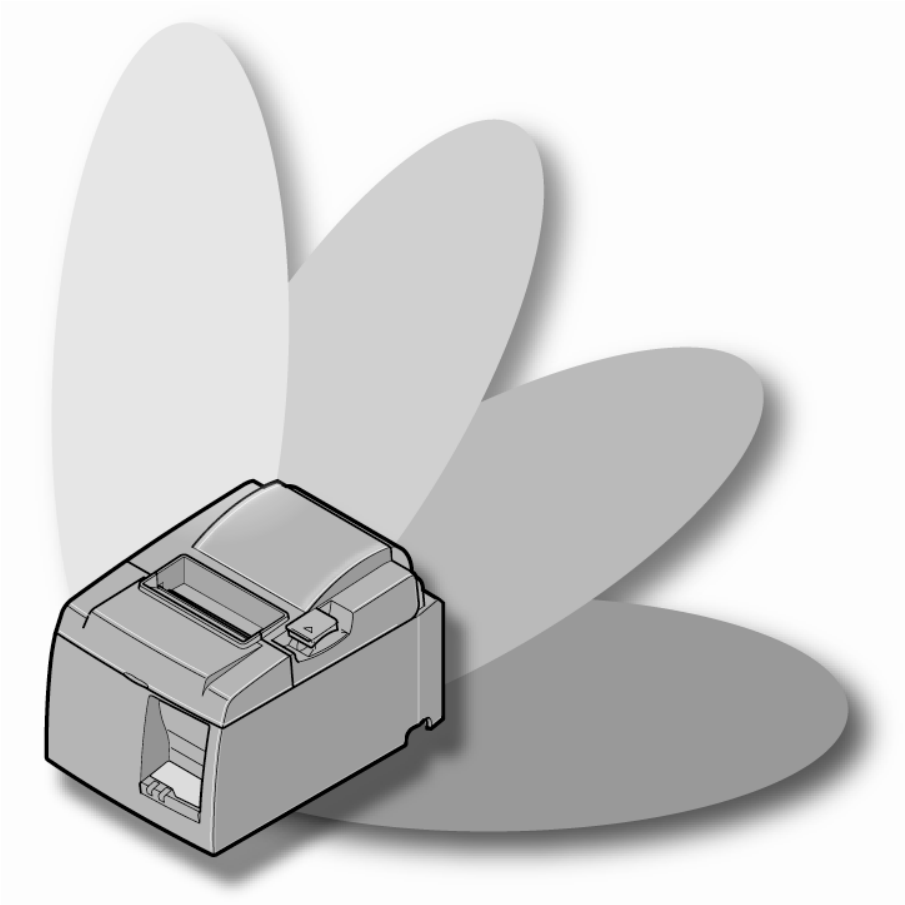
star TSP100 futurePRNT

Software Manual



Rev.1.2

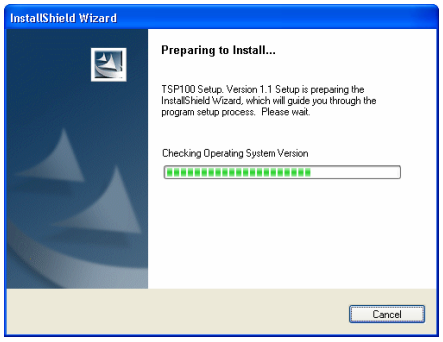
Contents

1. Windows™ 2000/XP Driver Installation / Uninstallation

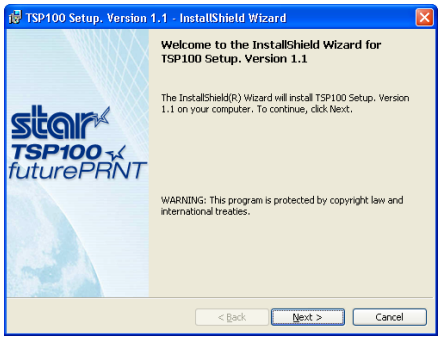
1.1. Installation

NOTE: Driver installation should be completed prior to connecting the printer.

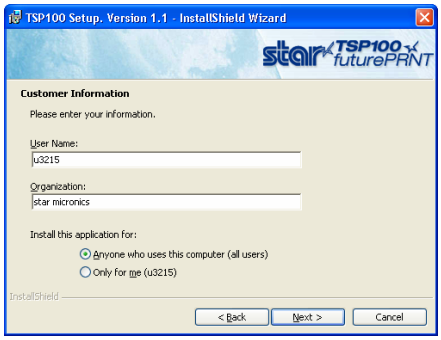
In order to use the TSP100 futurePRNT with a Windows computer, it is necessary to first install the printer driver. To install this printer driver, click “Installation” from the CD's auto run menu or run the setup file located in the directory of the CD. (D:\Win2K_XP\setup.exe – where D is your CD-ROM drive)



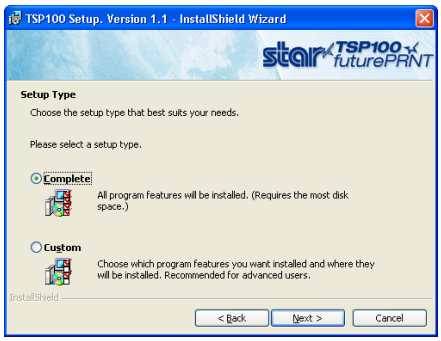
When the installation program begins the window above will be shown.



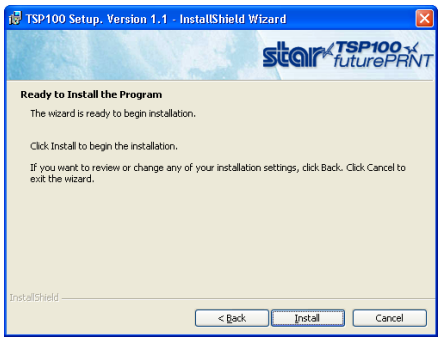
Click “Next” to continue



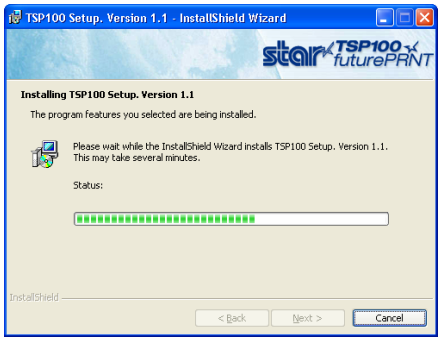
Choose the user and then click “Next” to continue.



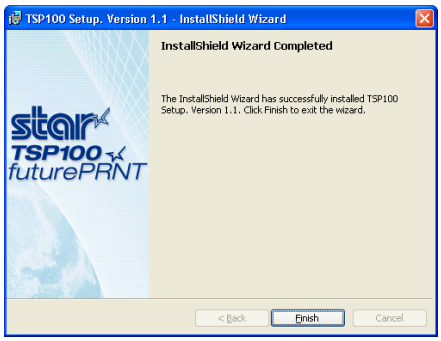
Choose the “Complete” installation option to be sure that all of the TSP100 futurePRNT's options are installed and then click “Next” to continue.



Click “Install” to begin the installation process.



The files and programs are now being installed on the computer.



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

Refer to the Quick Iinstall manual included in the original printer box for further instructions on proper connection of the printer to the computer.

1.2. Uninstallation

1. Turn the Printer off.
2. Click ‘Start Menu’.
3. Select ‘All Programs’ -> ‘StarMicronics’ -> ‘Star TSP100’ -> ‘Uninstall’.
4. The Uninstaller will appear and delete all software of TSP100.

2. Windows™ 2000/XP Driver Generic Information

2.1. Windows Printer Driver

The Windows Printer Driver offers compatibility with any software package that supports printing to a Windows printer. This driver is also well-suited for applications printing mainly graphical content such as web pages or documents containing large amounts of TrueType fonts and bitmaps.

It is important to note the added functionality of this driver afforded by the advanced features of the TSP100 futurePRNT printer and its software.

Using the Windows Printer Driver also allows for the use of device fonts for the ultimate consistency and efficiency in printing ASCII test. Additionally, the Windows Printer Driver offers support for barcode printing using natively generated barcodes rather than graphically generated barcodes or barcode fonts.

Supported Device Fonts

7 CPI*	8.5 CPI	16 CPI	ESC_Font
7 CPI (RED)**	8.5 CPI (RED)	16 CPI (RED)	ControlFont
7 CPI Tall***	8.5 CPI Tall	16 CPI Tall	
7 CPI Tall (RED)	8.5 CPI Tall (RED)	16 CPI Tall (RED)	
8 CPI	14 CPI	17 CPI	
8 CPI (RED)	14 CPI (RED)	17 CPI (RED)	
8 CPI Tall	14 CPI Tall	17 CPI Tall	
8 CPI Tall (RED)	14 CPI Tall (Red)	17 CPI	

* CPI = Characters Per (Horizontal) Inch
** Characters will be printed in red when using red/black two-color thermal paper and two-color printing mode.
*** Characters will be printed in double-high (2x normal height) mode

Supported Barcode Symbologies

CODE39	JAN/EAN 8
CODE93	JAN/EAN 13
CODE128	UPC-A
Interleaved Two of Five (ITF)	NW-7

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 1.8.

2.3. JavaPOS Driver

JavaPOS takes the existing advantages of the OPOS standard and adds to them the ability for applications to be platform independent. Also, being based on the Java Virtual Machine, the minimum system requirements are lowered, thus reducing overall system costs as well.

Star's JavaPOS driver offers full compliance with the JavaPOS standard version 1.4. The JavaPOS driver can be used with any existing JavaPOS application and is additionally highly recommended for developers creating new applications where platform independence and/or simple hardware are valued features.

2.4. Star Port Emulator

The Star Port Emulator allows the TSP100 futurePRNT printer to act as a serial port printer. This is especially helpful in legacy applications with no support for USB printing. USB support is still required on the host device, but the application itself need only support serial (COM port) printing.

