paper Feed, Paper Cut, Open Drawer, etc.	Cannot be used in landscape/upside-down character printing, condensed printing, and Water Mark printing. The available Font differs depending on the printer model. This Font cannot be used for printing text. For Ver.3.xx, the size of this Font is 1 point and therefore, very small.
controlA Font	Special Font for executing user-specified functions. The controlA Font allows you to assign ESC/POS commands freely to arbitrary characters which are executed when printed.	Cannot be used in landscape/upside-down character printing, condensed printing, and Water Mark printing. For more information on ESC/POS commands, see the Epson web site. (See "Print Example" on page 1-3) This Font cannot be used for printing text. For Ver.3.xx, the size of this Font is 1 point and therefore, very small.
DM-D Font	Font for displaying on the customer display. For details, see the "Advanced Printer Driver DM Driver."	Standard (Landscape format only)

Printer embedded font

The available printer embedded fonts are as follows.

Font name	Style
FontAxx	European language
FontBxx	European language
FontCxx	European language

Fonts whose name is followed by (254/255) are user-defined pages. For more information on this setting, see each printer's operation manual.

For information about the number of dots in the characters of each Font, see each printer's operation manual.

Not all Fonts are supported by all printers. For details, see the "Printer Driver Specifications."

Printer embedded font size

There is one Font for each size of printer embedded font.

Unlike the TrueType Fonts where it is the user who specifies the size of the character, with embedded fonts the user specifies the font size by selecting the Font.

	Standard size	Double width	Fourfold width	Eightfold width
Standard size	FontA11	FontA12		
Double height	FontA21	FontA22	FontA24	
Fourfold height		FontA42	FontA44	FontA48
Eightfold height			FontA84	FontA88

With printer embedded fonts, the appropriate size in points must be specified for each of them. The size in points of the printer embedded font can be checked from the [Font] tab of the printer driver Properties. When programming in VB, VC++, etc., the font name and font size in points must also be specified.

To check the size of a Font when printed, use the "Print Font" included in the attached sample program "VC4Sample.EXE."

Function Changes from Ver.2.xx to Ver.3.xx

The differences between APD Ver.2.xx and Ver.3.xx are as follows.

If you are using APD Ver.2.xx or earlier, you must change the parts of your program using functions that are no longer supported when migrating to APD Ver3.xx [New Function].

The Ver.3.xx includes a "compatible" mode printer driver for providing compatibility with Ver.2.xx or earlier. Using this driver, you can minimize the impact to existing applications. Select the driver with "(Ver.2.XX compatible APD)" indication at installation. *Depending on the printing method, you may use the driver without changing anything in the application or settings.

Function	Ver.2.xx /Ver.2.xx Compatible	Ver.3.xx
Upside-down character printing	Selects the printer driver for upside-down character printing. Reverse	Selects "Rotate by 180 Degrees" from the printer driver Properties - (General) - (Printing Preferences) - (Layout) tab - (Rotate).
Condensed printing	Selects the printer driver for condensed printing. Reduce35	- Specifies "Reduce Printing" in the printer driver Properties - (General) - (Printing Preferences) - (Layout) tab - (Rotate). In this case, you may configure the reduction percentage freely.
Barcode printing	Specifies the printer font for the Barcode name to print.	- Specifies the Barcode Font in the printer driver Properties - (Barcode) tab. You can specify 8 types. - To specify from a program, the program must be changed.
2D-Code printing	Specifies the printer font for the two-dimensional symbol name to print.	- Specifies 2D-Code Font in the printer driver Properties - (2D-Code) tab. You can specify 8 types.
Printer operation at Control Font execution	Executing the Control Font feeds the paper by one line.	- Executing the Control Font does not feed the paper. When migrating from Ver.2.xx, it is necessary to revise the print layout. - In Ver.3.xx, the size of the Control Font is different.
Printing of graphics data registered in the NV Memory	Prints the specified character using Control Font.	Printing of the specified character using Control Font remains the same, but the character to be specified is different.
Double Height Double Width mode printing of NV Memory content	Double Height Double Width mode printing supported.	Double Height Double Width mode printing not supported.
controlA Font assignment	Describes the corresponding ESC/POS command for each printer character (20h to 7Fh) in TmCtrlA.ini (command definition file).	- Describes on the printer driver Properties - (Utility) - (EPSON controlA Font).
Other	One Package (included the TM Printers and DM-Ds)	Two Packages (APD for TM Printers and APD for DM-D)

Restrictions

The following restrictions apply to the APD.

- ❑ Restrictions apply if APD Ver.3.xx must be installed on a PC on which an older version (APD Ver.2.xx or earlier) is installed. See the "Installation Manual" for more information.
- ❑ To allow coexistence with the APD for the TM-C100, a specific procedure must be followed. See the "Installation Manual" for details.
- ❑ Coexistence with OPOS is not possible.
- ❑ The Windows shared printer function is not supported.
- ❑ Some print servers can be used with the TM-C100. For details, contact your dealer. Other TM printers cannot use either commercial print servers or commercial print adapters.

Chapter 2

Using the APD

This chapter describes how to use the APD.



Note:

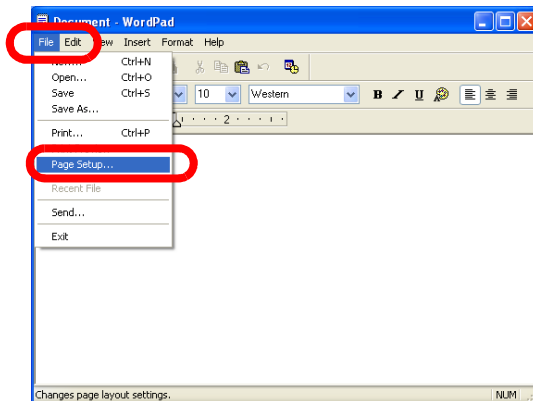
For information about the printer driver for the TM-C100, see the "TM-C100 Printer Driver Operation Manual."

Setting Up the Printer from An Application

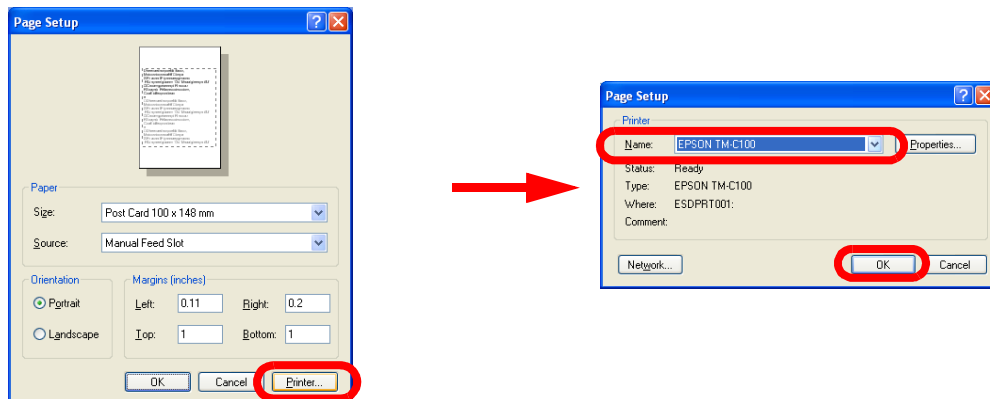
The printer model and paper must be configured first from the application you are using. Here, WordPad is used as example.

The procedure is as follows.

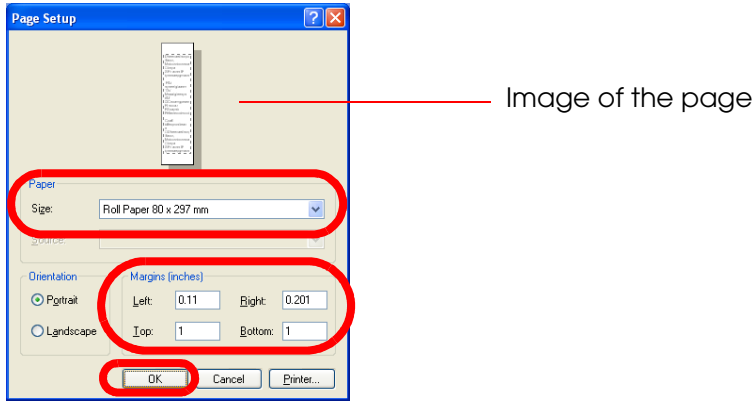
1. Launch "WordPad" by selecting [Start] - [All Programs] - [Accessories] - [WordPad].
2. Select [File] - [Page Setup...].



3. The Page Setup screen appears. Click the [Printer...] button. The Page Setup dialog box appears. Select the printer driver to use from the list of printer names and click the [OK] button.



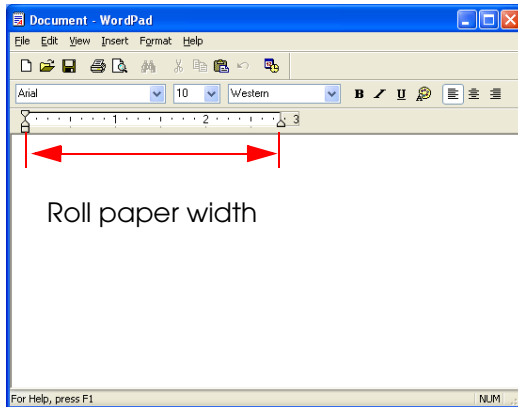
- The screen returns to the Page Setup screen. Select the roll paper to use in [Paper] - [Size]. The page settings become those of the selected roll paper. Specify the margins and click the [OK] button.



Note:

When printing to receipt paper or continuous label paper, a "top margin" appears at the top of the paper. This is caused by the fact that the autocutter that cuts the paper and the print head are separated mechanically and the paper is fed at the time the previous piece of paper is cut.

- The page width for WordPad becomes the paper width configured in Page Setup.



Printing Data

For information on fonts, see "Fonts" on page 1-5.

Printing Windows TrueType Font text

This section describes how to print using a TrueType Font such as Arial or Times New Roman, that are standard fonts supported by Windows.

When using these types of fonts, you can specify a style for the font such as italics, or change the font size freely, and the printed result is very similar to what is displayed on the screen.



Note:

Depending on the printer, there are models where the printer embedded font must be used to get a satisfactory print result.

In this printing, the amount of data to be transmitted is large because the print image is developed on the computer side before transmission. So, printing takes longer with serial connection than with other interfaces.

Program

The following is an example program for reference.

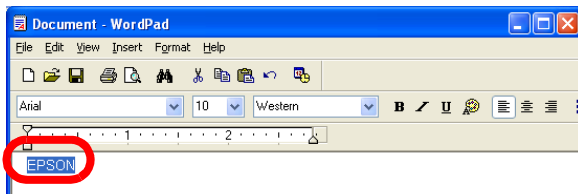
```
-----
Printer.Font.Charset = 0
`Font
Printer.Font.Name = "Times New Roman"
`Size
Printer.Font.Size = 18
`Input text
Printer.Print "EPSON"
-----
```

Printing with an printer embedded font

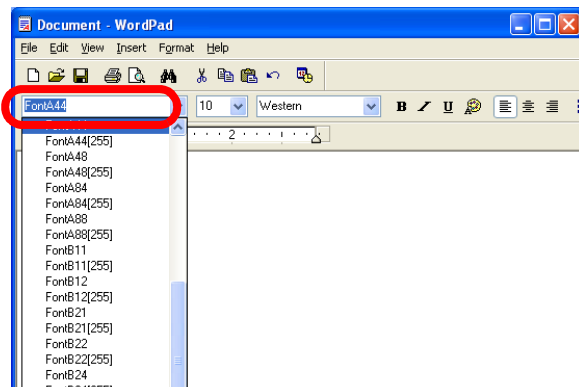
This section describes how to print using a printer embedded font. In this printing, Windows transmits the character code to the printer and it is the printer that develops the print image using an embedded font. It is possible to achieve high speed even when using a serial connection.

The procedure is as follows.

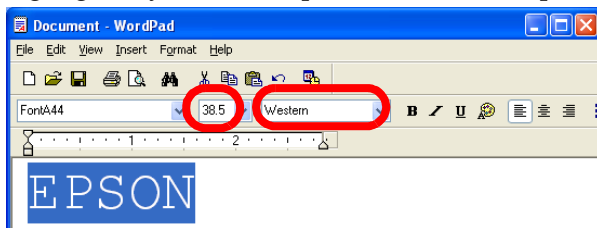
1. Launch WordPad, enter text, and select the input data.



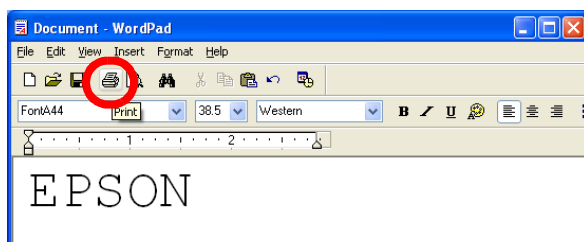
2. Specify the embedded font you want to use for printing. An embedded font is a font such as FontAxx, FontBxx, or FontCxx. Furthermore, there is one printer embedded font for each style and font size.



3. Next, specify the font size and language. Since there is one font for each font size and language, specify the appropriate font name. Specifying a font of undefined font size or language may result in a print result of unexpected size.



4. Click the [Print] icon. Printing is performed using the font specified in step 2.





Note:

As shown in the example, the style and size of the printed result are different from those of the text displayed on the screen.

Specifying an undefined font name, font size, or language may result in a print result using other than the specified font and/or size, or a TrueType Font printing.

Style such as italics and other attributes are not applicable to printer embedded fonts.

	Standard size	Double width	Fourfold width	Eightfold width
Standard size	FontA11	FontA12		
Double height	FontA21	FontA22	FontA24	
Fourfold height		FontA42	FontA44	FontA48
Eightfold height			FontA84	FontA88

Program

The following is an example program for reference.

```

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



Note:

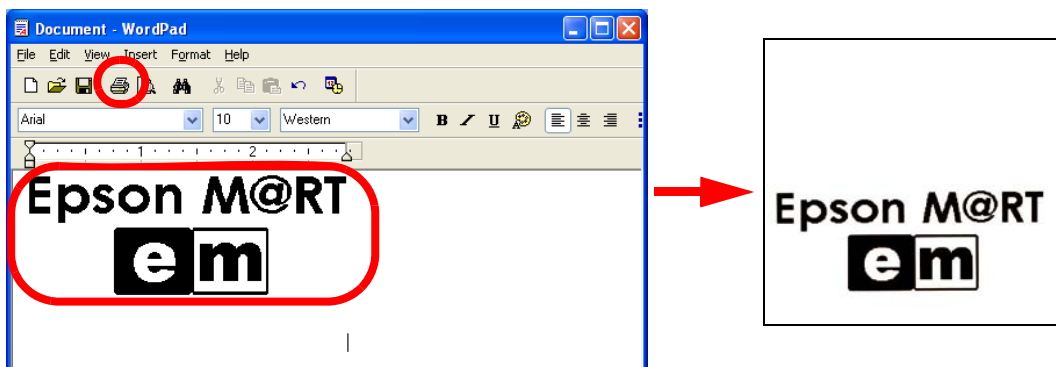
Available font names and font sizes differ depending on the printer model. Make sure to check the font size (in points) from the [Font] tab of the printer driver Properties. (The example above is a TM-T88III Receipt.)

Printing graphics data

Graphics data pasted or inserted into an application can be printed unchanged. In this printing, the amount of data to be transmitted is large as the print image is developed on the computer side before transmission. So, printing takes longer with serial connection than with other interfaces. It is possible to print faster by registering the graphics data in the NV Memory (non-volatile memory). (See "Registering a Logo (Registering a Bitmap to the Printer) and Printing" on page 2-24.)

The procedure is as follows.

1. Launch WordPad and the graphics data is pasted. (Copy and Paste can be used as well.)
2. Click the [Print] icon.



Note:

Lines where both printer embedded font and graphics data are present may not be printed correctly. Complicated images may not be printed correctly either. In such cases, change [Print all text as graphics image] in [Printing Preferences] - [Document Settings] of the printer driver Properties to "Yes." This allows the printer embedded font to be replaced with an arbitrary TrueType Font during printing.

Printing takes more time with serial interface models than with other interfaces.

With low resolution printers such as an impact dot printer, the print result may not be satisfactory.

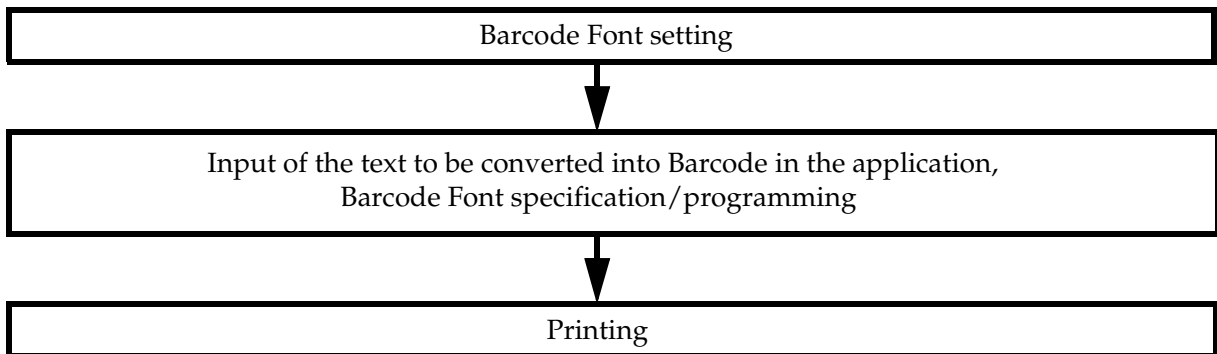
Printing a barcode

Depending on the printer model, printing of barcodes or landscape/upside-down character printing, or condensed printing is not possible.

The printing method is different depending on whether the printer driver is Ver.3.xx or Ver.2.xx Compatible.

Barcode printing sequence (Ver.3.xx)

Barcode printing involves the following steps.

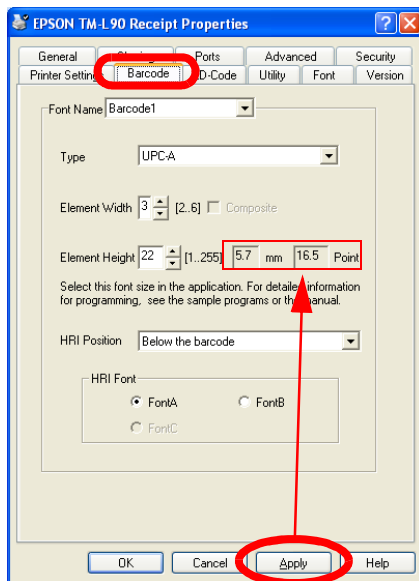


Barcode Font setting (Ver.3.xx)

The procedure is as follows. For information on the settings, see “Barcode” on page 3-10.

1. Right click the printer driver from [Start] - [Printers and Faxes] and select [Properties].
2. The Properties screen appears. Select the [Barcode] tab, configure the Barcode Font settings and click the [Apply] button.

You may register up to 8 Barcode Fonts for different types of Barcode and Element size in dots.



Element width (width of the thin lines in dots)



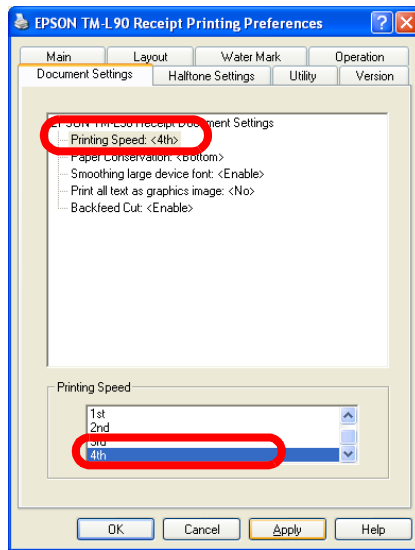
3. Clicking the [Apply] button makes values to appear in mm and Points. The mm unit is the height of the element and Point, the font size. Check the settings.



Note:

Because the dot pitch may differ depending on the printer model, the size of the printed barcode may be different even when the same values are specified.

When combining with landscape/upside-down character printing and/or condensed printing, specify the slowest printing speed in the printer driver Properties - [General] - [Printing Preferences] - [Document Settings] tab.

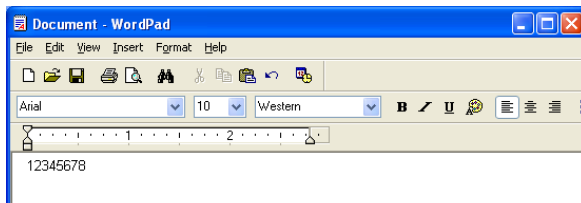


4. Once the barcode settings are complete, click the [OK] button to finish.

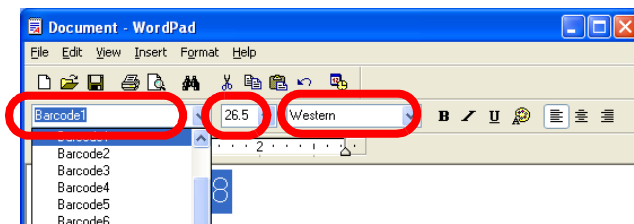
Printing a barcode

The procedure is as follows.

1. Enter the data to be converted into barcode in WordPad.



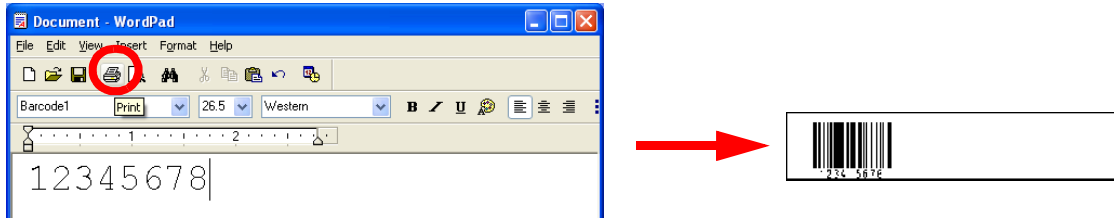
2. Select the entered text and specify the Barcode Font name, font size, and language.



 **Note:**

The size of a Barcode Font is fixed. To check the possible Barcode Font sizes, refer to the printer driver Properties - [Barcode]. Specifying a different value will print nothing.

3. Click the [Print] icon. The barcode is printed. On the application screen, the data is displayed as alphanumeric text but the printed result will be a barcode.



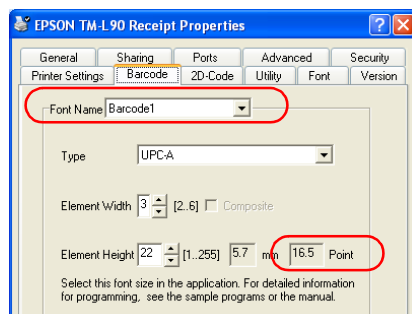
Program

The following is an example program for reference.

