ST-EP4 Windows Printer Driver

Printer Manual

Overview

Descriptions of the Printer Driver features.

Using the Printer Driver

Descriptions of simple printings and useful functions.

Reference

Descriptions of property settings of the printer driver.

Generating Log Files

Describes the log function.

Restrictions

Descriptions of restrictions on use of the Printer Driver.

Printer Specification

Descriptions of the specifications of the ST-EP4.

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Key to Symbols

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About this Manual

Aim of the Manual

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

Manual Content

The manual is made up of the following sections:

Contents

Reference 29

Generating Log Files 63

Restrictions 67

Printer Specification 69

Overview

Introduction

The ST-EP4 Windows Printer Driver is a printer driver for the printers.

Manual organization

Install Manual

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

Printer Manual

This manual. Descriptions of how to use the Printer Driver and its functions.
Descriptions of the specifications of ST-EP4.

Features

Easy

- Allows you to print from commercially available applications, since the ST-EP4 Windows Printer Driver is a Windows driver.
- Allows you to print a Barcode with the fonts built in the Printer Driver. ("Printing a Barcode" on page 15)
- Allow you to print logos. ("Printing a Logo" on page 20)
- Allows you to send the paper cut command to the printer. ("Paper Feed and Paper Cut" on page 23)
- Allows you to send the open command to the cash drawer. ("Drawer Control" on page 25)

Fast

- Achieves high speed printing using the Device fonts of the printer. ("Character Printing (Device Font)" on page 13)
- Allows you to print an image such as a store logo faster by registering the image in the printer. ("Printing a Logo" on page 20)

Convenience

- By rotated printing, you can print on paper with a long width such as coupons. When using the printer oriented vertically (wall mount), it can print backward to make it easy to read for customers. ("Rotated Printing" on page 18)
- Allows you to print A4 size document automatically scaled down to fit the paper width.
- With the device fonts (FontA/B), all the code pages stored in your printer can be printed.

Installation

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

Printing Example

THE STORE

T S

HIGH-SPEED, HIGH PERFORMANCE
HYBRID PRINTER

11/09/09 12:00 STORE#0001 EGISTER#002
----
001 APPLE X5   @20   100
002 OPANGE X3   @10   30
003 LETTUCE   @12   12
004 TOMATO   @10   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.THE.STORE.COM/

0123456789012

Printing a Logo

Character Printing (Device Font)

Printing a Barcode

Paper Feed and Paper Cut

1

Differences Depending on the OS

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

Item	Description
Screens shown	Screens in Windows Vista are used for the descriptions in this manual.
Setting a printer driver	Windows 7 (Start) - (Control Panel) - (Hardware and Sound) - (Devices and Printers) Right click the printer driver, and select the (Printer properties). Windows Vista (Start) - (Control Panel) - (Hardware and Sound) - (Printer) Right click the printer driver, and select the (Properties). Windows XP (Start) - (Control Panel) - (Printers and Faxes) Right click the printer driver, and select the (Properties).

Using the Printer Driver

This chapter explains how to use the functions contained in the ST-EP4 Windows Printer Driver. Screens in Windows Vista are used for the descriptions in this chapter.

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

Application Printer Settings

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

| 1. Printer driver specification |
Select [File] - [Print...] to display the print dialog box. Select the printer driver you are to use. Press the [Apply] button, then press the [Cancel]. Return to WordPad screen.

| 2. Page Setup |
Select [File] - [Page Setup] to display the Page Setup dialog box.
Select the paper you are to use. At this point the Page Setup illustration changes to roll paper. Set the margins, and then press the [OK] button.
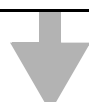
| 3. Exit Settings |
The paper width selected with Page Setup is applied to WordPad.

(1)
(2)
(3)

Image of the page

Roll paper width

Character Printing (TrueType fonts)

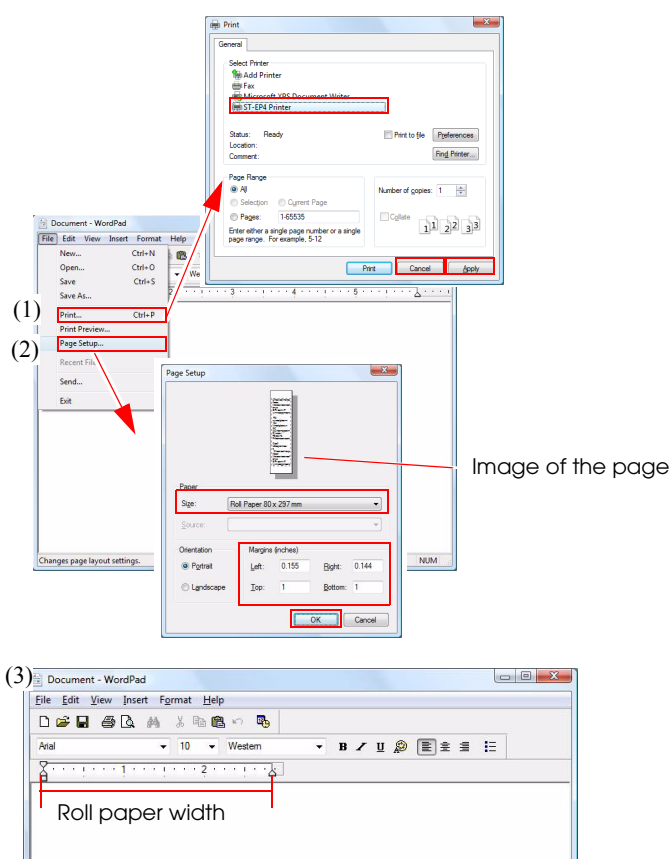Printing is performed with the TrueType fonts (Arial, Times New Roman, etc.) available with Windows. You can apply italic and other character modifications, and freely change the font size. You can also print almost exactly what you see on screen.

> ⚠️ When printing with a TrueType font, the data volume sent to the printer increases since the print image is expanded by the computer before sending to the printer. Due to this, when connected using the serial port, printing time is longer compared with other interfaces.

Specify TrueType font, Point and Style for print data.
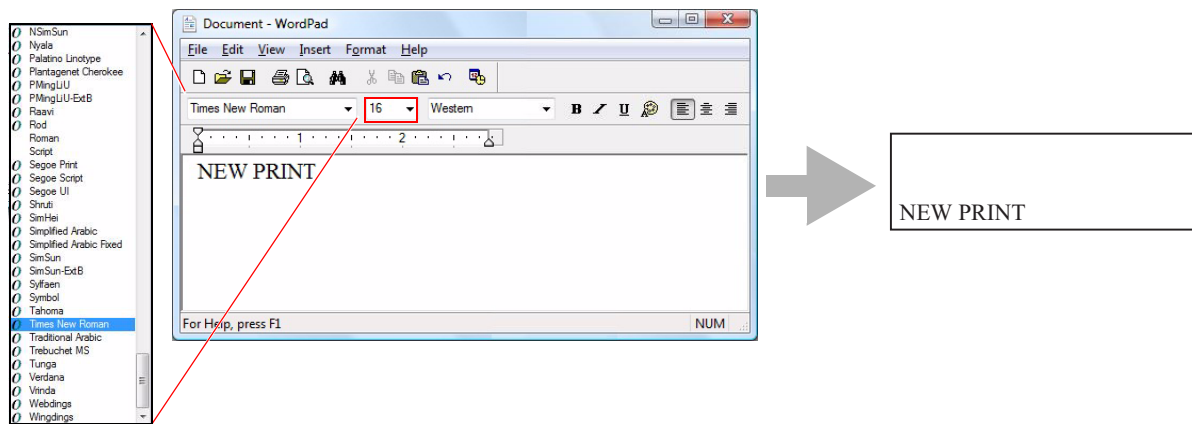
Character Printing (Device Font)

Device Font is the font set built into the printer.
You can obtain text quality in line with the performance of the printer.
You can print text at a higher speed than TrueType font.

Setting Device Font

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

Device Font Type

The xx after the font name specifies two digits, expressing the character size.
Also see the manual regarding the number of dots for each font. See "Printer Specification" on page 69 for details.

- FontAxx
- FontBxx

Device Font Size

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

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

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

When printing FontA11
with ST-EP4, specify 9.5 pt.
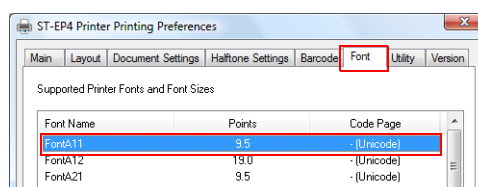
Printing Method

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

⚠️
- Not reflected in characters even when you specify bold/italic. The underline is printed but the position is offset.
- Printing is not possible when Device Font and Barcode Font are arranged in one line.
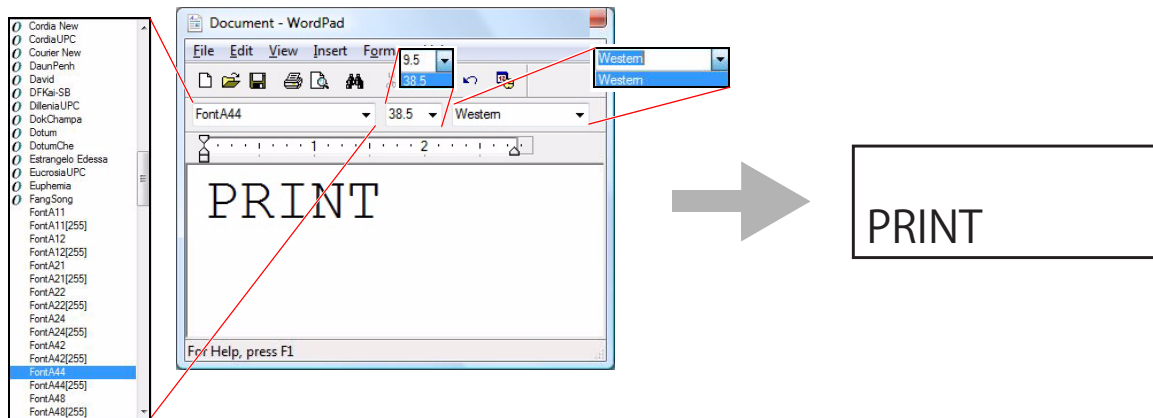
✏️ The character design and size displayed on the application screen are a little different from actual printing results.

Program

The following is an example program for reference.

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

Standard	FontA11
Double height	FontA12
Double width	FontA21
Double height / width	FontA22

✏️ Check the Point Size of the font displayed on the [Font] tab of the printer driver.

Printing a Barcode

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

> When used in combination with Rotation, set a slow Printing Speed with the [Document Settings] tab. When the print speed is too fast, the barcode may not be read.

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

Barcode font setting

Select the Barcode tab from Printing Preferences.

Make the following settings. See for details.

Setting	Description
Font Name	You can set Barcode font for up to 8 barcode types (Barcodes 1 ~ 8). When printing through an application, specify the font name or the alias name.
Points	The barcode font size is displayed. When pri nti ng through an application, specify this value.

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

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

Printing Method

Specify Barcode Font, specified Point (check with [Barcode] tab) and language in print data.
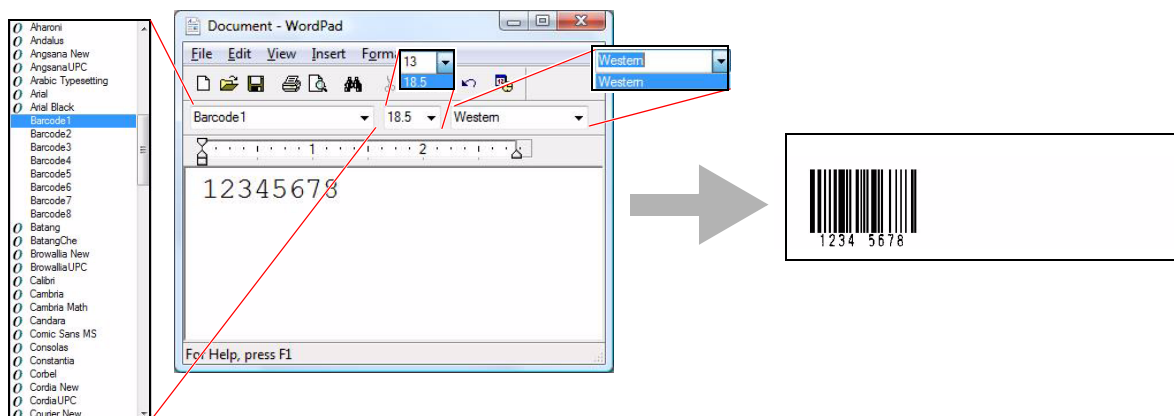
> Barcode Font Points determined. Check with Printing Preferences - [Barcode]. When specifying a value other than this, the Barcode is not printed.

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

Program

The following is an example program for reference.