3. Windows 2000/XP Printer Driver Usage

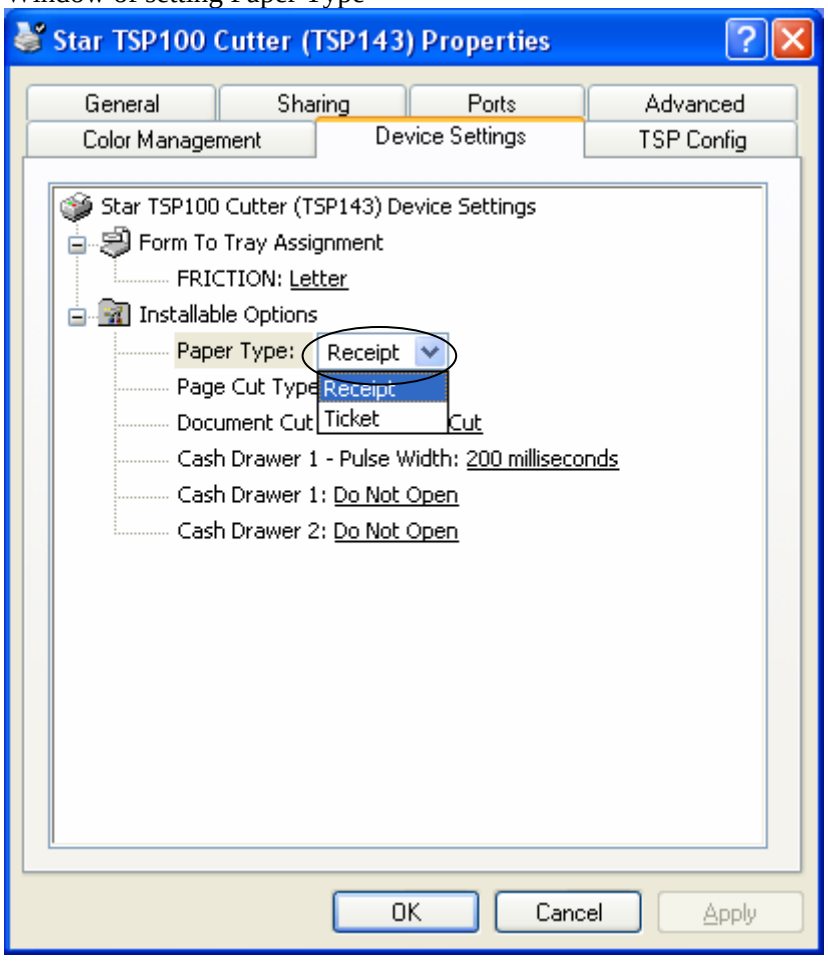
3.1. Printer Driver Configuration

3.1.1. Paper Type

You can choose the length of each printed page.
Setting values are as follows;

Paper Type	Default	Details
Receipt	*	Each page can be printed with various lengths until the last line.
Ticket		Each page can be printed with the same length.

Window of setting Paper Type

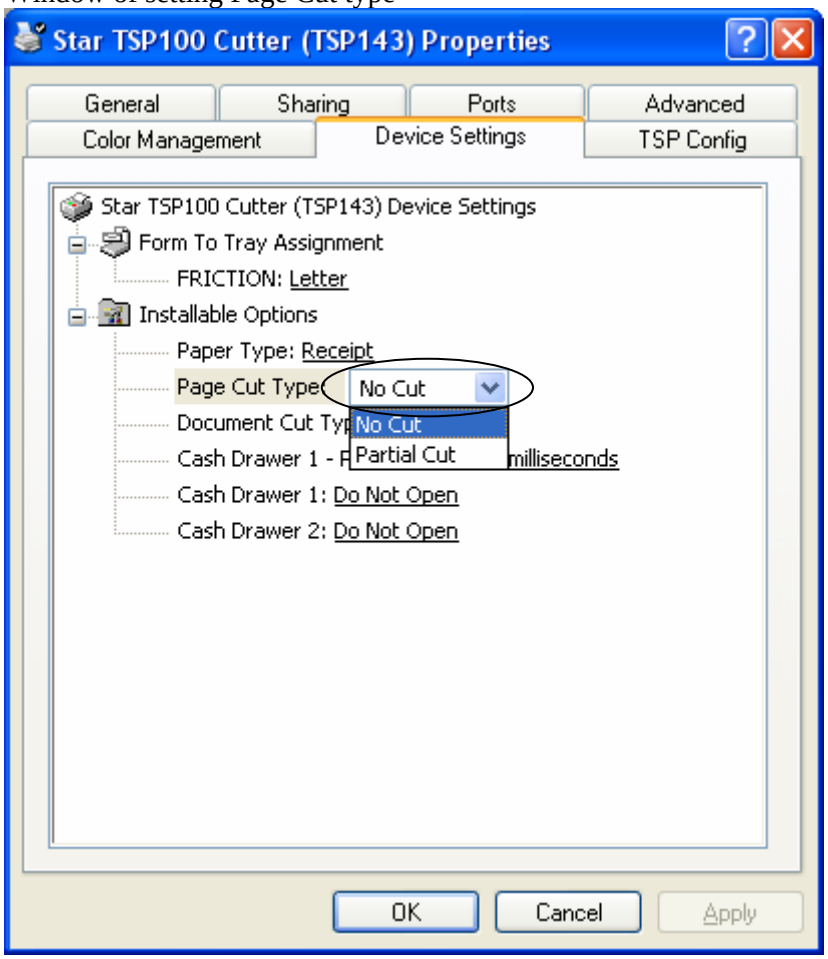


3.1.2. Page Cut Type (TSP143 only)

You can choose the cut type that is performed at the end of all pages except the last page.
Setting values are as follows;

Cut Type	Default	Details
No Cut	*	All pages except the last page are not fed to the cutter and are not cut.
Partial Cut		All pages except the last page are fed to the cutter and partially cut.

Window of setting Page Cut type



3.1.3. Document Cut Type

You can choose the Cut action for the last page.
Setting values are as follows;

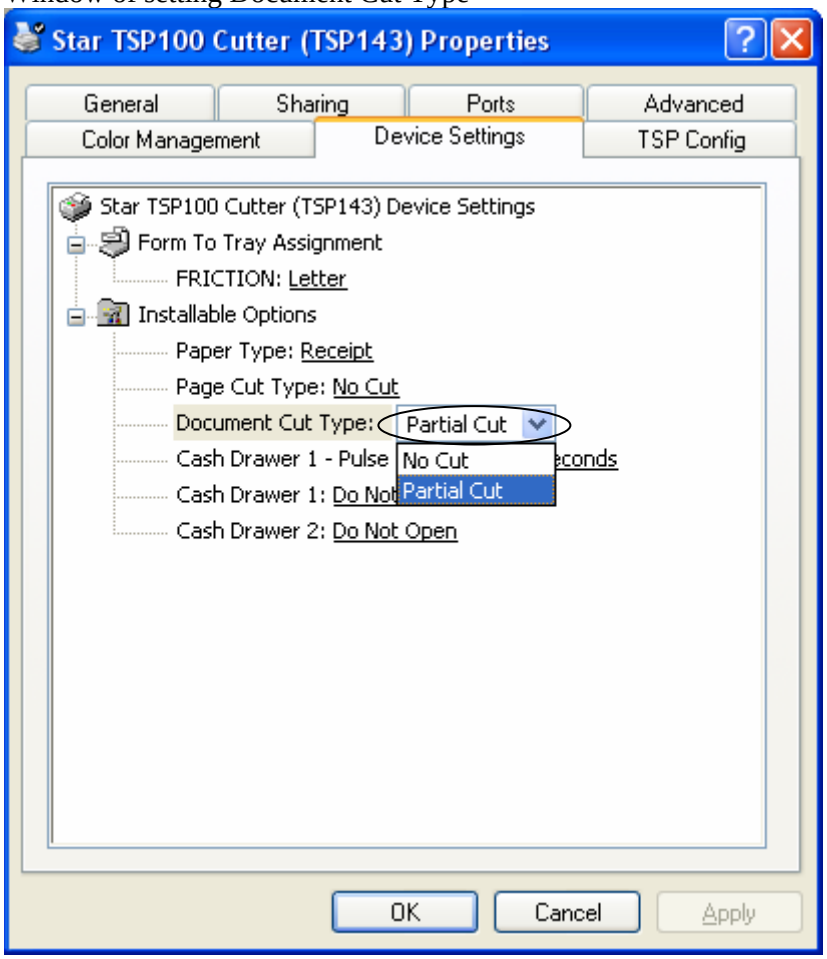
< TSP143 >

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

< TSP113>

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

Window of setting Document Cut Type

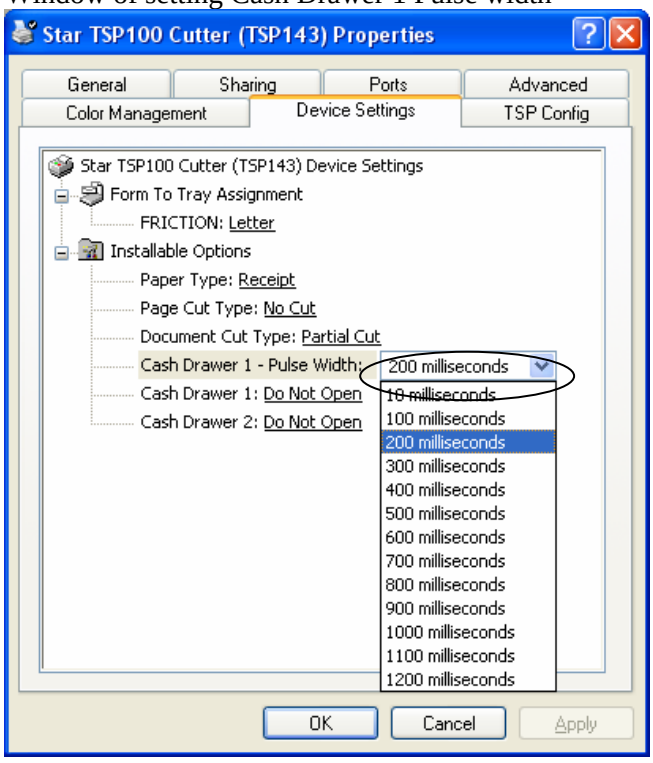


3.1.4. Cash Drawer 1 Pulse width

You can choose the length of the open drawer signal that is sent from the printer to the cash drawer 1.
Setting values are as follows;

Value	Default	Details
10 milliseconds		Pulse width is set as 0.01sec.
100 milliseconds		Pulse width is set as 0.1sec.
200 milliseconds	*	Pulse width is set as 0.2sec.
300 milliseconds		Pulse width is set as 0.3sec.
400 milliseconds		Pulse width is set as 0.4sec.
500 milliseconds		Pulse width is set as 0.5sec.
600 milliseconds		Pulse width is set as 0.6sec.
700 milliseconds		Pulse width is set as 0.7sec.
800 milliseconds		Pulse width is set as 0.8sec.
900 milliseconds		Pulse width is set as 0.9sec.
1000 milliseconds		Pulse width is set as 1.0sec.
1100 milliseconds		Pulse width is set as 1.1sec.
1200 milliseconds		Pulse width is set as 1.2sec.