```
-----
Printer.Font.Charset = 0
`Font
Printer.Font.Name = "Barcode1"
`Size
Printer.Font.Size = 26.5
`Input text
Printer.Print "12345678"
-----
```

 **Note:**

When using the Barcode Font in VB or VC++ programs, specify the font name and font size (in points) as displayed in the printer driver Properties - [Barcode] tab.



Ver.2.xx Compatible

When the used printer driver is Ver.2.xx Compatible, printing is performed using either of the following fonts as with Ver.2.xx instead of the Barcode Font.

- JAN13 (EAN)
- JAN8 (EAN)
- UPC-A
- UPC-E
- Code39
- Codabar
- Code93
- Code128
- ITF

Specify with/without HRI, location, and other properties using Control Font.

For selectable printer fonts, see the list of printer font names and font sizes (in points) in the [Font] tab of the printer driver Properties.

Combination with landscape/upside-down character printing or condensed printing is not supported.

Note:

- When choosing printer font Code128, the code set selection character (which is "{A," "{B," or "{C") must be always specified at the beginning of the text.
For example, specify "{B1234" when printing the text "1234."
- When selecting printer font Code93 or Code128 from a VC or VB program and printing, use A0h-BFh instead of codes 00h-1Fh as they cannot be printed.
For example, when printing control character 'CR' (code 0Dh) with Code93, the output code must be as follows.

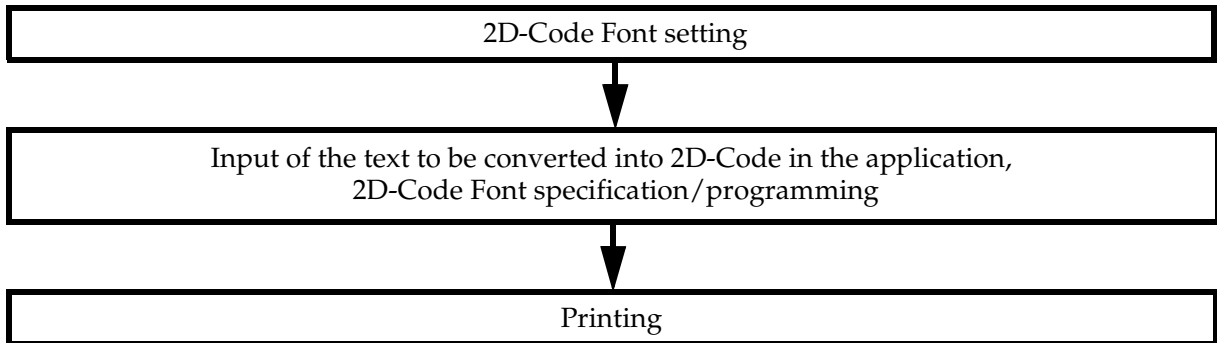
(1D 6B 48 01 AD)

Printing a 2D-Code

Depending on the printer model and/or printer driver, printing of 2D-Codes or landscape/upside-down character printing is not possible.

2D-Code printing sequence

2D-Code printing involves the following steps.

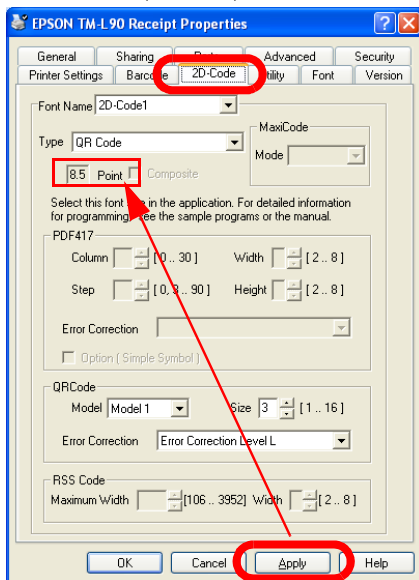


2D-Code Font setting

The procedure is as follows. For information on the settings, see “2D-Code” on page 3-11.

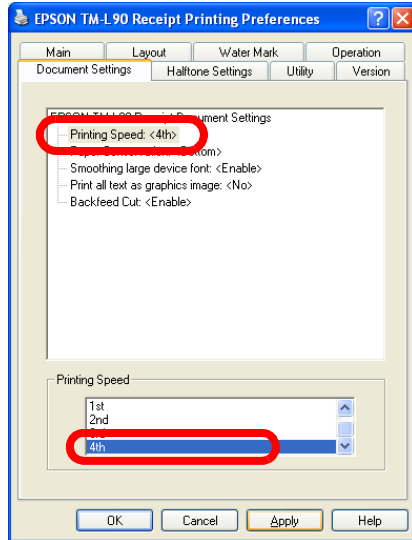
1. Right click the printer driver from [Start] - [Printers and Faxes] and select [Properties].
2. The Properties screen appears. Select the [2D-Code] tab, configure the 2D-Code Font settings and click the [Apply] button.

In some printers, you may register several 2D-Code Fonts for different types of Barcode and Element size (in dots).



3. Clicking the [Apply] button makes font size to appear in Points. Check the settings.

When combining with landscape/upside-down character printing and/or condensed printing, specify the slowest printing speed in the printer driver Properties - [General] - [Printing Preferences] - [Document Settings] tab.

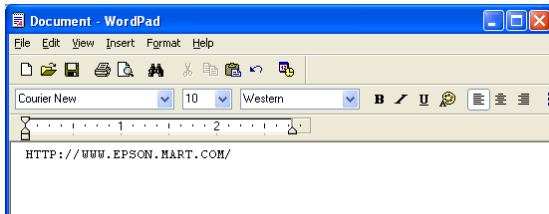


- Once the 2D-Code settings are complete, click the [OK] button to finish.

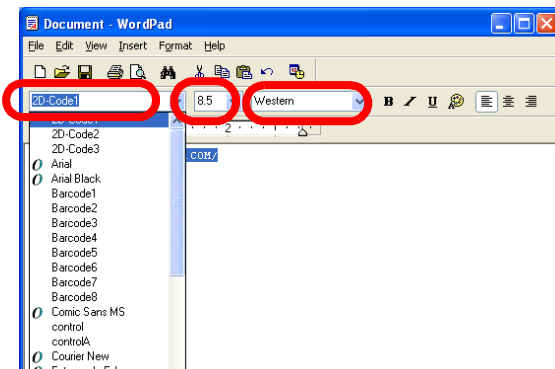
Printing a 2D-Code

The procedure is as follows.

- Enter the data to be converted into 2D-Code.



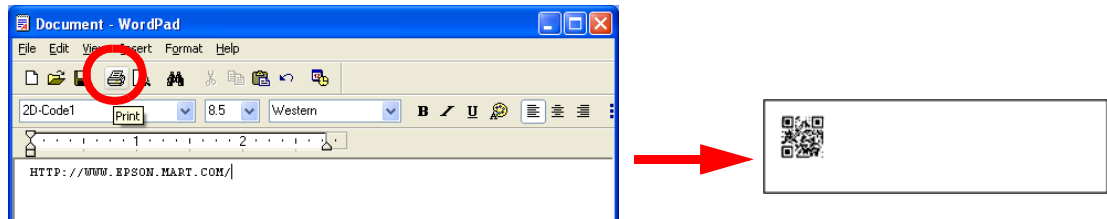
- Select the entered text and specify the 2D-Code Font name, font size, and language.



Note:

The size in points and language are fixed for a 2D-Code Font. Specifying different values may result in printing with a font size other than the specified or no printing at all.

3. Click the [Print] icon. The 2D-Code is printed. On the application screen, the data is displayed as alphanumeric text but the printed result will be a 2D-Code.



Program

The following is an example program for reference.

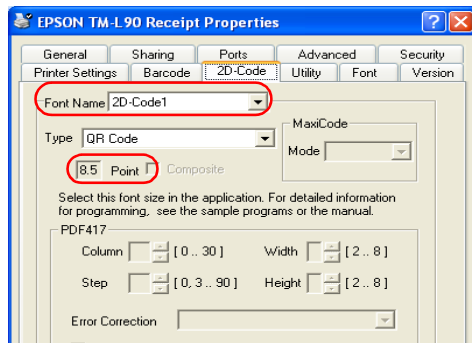
```

-----
Printer.Font.Charset = 0
`Font
Printer.Font.Name = "2D-Code1"
`Size
Printer.Font.Size = 8.5
`Input text
Printer.Print "http://www.epson.mart.com/"
-----
    
