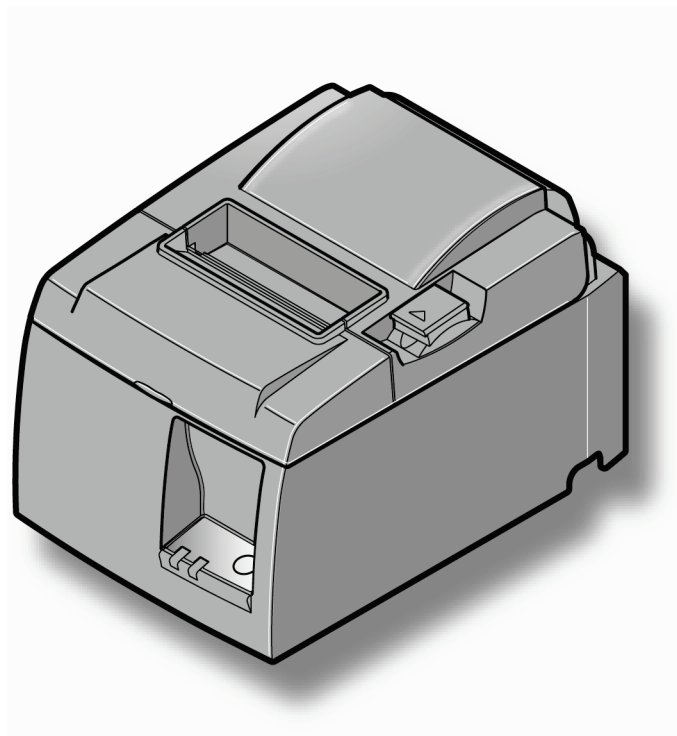




Software Manual



Applicable Models

- TSP100ECO
- TSP100GT
- TSP100LAN
- TSP100U/PUSB

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Getting Started

This software supports the following Windows operating systems.

- Windows 8 * 32-bit and 64-bit (except WindowsRT)
- Windows 7 32-bit and 64-bit
- Windows Vista 32-bit and 64-bit
- Windows XP (Service Pack 2 or later)

* Limitation for Windows 8

- Star original Printer Driver Function (e.g. Logo Setting) can not be changed from "Modern UI". However, once the setting of its function is changed from "Desktop UI", these function can be used on "Modern UI" as well.
- USB Printer will not be appeared in [Device and Printer] if its power is off.
- Error status (e.g. Paper empty during printing) will not be shown in "Modern UI".

1. Installation and Uninstallation

To use the TSP100 futurePRNT product in a Windows environment, you need to install this printer driver in advance.

Notes:

If the TSP100GT (version 1.0a or earlier) or TSP100LAN (version 1.1a or earlier) driver utility application is installed, uninstall it before starting operations.

To install the driver utility application, follow the procedure shown below.

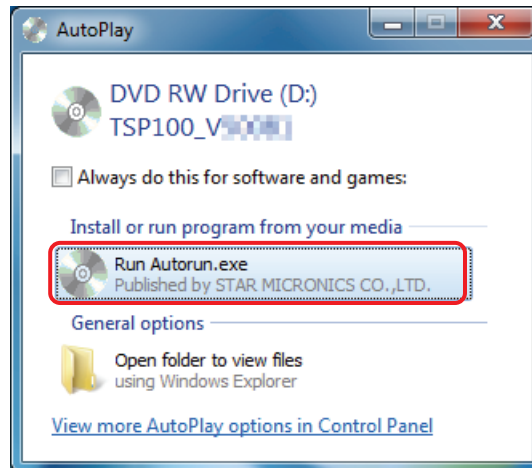
1.1. Installing CD

Notes:

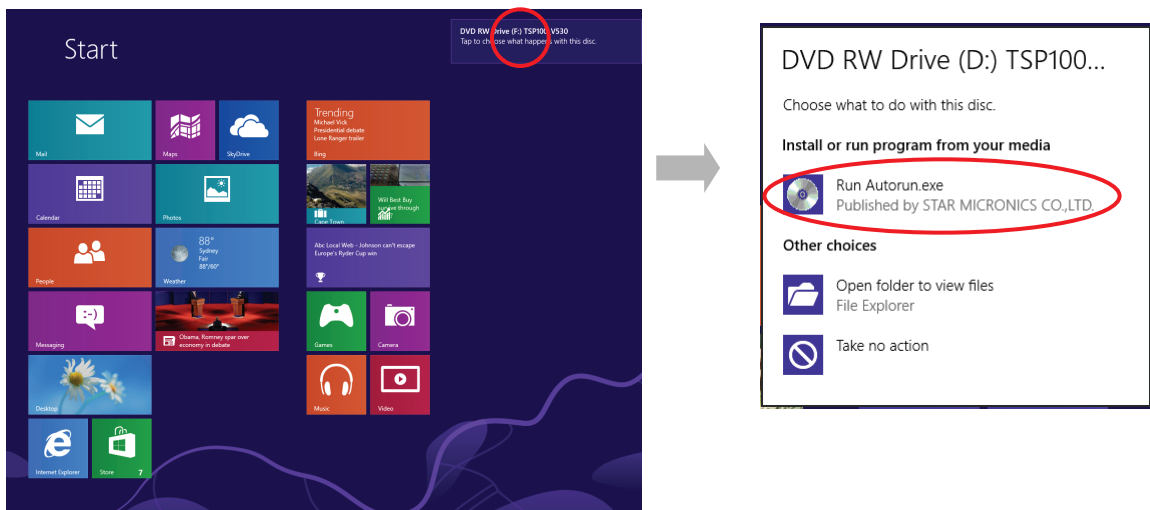
CD installation requires computer administrator privileges.

Execute steps (1) to (12) before connecting the TSP100 futurePRNT.

- (1) Insert the CD-ROM supplied with the TSP100 futurePRNT into the CD-ROM drive of your computer.
- (2) In Windows 7 or Vista, the following window appears. Click “Run Autorun.exe”.



⌘ **In Windows 8:** Toast pop up will be appeared after CD-ROM is set.
After that, click [Run Autorun.exe].



- (3) Then, the following window will appear.
Click "Installation" on the menu.

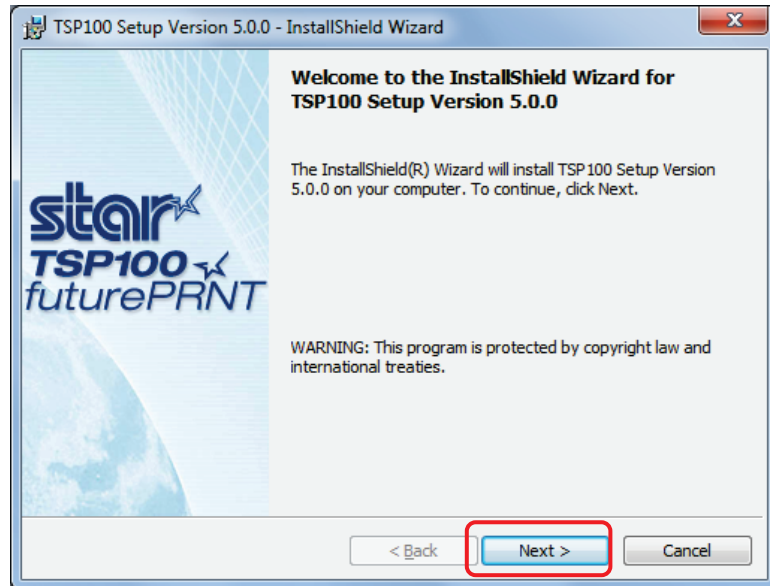


- (4) Read this software license agreement carefully. If you agree to the terms of this license, click "I Accept".

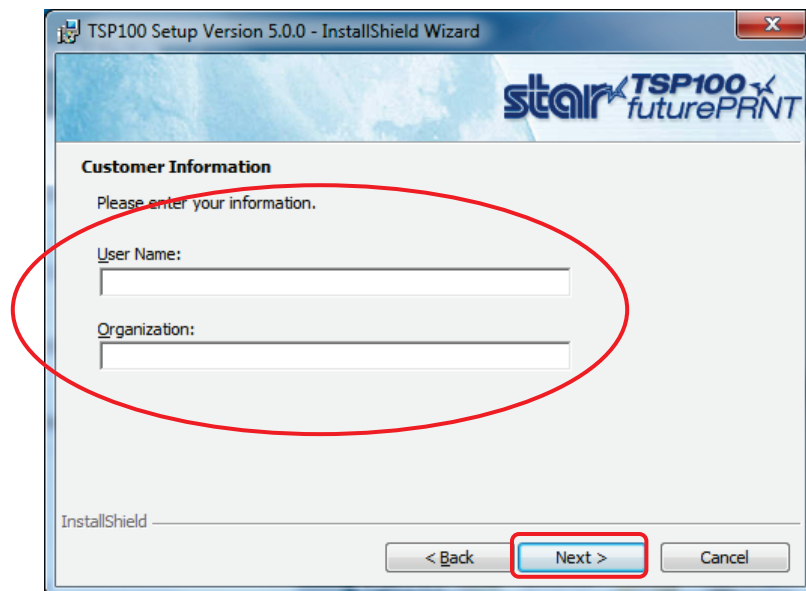


- (5) In Windows 7 or Vista, the "User Account Control" window will appear. Click "Yes" or "Continue".

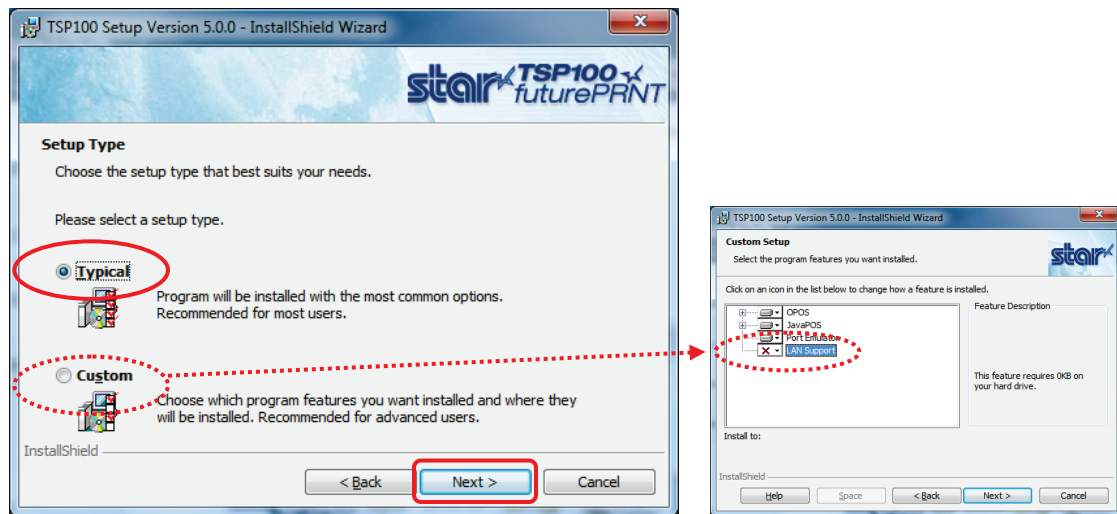
- (6) Click “Next” to continue.



- (7) Choose the user and then click “Next” to continue.

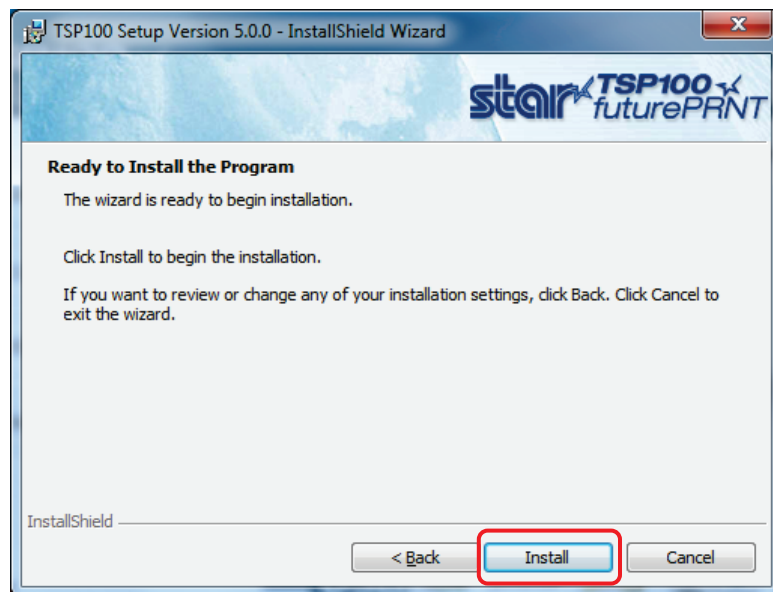


- (8) Choose the “Typical” installation option to be sure that all of the TSP100 futurePRNT’s options are installed and then click “Next” to continue.

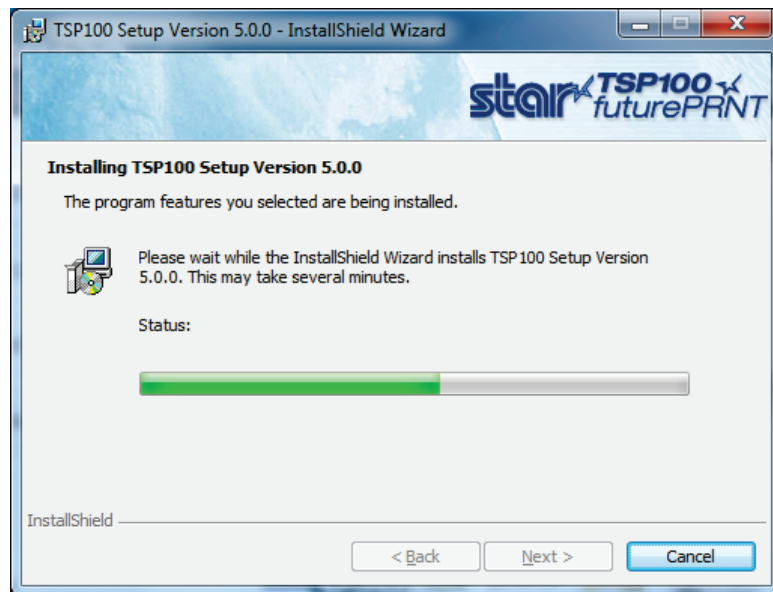


When not using the LAN function (Ethernet Setup Tool), you can select "Custom" to uninstall the "LAN Support function".

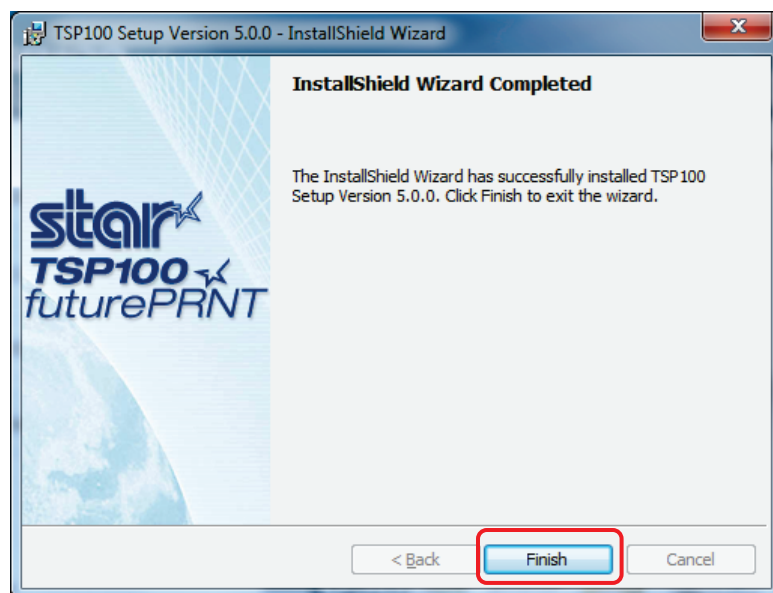
- (9) Click “Install” to begin the installation process.



- (10) The files and programs are now being installed on the computer.



- (11) At this point, all drivers and programs have been installed. Click “Finish” to close the wizard.



- (12) Click "Exit" to close the following window.



- (13) The subsequent steps vary depending on the model you are using.

1.2 Adding a Printer (TSP100U/PU/GT/ECO)

1.3 Adding a Printer (TSP100LAN)

1.2. Adding a Printer (TSP100U/PU/GT/ECO)

- (1) Load roll paper in the TSP100 futurePRNT, and connect to a computer.



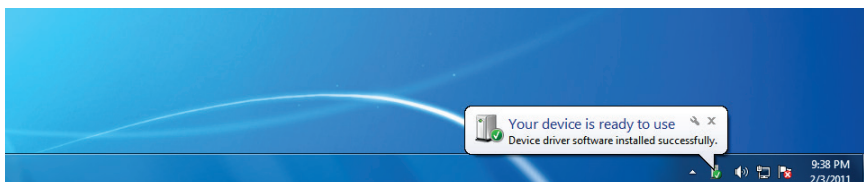
For information about how to load paper and connect to a computer, refer to the TSP100 futurePRNT hardware manual.

To view the hardware manual, select "Documents/SDK" on the "CD auto" menu, and click "Hardware Manual".

- (2) Turn the TSP100 futurePRNT on.

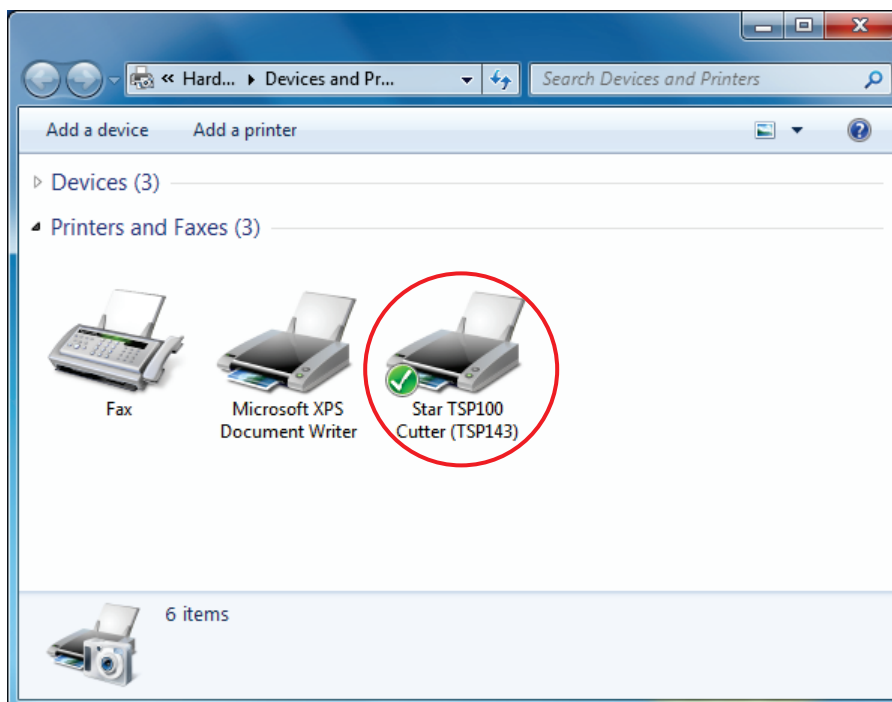
With "Plug and Play", the computer detects a new hardware product and automatically installs the printer driver.

Then, the following window will appear in the lower right of the Windows screen.



- (3) In Control Panel, select "Devices and Printers" for Windows 7, "Printers" for Windows Vista, and "Printers and Faxes" for Windows XP.

If "Star TSP100" appears, installation is completed.



1.3. Adding a Printer (TSP100LAN)

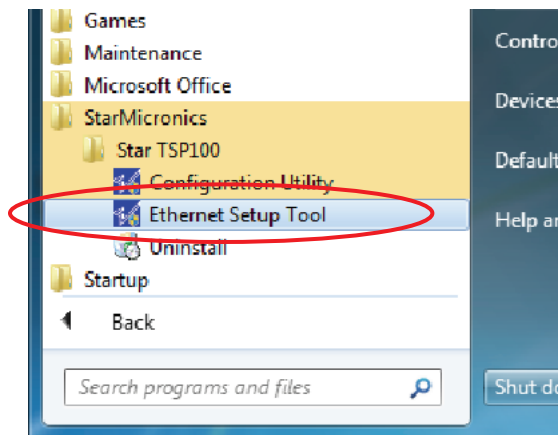
Notes:

Printer addition requires computer's administrator privileges.

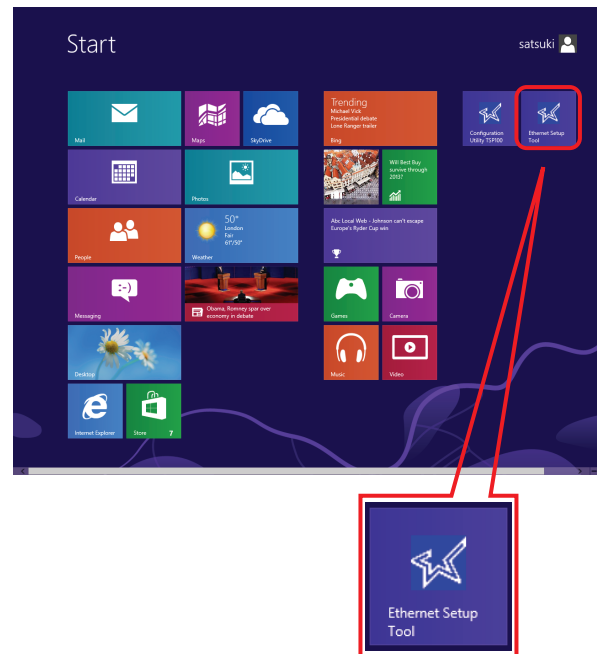
1.3.1. Printer LAN Settings

- (1) Turn the TSP100 futurePRNT on.
- (2) From the Windows Start menu, select “Programs (All Programs)” - “StarMicronics” - “Star TSP100” - “Ethernet Setup Tool”.

In Windows 7:

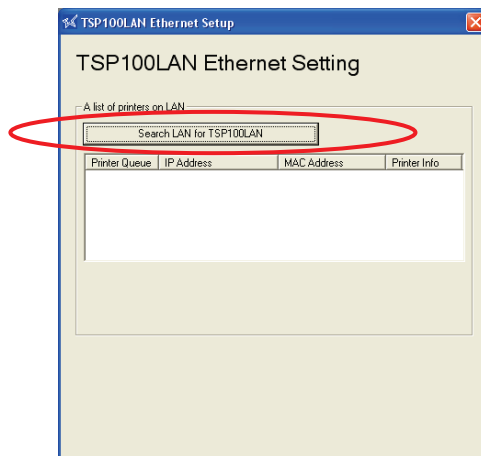


In Windows 8:



- (3) In Windows 7 or Vista, the "User Account Control" window will appear. Click "Yes" or "Allow".

- (4) When the following dialog appears, click [Search LAN for TSP100LAN].



The factory network settings of the TSP100LAN printer are as follows.

IP address: 0.0.0.0 (Unassigned)
Subnet mask: 0.0.0.0 (Unassigned)
Default gateway: 0.0.0.0 (Unassigned)
Use DHCP: Selected.

Notes:

If a Windows security alert window appears, click “Unblock”, and also click “Search LAN for TSP100LAN” again to search once more. If you have failed to search for the TSP100LAN printer, disable firewall settings, and click “Search LAN for TSP100LAN” again.

When the DHCP server is not available in Windows 7 or Vista, you cannot search for a printer that is not assigned to any IP address while it remains set to the factory default setting.

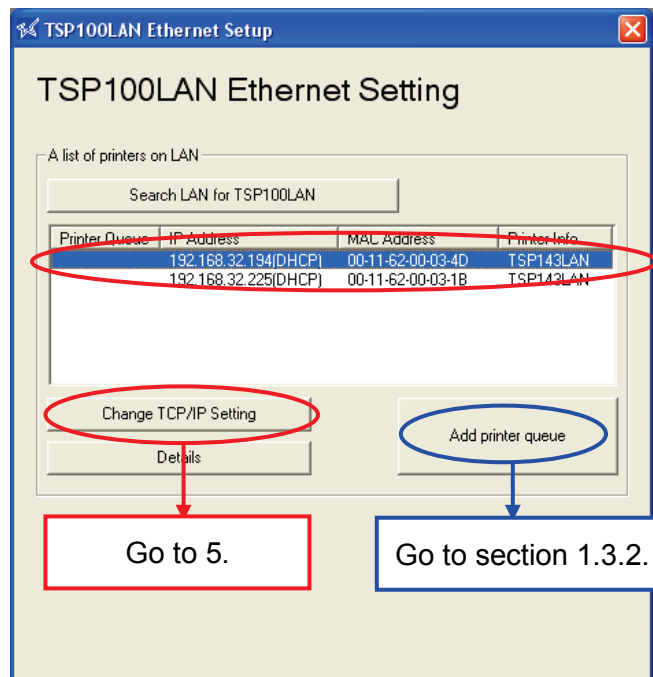
Before starting operations, specify the IP address for the printer, referring to "Chapter 6 Guideline for Using Ethernet Environment".

- (5) The TSP100LAN printer appears in the LAN printer list.

If multiple TSP100LAN printers are listed, you can identify the desired printer by referring to the indicated MAC address.

If you wish to use the IP address assigned by the DHCP server, click the [Add printer queue] button. Then proceed to Section 1.3.2, "Creating a Printer Queue", below.

If you wish to assign a fixed IP address for the printer, click [Change TCP/IP Setting].

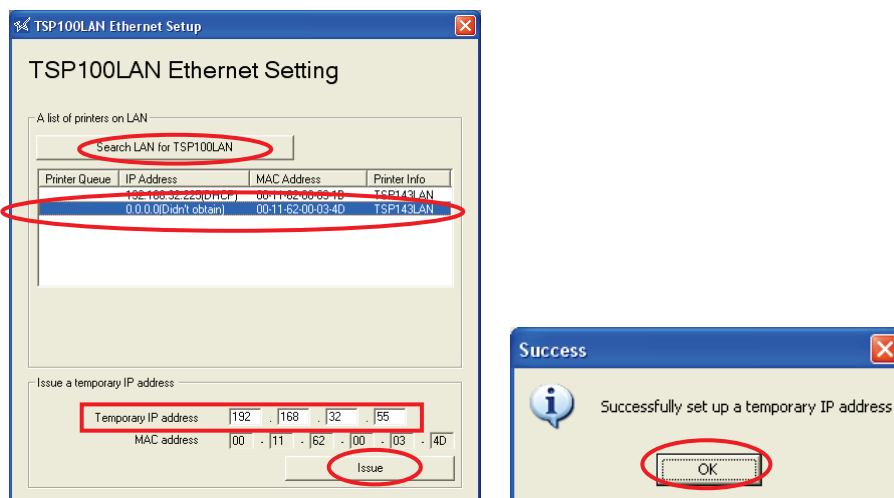


You can find the printer's MAC address by printing a self-test. For details, see the printer's hardware manual.

■ **When the IP address cannot be obtained from the DHCP server in Windows XP:**

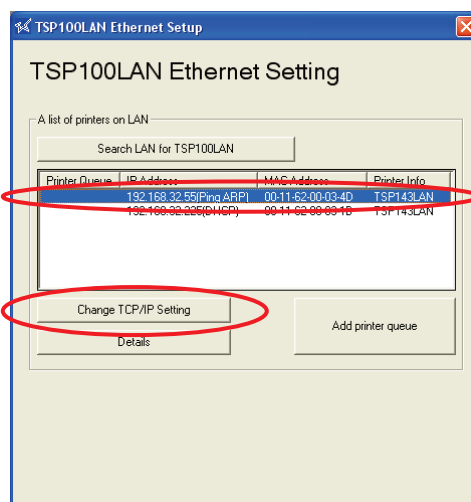
When the DHCP server is not available in Windows XP, "0.0.0.0 (Didn't obtain)" is displayed in the 'IP address' field for a printer that is not assigned to any IP address. To use such a printer, follow the steps below to specify the IP address.

- 1) If a printer with no IP address specified is selected, the "Issue a temporary IP address" item will appear. Enter any IP address in the 'Temporary IP address' field, and click "Issue"; a temporary IP address is temporarily assigned to the printer.



A temporary IP address is disabled when the printer is turned off. Then, specify a fixed IP address.

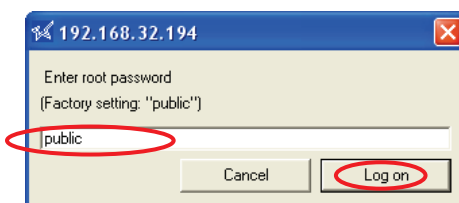
- 2) When a temporary IP address is assigned to the printer, the specified IP address (Ping ARP) will appear in the "IP address" column. Select this printer, and click "Change TCP/IP Setting".



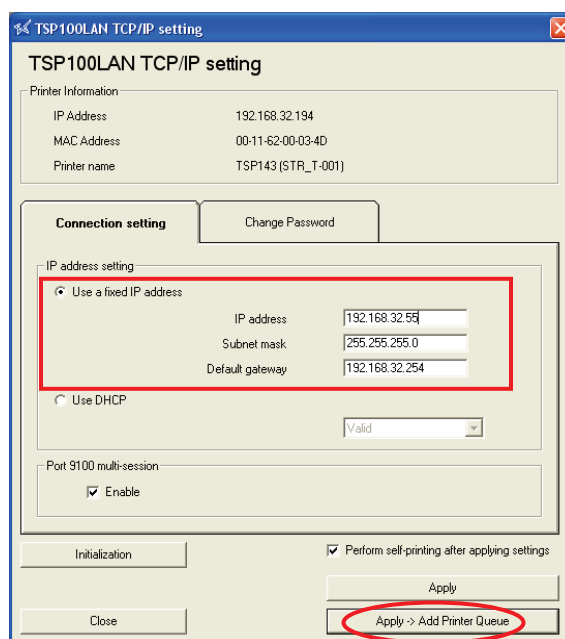
- 3) Specify a fixed IP address in the TSP100LAN TCP/IP setting window.

- (6) When the following dialog appears, enter the root password and click **[Log On]**. The factory default setting for the password is "public".

(If the password has already been changed, use the current password.)

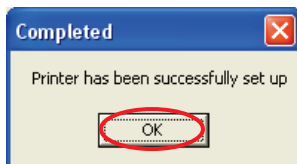


- (7) If you wish to assign a fixed IP address to the printer, select **Use a fixed IP address**. Then enter appropriate values for the IP address, subnet mask, and default gateway. Then click **[Apply] → [Add Printer Queue]**.



- If you enable **Port 9100 multi-session**, it will be possible for terminals to get status from the printer even when multiple terminals are connected simultaneously.
- If "Disconnect Message Print" is set to Enable, "NO HOST CONNECTION" will be printed when the printer has been disconnected. This function is available in firmware version 110.110.100 or later of the printer.
- If you select **Perform self-printing after applying settings**, the printer will execute a self-test print after setup is completed.
- If you click **Initialization**, all settings (including the password setting) return to their factory defaults.
- It is possible to set a fixed IP address from another segment. If you do so, however, the printer will no longer be locatable by the Ethernet Setup Tool's LAN search.

- (8) If setup is successful, the printer resets itself and the following dialog appears. Click **OK**.



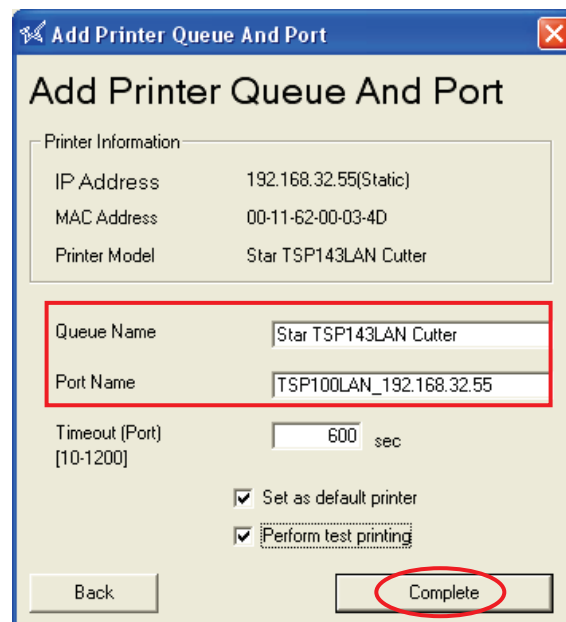
Note: After the printer reset, it may take a short time (perhaps 20 seconds) for the printer to be found again.

If the printer fails to reappear on the printer list after a noticeable amount of time has passed, retry the search by clicking again on the [Search LAN for TSP100LAN] button.

- (9) If you enabled the self-print, check the resulting printout to confirm that the network settings were made correctly. Then proceed to Section 1.3.2, "Creating a Printer Queue."

1.3.2. Creating a Printer Queue

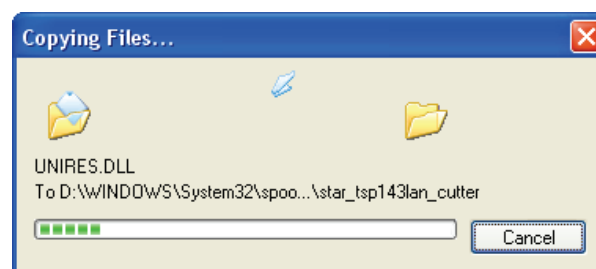
- (1) The following dialog now appears. The dialog shows the queue name and port name for the printer you are setting up. You can leave the names as they are, or you can change them to anything you prefer. If you wish to use this printer as your default printer, check **[Set as default printer]**. If you want to output a test print after completing the settings, check **[Perform test printing]**. After making appropriate settings, click **[Complete]**.



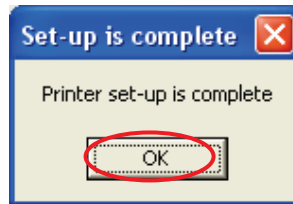
The following characters can be used in queue and port names.

- Queue name:** Uppercase and lowercase letters, numerals (0 to 9), hyphens, underscores, periods, spaces, and parentheses.
- Port name:** Uppercase and lowercase letters, numerals (0 to 9), hyphens, underscores, and periods.

The setup utility copies the relevant files.

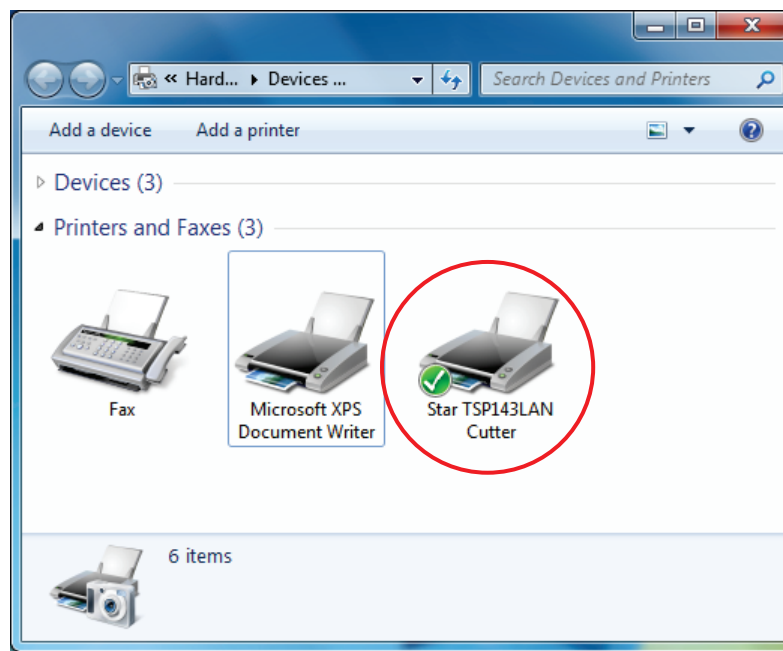


- (2) If creation of the printer queue is successful, the following dialog appears. Click **[OK]**.



- (3) In Control Panel, select “Devices and Printers” for Windows 7, “Printers” for Windows Vista, and “Printers and Faxes” for Windows XP.

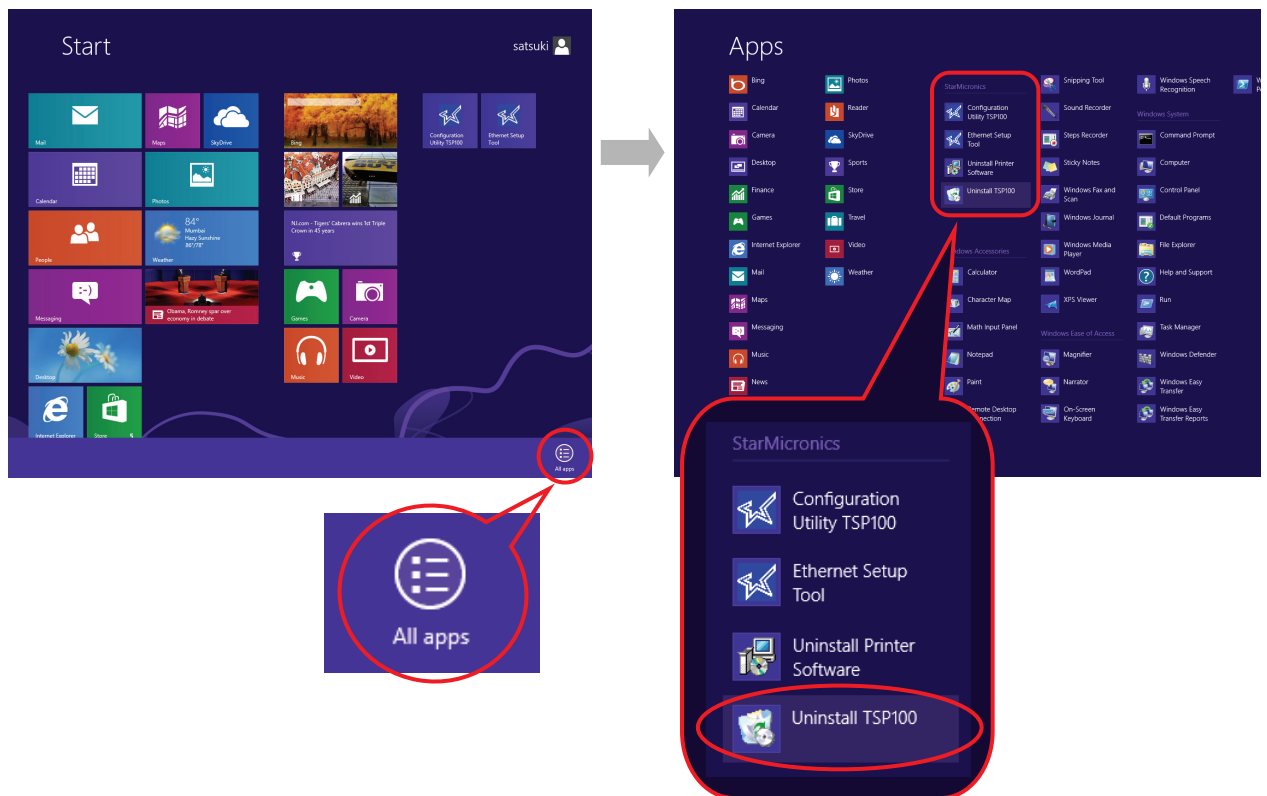
If the Star TSP100LAN printer is found in the window, installation is completed.



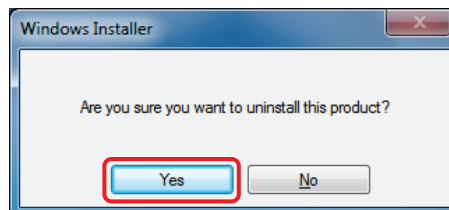
1.4. Uninstallation

- (1) Turn the printer off.
- (2) From the Windows Start menu, select “All Programs” → “StarMicronics” → “Star TSP100” → “Uninstall”.

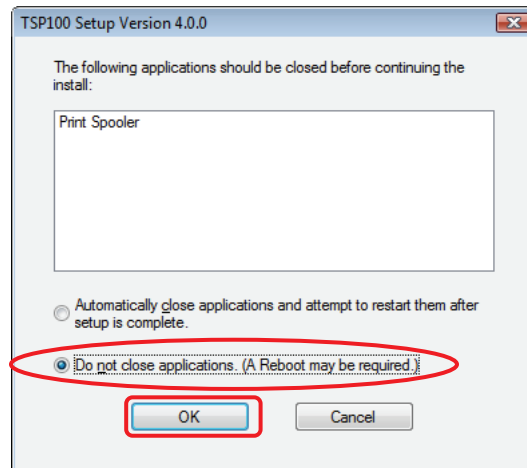
⌘ **In Windows 8:** Click [All apps] which is appeared when you right-click at out of panel. Select [Star Micronics]-[Uninstall TSP100].