Window of setting Cash Drawer 1 Pulse width

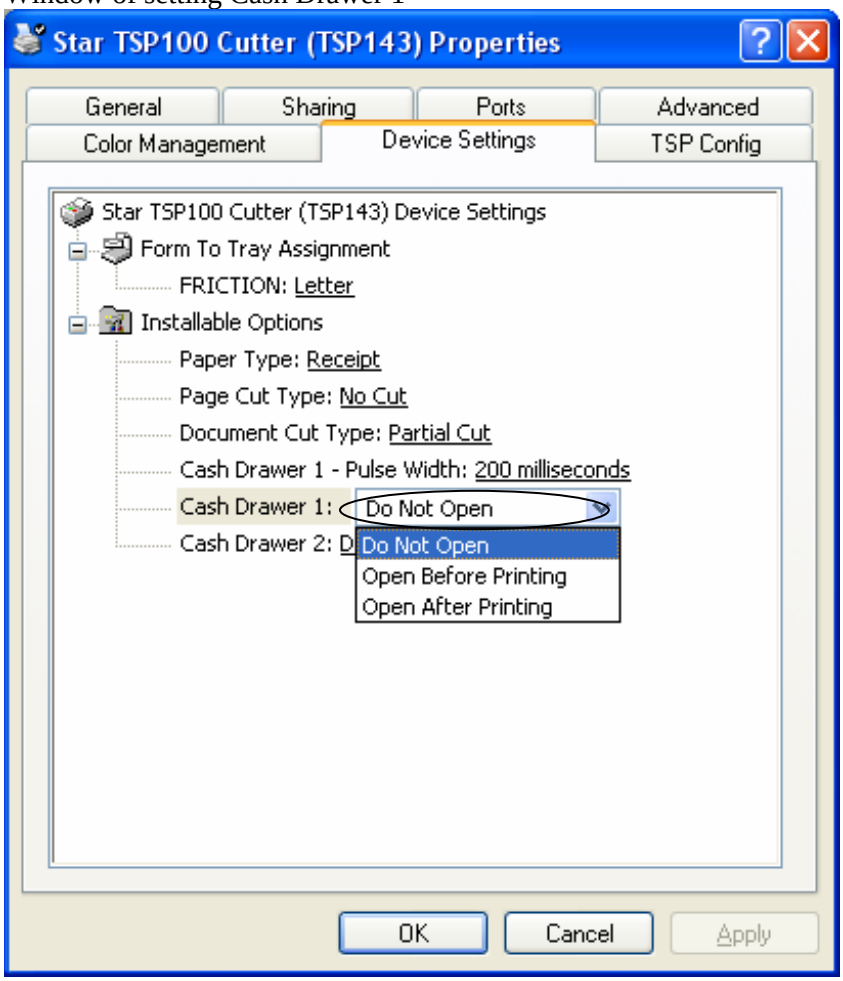


3.1.5. Cash Drawer 1

You can choose either open or not open Cash Drawer 1.
Setting values are as follows;

Mode	Default	Details
Do Not Open	*	Not open Cash Drawer1.
Open Before Printing		Open Cash Drawer1 before printing.
Open After Printing		Open Cash Drawer1 after printing

Window of setting Cash Drawer 1

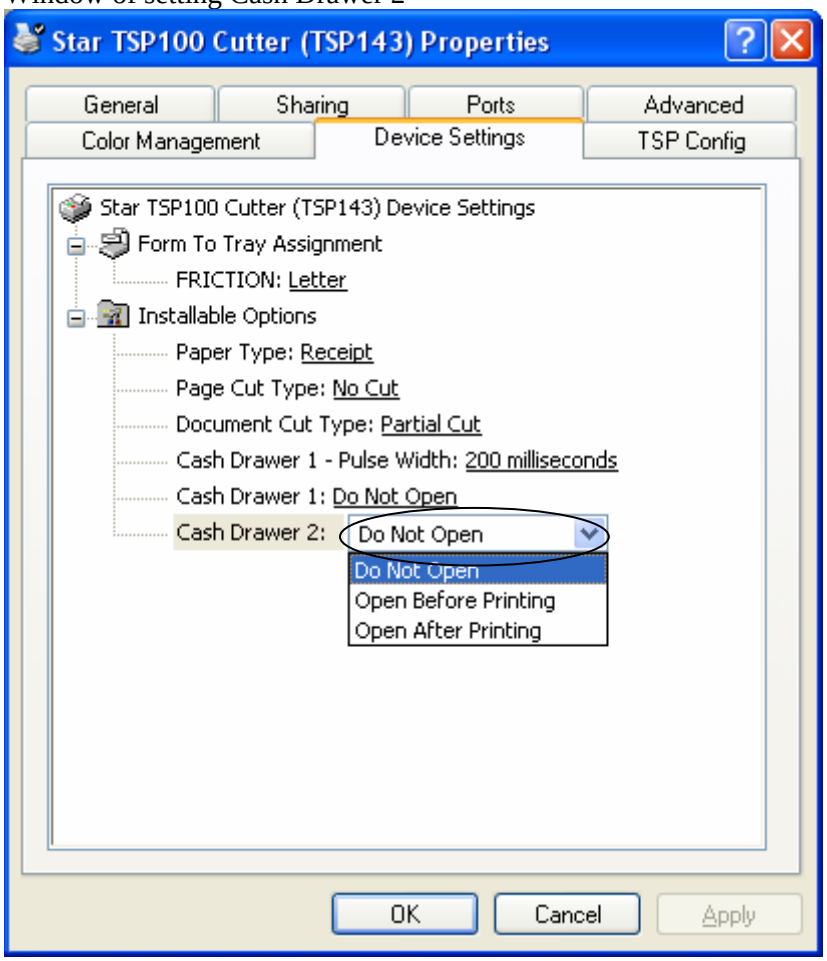


3.1.6. Cash Drawer 2

You can choose either open or not open Cash Drawer 2.
Setting values are as follows;

Mode	Default	Details
Do Not Open	*	Not open Cash Drawer2.
Open Before Printing		Open Cash Drawer2 before printing.
Open After Printing		Open Cash Drawer2 after printing

Window of setting Cash Drawer 2



3.2. 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
72mm x 200mm	72mm	200mm
72mm x Receipt	72mm	3,000mm
51mm x 200mm	51mm	200mm
51mm x Receipt	51mm	3,000mm
A4	210mm(Printable area is 72mm)	297mm
Letter	8.5inch(Printable area is 72mm)	11inch

The paper width is set as printable area.
For example, if you use 80mm width roll paper, set paper size to 72mm.

For journal printing (without form feed), set the paper size to '72mm x Receipt' or '51mm x Receipt', and set Paper Type to Receipt.

User defined paper sizes are created through the Server Properties form accessible from the Windows Printer Folder. The procedure for creating a user defined paper size is as follows:

1. Open the Windows Printer Folder.
2. Enter the File menu and choose Server Properties.
3. Enter the Forms property sheet page
4. Check the 'Create a new form' checkbox.
5. Type the name of your new form in the 'Form Name' field.
6. Choose the units of measurement for specified values (either Metric or English).
7. Enter the width into the Paper Size Width field.
8. Enter the height into the Paper Size Height field.
9. Enter 0 into all of the Printer area margin fields.
10. Click the 'Save Form' button to save your new form

The following table is the list of the maximum paper size which user defines.

Width	Length
72mm	3,276mm

3.3. Device Font Usage

The printer driver in this set does contain device fonts which are designed according to the characteristics of the printer. These will give a clearer print than printing with TrueType fonts. Moreover, because device fonts are compatible with the TSP600/TSP700/TSP800/TSP1000 Series of Star printers, the same print result as these printers can be obtained.
When you use these device fonts, be sure to select the correct font height.
The following is the list of supported device fonts.

Font name	Width (Pixels)	Height (Pixels)	Digit number 72mm (576dots)	Details
Printer 17cpi	12	24	48	Thermal Printer Font
Printer 8.5cpi	24	24	24	
Printer 17cpi Tall	12	48	48	
Printer 8.5cpi Tall	24	48	24	
Printer 16cpi	13	24	24	
Printer 8cpi	26	24	22	
Printer 16cpi Tall	13	48	44	
Printer 8cpi Tall	26	48	22	
Printer 14cpi	15	24	38	
Printer 7cpi	30	24	19	
Printer 14cpi Tall	15	48	38	
Printer 7cpi Tall	30	48	19	
Printer 17cpi (RED)	12	24	48	
Printer 8.5cpi (RED)	24	24	24	
Printer 17cpi Tall (RED)	12	48	48	
Printer 8.5cpi Tall (RED)	24	48	24	
Printer 16cpi (RED)	13	24	24	
Printer 8cpi (RED)	26	24	22	
Printer 16cpi Tall (RED)	13	48	44	
Printer 8cpi Tall (RED)	26	48	22	
Printer 14cpi (RED)	15	24	38	
Printer 7cpi (RED)	30	24	19	
Printer 14cpi Tall (RED)	15	48	38	

Printer 7cpi Tall (RED)	30	48	19	
Control	12	24	48	Device control font
ESC-FONT	12	24	48	
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(Codaber)	12	24	48	

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.