```



Note:

When using the 2D-Code in VB or VC++ programs, specify the font name and font size (in points) as displayed in the printer driver Properties - [2D-Code] tab.



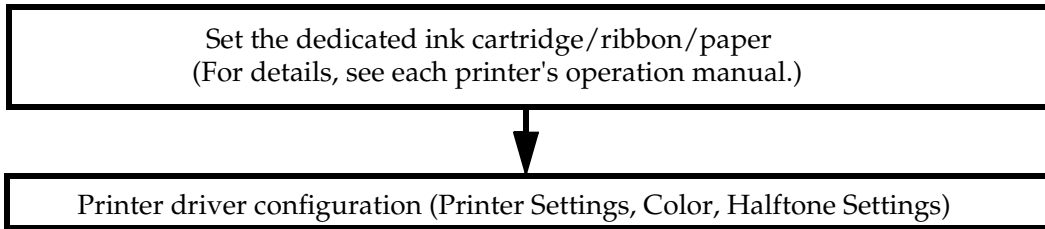
2-Color printing

Some printer models support 2-Color printing.

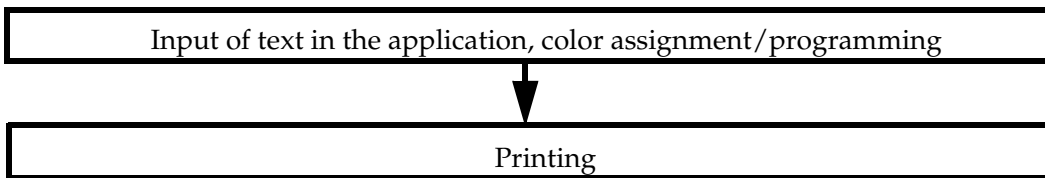
2-Color printing sequence

2-Color printing involves the following steps.

- ❑ Preliminary settings



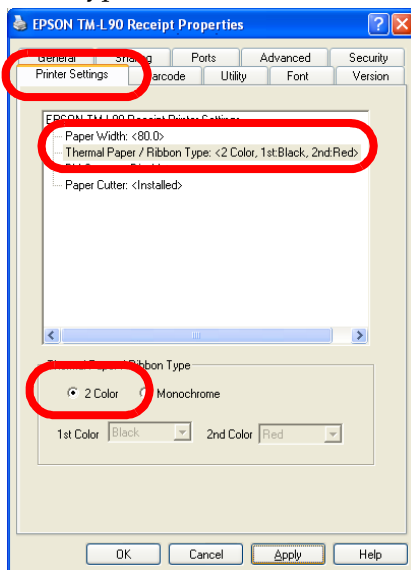
- ❑ Application settings



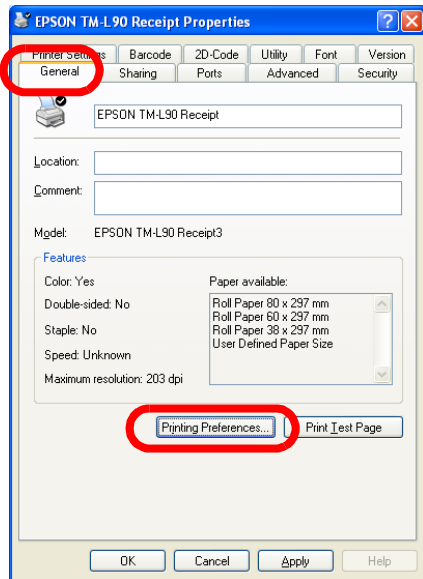
Printer driver configuration

The procedure is as follows. For information on the settings, see "Halftone Settings" on page 3-27.

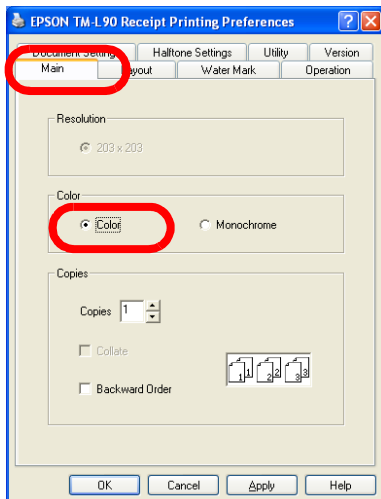
1. Right click the printer driver from [Start] - [Printers and Faxes] and select [Properties].
2. The Properties screen appears. Select the [Printer Settings] tab, then select [Thermal Paper / Ribbon Type: <2 Color, 1st:Black, 2nd:Red>] and select [2 Color] for [Thermal Paper / Ribbon Type].



- Next select the [General] tab and click the [Printing Preferences...] button.



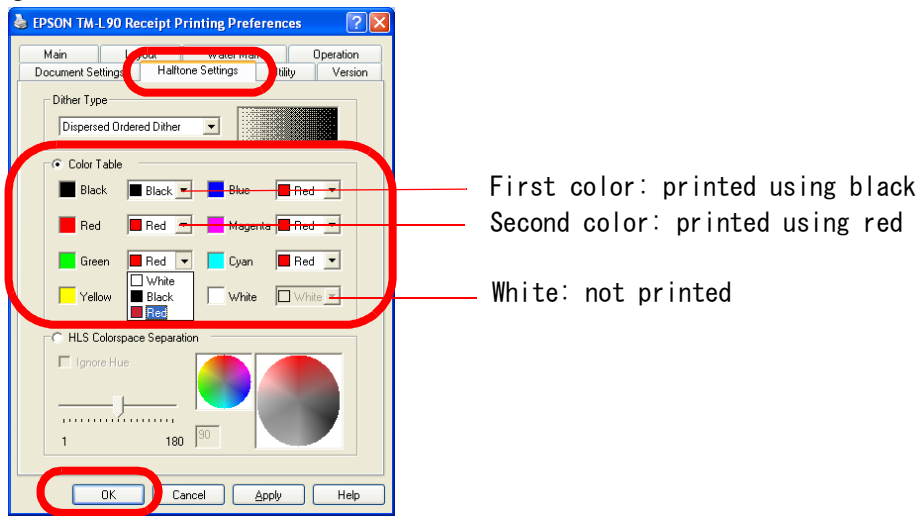
- The Printing Preferences screen appears. Select the [Main] tab. Select [Color].



- Next select the [Halftone Settings] tab. Select [Color Table], configure the color settings and click the [OK] button.

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").

In the following example, all colors other than black and white (not printed) are printed using red.

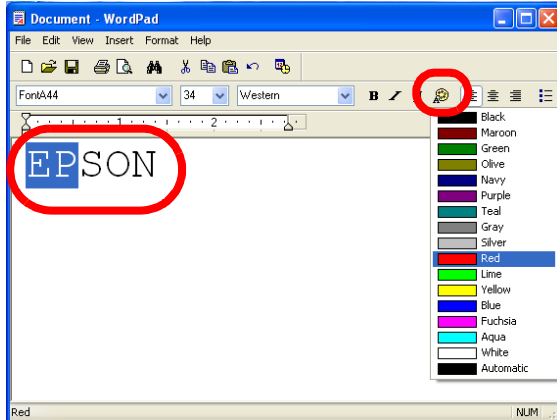


6. The screen returns to the Properties screen. Click the [OK] button.

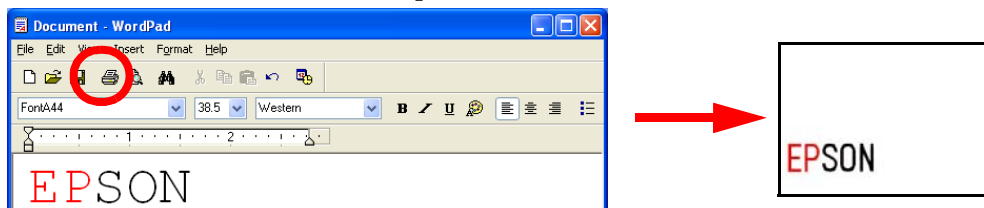
Printing in 2Colors

The procedure is as follows.

1. Enter the data to be printed and specify the font and font size.
2. Select the text to print in color and click the [Color] icon to specify the colors.



3. Click the [Print] icon. The data is printed in two colors.

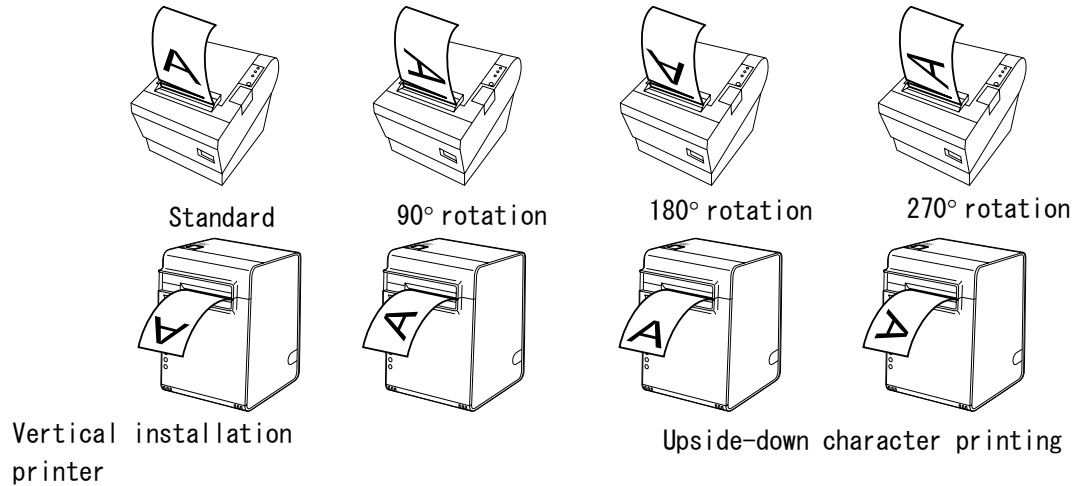


Note:

The TM-U210 and 220 cannot print different colors to the same line.

Rotated Printing and Upside-down Character Printing

When using a vertical installation printer, the printed sheet looks upside-down. With upside-down character printing (180° rotation), the sheet is printed with a readable orientation. Furthermore, it is possible to specify rotated printing in the printer driver for printing a receipt in landscape format.



Note:

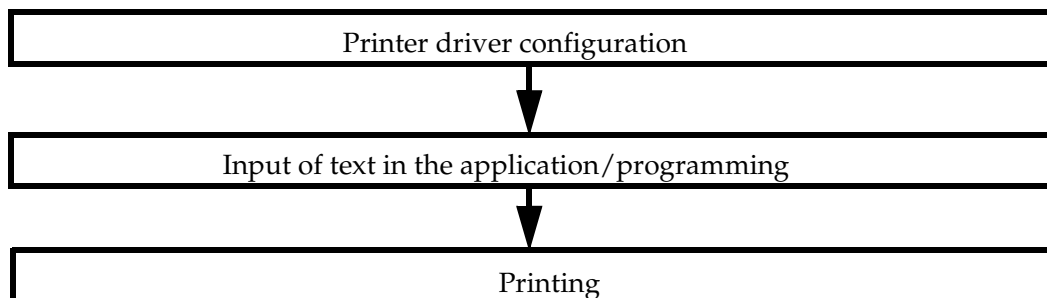
In rotated printing, it is not possible to specify printer embedded fonts, control using Control Font (Barcode printing, 2D-Code printing, logo printing from NV Memory, etc. depending on the model), or use controlA Font.

Ver.2.xx Compatible does not support rotated printing. Rotated printing is possible with TM-xxx Reverse.

The amount of data transmitted to the printer is large. So, printing takes longer with serial connection than with other interfaces.

Rotated printing sequence

Rotated printing involves the following steps.

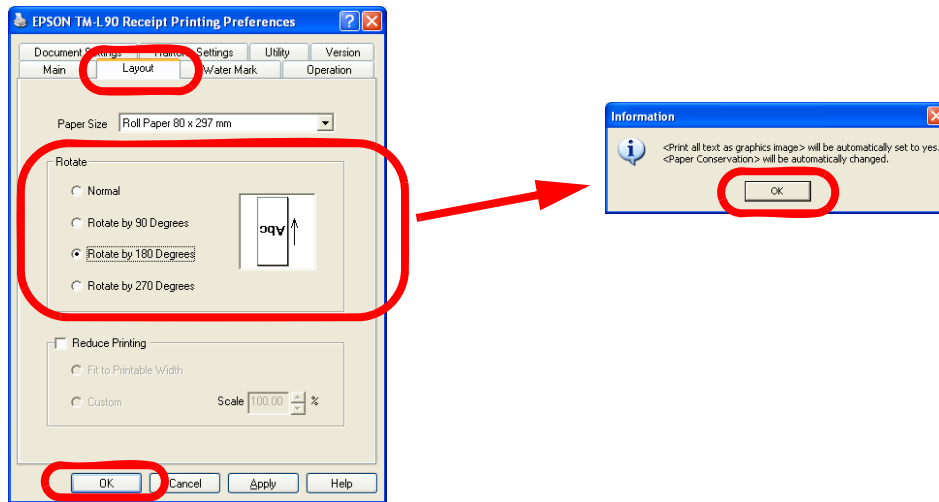


Printer driver configuration

Ver.3..xx

For information on the settings, see "Layout" on page 3-20.

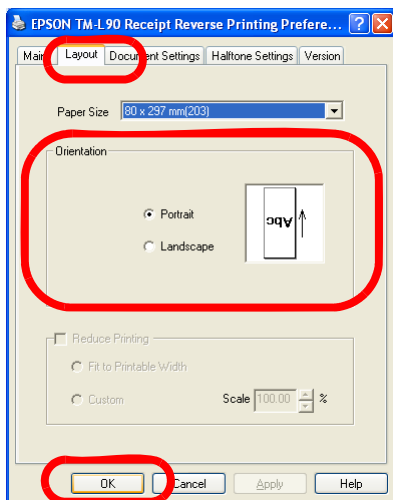
1. Select the printer driver Printing Preferences - [Layout] tab.
2. Configure the [Rotate] settings. When "<Print all text as graphics image> will be automatically set to yes. <Paper Conservation> will be automatically changed." appears, click the [OK] button.
Click the [OK] button when returning to the Printing Preferences screen.



3. The screen returns to the Properties screen. Click the [OK] button.

Ver.2.xx Compatible

1. Set the rotated printing printer driver (EPSON TM-xxx Reverse) as the default printer.
2. Select the printer driver Printing Preferences - [Layout] tab. Configure the [Orientation] settings and click the [OK] button.
Click the [OK] button when returning to the Printing Preferences screen.

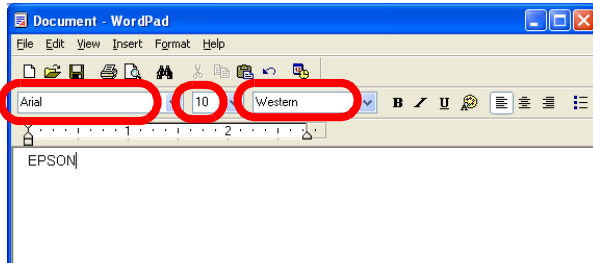


3. The screen returns to the Properties screen. Click the [OK] button.

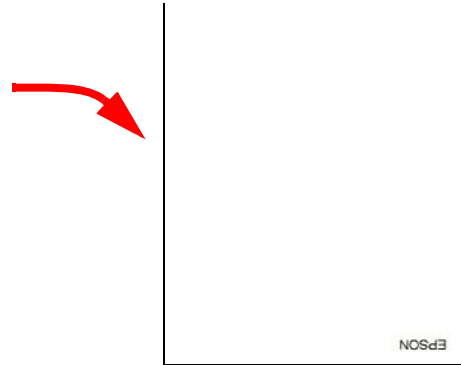
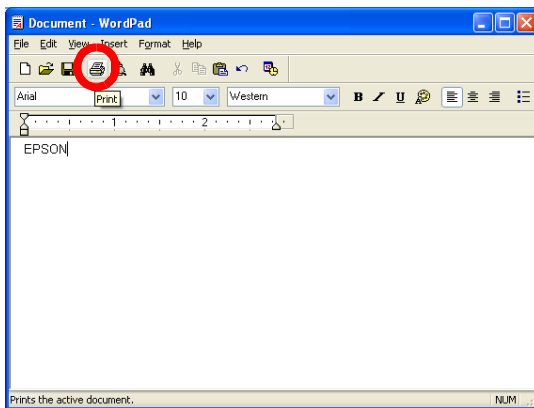
Printing

The procedure is as follows.

1. Enter the data to be printed and specify a TrueType Font name and font size.



2. Click the [Print] icon. The print is output rotated.



Canceling the rotated printing (Ver.3.xx)

To cancel the rotated printing, select the printer driver Printing Preferences - [Layout] tab and check [Normal].

Also set "No" to [Print all text as graphics image] in [Document Settings].



Note:

With Ver.2.xx Compatible, it is not necessary to cancel rotated printing as there is one printer driver for rotated printing for each model. (Grayed out) Restore the original printer driver for the default printer.

Printing a Water Mark

This section describes the procedure for printing Water Marks.



Note:

This is a Ver.3.xx printer driver function and is not available for the Ver.2.xx Compatible driver.

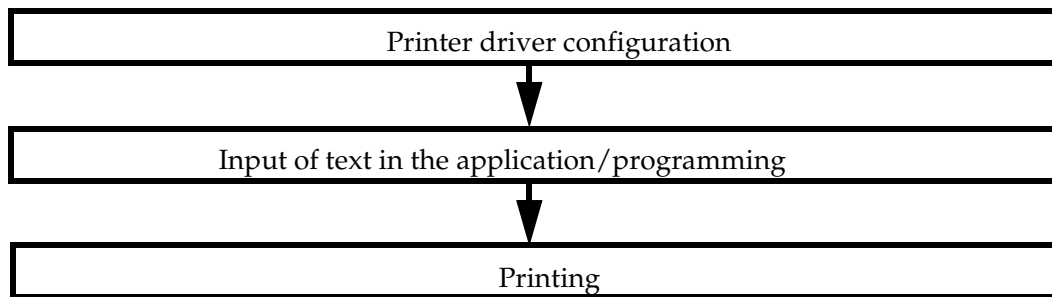
You cannot use WordPad for printing Water Marks.

When Water Mark is set, it is not possible to specify printer embedded fonts, control using Control Font (Barcode printing, 2D-Code printing, and logo printing from NV Memory, etc.), or use controlA Font.

The amount of data transmitted to the printer is large. So, printing takes longer with serial connection than with other interfaces.

Water Mark printing sequence

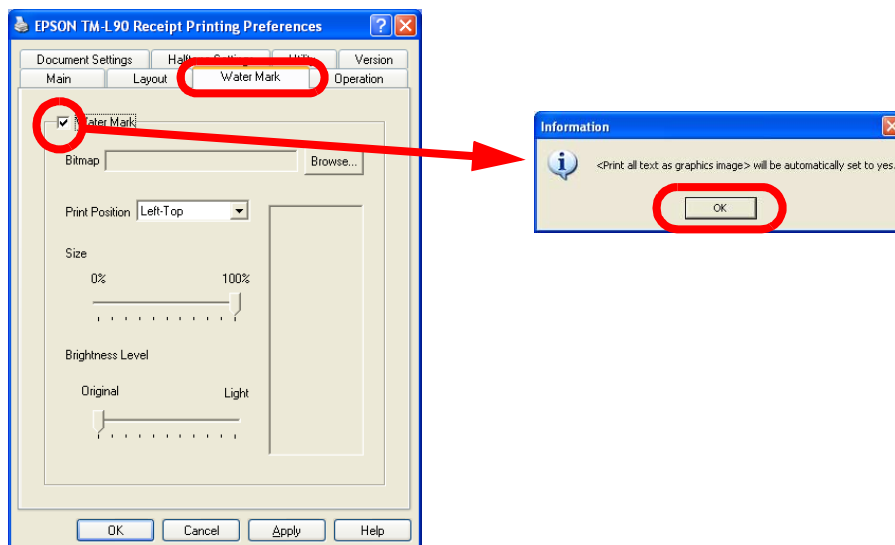
Water Mark printing involves the following steps.



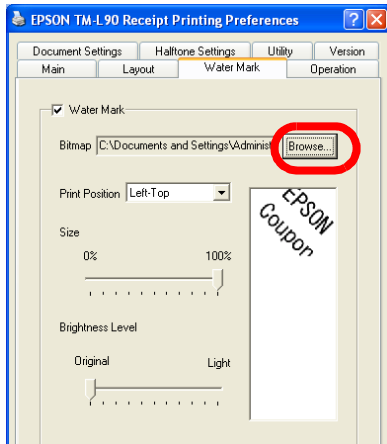
Printer driver configuration

The procedure is as follows. For information on the settings, see “Water Mark” on page 3-22.

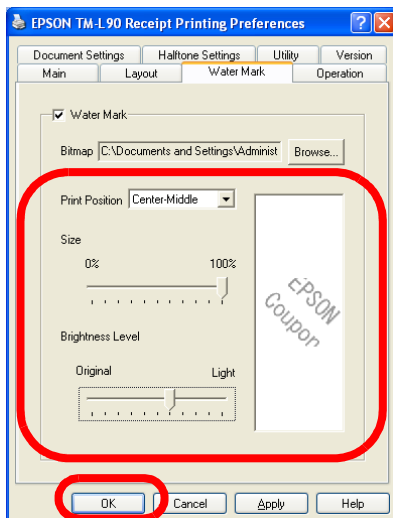
1. Select the printer driver Printing Preferences - [Water Mark] tab and check "Water Mark." When "<Print all text as graphics image> will be automatically set to yes." appears, click the [OK] button.



2. Click the [Browse...] button and specify the graphics data you want to set as Water Mark.



3. Configure Print Position, Size, and Brightness Level referring to a Water Mark Image indicated to the right, then click the [OK] button.

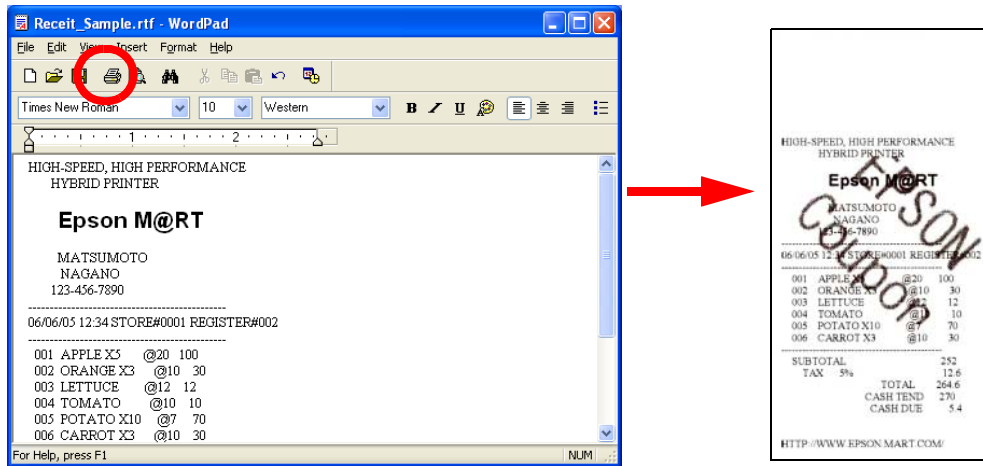


4. The screen returns to the Properties screen. Click the [OK] button.

Printing a Water Mark

The procedure is as follows.

Enter the data and click the [Print] icon. The Water Mark is printed.



Canceling the Water Mark

To cancel the Water Mark, uncheck [Water Mark] in the printer driver Printing Preferences - [Water Mark] tab.

Also set "No" to [Print all text as graphics image] in [Document Settings].

Registering a Logo (Registering a Bitmap to the Printer) and Printing

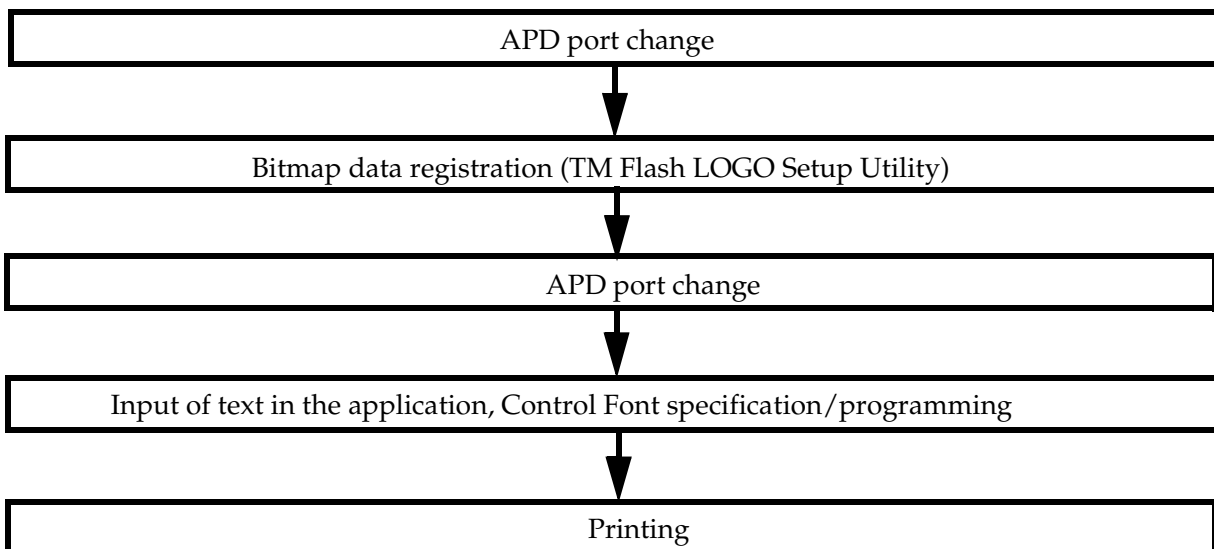
With the APD, it is possible to print a bitmap data displayed on the screen as a screen image. (See "Printing graphics data" on page 2-6.) However, printing may be slow as the amount of data to be transmitted is large. To make printing faster, you may register the bitmap data in the NV Memory (non-volatile memory) which can keep the data even if the printer is turned off. This function is convenient for printing a fixed bitmap such as the store's logo.

The bitmap data registered in the printer NV Memory must then be configured for printing using a Control Font.

To register the bitmap data in the printer NV Memory, use the TM Flash LOGO Setup Utility.

Bitmap printing sequence

Bitmap data registration/printing involves the following steps.

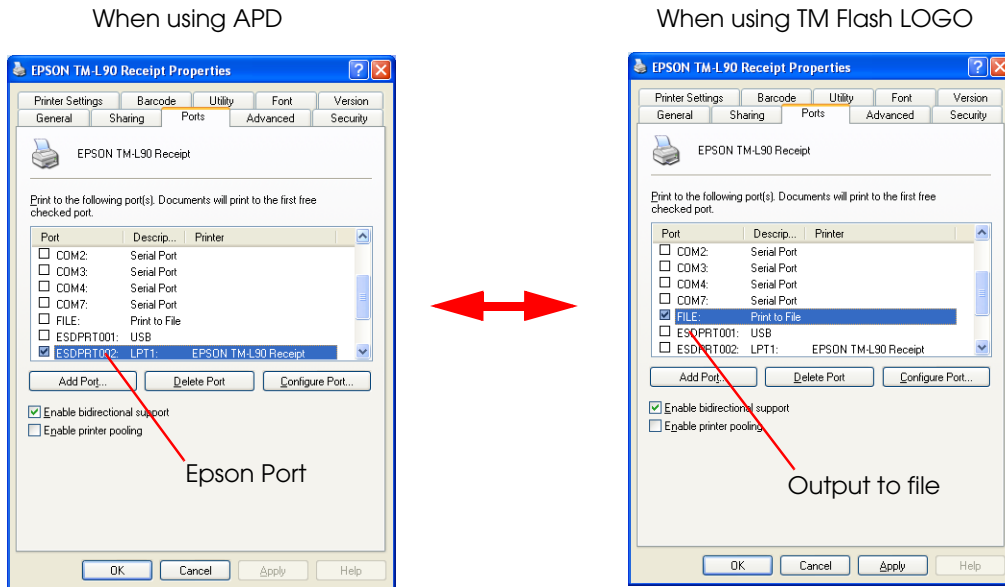


Bitmap data registration



Note:

Sometimes, the TM Flash LOGO Setup Utility cannot be run in computers with the APD installed. In such case, select the printer driver [Ports] tab and change the used port to "File" temporarily. Restore the port settings once you have finished registering the logo.



Register the bitmap data in the printer NV Memory using the TM Flash LOGO Setup Utility. The procedure for registering a logo is as follows.

1. Acquire the TM Flash LOGO Setup Utility and install it in the computer.

Download site URL:- North America <http://www.epsonexpert.com/>

- Other countries <http://www.epson-pos.com/>

2. Prepare a bitmap file. For the size of the bitmap file to prepare, check the resolution and paper size specifications in the "Printer Driver Specifications."

For example, if you want to print a logo 60 mm wide by 20 mm high on 80 mm wide paper using a TM-L90, calculate the size of the bitmap file as follows.

Formula: Length (cm) / 2.54 (inch) × Resolution (DPI)

Width: 6.0 / 2.54 × 203 = 480 dots

Height: 2.0 / 2.54 × 203 = 160 dots

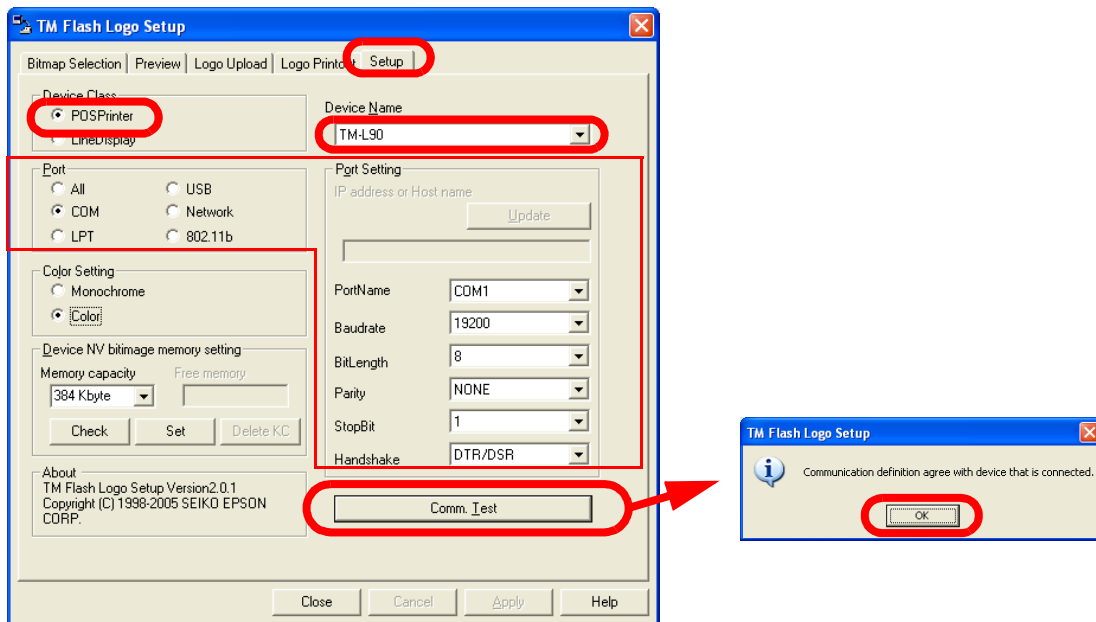
So, in this example, the size of the bitmap file to prepare must be 480×160.

3. Using Explorer, run "TMFLogo.exe" located in "C:\Program Files\TMFLOGO\Verxxx."

4. Select the [Setup] tab. Configure in the following order.
 - (1) Select [POSPrinter].
 - (2) Select the target printer from [Device Name].

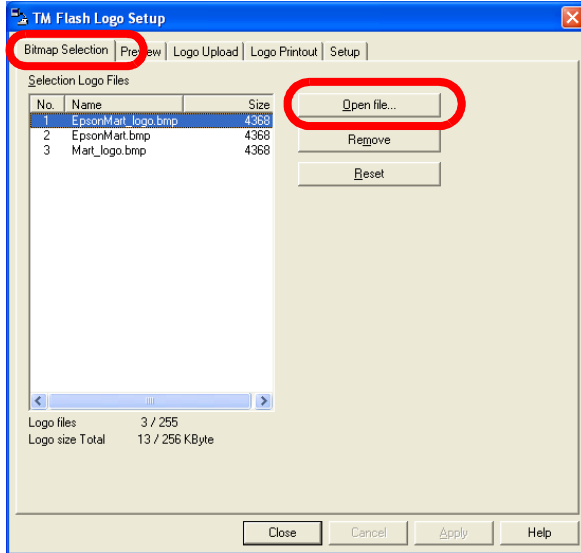
Device Name	Interface
TM-xxx	Serial
TM-xxxP	Parallel
TM-xxxU	USB
TM-xxxE	Ethernet

- (3) Select the connection interface from [Port] and configure as required.
5. Click the [Comm. Test] button to check whether the communication settings are configured correctly. The communication test result will be displayed in a message box. Click the [OK] button.

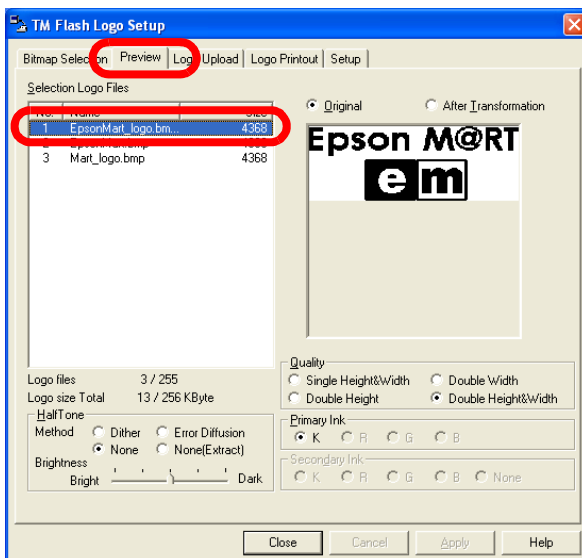


6. Check the registration state and available space of the NV Memory to confirm whether the bitmap file can be registered or not.

7. Select the [Bitmap Selection] tab and click the [Open File...] button. Select the bitmap file for the logo. The selected bitmap file name appears in the [Selection Logo Files] list. You may select multiple bitmap files.

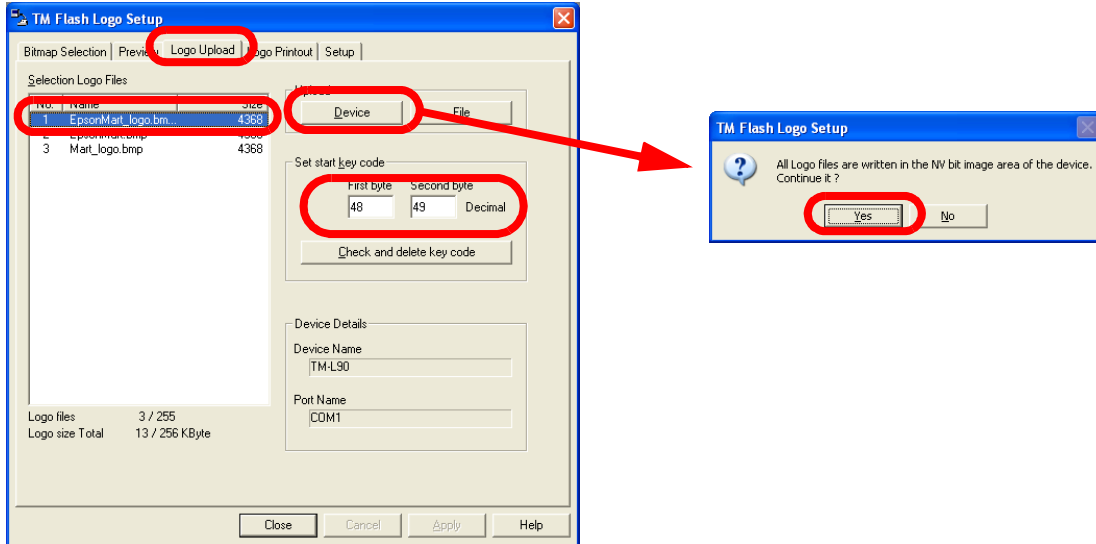


8. Select the [Preview] tab. Selecting a logo file from the [Selection Logo Files] list previews the bitmap image of the selected logo. Configure the image to register by referring to the preview.



9. Select the [Logo Upload] tab. Select the logo file entry to register from the [Selection Logo Files] list.

10. If according to the "Printer Driver Specifications" your printer driver supports "NV Graphics x Printing," enter the Set Start key code and click the [Device] button. A confirmation screen appears. Click the [Yes] button.



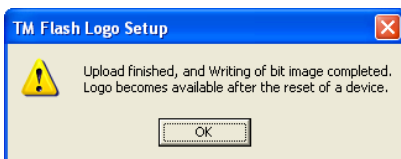
Check in the "Printer Driver Specifications" which between NV Bitmap Image and NV Graphics is supported by your printer driver.

- NV bit image No. x is printed Set start key code specification unnecessary. (Grayed out)
- NV Graphics x Printing Set start key code specification necessary.

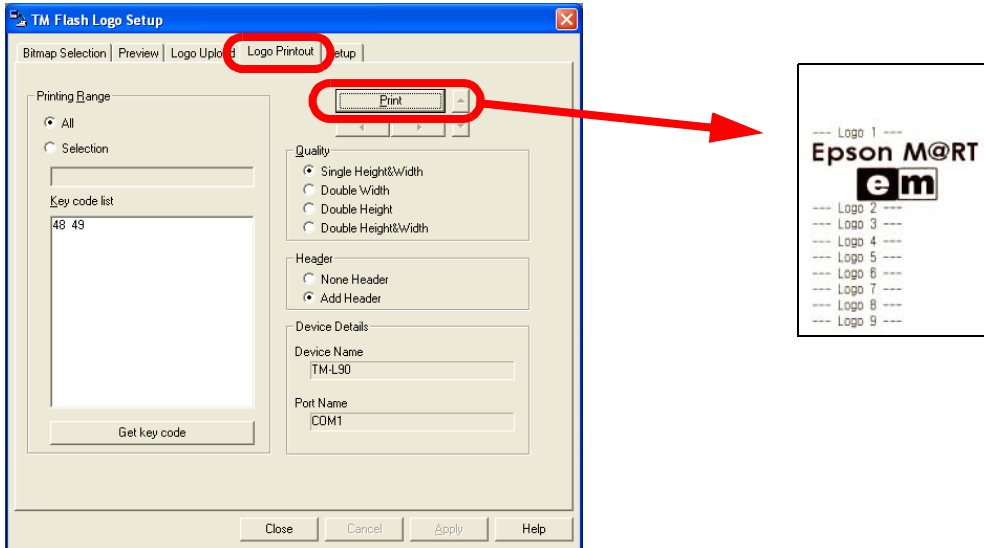
Key code (Also see the "Printer Driver Specifications")

Start key code		NV Graphics No.	Control Font
1st byte	2nd byte		
48	48	NV Graphics 0	h
48	49	NV Graphics 1	i
48	50	NV Graphics 2	j
48	51	NV Graphics 3	k
48	52	NV Graphics 4	l

11. The logo is written to the printer NV Memory. If writing is successful, a completion message box appears. Click the [OK] button.



12. Select the [Logo Printout] tab. Configure the test printing and click the [Print] button. The logo is test printed using the connected device.
In this example, the logo is registered in NV Graphics 1.



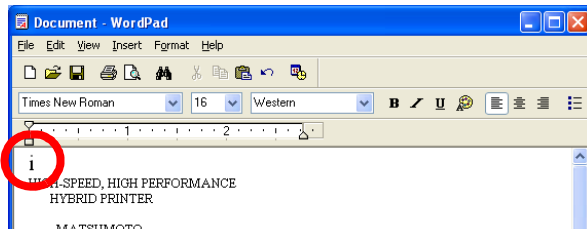
Printing a bitmap

The bitmap is printed using Control Font. For information about the Control Fonts for printing bitmaps, see the "Printer Driver Specifications."

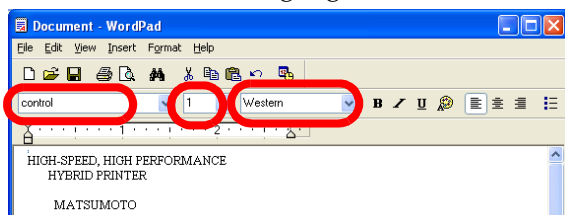
Printing from an application

The procedure for printing a bitmap is as follows.

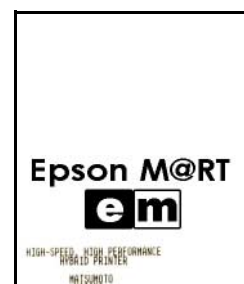
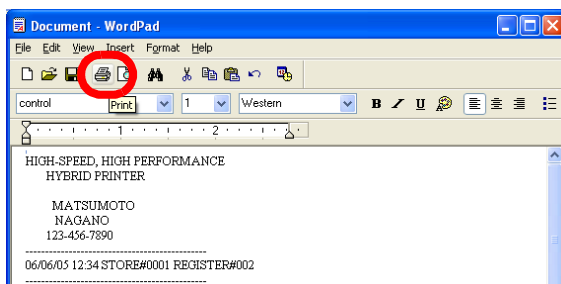
1. Check that your printer driver is configured as an Epson Port.
2. Enter the control character corresponding to the Control Font for printing NV Graphics. In this example, "i" is shown as the control character because this is the command for printing a data registered in NV Graphics 1. For details, see the "Printer Driver Specifications."



3. Select the control character corresponding to the Control Font and specify the Control Font name, font size, and language.



4. Click the [Print] icon and print the bitmap.



Program

The following is an example program for reference.