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

Rotated Printing

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

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

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

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

Printing direction and margin conservation have the following relations.
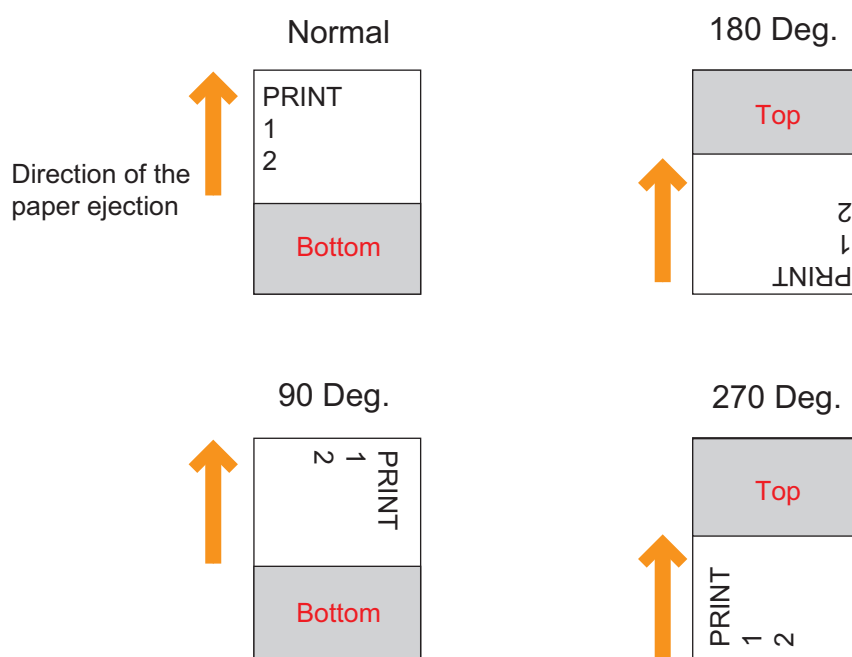
See "Paper Conservation" on page 48 for margin setting.

Rotate Printing Settings

Select the Layout tab from Printing Preferences.

Layout tab
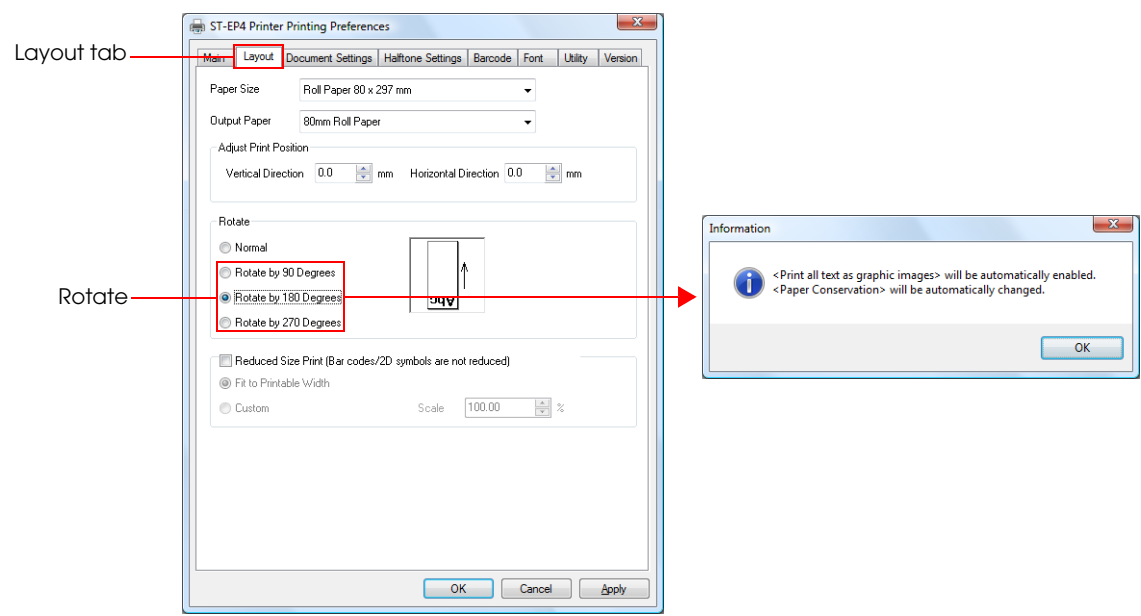
Rotate

Make the following settings. See "Layout" on page 44 for details.

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

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

Printing a Logo

Use the following method to print graphics.

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

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

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

Bitmap registration

Register the bitmap data in the ST-EP4 NV (Non Volatile) memory with the ST-EP4 Utility. This memory retains its data even when the printer is switched off.

For more details, see "ST-EP4 Utility User's Manual ."

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

Logo printing

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

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

Setting by printer driver for printing

Select the Document Settings tab from Printing Preferences.

Document Settings tab

Logo Printing (printing area)

Select logo registered in printer

Specify the registered
NV graphic number's Key code.
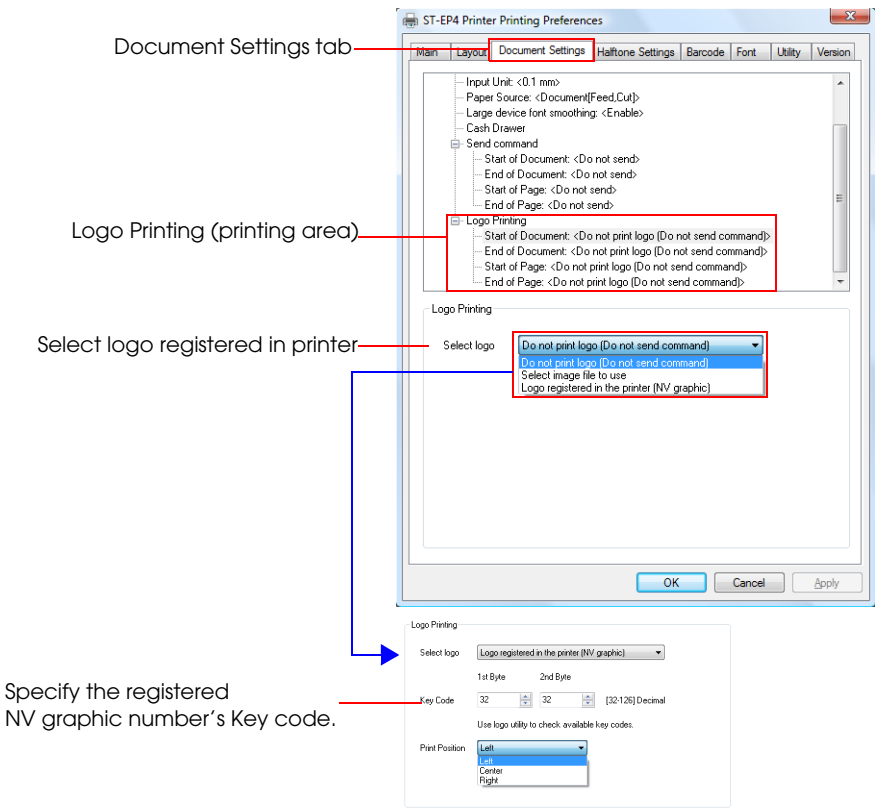
Make the following settings. See "Logo Printing" on page 57 for details.

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

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

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

Specify Control Font to print

Logo data is printed using Control Font.
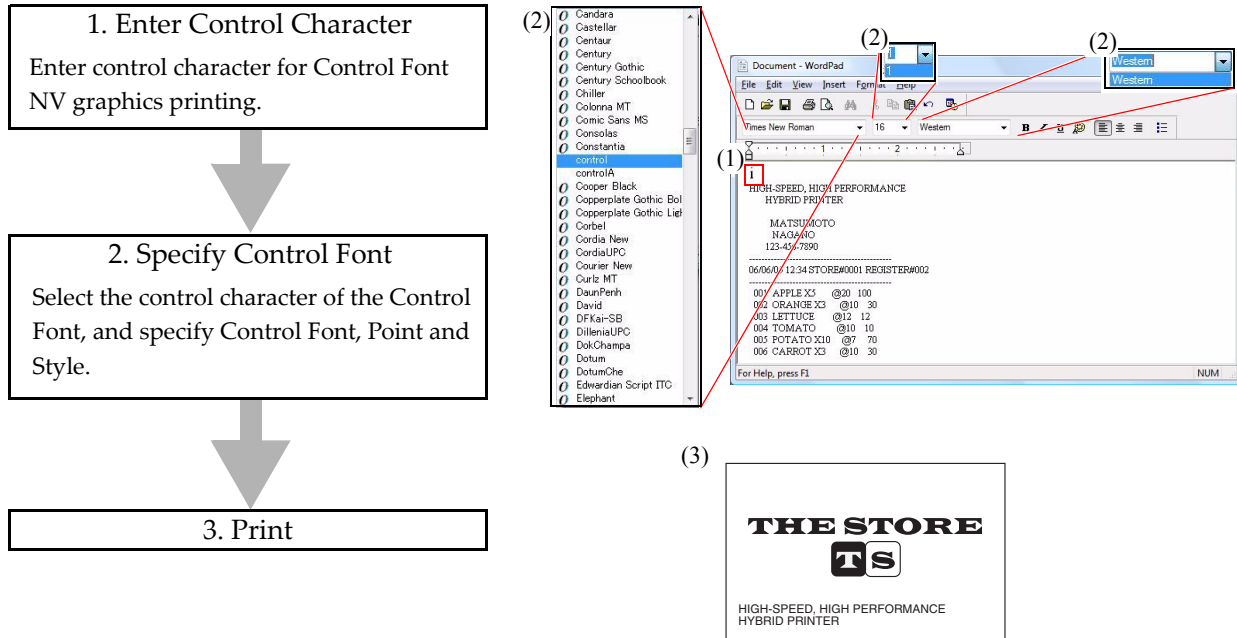
1. Enter Control Character
Enter control character for Control Font NV graphics printing.

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

3. Print

(2)

(2)

(2)

(1)

HIGH-SPEED, HIGH PERFORMANCE
HYBRID PRINTER

MATSUMOTO
NAGANO
123-456-7890

06/06/0 12:34 STORE#0001 REGISTER#002
----
001 APPLE X5   @20 100
002 ORANGE X3   @10   30
003 LETTUCE   @12   12
004 TOMATO   @10   10
005 POTATO X10   @7   70
006 CARROT X3   @10   30

(3)

THE STORE
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HIGH-SPEED, HIGH PERFORMANCE
HYBRID PRINTER

Program

The following is an example program for reference.

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

Paper Feed and Paper Cut

There are two methods for controlling the paper cut.

- Configure the Printer Driver 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.

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

Setting paper cut with the printer driver

Select the Document Settings tab from Printing Preferences.
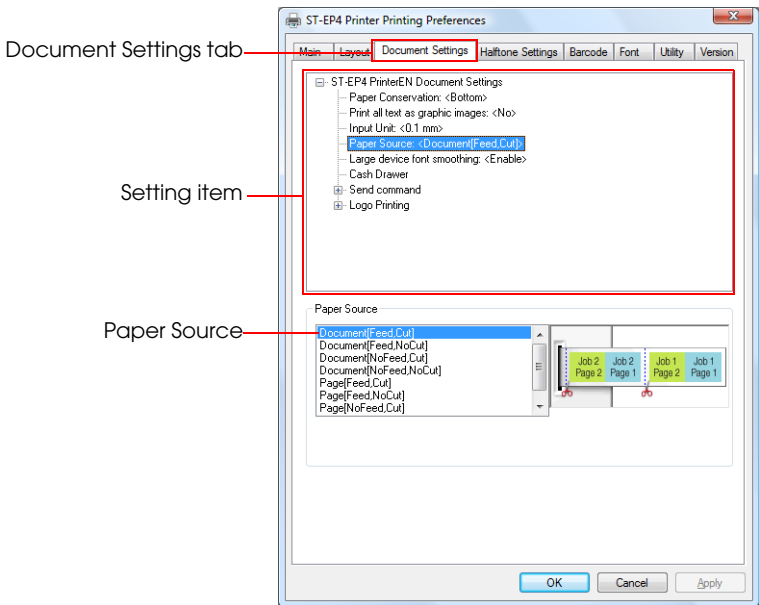
Make the following settings. See "Paper Source" on page 51 for details.

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

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

2

Specifying Control Font and performing paper cut in programming.

The following is an example program for reference.

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

Drawer Control

The methods for controlling the drawer are as follows.

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

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

> ✏️ For closing the drawer, push manually.

Opening Drawer with printer driver setting

Select the Document Settings tab from Printing Preferences.
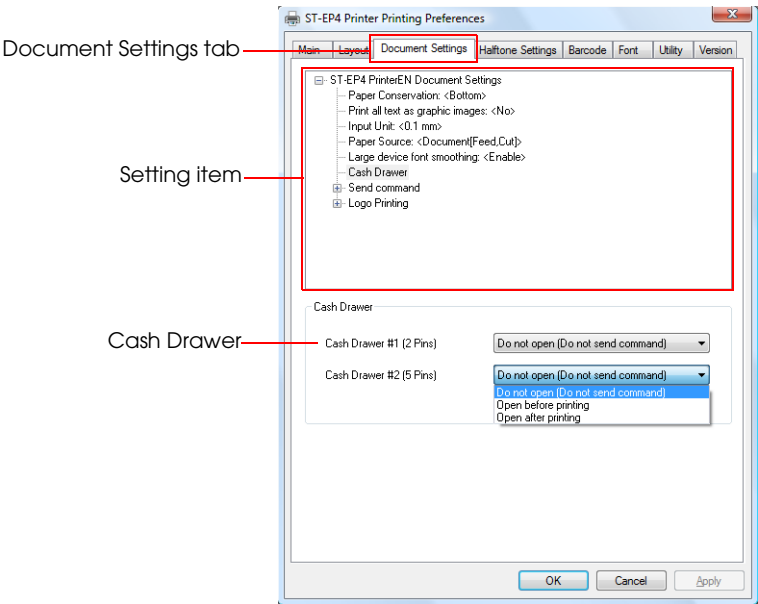
Make the following settings. See "Cash drawer" on page 55 for details.