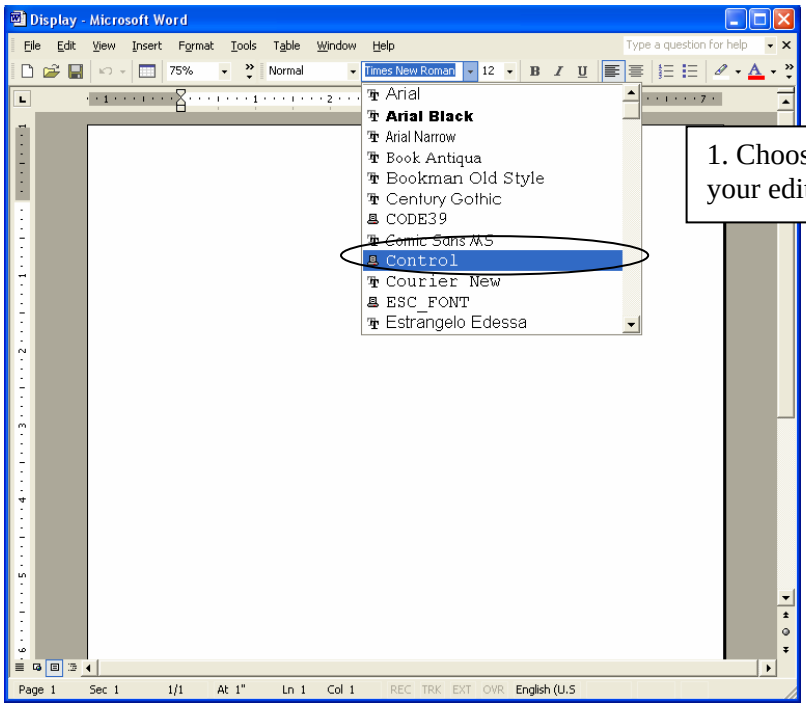
Character	Function
A	Open cash drawer 1 for 50mSec
B	Open cash drawer 1 for 100mSec
C	Open cash drawer 1 for 150mSec
D	Open cash drawer 1 for 200mSec
E	Open cash drawer 1 for 250mSec
d	Open cash drawer 2 for 200mSec
6	LF
7	CR
F	Full Cut
P	Partial Cut
G	Print NV Logo No. 1
H	Print NV Logo No. 2
I	Print NV Logo No. 3
J	Print NV Logo No. 4
K	Print NV Logo No. 5
Q	Print NV Logo No. 1 - Double Wide
R	Print NV Logo No. 2 - Double Wide
S	Print NV Logo No. 3 - Double Wide
T	Print NV Logo No. 4 - Double Wide
U	Print NV Logo No. 5 - Double Wide
V	Print NV Logo No. 1 - Tall
W	Print NV Logo No. 2 - Tall
X	Print NV Logo No. 3 - Tall
Y	Print NV Logo No. 4 - Tall
Z	Print NV Logo No. 5 - Tall

[	Print NV Logo No. 1 - Double Wide / High
]	Print NV Logo No. 2 - Double Wide / High
^	Print NV Logo No. 3 - Double Wide / High
_	Print NV Logo No. 4 - Double Wide / High
`	Print NV Logo No. 5 - Double Wide / High
a	Set Left Alignment
b	Set Center Alignment
c	Set Right Alignment
e	Set 3mm line feed spacing(1/8inch)
f	Set 4mm line feed spacing (1/6inch)
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
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

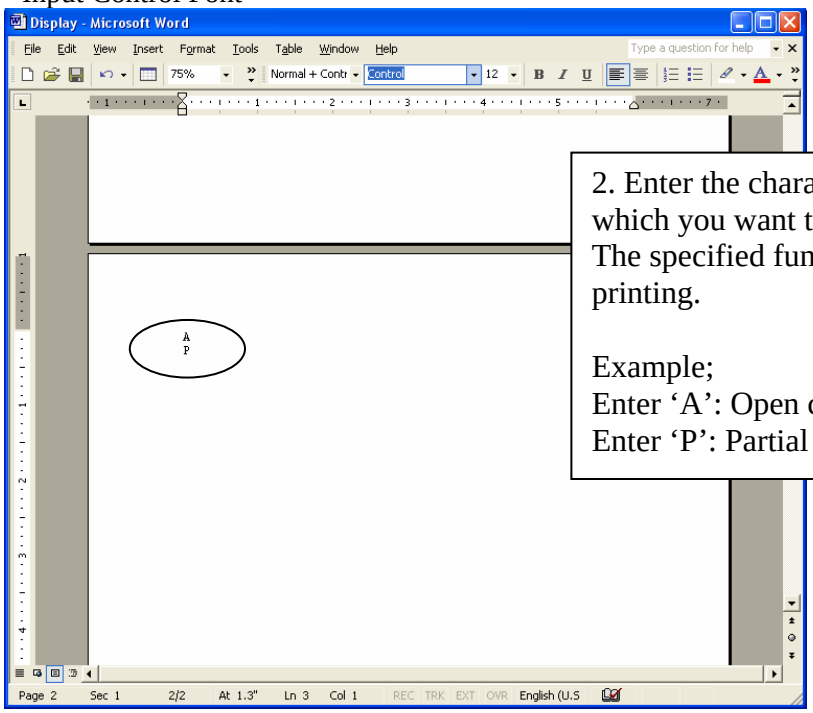
3.4.2. Control Font Usage

Usage of the Control font must be done as follows:

- Select Control Font



- Input Control Font



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.

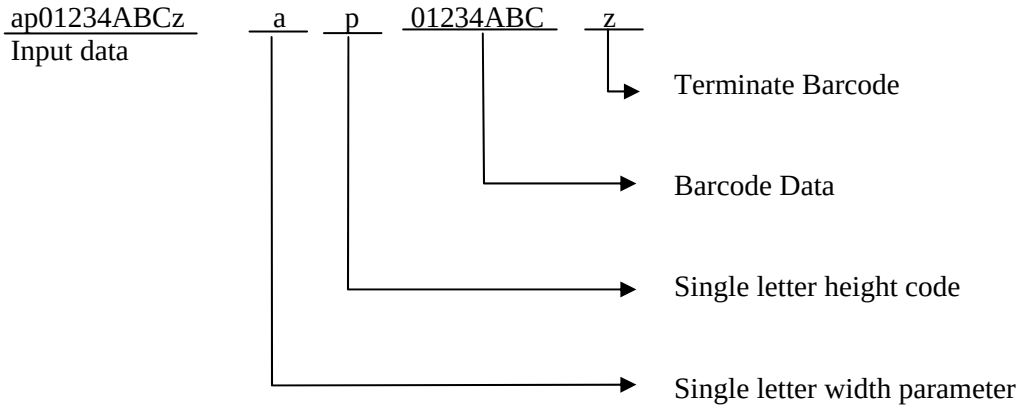
Barcode Type	Number of Characters	Character Set
UPC-E	12	0 - 9
UPC-A	12	0 - 9
JAN/EAN-8	8	0 - 9
JAN/EAN-13	13	0 - 9
CODE39	1 or more	0 - 9 -, ., <SP>, $, /, +, % A - Z Start / Stop: *
ITF	1 or more(even)	0 - 9
NW-7(Codabar)	1 or more	0 - 9 -, $, :, /, ., + A - D

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

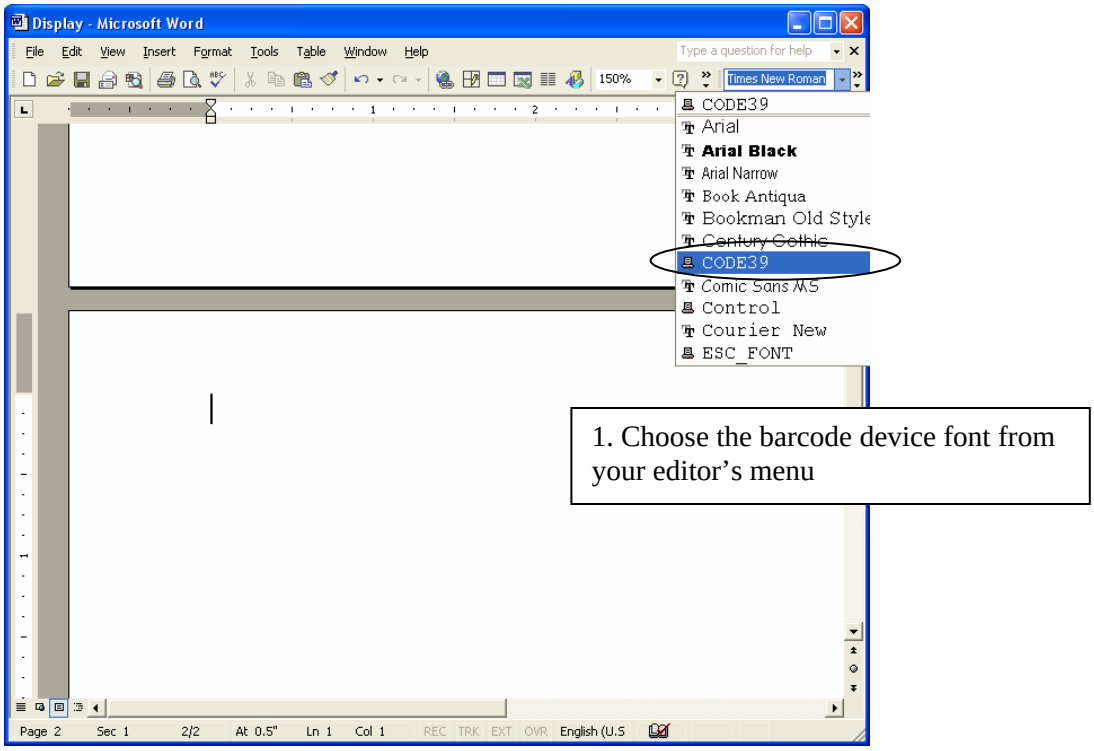
Character for Barcode printing	Function			Details
	UPC-E, UPC-A, JAN/EAN-8, JAN/EAN-13	CODE39 NW-7	ITF	
a	2 dot	2 dot (6)	2 dot (5)	Minimum module width
b	3 dot	3 dot (9)	4 dot (10)	Minimum module width
c	4 dot	4 dot (12)	6 dot (15)	Minimum module width
d	N/A	2 dot (5)	2 dot (4)	Minimum module width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

N/A = Not available

() numeral is dots for wide width.