```
-----  
`Font  
Printer.Font.Name = "control"  
`Size  
Printer.Font.Size = 1  
`Control Font specification  
Printer.Print "i"  
-----
```

Controlling the 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.



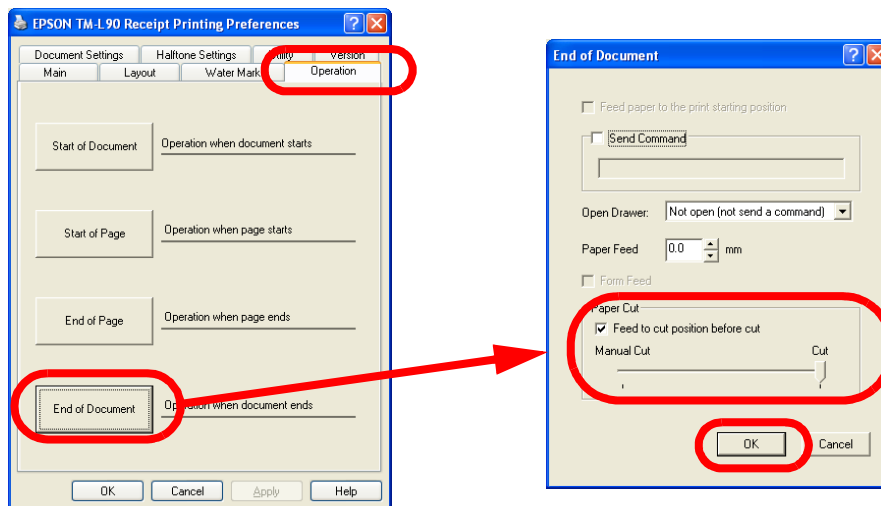
Note:

Control Font cannot be used in combination with [Print all text as graphics image] settings such as landscape/upside-down character printing, Water Mark, or condensed printing.

Configuring the printer driver to cut the paper

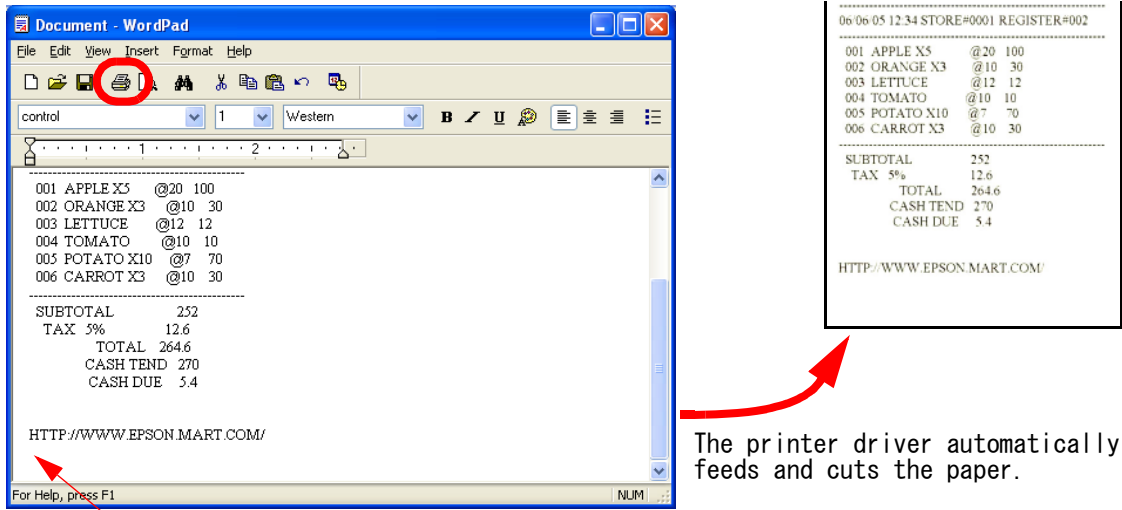
The procedure is as follows. For information on the settings, see "Operation" on page 3-23. (Configuration is unnecessary as this is set by default.)

1. Select the printer driver Printing Preferences - [Operation] tab. To cut at the end of a printing, click the [End of Document] button. The Operation screen appears. Check [Feed to cut position before cut] and set to "Cut." Click the [OK] button.



2. The screen returns to the Printing Preferences screen. Click the [OK] button.

3. The paper cut control is executed during printing from the application.



There is no data.

Cut the paper using Control Font in the program

The following is an example program for reference. For information on the font sizes, see the "Printer Driver Specifications."

```

-----
`Font
Printer.Font.Name = "control"
`Size
Printer.Font.Size = 1
`Control Font specification
Printer.Print "P"
-----
    
```

Condensed Printing

Allows printing an A4 size document in roll paper width.



Note:

In condensed printing, it is not possible to specify printer embedded fonts, control using Control Font (Barcode printing, 2D-Code printing, and logo printing from NV Memory, etc.), or use controlA Font.

Ver.2.xx Compatible does not support condensed printing. Using TM-xxx Reduce35, you can condense the printing by a fixed percentage (35%). Using this driver allows you to print an A4 size document on 80 mm wide roll paper.

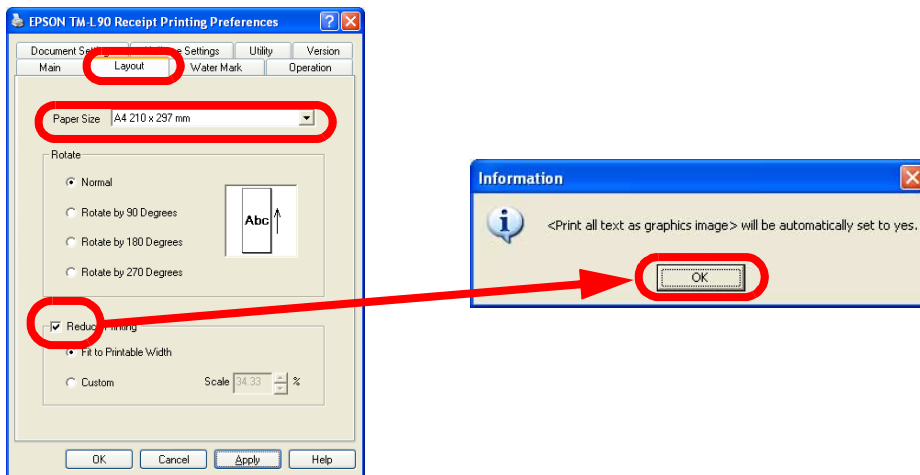
The amount of data transmitted to the printer is large. So, printing takes longer with serial connection than with other interfaces.

Driver settings

Ver.3.xx

For information on the settings, see "Reduce Printing" on page 3-21.

1. Select the printer driver Printing Preferences - [Layout] tab. Select "A4 210 x 297 mm" for [Paper Size], then check [Reduce Printing].
When "<Print all text as graphics image> will be automatically set to yes." appears, click the [OK] button.



2. Select whether to condense to fit the paper or by a fixed percentage.
When finished, click the [OK] button.



Note:

The reduction can be specified in the 0 to 100% range.

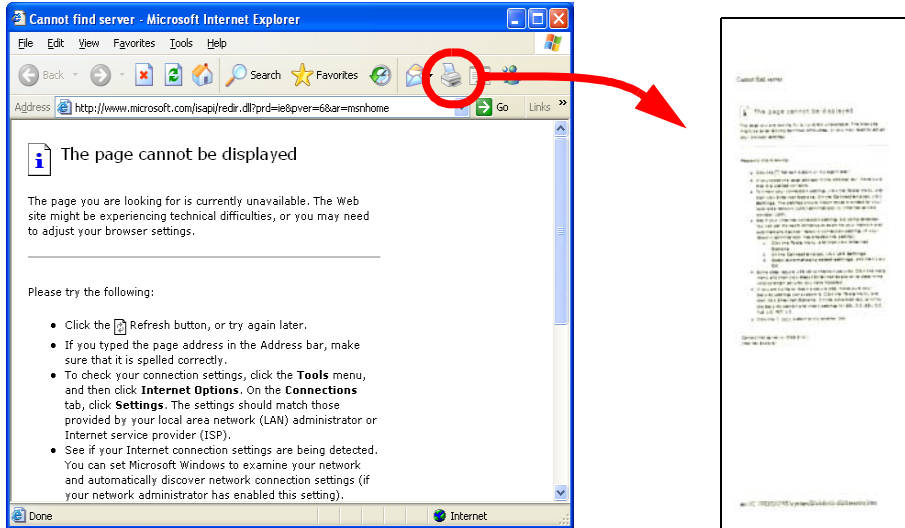
3. The screen returns to the Properties screen. Click the [OK] button.

Ver.2.xx Compatible

Set the 35% condensed printing printer driver (EPSON TM-xxx Reduce35) as the default printer. In this printer driver, the reduction percentage cannot be changed.

Printing

Click the [Print] icon of Internet Explorer, for example. The print is output condensed.



Canceling condensed printing (Ver.3.xx)

To cancel condensed printing, select the printer driver Printing Preferences - [Layout] tab and uncheck [Reduce Printing].

Also set "No" to [Print all text as graphics image] in [Document Settings].



Note:

With Ver.2.xx Compatible, it is not necessary to cancel condensed printing as there is one printer driver for condensed printing for each model. Restore the original printer driver for the default printer.

Sounding the Buzzer

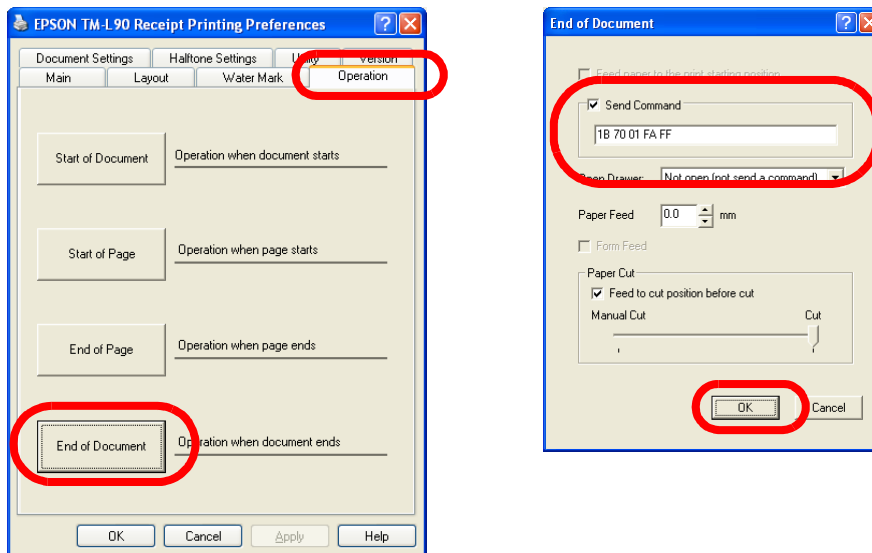
Some TM printers are equipped with a function for sounding the buzzer. The methods for sounding the buzzer are as follows.

- ❑ Configure the APD to sound the buzzer automatically at the end of each printing.
- ❑ Sound the buzzer from an application using controlA Font.

Configuring the printer driver to sound the buzzer

The printer driver Operation function is a Ver.3.xx function. The procedure is as follows. For information on the settings, see "Operation" on page 3-23.

1. Select the printer driver Printing Preferences - [Operation] tab and click the [End of Document] button.
The Operation screen appears. Check [Send Command], enter the command for sounding the buzzer and click the [OK] button.



The command for sounding the buzzer is "1B7001FAFF" (fixed).

2. The screen returns to the Printing Preferences screen. Click the [OK] button.
3. The buzzer will sound when printing by the application finishes.

Sending the command for sounding the buzzer from an application

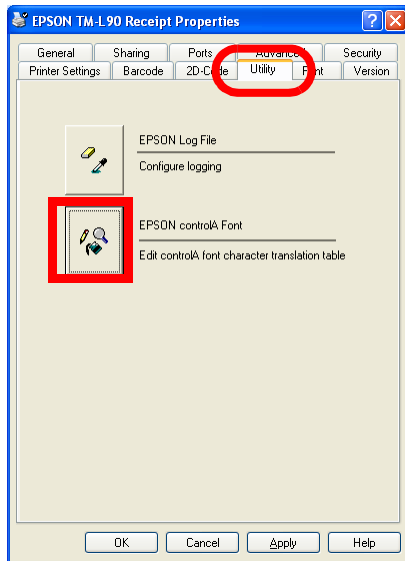
In this method, the command "send constant pulse to drawer kick-out connector pin 2" is registered to a controlA Font to which a control character is assigned for enabling the application to sound the buzzer by transmitting the control character. The method for registering the command is different depending on whether the printer driver is Ver.3.xx or Ver.2.xx Compatible.

Defining the command in Ver.3.xx

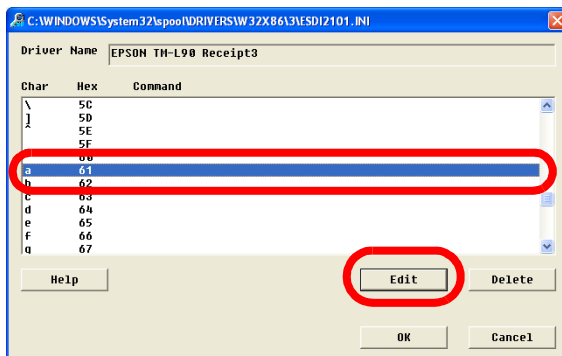
In this example, "a" is used for the definition. The procedure is as follows.

1. Right click the printer driver from [Start] - [Printers and Faxes] and select [Properties].

- The Properties screen appears. Select the [Utility] tab and click the [EPSON controlA Font] button.



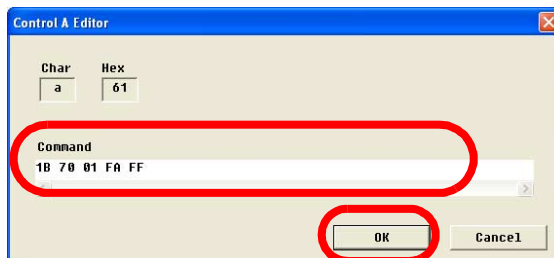
- The controlA Font Setting screen appears. For information on the settings, see “EPSON controlA Font” on page 3-15. Select the record for Char="a" and click the [Edit] button.



Note:

There is no need for the selected character to be "a."

- The controlA Editor screen appears. Enter "1B 70 01 FA FF" in [Command] and click the [OK] button.



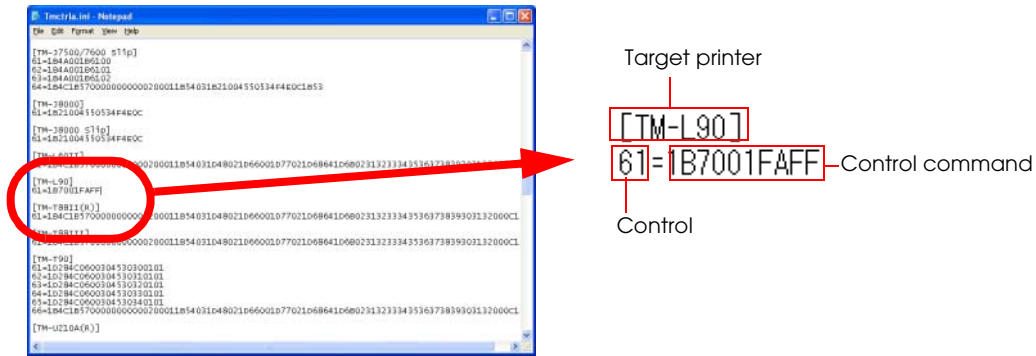
- The controlA Font Setting screen appears. Click the [OK] button.
- The Properties screen appears. Click the [OK] button.

Defining the command in Ver.2.xx Compatible

1. Open the "tmctrla.ini" file from the Explorer. Its location is as follows.

"C:\WINDOWS\SYSTEM32\SPOOL\PRTPROCS\W32X86\"

2. Enter the target printer, the control character code, and the control command in the "tmctrla.ini" file and save it.



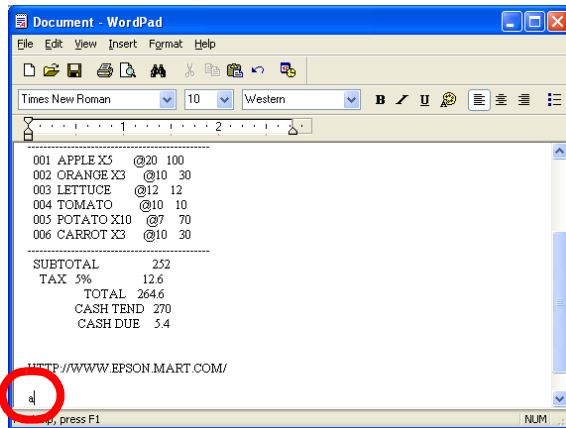
Target printer: Enter the printer name whose buzzer you want to sound.

Control character code: Input text for the controlA Font.

Control Command: "1F7001FAFF" (fixed)

Sounding the buzzer from an application

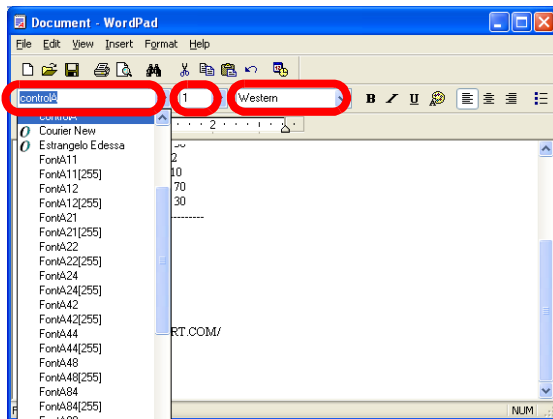
1. Enter the data in WordPad. In the line where you want the buzzer to sound, enter "a" as defined in [EPSON controlA Font].



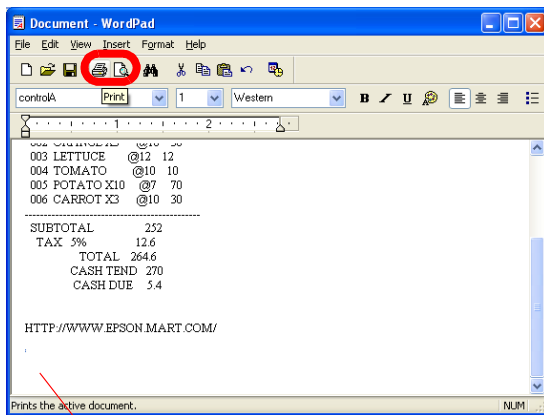
Note:

Enter the character to which you assigned the control command in "Defining the command."

2. Select "a" and specify the controlA Font name, font size, and language.



3. Click the [Print] icon and print. During printing, the buzzer sounds at the "a" position.



The buzzer sounds at this position.

Program

The following is an example program for reference. For information on the font sizes, see the "Printer Driver Specifications."