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

Opening Drawer by Control Font

Use the Open drawer Control Font to open Drawer.

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

1. Enter Control Character

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

2. Specify Control Font

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

3. Print

Drawer opens.
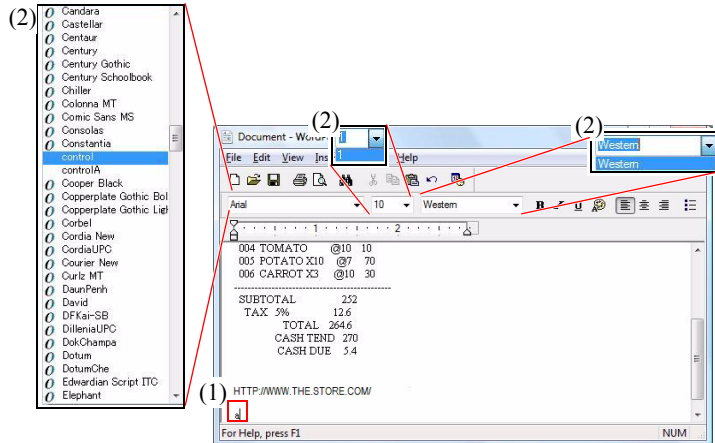
Program

The following is an example program for reference.

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

How to Use ControlA Font

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

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

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

Setting ControlA Font

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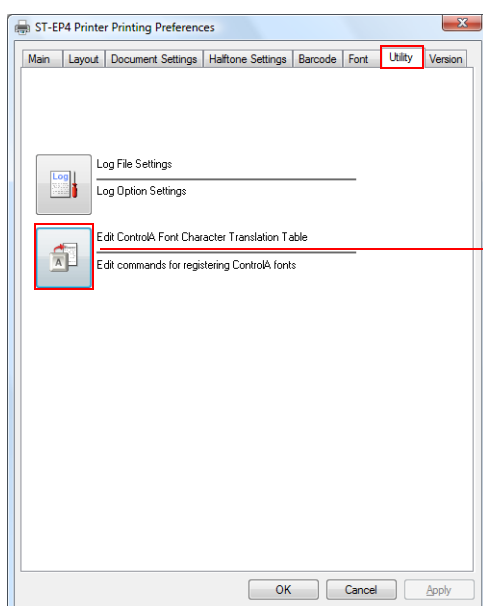
Edit controlA font Character Translation Table

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

1. Record selection

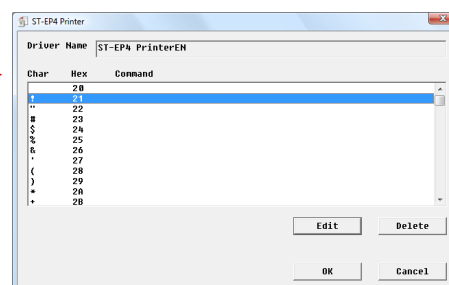| 2. Open |
| --- |
| Press the [Edit] button to open ControlA Editor. |

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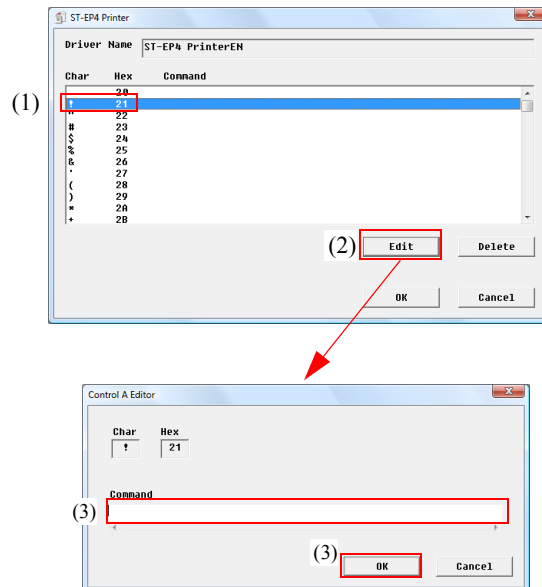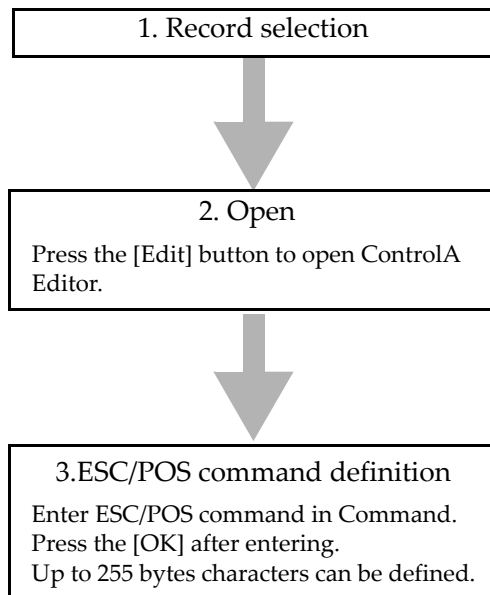
Using ControlA Font

Use the defined ControlA Font.

1. Enter Control Character
Enter control character for ControlA Font.

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

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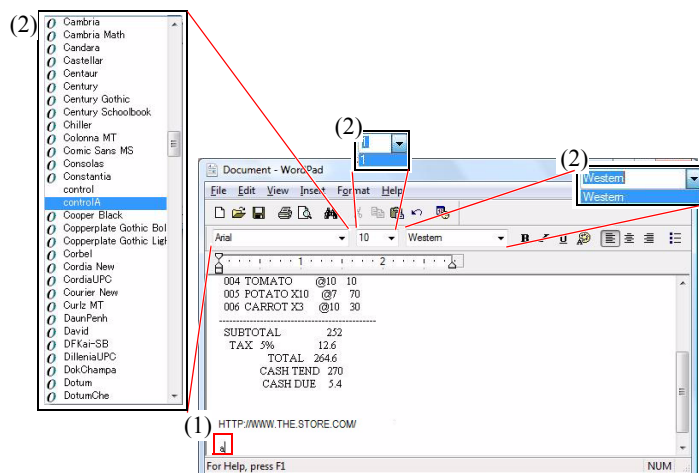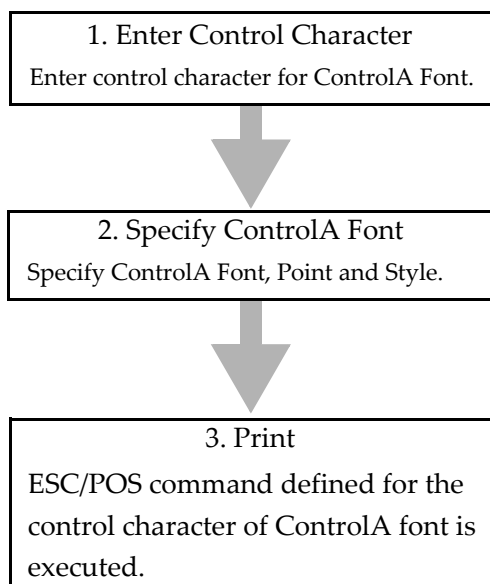
Reference

This chapter describes the ST-EP4 Windows Printer Driver settings.

Screens in Windows 7 are used for the descriptions in this chapter.

⚠️　Administrator permission is required for property settings of the printer driver.

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

Properties   Printing Preferences

3
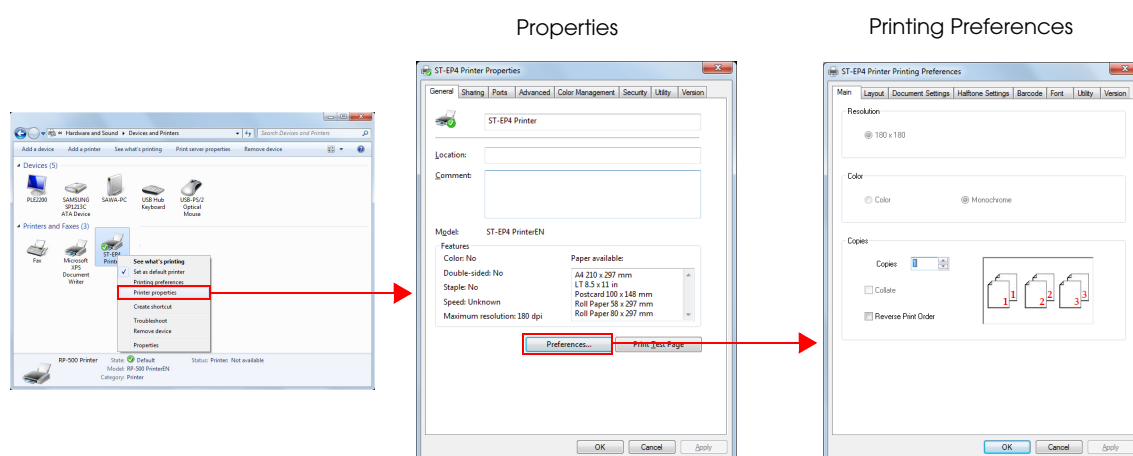
Properties

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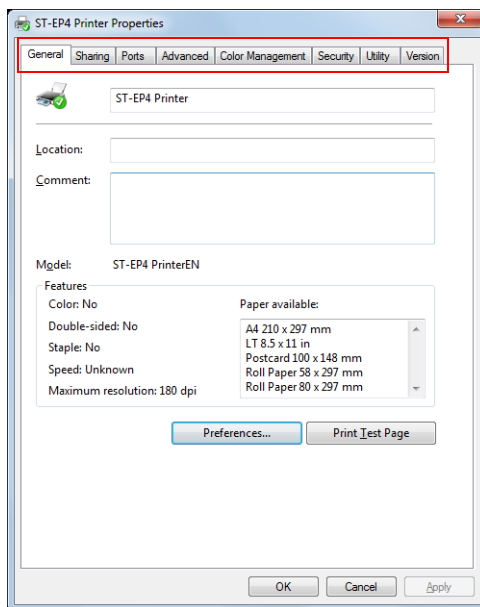
Tab	Description
General	Configures printer name and printing preference, or makes a test print.
Sharing	Configures settings for sharing the printer.
Ports	Configures ports settings.
Advanced	Configures detailed settings for printing.
Color Management	Configures color management settings.
Security	Configures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

General

Allows you to check/change the printer name, check the print settings, and make a test print (Print Test Page).
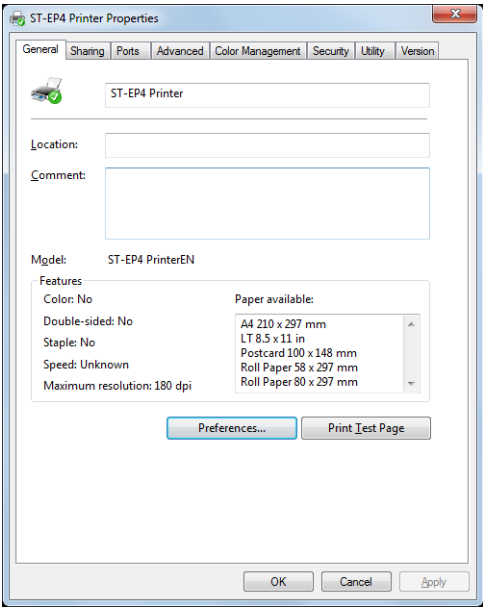
Setting	Description
Printer Name	Displays the printer driver name.
Location	Accepts the printer location to be input.
Comment	Accepts comments about the printer driver to be input.
Model	Displays the driver name of the printer.
Features	Displays functions and papers available with the printer.
Printing Preferences...	Displays the Printing Preferences screen.
Print Test Page	Prints the Windows test page.

Sharing

Allows you to configure the settings for sharing the printer.

⚠	Printer sharing through a print server is not supported.