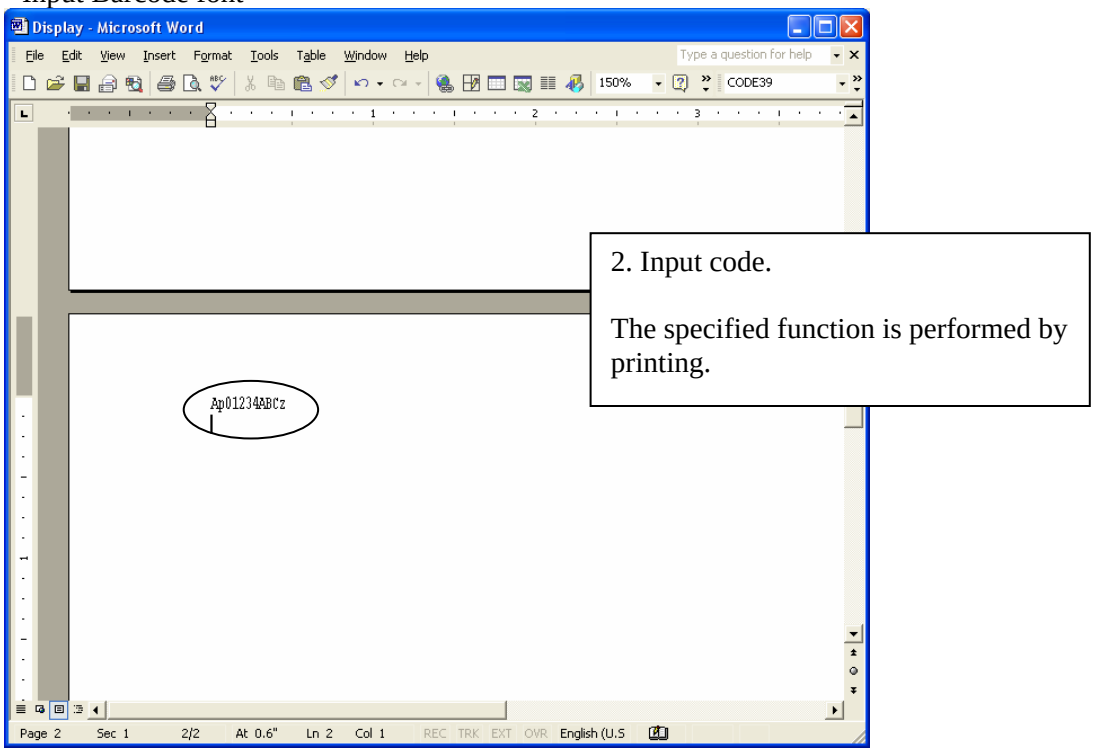
3.5.3. Barcode Font Usage

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



1. Choose the barcode device font from your editor's menu

- Input Barcode font



2. Input code.

The specified function is performed by printing.

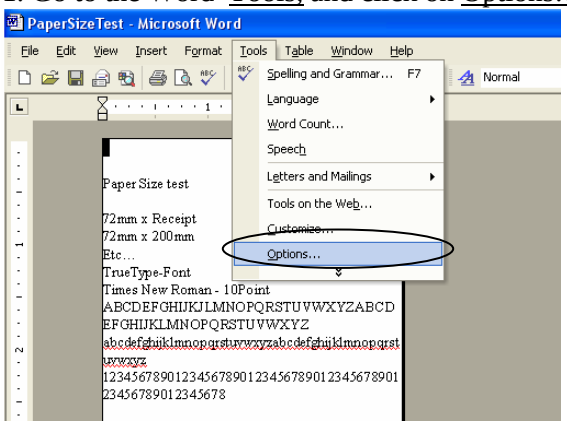
3.6. Document Formatting Guidelines

1. This driver does not require any margins. Set all document margins to 0.
2. This driver supports 4 kinds of custom papers and user defined paper sizes. You can create a user defined paper size via the Server Properties form available off the File menu of the Windows Printer Folder. Refer to the Windows help system for information on how to do this. Remember that no margins are required.

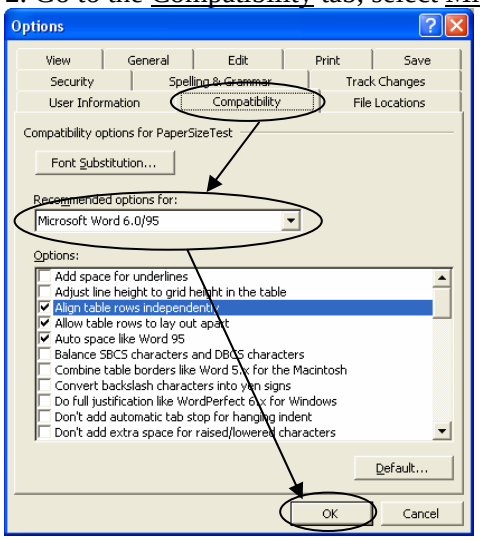
3.6.1. Attention in use of MS Word

You can not use “Device Font” correctly in later Word97 format document.
To use “Device Font”, please save word as Word6.0/95 format.

Procedure:
1. Go to the Word Tools, and click on Options….



2. Go to the Compatibility tab, select Microsoft Word 6.0/95, and click on OK.



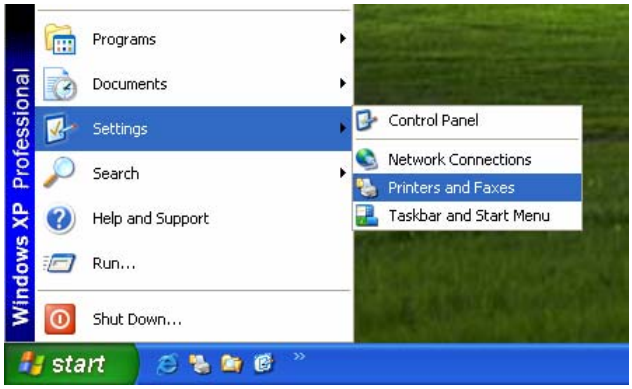
3.6.2. Restriction and Caution

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.

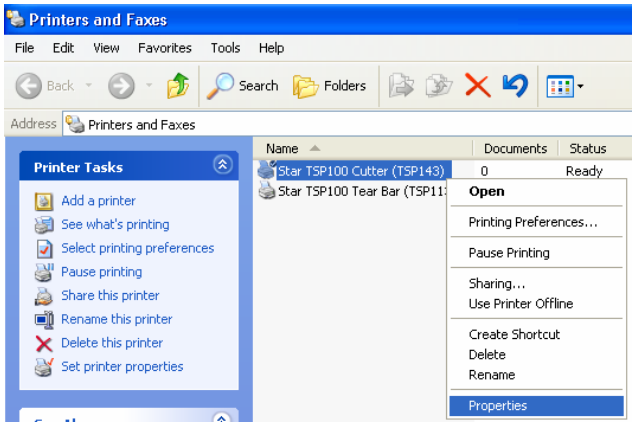
4. Windows 2000/XP Configuration Application

4.1. Launch

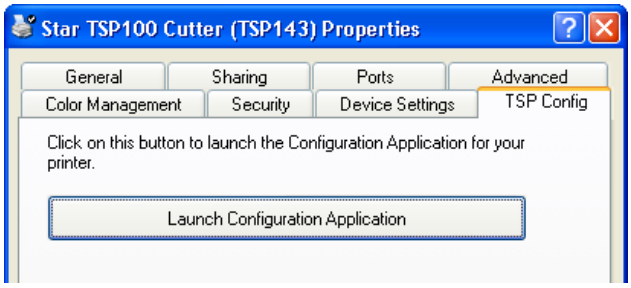
The TSP100 Configuration Application offers control over the look and content of printed receipts. The following section of this manual explains the use and purpose of the options contained within the TSP100 Configuration Application.



To access the TSP100 Configuration Application, click on the Windows Start button, then select "Printers and Faxes" from the Settings menu.



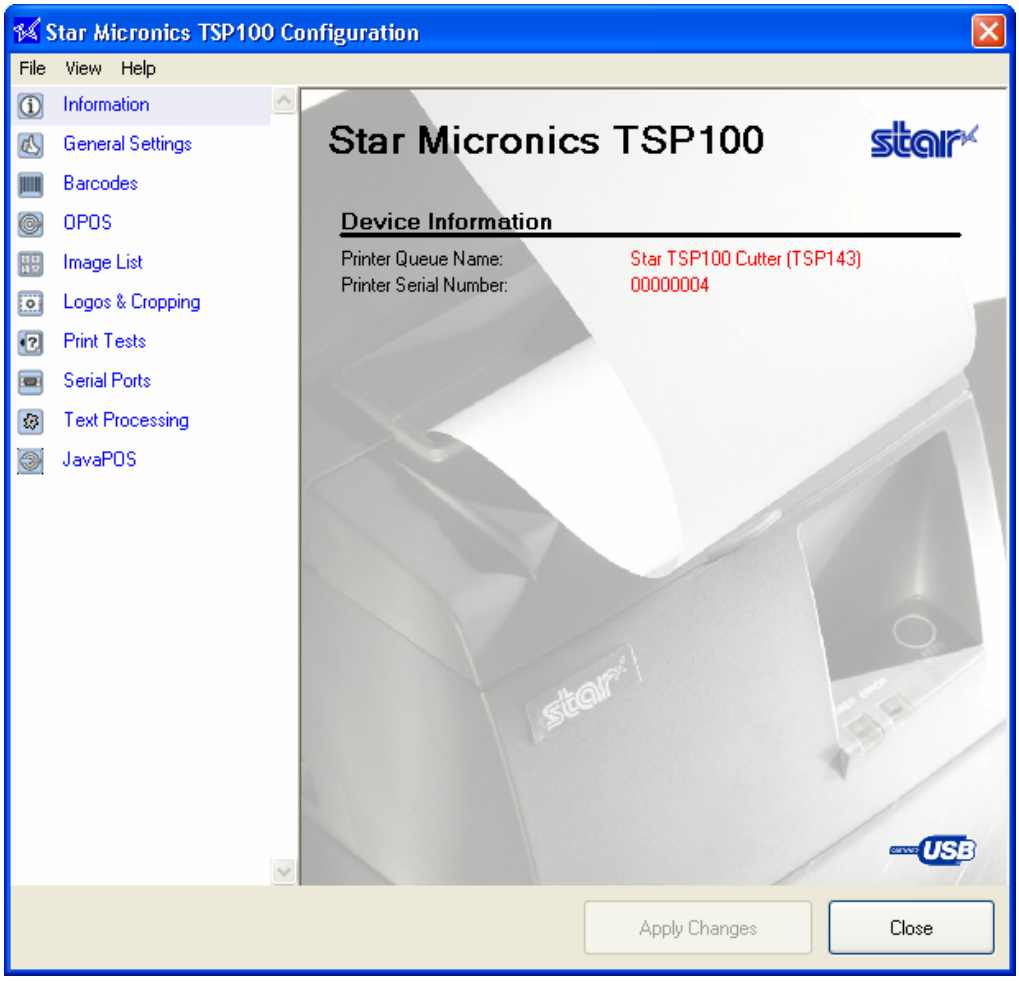
Next, right-click on the TSP100 printer driver and select "Properties" to open the driver properties dialogue.