```

-----
`Font
Printer.Font.Name = "controlA"
`Size
Printer.Font.Size = 1
`controlA Font specification
Printer.Print "a"
-----

```

Opening the Drawer

The methods for controlling the drawer are as follows.

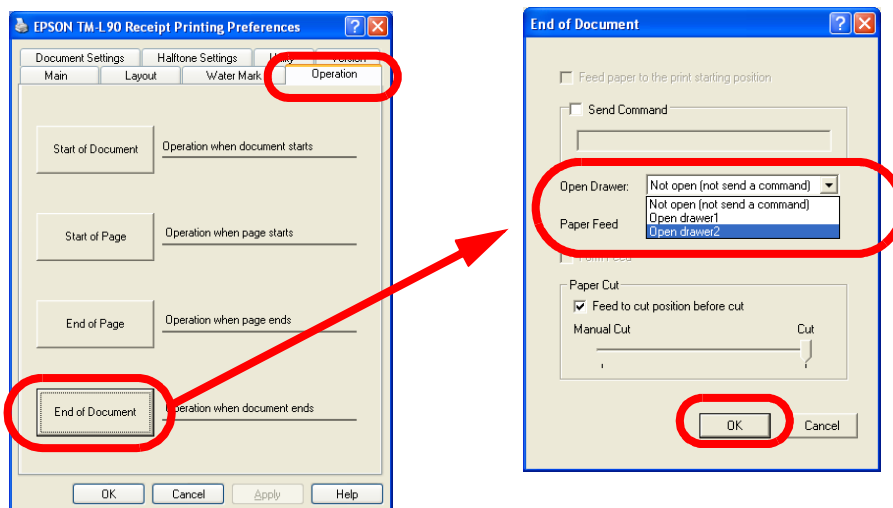
- ❑ Configure the APD to open the drawer automatically at the end of a printing.
- ❑ Open the drawer from the application using the Open Drawer Control Font.

For closing the drawer, push manually.

Configuring the APD to open the drawer

The procedure for configuring Open Drawer is as follows. For information on the settings, see "Operation" on page 3-23.

1. Select the printer driver Printing Preferences - [Operation] tab. Click the [End of Document] button. The Operation screen appears. Configure the [Open Drawer] settings and click the [OK] button.



Settings for opening the drawer are as follows.

Item	Value
Not open (not send a command)	The drawer does not open.
Open drawer1	Signal is sent to pin 2 and the drawer opens.
Open drawer2 *	Signal is sent to pin 5 and the drawer opens.

* Specification seen in many drawers. For details, see the specifications of each drawer.

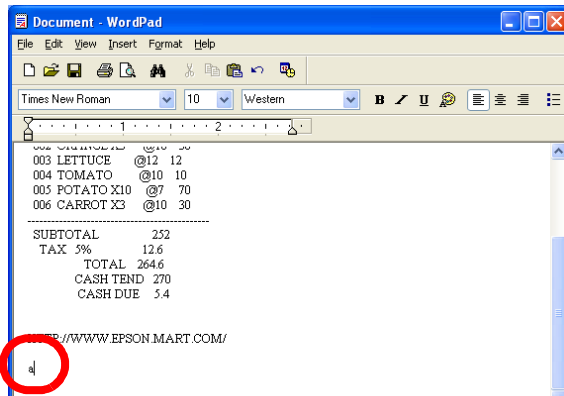
2. The screen returns to the Printing Preferences screen. Click the [OK] button.
3. The drawer opens during printing from the application.

Opening the drawer using Control Font

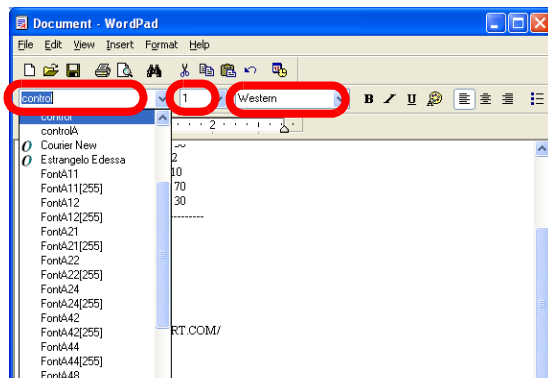
The procedure for opening the drawer is as follows.

Opening the drawer from an application

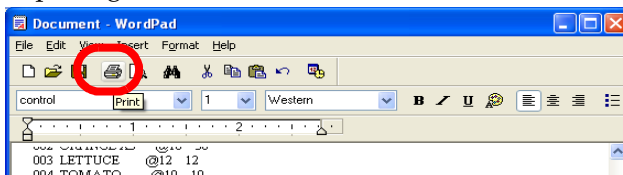
1. Enter the text in WordPad, and enter the control character corresponding to the Control Font for opening the drawer in the line corresponding to the point where you want the drawer to open. The control character is different depending on the model.



2. Select the control character and specify the Control Font, font size, and language.



3. Click the [Print] icon and print. The drawer opens at the position where the control character for opening the drawer was entered.



Program

The following is an example program for reference. For information on the font sizes, see the "Printer Driver Specifications."

```

-----
`Font
Printer.Font.Name = "control"
`Size
Printer.Font.Size = 1
`Control Font specification
Printer.Print "a"
-----
    
```

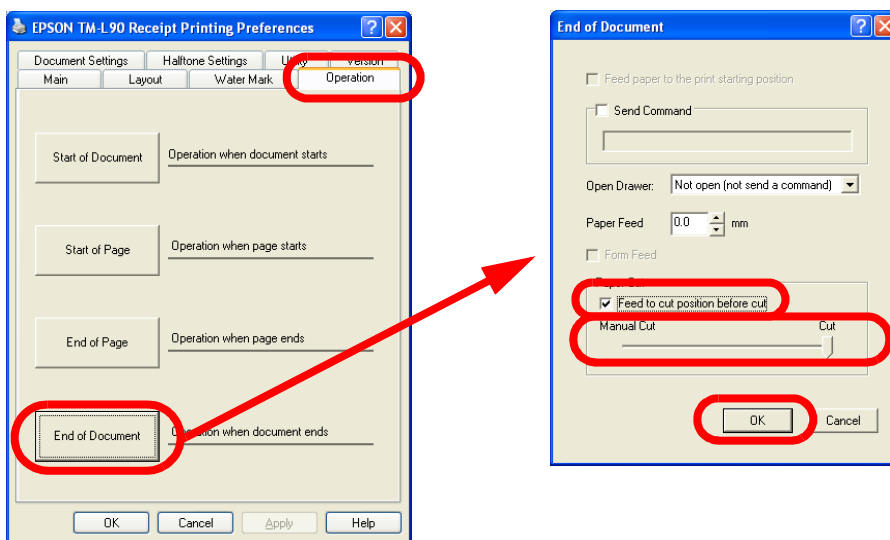
Configuring the Paper Length

- Cut the paper in accordance with the amount of print data.
- Print with fixed size.

Printing in accordance with the amount of print data

To print in accordance with the amount of print data, configure as follows. For information on the settings, see "Operation" on page 3-23. (These are the default settings.)

1. Select the printer driver Printing Preferences - [Operation] tab. Click the [End of Document] button. The Operation screen appears. Check "Feed to cut position before cut," select "Cut," and click the [OK] button.

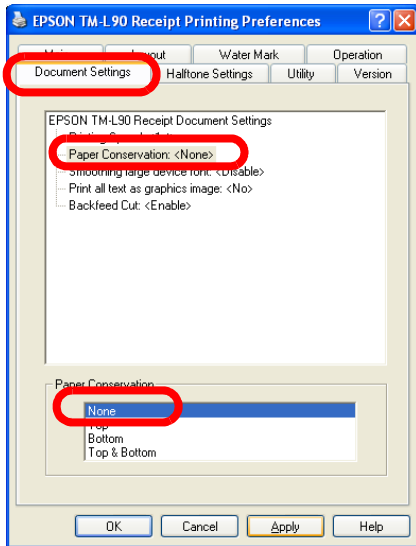


2. The screen returns to the Printing Preferences screen. Click the [OK] button.
3. The screen returns to the Properties screen. Click the [OK] button.
4. Printing is performed in accordance with the amount of print data.

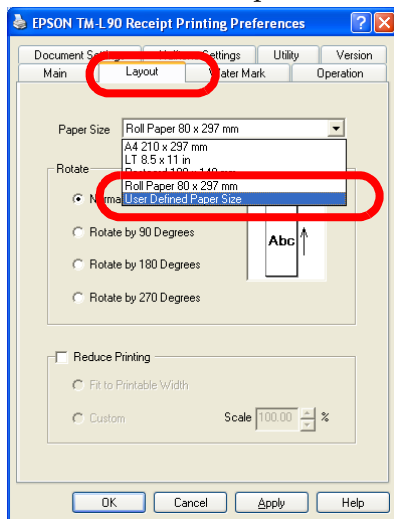
Printing in fixed length

To print to a paper of fixed length such as a coupon, configure as follows.

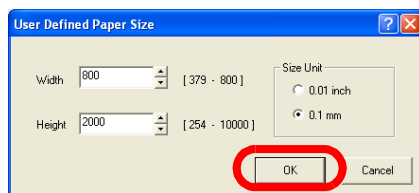
1. Select the printer driver Printing Preferences - [Document Settings] tab. Select [Paper Conservation], then "None."



2. Select the [Layout] tab. Select [Paper Size], then "User Defined Paper Size." For information on the User Defined Paper Size settings, see "Layout" on page 3-20.

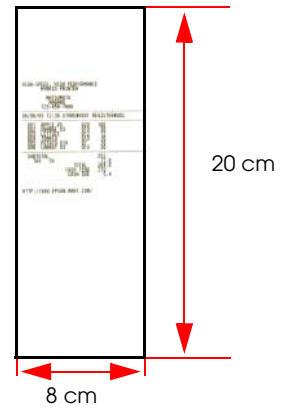
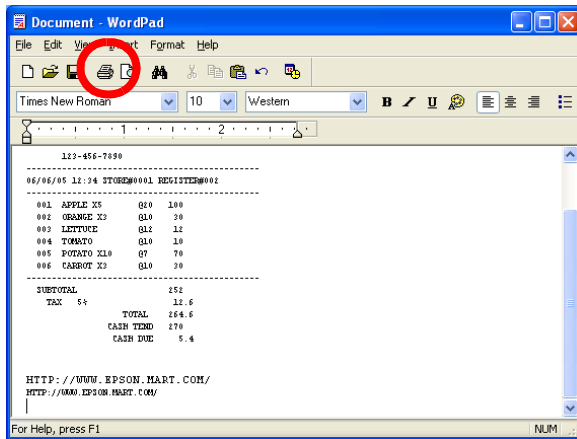


3. The User Defined Paper Size screen appears. Set the paper width and height and click the [OK] button.



4. The screen returns to the Printing Preferences screen. Click the [OK] button.

5. Enter the data in WordPad and click the [Print] icon. Printing is performed in fixed length.



Note:

Only one user defined size can be registered per driver. To register multiple sizes, multiple drivers must be installed.

Changing the Roll Paper Width

This procedure is for configuring the paper width according to the roll paper used. If your TM printer can print roll papers of different widths, you can change the width setting as follows.

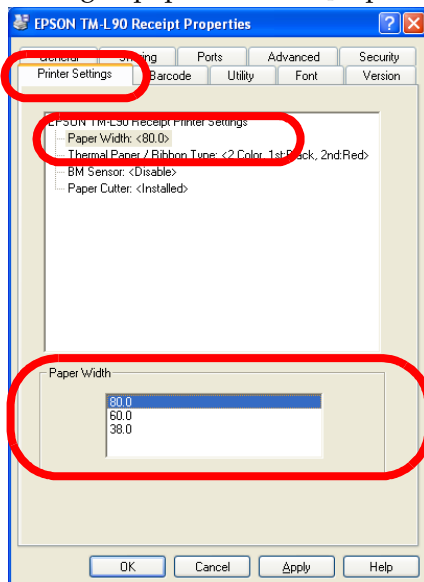
1. Install a roll of the paper of the width you want to use.



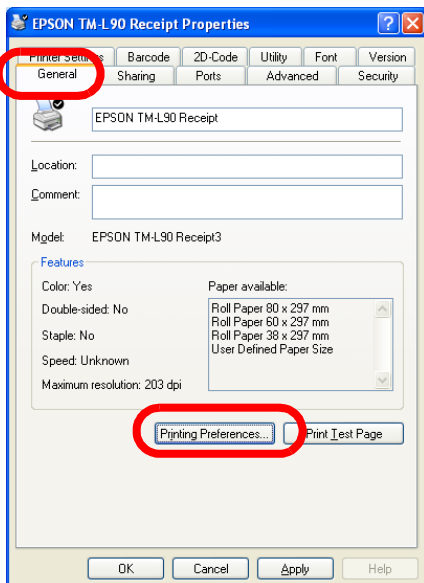
Note:

For details on how to replace the roll paper or how to set the spacer, see the operation manual of each model.

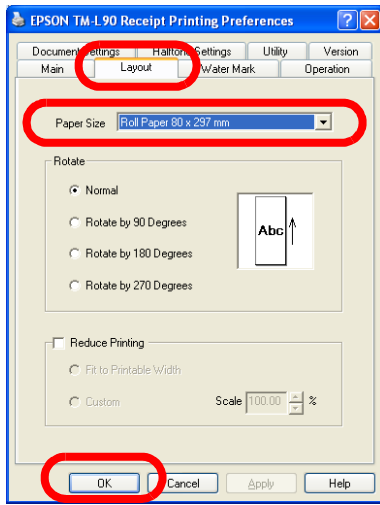
2. Right click the printer driver from [Start] - [Printers and Faxes] and select [Properties].
3. The Properties screen appears. Select the [Printer Settings] tab, then [Paper Width] and set the changed paper width in [Paper Width].



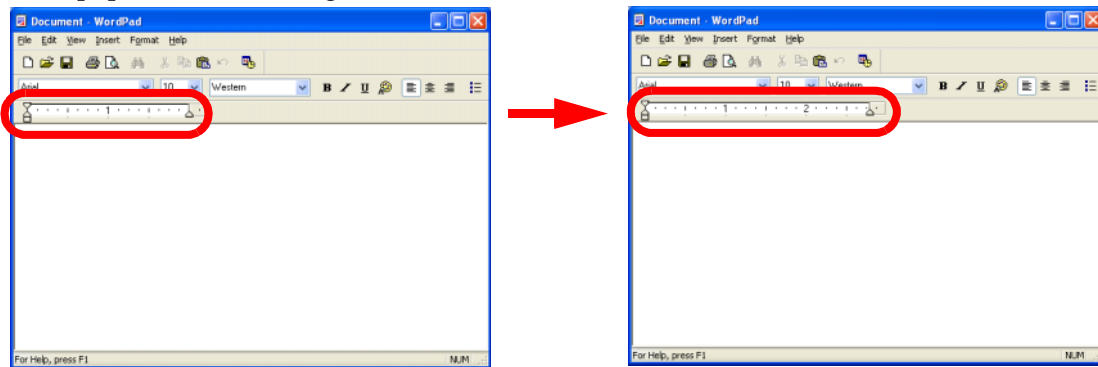
4. Next, select the [General] tab and click the [Printing Preferences...] button.



5. The Printing Preferences screen appears. Select the [Layout] tab. Set the changed paper size in the [Paper Size] setting and click the [OK] button.



6. The screen returns to the Properties screen. Click the [OK] button.
7. The paper width is changed.



Using ESC/POS Commands Simultaneously (Using controlA Font)

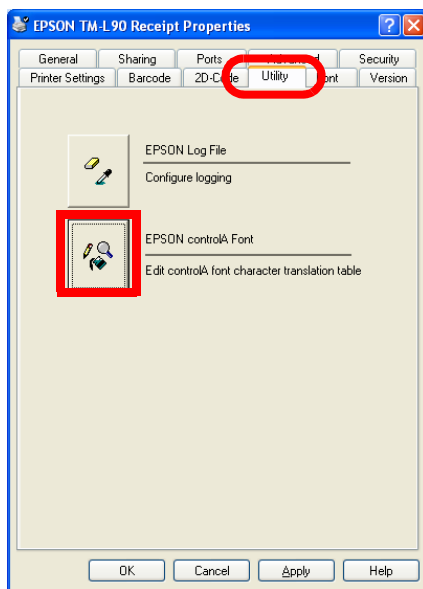
The controlA Font is a special font that allows assigning ESC/POS commands freely to arbitrary characters which execute defined ESC/POS commands when printed.

The method for defining the command is different depending on whether the printer driver is Ver.3.xx or Ver.2.xx Compatible. The procedure is as follows.

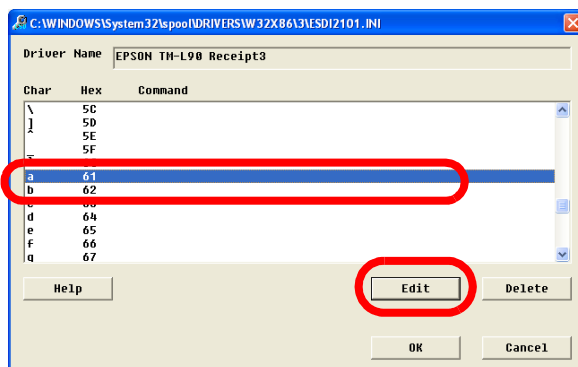
For information on ESC/POS commands, see the Epson web site. (See "Downloading Drivers, Utilities, and Manuals" on page 1-2.)

Ver.3.xx

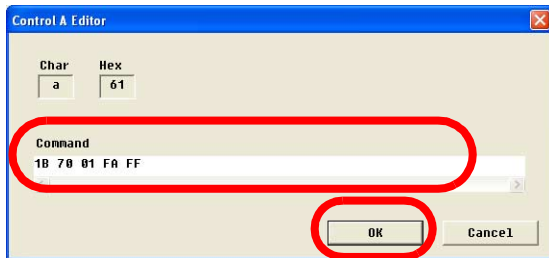
1. Select the printer driver Properties - [Utility] tab and click the [EPSON controlA Font] button.



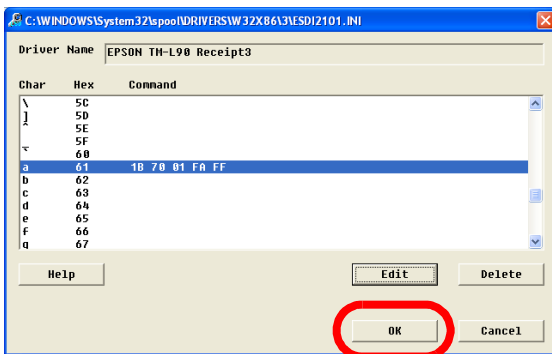
2. The EPSON controlA Font screen appears. Select the record you want to define and click the [Edit] button.



- The controlA Editor screen appears. Define the ESC/POS command in [Command] using hexadecimal. Click the [OK] button.



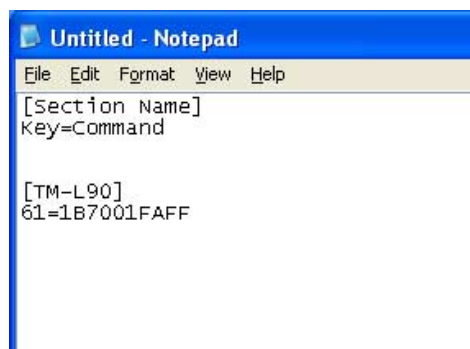
- The defined ESC/POS command appears on the EPSON controlA Font screen. Click the [OK] button.



- The Properties screen appears. Click the [OK] button.
- The ESC/POS command is defined.

Ver.2.xx Compatible

- Open the "tmctrla.ini" file from the Explorer. Its location is as follows.
"C:\WINDOWS\SYSTEM32\SPOOL\PRTPROCS\W32X86\"
- Enter the Section Name, Key, and Command in the "tmctrla.ini" file and save it.



Section Name: Printer Name
 Key: Character code corresponding to the controlA Font (ASCII code)
 Command: ESC/POS command (hexadecimal)

- The ESC/POS command is defined.

How to Use the Sample Program

The sample program VC4sample.exe includes the following functions.

- Print embedded font
- Print registered Barcode Font
- Print registered NV Memory (Logo)
- Print Control Font
 - Full cut by autocutter
 - Partial cut by autocutter
 - Open cash drawer 1/2
 - Execute an other Control Font



Note:

The sample program may include functions that are not available for a particular printer model or printer driver (Ver.3.xx/Ver.2.xx Compatible).

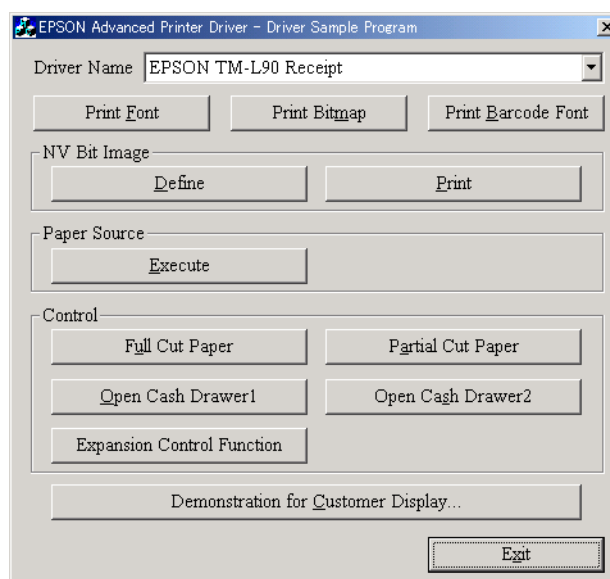
Installation

To install, execute apsmpl_XXX.exe.

By default, it is installed in C:\EPSON Advanced Printer Driver\Sample\PrinterDriver\.

Usage

1. Run VC4sample.exe.
2. Specify the printer driver to use in Driver Name.



3. Click the test button to print.

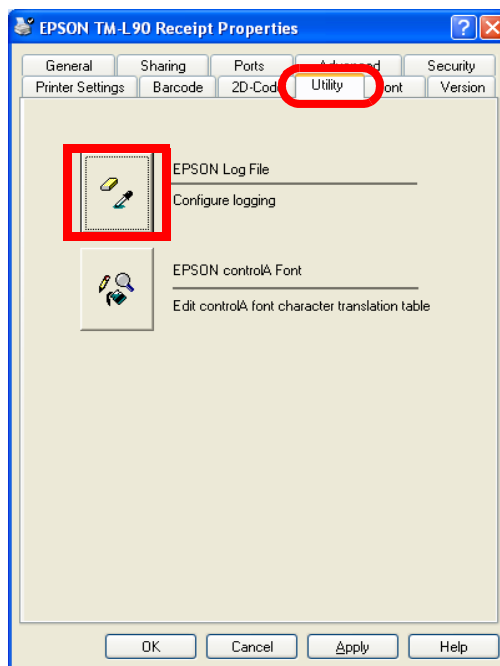
Log Setup Tool

You may collect logs for identifying the cause promptly when a problem occurs. This tool configures the following settings.

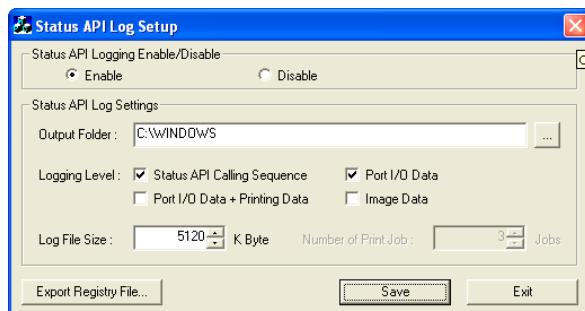
- Enable/disable of the log collection function.
- The log output level.
- The minimum guaranteed size for text log files.

Startup

1. Click the [EPSON Log File] button in the printer driver Properties - [Utility] tab.



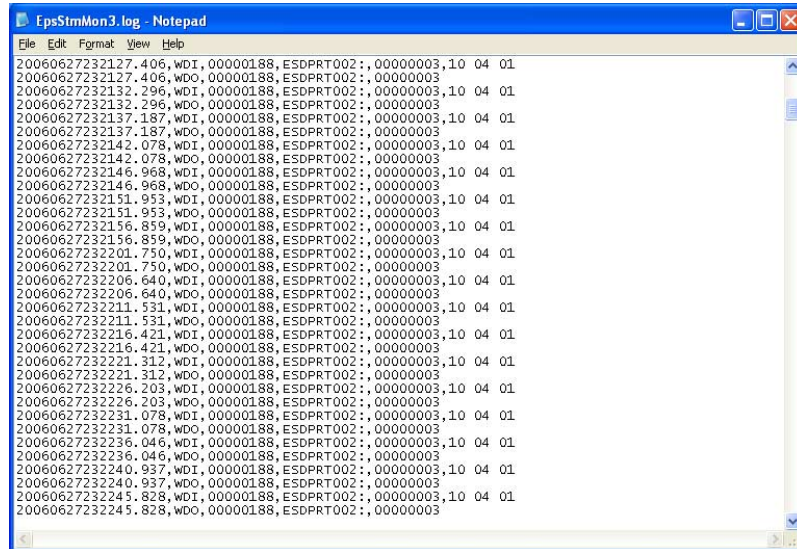
2. The Status API Log Setup screen appears. Configure the settings and click the [Save] button. A log file configured as specified with the settings is created.



3. Clicking [Exit] closes the screen. Changing the settings requires a reboot. The settings become effective after the reboot.

Checking the log file

When configured with the default settings, the log is collected in the C:\WINNT\EpsStmMon3.log file.