✎	In Windows 7 / VIsta, elevation of UAC is required.
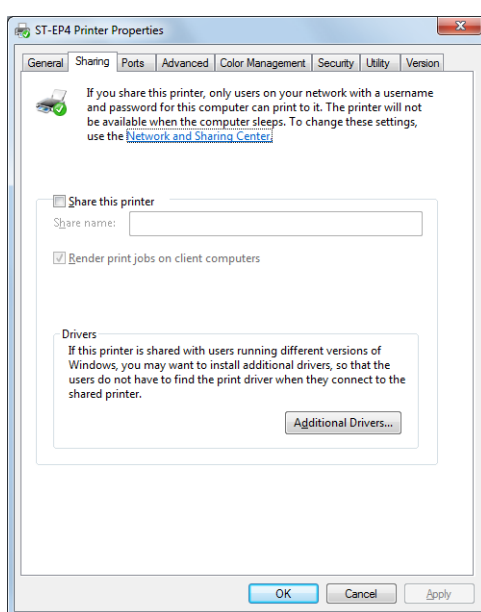
Setting	Description
Change sharing options	Check this box when a printer is to be shared.
Share this printer	When this box is checked, network users can access a printer connected to this computer.
Share name	Specifies the name of a shared printer.

Ports

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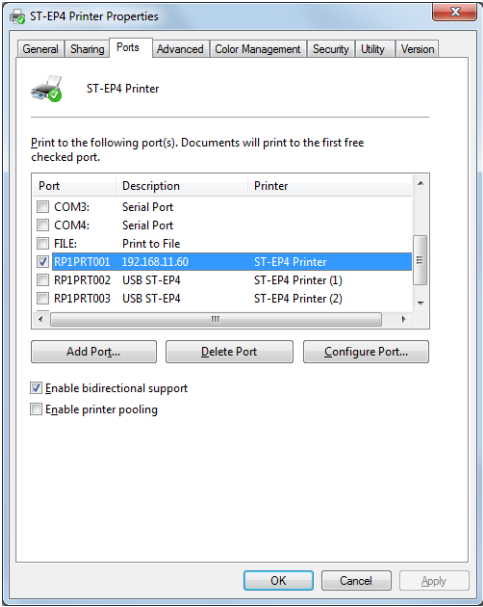
Setting	Description
Add Port...	Creates a new Port.
Delete Port	Deletes an Port.
Configure Port...	Configures an Port.
Enable bidirectional support	Do not uncheck. The Printer Driver will become unusable.
Enable printer pooling	Enables printing to two or more identical print devices through one logical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

⚠ Select the Port Driver (RP1PRTxxx) to be used for printing. Do not use COM or USB, or any other ports. The Printer Driver works only with the Port Driver.

Advanced

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

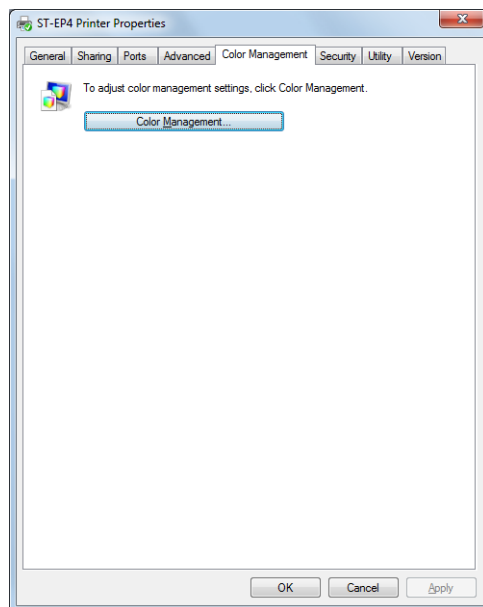| Setting	Description
Always available	Makes the printer always available.
Available from	Configures the printer for limited availability. If you send a document to a printer when it is unavailable, the document will be held (spooled) until the printer is available.
Priority	Indicates the current priority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

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

3

Color Management

Allows you to set color displayed on the screen.

Setting	Description
Color Management	Set the color management.

Security

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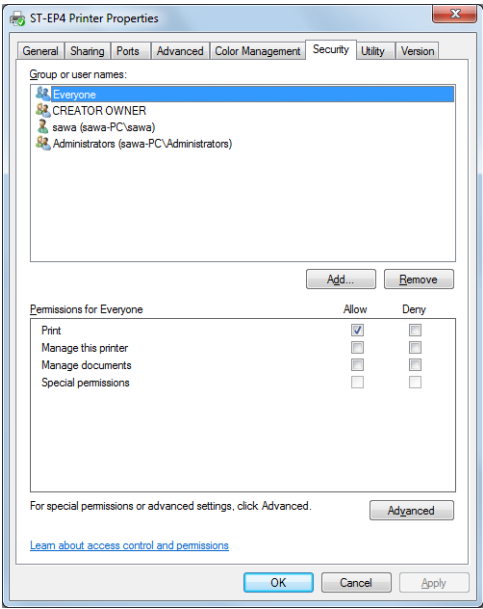
Setting	Description
Group or user names	Lists the users and groups with assigned permissions for this object. The permissions for the highlighted group or user appear in the list box below.
Add	If you want to add permissions for users or groups, click their names.
Remove	Removes highlighted permission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

Utility

Allows you to use Log File Settings, Edit CotrolA Font Character Translation Table, and other utilities.
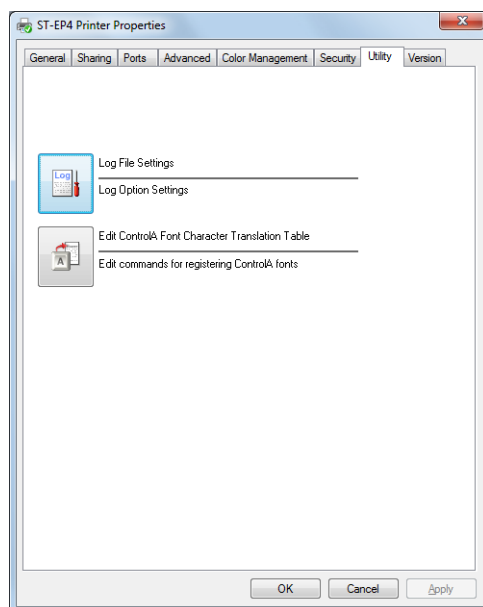
Setting	Description
Log File Settings	Opens the Log File Setting screen.
Edit ControlA Font Character Translation Table	Opens the controlA font setting screen.

Log File Setting

Allows you to create a log file which can help you to troubleshoot a problem quickly.

Setting		Description
Logging	Enable (Default)	Enables log output.
	Disable	Disables log output.
Log File Directory	Specify where to output the log file. (Default) C:\Thermal Printer\log\DeviceControlLog	
Log Size Limit (MB)	Specify the upper limit of the log file size. (Range: 10 to 1024, Default: 40) When the upper limit is exceeded, the log file is compressed in zip format. The subsequent log information is saved as a new log file. The file compression date is used as the zip file name. (example: 201109011130.zip)	

3

Edit controlA font character translation table

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

> • Up to 255 bytes characters can be assigned.
> • ESC/POS commands are not open to the public. Ask your sales representative for more information.
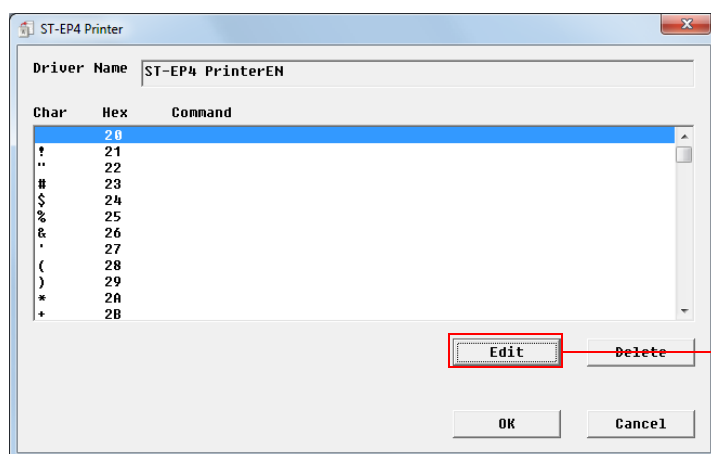
Control A Editor screen
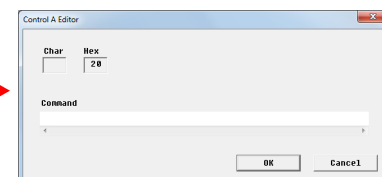
Setting	Description
Driver Name	Displays the printer driver name for which the controlA Font will be configured.
Char	Displays the selected ASCII code as characters.
Hex	Displays the selected ASCII code as hexadecimals.
Command	Displays the ESC/POS command corresponding to the ASCII code. It is displayed in hexadecimal.
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 controlA Font.
Cancel	Closes controlA Font without reflecting the changes.

controlA Editor screen

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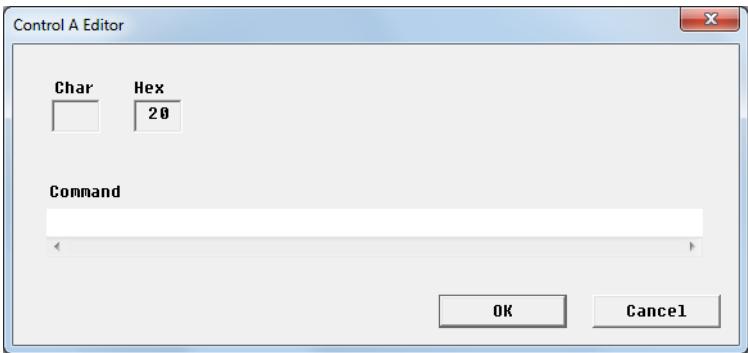
Setting	Description
Char	Displays the selected ASCII code as characters. The content cannot be changed.
Hex	Displays the selected ASCII code as hexadecimals. The content cannot be changed.
Command	Enter the ESC/POS command that will correspond to the ASCII code. Enter using hexadecimal.

Version

Displays the printer driver version information.

3
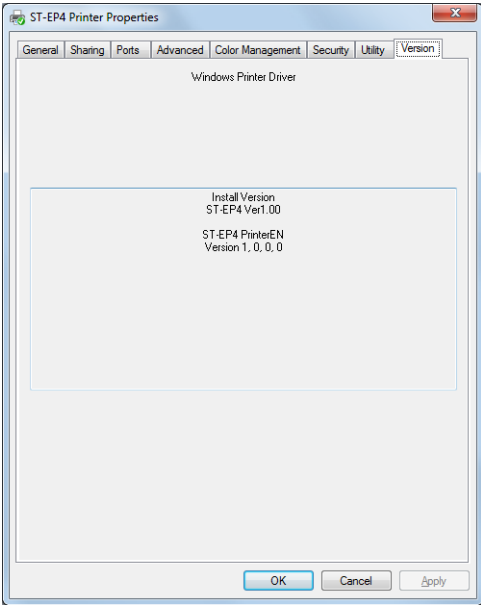
Printing Preferences

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

You can configure the following settings in the Printing Preferences screen.
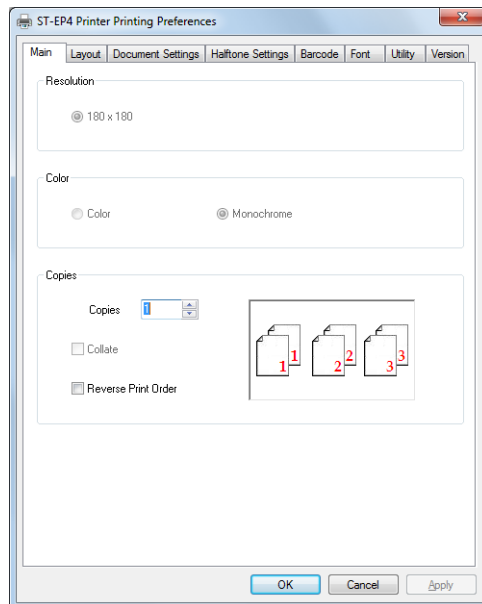
Tab	Description
Main	Configures basic print settings, such as the number of copies, and color setting.
Layout	Configures paper size and rotation of print images.
Document Settings	Configures the Document Settings.
Halftone Settings	Configures the Dither Type and color assignment settings.
Barcode	Configures the barcode settings. (Displayed only when the printer supports the barcode printing.)
Font	Displays the list of Device fonts.

Main

Allows you to configure the print resolution, color mode, and the number of copies.
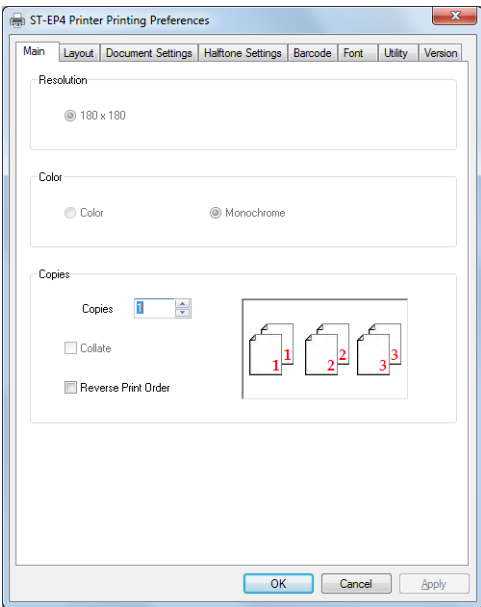
Setting	Description
Copies	Configures the number of copies.
Collate	Configures the number of copies of document with multiple pages.
Reverce Print Order	Prints the document with multiple pages in backward order.