Select the “TSP Config” tab and then click the "Launch Configuration Application” button to start the program.

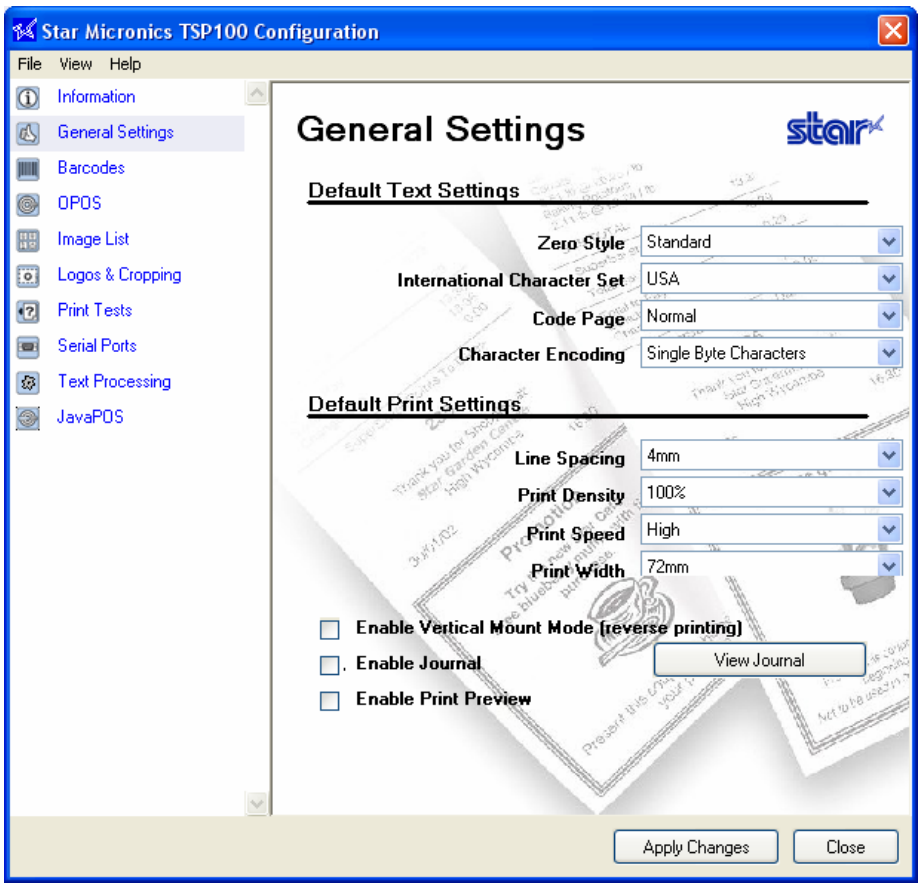
4.2. Information

The information section of the configuration application presents the printer's queue name as it is recognized by Windows™.



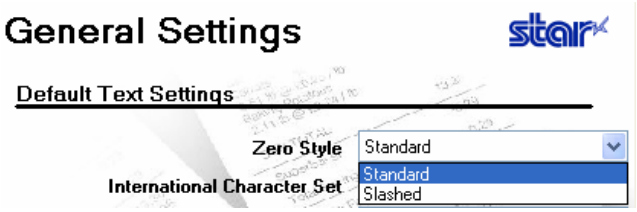
4.3. General Settings

Select the “General Settings” tab on the left to display the general settings options for Default Text Settings and Default Print Settings. Please see the following page for more details.



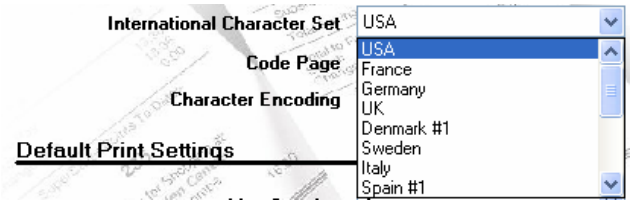
4.3.1. Default Text Settings

Zero Style



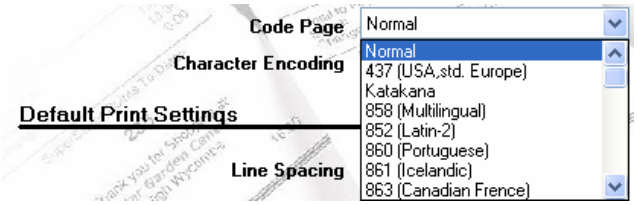
Standard zero style prints the number zero as 0
Slashed zero style prints the number zero as Ø

International Character Set



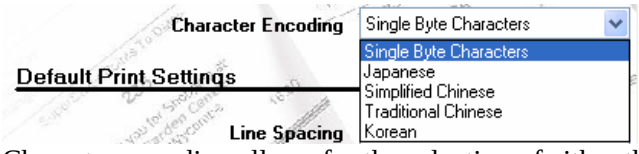
Changing the international character set will change certain characters in the character table to match those characters fitting the selected location. Typically the changes are characters with accents and currency markings.

Code Page



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

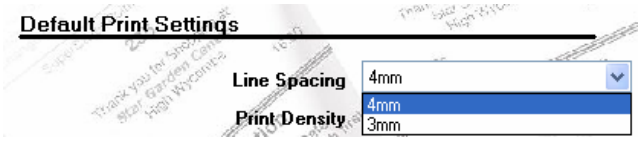
Character Encoding



Character encoding allows for the selection of either the standard single-byte character set or one of the four available double-byte Asian character sets.

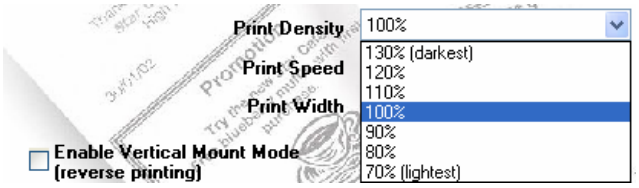
4.3.2. Default Print Settings

Line Spacing



The default line spacing of 4 mm will leave a 1 mm blank space between each line of 3 mm tall characters. Setting the line spacing to 3 mm will eliminate this blank space resulting in shorter receipts. However, these shorter receipts may suffer from reduced legibility.

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%.

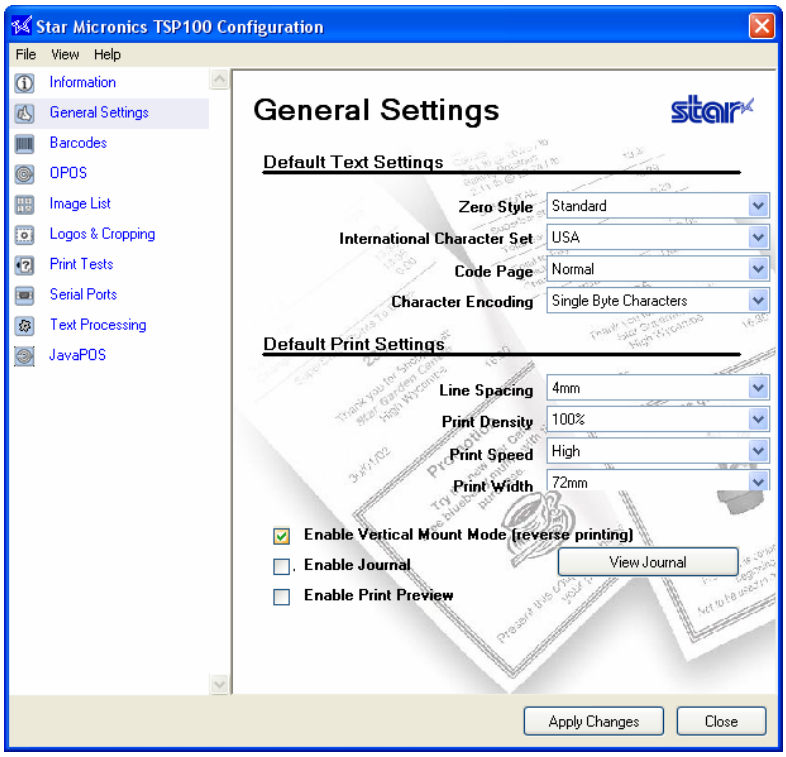
Print Speed

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 most recommended setting is “High”.

Print Width

The print width should be set according to the size of paper used. The default (recommended) setting is 72 mm. 72 mm print width allows for a 4 mm margin on either side of 80 mm paper. The 51 mm print width setting is best suited for the optional 58 mm paper width supported by the TSP100 futurePRNT.

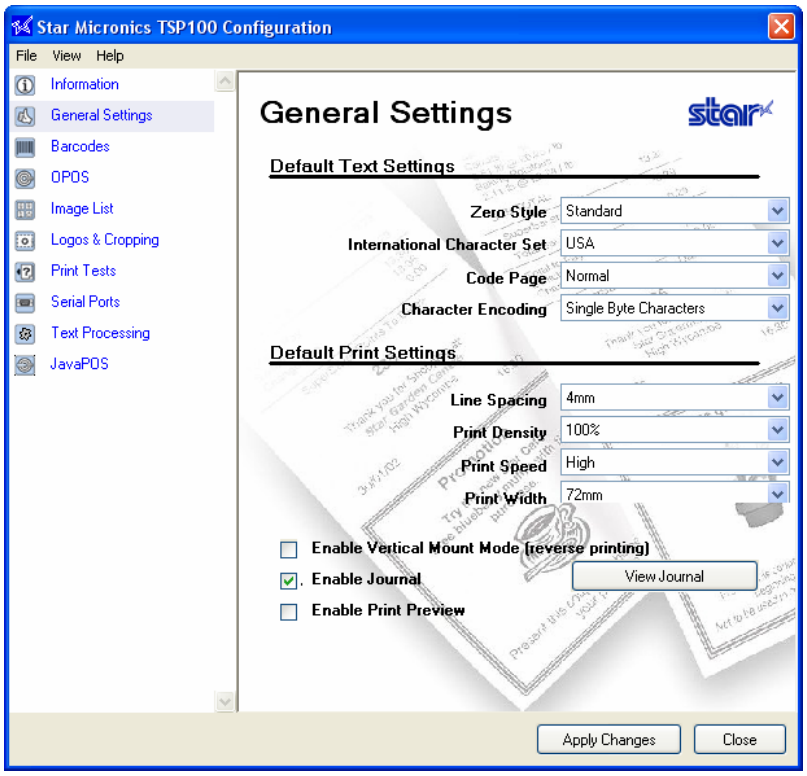
4.3.3. Vertical Mount Mode



Check the “Enable Vertical Mount Mode” checkbox when using the printer in vertical or wall mount mode.