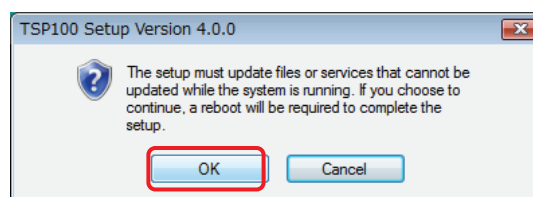
- (3) In the User Account Control dialog box, click the “Continue” or “Allow”.
- (Windows 7/Vista only)
- (4) When the following confirmation dialog box appears, click “Yes” to continue.



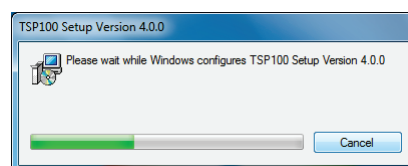
- (5) If the following window appears, select “Do not close applications” and click “OK”.



- (6) If the following window appears, click “OK”.



- (7) The uninstaller launches to remove all of the TSP100 software form your computer.



2. Features

2.1. Star Windows Printer Driver

The Star Windows Printer Driver is used to apply the futurePRNT series in Windows 7, Vista, or Windows XP. Using this printer driver allows you to handle basic printing functions in many Windows applications. It also allows you to configure graphic logo and peripheral unit (buzzers and cash drawers) settings.

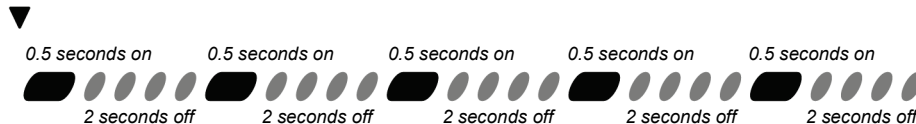
This printer driver, which supports a diverse range of device fonts, enables you to generate and print barcodes and 2D codes of various standards or sizes using barcode fonts and 2D code fonts, and also control the printer using control fonts.

The following shows a driver setting example when a buzzer is used as an option.

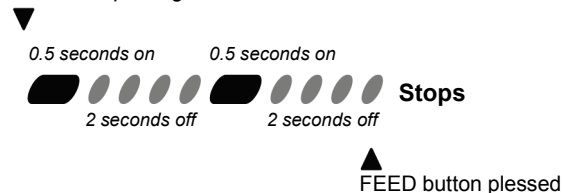
Example of driver settings:

Peripheral Unit Type	Buzzer
Peripheral Unit 1	Document Bottom
Peripheral Unit 2	No Use
Buzzer 1: On Time	500 milliseconds
Buzzer 1: Off Time	2000 milliseconds
Buzzer 1: Repeat	5

Document printing finishes



Document printing finishes



2.2. OPOS Driver

OLE for Retail Point of Sale (OPOS) was created by industry leaders as a device standard for POS hardware. OPOS is a Win32-based architecture for POS device access. The benefits of this standard are realized in the ease of access to hardware in not only outputting data to devices, but also reading back the status of the device.

This OPOS driver can be used with any existing OPOS compliant application. Star also recommends use of the OPOS standard to any developer creating a Win32-based retail software application.

Star's OPOS driver offers full compliance with the OPOS standard version 1.13.

2.3. JavaPOS Driver

JavaPOS (Java for Retail Point of Sale) is an architecture used to access Java-based POS peripheral units. It has a feature that enables operations in a platform-independent environment, taking advantage of the OPOS standard. Also, in a Java virtual computer, the minimum system requirements are lowered, thus reducing overall system costs as well.

This driver offers full compliance with the JavaPOS standard version 1.13.

The location of the JavaPOS driver installer is different for Windows 32-bit and 64-bit systems. Confirm your operating environment and then install the necessary package.

Installer Location for Windows 32-bit Environments:

Program Files\StarMicronics\TSP100\Software\20110922\JavaPOSExamples

Installer Location for Windows 64-bit Environments:

- **64-bit Java Operation Environment:**

Program Files\StarMicronics\TSP100\Software\20110922\JavaPOSExamples

- **32-bit Java Operation Environment:**

Program Files(x86)\StarMicronics\TSP100\Software\20110922\JavaPOSExamples

To use this driver under the JavaPOS application, you should set the Java runtime environment to Java Runtime Environment (JRE)1.5 or later.

To use this driver in Java Runtime Environment version 1.4.2, configure the following settings as a starting option to run the JavaPOS application.

-Dsmj.dllpath=<StarIOPort.dll and StarIOJ.dll absolute-path-of-storage-folder>

At normal installation, the DLL file above is stored in the following folder.

Program Files\StarMicronics\TSP100\Software\20110922

Setting example:

Java-Dsmj.dllpath=

"C:\Program Files\StarMicronics\TSP100\Software\20110922" application.class

2.4. Star Virtual Serial Port Emulator

This function allows you to use the TSP100U/PU/GT/ECO with the USB interface equipped or the TSP100LAN with the Ethernet interface equipped using applications for a serial printer.

Notes:

This function may not be available depending on applications.

2.5. *ESC/POS Mode*

The TSP100 futurePRNT provides ESC/POS mode emulation, which can be configured in “TSP100 Configuration Utility”. Thus, even if your current software is designed for the ESC/POS mode, you will be able to use it as is, without making changes.

The functions (logo printing, journal, etc.) of the TSP100 futurePRNT remain usable even when you print in the ESC/POS mode.

For information about how to use the ESC/POS mode, refer to "4.18 Print Job Routing (Write Printer)".

2.6. *Star Virtual TCP/IP Port Emulator <TSP100LAN Only>*

You can use the TSP100LAN Setup Utilities to set up virtual TCP/IP ports. This will enable you to continue using applications that directly designate their own TCP/IP sockets.

3. Windows Printer Driver Usage

3.1. Device Settings

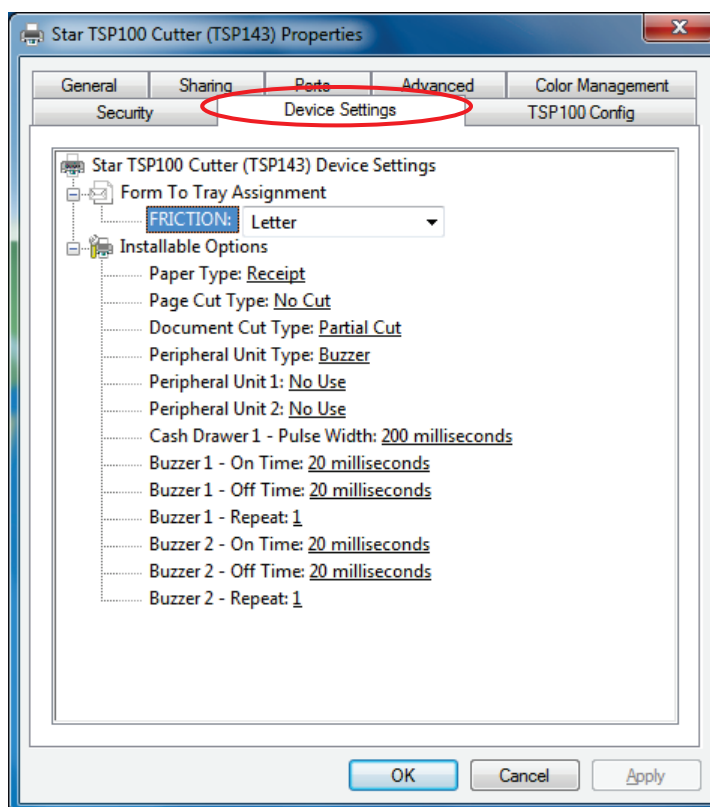
Various functions of this driver can be configured in “Properties” menu of the printer.
In case of using Windows 8, change the setting from “Desktop UI” in order to change settings.

First, follow the steps shown below to open the Properties window.

Notes:

Device settings require computer administrator privileges.

- (1) In Control Panel, select “Devices and Printers” for Windows 7, “Printers” for Windows Vista, and “Printers and Faxes” for Windows XP.
- (2) Right-click on the icon of the target printer queue. Then, in the pull-down menu, select “Printer Properties” for Windows 7 and “Properties” for Windows Vista or Windows XP.
- (3) Click “Device Settings”.



Paper Type

You can choose the length of each printed page.

Value	Default	Details
Receipt	*	Pages have variable length (printed to last line).
Ticket		All printed pages have same length.

Page Cut Type (Cutter Model only)

You can choose the cut type that is performed at the end of all intermediate pages (all pages up to the last page).

Value	Default	Details
No Cut	*	No intermediate pages are fed to the cutter.
Partial Cut		All intermediate pages are fed to the cutter and are partially cut.

Document Cut Type

You can choose the Cut action for the final page.

< Cutter Model >

Value	Default	Details
No Cut		The final page is not fed to the cutter.
Partial Cut	*	The final page is fed to the cutter and partially cut.

< Tear Bar Model >

Value	Default	Details
No Cut		The final page is not fed to the tear bar.
Tear Bar	*	The final page is fed to the tear bar.

Peripheral Unit Type

Use this setting to select the type of peripheral to be used with the printer.

Value	Default	Details
Buzzer	*	Use buzzers as peripheral device.
Cash Drawer		Use buzzers as peripheral device.

Caution:

When using a peripheral unit such as a cash drawer other than a buzzer, do not select "Buzzer".

If selected, it may result in damage to a peripheral unit.

Notes:

The buzzer and cash drawer are optional devices.

They cannot be used at the same time.

Peripheral Unit 1

This setting selects the action timing for peripheral unit 1.

Note that the **Page Top** and **Page Bottom** selections are not available if you have set the Peripheral Unit Type to **Cash Drawer**.

Value	Default	Details
No Use	*	Peripheral unit 1 not used.
Document Top		Activate at top of document.
Page Top		Activate at top of page.
Page Bottom		Activate at bottom of page.
Document Bottom		Activate at bottom of document.

Peripheral Unit 2

This setting selects the action timing for peripheral unit 2.

Note that the **Page Top** and **Page Bottom** selections are not available if you have set the Peripheral Unit Type to **Cash Drawer**.

Value	Default	Details
No Use	*	Peripheral unit 2 not used.
Document Top		Activate at top of document.
Page Top		Activate at top of page.
Page Bottom		Activate at bottom of page.
Document Bottom		Activate at bottom of document.

Cash Drawer 1 Pulse Width

You can choose the length of the open drawer signal that is sent from the printer to Cash Drawer 1.

Value	Default	Details
10 milliseconds		Pulse width is set as 0.01 sec.
100 milliseconds		Pulse width is set as 0.1 sec.
200 milliseconds	*	Pulse width is set as 0.2 sec.
300 milliseconds		Pulse width is set as 0.3 sec.
400 milliseconds		Pulse width is set as 0.4 sec.
500 milliseconds		Pulse width is set as 0.5 sec.
600 milliseconds		Pulse width is set as 0.6 sec.
700 milliseconds		Pulse width is set as 0.7 sec.
800 milliseconds		Pulse width is set as 0.8 sec.
900 milliseconds		Pulse width is set as 0.9 sec.
1,000 milliseconds		Pulse width is set as 1.0 sec.
1,100 milliseconds		Pulse width is set as 1.1 sec.
1,200 milliseconds		Pulse width is set as 1.2 sec.

Buzzer1 - On Time

If the Peripheral Unit Type is set to **Buzzer**, this setting selects the beep ON time for the buzzer operating as peripheral unit 1.

Value	Default	Details
20 milliseconds	*	Sound on for 0.02 sec.
40 milliseconds		Sound on for 0.04 sec.
100 milliseconds		Sound on for 0.1 sec.
200 milliseconds		Sound on for 0.2 sec.
500 milliseconds		Sound on for 0.5 sec.
1,000 milliseconds		Sound on for 1.0 sec.
2,000 milliseconds		Sound on for 2.0 sec.
5,000 milliseconds		Sound on for 5.0 sec.

Buzzer1 - Off Time

If the Peripheral Unit Type is set to **Buzzer**, this setting selects the beep OFF time for the buzzer operating as peripheral unit 1.

Value	Default	Details
20 milliseconds	*	Silent on for 0.02 sec.
40 milliseconds		Silent on for 0.04 sec.
100 milliseconds		Silent on for 0.1 sec.
200 milliseconds		Silent on for 0.2 sec.
500 milliseconds		Silent on for 0.5 sec.
1,000 milliseconds		Silent on for 1.0 sec.
2,000 milliseconds		Silent on for 2.0 sec.
5,000 milliseconds		Silent on for 5.0 sec.

Buzzer1 - Repeat

If the Peripheral Unit Type is set to **Buzzer**, this setting selects the number of beeps produced by buzzer #1 when it is activated. (Each beep will sound for the specified ON time, followed by silence for the specified OFF time). Note that you can force the buzzer off at any time by pressing the FEED button.

Value	Default	Details
1	*	1 beep
2		2 beep
3		3 beep
5		5 beep
10		10 beep
15		15 beep
20		20 beep

Buzzer2 - On Time

If the Peripheral Unit Type is set to **Buzzer**, this setting selects the beep ON time for the buzzer operating as peripheral unit 2.

Value	Default	Details
20 milliseconds	*	Sound on for 0.02 sec.
40 milliseconds		Sound on for 0.04 sec.
100 milliseconds		Sound on for 0.1 sec.
200 milliseconds		Sound on for 0.2 sec.
500 milliseconds		Sound on for 0.5 sec.
1,000 milliseconds		Sound on for 1.0 sec.
2,000 milliseconds		Sound on for 2.0 sec.
5,000 milliseconds		Sound on for 5.0 sec.

Buzzer2 - Off Time

If the Peripheral Unit Type is set to **Buzzer**, this setting selects the beep OFF time for the buzzer operating as peripheral unit 2.

Value	Default	Details
20 milliseconds	*	Silent for 0.02 sec.
40 milliseconds		Silent for 0.04 sec.
100 milliseconds		Silent for 0.1 sec.
200 milliseconds		Silent for 0.2 sec.
500 milliseconds		Silent for 0.5 sec.
1,000 milliseconds		Silent for 1.0 sec.
2,000 milliseconds		Silent for 2.0 sec.
5,000 milliseconds		Silent for 5.0 sec.

Buzzer2 - Repeat

If the Peripheral Unit Type is set to **Buzzer**, this setting selects the number of beeps produced by buzzer #2 when it is activated. (Each beep will sound for the specified ON time, followed by silence for the specified OFF time). Note that you can force the buzzer off at any time by pressing the **[FEED]** button.

Value	Default	Details
1	*	1 beep
2		2 beeps
3		3 beeps
5		5 beeps
10		10 beeps
15		15 beeps
20		20 beeps

3.2. Paper Size Settings

This driver allows you to use both the predefined and user-defined paper sizes.

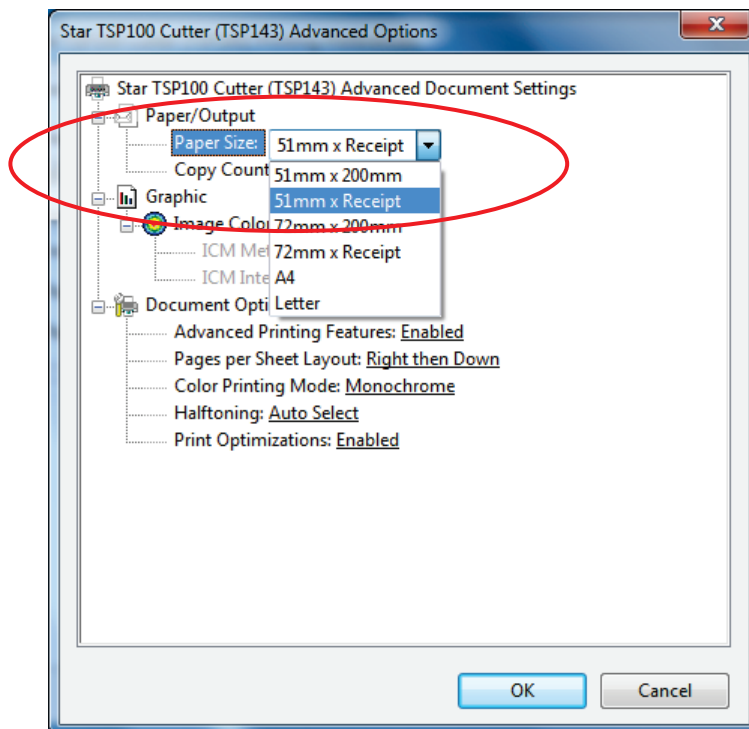
Each paper size is defined by "width" and "length", enabling printing of all the area in the defined range. Margin setting is not required in a document.

To print on a variable-length sheet such as a receipt, select the paper size that includes "Receipt" in the paper size name, and set "Paper Type" to "Receipt".

When configuring paper size settings, note that those of a print application have priority over paper size or the user's settings.

If a print application does not provide any paper size setting item, configure the following setting.

- (1) In Control Panel, select "Devices and Printers" for Windows 7, "Printers" for Windows Vista, and "Printers and Faxes" for Windows XP.
- (2) Right-click on the icon of the target printer queue, and select "Printing preferences" in the pull-down menu.
- (3) Click "Advanced" in the "Layout" tab to open the detailed option, and select the paper size.



3.2.1. Standard Paper Sizes

This driver set defines two standard paper sizes (Built-in paper size) - A4, Letter, four custom paper sizes, and also supports user defined paper sizes.

The following table is the list of the custom paper sizes supported by this printer driver.

Built-in paper sizes	Width	Length
72 mm x 200 mm	72 mm	200 mm
72 mm x Receipt	72 mm	3,000 mm
51 mm x 200 mm	51 mm	200 mm
51 mm x Receipt	51 mm	3,000 mm
A4	210 mm (Printable area is 72 mm)	297 mm
Letter	8.5 inch (Printable area is 72 mm)	11 inch



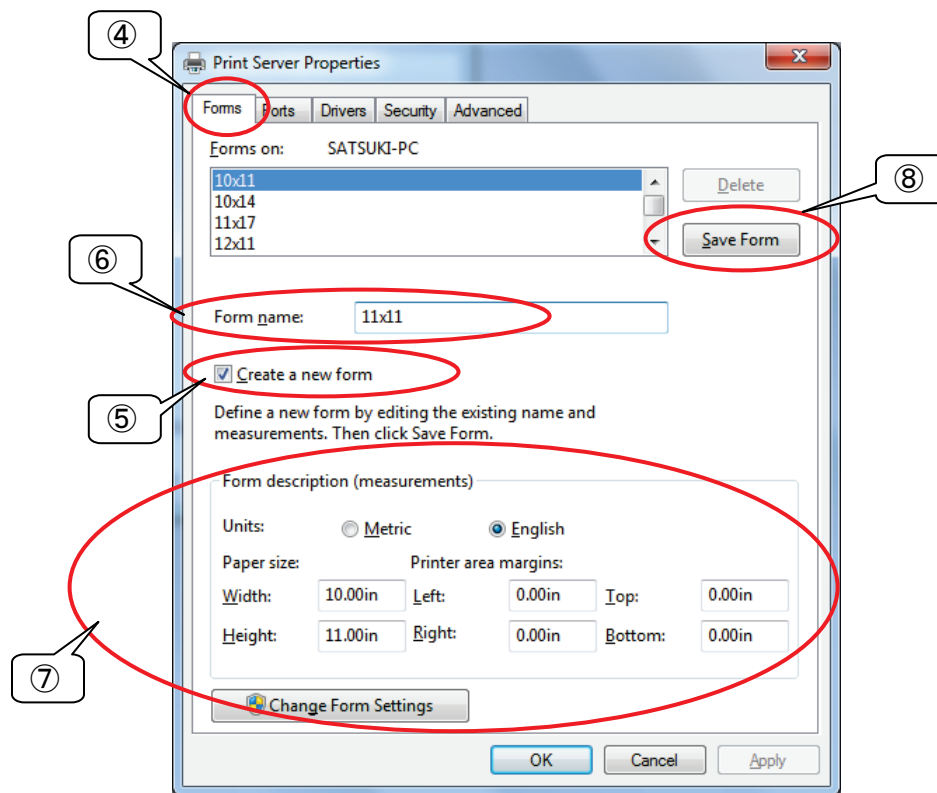
The paper width is set as printable area.

For example, if you use 80 mm width roll paper, set paper size to 72 mm.

3.2.2. User-Defined Paper Size

Follow the steps below to specify a user-defined paper size using a Windows standard function.

- (1) In Control Panel, select “Devices and Printers” for Windows 7, “Printers” for Windows Vista, and “Printers and Faxes” for Windows XP.
- (2) In Windows 7, select a target printer, and click "Print Server Properties" in the menu. In Windows Vista and XP, right-click on a blank space in the folder. Then, in the pull-down menu, select “Run as administrator” - “Properties” for Windows Vista and “Properties” for Windows XP.
- (3) In Windows Vista, the "User Account Control" window will appear. Click "Continue".
- (4) Click the "Forms" tab.
- (5) Check the "Create a new form" checkbox.
- (6) Change the name currently displayed in the ‘Form name’ field, and specify a new name.
- (7) Select the units of measurements (either Metric or English) in the ‘Form description’ field. Then, enter the desired value in "Width" and "Height" under Paper size.
- (8) Click “Save Form”. Click “OK” to close the window.



Notes:

The allowable paper sizes are as follows.

A user-defined paper size must be created in the range shown below.

Paper width: 25.4 to 72mm

Paper length: 25.4 to 3,276mm

3.3. Device Font Usage

This driver supports various device fonts.

Printer fonts provide some font sizes, enabling clearer printing than for the TrueType font. Using barcode and 2D code fonts allow you to generate and print barcodes and 2D codes of various standards and sizes you entered. Using a control font also allows you to embed a character-base command into a print job, enabling a printer control.

The table below shows a list of device fonts supported by this printer driver.

To use a device font, specify the correct font and font size (point) at formatting of your application. In Microsoft Word or Excel, specify height "24 pixels = 8.5 points".

Device Font Name	Width (Pixels)	Height (Pixels)	Number of digits, 72 mm (576 dots)	Details
Printer 7cpi	30	24	19	Printer font (ANK font A)
Printer 7cpi Tall	30	48	19	
Printer 8cpi	26	24	22	
Printer 8cpi Tail	26	48	22	
Printer 8.5cpi	24	24	24	
Printer 8.5cpi Tail	24	48	24	
Printer 14cpi	15	24	38	
Printer 14cpi Tail	15	48	38	
Printer 16cpi	13	24	44	
Printer 16cpi Tail	13	48	44	
Printer 17cpi	12	24	48	
Printer 17cpi Tail	12	48	48	
Printer 7cpi (RED)	30	24	19	
Printer 7cpi Tail (RED)	30	48	19	
Printer 8cpi (RED)	26	24	22	
Printer 8cpi Tail (RED)	26	48	22	
Printer 8.5cpi (RED)	24	24	24	
Printer 8.5cpi Tail (RED)	24	48	24	
Printer 14cpi (RED)	15	24	38	
Printer 14cpi Tail (RED)	15	48	38	
Printer 16cpi (RED)	13	24	44	
Printer 16cpi Tail (RED)	13	48	44	

Device Font Name	Width (Pixels)	Height (Pixels)	Number of digits, 72 mm (576 dots)	Details
Printer 17dpi (RED)	12	24	48	
Printer 17dpi Tail (RED)	12	48	48	

Device Font Name	Width (Pixels)	Height (Pixels)	Number of digits, 72 mm (576 dots)	Details
Printer Front B 8.5dpi	24	24	24	Printer font (ANK font B)
Printer Front B 8.5dpi Tall	24	48	24	
Printer Front B 10dpi	20	24	28	
Printer Front B 10dpi Tall	20	48	28	
Printer Front B 11dpi	18	24	32	
Printer Front B 11dpi Tall	18	48	32	
Printer Front B 17dpi	12	24	48	
Printer Front B 17dpi Tall	12	48	48	
Printer Front B 20dpi	10	24	57	
Printer Front B 20dpi Tall	10	48	57	
Printer Front B 22.5dpi	9	24	64	
Printer Front B 22.5dpi Tall	9	48	64	
Printer Front B 8.5dpi (RED)	24	24	24	
Printer Front B 8.5dpi Tall (RED)	24	48	24	
Printer Front B 10dpi (RED)	20	24	28	
Printer Front B 10dpi Tall (RED)	20	48	28	
Printer Front B 11dpi (RED)	18	24	32	
Printer Front B 11dpi Tall (RED)	18	48	32	
Printer Front B 17dpi (RED)	12	24	48	
Printer Front B 17dpi Tall (RED)	12	48	48	
Printer Front B 20dpi (RED)	10	24	57	
Printer Front B 20dpi Tall (RED)	10	48	57	
Printer Front B 22.5dpi (RED)	9	24	64	
Printer Front B 22.5dpi Tall (RED)	9	48	64	

Device Font Name	Width (Pixels)	Height (Pixels)	Digit number 72 mm (576 dots)	Details
Control	12	24	48	Device control font
ESC_FONT	1	24	576	
UPC-E	12	24	48	Barcode device font
UPC-A	12	24	48	
JAN/EAN-8	12	24	48	
JAN/EAN-13	12	24	48	
CODE39	12	24	48	
ITF	12	24	48	
NW-7 (Codabar)	12	24	48	
QR_CNTL	1	24	576	2D code font
PDF417	1	24	576	
DATA1	1	24	576	
DATA2	1	24	576	
DATA3	1	24	576	

3.4. Control Font Usage

The Control device font is used to provide for control within the span of a single document.
This font is not used for character printing.

3.4.1. Control Font list

The following table is the list of the supported control device fonts.

Character	Function
A	Open cash drawer 1 for 50 mSec.
B	Open cash drawer 1 for 100 mSec.
C	Open cash drawer 1 for 150 mSec.
D	Open cash drawer 1 for 200 mSec.
E	Open cash drawer 1 for 250 mSec.
d	Open cash drawer 2 for 200 mSec.
6	LF
7	CR
F	Full Cut
P	Partial Cut
a	Set Left Alignment
b	Set Center Alignment
c	Set Right Alignment
e	Set 3mm line feed spacing (1/8 inch)
f	Set 4mm line feed spacing (1/6 inch)
g	Select USA international character set
h	Select France international character set
i	Select Germany international character set
j	Select England international character set
k	Select Denmark I international character set
l	Select Sweden international character set
m	Select Italy international character set
n	Select Spain I international character set
o	Select Japan international character set
p	Select Norway international character set

Character	Function
q	Select Denmark II international character set
r	Select Spain II international character set
s	Select Latin America international character set
t	Select turn over printing
u	Cancel turn over printing
v	Select the customer display
w	Deselect the customer display
x	Clear the customer display

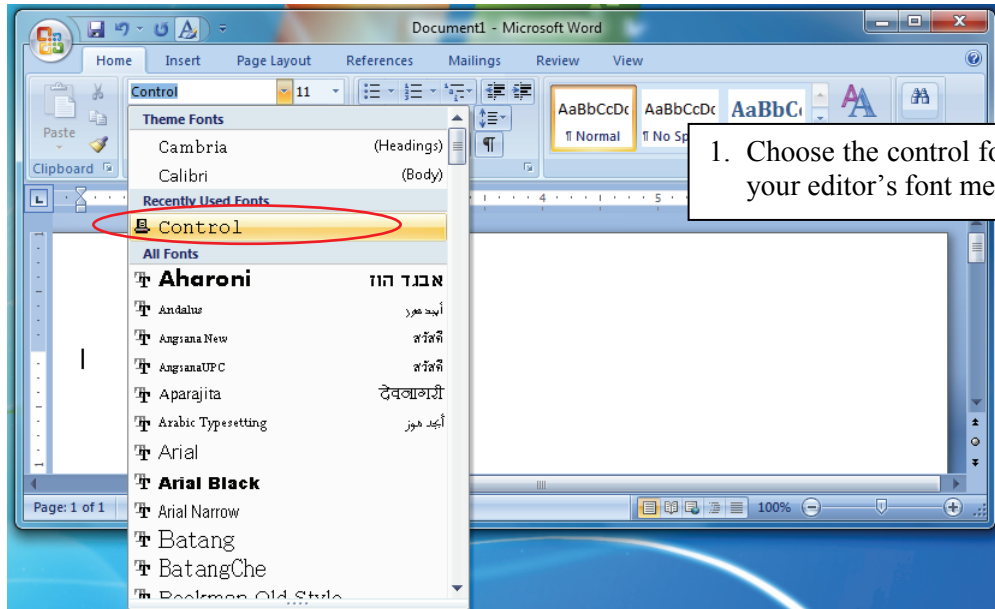
Notes:

The settings above will be ignored if a specified control character is not supported by the printer.

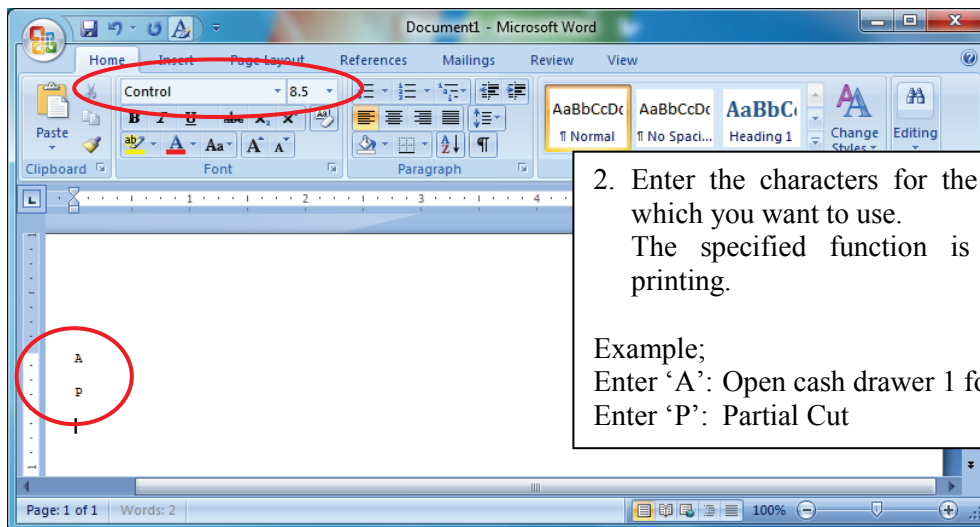
3.4.2. Control Font Usage

Usage of the Control font must be done as follows:

- Select Control Font



- Input Control Font



Please set the control font's character size to the standard value (8.5 points).

3.5. Barcode Font

After printing Barcode, small characters are printed under barcode. But the barcode image data is not displayed.

This action is only available when Print mode option is set to Line mode.

On Raster Mode, this setting is not available.

3.5.1. Barcode Font List

The following table is the lists of the supported barcode device fonts and usable characters.

Barcode Type	Number of Characters	Character Set
UPC-E	12	0 - 9
UPC-A	12	0 - 9
JAN/EAN-8	8	0 - 9
JAN/EAN-13	13	0 - 9
CODE39	1 or more	0 - 9 -, ., <SP>, \$, /, +, % A - Z Start / Stop: *
ITF	1 or more (even)	0 - 9
NW-7 (Codabar)	1 or more	0 - 9 -, \$, :, /, ., + A - D

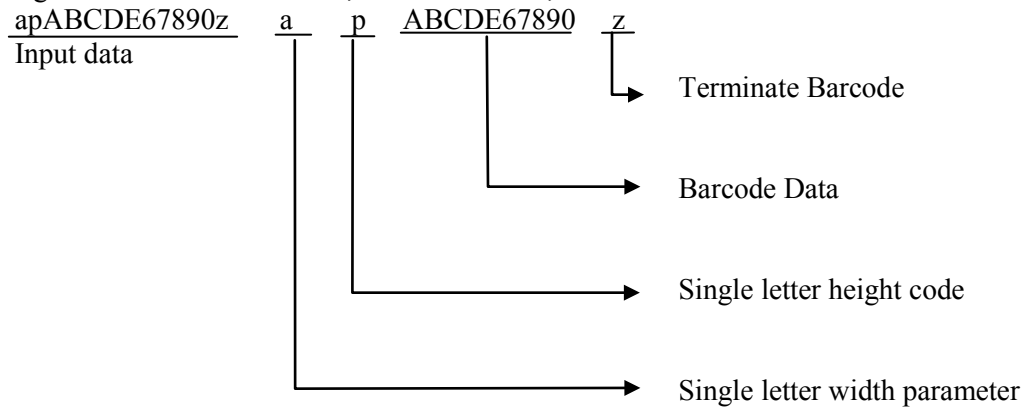
* It is unnecessary to input Start and stop code since they are entered automatically.

3.5.2. Enter the Barcode font

Enter the barcode font character 'z' to terminate the barcode.

Example:

Using the CODE39 device font, enter as follows;



Each parameter refers to the list of Barcode font parameter on the next page.

Barcode Device Font Parameter

Character for Barcode printing	Function			Details
	UPC-E, UPC-A, JAN/EAN-8, JAN/EAN-13	CODE39 NW-7	ITF	
a	2 dot	2 dot (6)	2 dot (5)	Minimum module width
b	3 dot	3 dot (9)	4 dot (10)	Minimum module width
c	4 dot	4 dot (12)	6 dot (15)	Minimum module width
d	N/A	2 dot (5)	2 dot (4)	Minimum module width
e	N/A	3 dot (8)	4 dot (8)	Minimum module width
f	N/A	4 dot (10)	6 dot (12)	Minimum module width
g	N/A	2 dot (4)	2 dot (6)	Minimum module width
h	N/A	3 dot (6)	3 dot (9)	Minimum module width
i	N/A	4 dot (8)	4 dot (12)	Minimum module width
o	height: 32 dot (4 mm)			
p	height: 64 dot (8 mm)			
q	height: 96 dot (12 mm)			
r	height: 128 dot (16 mm)			
s	height: 160 dot (20 mm)			
t	height: 192 dot (24 mm)			
u	height: 224 dot (28 mm)			
v	height: 255 dot (31.9 mm)			
z	Terminate Code (1Eh)			

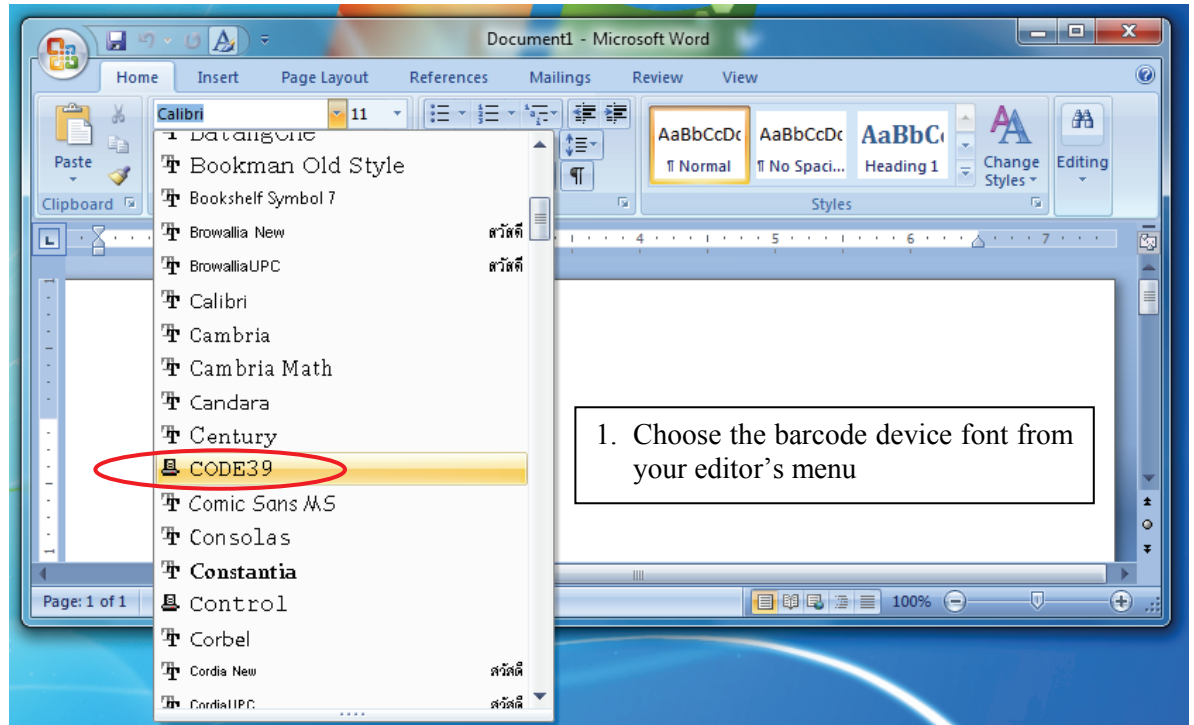
N/A = Not available

() numeral is dots for wide width.

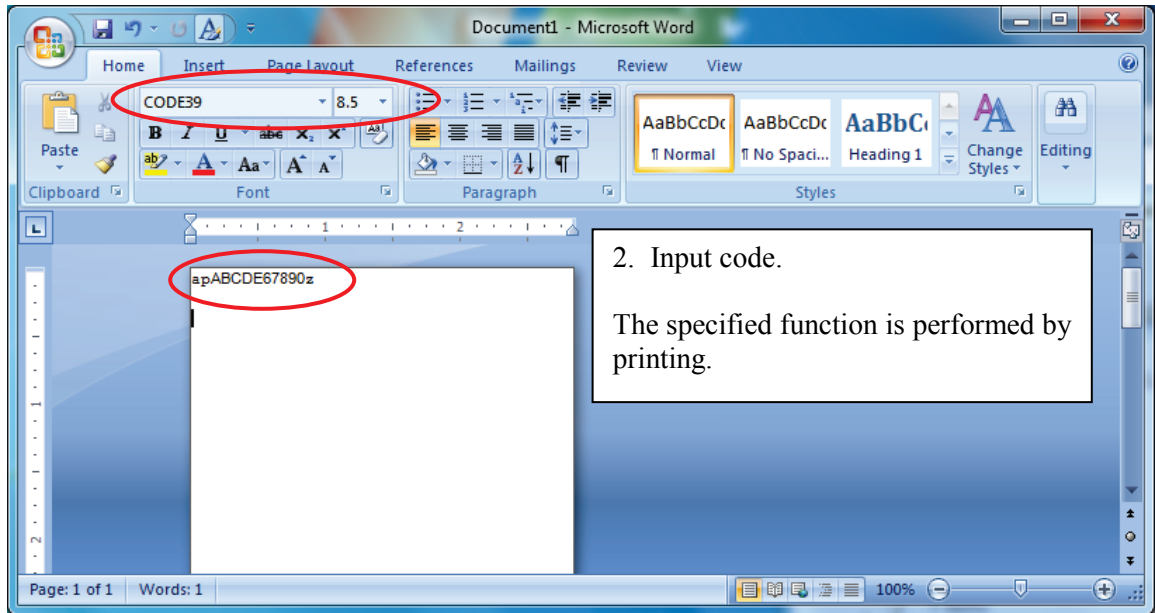
3.5.3. Barcode Font Usage

Usage of the Barcode device font must be done as follows:

- Select Barcode Font



- Input Barcode font



<Print result sample>



Please set the barcode device font's character size to the standard value (8.5 points).

3.6. 2D Code Printing Function (2D Code Fonts)

The 2D code printing function performs QR code or PDF417 printing using device fonts supported in this driver.

QR code or PDF417 printing is realized with a combination of 2D code fonts ("QR_CNTL", "PDF417", "DATA1", "DATA2", and "DATA3") and control fonts ("ESC_FONT" and "ESC_FONT_KANJI").

Each Font Function as follows;

Device Font Name	Function	Details	Memo
QR_CNTL	Setting QR commands	Output commands for QR printing.	
PDF417	Setting PDF417 commands	Output commands for PDF417 printing.	
DATA1	Setting 2D code data	\x20 - \x7F replace \x00 - \x5F	Output \x00 -\xFF is possible.
DATA2		\x20 - \x7F replace \x60 - \xBF	
DATA3		\x20 - \x5F replace \xC0 - \xFF	
ESC_FONT		Output \x20 - \x7F	Output \x20 -\x7F is possible.

3.6.1. Entering a 2D Code Font (QR Code)

Follow the steps below to describe a QR code.

(1) 2D code type setting

Only describe the parameters to be changed because the default value is set to each setting item.