Layout

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

User defined paper size settings.

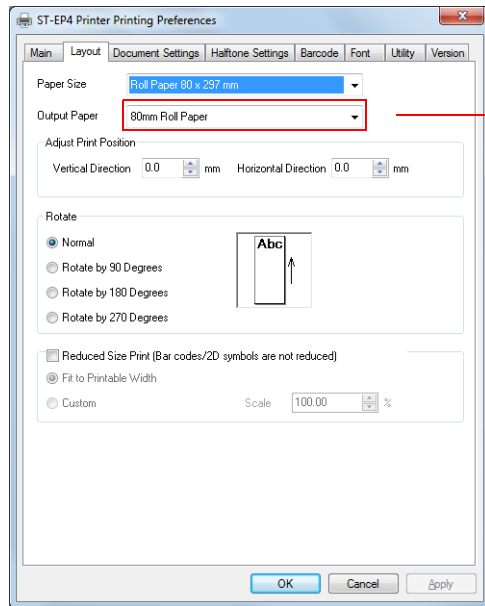| Setting		Description
Paper Size		Select the paper size from list. The list shows all the paper sizes (including the logic paper sizes and user defined sizes) supported by the printer driver.
Paper size		The sizes of paper which can be set in the printers.
	Logic paper size	The original size of a print image which can be scaled down by the printer driver. An image is scaled down to the size of paper loaded on the printer.
	User Defined Paper Size	The paper size defined by the users. Setting the paper size can be made in the User Defined Paper Size screen.
Output Paper		Displays paper types available with the printer.
Adjust Print Position		Allows you to fine adjust the print start position. You can adjust the print position without making changes in margins and print area defined by the applications. This also can be used for changing print position of rotated or reduced image. This adjustment is limited within the printable area of the selected (Paper Size). If you change the (Paper Size) to the smaller one without changing the print position setting, causing the position settings to fall outside the new printable area, the settings will be automatically changed so that the print image fits inside the new printable area. The print position of the logo registered in the printer (NV Graphics) will not be changed.

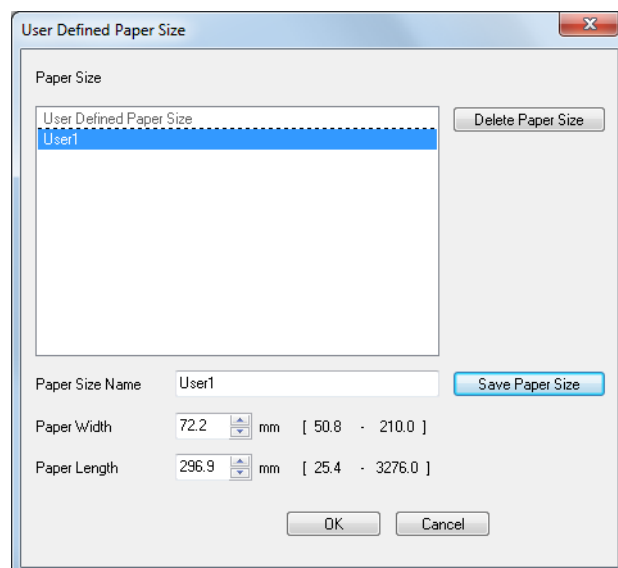| Setting		Description
	Vertical Direction	This adjusts the print position in horizontal direction. Enter a negative value to make the top margin smaller, or positive value to make it larger.
	Horizontal Direction	This adjusts the print position in vertical direction. Enter a negative value to make the left margin smaller, or positive value to make it larger.
Rotate		This configures print direction. The graphic shown on the right changes according to the selected setting. Select a desired setting for rotating a print image. When other than (Normal) is selected, the following message is displayed; "<Print all text as graphics image> will be automatically set to yes. <Paper Conservation> will be automatically changed.".
	Normal	This prints in normal direction. This is the default.
	Rotate by 90 Degrees	This rotates a print image as specified.
	Rotate by 180 Degrees	The rotated print image is printed as a graphics image, therefore,
	Rotate by 270 Degrees	the Device fonts, control font, and controlA font cannot be used.
Reduced Size Print*		This configures reduced print, (Fit to Printable Width) or (Custom). When (Reduced Print) is selected, the following message is displayed; "<Print all text as graphics image> will be automatically set to yes.". The reduced print image is printed as a graphics image, therefore, the Device fonts, control font, and controlA font cannot be used.
		When Logic paper size is selected, deselecting (Reduced Print) automatically changes the paper size to Paper size or User Defined Paper Size.
		Reduced Print setting does not change the size of Barcode.
	Fit to Printable Width	A print image is automatically scaled down so that it fits inside the width of the paper loaded on the printer.
	Custom	You can manually set the reduction percentage.

* Reduced Print setting does not change the size of Barcode.

3

User defined paper size.

Allows the users to define custom paper sizes. Up to 30 sizes can be saved as the User Defined Paper Sizes.
In the Printing Preferences - [Layout] tab, select [User Defined Paper Size] from the Paper Size pull-down menu. The following screen appears.

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

Document Settings

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

Setting item

Setting box
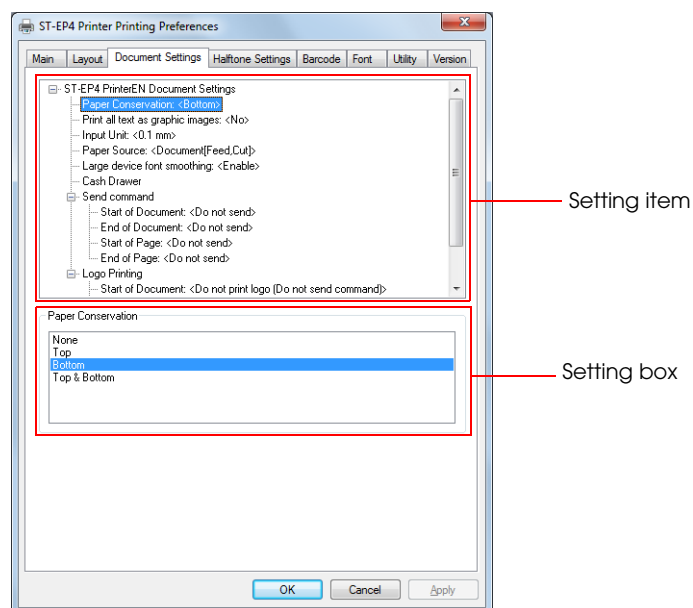
Paper Conservation

You can save paper by skipping page margins. Printing in the Windows environment is made based on standard paper sizes, such as A4, A5 size. Therefore, regardless of whether print data has been received or not, paper is advanced automatically by a predetermined amount each time after a receipt is printed. This function allows you to save paper by disabling the automatic paper feeding.
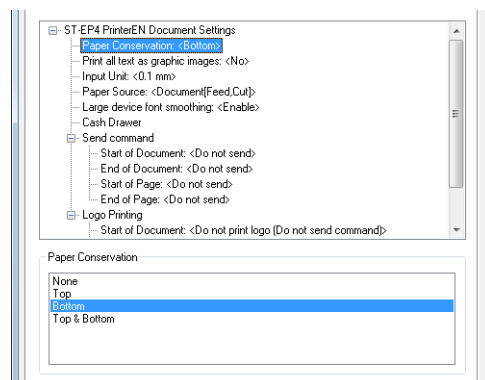
Setting	Description
None	Does not save paper.
Top	Skips the margin from the beginning of printing to the first print data.
Bottom (Default)	Skips the margin from the last line of the printout to the auto cut point.
Top & Bottom	Skips both margin from the beginning of printing to the first print data and margin from the last line of the print to the auto cut point.

According to the Rotate setting in the Layout tab, the Paper Conservation setting is automatically set as follows.
When the Rotate setting is set to "Normal" or "Rotate by 90 Degrees", the Paper Conservation is set to "Bottom". When "Rotate by 180 Degrees" or "Rotate by 270 Degrees" is specified, the Paper Conservation is set to "Top".

Print all text as graphic images

All the data will be printed as a graphic images.
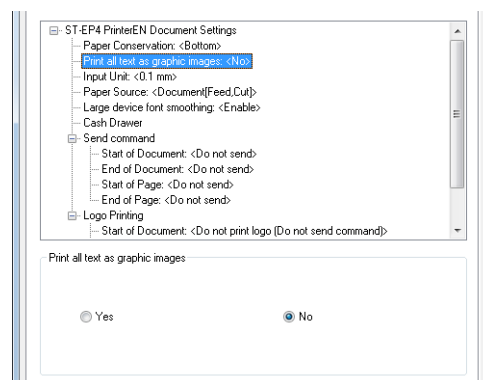

Setting	Description
Yes	All print data is printed as a graphics image. The computer creates the print data in the same way as Windows driver does, therefore, the print data size becomes larger. In addition to that, Device fonts are replaced with TrueType fonts, and Device fonts are not displayed in the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

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

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

Related Printer Driver settings.

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

Setting tab	Item
Layout	Rotate
	Reduced print
Barcode	Add Quiet Zone
	Rotation
	Composite (when not installed on the device)
	Type (when not installed on the device)

Input Unit

The unit to express a length in the Property screen can be changed. Paper size or any other length settings are expressed in the selected unit in the user interface.
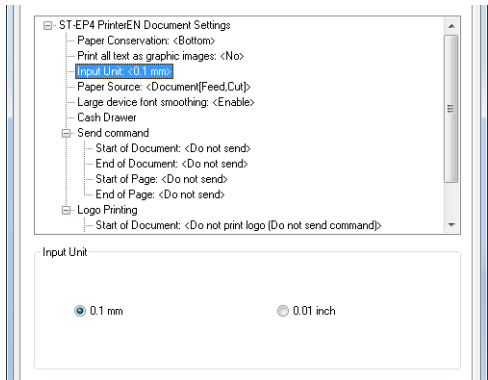
Setting	Description
0.1mm (Default)	The length settings in the user interface can be made in increments of "0.1mm".
0.01inch	The length settings in the user interface can be made in increments of "0.01inch".
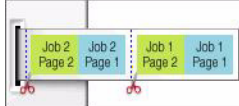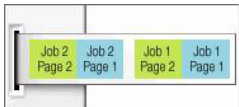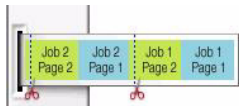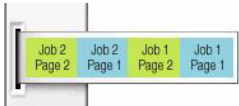
Related Printer Driver settings.
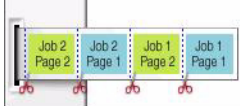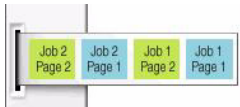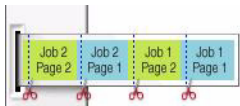
Setting tab	Item
Layout	Paper Size (User Defined Paper Size : Paper Width, Paper Length)
	Adjust Print Position (Vertical Direction, Horizontal Direction)
Barcode	Element Height

Paper Source

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

Custom setting window

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

3

Setting	Description
Page(Feed,Cut)	The paper is advanced and cut each time a page is printed.
Page(Feed,No Cut)	The paper is advanced, but not cut each time a page is printed.
Page(No Feed,Cut)	The paper is cut, but not advanced each time a page is printed.
Custom	Use this setting when printing on black mark papers or labels. When this is selected, the Custom setting screen appears.

Custom

When "Custom" is selected from the Paper Source list for printing on black mark papers, labels or cut sheets of paper, the Custom setting screen appears.
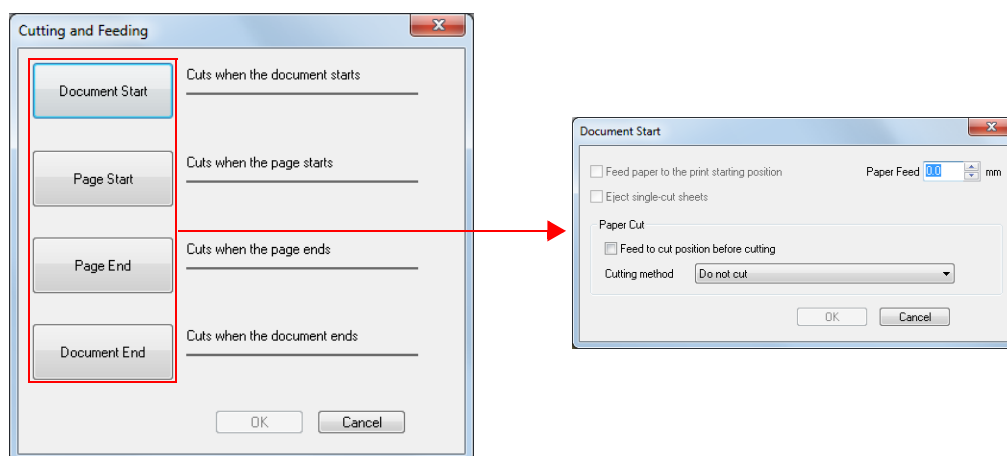
Setting	Description
Feed paper to the print starting position	Specifies whether to advance labels or black mark papers to the print start position. When this box is checked, the paper is advanced to the start position. When not checked, the paper is not advanced.
Paper feed	Specifies the amount of paper to be advanced. When a positive value is specified, the paper is fed in the print direction. When 0 is specified, the paper is not advanced.
Eject single-cut sheets	Specifies whether to send a form feed command when using cut sheets. When this box is checked, the command is sent. When not checked, the command is not sent.
Feed to cut position before cutting	Specifies whether to advance the paper to the cut position before cutting operation. When this box is checked, the paper is advanced to the cut position. When not checked, the paper is not advanced.
Cutting method	Select the cutting operation. • Do not cut • Cut • Feed to black mark and do not cut • Feed to black mark and cut

Large device font smoothing

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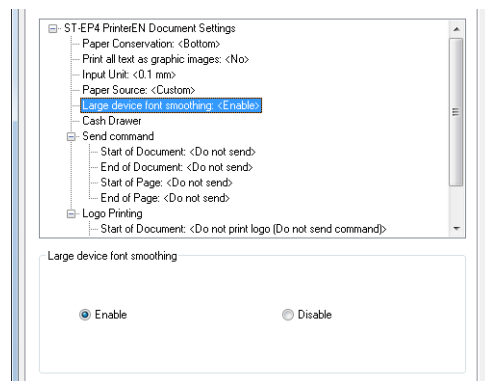
Setting	Description
Enable (Default)	Performs smoothing of the large Device fonts to print them neatly.
Disable	The corners of large device fonts may be printed with jaggies.