```

EpsStmMon3.log - Notepad
File Edit Format View Help
20060627232127.406,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232127.406,wDO,00000188,ESDPRT002:,00000003
20060627232132.296,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232132.296,wDO,00000188,ESDPRT002:,00000003
20060627232137.187,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232137.187,wDO,00000188,ESDPRT002:,00000003
20060627232142.078,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232142.078,wDO,00000188,ESDPRT002:,00000003
20060627232146.968,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232146.968,wDO,00000188,ESDPRT002:,00000003
20060627232151.953,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232151.953,wDO,00000188,ESDPRT002:,00000003
20060627232156.859,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232156.859,wDO,00000188,ESDPRT002:,00000003
20060627232201.750,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232201.750,wDO,00000188,ESDPRT002:,00000003
20060627232206.640,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232206.640,wDO,00000188,ESDPRT002:,00000003
20060627232211.531,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232211.531,wDO,00000188,ESDPRT002:,00000003
20060627232216.421,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232216.421,wDO,00000188,ESDPRT002:,00000003
20060627232221.312,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232221.312,wDO,00000188,ESDPRT002:,00000003
20060627232226.203,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232226.203,wDO,00000188,ESDPRT002:,00000003
20060627232231.078,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232231.078,wDO,00000188,ESDPRT002:,00000003
20060627232236.046,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232236.046,wDO,00000188,ESDPRT002:,00000003
20060627232240.937,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232240.937,wDO,00000188,ESDPRT002:,00000003
20060627232245.828,wDI,00000188,ESDPRT002:,00000003,10 04 01
20060627232245.828,wDO,00000188,ESDPRT002:,00000003

```



Note:

For details on how to read the log content, see the "Status API Reference Manual."

Acquiring printer information by using **PRINTER_INFO_2**

APD allows you to acquire printer information by using **PRINTER_INFO_2**.

TM PRINTER_INFO_2.Status Converting Table

The **PRINTER_INFO_2** structure specifies detailed printer information. In this member, you can acquire the following TM printer statuses.

PRINTER_INFO_2	Status of TM-printer
PRINTER_STATUS_BUSY	not available
PRINTER_STATUS_DOOR_OPEN	1.When the paper roll cover is open. 2.When the carriage cover is open.
PRINTER_STATUS_ERROR	not available
PRINTER_STATUS_INITIALIZING	During the printer initializing.
PRINTER_STATUS_IO_ACTIVE	not available
PRINTER_STATUS_MANUAL_FEED	Feeding paper by the paper feed switch.
PRINTER_STATUS_NO_TONER	Ink cartridge is not installed or replace Ink cartridg.
PRINTER_STATUS_NOT_AVAILABLE	1.Power is not stable. 2.The interface cable is not connected.
PRINTER_STATUS_OFFLINE	1.Between when the power is turned on or the printer is reset and when the printer becomes ready to receive data. 2.Between when the printer becomes ready to receive data and when the printer mechanism is finished initializing. 3.During the self-test.
PRINTER_STATUS_OUT_OF_MEMORY	not available
PRINTER_STATUS_OUTPUT_BIN_FULL	not available
PRINTER_STATUS_PAGE_PUNT	not available
PRINTER_STATUS_PAPER_JAM	not available
PRINTER_STATUS_PAPER_OUT	when an empty paper supply is detected by the paper roll end detector.
PRINTER_STATUS_PAPER_PROBLEM	not available
PRINTER_STATUS_PAUSED	not available
PRINTER_STATUS_PENDING_DELETION	not available
PRINTER_STATUS_POWER_SAVE	not available
PRINTER_STATUS_PRINTING	Between when StartDoc is executed and when the status of printing completed is returned by the printer.
PRINTER_STATUS_PROCESSING	not available
PRINTER_STATUS_SERVER_UNKNOWN	not available
PRINTER_STATUS_TONER_LOW	The ink low is detected.

PRINTER_INFO_2	Status of TM-printer
PRINTER_STATUS_USER_INTERVENTION	An error has occurred. 1. Printing on the paper roll is not performed correctly due to a cover-open. 2. Print head temperature error 3. The autocutter does not work correctly. 4. The home position cannot be detected due to a paper jam. 5. The carriage is out of phase. 6. The cut sheet cannot be ejected even if a certain amount of feeding is tried. 7. The CPU on the printer executes an incorrect address or the I/F board is not connected. 8. After R/W checking, the printer does not work correctly 9. The power supply voltage is extremely high. 10. The power supply voltage is extremely low. 11. Internal circuit does not work correctly. 12. UIB does not work correctly.
PRINTER_STATUS_WAITING	not available
PRINTER_STATUS_WARMING_UP	not available

Chapter 3 Setting

This chapter describes the APD settings.

The items that are configurable using the printer driver Properties and Printing Preferences are as follows.

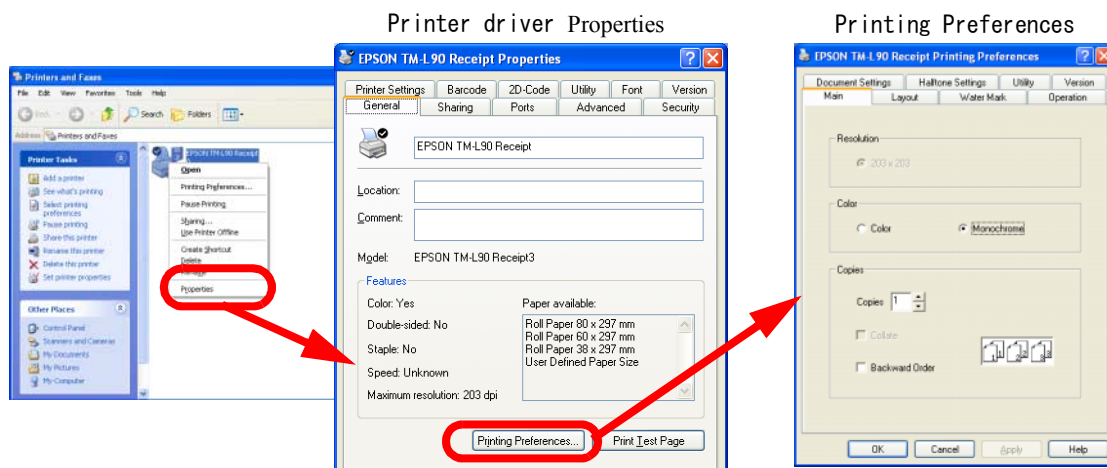


Note:

Not all settings described here are available for all printer models.
Configuration of the printer driver Properties settings requires the Windows Administrator privileges.

To open the setting screen of the printer driver Properties, right click the printer driver from [Start] - [Start] - [Printers and Faxes] and select [Properties].

To open the Printing Preferences screen, select the Properties - [General] tab and click the [Printing Preferences...] button.

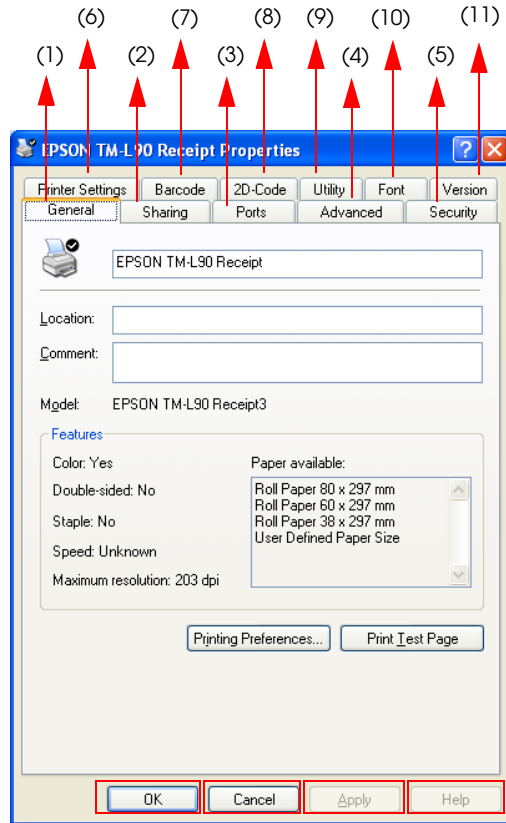


Printer driver properties	Page	Printing Preferences	Page
Port setting	(See page 3-4)	Color setting	(See page 3-20)
Paper Size	(See page 3-8)	Condensed printing, orientation specification	(See page 3-20)
Thermal paper/Ribbon color setting	(See page 3-8)	Paper size specification	(See page 3-21)
Barcode Font setting	(See page 3-10)	Water Mark	(See page 3-22)
2D-Code setting	(See page 3-11)	Operation (cut/feed/open drawer, etc.)	(See page 3-23)
EPSON Log File setting	(See page 3-13)	Print all text as graphics image (yes/no)	(See page 3-25)
controlA Font setting	(See page 3-15)	Paper-saving setting *	(See page 3-25)
Embedded fonts and font sizes (in points) list	(See page 3-17)	2-Color halftone setting	(See page 3-27)
Printer driver version	(See page 3-18)		
Test Printing	(See page 3-3)		

*The margins for the paper are configured from the application side. (See page 2-1)

Configuring the Properties

The Properties screen looks like this.

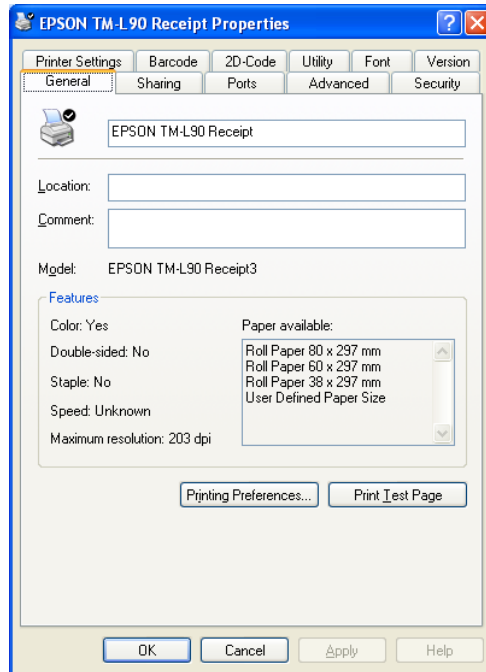


Tab	Value	Number in the figure
General	Allows you to configure the printer name and Printing Preferences as well as perform test printing.	(1)
Sharing	Allows you to configure the shared printer settings.	(2)
Ports	Allows you to configure the port settings.	(3)
Advanced	Allows you to configure the detailed settings for printing.	(4)
Security	Windows security setting.	(5)
Printer Settings	Allows you to configure the printer paper width and other settings.	(6)
Barcode	Allows you to configure the Barcode settings. (Displayed in applicable models only)	(7)
2D-Code	Allows you to configure the 2D-Code settings. (Displayed in applicable models only)	(8)
Utility	Allows you to configure the log file settings and the controlA Font.	(9)
Font	Lists the printer embedded fonts.	(10)
Version	Displays the version information.	(11)

- [OK] button Makes effective the Properties settings and closes the Properties screen.
- [Cancel] button Cancels the Properties settings and closes the Properties screen.
- [Apply] button Makes effective the Properties settings.
- [Help] button Displays the Properties help information.

General

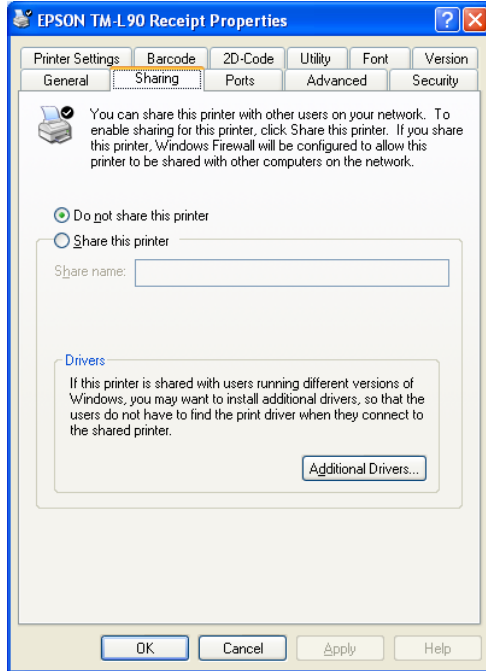
Allows you to view/change the printer name, display the Printing Preferences screen, and perform test printing.



- [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.
- [Printing Preferences...] Displays the Printing Preferences screen.
- [Print Test Page] Prints the Windows test page.

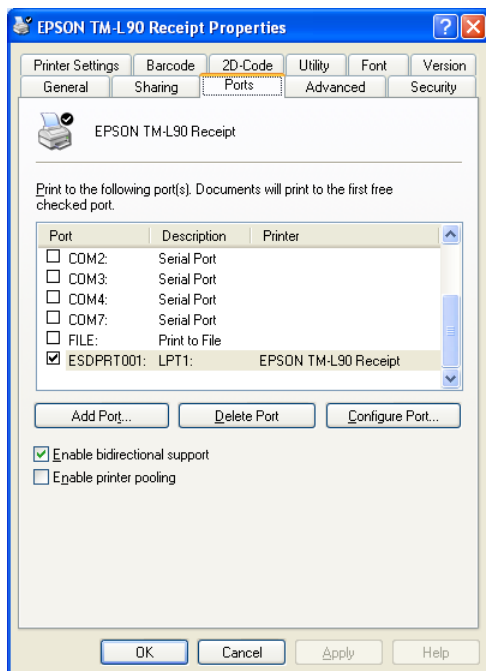
Sharing

Shared printer setting is not supported.



Ports

Allows you to configure the Epson Port settings for the printer driver. The items that can be configured are as follows.



[Print to the following port] Select the printer driver port for printing.



Note:

Specify an Epson Port Driver (ESDPRTxxx) for the port. Because the APD is controlled using an Epson Port Driver, do not specify a general-purpose port of the computer such as COM or USB.

[Add Port...] Creates a new Epson Port.

[Delete Port] Deletes an Epson Port.

[Configure Port...] Configures an Epson Port.

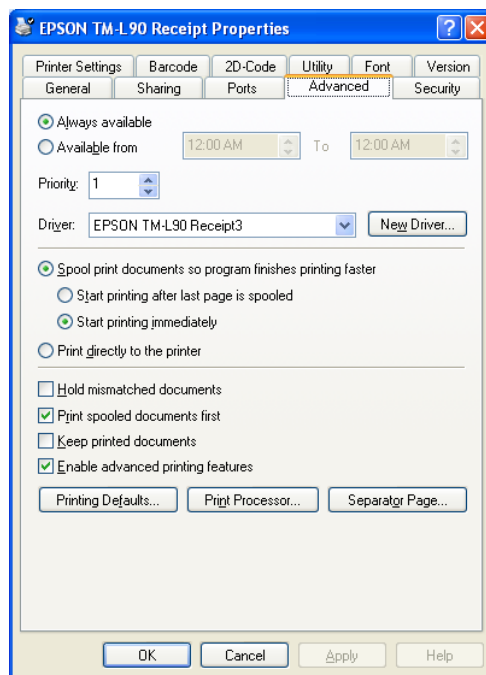
[Enable bidirectional support] Do not uncheck. The APD will become unusable.

[Enable printer pooling] Enables printing to two or more identical print devices through one logical printer.

Advanced

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

The items that can be configured are as follows.



[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.

[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.

The following settings are configurable when "Spool print documents so program finishes printing faster" is selected.

[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.

[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.

[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.

- [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.

- [Printing Defaults...] Click to configure the Printing Preferences.

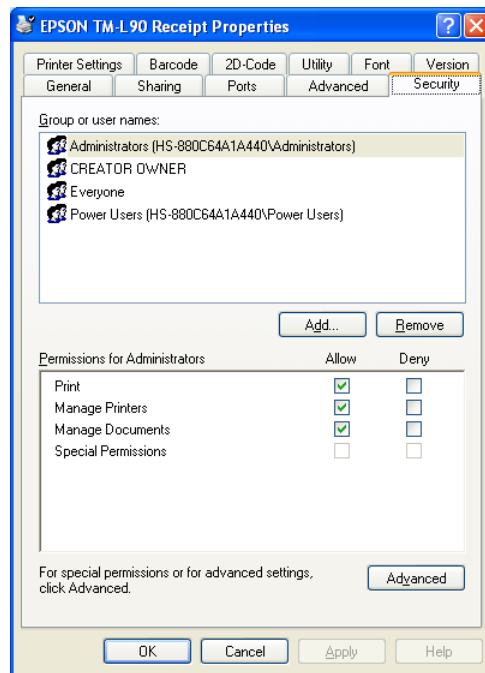
- [Print Processor...] Click to specify the data type. In general, you do not need to change either the default print processor or data type. However, a few programs might require a specialized print processor and a particular data type to print.

- [Separator Page...] Not available.

Security

Security setting for Windows.

The items that can be configured are as follows.



- [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.

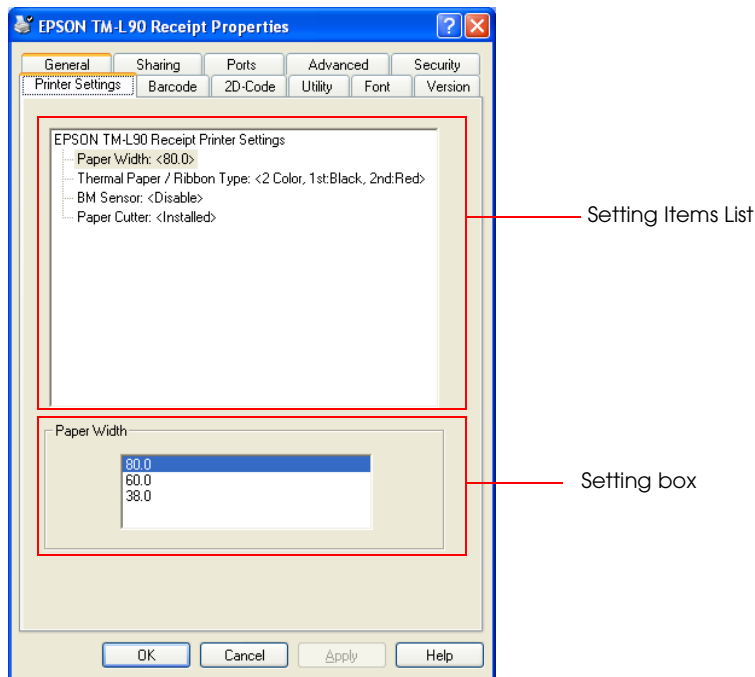
- [Permissions for Administrators] Permissions you can allow or deny for each user or group are listed. To allow or deny the permission, check or clear the appropriate check- box. Shaded checkboxes indicate inherited permissions. To see additional information on permissions or inheritance, click Advanced.

- [Advanced] Click for viewing and setting special permissions, auditing information, owner information, and permissions effective for this object.

Printer Settings

Allows you to configure the printer settings.

In the Printer Settings, the setting items list is displayed at the top half of the tab. When a setting item is selected, its setting box is shown at the bottom of the tab.



Note:

Items corresponding to functions not supported by the printer are not displayed.

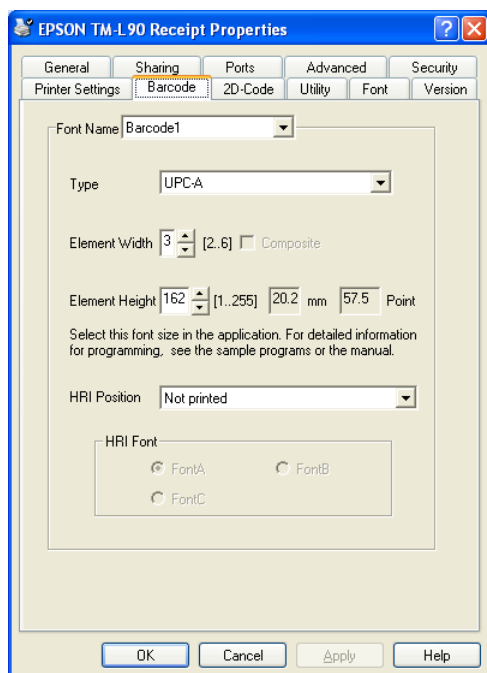
The setting items are as follows.

- [Paper Width] By clicking the Paper Width item listed in the Printer Settings tab, when there are two or more printing width values, the Paper Width setting box will be shown on the bottom of the Printer Settings tab. And the paper width can be selected.

- [Thermal Paper / Ribbon Type] By clicking the Thermal Paper / Ribbon Type item listed in the Printer Settings tab, its setting box will be shown on the bottom of the tab. If the 2 Color button is selected, 2 Color Printing can proceed; if the disable button is selected, 2 Color Printing cannot proceed.
- [BM Sensor] By clicking the BM Sensor (Black Mark Sensor) item in the Printer Settings tab, the BM Sensor setting box will be shown on the bottom of the Printer Settings tab. If the Enable button is selected, the BM Sensor is valid, and if the Disable button is selected, the BM Sensor is invalid.
- [Presenter] By clicking the Presenter item in the Printer Settings tab, the Presenter setting box will be shown on the bottom of the tab. If the Enable button in the box is selected, the Presenter is valid, that is, the print paper will be ejected. Otherwise the Presenter is invalid.
- [Paper Cutter] By clicking the Paper Cutter item in the Printer Settings tab, the Paper Cutter setting box will be shown on the bottom of the tab. If the "installed" button is selected, the Paper Cutter is valid; if the "Not Present" button is selected, it is invalid.
- [Reverse Feed] By clicking the Reverse Feed item in the Printer Settings tab, the Reverse Feed setting box will be shown on the bottom of the tab. If the Enable button is selected, the Reverse Feed is valid; if the Disable button is selected, the Reverse Feed is invalid.
- [Character Per Line] By clicking the Character Per Line item in the Printer Settings tab, the Character per line setting box will be showed on the bottom of the tab. By clicking the "Standard" button, the Device Font used in standard Character Per Line mode will be used. By clicking the "Increased Density" button, the Device Font used in many Character Per Line mode will be used.
- [Chinese Character Encoding] By clicking the Chinese Character Encoding item in the Printer Settings box, the Character Code will be showed on the bottom of the tab. Chinese Character Encoding has two options, GB18030 and GB2312. The user can click the Chinese Character Encoding that the user prefers. If the user selects GB18030, the Font Substitution button is valid; By clicking the Font Substitution button, a dialog box will be shown, the user then can set the Font Substitution from it.
- [GB18030 True Type Font Substitution] Allows the GB18030 TrueType font to be substituted by the GB18030 device font.

Barcode

Allows you to configure the Barcode Font settings. The configuration sets to each of the 8 Barcode printing device fonts the Barcode Type to print and the necessary parameters for printing. This tab is not displayed for printer drivers that do not support Barcode printing.



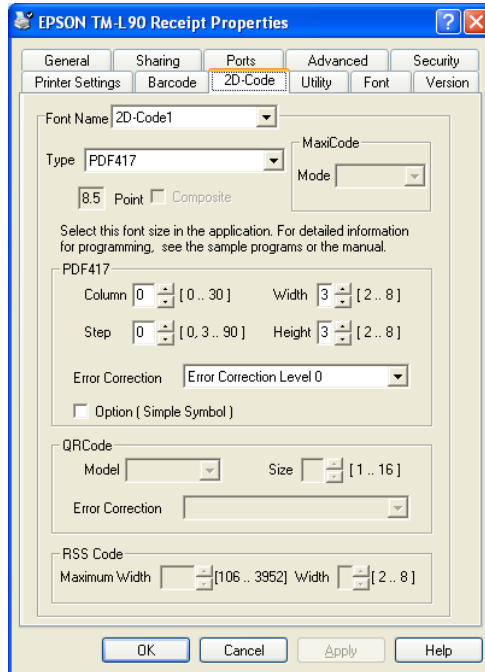
The setting items are as follows.

- | | |
|------------------|---|
| [Font Name] | Pull down the Barcode list to select the Device Font for Barcode printing. There are 8 Device Fonts to select from: Barcode1, Barcode2, Barcode3, Barcode4, Barcode5, Barcode6, Barcode7 and Barcode8. By selecting one of them, the user can set the other items. |
| [Type] | By pulling down the Type list, the following Barcode Types can be selected: UPC-A, UPC-E, JAN13(EAN), JAN8(EAN), Code39, ITF, Codabar, Code93, Code128, UCC/EAN-128, RSS14, RSS14-Truncated, RSS-Limited, RSS-Expanded and Not use. There are types that cannot be selected for certain printers. |
| [Element Width] | The user can set the Barcode Element Width in dots. Click the spin button to increase or decrease the Element Width. The Element Width range is from 2 dots to 6 dots. |
| [Element Height] | The user can set the Barcode Element Height in dots. Click the spin button to increase or decrease the Element Height. The Element Height range is from 1 dot to 255 dots. |
| [HRI Position] | Pull down the HRI position list to select the HRI position for printing Barcodes. There are four options: without printing, printing above the Barcode, printing below the Barcode and printing both above and below the Barcode. |

[HRI Font] Selects the fonts for HRI. There are three HRI Font options. The user can select either font A or font B. Font C is available only on selected printers.

2D-Code

Allows you to configure the 2D-Code settings. The configuration sets to each of the 8 2D-Code printing device fonts the 2D-Code type to print and the necessary parameters for printing. This tab is not displayed for printer drivers that do not support 2D-Code printing.



The setting items are as follows.

[Font Name] Pull down the 2D-Code list to select the Device Font for printing 2D-Code. There are 8 kinds of Device Font to select from: 2D-Code1, 2D-Code2,... and 2D-Code8. By selecting one, the user can then set the other items.

[Type] Pull down the Type list to select the 2D-Code Type. The following Types can be selected: PDF417, QR Code, Maxi Code, RSS-14 Stacked, RSS-14 Stacked Omidirectional, RSS Expanded Stacked and Not use. There are types that cannot be selected for certain printers.

Maxi Code

By pulling down the Type list and selecting Maxi Code, the user then can set the Maxi Code Mode. The following Maxi Code Modes can be selected: Mode2, Mode3, Mode4, Mode5 and Mode6.

PDF147

By pulling down the Type list and selecting PDF417, the user then can set the PDF417 settings. It includes Column, Step, Width, Height, Error Correction Level and Option.

[Column]	By clicking the spin button, the user can set the PDF417 Column for printing. Setting range is from 0 to 30.
[Step]	By clicking the spin button, the user can set the PDF417 Step for printing. The Setting range is from 3 to 90.
[Width]	By clicking the spin button, the user can set the PDF417 Width for printing. The setting range is from 2 to 8.
[Height]	By clicking the spin button, the user can set the PDF417 Height for printing. The setting range is from 2 to 8.
[Error Correction Level]	Pull down the Error Correction Level list to select PDF417 Error Correction Level. The following PDF417 Error Correction Levels can be selected: Error Correction Level 0, Error Correction Level 2,... and Error Correction Level 8.
[Option (Simple Symbol)]	Sets the Option for printing PDF417.

QR Code

By pulling down the Type list and selecting QR Code, the user then can set the QR Code Mode, Size and Error Correction.

[Model]	Pull down the QR Code Model list to select QR Code Model. The following QR Code Models can be selected: Mode 1 and Mode 2.