(2) 2D code data setting

Describe parameters and 2D code data following a 2D code data setting command.

(3) Obtaining 2D code expansion information (Option)

An error notification will be returned if any inconsistencies are detected in the settings made in steps (1) and (2).

(4) 2D code printing

For information about commands, refer to the separate manual, "STAR Line Mode Command Specifications".

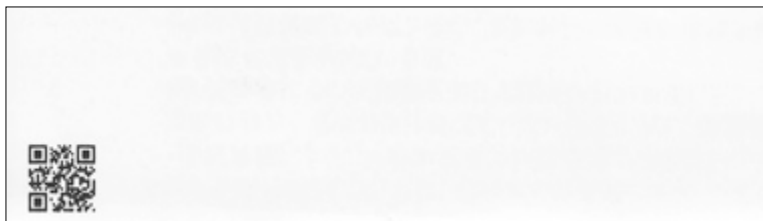
Example: When generating a 2D code of "012345ABCD " with a QR code (correction rate: 25%):

Description data: E2A0* 012345ABCDP

Description character	Setting font	Meaning
(1) 'E2'	QR_CNTL	Sets to correct errors level Q (25%).
(2) 'AO'	QR_CNTL	QR Code data setting (Automatic data analysis)
(2) '*'	DATA1	QR Code data setting parameter A = $\text{¥x0A} = '*' * 1$
(2) ' '	DATA1	QR Code data setting parameter 0 = $\text{¥x00} = ' ' \text{ (Space character)} * 1$
(2) '012345ABCD'	ESC_FONT	2D code data
(4) 'P'	QR_CNTL	QR code printing

*1 Describe "0A", which indicates the number of bytes (10 bytes) of 2D code data in hexadecimal notation, in the low-order byte (A) and high-order byte (0) respectively.

Printing result:



3.6.2. 2D Code Command Setting Font

QR code setting fonts (QR_CNTL)

QR_CNTL Fonts	Function	Output Code
0	Use for Parameter	\x00
1	Use for Parameter	\x01
2	Use for Parameter	\x02
3	Use for Parameter	\x03
4	Use for Parameter	\x04
5	Use for Parameter	\x05
6	Use for Parameter	\x06
7	Use for Parameter	\x07
8	Use for Parameter	\x08
9	Use for Parameter	\x09
M	Set model of QR code	\x1b\x1dyS0
M1	Set model of QR code: Model 1	\x1b\x1dyS0\x01
M2	Set model of QR code: Model 2	\x1b\x1dyS0\x02
E	Set up correct errors level	\x1b\x1dyS1
* E1 (E0)	Correct errors level L (correction rate: 7%)	\x1b\x1dyS1\x00
* Em (E1)	Correct errors level M (correction rate: 15%)	\x1b\x1dyS1\x01
* Eq (E2)	Correct errors level Q (correction rate: 25%)	\x1b\x1dyS1\x02
* Eh (E3)	Correct errors level H (correction rate: 30%)	\x1b\x1dyS1\x03
S1~S8	Set module size (unit: dot)	\x1b\x1dyS2 (\x01~08)
A0	QR code data setting (automatic data analysis)	\x1b\x1dyD1\x00
B	QR code data setting (manual data analysis)	\x1b\x1dyD2
P	Print QR code data	\x1b\x1dyP

*) The correct errors level can also be set using the correction rate enclosed by parentheses ().

PDF417 setting fonts (PDF417)

Character	Function	Driver-output code
0	Used for parameter of each PDF417 setting command	\x00
1	Used for parameter of each PDF417 setting command	\x01
2	Used for parameter of each PDF417 setting command	\x02
3	Used for parameter of each PDF417 setting command	\x03
4	Used for parameter of each PDF417 setting command	\x04
5	Used for parameter of each PDF417 setting command	\x05
6	Used for parameter of each PDF417 setting command	\x06
7	Used for parameter of each PDF417 setting command	\x07
8	Used for parameter of each PDF417 setting command	\x08
9	Used for parameter of each PDF417 setting command	\x09
S	Specifies the PDF417 code size.	\x1b\x1dxS0
E	Specifies the PDF417 security level (ECC).	\x1b\x1dxS1
M	Specifies the X-direction size of the PDF417 module.	\x1b\x1dxS2
A	Specifies the aspect ratio of the PDF417 module.	\x1b\x1dxS1
D	Specifies PDF417 code data.	\x1b\x1dxS3
P	Prints a PDF417 code.	\x1b\x1dxP
I	Obtains PDF417 code expansion information.	\x1b\x1dx1

3.6.3. 2D Code Data Setting Font (DATA1, DATA2, DATA3, ESC_FONT)

Input Data		Output Data			
On applications (Word, VB, etc), user specified characters		Output code for printer			
Character	Code	ESC_FONT	DATA1	DATA2	DATA3
<SP>	\x20	\x20	\x00	\x60	\xC0
!	\x21	\x21	\x01	\x61	\xC1
“	\x22	\x22	\x02	\x62	\xC2
#	\x23	\x23	\x03	\x63	\xC3
\$	\x24	\x24	\x04	\x64	\xC4
%	\x25	\x25	\x05	\x65	\xC5
&	\x26	\x26	\x06	\x66	\xC6
‘	\x27	\x27	\x07	\x67	\xC7
(\x28	\x28	\x08	\x68	\xC8
)	\x29	\x29	\x09	\x69	\xC9
*	\x2A	\x2A	\x0A	\x6A	\xCA
+	\x2B	\x2B	\x0B	\x6B	\xCB
,	\x2C	\x2C	\x0C	\x6C	\xCC
-	\x2D	\x2D	\x0D	\x6D	\xCD
.	\x2E	\x2E	\x0E	\x6E	\xCE
/	\x2F	\x2F	\x0F	\x6F	\xCF
0	\x30	\x30	\x10	\x70	\xD0
1	\x31	\x31	\x11	\x71	\xD1
2	\x32	\x32	\x12	\x72	\xD2
3	\x33	\x33	\x13	\x73	\xD3
4	\x34	\x34	\x14	\x74	\xD4
5	\x35	\x35	\x15	\x75	\xD5
6	\x36	\x36	\x16	\x76	\xD6
7	\x37	\x37	\x17	\x77	\xD7
8	\x38	\x38	\x18	\x78	\xD8
9	\x39	\x39	\x19	\x79	\xD9
:	\x3A	\x3A	\x1A	\x7A	\xDA
;	\x3B	\x3B	\x1B	\x7B	\xDB
<	\x3C	\x3C	\x1C	\x7C	\xDC
=	\x3D	\x3D	\x1D	\x7D	\xDD
>	\x3E	\x3E	\x1E	\x7E	\xDE
?	\x3F	\x3F	\x1F	\x7F	\xDF
@	\x40	\x40	\x20	\x80	\xE0
A	\x41	\x41	\x21	\x81	\xE1
B	\x42	\x42	\x22	\x82	\xE2
C	\x43	\x43	\x23	\x83	\xE3
D	\x44	\x44	\x24	\x84	\xE4
E	\x45	\x45	\x25	\x85	\xE5
F	\x46	\x46	\x26	\x86	\xE6

Input Data		Output Data			
On applications (Word, VB, etc), user specified characters		Output code for printer			
Character	Code	ESC_FONT	DATA1	DATA2	DATA3
G	\x47	\x47	\x27	\x87	\xE7
H	\x48	\x48	\x28	\x88	\xE8
I	\x49	\x49	\x29	\x89	\xE9
J	\x4A	\x4A	\x2A	\x8A	\xEA
K	\x4B	\x4B	\x2B	\x8B	\xEB
L	\x4C	\x4C	\x2C	\x8C	\xEC
M	\x4D	\x4D	\x2D	\x8D	\xED
N	\x4E	\x4E	\x2E	\x8E	\xEE
O	\x4F	\x4F	\x2F	\x8F	\xEF
P	\x50	\x50	\x30	\x90	\xF0
Q	\x51	\x51	\x31	\x91	\xF1
R	\x52	\x52	\x32	\x92	\xF2
S	\x53	\x53	\x33	\x93	\xF3
T	\x54	\x54	\x34	\x94	\xF4
U	\x55	\x55	\x35	\x95	\xF5
V	\x56	\x56	\x36	\x96	\xF6
W	\x57	\x57	\x37	\x97	\xF7
X	\x58	\x58	\x38	\x98	\xF8
Y	\x59	\x59	\x39	\x99	\xF9
Z	\x5A	\x5A	\x3A	\x9A	\xFA
[\x5B	\x5B	\x3B	\x9B	\xFB
\	\x5C	\x5C	\x3C	\x9C	\xFC
]	\x5D	\x5D	\x3D	\x9D	\xFD
^	\x5E	\x5E	\x3E	\x9E	\xFE
_	\x5F	\x5F	\x3F	\x9F	\xFF
`	\x60	\x60	\x40	\xA0	-
a	\x61	\x61	\x41	\xA1	-
b	\x62	\x62	\x42	\xA2	-
c	\x63	\x63	\x43	\xA3	-
d	\x64	\x64	\x44	\xA4	-
e	\x65	\x65	\x45	\xA5	-
f	\x66	\x66	\x46	\xA6	-
g	\x67	\x67	\x47	\xA7	-
h	\x68	\x68	\x48	\xA8	-
i	\x69	\x69	\x49	\xA9	-
j	\x6A	\x6A	\x4A	\xAA	-
k	\x6B	\x6B	\x4B	\xAB	-
l	\x6C	\x6C	\x4C	\xAC	-
m	\x6D	\x6D	\x4D	\xAD	-
n	\x6E	\x6E	\x4E	\xAE	-
o	\x6F	\x6F	\x4F	\xAF	-
p	\x70	\x70	\x50	\xB0	-
q	\x71	\x71	\x51	\xB1	-

Input Data		Output Data			
On applications (Word, VB, etc), user specified characters		Output code for printer			
Character	Code	ESC_FONT	DATA1	DATA2	DATA3
r	\x72	\x72	\x52	\xB2	-
s	\x73	\x73	\x53	\xB3	-
t	\x74	\x74	\x54	\xB4	-
u	\x75	\x75	\x55	\xB5	-
v	\x76	\x76	\x56	\xB6	-
w	\x77	\x77	\x57	\xB7	-
x	\x78	\x78	\x58	\xB8	-
y	\x79	\x79	\x59	\xB9	-
z	\x7A	\x7A	\x5A	\xBA	-
{	\x7B	\x7B	\x5B	\xBB	-
	\x7C	\x7C	\x5C	\xBC	-
}	\x7D	\x7D	\x5D	\xBD	-
~	\x7E	\x7E	\x5E	\xBE	-
.	\x7F	\x7F	\x5F	\xBF	-

* Cannot be entered using a character.

3.6.4. 2D Code Font Usage

QR code can be specified up to 500 bytes. (It includes input data and punctuated marks in 500bytes.) Sample programs of Visual Basic using 2D code is as follows;

QR Code Print Sample1:

```
Private Sub Command1_Click()
    Printer.Font.Name = "Printer 17cpi Tall"
    Printer.Print "QR Code Test Print for VB 6.0"

    Printer.Font.Name = "Printer 17cpi"
    Printer.Print
    Printer.Print "DATA:"
    Printer.Print "http://www.star-m.jp/"
    Printer.Print
    Printer.Print "QR code:";

    Printer.Font.Name = "QR_CNTL"      ' QR_CNTL font setting
    Printer.Print "M2";                ' Bar code model setting
    Printer.Print "Em";                ' Error correction level setting (correction rate: 15%)
    Printer.Print "S3"                ' Module size setting (size: 3 dot)

    Printer.Print "B1";                ' Bar code data setting (manual data analysis) + number of blocks
    Printer.Print "2";                ' Alphanumeric characters (data type)

    Printer.Font.Name = "DATA1"        ' DATA1 = 0x0000 - 0x005F
    Printer.Print Chr(&H35);           '
    Printer.Print Chr(&H20);           '
    Change 0x35 → 0x15, 0x20 → 0x0
    Number of bytes: 21 (0x15) + 0 (0x0) = 21 bytes

    Printer.Font.Name = "ESC_FONT"     ' ESC_FONT = 0x0020 - 0x007F
    Printer.Print "http://www.star-m.jp/"; ' Bar code data (21 bytes)

    Printer.Font.Name = "QR_CNTL"     ' QR_CNTL font setting
    Printer.Print "P"                 ' Printed characters for bar code data

    Printer.EndDoc
End Sub
```



When the QR code data setting is set to manual data analysis, be sure to set the number of blocks and the entered data type.

For information on the setting method, refer to the separate manual “STAR Line Mode Command Specifications”.

QR Code Print Sample2:

```
Private Sub Command2_Click()
    Printer.Font.Name = "Printer 17cpi Tall"
    Printer.Print "QR Code Test Print for VB 6.0"

    Printer.Font.Name = "Printer 17cpi"
    Printer.Print
    Printer.Print "DATA:"
    Printer.Print "http://www.star-m.jp/"
    Printer.Print
    Printer.Print "QR code:";

    Printer.Font.Name = "QR_CNTL"           ' QR_CNTL font setting
    Printer.Print "M1";                     ' Bar code model setting
    Printer.Print "Eq";                     ' Error correction level setting (correction rate: 25%)
    Printer.Print "S7"                      ' Module size setting (size: 7 dot)

    Printer.Print "A0";                     ' Bar code data setting (automatic data analysis)

    Printer.Font.Name = "DATA1"             ' DATA1 = 0x0000 - 0x005F
    Printer.Print Chr(&H35);                 '
    Printer.Print Chr(&H20);                 '
    '
    ' Change 0x35 → 0x15, 0x20 → 0x0
    ' Number of bytes: 21 (0x15) + 0 (0x0) = 21 bytes

    Printer.Font.Name = "ESC_FONT"          ' ESC_FONT = 0x0020 - 0x007F
    Printer.Print "http://www.star-m.jp/";  ' Bar code data (21 bytes)

    Printer.Font.Name = "QR_CNTL"          ' QR_CNTL font setting
    Printer.Print "P"                       ' Printed characters for bar code data

    Printer.EndDoc
End Sub
```

■ PDF417 printing - Sample 1

```
Private Sub Command4_Click()

    Printer.Font.Name = "Printer 17cpi Tall"
    Printer.Print "PDF417 Test Print for VB 6.0"

    Printer.Font.Name = "Printer 17cpi"
    Printer.Print
    Printer.Print "DATA:"
    Printer.Print "1234567890"
    Printer.Print
    Printer.Print "PDF417: ";

    Printer.Font.Name = "PDF417"

    Printer.Print "S023";           ' Specifies the barcode size.
    Printer.Print "E3";           ' Specifies the ECC level.
    Printer.Print "M3"            ' Specifies the X-direction size of the PDF417 module.
    Printer.Print "A3"            ' Specifies the aspect ratio of the PDF417 module.
    Printer.Print "D";           ' Specifies bar code data.

    Printer.Font.Name = "DATA1"    ' DATA1 = 0x0000 - 0x005F
    Printer.Print Chr(&H2A);       ' Specifies the number of barcode data bytes.
    Printer.Print Chr(&H20);

    Printer.Font.Name = "ESC_FONT" ' ESC_FONT = 0x0020 - 0x007F
    Printer.Print "1234567890";
    Printer.Print.Name = "PDF417"

    Printer.Print "P"             ' Prints bar code data.

    Printer.EndDoc
End Sub
```

■ PDF417 printing - Sample 2

```
Private Sub Command5_Click()

    Printer.Font.Name = "Printer 17cpi Tall"
    Printer.Print "PDF417 Test Print for VB 6.0"

    Printer.Font.Name = "Printer 17cpi"
    Printer.Print
    Printer.Print "DATA:"
    Printer.Print " http://.star-m.jp/"
    Printer.Print
    Printer.Print "PDF417:";

    Printer.Font.Name = "PDF417"

    Printer.Print "S023";           ' Specifies the barcode size.
    Printer.Print "E3";             ' Specifies the ECC level.
    Printer.Print "M3"              ' Specifies the X-direction size of the PDF417 module.
    Printer.Print "A3"              ' Specifies the aspect ratio of the PDF417 module.

    Printer.Print "D";              ' Specifies bar code data.

    Printer.Font.Name = "DATA1"     ' DATA1 = 0x0000 - 0x005F
    Printer.Print Chr(&H31);        ' Specifies the number of barcode data bytes.
    Printer.Print Chr(&H20);

    Printer.Font.Name = "ESC_FONT"  ' ESC_FONT = 0x0020 - 0x007F
    Printer.Print "http://.star-m.jp/";

    Printer.Print.Name = "PDF417"

    Printer.Print "P"               ' Prints bar code data.

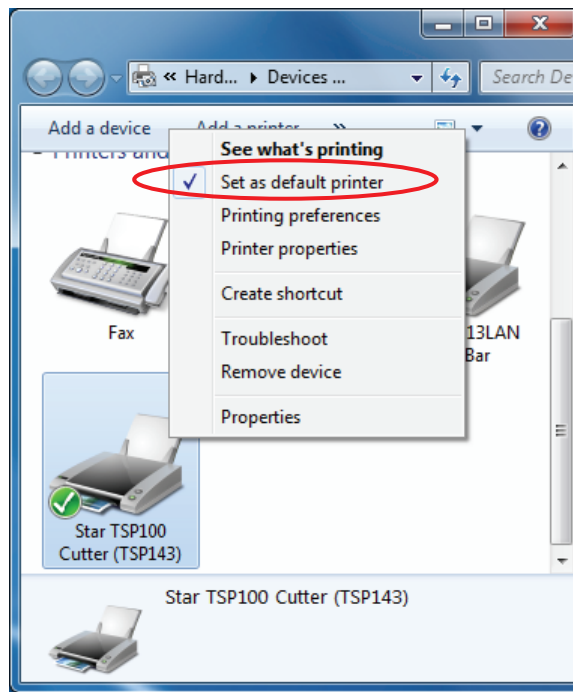
    Printer.EndDoc
End Sub
```

3.7. 2-Tone Color Printing and Paper Type Settings

This driver supports two-tone color printing.

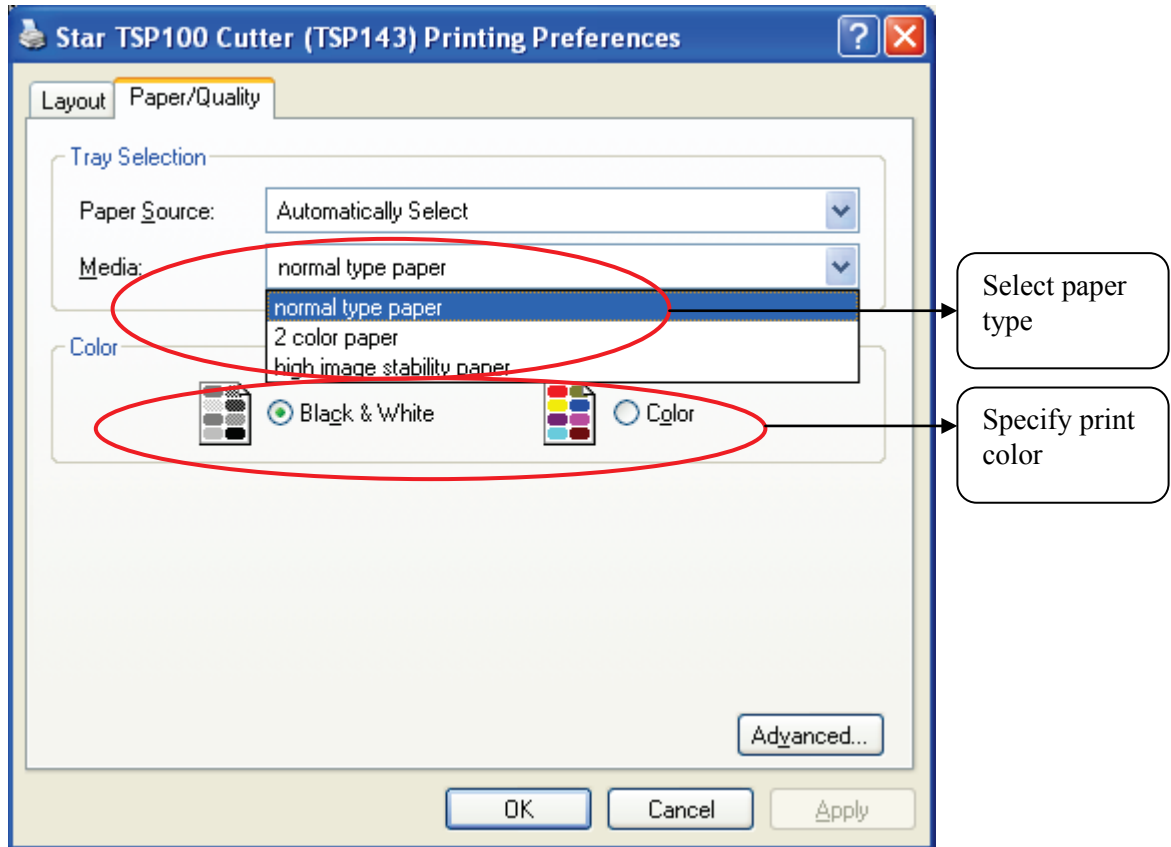
To perform two-tone color printing and use special paper, load the appropriate thermal paper in the printer, and configure the following setting.

- (1) In Control Panel, select “Devices and Printers” for Windows 7, “Printers” for Windows Vista, and “Printers and Faxes” for Windows XP.
- (2) Right-click on the icon of the target printer queue, and select “Printing preferences” in the pull-down menu.



- (3) When the “Printing Preferences ...” window opens, click the “Paper/Quality” tab. Then, select the type of paper that suits the print color that has been specified.

Paper Type and Print Color Configuration Window



For normal gray scale printing

For gray scale printing on normal thermal paper, select the following:

Media : Select “normal type paper”

Color : Select “black and white” check button

For two-tone color printing

For color printing on two-tone thermal paper, select the following:

Media : Select “2 color paper”

Color : Select “color” check button

For printing on special paper

When you need to print darker than normal gray scale, or use special paper such as high image stability paper, select the following:

Media : Select “high image stability paper”

Color : Select “black and white” check button

4. TSP100 Configuration Application

The TSP100 configuration application lets you control the look and content of printed receipts. You can set up separate configurations for Star Line mode and for ESC/POS mode.

Notes:

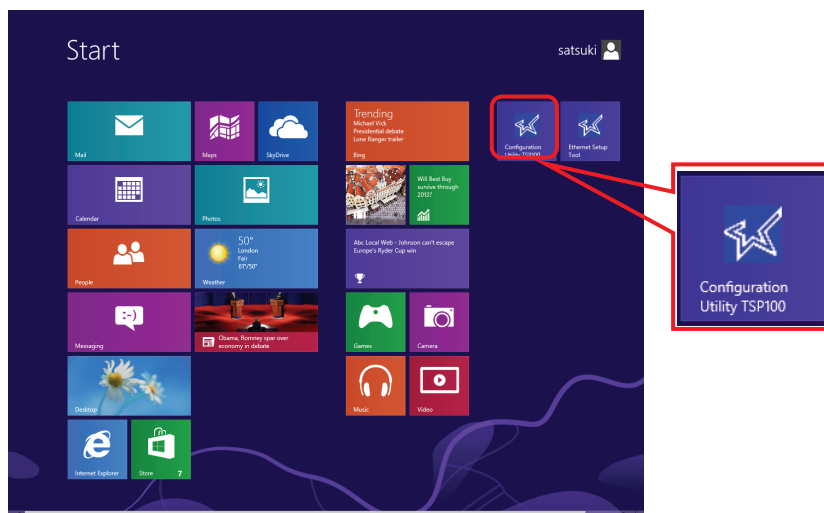
TSP100 configuration application settings require computer administrator privileges.

There are the following two methods to launch the TSP100 configuration application.

- Using the Windows Start menu

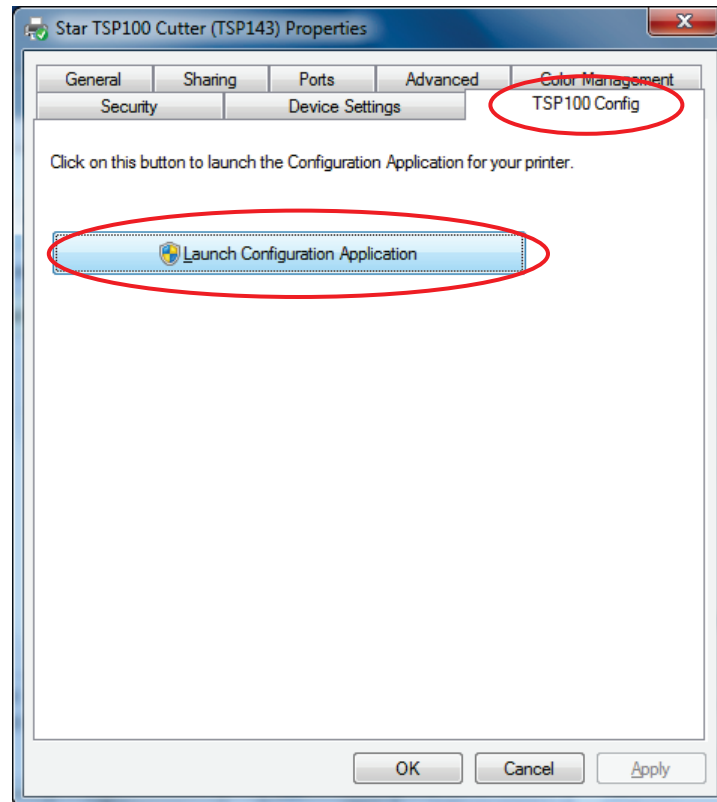
Select “Programs (All Programs)” - “Star Micronics” - “Star TSP100” - “Configuration Utility”, and proceed to step (4).

⌘ **In Windows 8:** Select [Configuration Utility TSP100] tile.



- Using Properties of the printer
 - (1) In Control Panel, select “Devices and Printers” for Windows 7, “Printers” for Windows Vista, and “Printers and Faxes” for Windows XP.
 - (2) Right-click on the icon of the target printer queue. Then, in the pull-down menu, select “Printer Properties” for Windows 7, and “Properties” for Windows Vista or Windows XP.

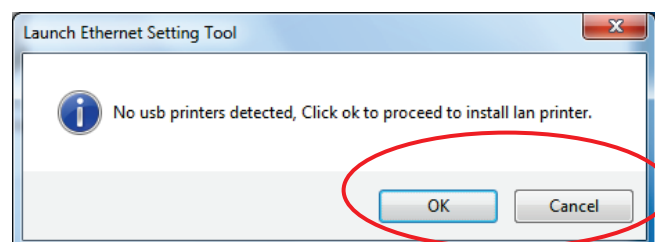
- (3) Click "Launch Configuration Application" in the "TSP100 Config" tab.



- (4) In Windows 7 or Vista, the "User Account Control" window will appear. Click "Yes" or "Continue".
- (5) When the LAN function is installed with the standard setup, if an available printer is not found, the following window will appear.

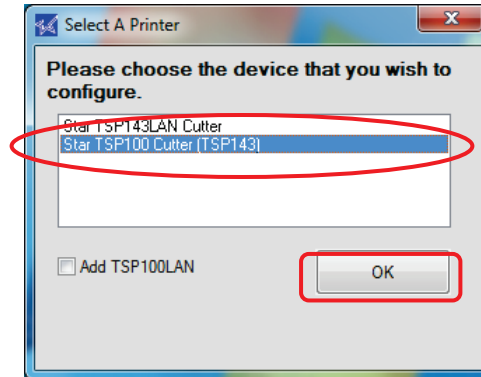
When using the TSP100LAN, click "OK" to start the Ethernet setup tool, and add the required printer, referring to "1.3 Adding a Printer (TSP100LAN)".

When using a non-TSP100LAN printer, click "Cancel" to stop the procedure, and add the required printer, referring to "1.2 Adding a Printer (TSP100U/PU/GT/ECO)".

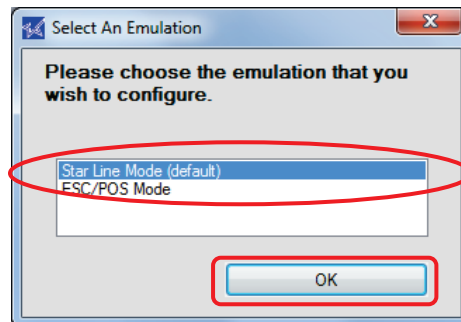


- (6) If the application is launched from the Start menu while there are multiple available printer queues, the following window will appear. Select a target printer, and click “OK”.

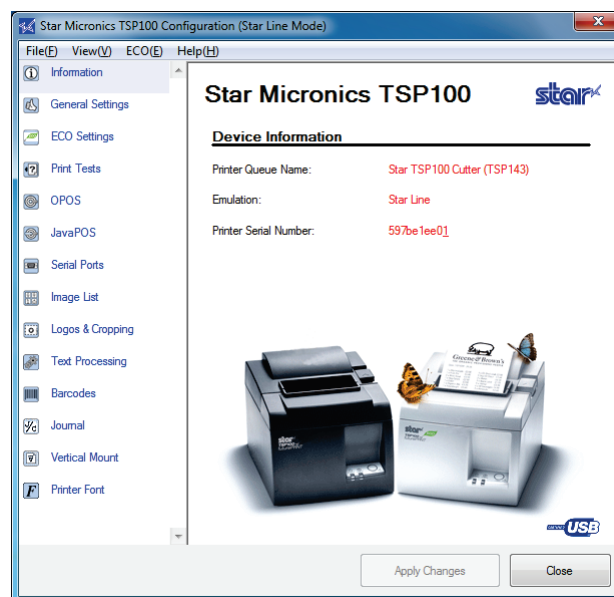
If the LAN function is installed, you can select the "Add TSP100LAN" checkbox to start the Ethernet setup tool.



- (7) Select a target emulation, and click “OK”.



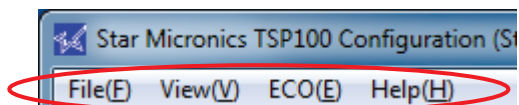
- (8) The "TSP100 Configuration" window will be opened.



IMPORTANT: After changing any setting in the "TSP100 Configuration" window, be sure to click “Apply Changes”.

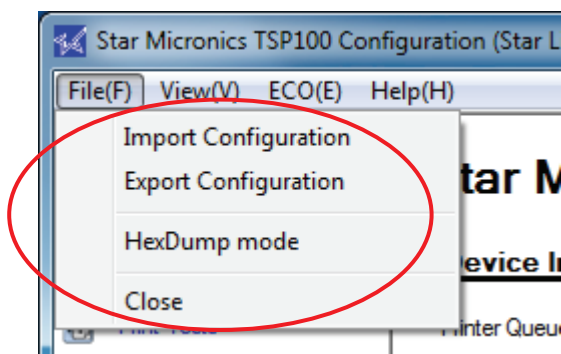
The changed setting is enabled by clicking “Apply Changes”.

4.1. Menu Functions



The menu bar in the “TSP100 Configuration” contains the “File”, “View”, “ECO”, and “Help” menus. Each menu is explained on the following pages.

4.1.1. File



1. Export
The settings made using the “TSP Configuration” can be saved. The settings are saved as a file with an “.xml” extension.
2. Import
Previously saved settings made using the “TSP Configuration” can be imported. Import the file with the “.xml” extension, and then click “Apply”.

Note:

1. The settings for the Star Line mode and ESC/POS mode are saved separately. When importing the settings, confirm the selected mode, and then import the setting file.
2. The following settings made using the “TSP Configuration” cannot be imported or exported.
 - OPOS
 - JavaPOS
 - Serial ports
 - Virtual TCP/IC port
 - Settings in “3. Windows Printer Driver Usage”



When importing data using an operating system or user different from that for exporting data, execute the following steps to use the HexDump mode, ECO settings - on-demand function, and journal function.

■ HexDump Mode

1. Change the folder where to save data in the HexDump mode setting window.
2. Click “Set”.

■ ECO settings - on-demand function

1. In the ECO Settings window, clear the "Enable on demand" checkbox once.
2. Select the "Enable on demand" checkbox again.
3. Click “Apply Changes”.

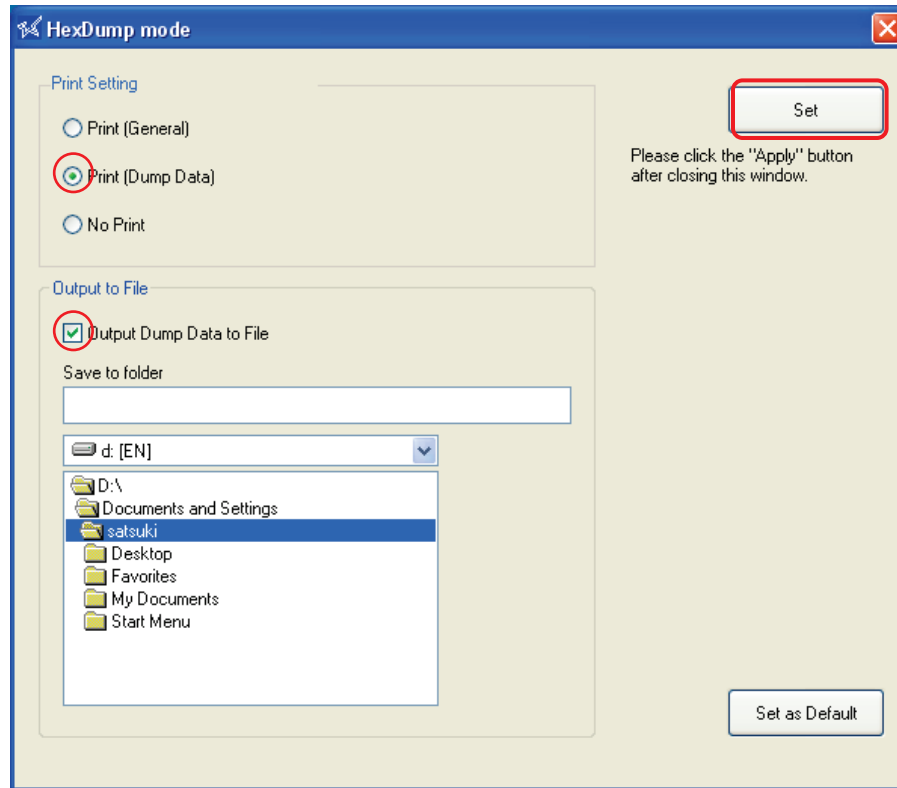
■ Journal function

1. In the Journal and Multi-Copy window, clear the "Enable Journal" checkbox once.
2. Select the "Enable Journal" checkbox again.
3. Click “Apply Changes”.

3. HexDump Mode

All of the data transmitted to the printer from the computer is printed or output as a file using hexadecimal code.

The data transmitted to the printer can be checked for correctness and the causes of errors can be investigated.



- Print [Dump Data]

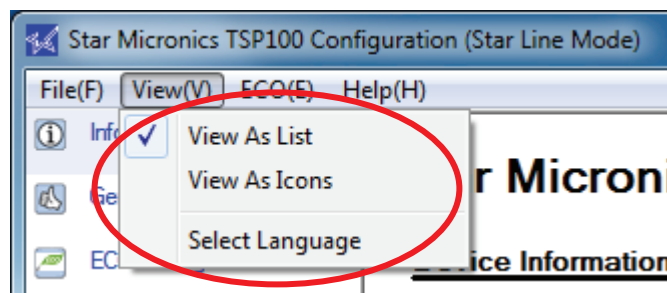
All of the data transmitted to the printer from the computer is printed using hexadecimal code.

- Output Dump Data to File

All of the data transmitted to the printer from the computer is output as hexadecimal binary data in a file to the specified folder.

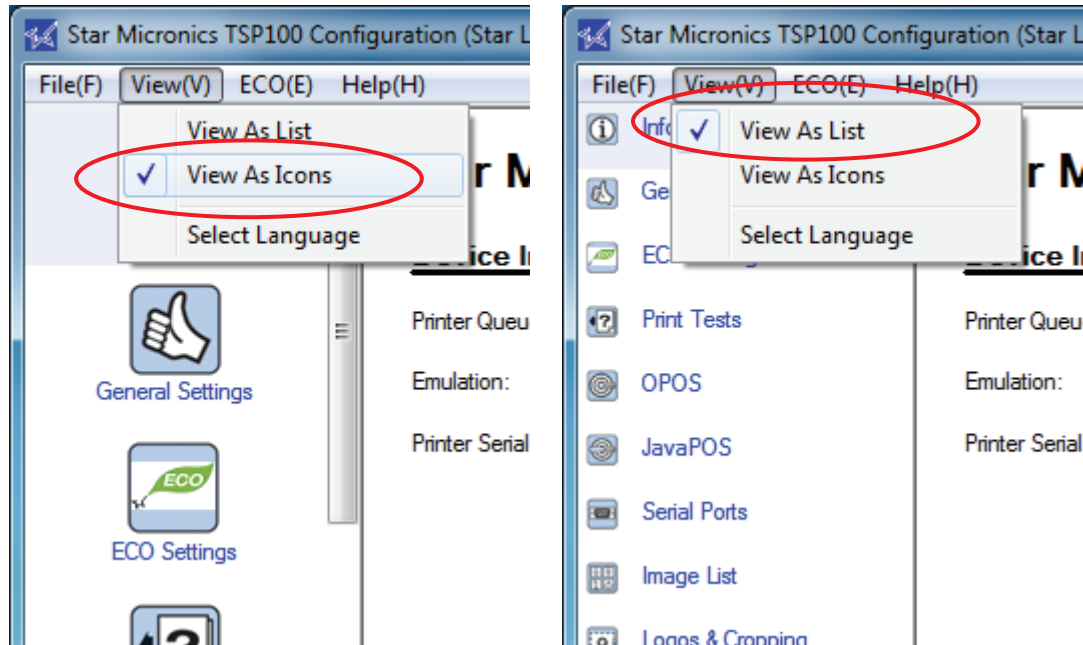
Note: To apply the setting, click “Set”, and then click “Set” in the utility screen.

4.1.2. View



1. List display/Icon display

The setting items for the “TSP Configuration” can be displayed as a list or as icons.

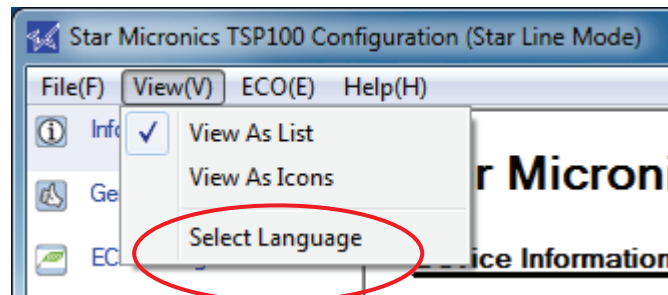


2. Language selection

The display language can be selected.

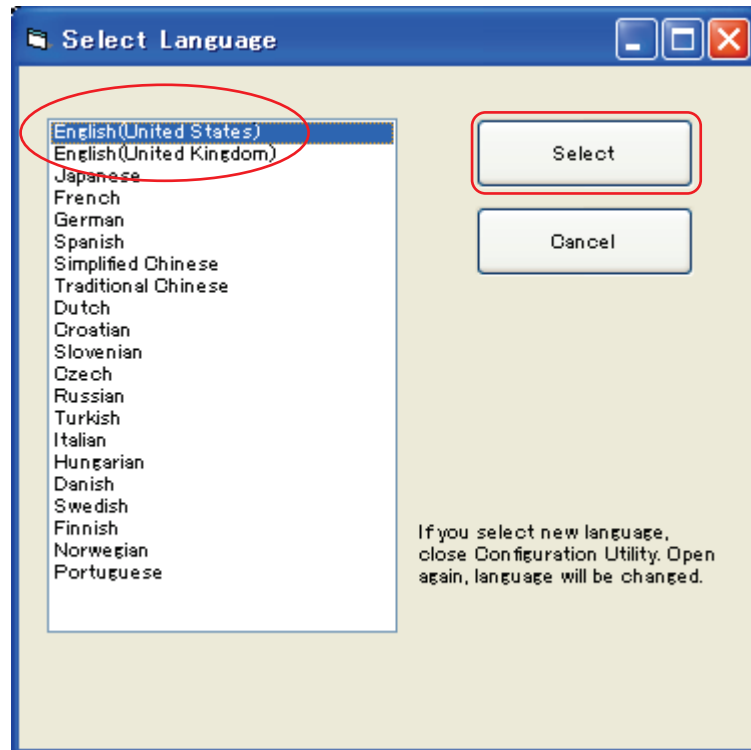
STEP 1:

On the “View” menu, select “Language selection” to display the list of available languages.