Cash drawer

You can configure the setting for opening the Cash drawer. A command for opening the Cash drawer is sent to the drawer connected to the Printer through the DK connector. See the Cash drawer specifications to check the connector number for the Cash drawer.
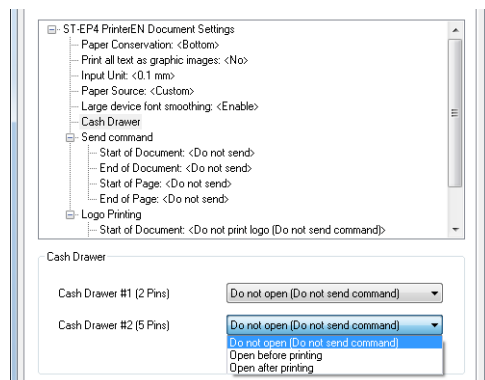
Setting		Description
Cash drawer #1 (2pins)	Do not open (do not send command) (Default)	The drawer does not open.
	Open before printing	The drawer opens when printing starts.
	Open after printing	The drawer opens when printing is finished.
Cash drawer #2 (5pins)	Do not open (do not send command) (Default)	The drawer does not open.
	Open before printing	The drawer opens when printing starts.
	Open after printing	The drawer opens when printing is finished.

Send command

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

> ✎ ESC/POS commands are not open to the public. Ask your sales representative for more information.
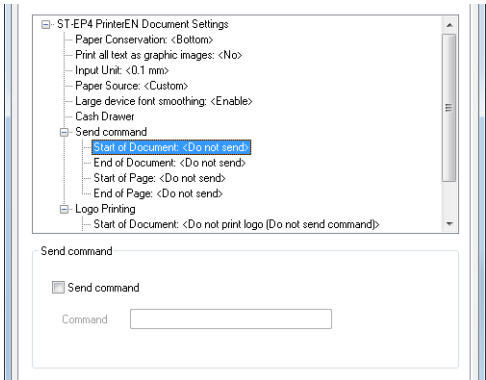
Setting		Description
Start of Document End of Document Start of Page End of Page	Send command	Check this box to send a command when printing.
	Command	Enter a desired ESC/POS command to be sent to the printer. You cannot enter the command without checking the "Send command" box.

Logo Printing

A desired logo can be specified to be printed.

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

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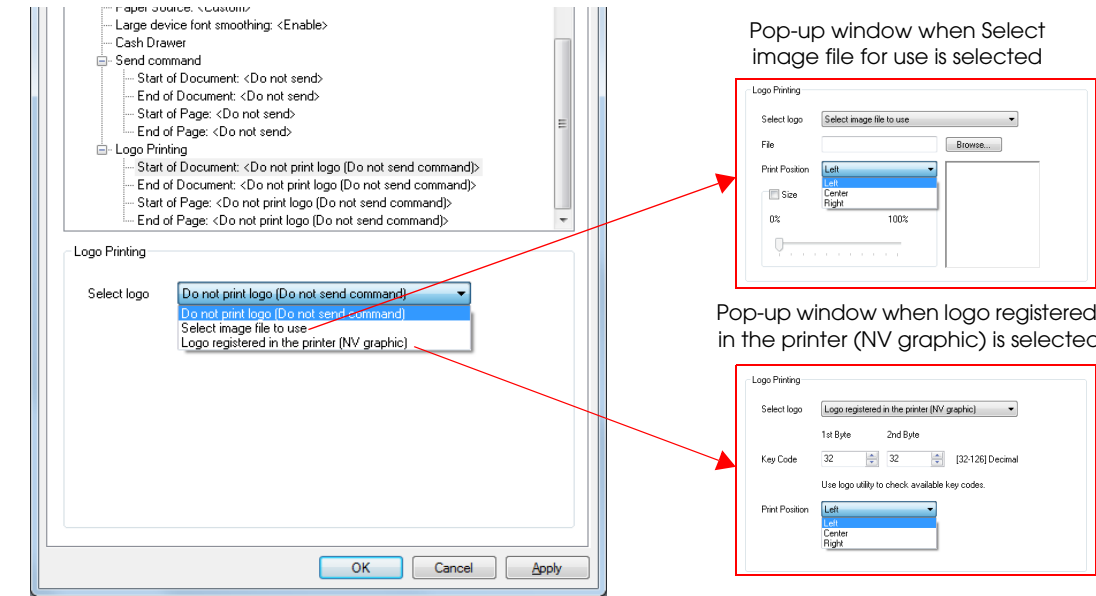
Setting			Description
Start of Document End of Document Start of Page End of Page	Do not print logo (Do not send command)		Does not print a logo.
	Select Image file for use		Prints a logo using an image file.
		File	Specify an image file. The following file types are available: bmp, jpeg, gif, and png.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

3

Halftone Settings

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

Setting	Description
Dither Type	Defines the dithering algorithm. Depending on the dither type selected, the image is displayed with a different pattern of dots. The following 4 options are available. • Dispersed Ordered Dither • Clustered Ordered Dither • Error Diffusion • Threshold
Brightness (A function dedicated for the printer driver for thermal printers)	Sets the brightness of image data. Dots are displayed based on the arrangement set by (Brightness).

Barcode

Allows you to configure Barcode fonts. The barcode type and size can be registered. Up to eight types of barcodes (Barcode 1 to 8) can be registered using the Printer Driver.
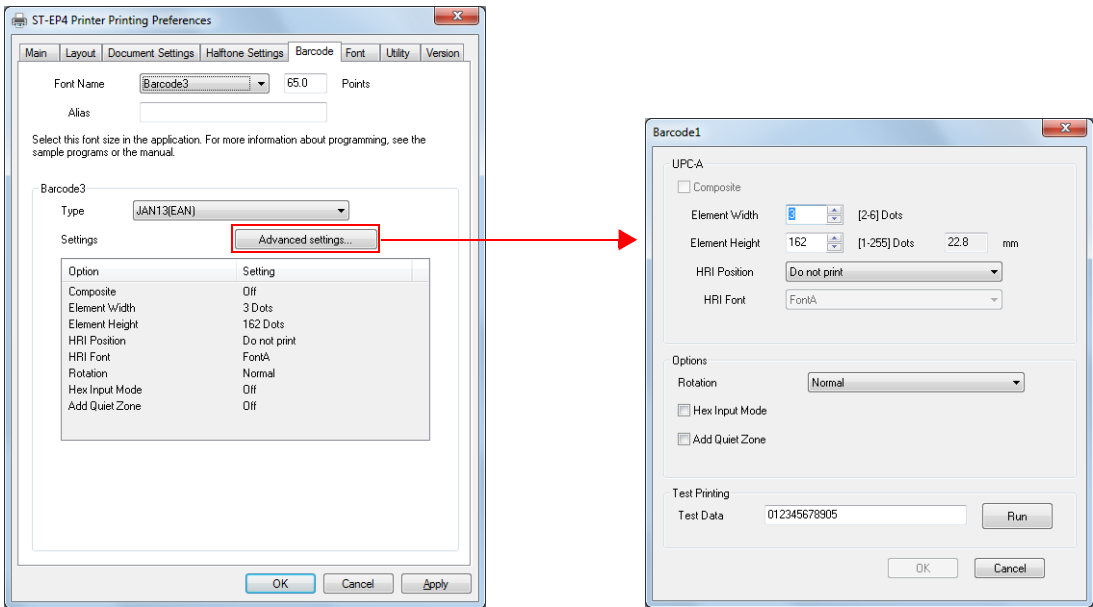
Setting	Description
Font Name	Select a desired barcode font from the pull-down list. The point value changes according to the height of the element.
Alias	An alias name can be specified for the selected barcode font. Up to 31 characters can be entered. Alphanumeric characters, spaces, and the following symbols can be used. Available characters: !"#$%&'()*+,-./:;<=>?@(\)^_`{ }~
Type	Select a desired barcode type from the pull-down list (UPC-A, UPC-E, JAN13 (EAN), JAN8 (EAN), Code39, ITF, Codabar, Code93, Code128, GS1-128, GS1 DataBar Omni-directional, GS1 DataBar Truncated, GS1 DataBar Expanded, GS1 DataBar Limited). Select "Do not use" when not specifying the barcode type.
Advanced settings	Displays the barcode advanced setting screen that allows you to select the barcode size, HRI characters and so on.
Settings	Displays the barcode font settings.

Barcode advanced setting

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

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

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

3

Font

The device fonts; supported by printers, their points, and the code pages are listed.
When using device fonts, specify their points in "Supported Printer Fonts and Font Sizes". When programming, designate the fonts and their points specified here.
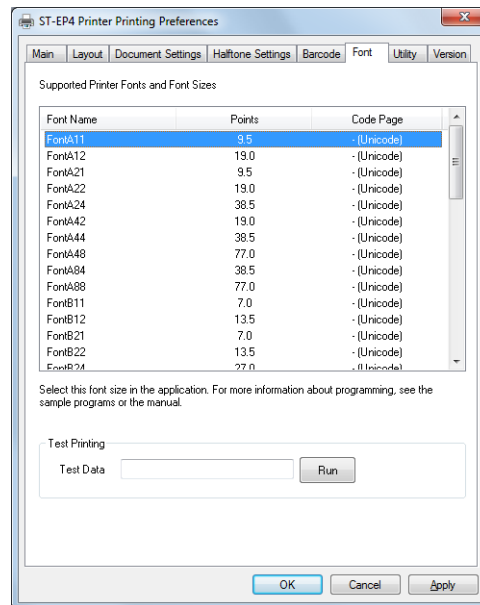
Setting		Description
Test Printing		Prints the device font as test printing.
	Test Data	Inputs data for test printing.
	Run	Prints input data.

Generating Log Files

This chapter explains how to output and view log files.

The ST-EP4 Windows Printer Driver allows you to create a log file which can help you to troubleshoot a problem quickly. The log file is saved under a name of log.txt.

Log Files Settings

You can select whether to output the log file or not, and where to output the log file.

Select the Utility tab on the properties screen, and click the [Log File Settings] button.
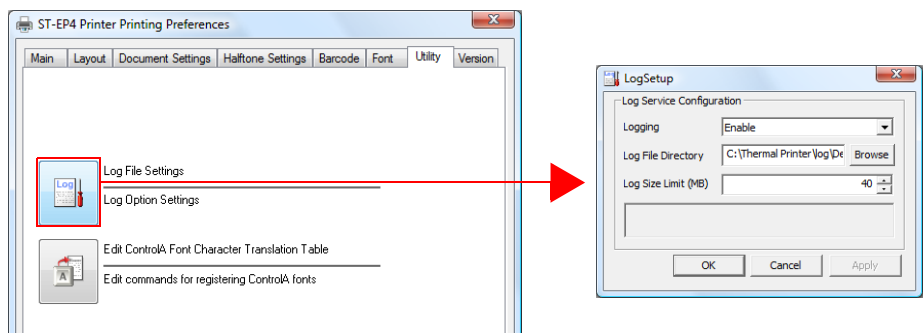
Make the following settings on the tab.

Setting		Description
Logging	Enable (Default)	Enables log output.
	Disable	Disables log output.
Log File Directory	Specify where to output the log file. (Default) C:\Thermal Printer\log\DeviceControlLog	
Log Size Limit (MB)	Specify the upper limit of the log file size. (Range: 10 to 1024, Default: 40) When the upper limit is exceeded, the log file is compressed in zip format. The subsequent log information is saved as a new log file. The file compression date is used as the zip file name. (example: 201110151130.zip)	

Viewing Log Files

A record of log files is viewed as follows.