[Size]	By clicking the spin button, the user can set the size for printing QR Code Mode. The setting range is from 1 dot to 16 dots.
[Error Correction Level]	Pull down the Error Correction list to select QR Code Error Correction level. The following QR Code Error Correction levels can be selected: Error Correction Level L, Error Correction Level M, Error Correction Level Q and Error Correction Level H.

RSS Code

By pulling down the Type list and selecting RSS Code (RSS-14 Stacked, RSS-14 Stacked Omidirectional, RSS Expanded Stacked), the user then can set the RSS Code settings. It includes MaximumWidth, Width.

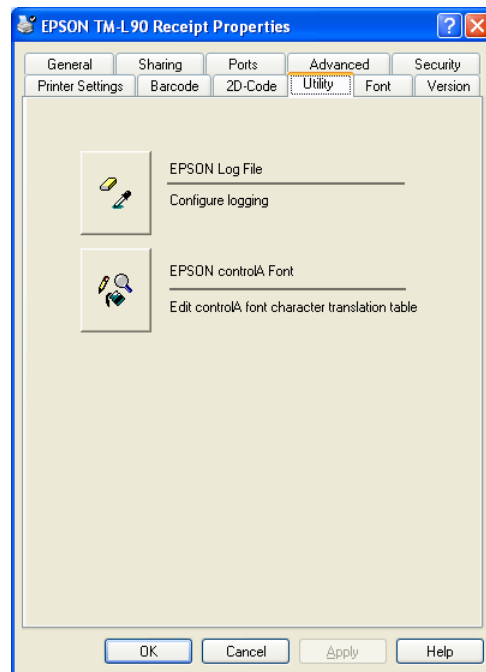
[MaximumWidth]	By clicking the spin button, the user can set the RSS Expanded Stacked MaximumWidth for printing. Setting range is from 106 to 3952.
[Width]	By clicking the spin button, the user can set the RSS Code Width for printing. The setting range is from 2 to 8.

CompositeSymbol

To set the CompositeSymbol for printing.

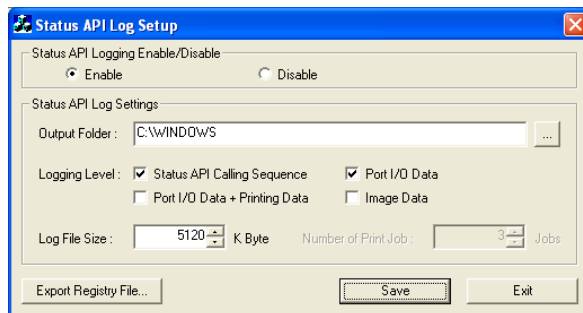
Utility

The available utilities are the EPSON Log File and the EPSON controlA Font. This tab is not displayed for printers that do not support the utilities.



EPSON Log File

Collects logs for identifying the cause promptly when a problem occurs.



Note:

For details on how to read the log content, see the "Status API Reference Manual."

Configure the following settings.

- Status API Logging Enable/Disable

Enables or disables the Status API log collection. Setting "Enable" enables the [Status API Log Settings].

Status API Log Settings

[Output Folder] Specifies the folder to which the log is output.



Note:

Specify an already existing folder for output folder. You cannot create a folder with the EPSON log file settings.

[Logging Level] Sets the log collection level. Multiple selection is possible, but at least one must be selected.

Item	Value
Status API Calling Sequence	Call sequence of the Status API function
Port I/O Data	I/O data from/to the printer.
Port I/O Data + Printing Data	Dump of printing data
Image Data	-



Note:

Selecting "Status API Calling Sequence" or "Port I/O Data" enables the [Log File Size] setting.

Selecting "Port I/O Data + Printing Data" enables the [Number of Print Job] setting.

[Log File Size] Sets the maximum log file size. The log file size can be set in the 1 KB to 10240 KB range.

[Number of Print Job] Sets the maximum number of log files that can be saved. The number of log files that can be saved can be set in the 1 job to 9 jobs range.

Export Registry File...

Allows the current registry setting information to be saved to a file.

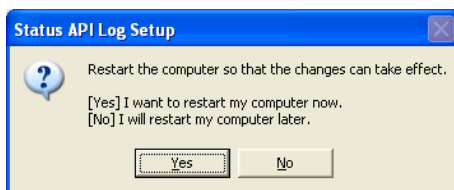
The format of the file created with the [Export Registry File...] button is restorable using registry.exe. When restoring the registry from a saved file, use the registry.exe.

Save

Writes the log collection settings to the registry. Can also save the current registry setting information to a file.

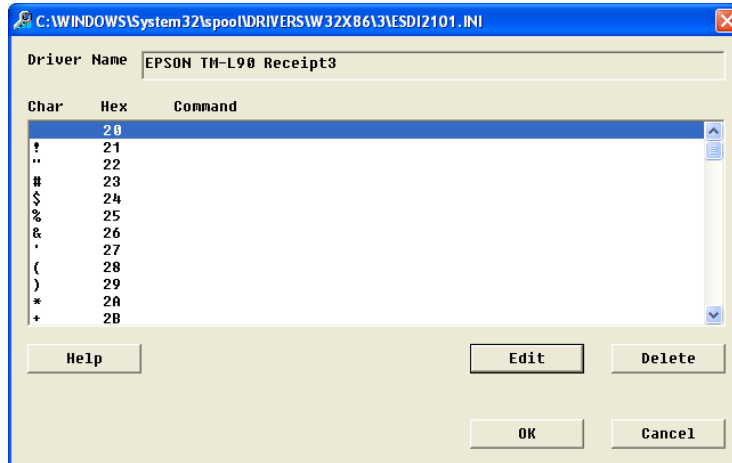
Exit

Closes the EPSON Log File. The Status API Log Setup screen appears. Clicking the [Yes] button reboots the computer. Clicking the [No] button closes the EPSON Log File.



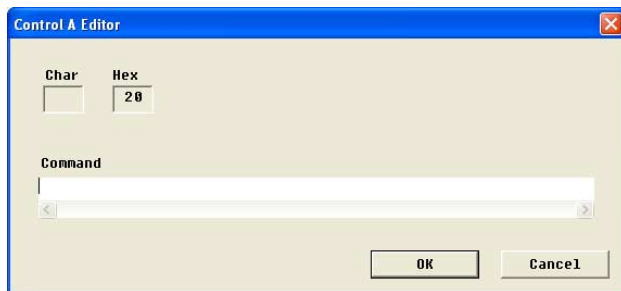
EPSON controlA Font

Allows you to configure the EPSON controlA Font. The controlA Font is used for assigning ESC/POS commands freely to arbitrary characters which execute defined ESC/POS commands when printed.

Main screen

- [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



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



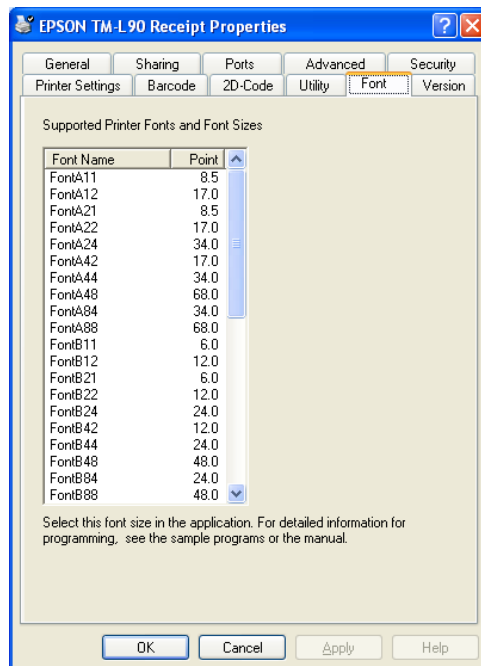
Note:

For more information on ESC/POS commands, see the Epson web site. (See page 1-3)

Font

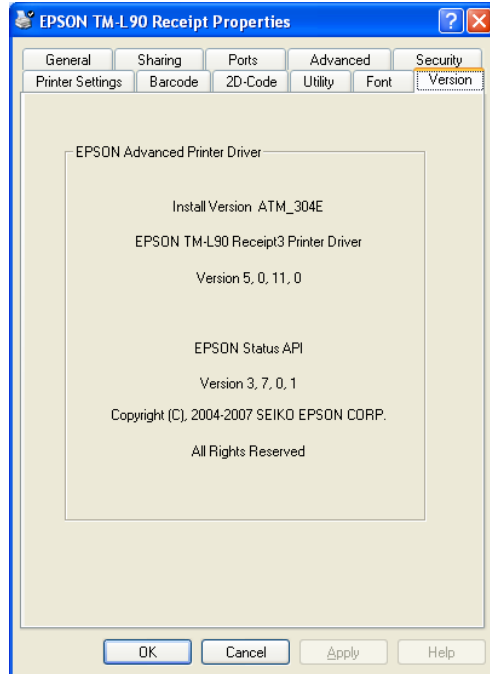
On the Font tab, the embedded fonts supported by the printer and their font size (in points) are listed. When using a printer embedded font, specify the appropriate font size (in points) by referencing this list.

Also specify the font name and font size (in points) by referencing this list when specifying a font in a program created using VB or VC++.



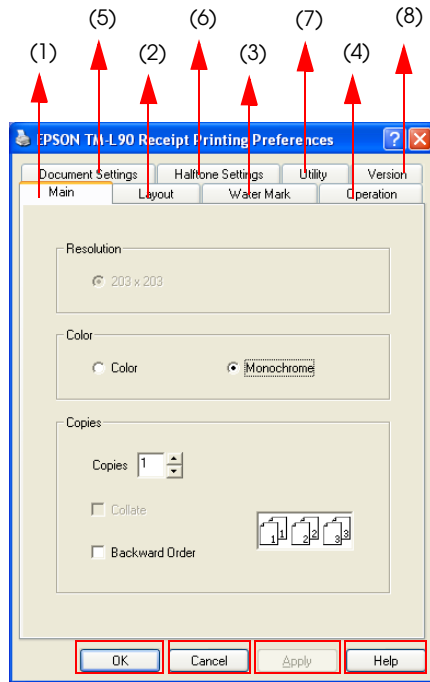
Version

Displays the printer driver version information.



Printing Preferences

The Printing Preferences screen is displayed when the [Printing Preferences...] button on the Properties screen [General] tab is clicked.



Tab	Value	Number in the figure
Main	Allows you to configure the basic printing settings such as the number of copies to print, color, etc.	(1)
Layout	Allows you to configure paper size, rotated printing, and other settings.	(2)
Water Mark	Allows you to configure the Water Mark settings.	(3)
Operation	Allows you to configure the printer operation settings.	(4)
Document Settings	Allows you to configure the properties settings of the document to print.	(5)
Halftone Settings	Allows you to configure dithering and the color assignment settings.	(6)
Utility	Allows you to configure the log file and controlA Font settings.	(7)
Version	Displays the version information.	(8)

[OK] button Makes effective the Printing Preferences settings and closes the Printing Preferences screen.

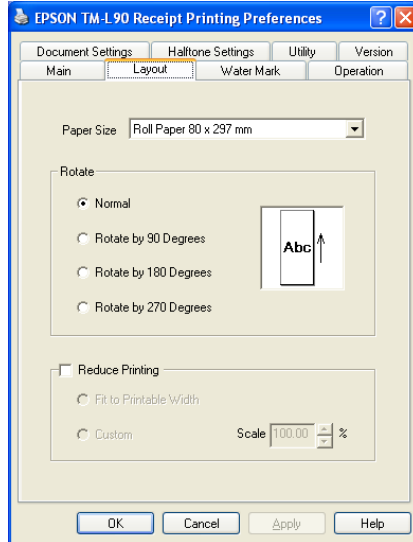
[Cancel] button Cancels the Printing Preferences settings and closes the Printing Preferences screen.

[Apply] button Makes effective the Printing Preferences settings.

[Help] button Displays the Printing Preferences help information.

Main

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

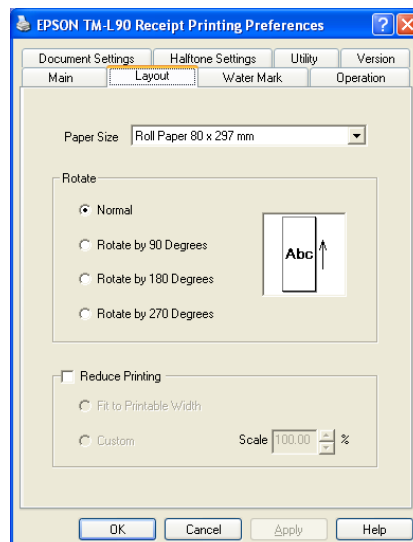


The setting items are as follows.

- | | |
|--------------|---|
| [Resolution] | High Resolution mode. Print speed is reduced. |
| [Color] | The user can specify the Color option for printing. If the user selects Color, the printer prints with full colors (2-Color printer prints with 2 colors). If the user selects Monochrome, the printer prints in Monochrome (generally, black). |
| [Copies] | The user can specify the number of copies to be printed and the printing order. |

Layout

Allows you to configure the paper size, orientation, and condensed printing settings. The items that can be configured are as follows.



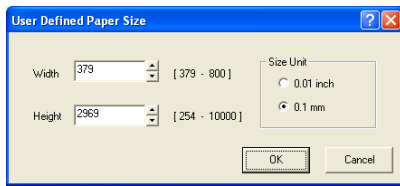
Paper Size

Select the paper size for printing from the list. In the list, all physical and logical paper sizes supported by the driver and the user defined paper size are displayed.

Defining a user defined paper size

The procedure to define a User Defined Paper Size is as follows.

1. Select "User Defined Paper Size" from the list of paper sizes.
2. The User Defined Paper Size screen appears. Enter the paper width and height, select the unit and click the [OK] button.



3. The definition becomes effective when the [Apply] button on the Printing Preferences screen is clicked.

Rotate

Allows you to specify the orientation. The icon at the right of the screen changes in accordance with the setting. Configure this item when performing rotated printing.

Item	Value
Normal	This is the normal setting.
Rotate by 90 Degrees	Rotates the data for printing. In this case, printer embedded fonts and Control Font cannot be used as the text is printed as graphics image.
Rotate by 180 Degrees	
Rotate by 270 Degrees	

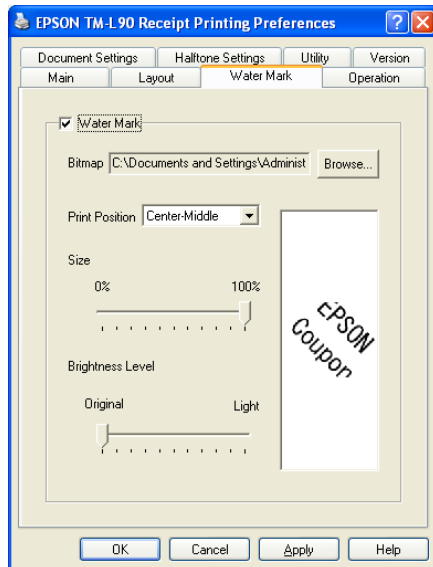
Reduce Printing

Reduce Printing setting includes Fit to Printable Width setting and Custom setting.

Item	Value
Fit to Printable Width	The printing is condensed to fit to the paper size.
Custom	The reduction percentage is configured manually.

Water Mark

Allows you to configure the bitmap to be used as Water Mark, its printing position, size, and brightness by referring to the preview.



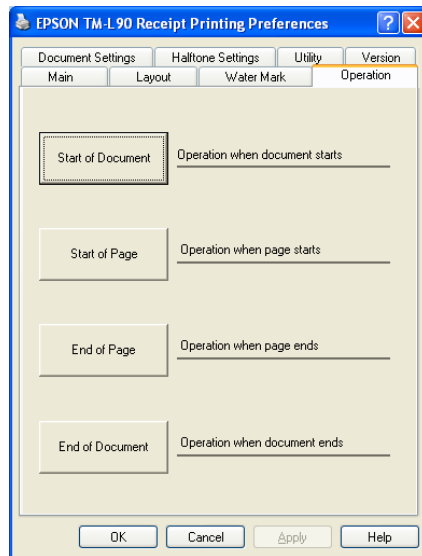
The setting items are as follows.

- | | |
|------------------|---|
| [Water Mark] | Checking [Water Mark] enables the configuration of the Water Mark settings. In this case, printer embedded fonts and Control Font cannot be used as the text is printed as graphics image. |
| [Bitmap] | By checking the Water Mark check box, the user can set the bitmap file path from the File Open dialog box. |
| [Print Position] | The Print position can be set from the list.
The values are as follows:
Left-Top, Center-Top, Right-Top,
Left-Middle, Center-Middle, Right-Middle,
Left-Bottom, Center-Bottom, Right-bottom,
Tiled |
| [Size] | Set the Water Mark size according to the proportion with the printable area, in which the printable area is as 100. The range is from 0 to 100.
If the value is 0, the Water Mark cannot be printed;
If the value is 100, enlarge or reduce the Water Mark size according to the printable area of the paper.
If the longitudinal Water Mark is beyond the paper after enlarging or reducing, the exceeding part is not printed.
For example, if the paper length is shorter than the longitudinal Water Mark size in Paper Conservation mode, the excess part is not printed. (the bottom of Water Mark)
The paper length is not adjusted according to the Water Mark height. |

[Brightness Level] The Brightness Level of the Water Mark color can be adjusted. The adjustment range is from Original to Light. If the level is Original, the Brightness Level is not adjusted. The Brightness Level increases with the adjusted level. If the level is Light, the Brightness Level reaches a Maximum.

Operation

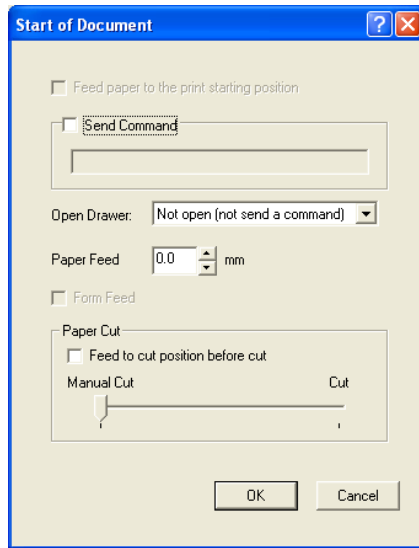
Operation allows you to control the printer operation. Using this tab, it is possible to make the printer open the drawer, cut the paper, feed the paper, or send commands.



The operation can be configured to be performed at the following points.

Item	Value
Start of Document	At the beginning of a document
Start of Page	At the top of a page
End of Page	At the bottom of a page
End of Document	At the end of a document

Clicking the [Operation] button opens the Operation screen where you can configure the operation control settings.



The operations that can be controlled are as follows. Not all settings are available for all printers.

[Feed paper to the print Starting position]

The user can check this box to feed the paper to the paper head before printing.

[Send Command]

The user can check this box to send customized command directly to the printer. Maximum length of the command is 128bytes. The user must follow the following rules.

- Numbers must be written in hex format.
- One byte must be represented as two hex numbers.
(For example: 0x5 → 0x05)
- The hex numbers are case insensitive.
- The space between numbers is optional. (For example: 1b 4a 0e)

[Open Drawer]

The user can customize whether or not to open the drawer. The user can also choose which drawer to open.

Item	Value
Not open	The drawer does not open.
Open drawer 1	Signal is sent to pin 2 and the drawer opens.
Open drawer 2 *	Signal is sent to pin 5 and the drawer opens.

* Specification seen in many drawers. For details, see the specifications of each drawer.

[Paper Feed]

The user can specify the paper feed length. For printers that support reverse paper feeding, the allowable range is from 0mm to 100mm. Reverse paper feeding is not supported.

[Form Feed]

The user can check this box to feed the form.

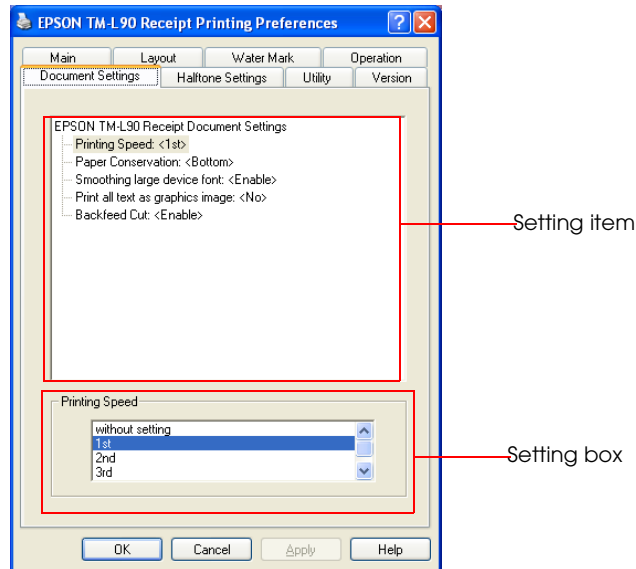
[Paper Cut] The user can customize what type of paper cut to perform.


Item	Value
Manual Cut (manually cut)	Paper cut using Control Font or by the user.
Partial Cut	Paper cut by the autocutter.
Cut	

[Feed to cut position before cut]
 The user can check this box to feed the paper to the paper head before printing. Paper cannot be fed if unchecked.

Document Settings

Allows you to configure the property settings of the document to print. The setting items are displayed in tree format at the top half of the tab. The current configuration is displayed at the right of each item. When a setting item is selected, its setting box is shown at the bottom of the tab.



 **Note:**
 Not all items are supported in all printers.

The setting items are as follows. There may be unavailable settings, depending on the printer.

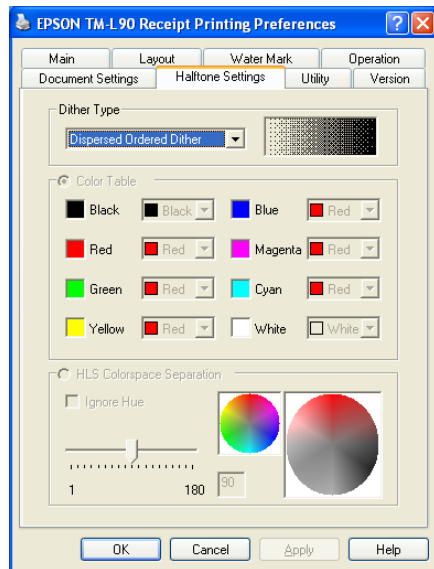
[Printing Speed] If the Printing Speed item is selected on the top half of the Document Settings tab, the Printing Speed setting box will be shown below. When "without setting" is chosen, the Printing Speed isn't set up.

- [Paper Conservation] If the Paper Conservation item is selected on the top half of the Document Settings tab, the Paper Conservation setting box will be shown below.
The following Paper Conservation can be selected: "None", "Top", "Bottom", and "Top & Bottom".
If "None" is selected when you print to a receipt, the printer feeds the paper until the print start position of the next page after printing.
If another option is selected, the printer stops at the end of printing.
The paper conservation function can work with the any rotation.
- [Bi-directional Print] If the Bi-directional Print item is selected on the top half of the Document Settings tab, the Bi-directional Print setting box will be shown below. If the Enable is selected, bidirectional printing will be specified. If the Disable is selected, unidirectional printing will be specified.
- [BOF Sensor] If the BOF Sensor item is selected on the top half of the Document Settings tab, the BOF Sensor setting box will be shown below.
The BOF (Bottom Of Form) Sensor is in slip printers. Selecting "Enable" enables the BOF Sensor, which stops the printing when it detects the BOF. If "Disable" is selected, the BOF Sensor is disabled and it is possible to print up to the bottom limit of the paper.
- [Smoothing large device font] If the Smoothing large device font item is selected on the top half of the Document Settings tab, the Smoothing large device font setting box will be shown below. When printing is in double-size mode, and Enable is selected, the device font will be enlarged smoothly. If Disable is selected, the device font will be only enlarged, but without the smoothing process.
- [Journal Printer Setting] If the Journal Printer Setting item is selected on the top half of the Document Settings tab, the Journal Printer Setting box will be shown below. The user can set the printer to work in receipt, journal, or receipt and journal mode. The Journal Printer Setting item has three options.
- [Print all text as graphics image] If the Print all text as graphics image is selected on the top half of the Document Settings tab, the corresponding setting box will be shown below. If the user checks Yes, all characters of the device font will be printed as graphics image, otherwise, not as graphics image.
- [The Cut Sheet Reverse Eject] If the Cut Sheet Reverse Eject item is selected on the top half of the Document Settings tab, the corresponding setting box will be shown below. This item is only available for printers with the reverse feed function. When Setting is selected, the direction of feeding after printing is specified.

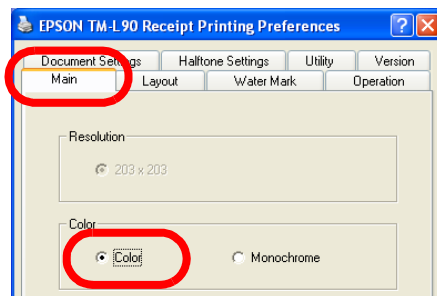
- [Backfeed Cut] If the Backfeed Cut item is selected on the top half of the Document Settings tab, the Backfeed Cut settings box will be shown below. The user can enable this option to eliminate the empty space created by the distance between the printer's paper cutter and printing head. However, if manual cut is selected within Operation tab's Paper cut option, the printer will not backfeed.
- [Paper Source] If the Paper Source item is selected on the top half of the Document Settings tab, the Paper Source settings box will be shown below. The printer driver's available paper source options will be displayed for selection.

Halftone Settings

Allows you to configure the Dither Type and/or color assignment settings for color printing.



Halftone Settings is enabled if "Color" is set to [Color] in the [Printing Preferences] - [Main] tab.



The setting items are as follows.

- [Dither Type] Defines the dithering algorithm. Depending on the dither type selected, the image is displayed with a different pattern of dots. The following 4 options are available.
- Dispersed Ordered Dither
 - Clustered Ordered Dither
 - Error Diffusion
 - Threshold

[Color Table]

Assigns the colors for the 2-Color printing in accordance with the Color Table. The driver uses the following 2 methods to reduce the number of color used for printing color image data in two colors.

- Using the reducing color function provided by the GDI, the user can make the full color reduced to 8 colors.
- 8-Color Printing can be reduced to 3-Color Printing. (the first color, the second color and the white color)

The Color Table includes 8 colors: black, red, green, yellow, blue, magenta, cyan and white. The user can click the right list of the above colors to specify the color that the user prefers. (White is fixed.)

[HLS Colorspace Separation]

This item is 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.

Chapter 4

Restrictions

This chapter describes the restrictions that apply to the APD.

The following restrictions apply to the APD.

1. Restrictions apply if APD Ver.3.xx must be installed on a PC where an older version (APD Ver.2.xx or earlier) is installed. See the "Installation Manual" for more information.
2. Coexistence with OPOS is not possible.
3. The Windows shared printer function is not supported.
4. Commercial print servers/print adapters cannot be used.
5. When connecting Windows NT4.0/2000/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.
6. 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.
7. With printer embedded fonts, attributes such as strikethrough or italics are not reflected on the print even if specified. If you want to use these attributes, use Windows fonts.