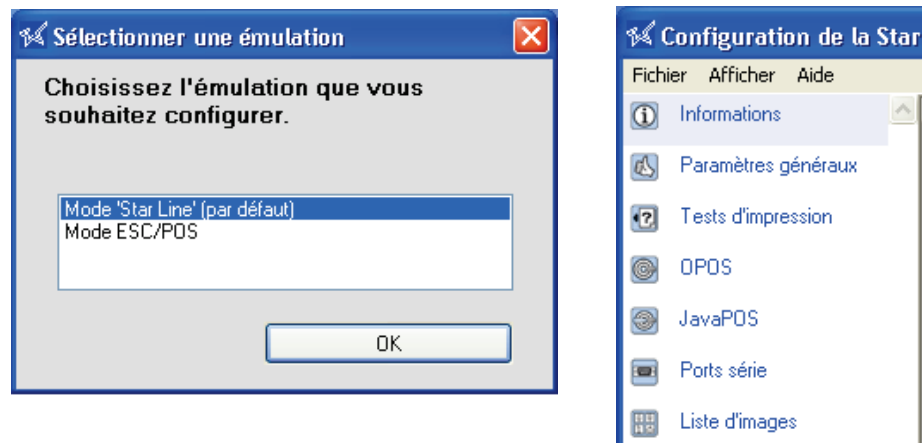
STEP 2:

Select the language, and then click “Select”.



STEP 3:

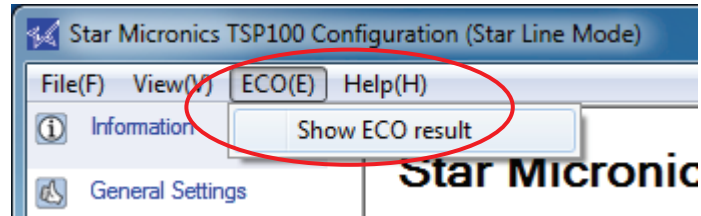
Click “Select”, and then temporarily close the “TSP Configuration”. By opening the “TSP Configuration” again, the selected language will be displayed.



Note: If the characters are corrupted, change the settings in the Advanced tab in Regional Options in Control Panel in Windows.

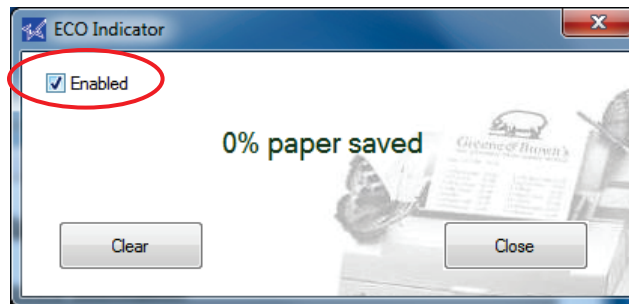
4.1.3. ECO

When using the printer with the ECO settings, the percentage of paper saved can be confirmed by enabling this function.



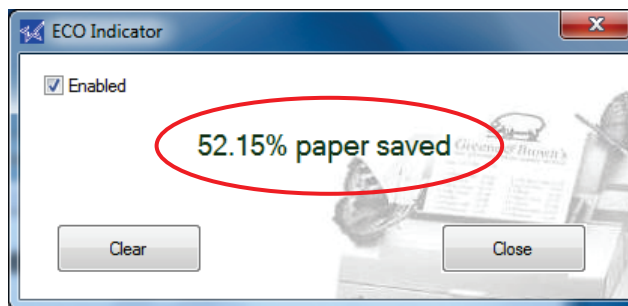
1. ECO indicator setting

Select "Enabled" checkbox in the "ECO Indicator" window to start measurement.



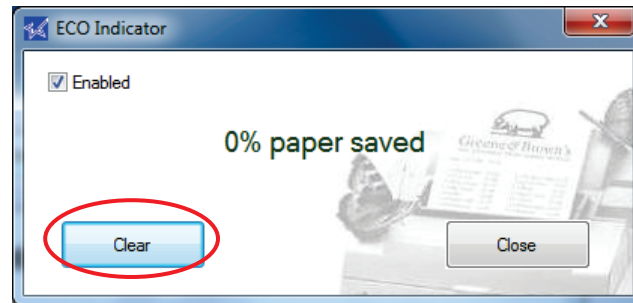
2. Check the result.

After printing, open the "ECO Indicator" window again to check the result.

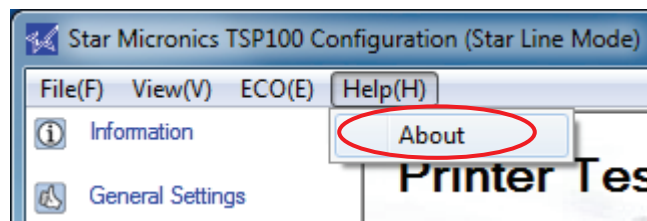


3. Clear the accumulated result.

Click “Clear” to clear the accumulated result.



4.1.4. Help

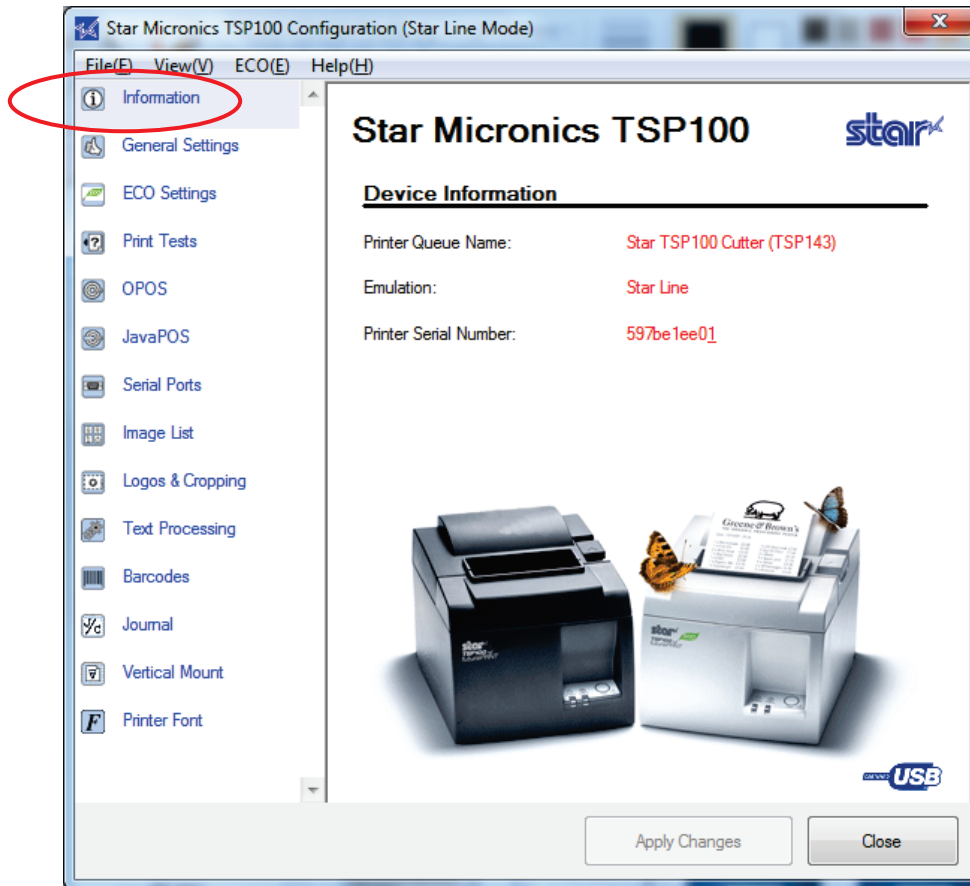


The software version can be confirmed using the “Help” menu.



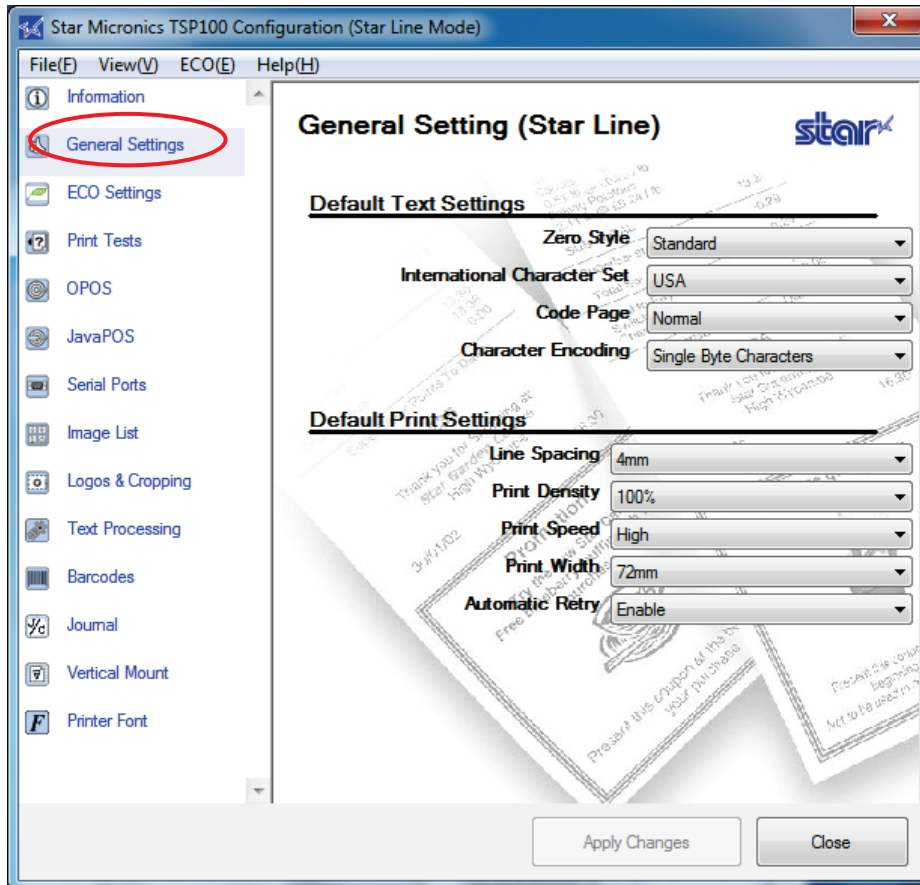
4.2. Information

The Information window displays device information of the printer to be configured.



4.3. General Settings

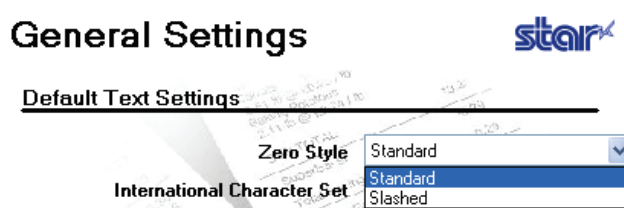
Click the "General Settings" tab in the left pane of the window.



When the printer driver is used for printing, text and line spacing settings are available only when device fonts are used.

4.3.1. Default Text Settings

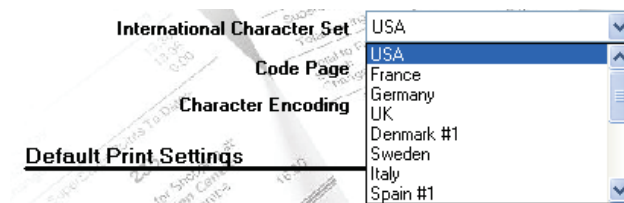
■ Zero Style



The default zero style is "Standard".

Selects whether the printer prints zeros in non-slashed form or slashed form. Select either "Standard" (O) or "Slashed" (Ø).

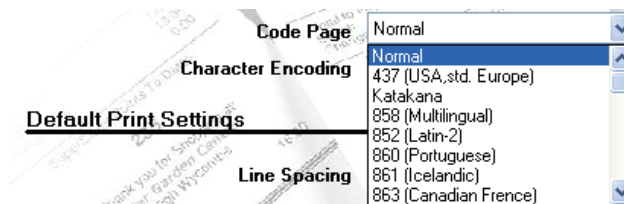
■ International Character Set



The default international character set is "USA".

Changing the international character set will change certain characters in the character table to match those characters fitting the selected location. Typically the changes are accented characters and currency symbols.

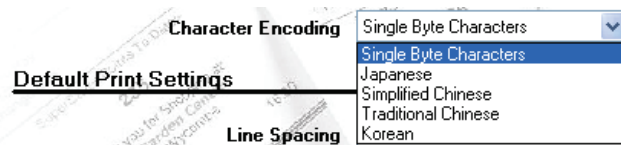
■ Code Page



The default code page is "Normal" in the Star Line mode and "ESC/POS 437(USA, std. Europe)" in the ESC/POS mode.

Changing the code page offers additional special characters specific to each of the specified languages.

■ Character Encoding



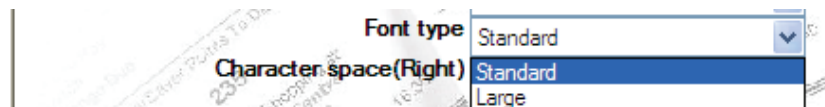
The default character encoding is "Single Byte Characters".

Selects the character encoding used by the printer. You can select either single-byte encoding (common for all non-Asian languages) or any of the four available double-byte encodings (for the corresponding Asian languages).

■ Font Type <ESC/POS mode only>

Standard: (the default): Selects the standard font.

Large: Selects a rounder, bulkier-looking font.

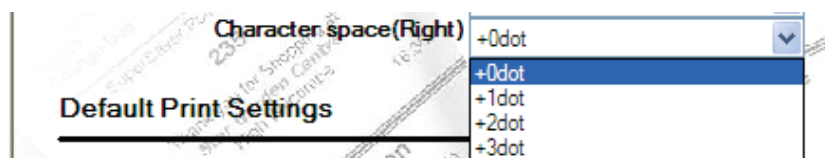


If "Large" is specified for "Font type", a larger text is created based on a font design, and it looks a little tight because the character space is the same as for the standard font type.

■ Character space (Right) <ESC/POS mode only>

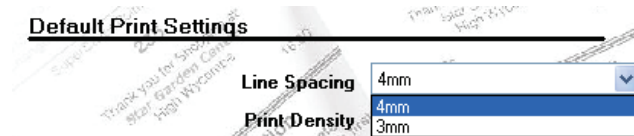
0 (the default) to **3** dots

Use this feature to add extra space (in dot units) to the right of each character. Extra spacing may improve appearance when you are using the Large font type.



4.3.2. Default Print Settings

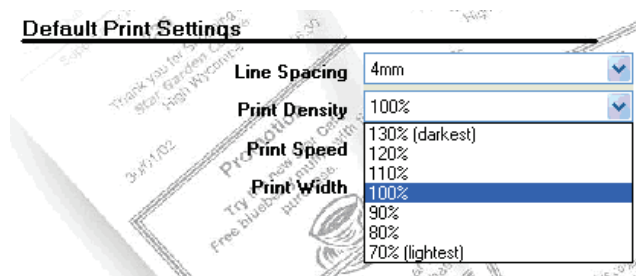
■ Line Spacing



The default line spacing is "4 mm".

If the spacing is set to 4 mm (the initial setting), the printer will add a 1-mm line space between each 3-mm-tall line of characters. If the spacing is set to 3 mm, the added spacing is omitted and receipts are correspondingly shorter. But note that the shorter receipts may be harder to read.

■ Print Density



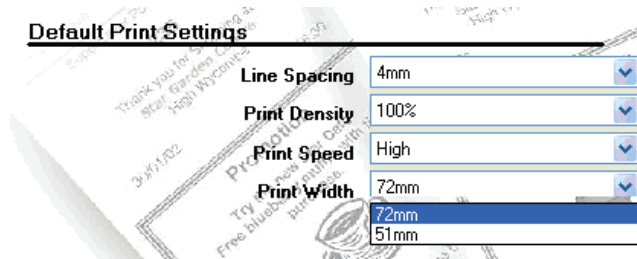
Adjusting the print density allows for adjustment in the level of contrast to compensate for the different levels of sensitivity of different types and grades of thermal paper. The recommended setting is 100% (Default).

■ Print Speed



Depending on the application, it may be desirable to slow down the speed of printing. This is typically done to adjust the quality of print based on the grade and type of paper used. The recommended settings for most cases "High" (Default).

■ Print Width

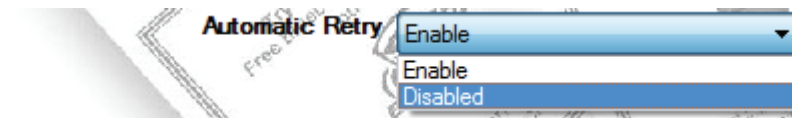


The print width should be set according to the size of paper used. The default (recommended print width) is 72 mm. The standard default print width is 72 mm, which provides 4-mm margins on both sides of 80-mm paper. The 51-mm print width setting is appropriate if you are using the optional 58-mm paper supported by the TSP100 futurePRNT.

Notes: The print width is automatically changed to fit the paper width specified at addition of the OPOS POS printer.

After changed automatically, do not adjust the print width manually.

■ Automatic Retry



If a printing error occurs while "Automatic Retry" is set to "Enable", the sent data is resent from the beginning.

Retry processing is repeated up to five times.

The default is "Enable" for TSP100U/PU/LAN/ECO, and "Disabled" for TSP100GT.

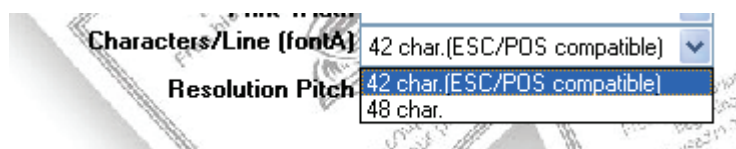
Note:

- 1 If "Automatic Retry" is set to "Disabled", the ETB command is enabled in the application side. However, check that the ETB is returned for one job before sending the next print data. If print data is sent simultaneously from multiple PCs, the ETB will not be guaranteed.
- 2 In the ESC/POS mode, the ETB command is not available even if "Automatic Retry" is disabled.
- 3 The automatic retry function is not available for OPOS, JavaPOS, virtual serial port, and virtual TCP/IP port.

■ Characters/Line (font A) <ESC/POS mode only>

42 char. (default): The standard for ESC/POS mode.

48 char.: The standard for Star Line mode.



■ **Resolution Pitch <ESC/POS mode only>**

Star Line standard: Uses Star Line mode's standard resolution. (Characters are smaller than on true ESC/POS printers, so the printer receipt is smaller and the right margin is larger.)

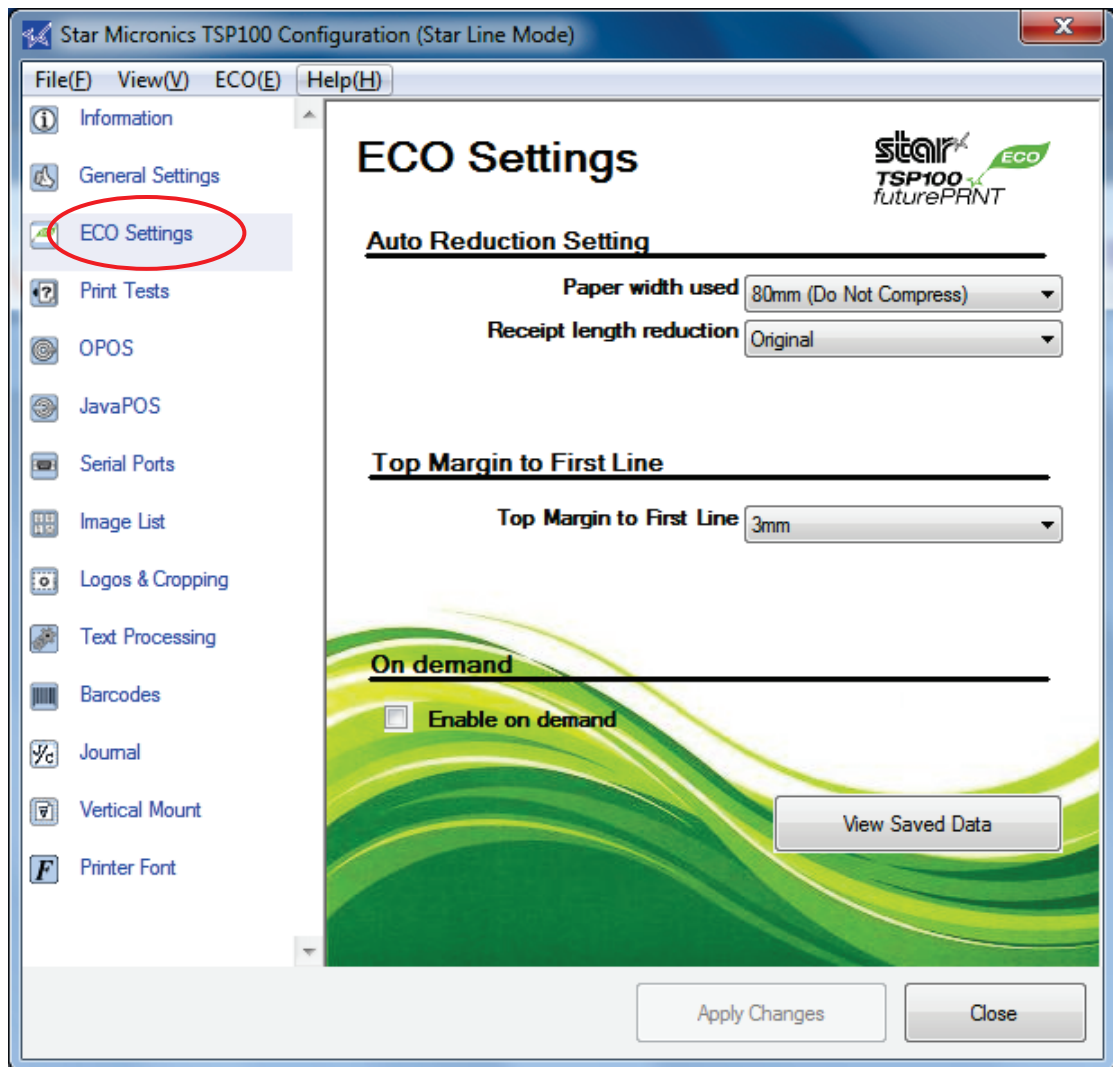
ESC/POS compatible (default): Margins and line widths are the same as on a typical ESC/POS printer. (Characters are the same size as with Star Line standard, but padding is added so that printer area occupies the same area as on a true EPSON/POS printer.)



Using this function, you can use legacy software solutions with no change.
If "Star standard" is selected, the pitch value is not adjusted.

4.4. ECO Settings

Click the **ECO Settings** tab on the left side of the dialog box.



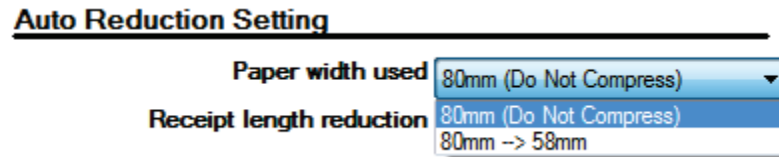
4.4.1. Auto Reduction Setting

This function reduces the overall size of the printing.



However, to prevent any scanning errors, the size of printed barcodes is not reduced even if the reduction settings are selected.

■ Paper width used



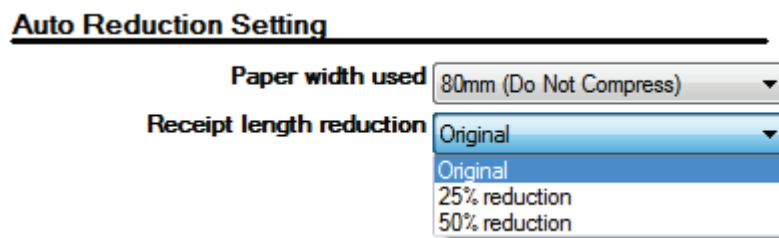
The default setting is “80mm (Do Not Compress)”.

By changing the setting to **80mm->58mm**, the printing area is compressed widthwise so that 58 mm width roll paper can be used instead of 80 mm width roll paper.



- 1) If the printing width is set to 51 mm using General Settings in the configuration utility, the 80mm->58mm setting in Paper width used is disabled.
- 2) When Paper width used is set to 80mm->58mm, the barcode will be aligned on the left margin of the paper when printed. If the printed barcode will be wider than 80mm->58mm, the barcode data will not be printed.

■ Receipt length reduction <TSP100ECO only>



The default setting is **Original** (no reduction).

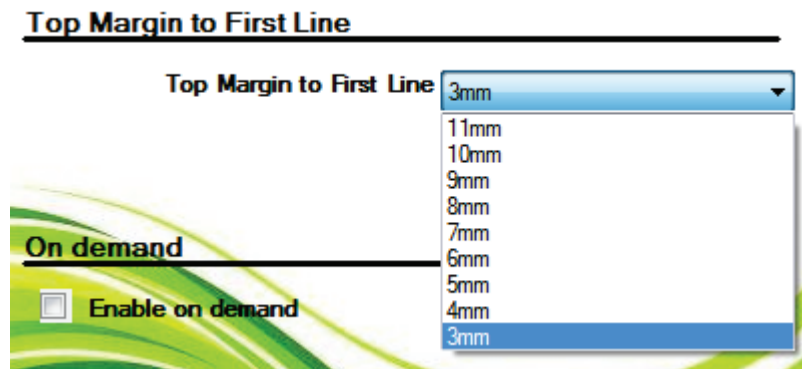
The printing area can be compressed 50% reduction or 25% reduction lengthwise.



Because the size of printed barcodes is not reduced even if the receipt length reduction settings are selected, the receipt length will be longer than the length for the reduction ratio when printing data that contains barcodes.

4.4.2. Top Margin to First Line <TSP100ECO only>

The length from the leading edge of the paper to the first line of printing can be specified.



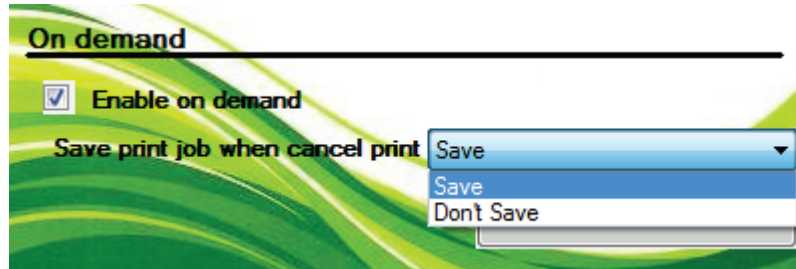
The default setting is **3mm**.



We recommend 3 mm as being effective for the ECO function; however, backward feeding is carried out for each cut operation when 10 mm or fewer is specified. To reduce the printing time, set to 11 mm.

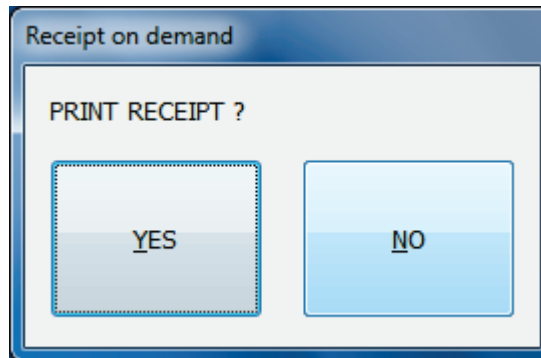
4.4.3. On demand

This function reduces the amount of paper wasted on unnecessary printings by prompting the user to select whether or not to print the data.



■ Enable on demand

To enable the on demand function, select the check box. When the on demand function is enabled, the following confirmation dialog box will appear each time data is sent from the computer to the printer.



When **YES** is clicked, the data will be printed.

When **NO** is clicked, the printing will be canceled.



Normally, the confirmation dialog box appears before the data is printed. However, in rare cases, the confirmation dialog box may not appear, the dialog box may appear after the data is printed, or other problems with the operation of the function may occur. If any of these problems occur, restart your computer. After restarting the computer, check that the on demand function is enabled and that the confirmation dialog box appears at the proper time.

■ Saving Canceled Data

When the on demand function is enabled, the data for the canceled printing can be saved or deleted.

When **Don't Save** is selected, the data for the canceled printing will be deleted.

When **Save** is selected, the data for the canceled printing will be saved in the following folder.

For Windows 7/Vista: Hard disk:\User\< Folder for logged-on user name
>\ APPData\Roaming\ Star\TSP100\Ondemand

For Windows XP: Hard disk:\Documents and Setting\< Folder for logged-on user
name >\ Application Data\Star\TSP100\Ondemand

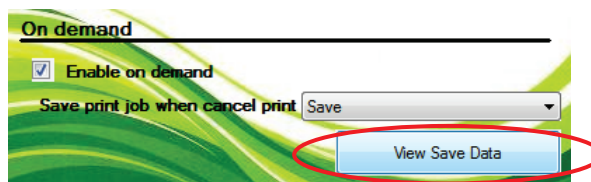


- 1) To check the data saved in the folder above, perform the following setting before viewing the data. At the Windows Start menu, select Control Panel → Folder Options, click the View tab, and then click Show hidden files and folders.
- 2) The data saved in the folder is not deleted automatically regardless of the elapsed time. Therefore, it is recommended to periodically delete any unnecessary data.

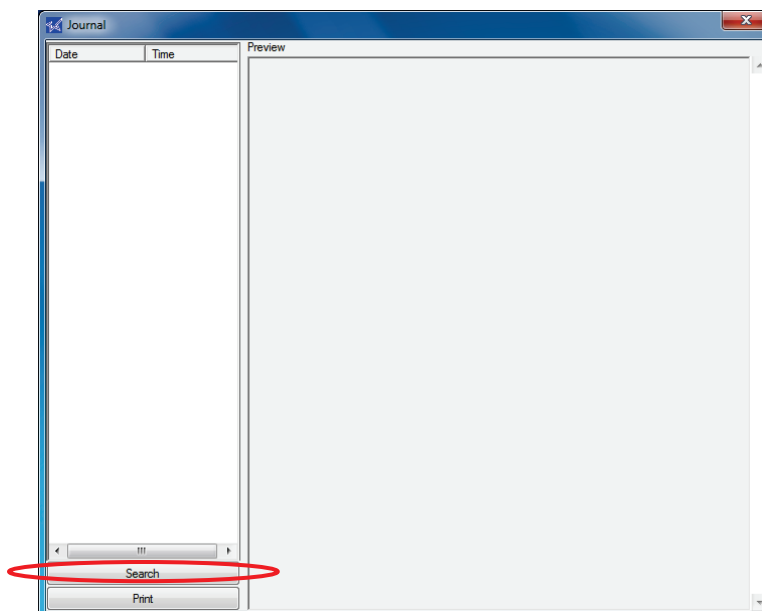
■ View Save Data

The data for canceled printings can be viewed. In addition, to print data that was saved from a canceled printing, perform the following procedure.

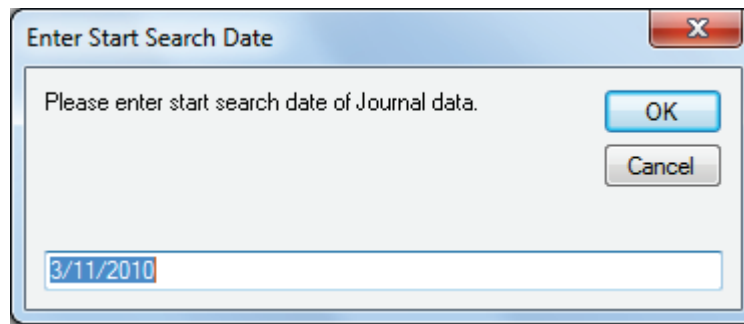
- (1) Click View Save Data.



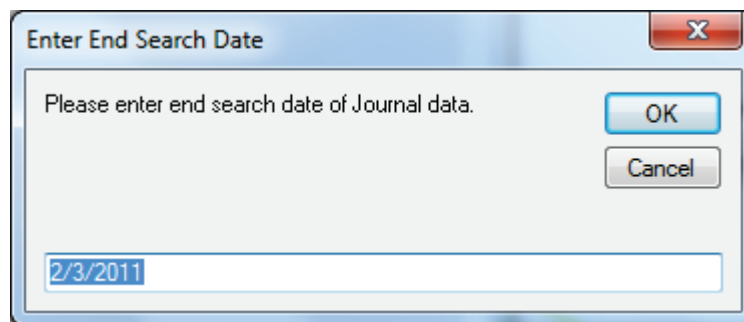
- (2) The Journal tool window appears. Click “Search” to search for the saved data.



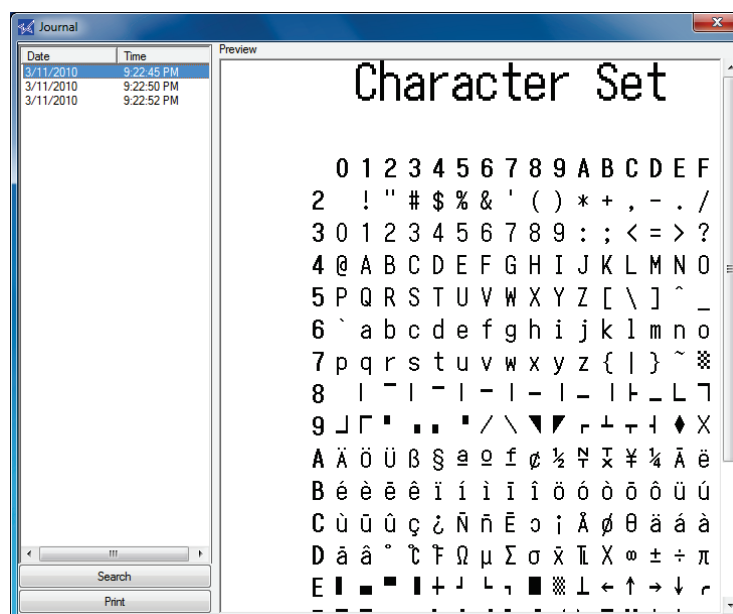
- (3) Enter the date to start searching, and click “OK”.



- (4) Enter the date to end searching, and click “OK”.
This will search for the data saved in the specified period.



- (5) Click the date to check data details in the preview screen.
The saved data appears. Click **Print** to print the data.



Caution When using the on demand function, check the following information.
When the on demand function is enabled, the time that the confirmation dialog box appears may vary according to the printing channel that is used.
The time that the confirmation dialog box appears for each channel is as follows:

Printer Driver	Immediately after a cut command is sent
OPOS	
JavaPOS	
WritePrinter API	Immediately after a cut command is sent (Refer to following *1 *2)
Virtual Serial Port	
Virtual TCP/IC Port	Immediately after a cut command is sent (Refer to following *3)

- *1) Even if the write data contains several cut commands, the last cut command is recognized as the trigger and the confirmation dialog box appears. However, when multiple receipts are sent in a single batch through a virtual serial port, the data will be divided automatically for processing if it exceeds the buffer capacity. In this case, the cut command just before the buffer becomes full is the trigger. When using a virtual serial port, it is recommended to send the data one receipt (data + cut command) at a time.
- *2) Even if the write data is sent one line at a time, the confirmation dialog box will not appear and the data will not be printed until a cut command is received.
- *3) Send print data on a page basis (data + Cut command).
Also, select “Yes” or “No” in the confirmation dialog box, and send the next print data.

Note: When switching from the TSP100IIU to the TSP100U, the ECO settings may not appear in the TSP100U configuration utility. If the ECO settings were used for the TSP100 ECO, perform the following procedure to reset all of the settings to the default settings, and then use the TSP100U.

1 Insert the CD-ROM into your computer's CD-ROM drive.

2 Start the configuration utility.

3 Import the following files by selecting File → Import.

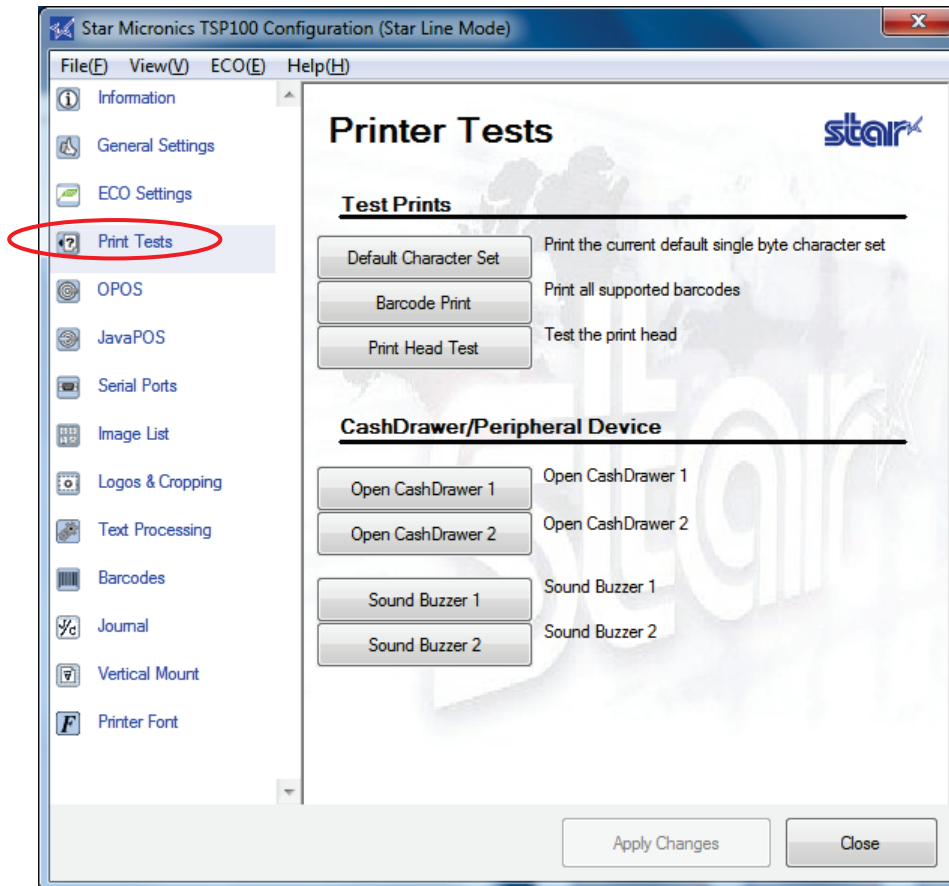
Star line mode : CD-drive:\Windows\ConfigurationSettingFiles\TSP100ECO\default.config.xml

ESC/POS mode : CD-drive:\Windows\ConfigurationSettingFiles\TSP100ECO\escpos.xml

4.5. Printer Tests

The page lets you generate various sample receipt printouts.

Use this feature to test or demonstrate the TSP100 futurePRNT's printing capabilities.



4.5.1. Default Character Set

Prints a table exhibiting the entire TSP100 futurePRNT default single byte character table.

■ Barcode Print

Prints samples of all of the TSP100 futurePRNT's available barcodes.

- Print Head Test

Tests the print head by printing solid black for several lines. If this sample has vertical white lines in the black area this can indicate that the print head requires cleaning or repair. Refer to the printer's owner's manual for further instructions regarding routine maintenance.

4.5.2. CashDrawer/Peripheral Device Test

- Open Cash Drawer 1

Tests cash drawer 1.

- Open Cash Drawer 2

Tests cash drawer 2.

- Buzzers 1 and 2 <Star Line mode only>

Clicking "Buzzer 1" or "Buzzer 2" allows you to check that each buzzer is running normally.