Vertical mount mode allows for reversed printing of receipt when the TSP100 futurePRNT is in vertical or wall mounted orientation. This allows the receipt to be presented to the customer right-side up.

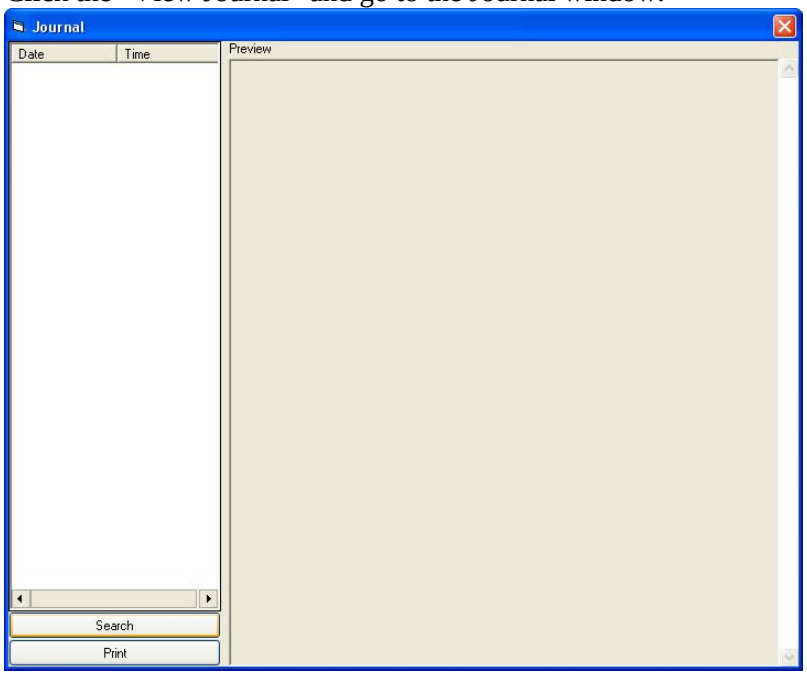
4.3.4. Journal



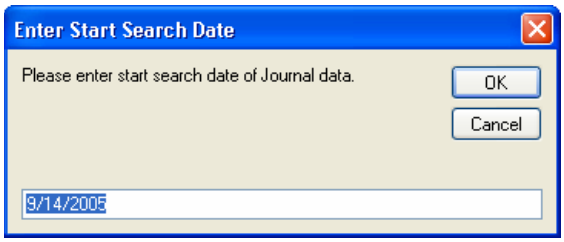
Check the “Enable Journal” checkbox when you use the journal function to save the printed data.

View Journal

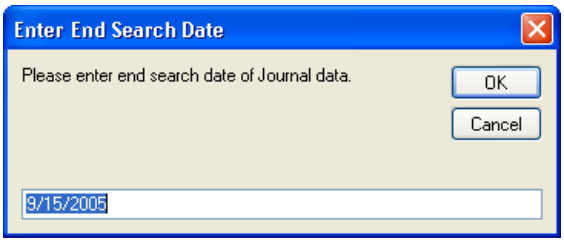
Click the “View Journal” and go to the Journal window.



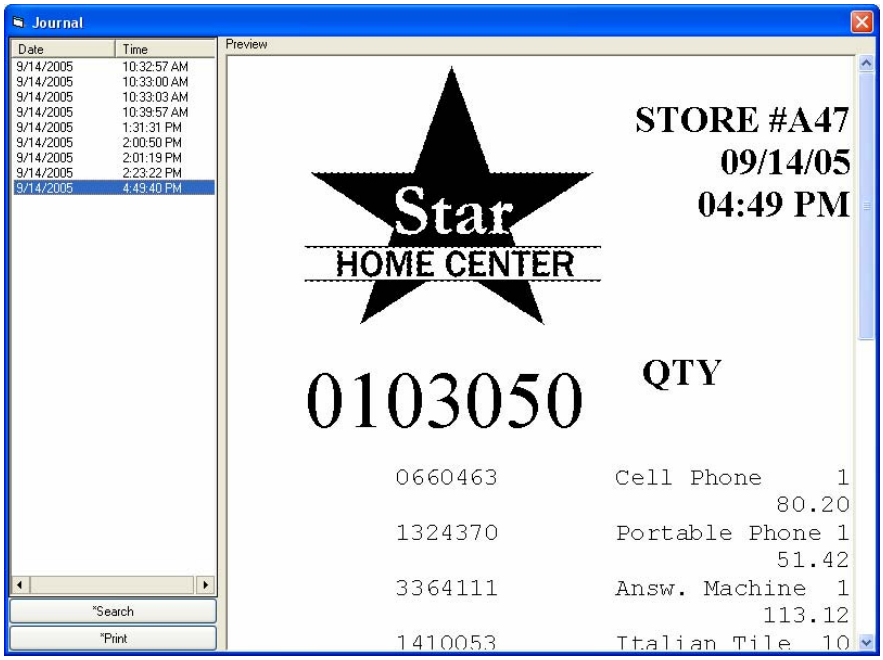
Click the “search” to specify the search condition.



Enter the start search date and click OK.



Enter the end search date and click OK.

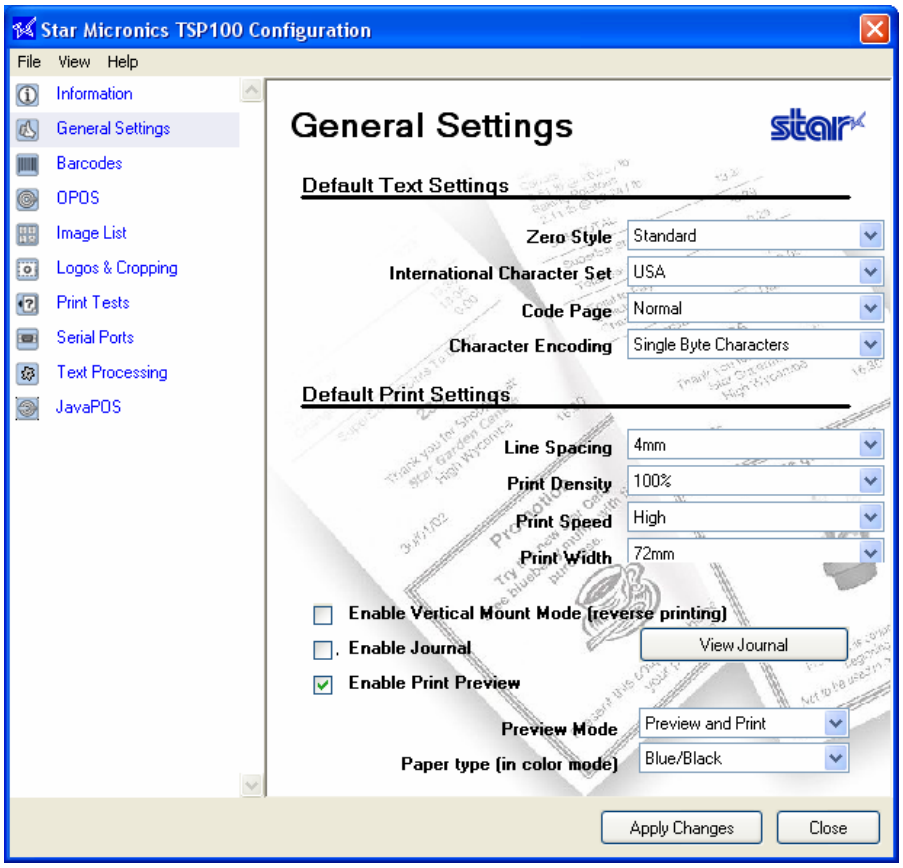


Choose the data that you want to see, then the print image will come out.
Click “Print” when you want to print the data.

Note: The print data is saved in the following folder.

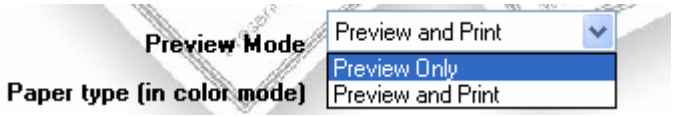
Language of OS: English/French/Japanese/Simplified Chinese/Traditional Chinese
C:\Documents and Settings\[user account]\Application Data\Star\TSP100\Journal
Language of OS: Spanish
C:\Documents and Settings\[user account]\Datos de programa\Star\TSP100\Journal
Language of OS: German
C:\Dokumente und Einstellungen\[user account]\Anwendungsdaten\Star\TSP100\Journal
(where C is your system drive)

4.3.5. Print Preview



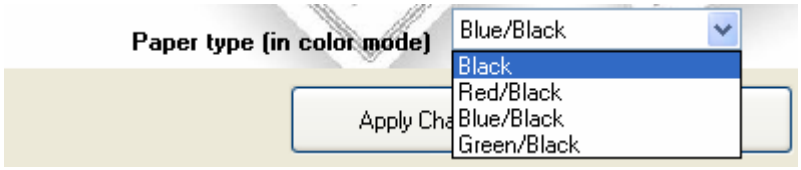
Check the “Enable Print Preview” checkbox when it would be beneficial to see the results of a print job directly on screen before sending it to the printer. The various options for this setting are explained below.

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.