Format

Date,time,process ID:thread ID,source hierarchy name,arbitrary message,binary data

(Output date)   (Process ID:Thread ID)   (Arbitrary message)

2011/10/13,18:58:36.886,000004dc:00000ac4,SPL,-> StLmStartDocPort(00000001, ST-EP4 Printer, 3, 1, {Test Page,,(null)})

(Output time)   (Source hierarchy name)

> ✎
> - Logs of arbitrary message are output in an applicable format according to the element of each log.
> - Binary data is print data and may be omitted.

Arbitrary message

Logs of arbitrary message are output in an applicable format according to the element of each log.

Element	Description
Function call	Output when a public function of each module is called. <Format> ->,handle_value,,function_name,parameter_1,parameter_2,...
Function return	Output when a process returns from a public function of each module. <Format> <-,handle_value,return_value,function_name,parameter_1,parameter_2,...

Log output example

2011/10/13,18:58:36.886,000004dc:00000ac4,SPL,-> StLmStartDocPort(00000001, ST-EP4 Printer, 3, 1, {Test Page,,(null)})

2011/10/13,18:58:36.886,000004dc:00000ac4,SPL,-> PmGetPrinterDataFromPort(003976E8, 40060001, (null), 00000000, 0, 0271DD88, 4, 00000000)

2011/10/13,18:58:36.886,000004dc:00000ac4,PMT,->,4,,Ioctl,4,40060001,00000000,0,0271dd88,4,0

2011/10/13,18:58:36.886,000004dc:00000ac4,PMT,--,4,,Ioctl,0

2011/10/13,18:58:36.886,000004dc:00000ac4,PMT,<-,4,00000000,Ioctl,4,40060001,00000000,0,0271dd88,4,0

2011/10/13,18:58:36.886,000004dc:00000ac4,SPL,<- PmGetPrinterDataFromPort(003976E8) <00000000>

2011/10/13,18:58:36.886,00000fbc:00000cf4,SRV,->,2d1640,,PCS_PARAM_ID_LOCK,PacketID = 40,3e8

2011/10/13,18:58:36.886,000004dc:00000ac4,SPL,-> PmGetPrinterDataFromPort(003976E8, 40040002, (null), 00000000, 0, 0271DD8C, 4, 00000000)

2011/10/13,18:58:36.886,00000fbc:00000158,PORT,->,2,,CPortConnector::Lock,2

2011/10/13,18:58:36.886,000004dc:00000ac4,PMT,->,4,,Ioctl,4,40040002,00000000,0,0271dd8c,4,0

2011/10/13,18:58:36.886,00000fbc:00000158,PORT,->,2,,CCommonPort::Lock

2011/10/13,18:58:36.886,000004dc:00000ac4,PMT,--,4,,Ioctl,1

2011/10/13,18:58:36.886,00000fbc:00000158,PORT,<-,2,0,CCommonPort::Lock

2011/10/13,18:58:36.886,000004dc:00000ac4,PMT,<-,4,00000000,Ioctl,4,40040002,00000000,0,0271dd8c,4,0

2011/10/13,18:58:36.886,00000fbc:00000158,PORT,<-,2,0,CPortConnector::Lock,2

2011/10/13,18:58:36.886,000004dc:00000ac4,SPL,<- PmGetPrinterDataFromPort(003976E8) <00000000>

2011/10/13,18:58:36.886,00000fbc:00000158,SRV,<-,2d1640,0,PCS_PARAM_ID_LOCK,PacketID = 40

2011/10/13,18:58:36.886,000004dc:00000ac4,SPL,-> PmGetPrinterDataFromPort(003976E8, 20000000, (null), 00000000, 0, 00000000, 0, 00000000)

2011/10/13,18:58:36.886,00000fbc:00000cf4,SRV,->,2d1640,,PCS_PARAM_ID_NOTIFY,PacketID = 41,2,a3ec8c59

2011/10/13,18:58:36.886,000004dc:00000ac4,PMT,->,4,,PrtMgr_Lock,4,1000

2011/10/13,18:58:36.886,00000fbc:00000158,SRV,<-,2d1640,0,PCS_PARAM_ID_NOTIFY,PacketID = 41

2011/10/13,18:58:36.886,000004dc:00000ac4,CLI,->,1,,PCS_Lock,1,3e8

2011/10/13,18:58:36.886,000004dc:00000ac4,CLI,<-,1,0,PCS_Lock,1,3e8

2011/10/13,18:58:36.886,000004dc:00000ac4,PMT,<-,4,00000000,PrtMgr_Lock,4,1000

2011/10/13,18:58:36.886,000004dc:00000ac4,SPL,<- PmGetPrinterDataFromPort(003976E8) <00000000>

2011/10/13,18:58:36.886,000004dc:00000ac4,SPL,-> PmGetPrinterDataFromPort(003976E8, 40010002, (null), 0271DD6C, 4, 00000000, 0, 00000000)

4

65

Restrictions

This chapter describes the restrictions that apply to the ST-EP4 Windows Printer Driver.

OS Settings

1. .NET Environment supports only TrueType and OpenType fonts. Therefore, the device font, the barcode font, the control font and the controlA font cannot be used.

2. With a serial connection, when the OS recovers from a sleep or hibernate status, the printer may print "??."

3. With Windows 7 / Vista / XP, use [Enable advanced printing features] (EMF spool) in the printer driver Properties - [Advanced] tab set to ON. Setting otherwise (RAW spool) applies the following restrictions to the GDI functions:

    *   Raster operation cannot be printed as specified by StrtchBlt()/BitBlt().

    *   When transferring bit information from display device context to the printer device context using StretchBlt(), the GDI function returns "Failure" and prevents the driver from printing.

4. When printing multiple pages, if you change the paper orientation from one page to another and/or other settings using ResetDC(), the print result may be incorrect. In such cases, set RAW spool (with Windows XP/Vista, set [Enable advanced printing features] to OFF) although some restrictions apply. See the previous paragraph for the restrictions.

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

    *   For Word 2003 or earlier:
        From [Tools] - [Options] - [Compatibility], select "Microsoft Word 6.0/95" in [Recommended Options for] or make a check in "Use printer metrics to lay out document" in [Options].

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

    *   For Word 2010:
        From [File] - [Options] - [Advanced] - [Compatibility Options for], select "Microsoft Word 6.0/95" or "Custom" in [Lay out this document as if created in], and make a check in "Use printer metrics to lay out document" in [Layout Options].

6. If you print more than one Excel sheet at the same time when different print settings are set for each sheet, the setting for the last sheet is effective.

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

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

Printing

1. Print data outside of the printable area will not be printed.

2. When printing on receipt paper, blank space appears at the top of the paper which is greater than the top margin setting value. This is caused by the fact that the paper cutting position (autocutter) and the printing position (printer head) are separated and the distance between them results in extra margin.

3. Device fonts cannot be used in rotated, condensed or enlarged printing. Use Windows fonts.

4. If a device font and graphics data (Windows font or ruled line, etc.) are defined on the same line, the print result may be misaligned.

5. Printing takes longer with serial models than with other interfaces. If you want to print faster, other than a serial model is recommended.

6. Euro currency symbol cannot be printed.

7. With Windows 7 / Vista / XP, printing of codes 80H, 8EH, or 9EH from an application when device Font A or B is specified may not operate correctly.

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

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

10. 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 ST-EP4 capabilities. (For example, printing in landscape format using device font)

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

Printer Specification

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

⚠ Administrator permission is required for property settings of the printer driver.

Item	Description
Driver Name	ST-EP4 PrinterEN
Device Font	Prohibited when rotation is selected. Prohibited when resizing a font in a smaller size is selected.
	FontA11 FontA12 FontA21 FontA22 FontA24 FontA42 FontA44 FontA48 FontA84 FontA88 FontB11 FontB12 FontB21 FontB22 FontB24 FontB42 FontB44 FontB48 FontB84 FontB88 **Code Page** PC437 (USA:Standard Europe) Katakana PC850 (Multilingual) PC860 (Portuguese) PC863(Canadian-French) PC865 (Nordic) PC851 (Greek) PC853 (Turkish) PC857 (Turkish) PC737 (Greek) ISO8859-7 (Greek) WPC1252 PC866 (Cyrillic #2) PC852 (Latin 2) PC858 (Euro) KU42 TIS11 (Thai) TIS18 (Thai) TCVN-3 (Vietnamese) PC720 WPC775 PC855 (Cylillic) PC861 (Icelandic) PC862 (Hebrew) PC864 (Arabic) PC869 (Greek) ISO8859-2 (Latin2) ISO8859-15 (Latin9) PC1098 (Farsi) PC1118 (Lithuanian) PC1119 (Lithuanian) PC1125 (Ukrainian) WPC1250 WPC1251 WPC1253 WPC1254 WPC1255 WPC1256 WPC1257 WPC1258 KZ-1048 (Kazakhstan)
	FontA11(255) FontA12(255) FontA21(255) FontA22(255) FontA24(255) FontA42(255) FontA44(255) FontA48(255) FontA84(255) FontA88(255) FontB11(255) FontB12(255) FontB21(255) FontB22(255) FontB24(255) FontB42(255) FontB44(255) FontB48(255) FontB84(255) FontB88(255) • Space Page (255)
Barcode Font	Barcode Font Points determined. When specifying a value other than this, the Barcode is not printed.
	Barcode1~Barcode8 · Layout possible Barcode Codabar Code39 ITF JAN13(EAN) JAN8(EAN) UPC-A UPC-E Code93 Code128 GS1-128 GS1 DataBar Omni-directional GS1 DataBar Truncated GS1 DataBar Expanded GS1 DataBar Limited

Item	Description		
2D-Code Font	Not supported		
Control Font	Font Name : control , Point : 1 • No operations for characters other than those mentioned above. • Prohibited when rotation is selected. • Prohibited when resizing a font in a smaller size or when Water Mark is selected.		

Char	Function	Char	Function
5	Transmits HT	k	NV graphics 3 printing (48,51)
6	Transmits LF	l	NV graphics 4 printing (48,52)
7	Transmits CR	w	Position alignment left
a	Open Drawer 5pin(50ms)	x	Position alignment center
b	Open Drawer 5pin(100ms)	y	Position alignment right
c	Open Drawer 5pin(150ms)	A	Open Drawer 2pin(50ms)
d	Open Drawer 5pin(200ms)	B	Open Drawer 2pin(100ms)
e	Open Drawer 5pin(250ms)	C	Open Drawer 2pin(150ms)
g	No paper feeding + Partial cut	D	Open Drawer 2pin(200ms)
h	NV graphics 0 printing (48,48)	E	Open Drawer 2pin(250ms)
i	NV graphics 1 printing (48,49)	P	Paper feeding +Partial cut
j	NV graphics 2 printing (48,50)		

Item	Description
ControlA Font	Font Name : controlA , Point : 1 • Characters defined by ControlA Font Character Translation Table. • No operations for characters not defined. No printing for spaces. • No paper feeding for any functions that do not include paper feeding. • Prohibited when rotation is selected. • Prohibited when resizing a font in a smaller size is selected.
Resolution	180x180DPI
Paper Size	80mm Roll Paper Paper Size 80mm x 297mm (566dot x 2104dot) Printing Width 72.2mm (512dot) Margin top 0mm bottom 0mm left 3.6mm(26dot) right 3.9mm(28dot) 58mm Roll Paper Paper Size 58mm x 297mm (411dot x 2104dot) Printing Width 50.8mm (360dot) Margin top 0mm bottom 0mm left 3.6mm(26dot) right 3.5mm(25dot) User Defined Paper Size Width 50.8~210.0mm, Height 25.4~3276.0mm Logic paper size (when resizing in a smaller size) A4 210mm x 297mm LT. 8.5 x 11 in. Postcard 100 x 148 mm
Rotate	Normal Rotate by 90 Degrees Rotate by 180 Degrees Rotate by 270 Degrees
Reduce Printing	ON/OFF Fit to Printable Width/Custom(10 - 100%)
Water Mark	Not supported

Item	Description
Driver Name	ST-EP4 PrinterJP
Device Font	Prohibited when rotation is selected. Prohibited when resizing a font in a smaller size is selected.
	FontA11 FontA12 FontA21 FontA22 FontA24 FontA42 FontA44 FontA48 FontA84 FontA88 FontB11 FontB12 FontB21 FontB22 FontB24 FontB42 FontB44 FontB48 FontB84 FontB88 **Code Page** PC437 (USA:Standard Europe) Katakana PC850 (Multilingual) PC860 (Portuguese) PC863(Canadian-French) PC865 (Nordic) PC851 (Greek) PC853 (Turkish) PC857 (Turkish) PC737 (Greek) ISO8859-7 (Greek) WPC1252 PC866 (Cyrillic #2) PC852 (Latin 2) PC858 (Euro) KU42 TIS11 (Thai) TIS18 (Thai) TCVN-3 (Vietnamese) PC720 WPC775 PC855 (Cylillic) PC861 (Icelandic) PC862 (Hebrew) PC864 (Arabic) PC869 (Greek) ISO8859-2 (Latin2) ISO8859-15 (Latin9) PC1098 (Farsi) PC1118 (Lithuanian) PC1119 (Lithuanian) PC1125 (Ukrainian) WPC1250 WPC1251 WPC1253 WPC1254 WPC1255 WPC1256 WPC1257 WPC1258 KZ-1048 (Kazakhstan)
	FontA11(255) FontA12(255) FontA21(255) FontA22(255) FontA24(255) FontA42(255) FontA44(255) FontA48(255) FontA84(255) FontA88(255) FontB11(255) FontB12(255) FontB21(255) FontB22(255) FontB24(255) FontB42(255) FontB44(255) FontB48(255) FontB84(255) FontB88(255) • Space Page (255)
	JapaneseA11 JapaneseA12 JapaneseA21 JapaneseA22 JapaneseA24 JapaneseA42 JapaneseA44 JapaneseA48 JapaneseA84 JapaneseA88 • JIS (JIS X0208-1990)
Barcode Font	Barcode Font Points determined. When specifying a value other than this, the Barcode is not printed.
	Barcode1~Barcode8 / Layout possible Barcode Codabar Code39 ITF JAN13(EAN) JAN8(EAN) UPC-A UPC-E Code93 Code128 GS1-128 GS1 DataBar Omni-directional GS1 DataBar Truncated GS1 DataBar Expanded GS1 DataBar Limited
2D-Code Font	Not supported

Item	Description
Control Font	Font Name : control , Point : 1 • No operations for characters other than those mentioned above. • Prohibited when rotation is selected. • Prohibited when resizing a font in a smaller size or when Water Mark is selected.