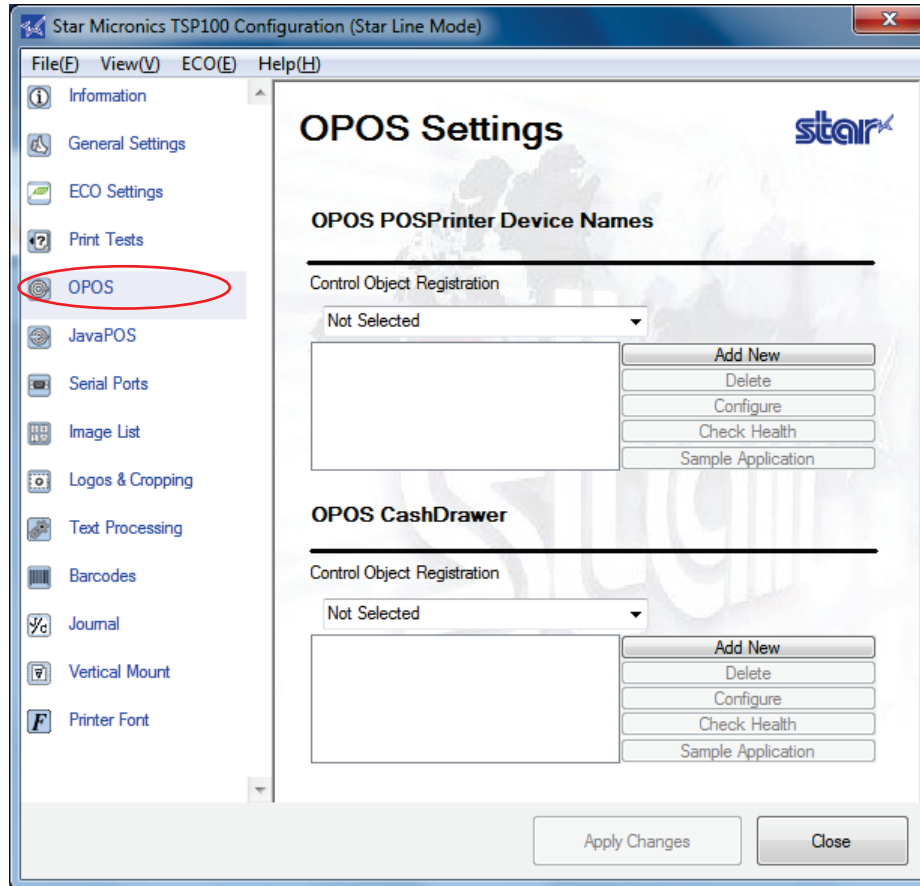
Notes:

The buzzer test button is available only in the Star Line mode, and it is not displayed in the ESC/POS mode.

In the ESC/POS mode, you can click the cash drawer test button to check that the buzzer connected to the printer sounds.

4.6. OPOS Installation <Star Line mode only>

The OPOS printer driver is included with the Windows driver installation. However, before it can be used with an OPOS application, the printer must be registered. If a cash drawer is connected to the printer, the cash drawer must also be registered. Registration of the printer and cash drawer is accomplished through the configuration utility.



Note: Before registering a printer or cash drawer, confirm the control object registration status. The registration procedure is different depending on the control object registration status.

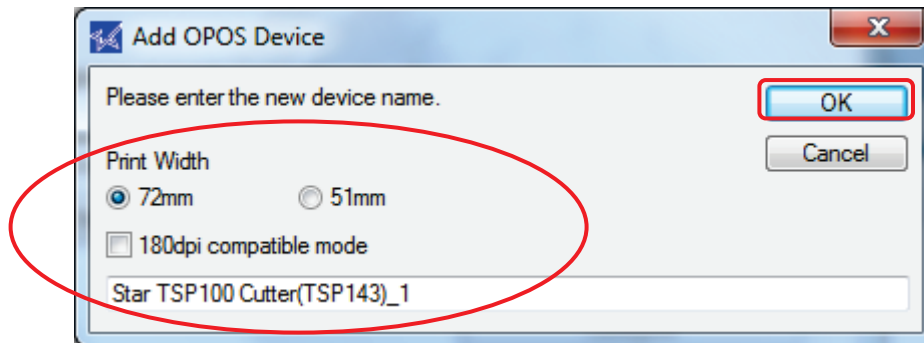
4.6.1. Adding a Printer

- When no control object is registered:
“Not Selected” is selected in the ‘Control Object Registration’ field.

(1) Click “Add New”.



(2) The following dialog box appears. Enter the name of the printer to be added, select the print width and click “OK”.

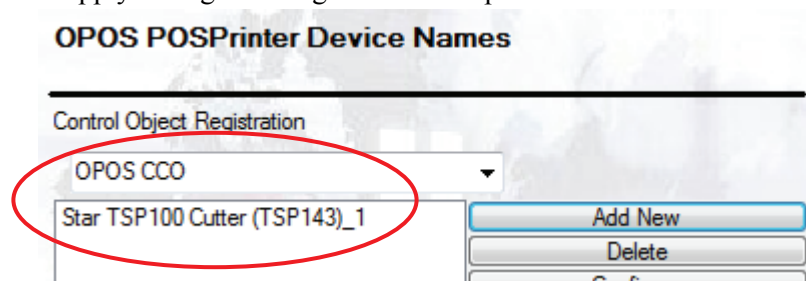


■ 180dpi compatible mode

When 180dpi compatible mode is checked, the left and right margins are automatically adjusted.

(3) The printer is added, and "OPOS CCO (OPOS common control object)" is selected in the ‘Control Object Registration’ field.

Click “Apply Changes” to register the new printer device.

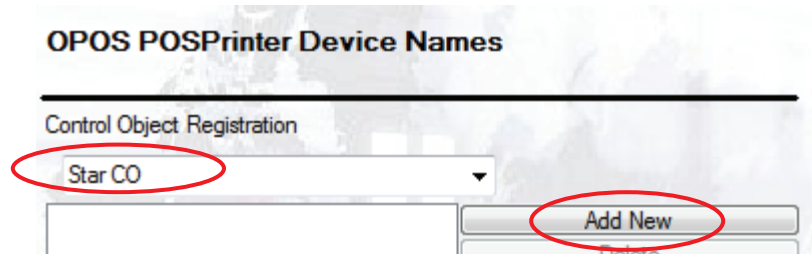


- Notes:**
- 1) The print width must match between the setting above and general settings (refer to "4.3.2 Print Width in General Settings"). If they do not match, the print width specified in general settings is automatically changed to the setting above.
 - 2) The print width can be specified only when a printer is added.
To change the selected setting value, delete the device, and re-execute the steps to add a printer.

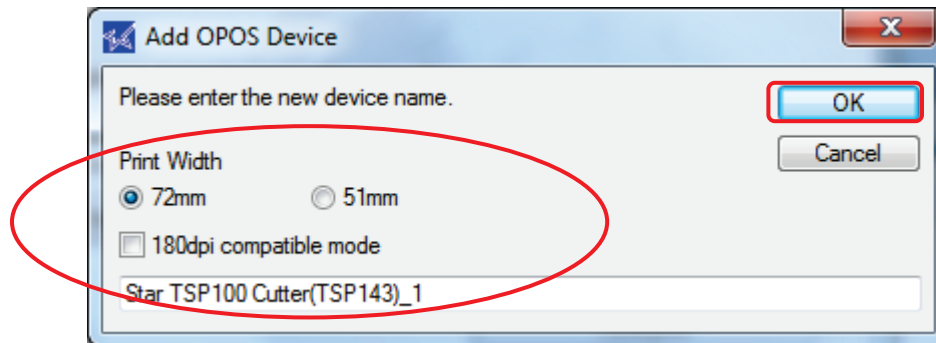
- When "OPOS CCO" or "Star CO" is registered as a control object:
"OPOS CCO" or "Star CO" is selected in the 'Control Object Registration' field.

(1) Click "Add New".

<When "Star CO" is selected>



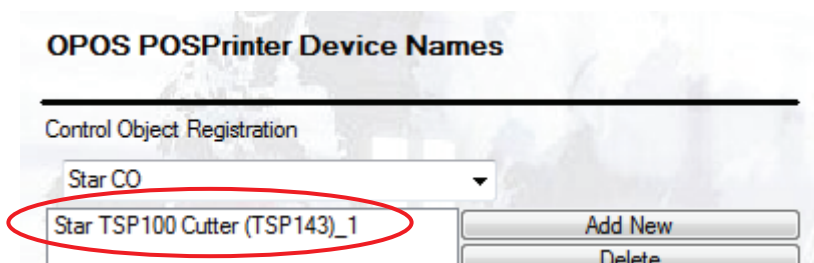
(2) The following dialog box appears. Enter the name of the printer to be added, select the print width and click "OK".



■ 180dpi compatible mode

When 180dpi compatible mode is checked, the left and right margins are automatically adjusted.

(3) A printer is added. Click "Apply Changes" to register the new printer device.



- Notes:**
- 1) The print width must match between the setting above and general settings (refer to "4.3.2. Print Width in General Settings"). If they do not match, the print width specified in general settings is automatically changed to the setting above.
 - 2) The print width can be specified only when a printer is added.
To change the selected setting value, delete the device, and re-execute the steps to add a printer.

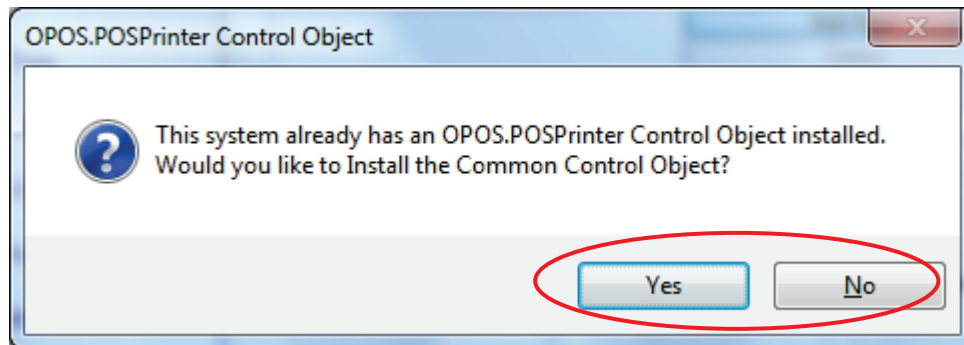
- When a non-Star control object is registered:
"Others" is grayed out in the 'Control Object Registration' field.

(1) Click "Add New".



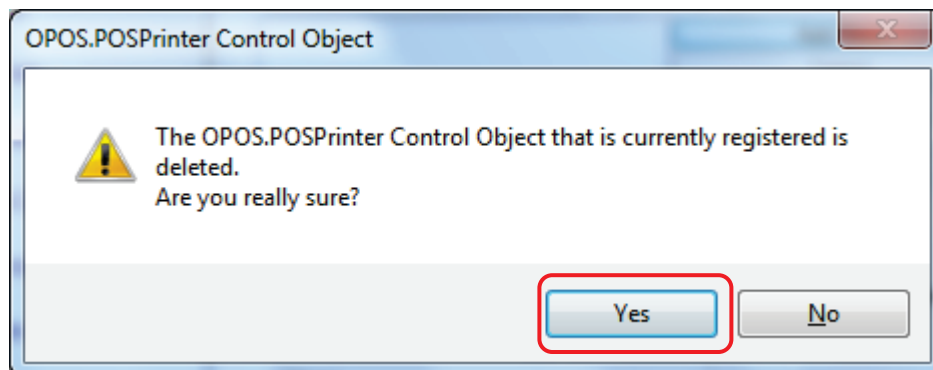
(2) The following confirmation dialog box appears.

To register the recommended common control object (OPOS CCO), click "Yes", and proceed to step (3). To use a non-Star control object, click "No", and proceed to step (4).



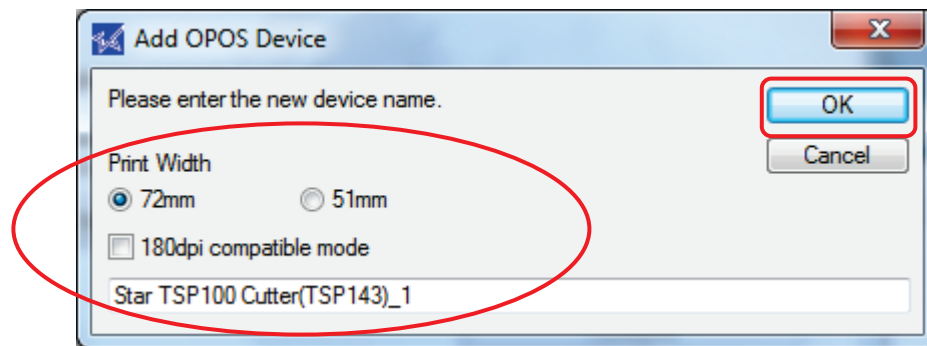
(3) The following confirmation dialog box appears to check with you if you want to delete the currently registered control object.

To continue, click "Yes".



Notes: Once a control object is deleted, it cannot be recovered.

- (4) The following dialog box appears. Enter the name of the printer to be added, select the print width and click “OK”.

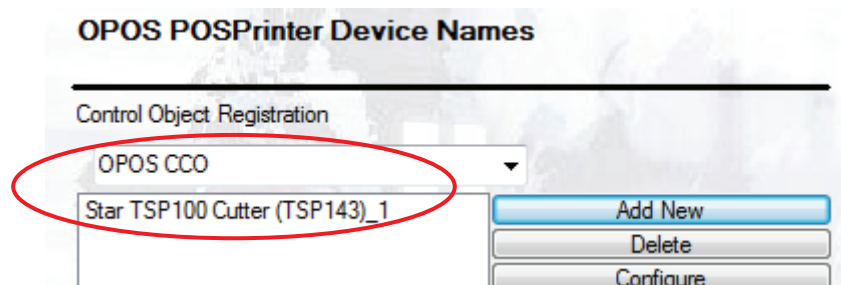


■ 180dpi compatible mode

When 180dpi compatible mode is checked, the left and right margins are automatically adjusted.

- (5) When the printer is added and the control object is changed to "OPOS CCO (OPOS common control object)", "OPOS CCO" is selected in the ‘Control Object Registration’ field.

Click “Apply Changes” to register the new printer device.



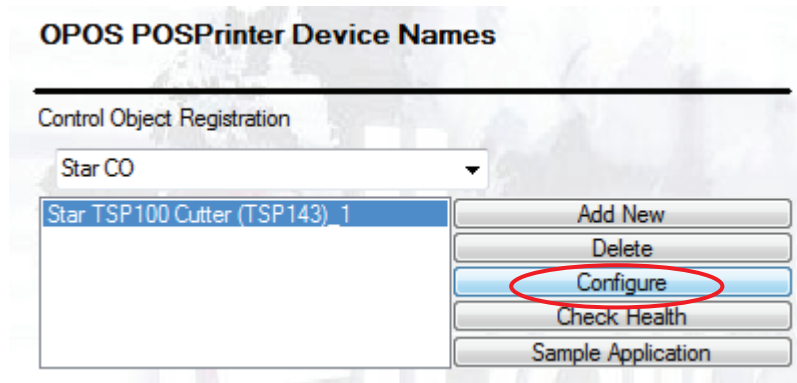
Notes:

- 1) If the Star printer is used with a non-Star control object, it may not run normally. If this occurs, register "OPOS CCO (OPOS common control object)" we recommend.
- 2) The print width must match between the setting above and general settings (refer to "4.3.2. Print Width in General Settings"). If they do not match, the print width specified in general settings is automatically changed to the setting above.
- 3) The print width can be specified only when a printer is added.
To change the selected setting value, delete the device, and re-execute the steps to add a printer.

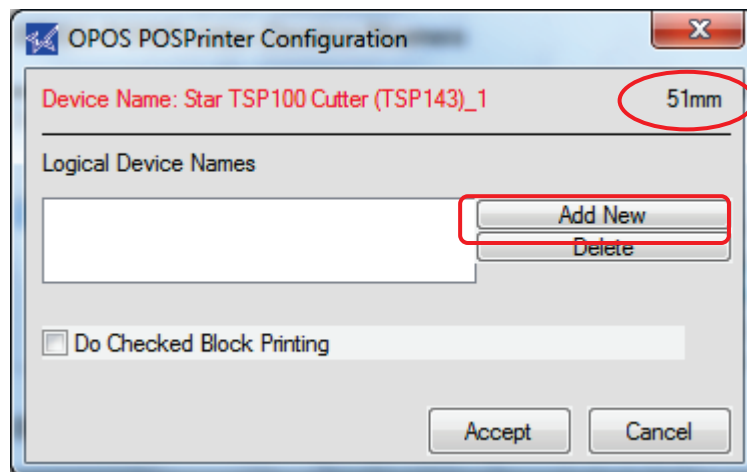
4.6.2. Configuring a Printer

Click “Configure” for OPOS POSPrinter to specify a logical device name for a target printer.

- (1) Select a target printer, and click “Configure”.

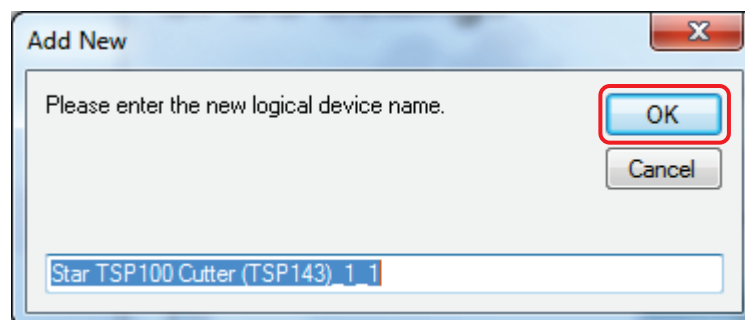


- (2) The following window appears. Click “Add New”.



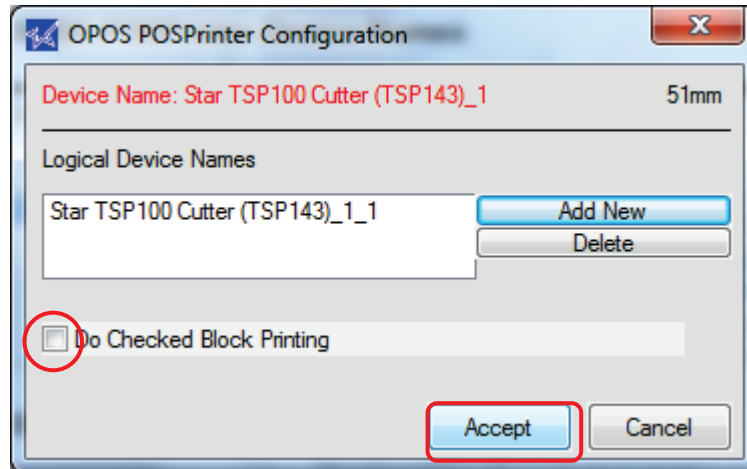
The setting value is displayed only when the print width of the printer is set to 51 mm.

- (3) Enter the name, and click “OK”.



This name is used to call the printer from the OPOS application.

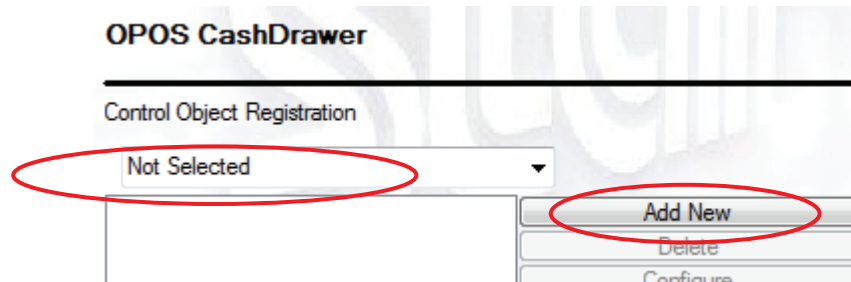
- (4) To check the printing status in the specified range, select the "Do Checked Block Printing" checkbox.
Click "Accept".



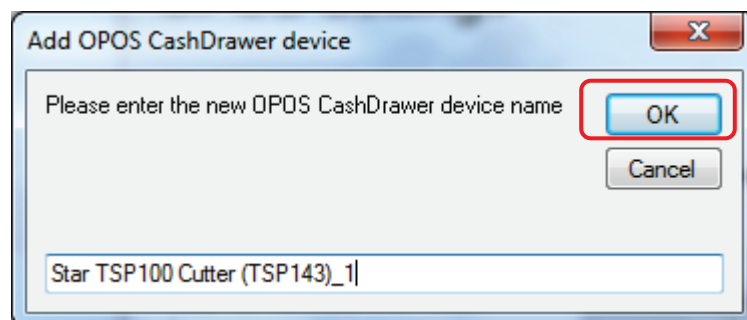
4.6.3. Adding a Cash Drawer

- When no control object is registered:
"Not Selected" is selected in the 'Control Object Registration' field.

- (1) Click "Add New".

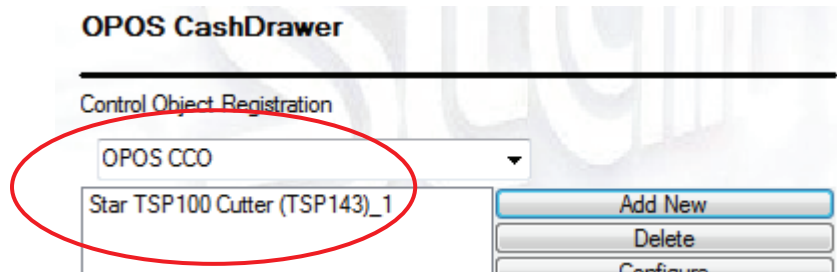


- (2) The following dialog box appears. Enter the name of the cash drawer to be added, and click "OK".



- (3) The cash drawer is added, and "OPOS CCO (OPOS common control object)" is selected in the 'Control Object Registration' field.

Click "Apply Changes" to register the new cash drawer.



- When "OPOS CCO" or "Star CO" is registered as a control object:

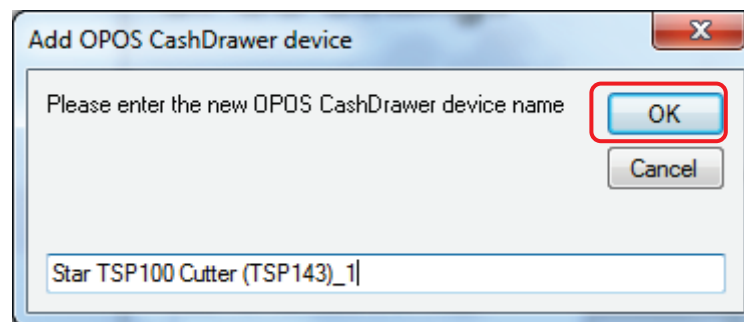
"OPOS CCO" or "Star CO" is selected in the 'Control Object Registration' field.

- (1) Click "Add New".

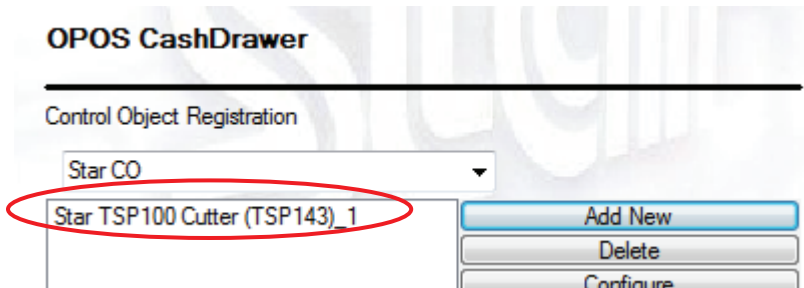
<When "Star CO" is selected>



- (2) The following dialog box appears. Enter the name of the cash drawer to be added. Click "OK" to add the new cash drawer.

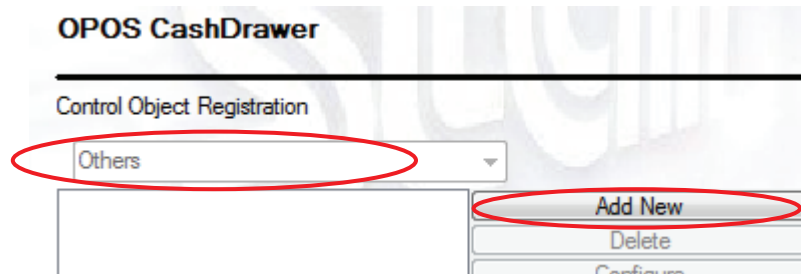


- (3) The cash drawer is added.
Click “Apply Changes” to register the new cash drawer.



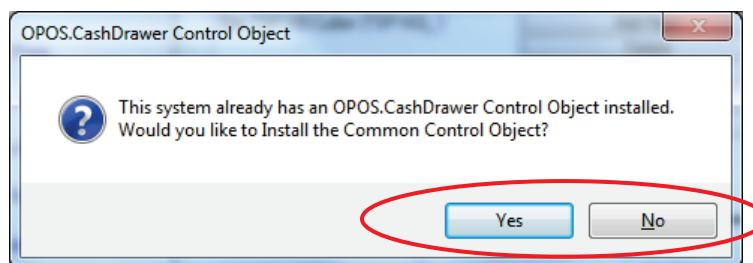
- When a non-Star control object is registered:
"Others" is grayed out in the ‘Control Object Registration’ field.

- (1) Click “Add New”.



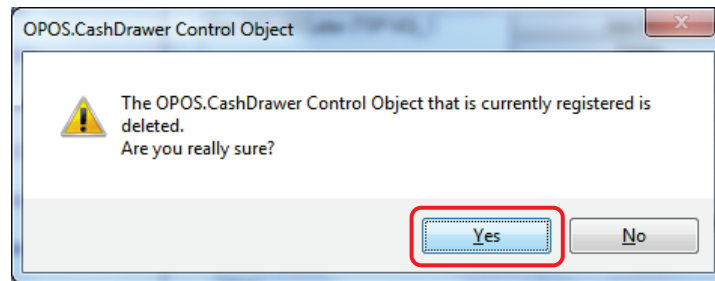
- (2) The following confirmation dialog box appears.

To register the common control object (OPOS CCO), click “Yes”, and proceed to step (3). To use a non-Star control object, click “No”, and proceed to step (4).



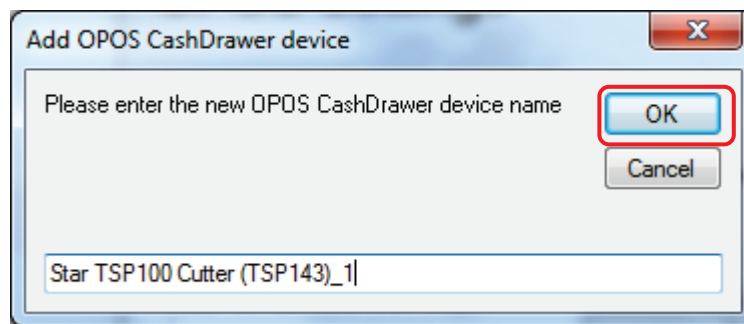
- (3) The following confirmation dialog box appears to check with you if you want to delete the currently registered control object.

To continue, click “Yes”.

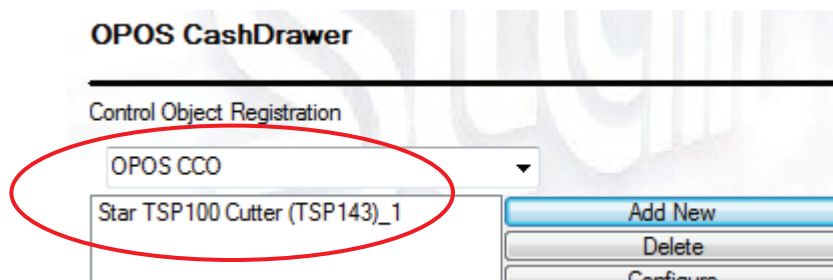


Notes: Once a control object is deleted, it cannot be recovered.

- (4) The following dialog box appears. Enter the name of the cash drawer to be added. Click “OK”.



- (5) When the cash drawer is added and the control object is changed to "OPOS CCO (OPOS common control object)", "OPOS CCO" is selected in the ‘Control Object Registration’ field. Click “Apply Changes” to register the new cash drawer.



Notes:

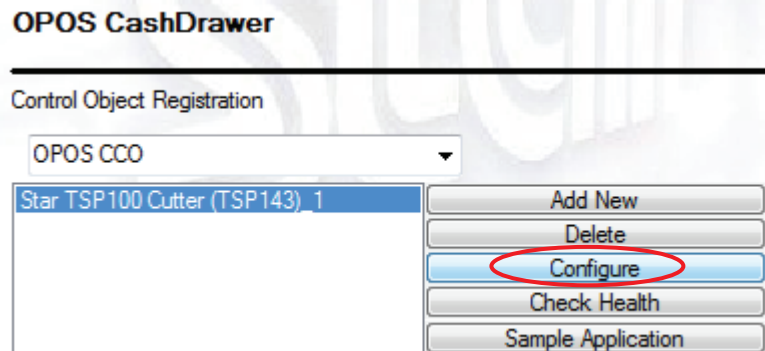
If a Star cash drawer is used with a non-Star control object, it may not run normally.
If this occurs, register "OPOS CCO (OPOS common control object)" we recommend.

4.6.4. Configuring a Cash Drawer

Click “Configure” in the OPOS CashDrawer window to specify a logical device name for a target cash drawer.

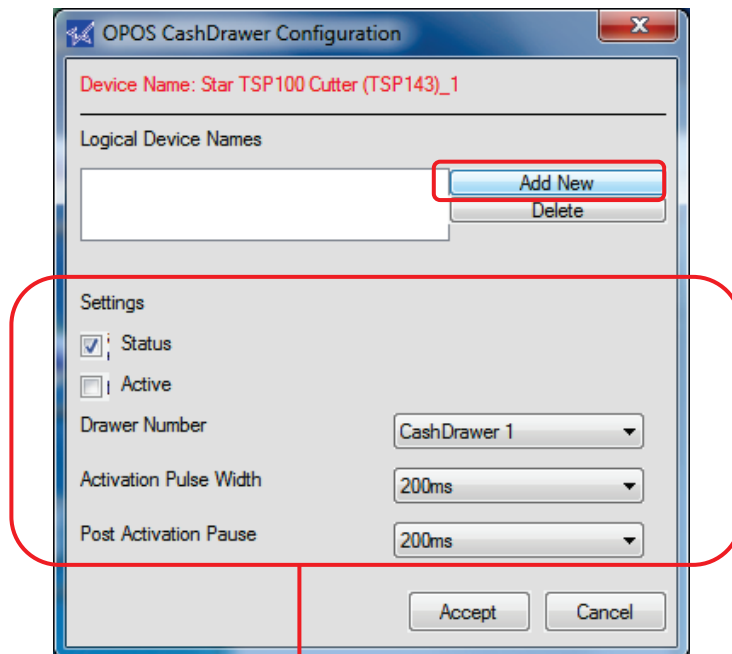
When necessary, you can configure cash drawer operations.

- (1) Select a target cash drawer, and click “Configure”.



- (2) The following window appears. Click “Add New”, and enter the name. Click “Configure” to decide the specified device name.

This name is used to call the cash drawer from the OPOS application.



- (3) Cash drawer operation setting and after

(3) Configure cash drawer operations.

■ Status

Selecting the "Status" checkbox notifies the open-close state of the cash drawer. If the "Status" checkbox is not selected, it will not be possible to notify the open-close state of the cash drawer.

Notes:

This function is available only when the selected cash drawer supports the open-close detector switch.

■ Active

Set this item to fit the features of the open-close detector switch of the target cash drawer.

If the open-close detector switch is opened while the cash drawer is opened, select the "Active" checkbox.

If the open-close detector switch is closed (shorted) while the cash drawer is opened, clear the "Active" checkbox.

■ Drawer Number

Select the number of the cash drawer.

■ Activation Pulse Width

Specify the power distribution time of cash drawer 1.

■ Post Activation Pause

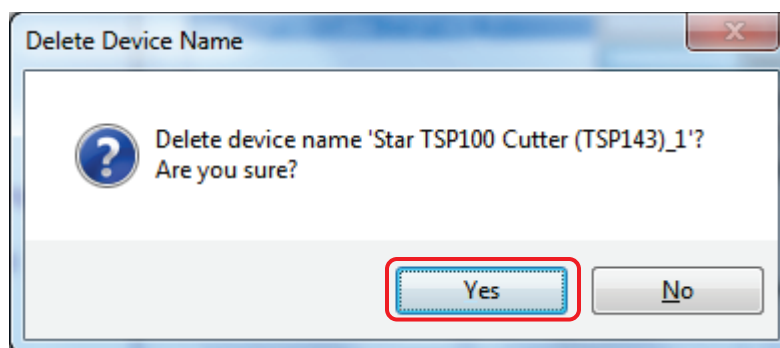
Specify the delay time of cash drawer 1.



For cash drawer 2, the power distribution and delay times are fixed to 200 msec.

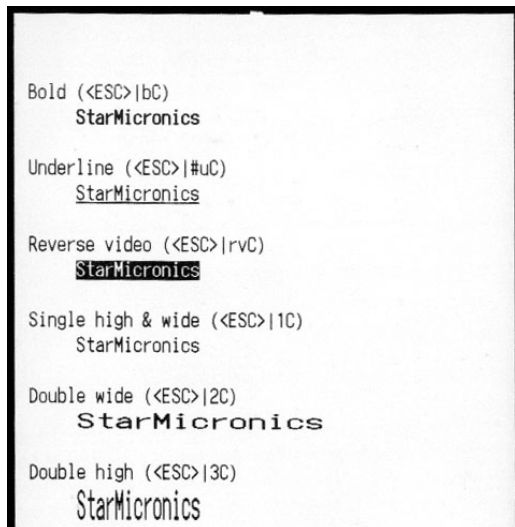
4.6.5. Delete

The "Delete" button allows for the removal of either a POS printer device or a cash drawer. Simply select the desired device and click the "Delete" button to remove it from the OPOS registry. A delete confirmation dialog will be displayed before the device is actually deleted.



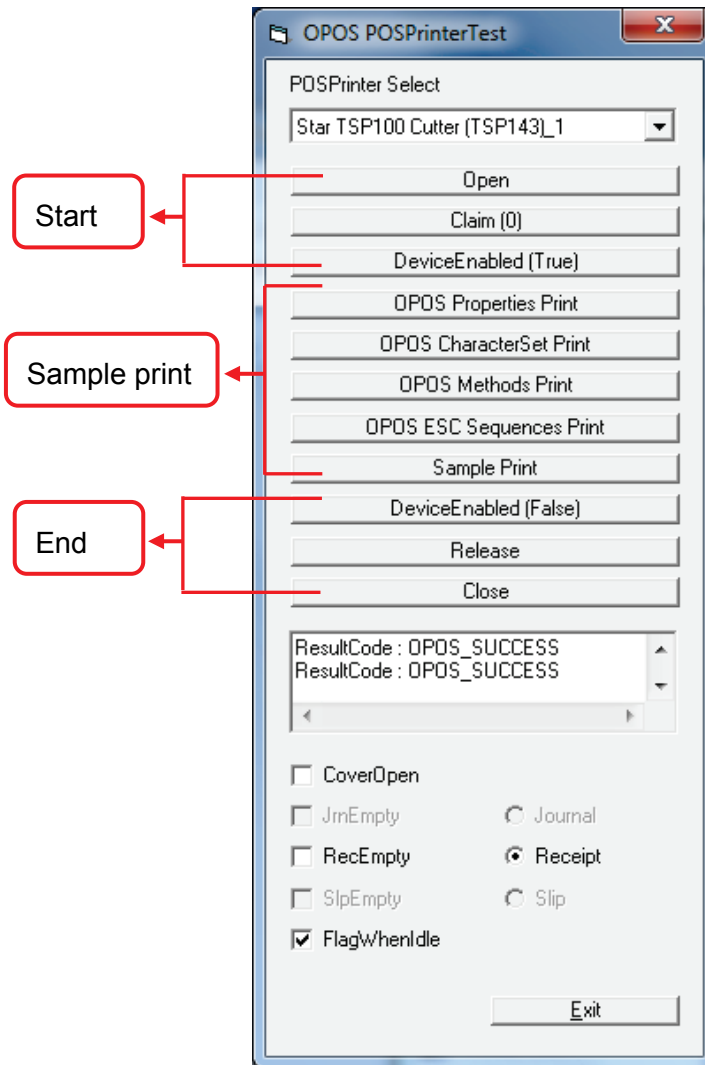
4.6.6. Check Health

The “Check Health” button performs a system check to ensure that the printer is connected and working properly under OPOS. After the initial check, a sample receipt will be printed to show the printer is printing with its full capability.



4.6.7. Sample Application

The sample application performs some demonstration printing but also serves to educate the operator on the capabilities of the TSP100 futurePRNT in an OPOS application.



To begin the sample application, first select the device from the drop-down menu. Next follow the steps below:

1. Click “Open” to open the OPOS device.
2. Click “Claim” to claim the device for the sample application’s use.
3. Click “DeviceEnabled (True)” to enable the device for printing.

Click any or all of the following buttons to print the respective sample:

OPOS Properties Print – Prints a list of the available OPOS properties and whether or not they are supported by the TSP100 futurePRNT.

OPOS CharacterSet Print – Prints tables of each of the available OPOS character sets.

OPOS Methods Print – Prints a list of the supported OPOS methods.

OPOS ESC Sequences Print – Prints a list (with examples) of the supported ESC sequences.

Sample Print – Prints a sample of the typical point of sale receipt.

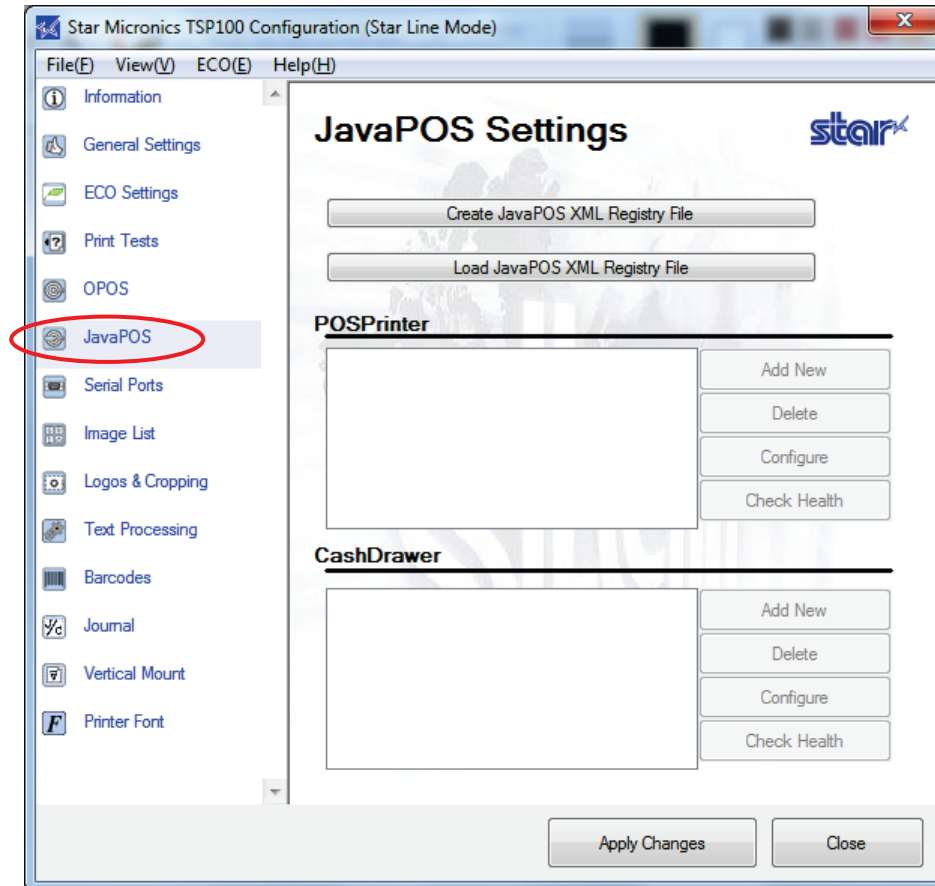
To exit the sample application, follow the steps below:

1. Click “DeviceEnabled (False)” to disable the device in the application.
2. Click “Release” to make the device available to other OPOS applications.
3. Click “Close” to close the connection between the sample application and OPOS.

Finally, click “Exit” to close the sample application.

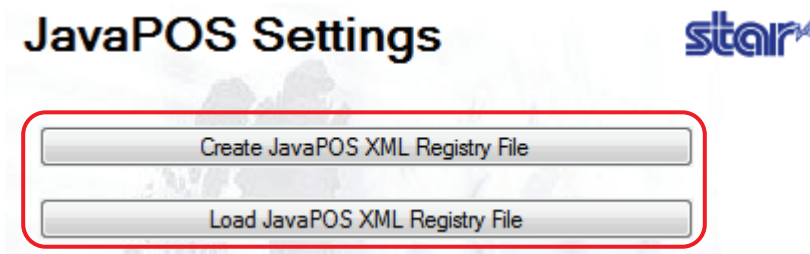
4.7. JavaPOS™ Installation <Star Line mode only>

The JavaPOS printer driver is included with the Windows driver installation. However, before it can be used with a JavaPOS application, the printer must be registered. If a cash drawer is connected to the printer, the cash drawer must also be registered. Registration of the printer and cash drawer is accomplished through the configuration utility.



The "JavaPOS XML file" is required to register and configure printer and cash drawer.