8. Printer embedded fonts cannot be used in rotated, condensed or enlarged printing. Use Windows fonts.
9. If a printer embedded font and graphics data (Windows font or ruled line, etc.) are defined on the same line, the print result may be misaligned.
10. Printing takes longer with serial models than with other interfaces. If you want to print faster, other than a serial model is recommended.
11. 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.
12. 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.
13. When using the printer driver for EPSON Terminal Printers (laser printer, ink-jet printer and others) or EPSON printer window together with the APD, installation and uninstallation must be performed in the following order:

[Installation]

- (1) EPSON Terminal Printer driver
- (2) TM printer driver

[Uninstallation]

- (1) TM printer driver
- (2) EPSON Terminal Printer driver

Furthermore, after installation pay attention to the following:

- When performing an overwrite installation of the EPSON Terminal Printer driver, uninstall the TM printer driver first.
14. The paper size displayed in the printer driver Properties - [General] tab may differ from what is stated in the "Printer Driver Specifications." In such cases, select the paper size stated in the user's manual.
 15. With Windows 2000/XP, printing of codes 80H, 8EH, or 9EH from an application when printer embedded Font A or B, or blank page Font A or B (254 or 255) is specified may not operate correctly.
 16. 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, and TM-J2000/2100
 17. Align center or left using Control Font cannot be used with graphics printing.
 18. [Separator Page] in the printer driver Properties - [Advanced] tab is not available.
 19. With TM-U210/U220 drivers, it is not possible to print embedded fonts of different colors to the same line.
 20. If printer embedded fonts of different heights are printed to the same line, the print line may become out of position. In such cases, use TrueType fonts instead.
 21. With Windows 2000/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 StrtchBlit()/BitBlit().
 - When transferring bit information from display device context to the printer device context using StretchBlit(), the GDI function returns "Failure" and prevents the driver from printing.
 22. 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 2000/XP, set [Enable advanced printing features] to OFF) although some restrictions apply. See the previous paragraph for the restrictions.
 23. When printing printer embedded fonts with Microsoft Word, convert the application to "Microsoft Word 6.0/95" by selecting [Tools] menu - [Options] - [Compatibility] tab or check the "Use printer metrics to lay out document" option on the same tab.
 24. When printing with Microsoft ACCESS, the text in the print result may be misaligned or align left may not be possible.

25. With some applications, there may be multiple printer embedded font sizes displayed but printed with a fixed size regardless of the selected font size.
26. 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 printer embedded font)
27. Underlines cannot be printed correctly with printer embedded fonts. Underlines may be printed overlapped on the text or far from the intended text.
28. Configuration of the printer properties requires administrator privileges.
29. Operation in a Windows XP multi-user environment is not guaranteed.
30. Operation in Terminal Service environment is not supported.
31. APD cannot print to a shared printer or use Status API on a shared printer. Furthermore, you cannot use other drivers for printing to a printer used by APD.
32. 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.
33. The color format is fixed to 24 BPP. So check that dmColor setting for Devmode is set to "Color" on the application side.

Chapter 5

Troubleshooting

In this chapter, major problems are presented grouped by behavior. For details on each problem, check the reference. Also see the troubleshooting chapter of the "Installation Manual."

No.	Trouble	Cause and action	Reference
1	Printer embedded font cannot be selected from WordPad or other application	(Print all text as graphics image) is set to "Yes": Printer embedded fonts cannot be used in rotated printing, condensed printing, Water Mark printing, etc. because the print data is handled as image data. Set "No" for (Print all text as graphics image) on (Printing Preferences) - (Document Settings). If you cannot set to "No," set to "No" after canceling the rotated, condensed, or Water Mark printing settings.	Page 2-18 Page 2-21 Page 2-34
2		Destination printer is not specified in the application: Specify the printer correctly.	Page 2-1
3		The orientation is set to Landscape in the application: If the orientation is "Landscape," (Print all text as graphics image) becomes "Yes." Set "Normal" for the orientation in (Printing Preferences) - (Layout) then set "No" for (Print all text as graphics image) on (Document Settings).	Page 2-1
4	The printer embedded font is not printed correctly	The font size in points or language is not consistent with the specified printer embedded font: The printer embedded font must be specified with a specific font size (in points) and language. Specify in accordance with each font. ----- Printer.Font.Size = 10 ' Specified Size Printer.Font.Charset = 0 -----	Page 2-4
5		The printer or printer driver does not support printer embedded fonts: The TM-C100 does not support printer embedded fonts. The EPSON TM-xx Reduce35/Reverse printer drivers cannot print printer embedded fonts.	-
6	Barcode Font cannot be selected from WordPad or other application	(Print all text as graphics image) is set to "Yes": Printer embedded fonts cannot be used in rotated printing, condensed printing, Water Mark printing, etc. because the print data is handled as image data. Set "No" for (Print all text as graphics image) on (Printing Preferences) - (Document Settings). If you cannot set to "No," set to "No" after canceling the rotated, condensed, or Water Mark printing settings.	Page 2-18 Page 2-21 Page 2-34
7		Destination printer is not specified in the application: Specify the printer correctly.	Page 2-1
8		The orientation is set to Landscape in the application: If the orientation is "Landscape," (Print all text as graphics image) becomes "Yes." Set "Normal" for the orientation in (Printing Preferences) - (Layout) then set "No" for (Print all text as graphics image) on (Document Settings).	Page 2-1

No.	Trouble	Cause and action	Reference
9	A Barcode is not printed correctly.	The font size in points or language is not consistent with the specified Barcode Font: The Barcode Font must be specified with a specific font size in points depending on the Element height. Language setting is also required. Specify in accordance with each font.	Page 2-7
10		The Barcode Font is specified incorrectly: Specify the Barcode Font correctly. Check that the specified Barcode Font is not an other company's font.	Page 2-7
11		The Barcode Font Element width setting is incorrect: Print may not be possible if the Barcode Font Element is too wide.	Page 2-7
12		When printing Code128, the code set selection character is not specified at the beginning of the text: Specify a code set selection character (either "{A", ""{B, "or "{C}") at the beginning of the text. For example, specify "{B1234" for printing "1234."	Page 2-10
13		In a TM printer where print speed is configurable, the printing speed is set to high speed: Set (Printing Speed) in (Printing Preferences) - (Document Settings) to the slowest speed (set to "4th" when "1st" to "4th" are the available speeds).	Page 2-7
14		In a TM printer where the printing speed is not configurable, printing is not possible when combined with rotated/condensed/enlarged printing: Do not print combined with rotated/condensed/enlarged printing.	Page 2-10
15	The number of characters specified in the text exceeds the Barcode specification: If the number of characters specified in the text does not comply with the Barcode specifications, printing may not be possible. The number of characters that can be specified is different depending on the Barcode type. Check the Barcode specifications and the number of characters in the text.	Page 2-7	
16	HRI characters are not printed with a Barcode	HRI Font on the (Barcode) tab is unchecked: Check HRI Font on the (Barcode) tab.	Page 3-10
17	A Barcode cannot be read	The barcode reader cannot read the Barcode: Check whether the barcode reader can read other Barcodes.	-
18		The Barcode cannot be read because the sheet is dirty or colored: Print on a white, clean sheet of paper.	-
19		The Barcode is blurred: Print again. If the Barcode continues to be blurred, check the TM printer for problems.	-
20		The Water Mark and Barcode are printed overlapped: Arrange the Water Mark and Barcode so that they do not overlap or decrease the Water Mark brightness.	Page 3-22

No.	Trouble	Cause and action	Reference
21	2D-Code Font is missing	Not supported in all printer models: Check the "Printer Driver Specifications."	-
22		(Print all text as graphics image) is set to "Yes": Printer embedded fonts cannot be used in rotated printing, condensed printing, Water Mark printing, etc. because the print data is handled as image data. Set "No" for (Print all text as graphics image) on (Printing Preferences) - (Document Settings). If you cannot set to "No," set to "No" after canceling the rotated, condensed, or Water Mark printing settings.	Page 2-18 Page 2-21 Page 2-34
23		Destination printer is not specified in the application: Specify the printer correctly.	Page 2-1
24		The orientation is set to Landscape in the application: If the orientation is "Landscape," (Print all text as graphics image) becomes "Yes." Set "Normal" for the orientation in (Printing Preferences) - (Layout) then set "No" for (Print all text as graphics image) on (Document Settings).	Page 2-1
25	The 2D-Code is not printed correctly	When specifying the 2D-Code Font, the specified font size in points or language is inconsistent with the specified 2D-Code Font: Specify the font size in points and language in accordance with the 2D-Code Font.	Page 2-11
26	Control Font cannot be selected from WordPad or other application	(Print all text as graphics image) is set to "Yes": Printer embedded fonts cannot be used in rotated printing, condensed printing, Water Mark printing, etc. because the print data is handled as image data. Set "No" for (Print all text as graphics image) on (Printing Preferences) - (Document Settings). If you cannot set to "No," set to "No" after canceling the rotated, condensed, or Water Mark printing settings.	Page 2-18 Page 2-21 Page 2-34
27		Destination printer is not specified in the application: Specify the printer correctly.	Page 2-1
28		The orientation is set to Landscape in the application: If the orientation is "Landscape," (Print all text as graphics image) becomes "Yes." Set "Normal" for the orientation in (Printing Preferences) - (Layout) then set "No" for (Print all text as graphics image) on (Document Settings).	Page 2-1
29	Control using Control Font is not possible	When specifying the Control Font, the specified font size in points or language is inconsistent with the specified Control Font: Specify the font size in points and language in accordance with the Control Font.	Page 2-30
30	controlA Font cannot be selected from WordPad or other application	(Print all text as graphics image) is set to "Yes": Printer embedded fonts cannot be used in rotated printing, condensed printing, Water Mark printing, etc. because the print data is handled as image data. Set "No" for (Print all text as graphics image) on (Printing Preferences) - (Document Settings). If you cannot set to "No," set to "No" after canceling the rotated, condensed, or Water Mark printing settings.	Page 2-18 Page 2-21 Page 2-34
31		Destination printer is not specified in the application: Specify the printer correctly.	Page 2-1
32		The orientation is set to Landscape in the application: If the orientation is "Landscape," (Print all text as graphics image) becomes "Yes." Set "Normal" for the orientation in (Printing Preferences) - (Layout) then set "No" for (Print all text as graphics image) on (Document Settings).	Page 2-1

No.	Trouble	Cause and action	Reference
33	Control using controlA Font is not possible	When specifying the controlA Font, the specified font size in points or language is inconsistent with the specified controlA Font: Specify the font size in points and language in accordance with the controlA Font.	Page 2-47
34		The ESC/POS command is not correctly defined to the controlA Font: Define the ESC/POS command correctly.	Page 2-47
35	2-Color printing is not working	The TM printer environment is not supporting 2-Color printing: - With thermal printers A dedicated roll paper is required. - With dot matrix printers A dedicated ink ribbon is required. - With inkjet printers A dedicated ink is required.	-
36		The printer driver color settings are not configured correctly: Check the printer driver settings.	Page 3-20 Page 3-27
37	Printer embedded font is not printed during rotated printing	Printer embedded font cannot be used with rotated printing: In rotated printing, printer embedded fonts cannot be used because characters are also processed as graphics image data. Use TrueType fonts.	Page 2-18
38	Printer embedded font is not printed during condensed printing	Printer embedded font cannot be used with condensed printing: In condensed printing, printer embedded fonts cannot be used because characters are also processed as graphics image data. Use TrueType fonts.	Page 2-18
39	Printer embedded font is not printed during Water Mark printing	Printer embedded font cannot be used with Water Mark printing: In Water Mark printing, printer embedded fonts cannot be used because characters are also processed as graphics image data. Use TrueType fonts.	Page 2-21
40	Water Mark is not printed	Water Mark is not configured in the Printing Preferences: Configure the Water Mark settings.	Page 2-21
41		The Water Mark brightness is set to "Light": Adjust the Water Mark brightness setting.	Page 2-21
42	Graphics (such as logo) registered in the NV Memory are not printed	Data is not registered in the NV Memory: Register using the TM Flash LOGO Setup Utility.	Page 2-25
43		For a TM printer that prints NV graphics, the specified Keycode is wrong: Check using the TM Flash LOGO Setup Utility.	Page 2-25
44		The Control Font is specified incorrectly: Check the program.	-

No.	Trouble	Cause and action	Reference
45	When selecting Control Font with Microsoft Visual Basic 4.0, it does not work correctly	<p>With Visual Basic 4.0, font may need to be specified twice for it to be output correctly. In such cases, specify a dummy font first then the name and size of the intended font.</p> <p>-----</p> <pre>Printer.Font.Charset = 0 Printer.Font.Name = "Times New Roman" Printer.Font.Size = 10 ' Arbitrary font size Printer.Print " " ' 1 character of single-byte space Printer.CurrentX = 0 Printer.CurrentY = 0 Printer.Font.Charset = 0 Printer.Font.Name = "Control" ' Name of the originally intended font Printer.Font.Size = 10</pre> <p>-----</p>	-
46	When using Control Font with Visual Studio .Net, the intended operation (cut, for example) is not executed. Instead, characters such as "P" are printed.	<p>Visual Studio .Net (VB/C#, etc) does not support raster fonts. For this reason, printer embedded fonts and Control Fonts cannot be used from APD. However, use of device fonts (printer fonts) such as Control Font becomes possible by using the below indicated GDI functions (gdi32.dll) in Visual Studio .Net (VB/C#, etc.). For details on the usage of GDI functions (gdi32.dll) in Visual Studio .Net (VB/C#, etc.), see the development language help.</p> <p>(Main usable GDI functions)</p> <pre>GetDeviceCaps CreateFont SelectObject DeleteObject TextOut</pre>	-
47	When a large amount of print data is transmitted at once, "garbled characters" or print data loss occurs at regular intervals. Printing works correctly when the amount of print data is small or printed spaced out in time	<p>The bi-directional communication and/or flow control (handshaking) settings between the computer and TM printer are inconsistent: Serial connection: Configure handshaking on the TM printer side with such values that they match those of the flow control on the computer side (driver Properties screen). However, if the handshaking value on the TM printer side is "DTR/DSR," set flow control on the computer side (driver Properties screen) to "Hardware."</p>	-
48	The paper is cut out of position	This occurs when the actually used paper type (receipt, label, etc.) is not consistent with the printer driver specified for the destination. Adjust the size for the paper type and/or the printer driver settings to make them match.	-
49		"g" (no feed, cut) is printed using Control Font at the end of the print data. Specify "P" (feed, cut).	-
50	Connected a customer display to a USB model TM printer and turned on the TM printer power again but nothing is displayed on the customer display	Power on order is incorrect. When turning on the power, turn on the customer display first and then the TM printer.	-
51	Printing is not possible with Ethernet/Wireless LAN model	The printer network settings are incorrect: Contact your network administrator.	-

If your problem is not listed or you have any question, contact your dealer.

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