Char	Function	Char	Function
5	Transmits HT	k	NV graphics 3 printing (48,51)
6	Transmits LF	l	NV graphics 4 printing (48,52)
7	Transmits CR	w	Position alignment left
a	Open Drawer 5pin(50ms)	x	Position alignment center
b	Open Drawer 5pin(100ms)	y	Position alignment right
c	Open Drawer 5pin(150ms)	A	Open Drawer 2pin(50ms)
d	Open Drawer 5pin(200ms)	B	Open Drawer 2pin(100ms)
e	Open Drawer 5pin(250ms)	C	Open Drawer 2pin(150ms)
g	No paper feeding + Partial cut	D	Open Drawer 2pin(200ms)
h	NV graphics 0 printing (48,48)	E	Open Drawer 2pin(250ms)
i	NV graphics 1 printing (48,49)	P	Paper feeding +Partial cut
j	NV graphics 2 printing (48,50)		

Item	Description
ControlA Font	Font Name : controlA , Point : 1 • Characters defined by ControlA Font Character Translation Table. • No operations for characters not defined. No printing for spaces. • No paper feeding for any functions that do not include paper feeding. • Prohibited when rotation is selected. • Prohibited when resizing a font in a smaller size is selected.
Resolution	180x180DPI

Paper Size	80mm Roll Paper
	    Paper Size 80mm x 297mm (566dot x 2104dot)
	    Printing Width 72.2mm (512dot)
	    Margin top 0mm bottom 0mm
	                   left 3.6mm(26dot) right 3.9mm(28dot)
	58mm Roll Paper
	    Paper Size 58mm x 297mm (411dot x 2104dot)
	    Printing Width 50.8mm (360dot)
	    Margin top 0mm bottom 0mm
	                   left 3.6mm(26dot) right 3.5mm(25dot)
	User Defined Paper Size
	    Width 50.8~210.0mm, Height 25.4~3276.0mm
	Logic paper size (when resizing in a smaller size)
	    A4 210mm x 297mm
	    LT. 8.5 x 11 in.
	    Postcard 100 x 148 mm

Rotate	Normal Rotate by 90 Degrees Rotate by 180 Degrees Rotate by 270 Degrees
Reduce Printing	ON/OFF Fit to Printable Width/Custom(10 - 100%)
Water Mark	Not supported

Item	Description
Driver Name	ST-EP4 PrinterSC
Device Font	Prohibited when rotation is selected. Prohibited when resizing a font in a smaller size is selected. FontA11 FontA12 FontA21 FontA22 FontA24 FontA42 FontA44 FontA48 FontA84 FontA88 FontB11 FontB12 FontB21 FontB22 FontB24 FontB42 FontB44 FontB48 FontB84 FontB88 **Code Page** PC437 (USA:Standard Europe) Katakana PC850 (Multilingual) PC860 (Portuguese) PC863(Canadian-French) PC865 (Nordic) PC851 (Greek) PC853 (Turkish) PC857 (Turkish) PC737 (Greek) ISO8859-7 (Greek) WPC1252 PC866 (Cyrillic #2) PC852 (Latin 2) PC858 (Euro) KU42 TIS11 (Thai) TIS18 (Thai) TCVN-3 (Vietnamese) PC720 WPC775 PC855 (Cylillic) PC861 (Icelandic) PC862 (Hebrew) PC864 (Arabic) PC869 (Greek) ISO8859-2 (Latin2) ISO8859-15 (Latin9) PC1098 (Farsi) PC1118 (Lithuanian) PC1119 (Lithuanian) PC1125 (Ukrainian) WPC1250 WPC1251 WPC1253 WPC1254 WPC1255 WPC1256 WPC1257 WPC1258 KZ-1048 (Kazakhstan) FontA11(255) FontA12(255) FontA21(255) FontA22(255) FontA24(255) FontA42(255) FontA44(255) FontA48(255) FontA84(255) FontA88(255) FontB11(255) FontB12(255) FontB21(255) FontB22(255) FontB24(255) FontB42(255) FontB44(255) FontB48(255) FontB84(255) FontB88(255) • Space Page (255) Chinese1803011 Chinese1803012 Chinese1803024 Chinese1803048 • GB18030-2000
Barcode Font	Barcode Font Points determined. When specifying a value other than this, the Barcode is not printed. Barcode1~Barcode8 Layout possible Barcode Codabar Code39 ITF JAN13(EAN) JAN8(EAN) UPC-A UPC-E Code93 Code128 GS1-128 GS1 DataBar Omni-directional GS1 DataBar Truncated GS1 DataBar Expanded GS1 DataBar Limited
2D-Code Font	Not supported

Item	Description			
Control Font	Font Name : control , Point : 1 • No operations for characters other than those mentioned above. • Prohibited when rotation is selected. • Prohibited when resizing a font in a smaller size or when Water Mark is selected.			

Char	Function	Char	Function
5	Transmits HT	k	NV graphics 3 printing (48,51)
6	Transmits LF	l	NV graphics 4 printing (48,52)
7	Transmits CR	w	Position alignment left
a	Open Drawer 5pin(50ms)	x	Position alignment center
b	Open Drawer 5pin(100ms)	y	Position alignment right
c	Open Drawer 5pin(150ms)	A	Open Drawer 2pin(50ms)
d	Open Drawer 5pin(200ms)	B	Open Drawer 2pin(100ms)
e	Open Drawer 5pin(250ms)	C	Open Drawer 2pin(150ms)
g	No paper feeding + Partial cut	D	Open Drawer 2pin(200ms)
h	NV graphics 0 printing (48,48)	E	Open Drawer 2pin(250ms)
i	NV graphics 1 printing (48,49)	P	Paper feeding +Partial cut
j	NV graphics 2 printing (48,50)		

Item	Description
ControlA Font	Font Name : controlA , Point : 1 • Characters defined by ControlA Font Character Translation Table. • No operations for characters not defined. No printing for spaces. • No paper feeding for any functions that do not include paper feeding. • Prohibited when rotation is selected. • Prohibited when resizing a font in a smaller size is selected.
Resolution	180x180DPI
Paper Size	80mm Roll Paper Paper Size 80mm x 297mm (566dot x 2104dot) Printing Width 72.2mm (512dot) Margin top 0mm bottom 0mm left 3.6mm(26dot) right 3.9mm(28dot) 58mm Roll Paper Paper Size 58mm x 297mm (411dot x 2104dot) Printing Width 50.8mm (360dot) Margin top 0mm bottom 0mm left 3.6mm(26dot) right 3.5mm(25dot) User Defined Paper Size Width 50.8~210.0mm, Height 25.4~3276.0mm Logic paper size (when resizing in a smaller size) A4 210mm x 297mm LT. 8.5 x 11 in. Postcard 100 x 148 mm
Rotate	Normal Rotate by 90 Degrees Rotate by 180 Degrees Rotate by 270 Degrees
Reduce Printing	ON/OFF Fit to Printable Width/Custom(10 - 100%)
Water Mark	Not supported

Item	Description
Driver Name	ST-EP4 PrinterTC
Device Font	Prohibited when rotation is selected. Prohibited when resizing a font in a smaller size is selected.
	FontA11 FontA12 FontA21 FontA22 FontA24 FontA42 FontA44 FontA48 FontA84 FontA88 FontB11 FontB12 FontB21 FontB22 FontB24 FontB42 FontB44 FontB48 FontB84 FontB88 **Code Page** PC437 (USA:Standard Europe) Katakana PC850 (Multilingual) PC860 (Portuguese) PC863(Canadian-French) PC865 (Nordic) PC851 (Greek) PC853 (Turkish) PC857 (Turkish) PC737 (Greek) ISO8859-7 (Greek) WPC1252 PC866 (Cyrillic #2) PC852 (Latin 2) PC858 (Euro) KU42 TIS11 (Thai) TIS18 (Thai) TCVN-3 (Vietnamese) PC720 WPC775 PC855 (Cylillic) PC861 (Icelandic) PC862 (Hebrew) PC864 (Arabic) PC869 (Greek) ISO8859-2 (Latin2) ISO8859-15 (Latin9) PC1098 (Farsi) PC1118 (Lithuanian) PC1119 (Lithuanian) PC1125 (Ukrainian) WPC1250 WPC1251 WPC1253 WPC1254 WPC1255 WPC1256 WPC1257 WPC1258 KZ-1048 (Kazakhstan)
	FontA11(255) FontA12(255) FontA21(255) FontA22(255) FontA24(255) FontA42(255) FontA44(255) FontA48(255) FontA84(255) FontA88(255) FontB11(255) FontB12(255) FontB21(255) FontB22(255) FontB24(255) FontB42(255) FontB44(255) FontB48(255) FontB84(255) FontB88(255) • Space Page (255)
	ChineseBig5-11 ChineseBig5-12 ChineseBig5-21 ChineseBig5-22 ChineseBig5-24 ChineseBig5-42 ChineseBig5-44 ChineseBig5-48 ChineseBig5-84 ChineseBig5-88 • Big 5
Barcode Font	Barcode Font Points determined. When specifying a value other than this, the Barcode is not printed.
	Barcode1~Barcode8	Layout possible Barcode Codabar Code39 ITF JAN13(EAN) JAN8(EAN) UPC-A UPC-E Code93 Code128 GS1-128 GS1 DataBar Omni-directional GS1 DataBar Truncated GS1 DataBar Expanded GS1 DataBar Limited
2D-Code Font	Not supported

Item	Description
Control Font	Font Name : control , Point : 1 • No operations for characters other than those mentioned above. • Prohibited when rotation is selected. • Prohibited when resizing a font in a smaller size or when Water Mark is selected.

Char	Function	Char	Function
5	Transmits HT	k	NV graphics 3 printing (48,51)
6	Transmits LF	l	NV graphics 4 printing (48,52)
7	Transmits CR	w	Position alignment left
a	Open Drawer 5pin(50ms)	x	Position alignment center
b	Open Drawer 5pin(100ms)	y	Position alignment right
c	Open Drawer 5pin(150ms)	A	Open Drawer 2pin(50ms)
d	Open Drawer 5pin(200ms)	B	Open Drawer 2pin(100ms)
e	Open Drawer 5pin(250ms)	C	Open Drawer 2pin(150ms)
g	No paper feeding + Partial cut	D	Open Drawer 2pin(200ms)
h	NV graphics 0 printing (48,48)	E	Open Drawer 2pin(250ms)
i	NV graphics 1 printing (48,49)	P	Paper feeding +Partial cut
j	NV graphics 2 printing (48,50)		

Item	Description
ControlA Font	Font Name : controlA , Point : 1 • Characters defined by ControlA Font Character Translation Table. • No operations for characters not defined. No printing for spaces. • No paper feeding for any functions that do not include paper feeding. • Prohibited when rotation is selected. • Prohibited when resizing a font in a smaller size is selected.
Resolution	180x180DPI

Paper Size	80mm Roll Paper
	    Paper Size 80mm x 297mm (566dot x 2104dot)
	    Printing Width 72.2mm (512dot)
	    Margin top 0mm bottom 0mm
	                       left 3.6mm(26dot) right 3.9mm(28dot)
	58mm Roll Paper
	    Paper Size 58mm x 297mm (411dot x 2104dot)
	    Printing Width 50.8mm (360dot)
	    Margin top 0mm bottom 0mm
	                       left 3.6mm(26dot) right 3.5mm(25dot)
	User Defined Paper Size
	      Width 50.8~210.0mm, Height 25.4~3276.0mm
	Logic paper size (when resizing in a smaller size)
	      A4 210mm x 297mm
	      LT. 8.5 x 11 in.
	      Postcard 100 x 148 mm

Rotate	Normal Rotate by 90 Degrees Rotate by 180 Degrees Rotate by 270 Degrees
Reduce Printing	ON/OFF Fit to Printable Width/Custom(10 - 100%)
Water Mark	Not supported