First, click "Create JavaPOS XML Registry File" to create a JavaPOS XML file. If the JavaPOS XML file resides, click "Load JavaPOS XML Registry File" to load the JavaPOS XML file.

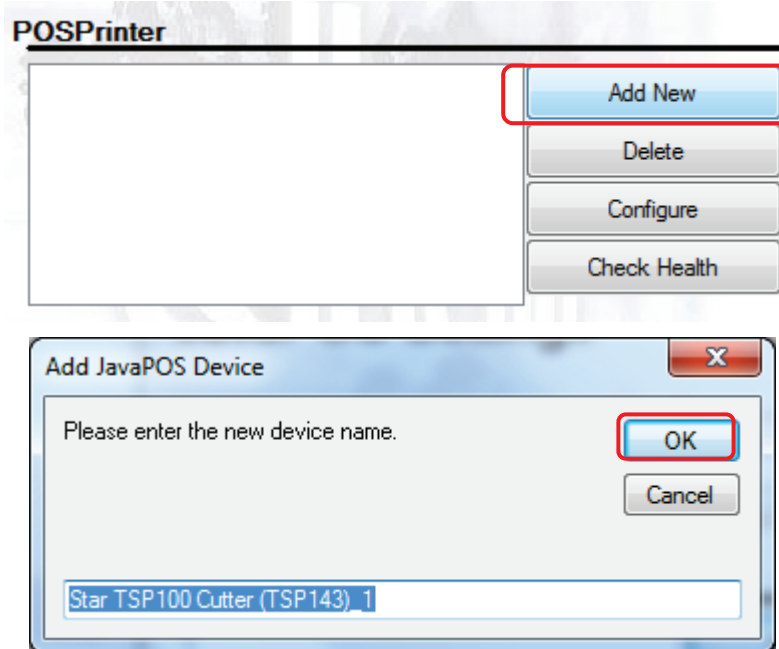


Then, to register printer and cash drawer, execute the steps shown in the following page.

4.7.1. Add a New Printer Device

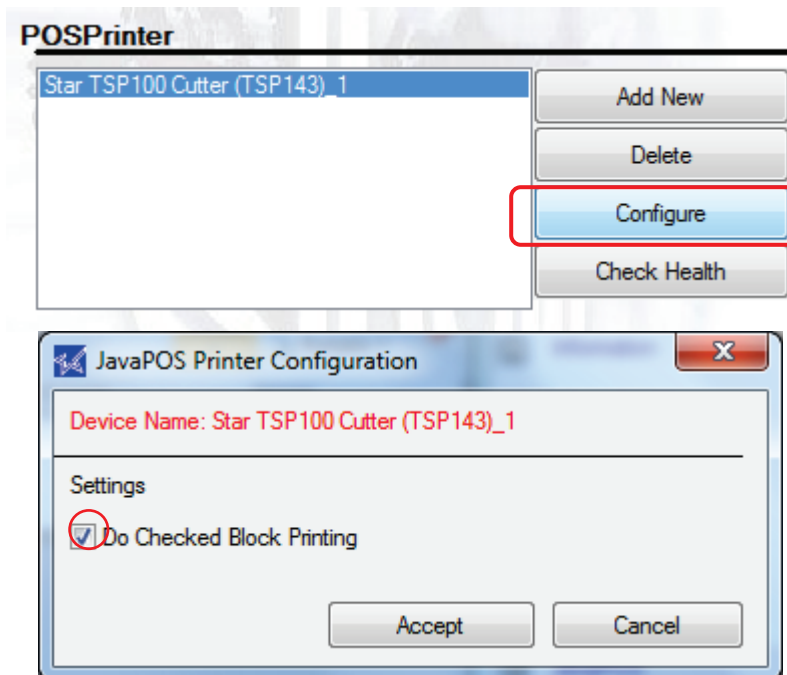
Click “Add New” next to the POSPrinter textbox

Enter a logical name for your JavaPOS™ printer device in the resulting dialog.



4.7.2. Configure a Printer Device

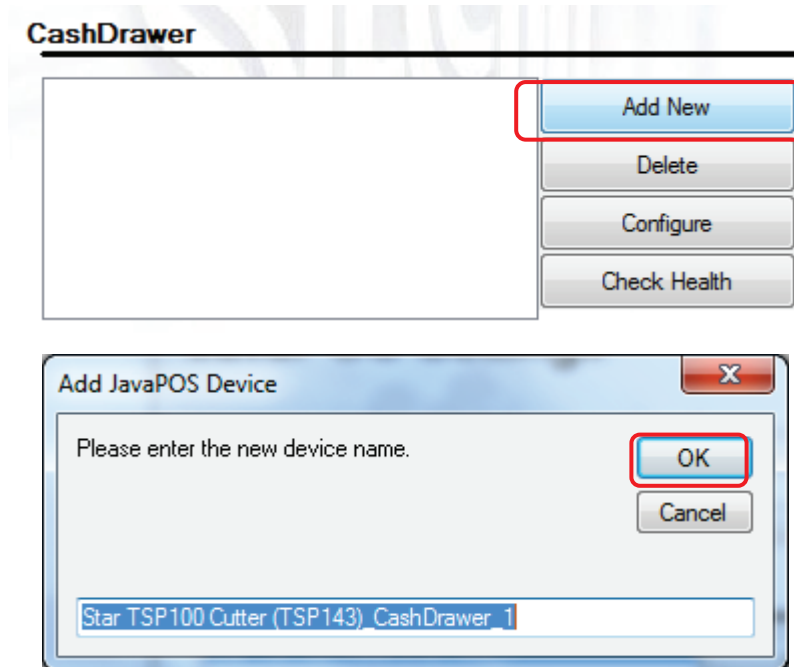
Click “Configure” next to the POSPrinter textbox with the desired device highlighted.



4.7.3. Add a New Cash Drawer Device

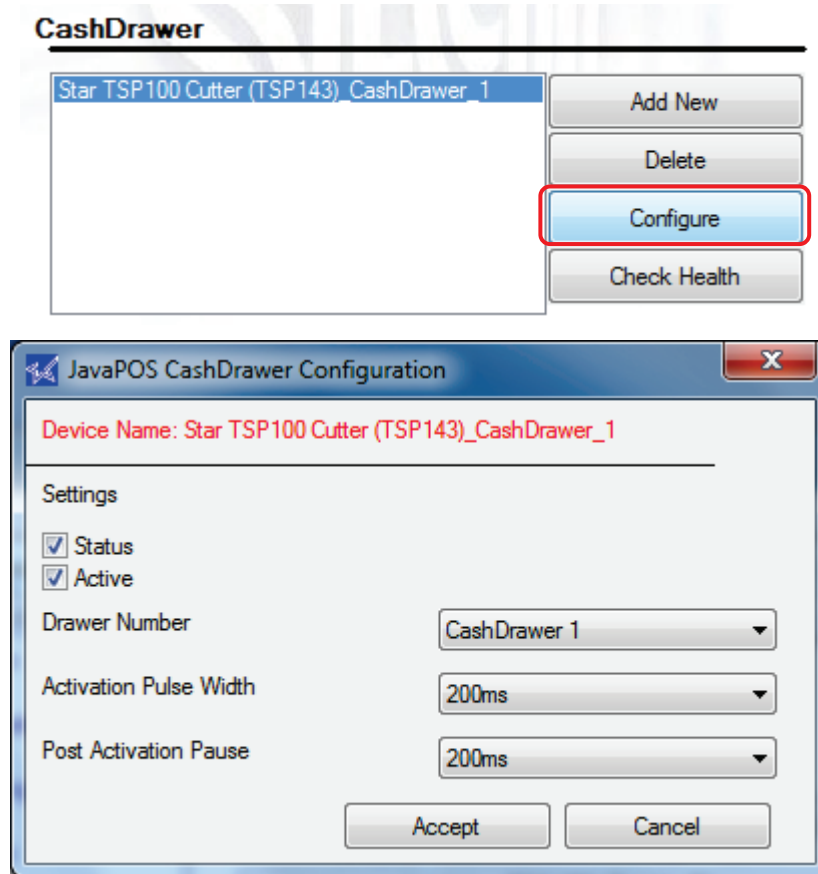
Click “Add New” next to the Cash Drawer textbox.

Enter a logical name for your JavaPOS™ cash drawer in the resulting dialog.



4.7.4. Configure a Cash Drawer Device

Click “Configure” on the right of the text box in the JavaPOS CashDrawer window to configure cash drawer operations.



■ Status

Select the “Status” checkbox to enable monitoring of the compulsion switch if the cash drawer supports it.

Notes:

This function is available only when the selected cash drawer supports the open-close detector switch.

■ Active

Select the “Active” checkbox to choose whether the “open” setting of the compulsion switch is recognized as an open or closed cash drawer.

■ Drawer Number

Choose whether the selected Cash Drawer is recognized as Cash Drawer 1 or Cash Drawer 2.

■ Activation Pulse Width

Select how long the signal to open the cash drawer will be sent.

■ Post Activation Pause

Select how long the pause between cash drawer open signals will be.

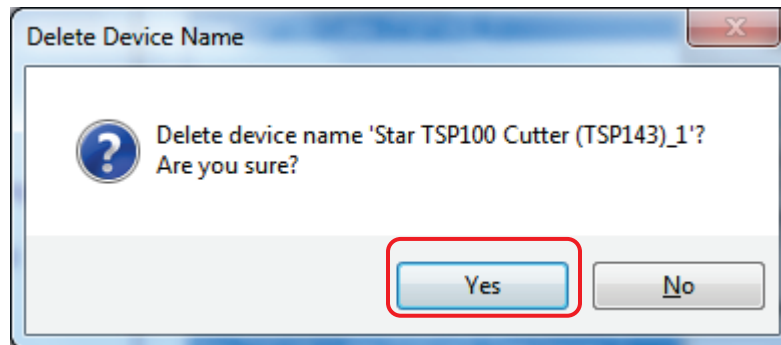


For cash drawer 2, the power distribution and delay times are fixed to 200 msec.

4.7.5. Deleting a Printer or Cash Drawer

Click “Delete” on the right of each text box to delete a target printer or cash drawer.

- (1) Select the printer or cash drawer to be deleted, and click “Delete”.
- (2) Before deletion is executed, the following confirmation dialog box appears. To continue, click “Yes”.

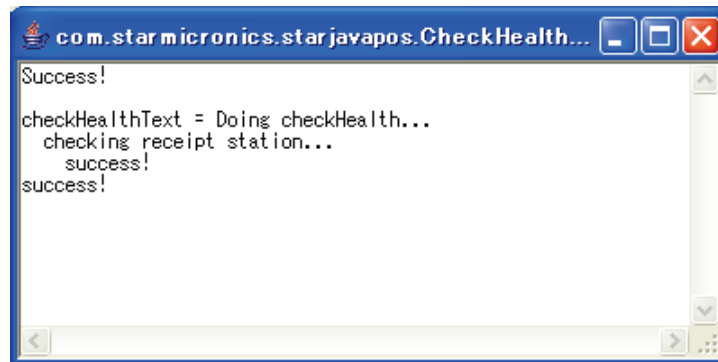


This will delete the selected printer or cash drawer.

4.7.6. Check Health

Click “Check Health” next to each text box to perform a system check about whether the printer or cash drawer is connected normally or it is working properly under JavaPOS.

After the initial printer check, the results of all printer functions are printed on a sample receipt. If the initial check succeeds, the following window appears. (The following window displays the check health result of the printer.)



Notes:

The check health function is not available in the 64-bit Java Runtime Environment. RUN the below sample program to test JavaPOS functionality.

* The location of the Java Sample Program is different for Windows 32-bit and 64-bit systems.

Installer Location for Windows 32-bit Environments:

Program Files\StarMicronics\TSP100\Software\20110922\JavaPOSExamples

Installer Location for Windows 64-bit Environments:

- **64-bit Java Operation Environment:**

Program Files\StarMicronics\TSP100\Software\20110922\JavaPOSExamples

- **32-bit Java Operation Environment:**

Program Files(x86)\StarMicronics\TSP100\Software\20110922\JavaPOSExamples



Refer to the following information for setting the environment variables when using JavaPOS.

1. At the Windows Start menu, right-click Computer (or My Computer if using Windows XP), and then select Properties.
2. The System dialog box appears. (Proceed to step ③ if using Windows XP.)
Click Change settings.
3. At the System Properties dialog box, click the Advanced tab, and then click Environment Variables.
4. Select Path in the System variables list, and then click Edit.
5. At the Edit System Variable dialog box, add the following path in the Variable value box.
< Your JDK install folder >¥bin
(Example: “c:¥Program Files¥Java¥jdk1.6.0_18¥bin”)
6. Click the OK button to close the Edit System Variable dialog box.
7. Click the OK button to close the Environment Variables dialog box.
8. Click the OK button to close the System Properties dialog box.

4.8. Serial Port (Star Serial Port Emulator)

This function generates a virtual serial port (COM port).

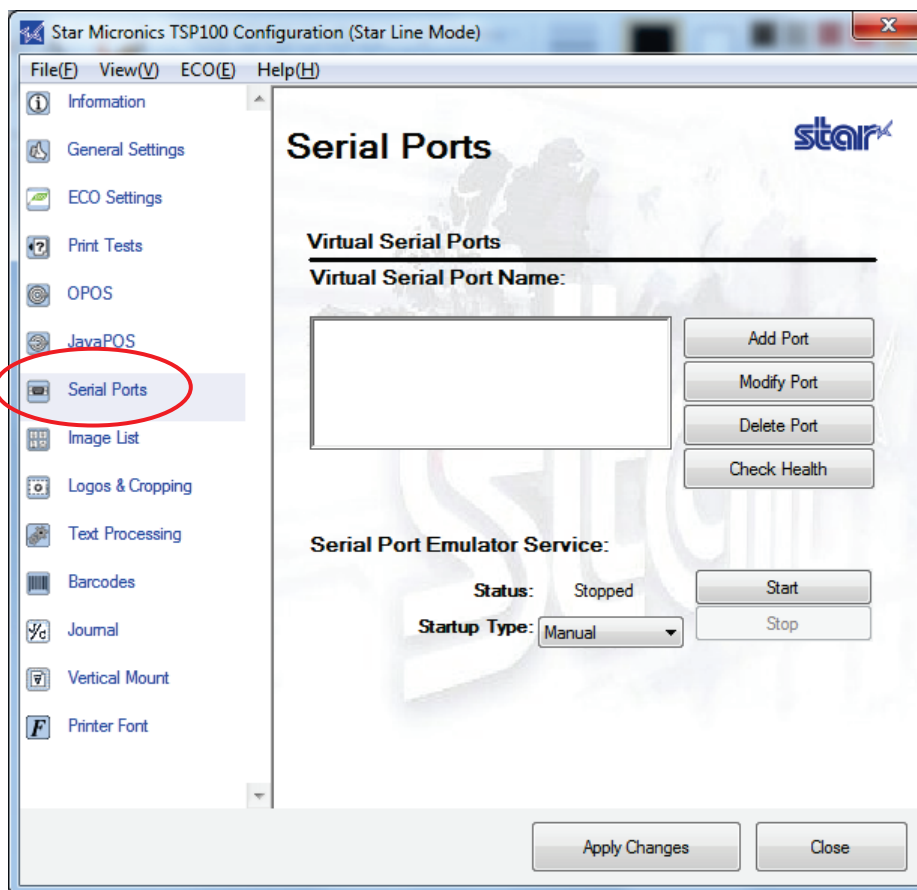
Using this function allows you to use the TSP100U/PU/GT/ECO with the USB interface equipped or the TSP100LAN with the Ethernet interface equipped using applications for a serial printer.

Print data must be sent to a virtual serial port on a one-document basis. If print data is divided into many parts for sending, the print speed will slow down compared to when sending on a one-document basis. This specification has been changed from version 5.0.

To use an ETB command in a virtual serial port, set "Automatic Retry" to "Disabled" in General Settings. For more information, refer to "4.3.2 General Settings".



When activated in the Star Line mode, the port created by clicking “Add Port” is registered as a port in the Star Line mode. When activated in the ESC/POS mode, the port created by clicking “Add Port” is registered as a port in the ESC/POS mode.

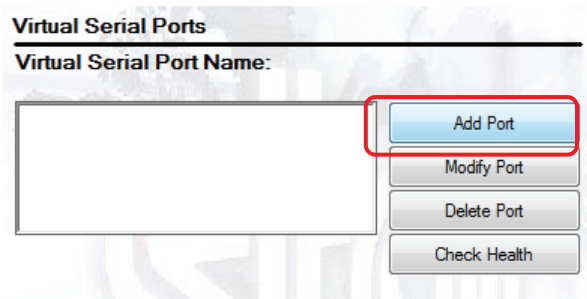


4.8.1. Creating a Virtual Serial Port

The procedure for creating a virtual serial port varies depending on the model you are using and the firmware version of the printer.

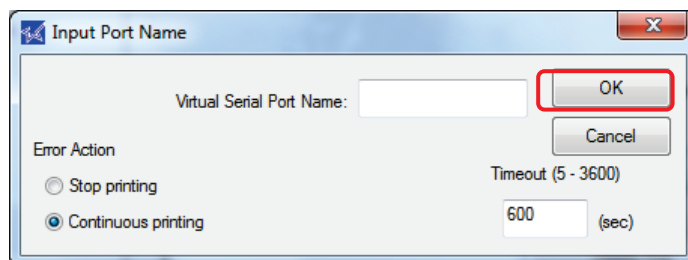
- For TSP100ECO (firmware version 2.0 or later) and TSP100GT (firmware version 2.0 or later)

(1) Click “Add Port”.



(2) The following window appears.

Enter a virtual serial port name, and select whether to stop or continue printing after an error has occurred. Then, click “OK”.



■ Virtual Serial Port Name

Enter the name of the output destination port of the currently used POS application.
(Example: If the output destination port is named COM3, enter ‘COM3’.)

■ Error Action

If "Continuous printing" is selected, data will be held when a recoverable error such as paper out has occurred in a virtual serial port to be added. When the port is recovered from an error in the specified time-out period, a print job will be continued from the position where printing has been interrupted.

If "Stop printing" is selected, a print job that was running at the time the error occurred will be ignored.

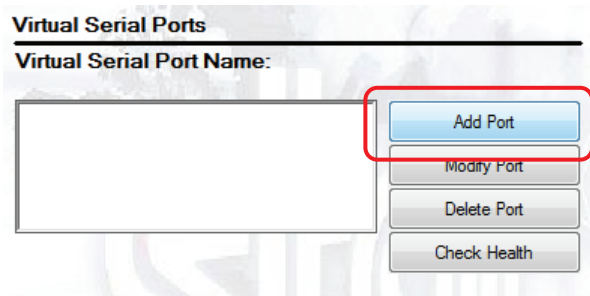
(3) Click “Apply Changes” to complete the creation of a virtual serial port.

Notes:

**Multiple virtual serial ports can be created, but it is not recommended.
This function is provided to hold the downward compatibility.**

- For TSP100U/PU, TSP100LAN, and TSP100ECO (firmware versions earlier than firmware version 2.0) and TSP100GT (firmware versions earlier than firmware version 2.0)

(1) Click “Add Port”.



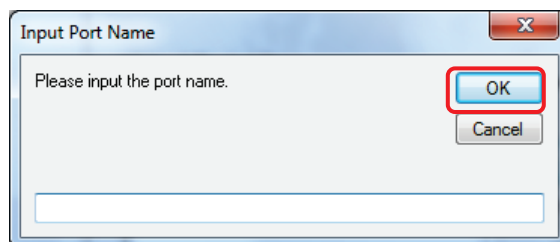
(2) The following window appears.

Enter the port name, and click “OK”.

For Input Port Name, enter the name of the output destination port of the currently used POS application.

(Example: If the output destination port is named COM3, enter ‘COM3’.

This port is used to erase the interrupted print data when an error is recovered.



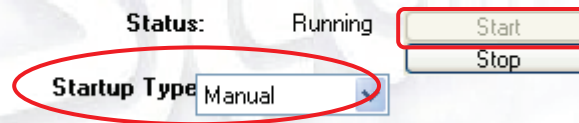
(3) Click “Apply Changes” to complete the creation of a virtual serial port.

Notes:

**Multiple virtual serial ports can be created, but it is not recommended.
This function is provided to hold the downward compatibility.**

4.8.2. Configuring the Port Emulator Service

Serial Port Emulator Service:



By default, the port emulator service is disabled. To use the port emulator, the service must be set to either manual or automatic operation. Automatic is the most common usage as it will start each time the system is booted. Manual operation requires that the service be started manually before it can be used. When stopping the service, make sure any applications that may be using any virtual serial ports are closed. Neglecting to do so may cause errors when starting the service again.

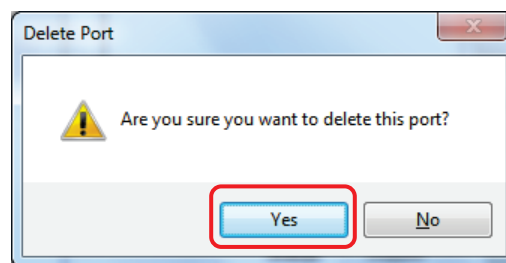
Notes:

When stopping the service, make sure any applications using a virtual serial ports are closed.

Neglecting to do so may cause errors when restarting the service.

4.8.3. Removing a Virtual Serial Port

Click “Delete Port” with the specific port selected to remove it from your system, then click “Apply Changes” to complete the process.



4.8.4. Check Health

Click the “Check Health” to perform the port check. This function ensures the opening and the working of the specified port.

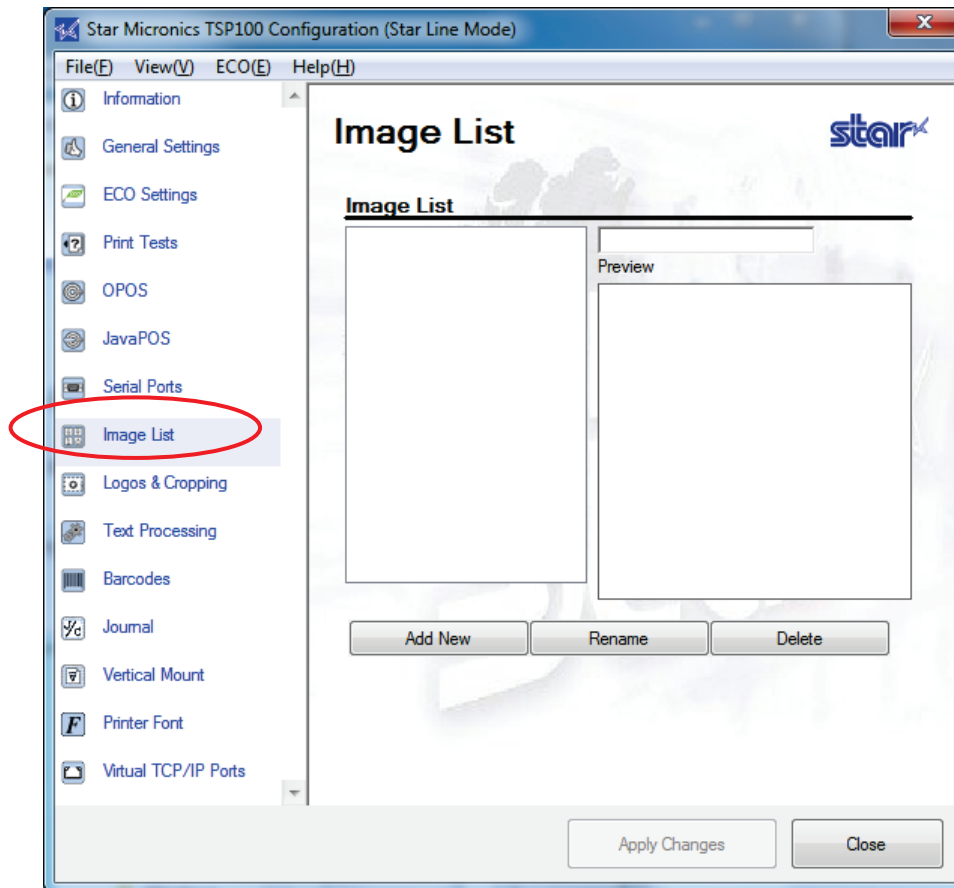
4.8.5. SDK

A software development kit (SDK) is provided to help you install a virtual serial port.

Click "SDK" in "Documents/SDK" of the “CD auto” menu to open the folder where to store the SDK.

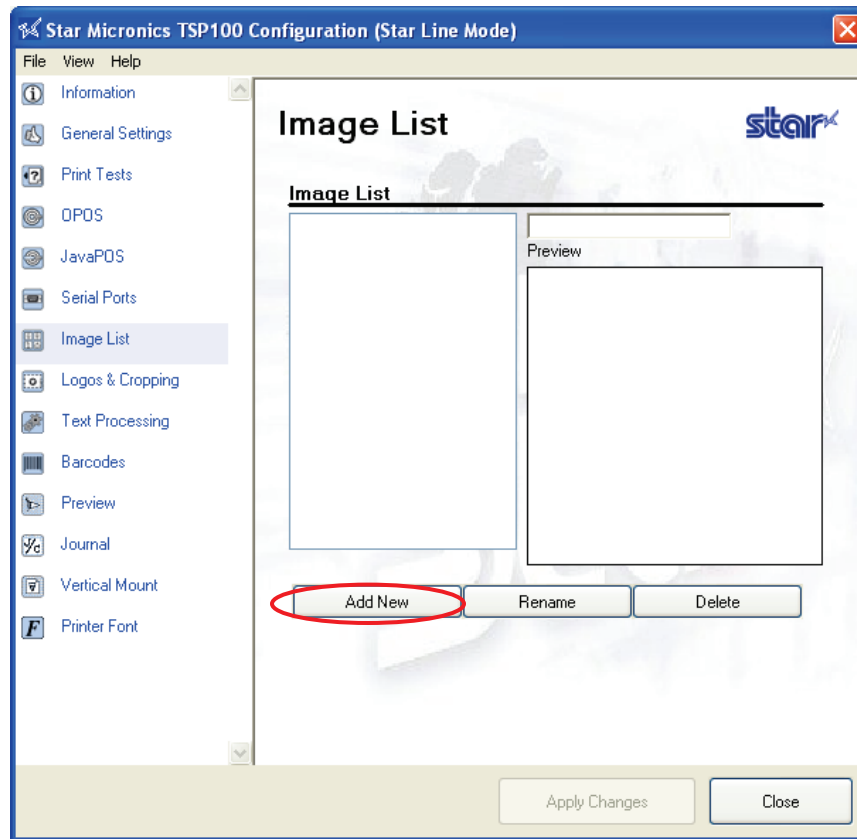
4.9. Image List

The image list allows for the queuing of bitmap images (jpg, gif, bmp format) for later automatic printing. An infinite number of images can be queued at any given time for fast and easy recall during printing.

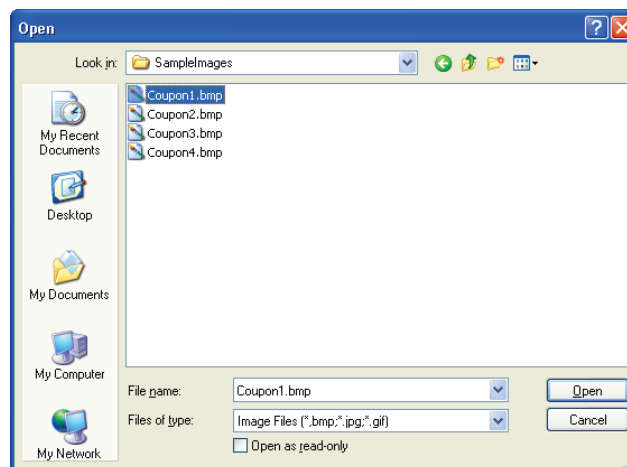


4.9.1. Adding an Image

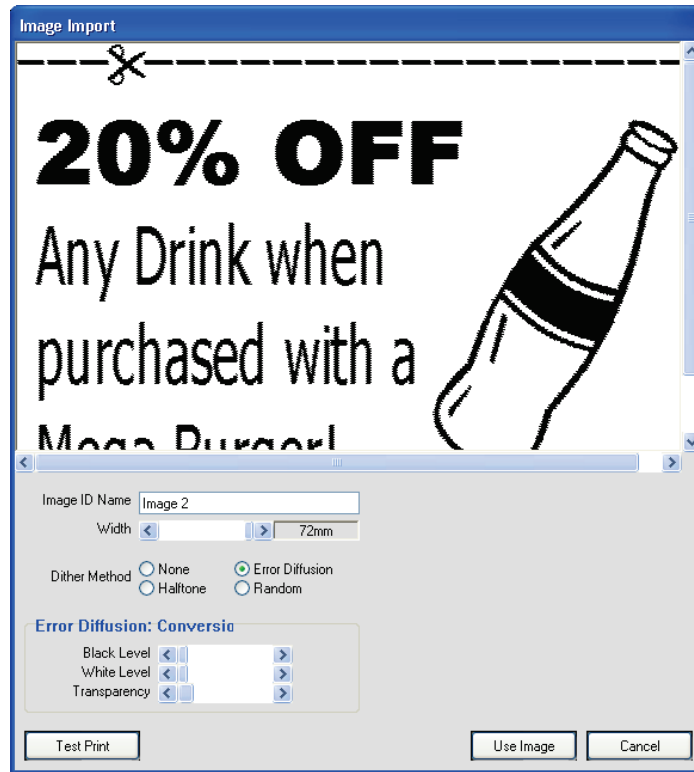
To add an image, follow the steps below:



Click “Add New Image” to browse for an image to add to the list.



The following "Image Import" window appears.



Use the image importer to:

- Give your image a unique name using the Image ID Name field
- Adjust image width in 1/8 mm increments using the image width slider
- Select the preferred dithering method
- Adjust dither settings to desired image quality

Note: Each dither method offers different adjustment options. For best results it is recommended to experiment with the settings to find which setting works best for any particular image.

After adjusting the image to your satisfaction, click “Use Image” to add the image to the image list and make it available for use with the TSP100 futurePRNT’s Logos and Cropping utility.

4.9.2. Renaming an Image

- (1) Select an image to be renamed, and click “Rename”.
- (2) The following "Rename image ID" window appears.

Enter the image name, and click “OK”.

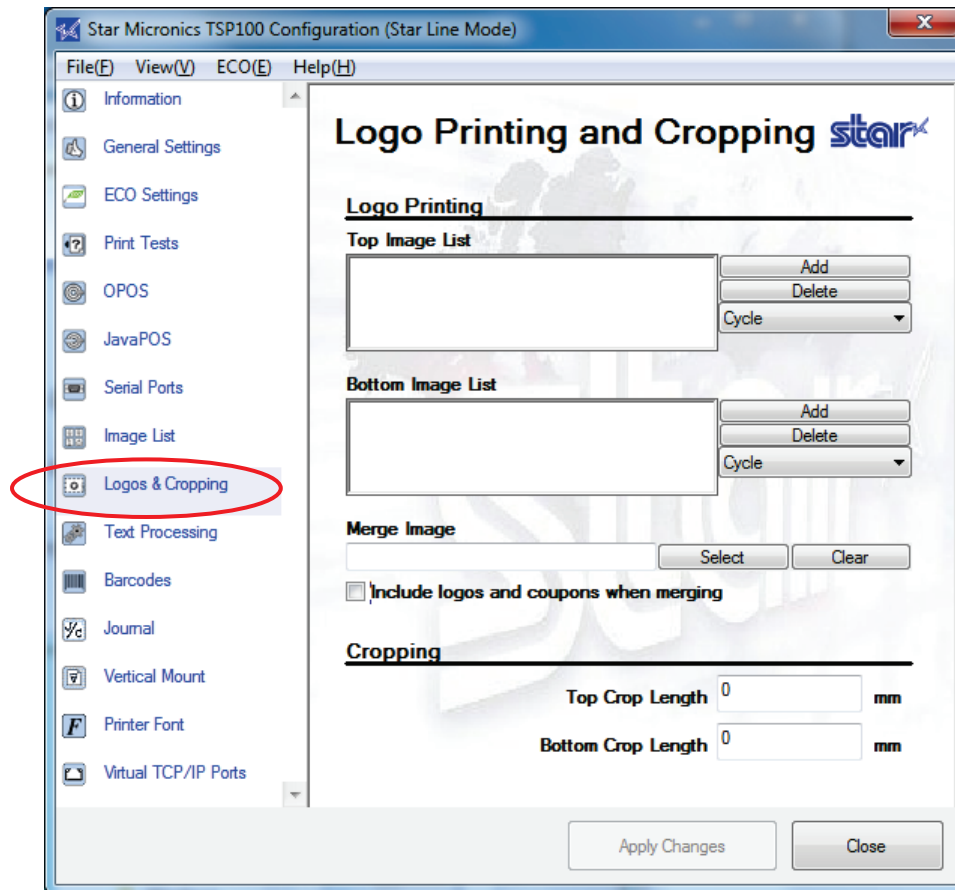
This renames the target image displayed in the image list.

4.9.3. Deleting an Image

Select an image to be deleted, and click “Delete”.

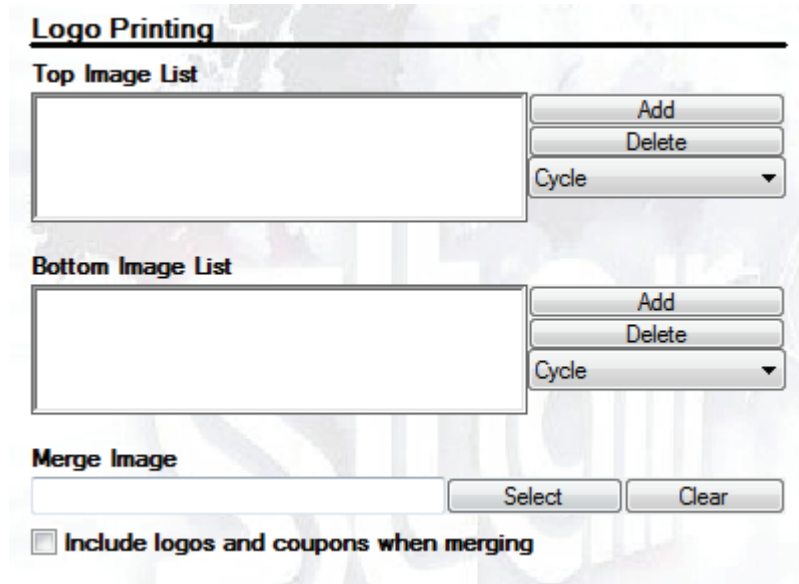
4.10. Logos & Cropping

Logos & Cropping allows for the selection of images to be printed at the top of each receipt (logos) and images to be printed at the bottom of each receipt (coupons). The ability to crop a receipt for white space or logo/coupon removal can also be configured here.



4.10.1. Logo Printing

The following shows the setting required to print an image on a receipt.



Logo Printing

Top Image List

[Empty Image Box]

Add
Delete
Cycle ▼

Bottom Image List

[Empty Image Box]

Add
Delete
Cycle ▼

Merge Image

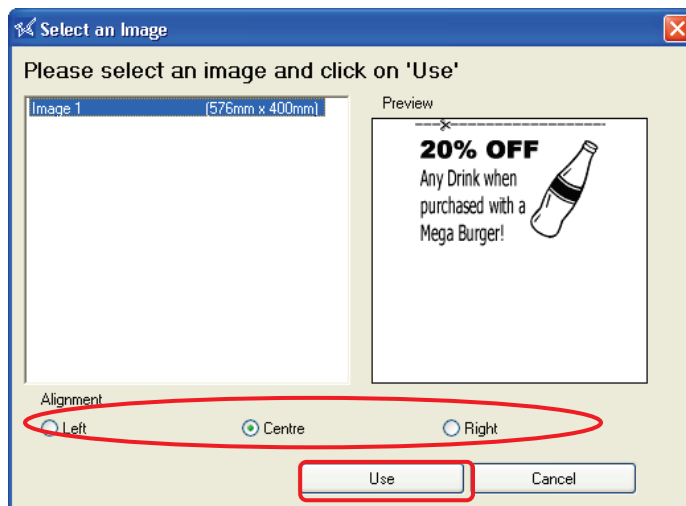
[Text Input Field] Select Clear

☐ Include logos and coupons when merging

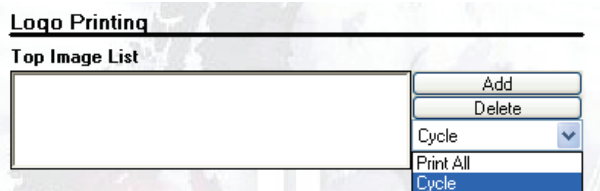
■ Top image setting

Print the selected image at the top of a receipt.

- (1) Click “Add” next to the “Top Image List” text box.
- (2) Select the desired image from the image list registered in "4.8.1 Adding an Image", and specify the image printing position in Alignment.



- (3) Click “Use”.
- (4) Multiple images can be specified in the image list.
When specifying multiple images, select "Cycle" or "Print All" as a printing method.



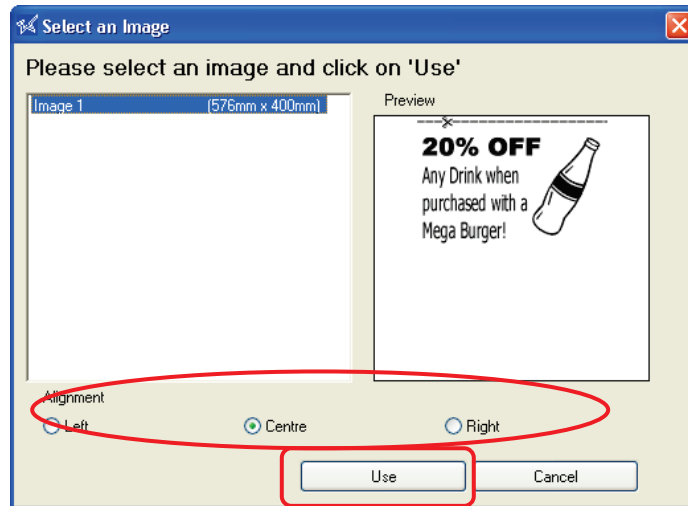
Selecting “Cycle” prints the specified images in sequence.

Selecting "Print All" prints the specified image at the top of each receipt.

■ Bottom image setting

Print the selected image at the bottom of a receipt.

- (1) Click “Add” next to the “Bottom Image List” text box.
- (2) Select the desired image from the image list registered in "4.8.1 Adding an Image", and specify the image printing position in Alignment.

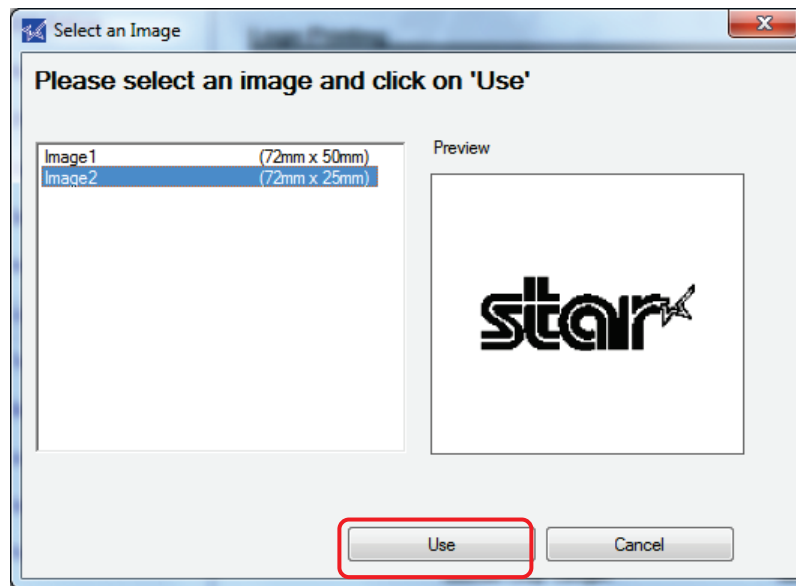


- (3) Click “Use”.
- (4) Multiple images can be specified in the bottom image list.
When specifying multiple images, select "Cycle" or "Print All" as a printing method.
Selecting “Cycle” prints the specified images in sequence.
Selecting "Print All" prints the specified image at the bottom of each receipt.

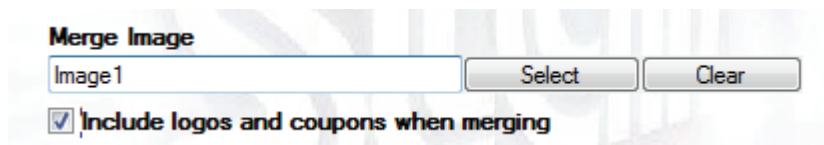
■ Merge image setting

Print the selected image in the background of a receipt.

- (1) Click “Select” in the ‘Merge Image’ field.
- (2) Select the desired image from the image list registered in "4.8.1. Adding an Image".




- (3) Click “Use”.
- (4) Select the "Include logos and coupons when merging" checkbox to apply the selected merge image to the entire printing area.



4.10.2. Logo Cropping

Specify the top and bottom crop lengths of a receipt.

Using this function performs printing while leaving the blank spaces specified with the top and bottom crop lengths.



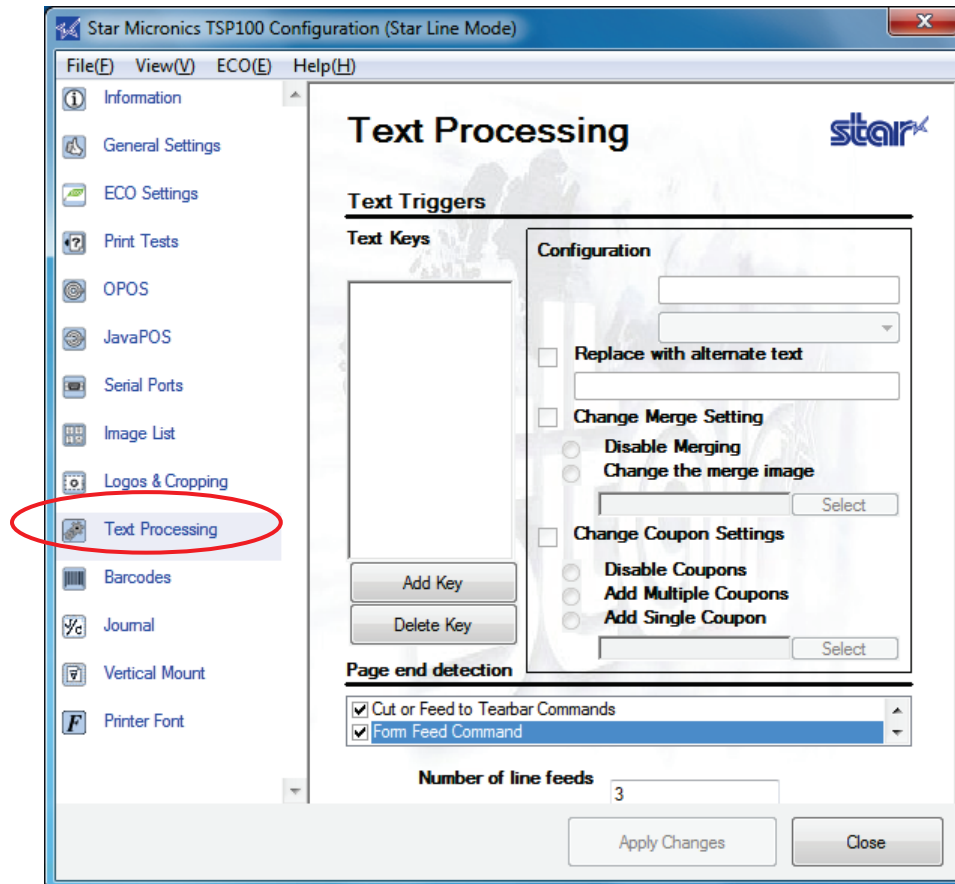
The screenshot shows a menu titled "Cropping" with a horizontal line below it. Below the line, there are two settings: "Top Crop Length" and "Bottom Crop Length". Each setting has a text input field containing the number "0" and a unit label "mm" to its right.

Cropping	
Top Crop Length	0 mm
Bottom Crop Length	0 mm

This function is available when not printing the top and bottom images that are pre-specified in a higher-level application. Using this function allows you to ignore unnecessary printing without changing the setting of a higher-level application.

4.11. Text Processing

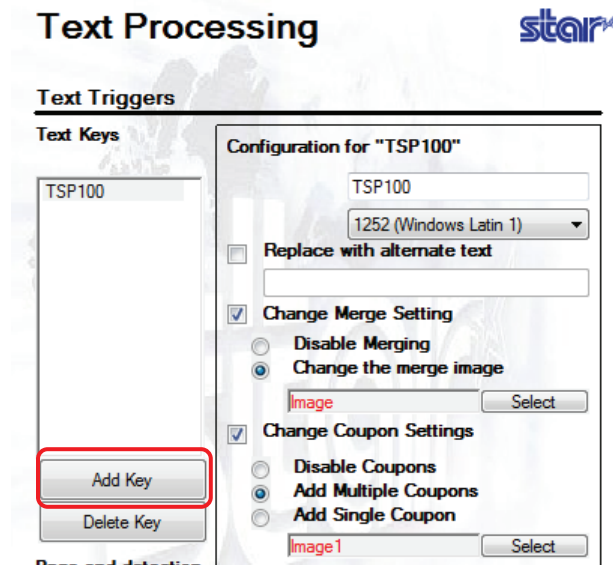
The Text Processing configuration panel allows for setting options that enable the TSP100 to detect certain “Text Keys” and modify each receipt based on them. This panel also allows for configuring how the TSP100 futurePRNT will detect the end of page so that receipts can be properly buffered and modified in full.



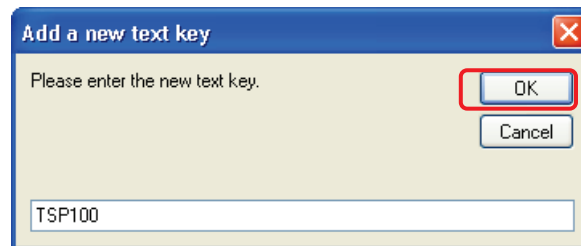
4.11.1. Text Triggers

In order to modify receipts based on their contents, Text Keys that will serve as triggers must be inputted.

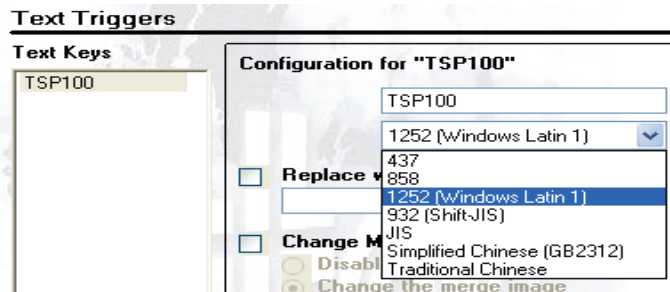
- 1 Click the “Add Key” button to input a new Text Key.



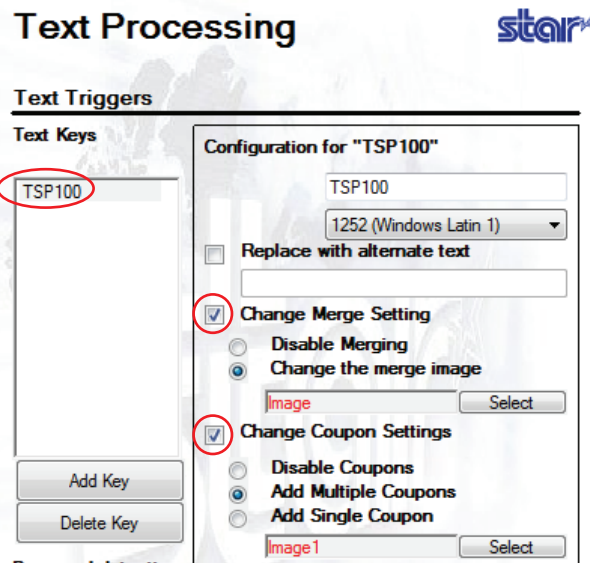
- 2 When satisfied with the contents of the Text Key, click “OK” to add it to the Text Key list.



- 3 The default character code is 1252 (Windows Latin 1). If you cannot do a search or the replaced character string has become corrupted, change the character code as necessary.
- * See Windows 1252 Code Table in “4.16 Printer Font”.



- 4 With the proper Text Key selected, Configuration options are enabled. The functionality of these options are explained below.



■ Replace with alternate text

With this option enabled, it is possible to replace the selected Text Key with a new string. This is useful if there is an old phone number or address that needs to be changed on a legacy application that cannot be changed programmatically.

■ Change Merge Setting

With this setting enabled, it is possible to change the merge image selected in the Logos & Cropping section or completely disable merging all together for that receipt.

■ Change Coupon Settings

With this setting enabled, it is possible to add a coupon to the bottom of the receipt or disable printing of coupons all together for that receipt.

Depending on the option that you select, the printer performs one of the following operations.

Add Multiple Coupons:

Multiple coupons are added. The number of coupons that are added equals the number of text keys that are detected.

Add Single Coupon:

When multiple text keys are detected, only a single coupon is added for multiple copies of the same graphic data.

Disable Coupons:

If text keys that have this option selected are detected, coupons are not added even if other coupon addition text keys are detected in the same receipt.

Note: You cannot switch between the Add Multiple Coupons and Add Single Coupon settings using different text keys.

The option that you specify for the last coupon addition is the one that is enabled.

The Change Coupon Settings are processed for each page.

■ Coupon printing example

Text key settings:

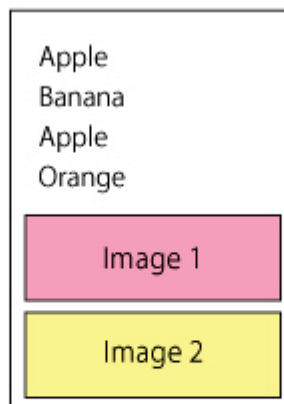
Text Keys	Select Image
Apple	Image 1
Banana	Image 2
Orange	Image 2
Peach	Disable Coupons

Print results:

[Add Multiple Coupons]



[Add Single Coupons]

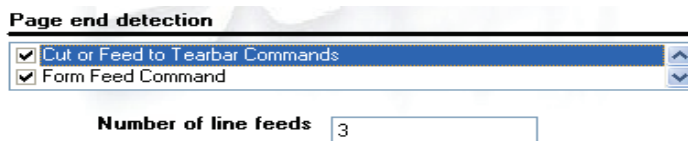


[Add Multiple Coupons or
Add Single Coupons]



4.11.2. End Page Detect

It is possible to change how the TSP100 futurePRNT detects the end of the receipt.



Page end detection

- ☒ Cut or Feed to Tearbar Commands
- ☒ Form Feed Command

Number of line feeds 3

■ Cut or Feed to Tearbar Commands

Select this option if the TSP100 futurePRNT should treat the “Cut” command as a signal that the receipt has ended.

■ Form Feed Command

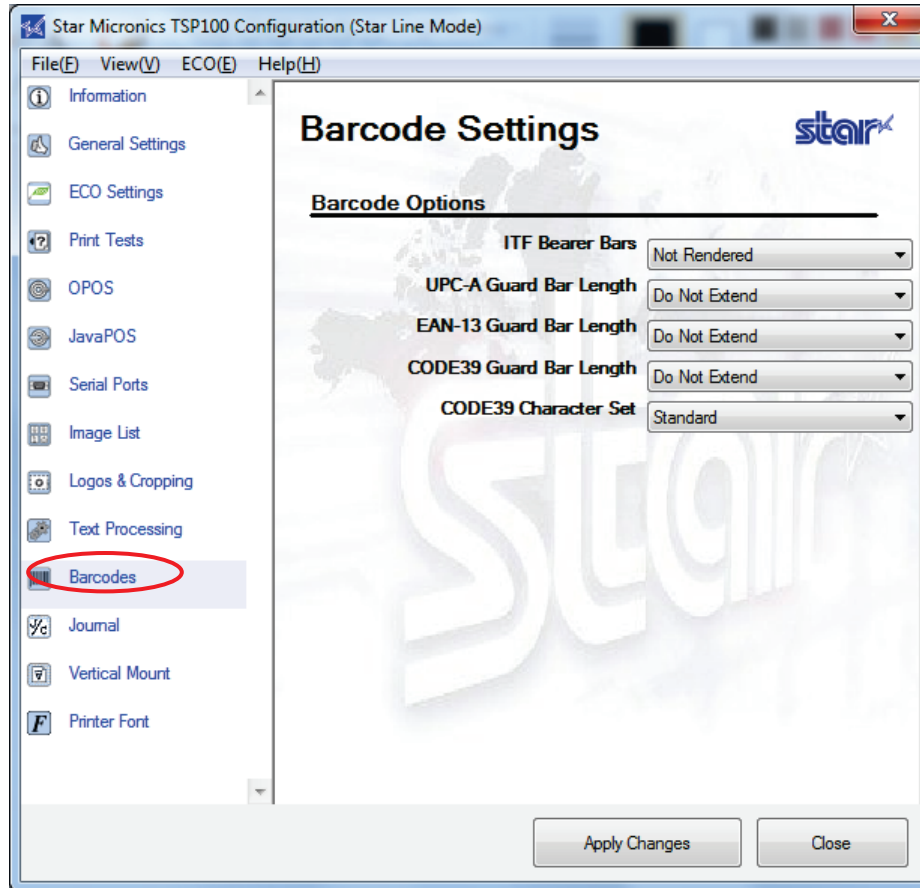
Select this option if the TSP100 futurePRNT should treat a Form Feed command as a signal that the receipt has ended.

Note: In the page end detection function, the “Form Feed” command is available only in the Star Line mode, and not in the ESC/POS mode.

■ Consecutive Line Feeds

Select this option if the TSP100 futurePRNT should treat a configurable number of line feeds as a signal that the receipt has ended. Enter the number of line feeds for the trigger in the “Consecutive Line Feeds” textbox.

4.12. Barcodes

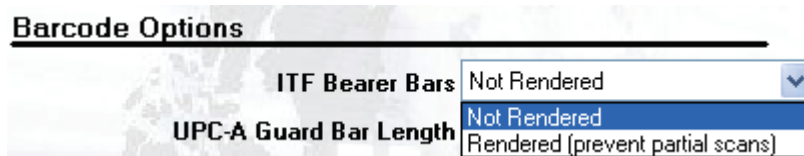


Printing of barcodes can be accomplished using any of three methods. The preferred method is to print barcodes using control codes by programming directly to the printer. The second method is to print barcodes using the embedded printer font for the barcode. The final method is to print barcodes using a barcode font that resides on the host PC. Printing via control codes or using the embedded printer font offers the best and most consistent quality and legibility. Printing barcodes using barcode fonts (typically TrueType Fonts) can produce lackluster results if not configured properly.

When printing barcodes, the following settings can be applied to modify the appearance of the printed barcode.

4.12.1. ITF Bearer Bars

Bearer bars help to insure that a barcode is not misread by preventing partial scanning.



Interleaved 2 of 5 (ITF)



ITF Barcode without Bearer Bars

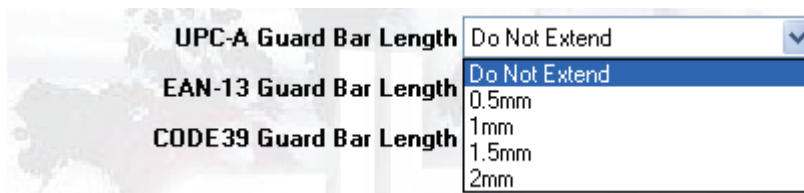
Interleaved 2 of 5 (ITF)



ITF Barcode with Bearer Bars

4.12.2. UPC-A Guard Bar Length

Guard bars act as reference points for the scanner to aid in proper reading of the barcode.



UPC-A Standard



UPC-A Barcode without Guard
Bars Extended

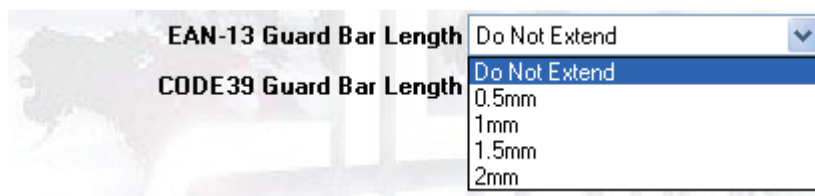
UPC-A Standard



UPC-A Barcode with Guard
Bars Extended 2 mm

4.12.3. JAN/EAN-13 Guard Bar Length

Guard bars act as reference points for the scanner to aid in proper reading of the barcode.



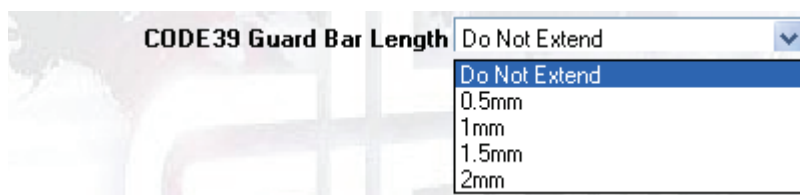
JAN/EAN-13 Barcode without
Guard Bars Extended



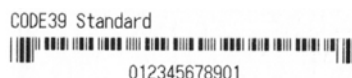
JAN/EAN-13 Barcode with
Guard Bars Extended 2 mm

4.12.4. CODE39 Guard Bar Length <Star Line Mode Only>

Guard bars act as reference points for the scanner to aid in proper reading of the barcode.



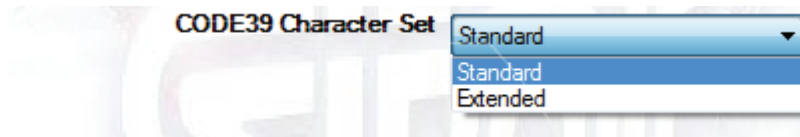
CODE39 Barcode without Guard
Bars Extended



CODE39 Barcode with Guard
Bars Extended 2 mm

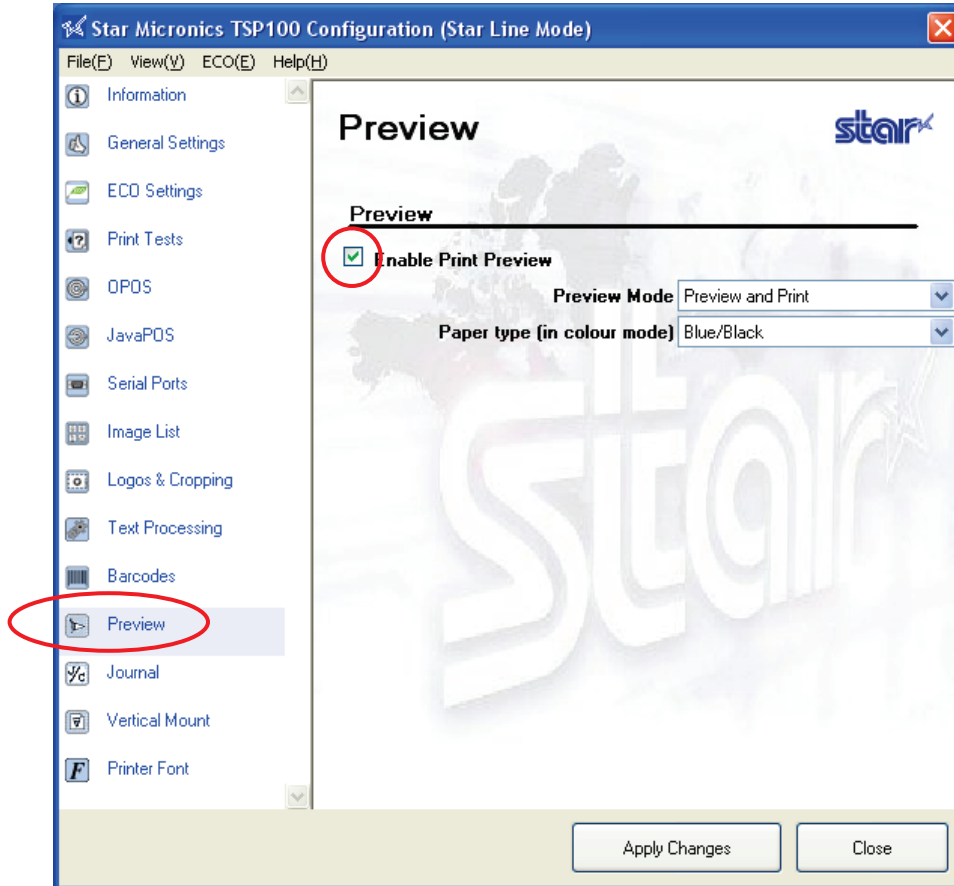
4.12.5. CODE39 Character Set <Star Line Mode Only>

Specify the character set for CODE39 barcode.
Selecting "Standard" sends only Code39 standard code data.
Selecting "Extended" sends all code data.
The default is "Standard".



4.13. Print Preview <Windows XP only>

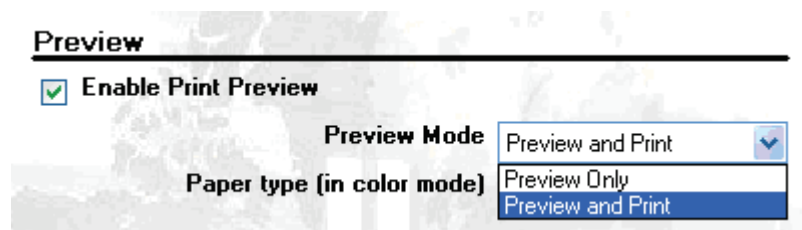
Use this feature to set up previewing of print results on screen prior to printing.



■ Enable Print Preview

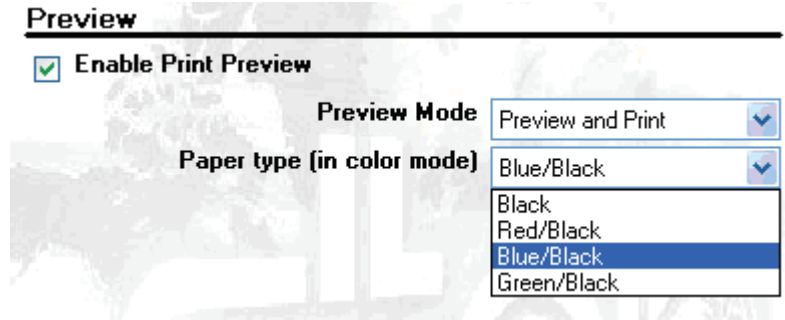
Check the checkbox to enable viewing of print results on screen prior to printing. Note that the remaining settings on this page are effective only if the box is checked.

4.13.1. Preview Mode



With this setting, it is possible to simultaneously preview the contents of the print job and send it to the printer, as well as previewing only.

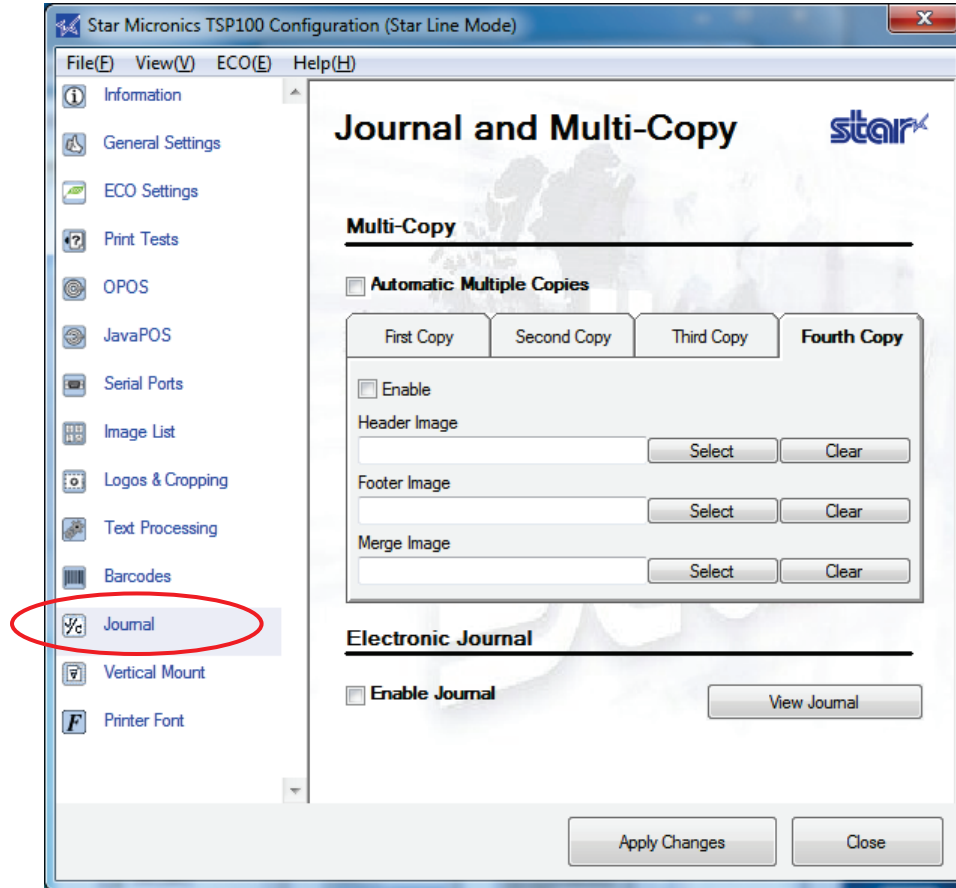
4.13.2. Paper type (in color mode)



Depending on the type of paper and color mode being used, it may be desirable to emulate the color of certain paper types in the preview window.

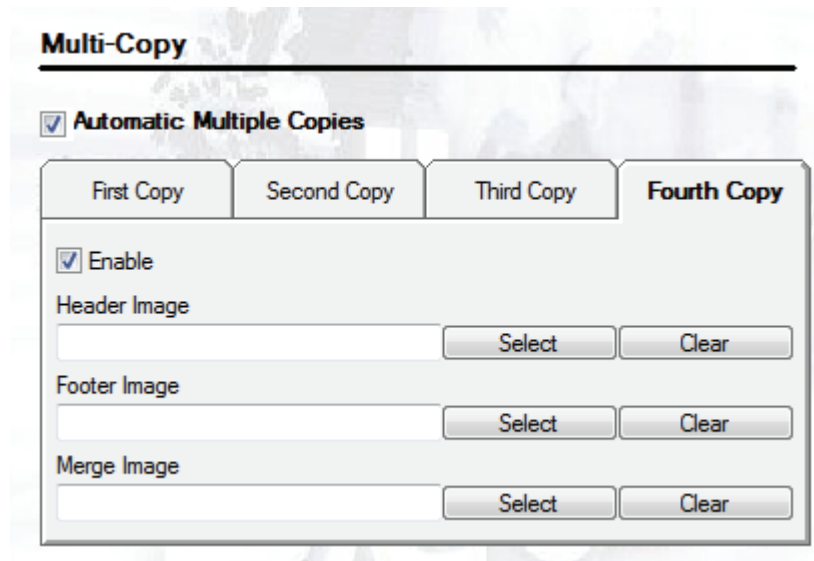
4.14. Journaling, and Printing of Multiple Customized Copies

Use this page to set up journaling and multi-copy printing.



4.14.1. Multi-Copy

Select the "Automatic Multiple Copies" checkbox when copying a receipt separately from the master. This function is helpful when issuing a receipt as a shop's or customer's copy.



The screenshot shows a software window titled "Multi-Copy". At the top, there is a checked checkbox labeled "Automatic Multiple Copies". Below this, there are four tabs: "First Copy", "Second Copy", "Third Copy", and "Fourth Copy". The "Fourth Copy" tab is currently selected. Under the selected tab, there is a checked checkbox labeled "Enable". Below the "Enable" checkbox, there are three sections: "Header Image", "Footer Image", and "Merge Image". Each section has a text input field, a "Select" button, and a "Clear" button. The "Header Image" section has a text input field, a "Select" button, and a "Clear" button. The "Footer Image" section has a text input field, a "Select" button, and a "Clear" button. The "Merge Image" section has a text input field, a "Select" button, and a "Clear" button.

You can print up to four copies, and specify the header, footer, or merge image for each copy. Furthermore, you can only select the images that are pre-registered in "4.8.1 Adding an Image". This function is not available when the "Enable" checkbox is not selected.

4.14.2. Journal

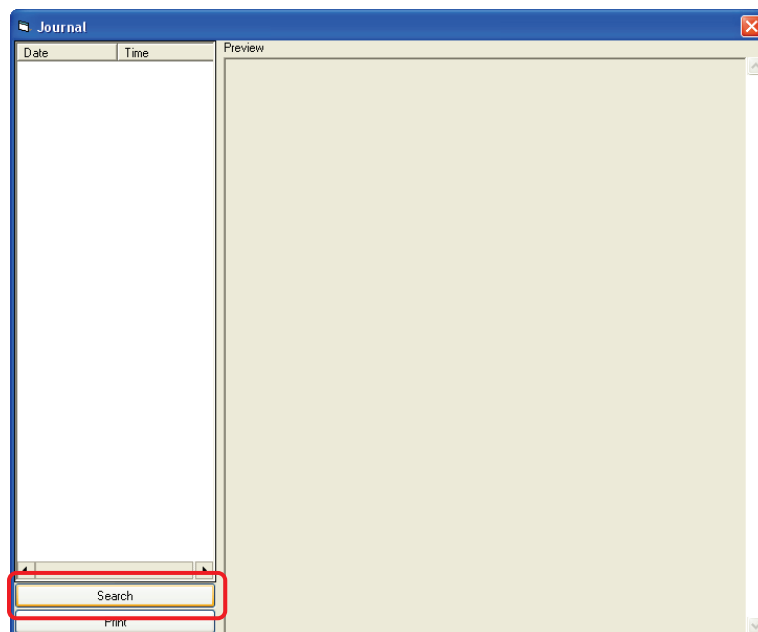
A journal is a function that saves printed data.

To use this function, select the "Enable Journal" checkbox.

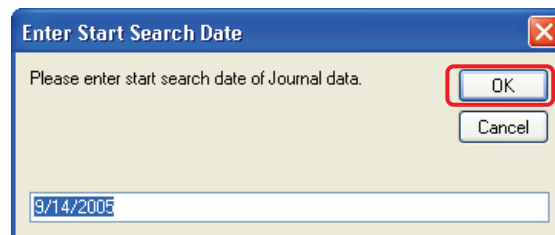


Follow the steps below to display and print saved data.

- (1) Click "View Journal".
- (2) The following Journal window appears.
Click "Search" to search for the saved data.



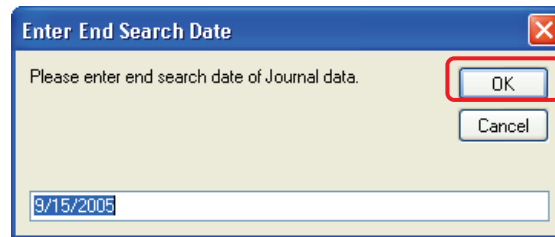
- (3) The following dialog box appears. Enter the date to start searching, and click "OK".



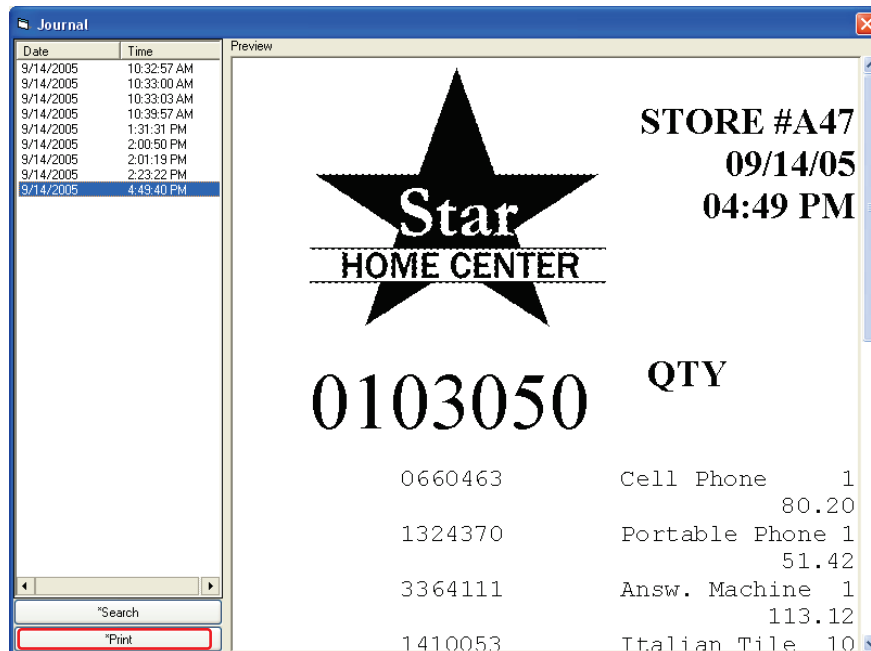
- (4) The following dialog box then appears.

Enter the date to end searching, and click “OK”.

This will search for the data printed in the specified period when the journal function is enabled.



- (5) Dates will appear as shown in the following window.
Click a desired date to check data details in the preview screen.
If you wish to print an image, click “Print”.



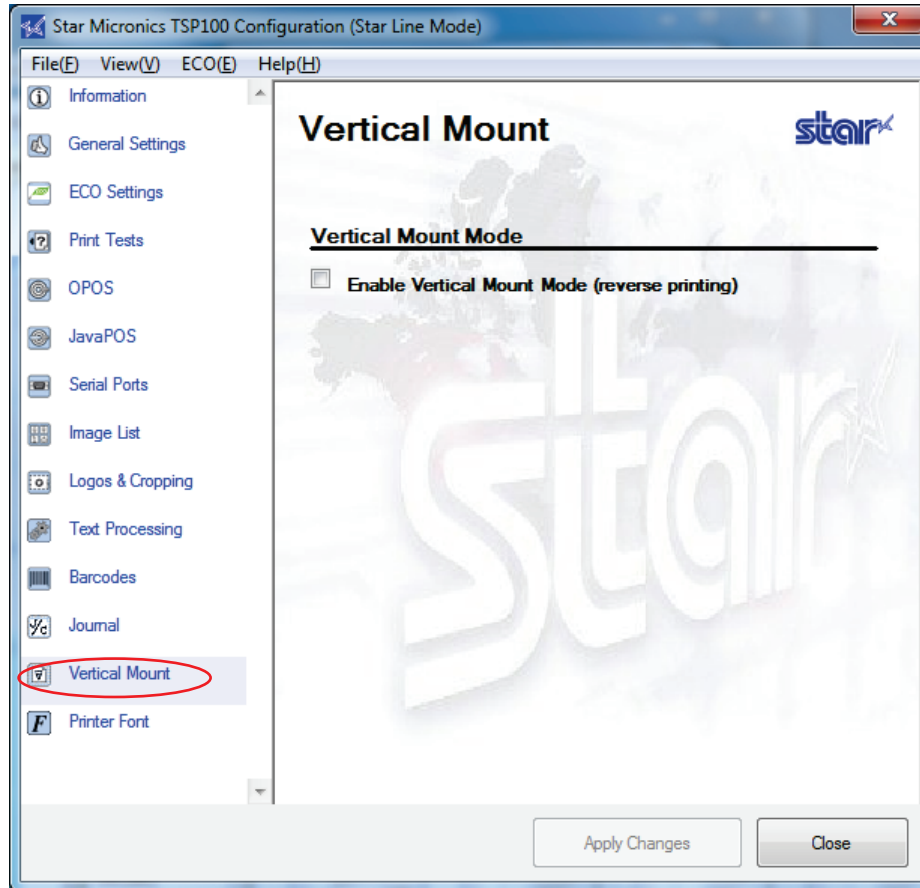
Journal print data is saved into the following folder.

`[%APPDATA%]\Star\TSP100\Journal`
ex: On English Windows
`C:\Documents and Settings\user1\Application Data\Star\TSP100\Journal`
(where C is your system drive)

`[%APPDATA%]:`
This folder name is different according to PC used, the account logged in, and the language of Windows.
This folder can be checked by using “set” command of the command prompt.

```
C:\>set
:
APPDATA=C:\Documents and Settings\user1\Application Data
:
```

4.15. Vertical Mounting

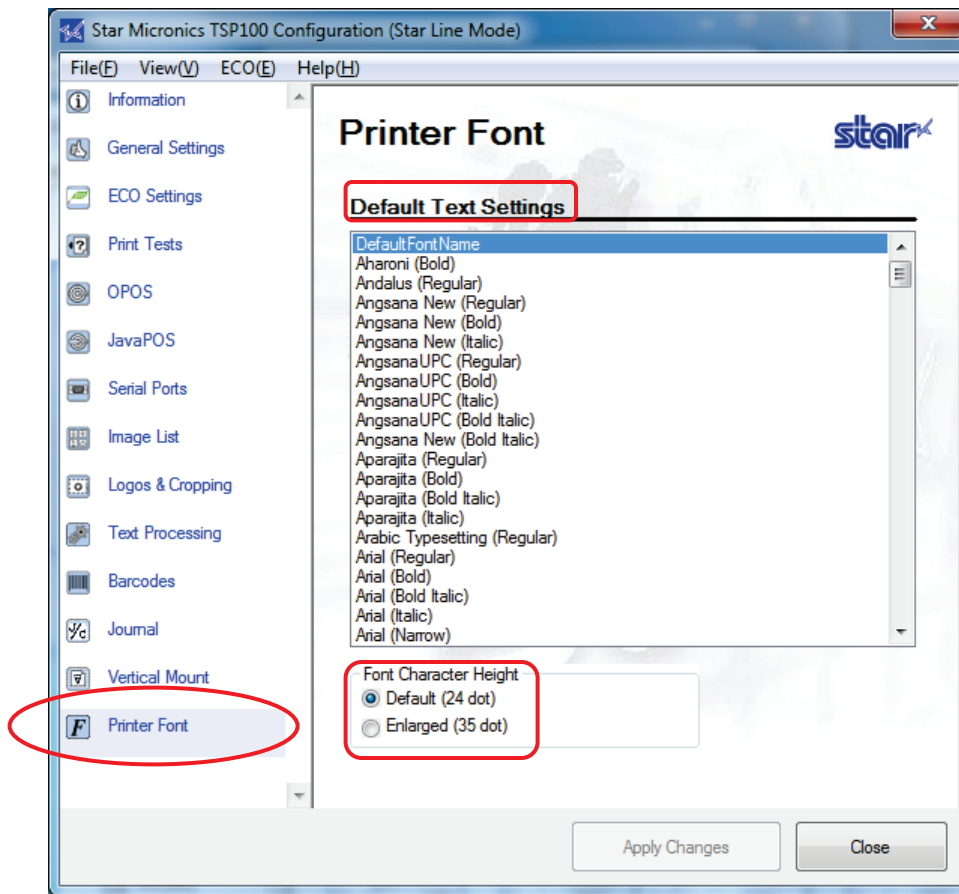


If you are setting the printer upright or mounting it on the wall, check this checkbox to invert the printing. If the button is checked, receipts are printed bottom-to-top so that they are easier to present correctly to the customer.



4.16. Printer Font <Star Line mode only>

You can convert device fonts of the printer into a standard Windows font for printing. Also, you can increase the default 24-dot character height to 35-dot for printing. Click the “Printer Font” tab on the left side of the window.



Notes:

1. This function is available only in the Star Line mode, and not in the ESC/POS mode.
2. Conversion is possible only if the text before the conversion uses device fonts. Text using a True Type font cannot be converted.
3. Even if different types of device fonts are used before conversion, they will all be converted to a single, selected font.
4. Conversion is possible only into the characters supported by the Windows 1252 code (see the table on the next page).

Windows 1252 Code Table

Windows-1252 (CP1252)																
	x0	x1	x2	x3	x4	x5	x6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x	NUL	SOH	STX	ETX	EOT	ENQ	ACK	BEL	BS	TAB	LF	VT	FF	CR	SO	SI
1x	DLE	DC1	DC2	DC3	DC4	NAK	SYN	ETB	CAN	EM	SUB	ESC	FS	GS	RS	US
2x	SP	!	"	#	\$	%	&	'	()	*	+	,	-	.	/
3x	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4x	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5x	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
6x	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7x	p	q	r	s	t	u	v	w	x	y	z	{		}	~	DEL
8x	€		,	ƒ	„	…	†	‡	^	‰	Š	‹	Œ		Ž	
9x		‘	’	“	”	•	–	—	~	™	š	›	œ		ž	ÿ
Ax	NBSP	ı	ç	£	¤	¥	¦	§	¨	©	ª	«	¬	SHY	®	¯
Bx	°	±	²	³	´	µ	¶	·	,	¹	º	»	¼	½	¾	¿
Cx	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
Dx	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
Ex	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
Fx	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

Notes:

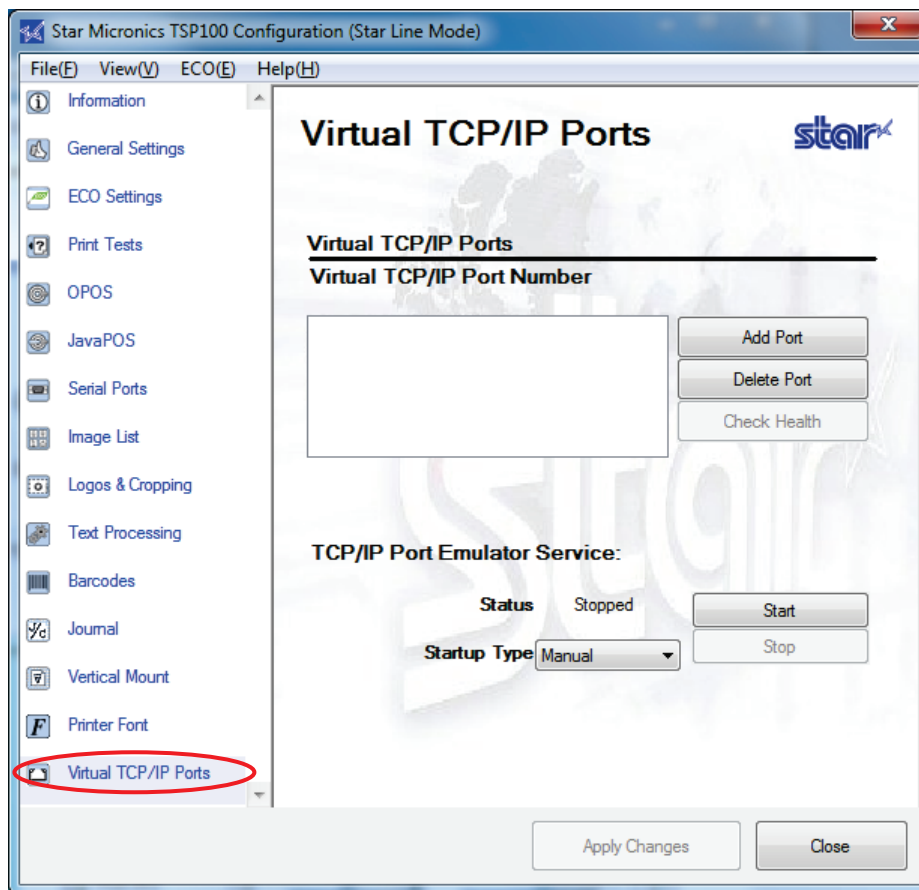
If a character other than those listed above is used, it will be converted into a space character, which will not appear in print.

4.17. Virtual TCP/IP Ports <TSP100LAN Only>

By setting up virtual TCP/IP ports, you make it possible for your applications to directly designate TCP/IP sockets.



Virtual ports are registered under the operating mode under which they are generated. Virtual ports created under Star Line mode are registered as Star Line ports; those created under ESC/POS mode are registered as ESC/POS ports. Note that Star Line mode and ESC/POS mode cannot use identical port numbers.

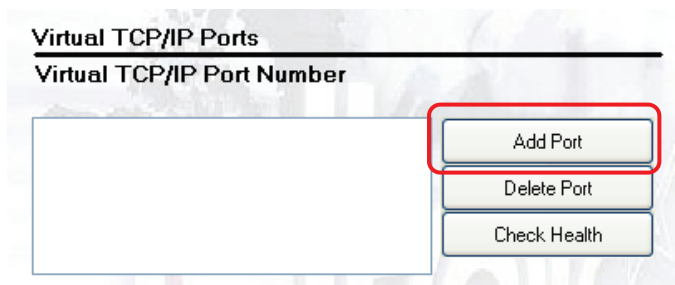


Notes: To direct output to the virtual port, the application must designate both the IP address (for the PC on which this software is installed) and the corresponding port number (as added above).

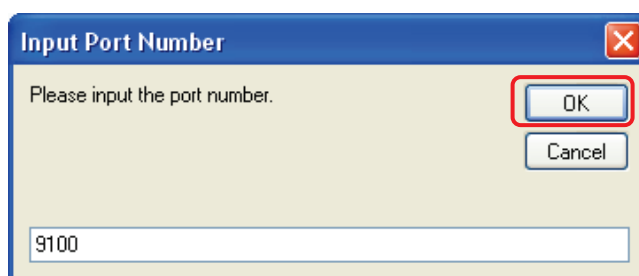
4.17.1. Creating a Virtual TCP/IP Port

Use the following procedure to create a virtual TCP/IP port.

1. Click **Add Port**.



2. At the following dialog, enter the output port number used by the application. (If the output port number is 9100, for example, enter "9100".) Then click **[OK]**.



3. Click the **[Apply Changes]** button to create the port.

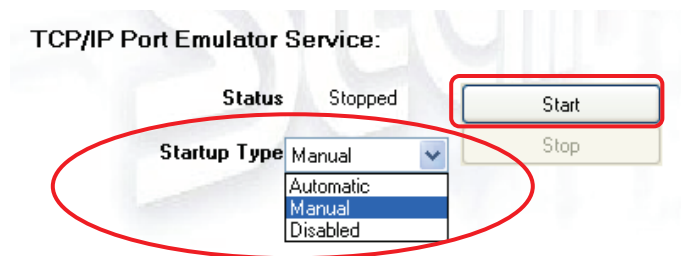
Notes:

Multiple virtual TCP/IP ports can be created, but it is not recommended. This function is provided to hold the downward compatibility.

4.17.2. TCP/IP Port Emulator Service Setting

Select the **Startup Type** for the emulator service.

To enable use of the emulator service, set the **Startup Type** to either **Manual** or **Automatic**.



If you select **Automatic**, the port emulator service will start automatically when the system starts up.
If you select **Manual**, the service will not start until you click the **[Start]** button.

Notes:

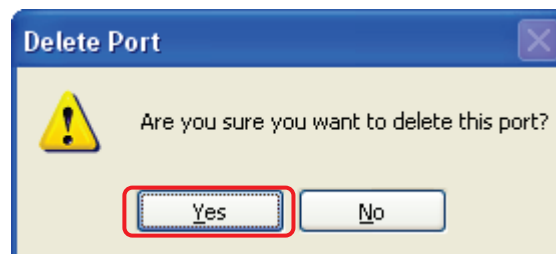
Before stopping the service, make sure that you have closed all applications that are using virtual TCP/IP ports.

If you stop the service while an application is still running, you may get an error the next time you try to start it.

4.17.3. Deleting a Virtual TCP/IP Port

Select the port that you wish to delete, and then click **Delete Port**.

When the following dialog appears, click **Yes**.



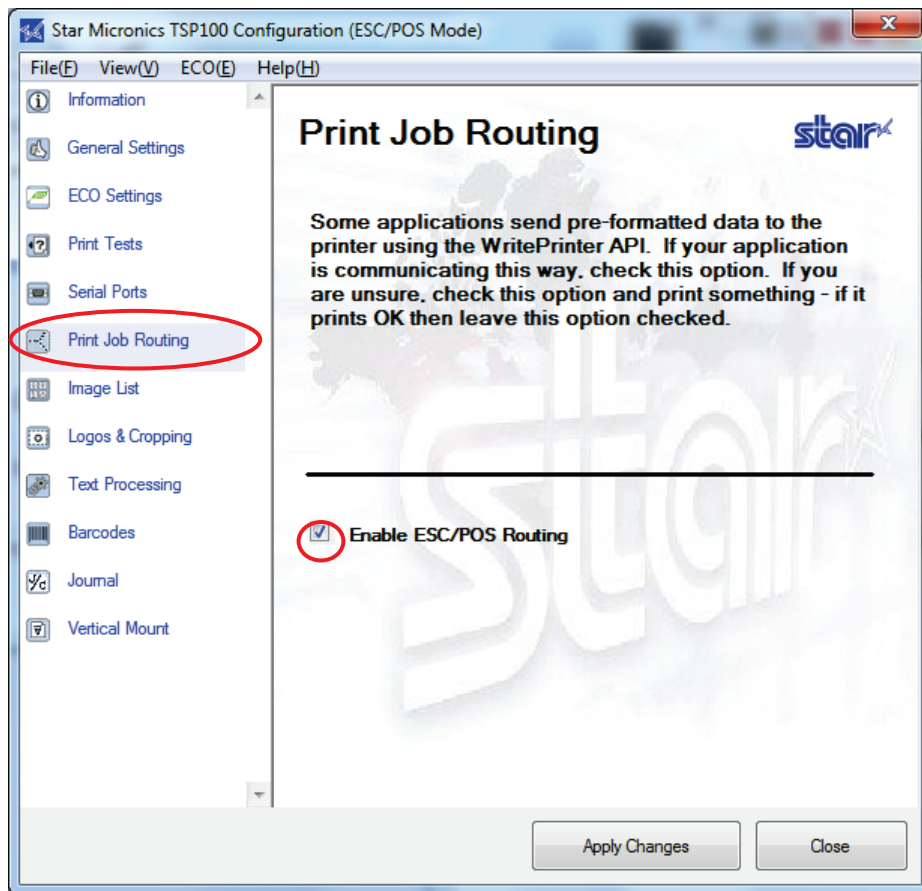
Next, click the **Apply Changes** button to complete the deletion of the port.

4.17.4. Health Check

Click the **[Check Health]** button to check that the selected port is working correctly.

4.18. Print Job Routing (Write Printer) <ESC/POS Mode Only>

Click the “Write Printer API” tab in the left pane of the window.



When printing in the ESC/POS mode, use one of the following methods.

- Select the "Enable ESC/POS Routing" checkbox on "Print Job Routing".
- Specify a serial port in the ESC/POS mode. (Refer to "4.8. Serial Port".)
- Specify a virtual TCP/IP port in the ESC/POS mode. (Refer to "4.17. Virtual TCP/IP Port".)

If the "Enable ESC/POS Routing" checkbox is not selected while any serial port or virtual TCP/IP port is not specified, data is printed in the Star Line mode; therefore, you will not be able to obtain the desired printing result.

5. Guidelines for Printing Documents

- There is no need to set paper margins with this driver.
Set all margins to 0.
- This driver supports 4 predefined custom paper sizes and user-defined paper sizes. Feel free to use user-defined sizes as needed.

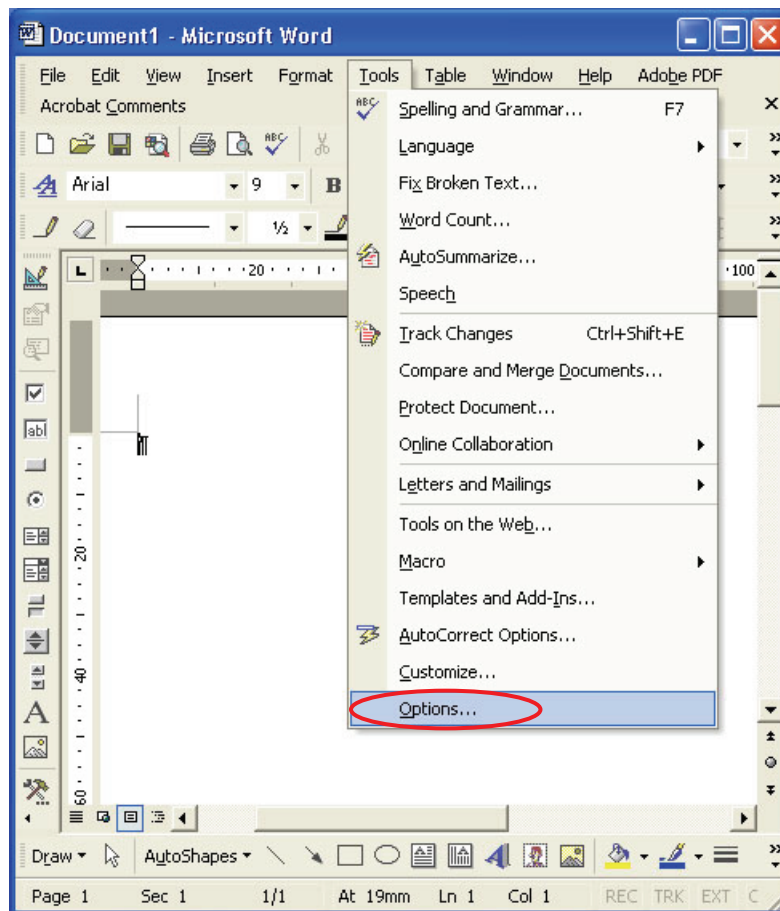
5.1. Important Information about Microsoft Word

Word 97 and later versions do not work correctly with the device fonts.

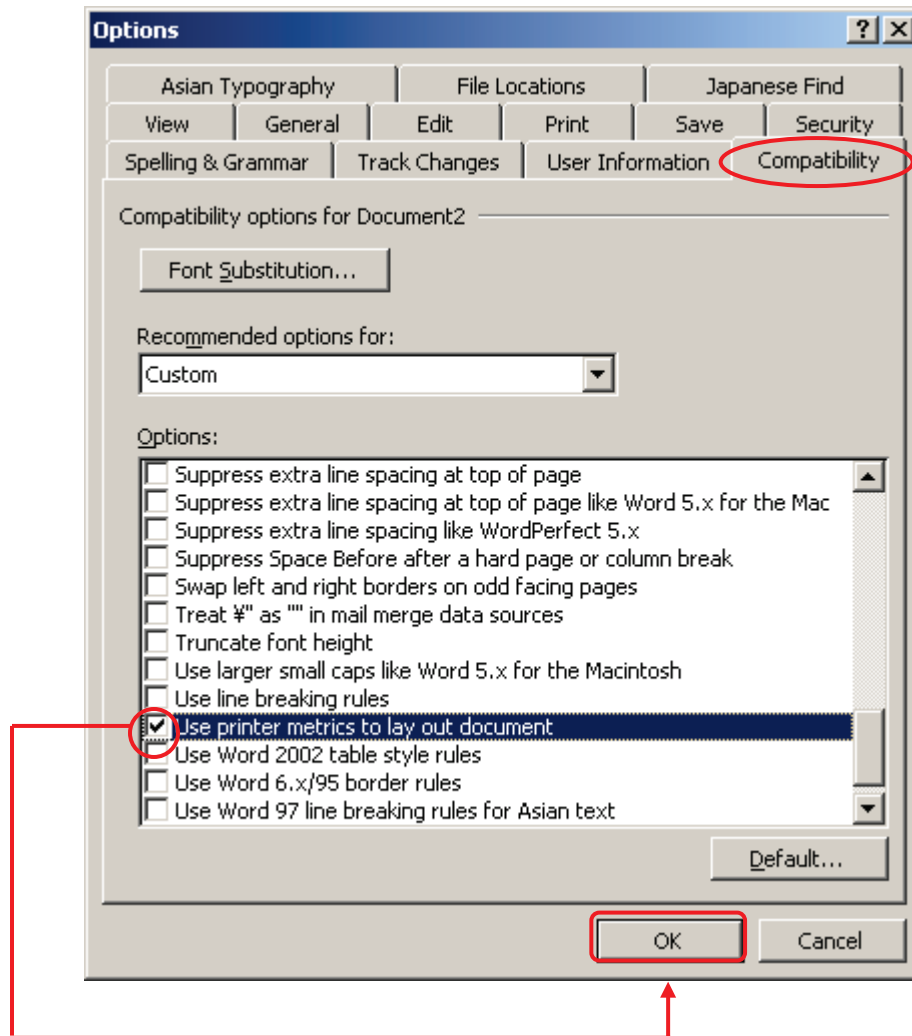
To enable correct use of device fonts when working with these versions of Word, make settings as follows.

■ Notes for Using Microsoft Word 2003

- (1) Open Microsoft Word's "Tools" menu, and click "Options".




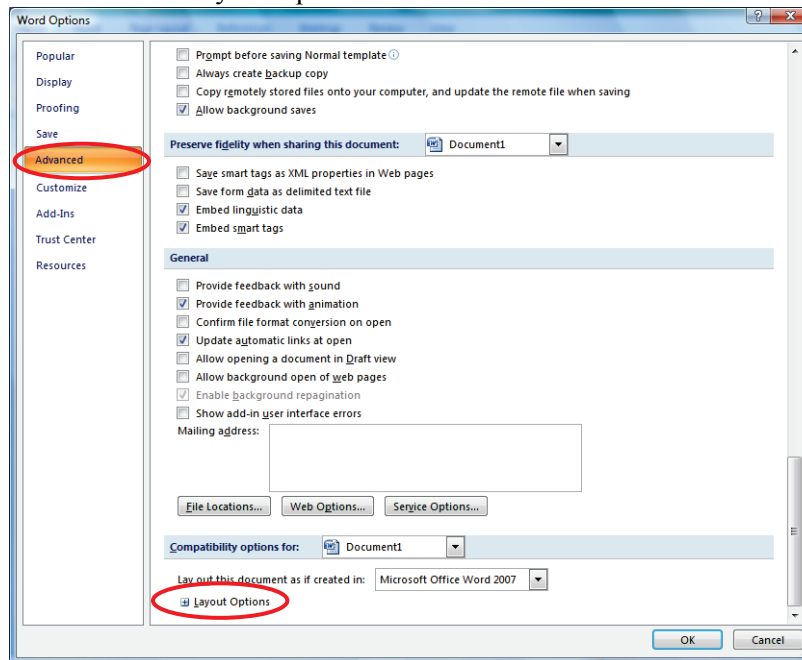
- (2) Click the “Compatibility” tab, and in the “Options” area check the checkbox next to “Use printer metrics to layout document”. Then click the “OK” button.



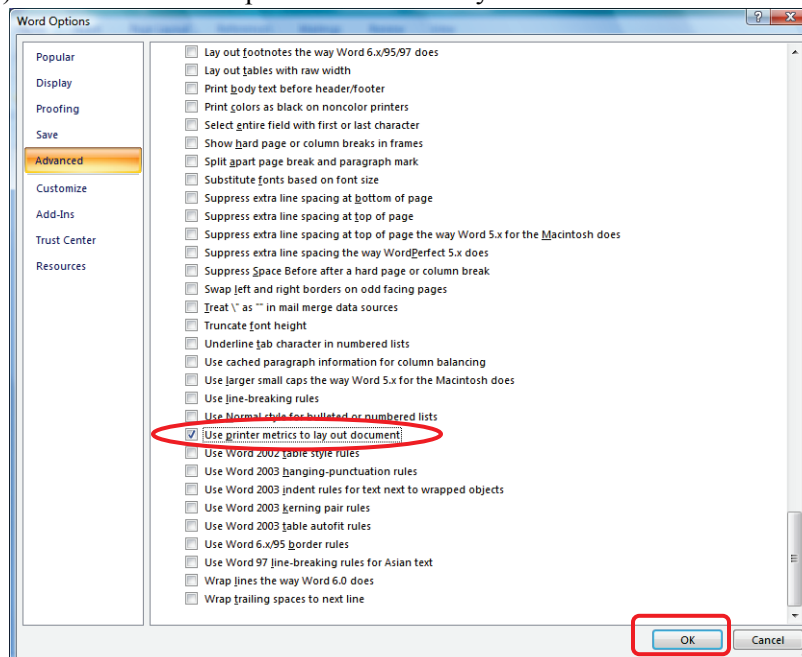
- (3) Open Word’s “File” menu, and select “Save” to save the document.

■ Notes for Using Microsoft Word 2007

- (1) Click the Office Button , and then click the “Word Options” button. Select “Advanced,” and click “Layout Options”.



- (2) Select the “Use printer metrics to lay out document” check box. Then click the “OK” button.



- (3) Open Word’s File menu, and select Save to save the document.



When the page settings are changed, the option settings may return to the original settings.

5.2. *Restrictions and Cautions*

1. Use only one type of device font per line.
2. Do not print device fonts and graphics on the same horizontal line. This will cause the difference between the displayed document and the printed document.
3. When you use the barcode device fonts, characters will appear only on the computer's display. You can see the printed result will be a barcode. By this difference, the length of the displayed document and the printed document can be different slightly.
4. Control device font is not used for character printing.

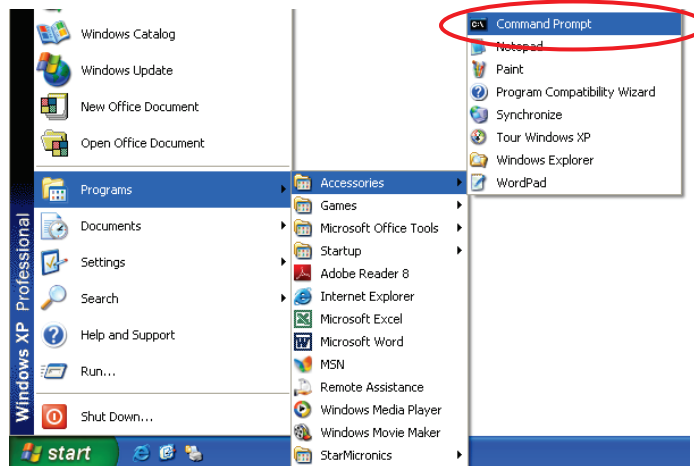
6. Guidelines for Using Ethernet Environment

6.1. Manually Setting a Temporary IP Address

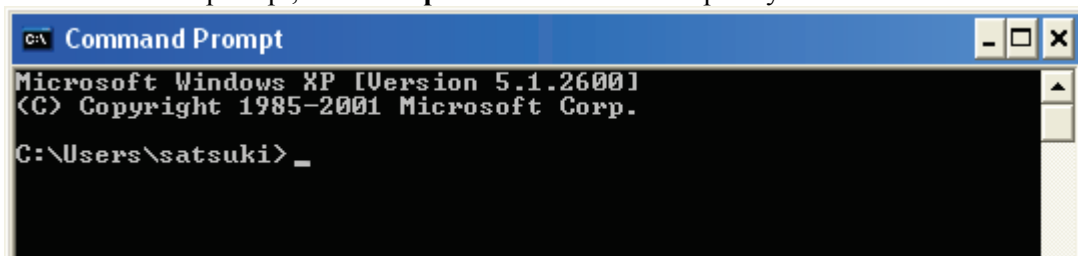
You can use the following procedure to set a temporary IP address for a TSP100LAN printer. Use of a temporary address will allow you to connect to a printer that does not yet have an IP address setting.

1. At the Windows Start menu, select [All Programs] → [Accessories] → [Command Prompt]. (If using Windows Vista, right-click on [Command Prompt] and select [Run as administrator].)

On Windows XP:



2. At the command prompt, use the **arp** command to set a temporary IP address and a MAC address.



Use the following commands to set the temporary IP address for the printer.

1. **arp -d printer's_temporary_IP_address**
2. **arp -s printer's_temporary_IP_address printer's_MAC_address**
3. **ping printer's_temporary_IP_address**
4. **arp -d printer's_temporary_IP_address**

Example: To set a temporary IP address of 192.168.32.55

```
arp -d 192.168.32.55
arp -s 192.168.32.55 00-11-62-00-03-4D
ping 192.168.32.55
arp -d 192.168.32.55
```

Notes:

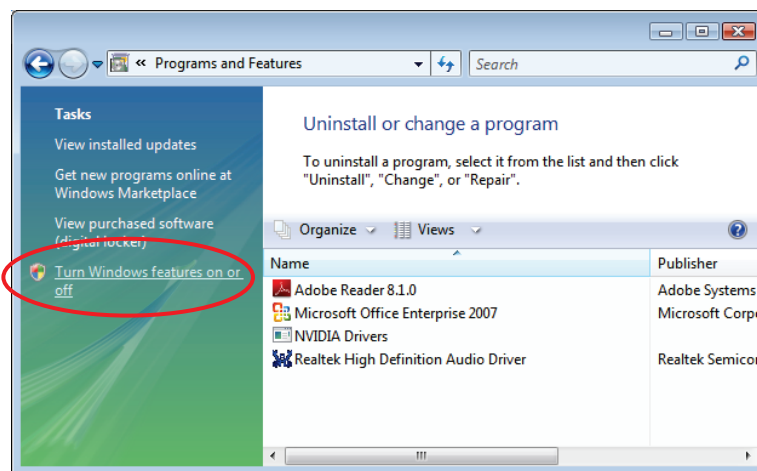
The temporary IP address that you set here will be cleared when the printer's power is switched off. You should therefore immediately proceed to set a regular IP address for the printer.

6.2. Manually Setting an IP Address (Using the TSP100LAN Telnet Utility)

You can use the **telnet** command to connect directly to a TSP100LAN printer.

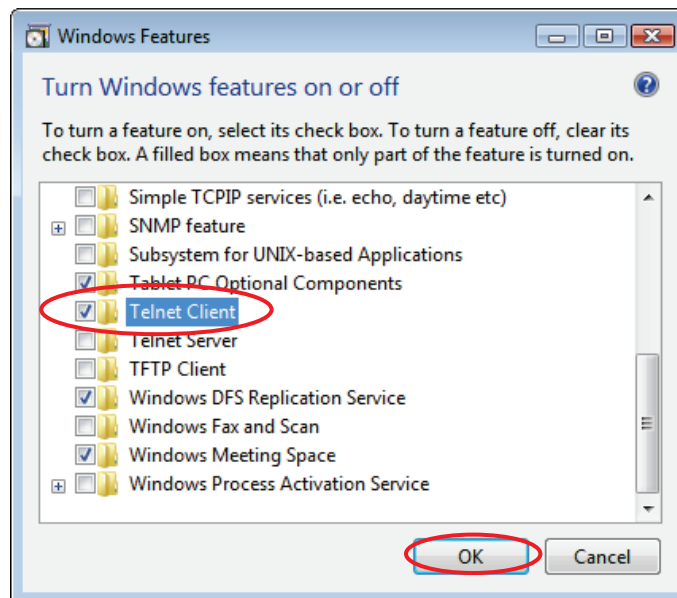
- If using Windows 7 or Vista, begin with the following preliminary steps to ensure that Telnet is enabled.

1. From the [Start] menu, open the [Control Panel].
2. Select [Programs and Features].
3. Under [Tasks], select [Turn Windows features on or off].



4. When the User Account Control dialog appears, click [Continue].

5. If [Telnet Client] is not yet checked, place a check next to it. Then click [OK].



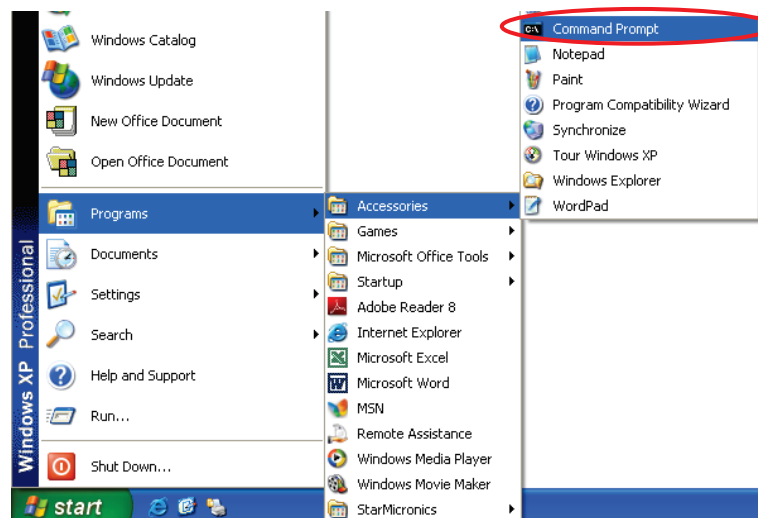
6. If you had to add the check in the previous step (if **Telnet Client** was not already checked to begin with), you must now restart your computer.

To manually set the IP address, proceed as follows.

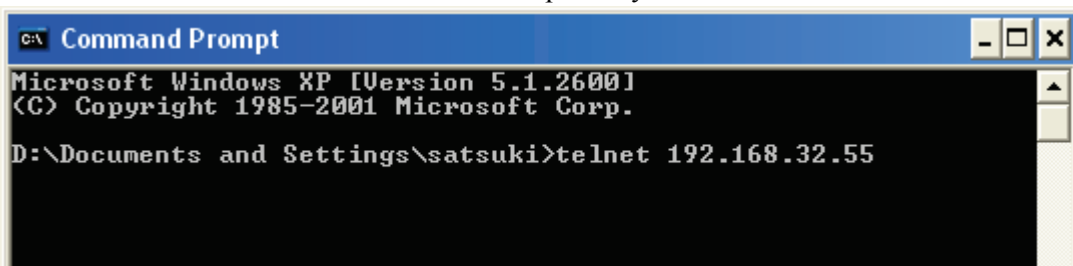
1. Open a Command Prompt window.

At the Windows Start menu, select [All Programs] → [Accessories] → [Command Prompt].
(If using Windows Vista, right-click on [Command Prompt] and select [Run as administrator].)

On Windows XP:



2. Use the **telnet** command to connect to the printer you wish to set.



```

C:\ Command Prompt
Microsoft Windows XP [Version 5.1.2600]
Copyright 1985-2001 Microsoft Corp.

D:\Documents and Settings\satsuki>telnet 192.168.32.55
  
```

Example: > telnet 192.168.32.55



IP address of the printer you wish to set.

Notes:

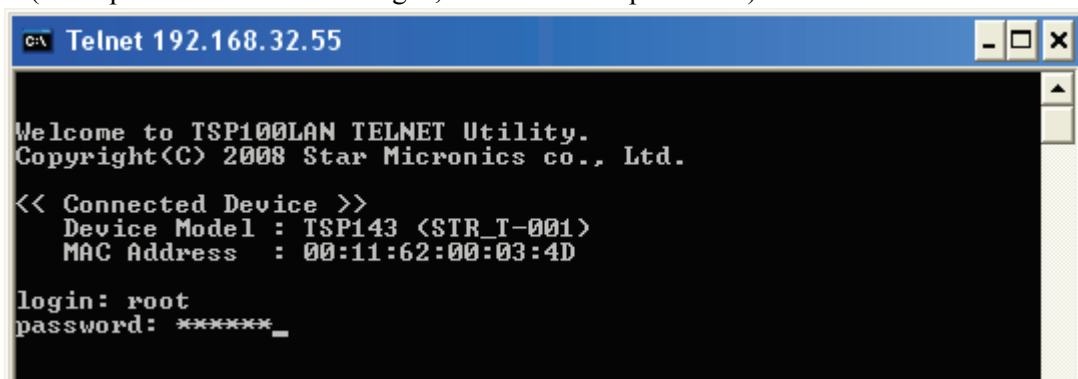
You cannot connect to a printer that does not have an IP address. If necessary, set a temporary IP address for the printer before using telnet.

For instructions, refer to Section 7.3, "Manually Setting a Temporary IP Address."

3. Log into the printer as "root".

The factory default setting for the password is "public".

(If the password has been changed, use the current password.)



```

C:\ Telnet 192.168.32.55

Welcome to TSP100LAN TELNET Utility.
Copyright(C) 2008 Star Micronics co., Ltd.

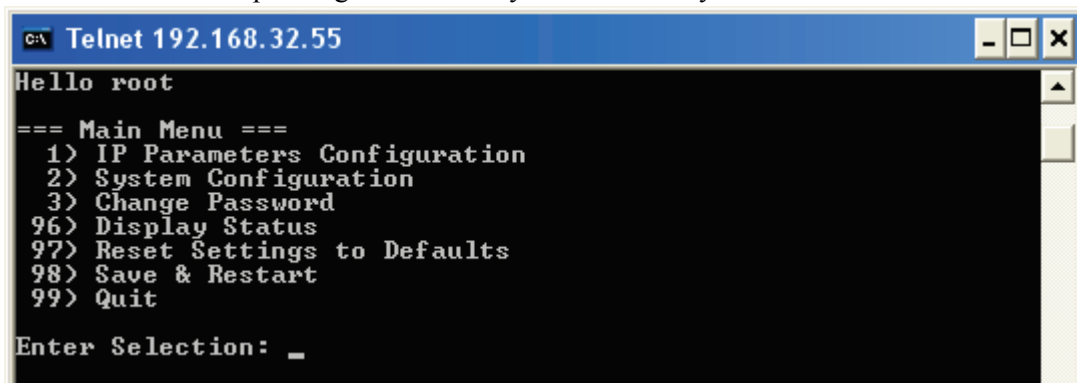
<< Connected Device >>
  Device Model : TSP143 (STR_T-001)
  MAC Address  : 00:11:62:00:03:4D

login: root
password: *****
  
```

4. The following menu appears.
 - 1) IP Parameters Configuration
 - 2) System Configuration
 - 3) Change Password
 - 96) Display Status
 - 97) Reset Settings to Defaults
 - 98) Save & Restart
 - 99) Quit

Enter Selection:

Enter the number corresponding to the action you wish to carry out.



```
C:\> Telnet 192.168.32.55
Hello root
=== Main Menu ===
 1> IP Parameters Configuration
 2> System Configuration
 3> Change Password
96> Display Status
97> Reset Settings to Defaults
98> Save & Restart
99> Quit
Enter Selection: _
```

5. When you have finished making settings, select **98 (Save and Restart)** and then select either **1 (Save & Restart device and Configuration printing)** or **2 (Save & Restart Device)**. This will save the settings and reset the printer.

7. Restrictions and Cautions

Below is the restrictions and cautions for this version.
Please read through and have well understanding before use.

■ Emulation: Star Line mode

- Barcode Printing when Horizontal Compress & Two Color Printing is selected.
In this case, please do not print Barcode and Text within the same line.
Barcode maybe printed on the texts.
- Barcode Printing when Vertical & Horizontal Compress is selected.
Barcode will not be compressed vertically & horizontally.
Text and Bit Image printed on the same line will not be compressed either.
- Barcode Printing when Vertical & Horizontal Compress and Copy function is selected.
In this case, the Barcode on the copied receipt will be compressed and will be unreadable by Barcode Scanner.
Please do not use the Barcode on the copied receipt.
(The Barcode on the original receipt can be read by Barcode Scanner)
- Code 39 Barcode(Optional: Extended)
In this version, Extended setting for Code 39 Barcode cannot be used.
Code 39 Barcode will not be printed on the appropriate position.
- Print via Printer Driver
You cannot use the following functions of the TSP100 Configuration Application when "NoCut" is set in the printer driver property settings.
 - Copy function
 - Vertical Monut Mode
 - On demand printing
- The "Do Checked Block Printing" funciton in OPOS and JavaPOS is not supported with the TSP100LAN.

■ Emulation: ESC/POS mode

- ITF Barcode
Please do not print HRI characters when the Bearer Bars is selected as "Rendered" for ITF Barcode.
Depending on the barcode width, Barcode may not be printed correctly.
- Bit Image Printing when 48 columns for print column is selected.(Default 42 columns)
Under this setting, below command handles up to 42 columns (68mm)
<ESC> "*" / <GS> "v" / <GS> "/"
Please do not send Bit Image data larger than 68mm in width.
- Cash drawer #2 function
Driven ON/OFF timeing for Cash Drawer #2 is fixed to 0.2 sec.

■ Emulation in common**- Text Triggers in Text Processing**

When you register multiple text keys, character strings that you can use when you select "Replace with alternate text" have the following limitations.

- You cannot use strings that have already been used.
- You cannot use substrings of strings that have already been used.

- Change Merge Setting in Text Processing

When Two Color Printing is selected, Merge Image cannot be printed.

Cannot use "Change Merge Setting" in Text Processing and "merge" function in "Logo & crop" window, together.

Please check printing result, when use "disable merge" function.

- Logos & Cropping

If multiple pages are printed by Virtual Serial Port or WritePrinterAPI etc., not through Printer Driver, when Cropping is set, the print order of the pages maybe changed.

- Vertical Mount and Header & Footer for Multi-Copy

When Vertical Mount Mode & Multi-Copy are set valid, the image data set for Header and Footer will be printed in the following position.

When Vertical Mount is disabled: Left

When Vertical Mount is enabled : Right

- Logo Printing with Left & Right Margin Setting

Left & Right Margin Setting is not valid for Logos.

- Off Line Mode with Virtual Serial Port.

Even the Printer is in Off-Line Mode, the application can send Print data to Virtual Serial Port.

In this case it is not guaranteed that the print data will be correctly printed.

Please check Printer status before sending print data to Virtual Serial Port.

- Error during printing with Virtual Serial Port.

When Printer Error, such as Paper End, happens during printing with Virtual Serial Port.

Part of the print data maybe lost.

If such happens, please resend the print data from application.

It is advised that the paper to be refilled before Printer detects PE Error.

- Virtual Serial Ports

In the following development environments, all functions cannot be used.

- Visual Basic 6.0 : MSComm control
- .NET Framework : SerialPort component

Please check printing result, when use "Serial Ports".

- Time out value using Virtual Serial Port
Depending on the setting of the Virtual Serial Port, the time out value will be different.
Refer to the SDK of the Virtual Serial Port in this CD to change it.
- Virtual Serial Ports
The Virtual Serial Port Emulator is not supported by OPOS.
- Virtual Serial Ports Service
You cannot control multiple services individually (start/stop) from one PC.
All Virtual Serial Port Services will start/stop together.
- Saving Journal Data
The maximum length which can be stored for the Journal data is 2 meters as receipt length.
Please do not store Journal data longer than 2 meters.
- Saving On Demand Data
The maximum length which can be stored for the On Demand data is 2 meters as receipt length.
Please do not store On Demand data longer than 2 meters.
- Trigger for On Demand Message
The Trigger for On Demand Message is Cut Command.
However, please be careful for sending Print data in the following cases.
 - Virtual Serial Port
 - WritePrinterAPIWhen multiple Cut Commands are sent in the one Print data, the last Cut Command will be a Trigger for On Demand message.
When "NO" is selected and reprint the receipt data stored in PC, the Cut actions will not happen in between the stored receipts but at the end of the last receipt.
In case Virtual Serial Port is used, please set print data within 8 K byte under Windows XP.
- Peripheral Control when On Demand is set valid
When On Demand is set enabled, even select "No" (not print data), peripheral commands are executed.
And in case multiple peripheral commands are set, peripheral commands are sent altogether immediately.
Therefore, it is recommended to send Peripheral commands independently.
(If peripheral command is sent independently, no Pop Ups for On Demand will appear and the commands are executed instantly.)
- Lost Data in On Demand
When On Demand function is used in combination with such as OPOS, JavaPOS, Virtual Serial Port, or WritePrinterAPI, and while On Demand Message is popped up, Paper End or Cover Open Error occurs, this print data will be lost.
It is advised that the paper to be refilled before Printer detects PE Error.

- Preview and On Demand

When On Demand is in use, Preview function cannot be used.

- Ethernet Setup Tool

After generating the printer queue using the Ethernet Setup Tool, the "Complete" message may appear behind other windows.

Star recommends to close other windows first before using the Ethernet Setup Tool.

- Using Multiple functions at the same time

The following functions cannot be used simultaneously:

- Windows Printer Driver
- OPOS
- JavaPOS
- Virtual Serial Port
- Virtual TCP/IP Port
- Write Printer API

* If it is necessary to use multiple functions, finish printing via one method before beginning via another.

- Multiple usage of Virtual TCP/IP Ports

When sending print data to multiple Virtual TCP/IP ports from one PC, the print speed will be slow. If one printer is powered OFF, the other printer will stop printing for approximately 10 seconds.

- Virtual TCP/IP Ports Service

You cannot control multiple services individually (start/stop) from one PC.

All Virtual TCP/IP Port Services will start/stop together.

8. Release History

Rev. No.	Date (Month/Day/Year)	Contents
Rev. 1.0	09/01/2005	New Release
Rev. 1.1	09/20/2005	Added electronic journal function
Rev. 1.2	09/30/2005	Multi language support
Rev. 2.0	12/26/2005	Added ESC/POS Mode and Multi-copy
Rev. 2.3	08/26/2006	Added QR code, corrected Text Processing function, added Printer Font function
Rev. 2.4	01/20/2007	Added menu function for TSP100 Configuration Utility
Rev. 3.0	06/28/2007	Installation Manual (for Windows Vista) New addition (separate volume)
Rev. 3.1	06/18/2009	Added Control Object Registration function
Rev. 4.0	03/01/2010	Windows 7 support
Rev. 5.0	02/01/2011	Integration of futurePRNT series, addition of font B PDF417, Standardization of ECO function manual, support of OPOS version 1.13, and support of JavaPOS version 1.13
Rev. 5.1	03/01/2011	Function addition of a part of OPOS
Rev. 5.2	10/26/2011	Function addition of a part of Text Processing
Rev. 5.3	10/18/2012	Windows 8 support



<http://www.starmicronics.com/support/>