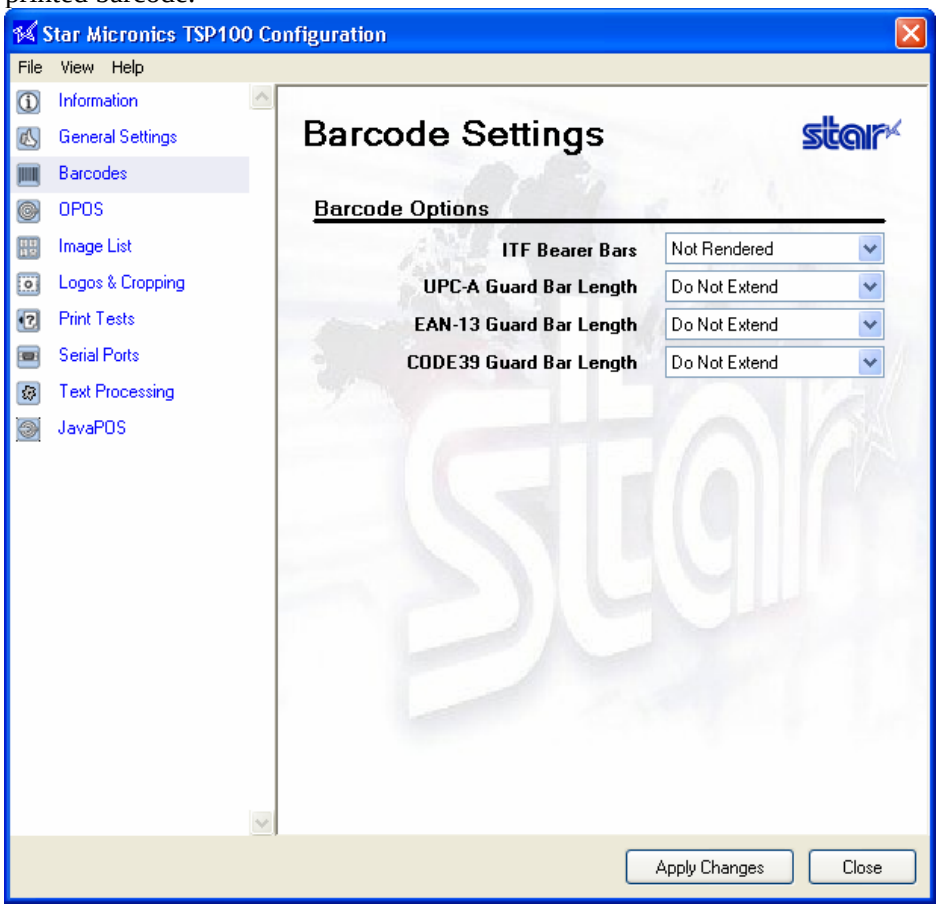
Paper type (in color mode)



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.

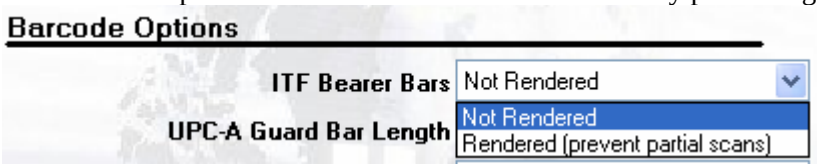
4.4. Barcodes

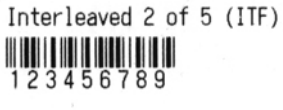
Printing of barcodes can be accomplished using any of three methods. The preferred method is to print barcodes using control codes by programming directly to the printer. The second method is to print barcodes using the embedded printer font for the barcode. The final method is to print barcodes using 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.



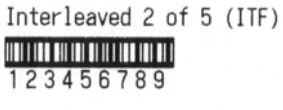
4.4.1. ITF Bearer Bars

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





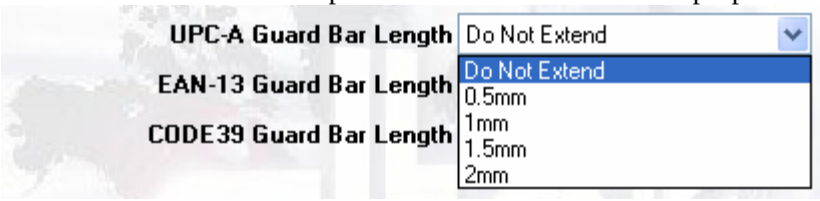
ITF Barcode without Bearer Bars



ITF Barcode with Bearer Bars

4.4.2. UPC-A Guard Bar Length

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

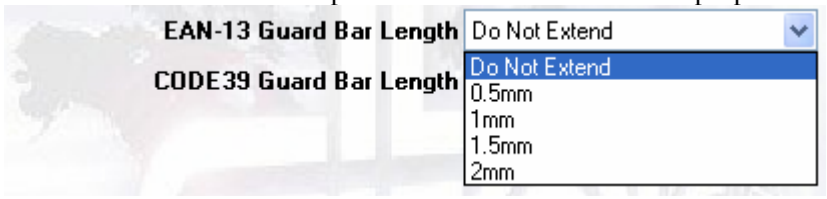


UPC-A Barcode without Guard Bars Extended

UPC-A Barcode wit Guard Bars Extended 2 mm

4.4.3. JAN/EAN-13 Guard Bar Length

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

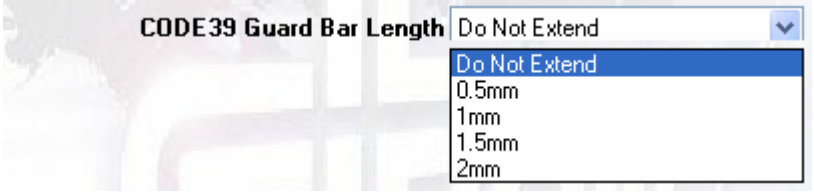


JAN/EAN-13 Barcode without Guard Bars Extended

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

4.4.4. CODE39 Guard Bar Length

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

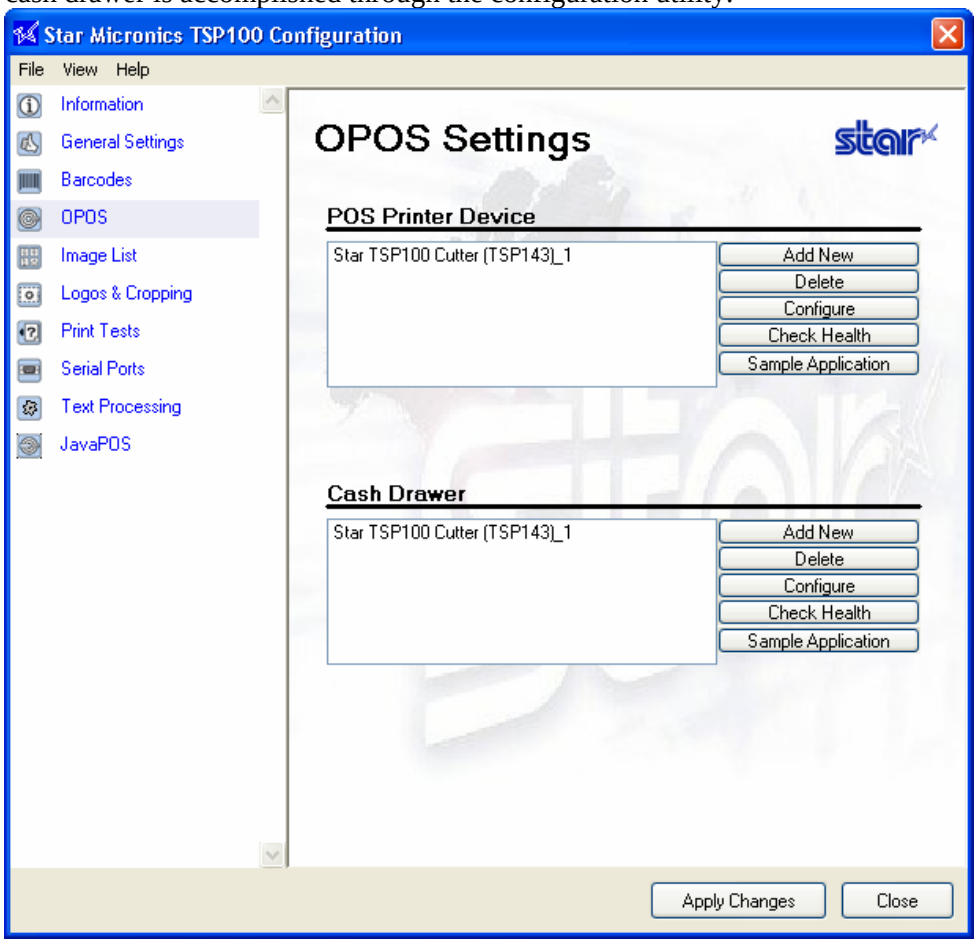


CODE39 Barcode without Guard Bars Extended

CODE39 Barcode with Guard Bars Extended 2 mm

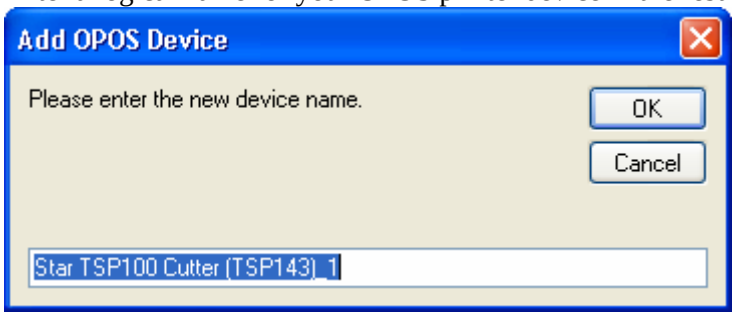
4.5. OPOS Installation

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.



4.5.1. Add a New Printer Device

Click “Add New” next to the POS Printer Device textbox
Enter a logical name for your OPOS printer device in the resulting dialogue



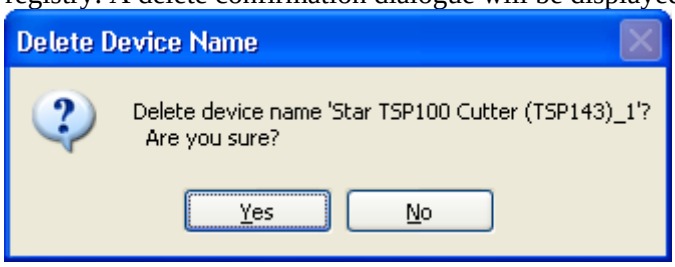
Click OK to add the new printer device

4.5.2. Add a New Cash Drawer Device

Click “Add New” next to the Cash Drawer Device textbox
Enter a logical name for your OPOS cash drawer in the resulting dialogue
Click OK to add the new cash drawer.

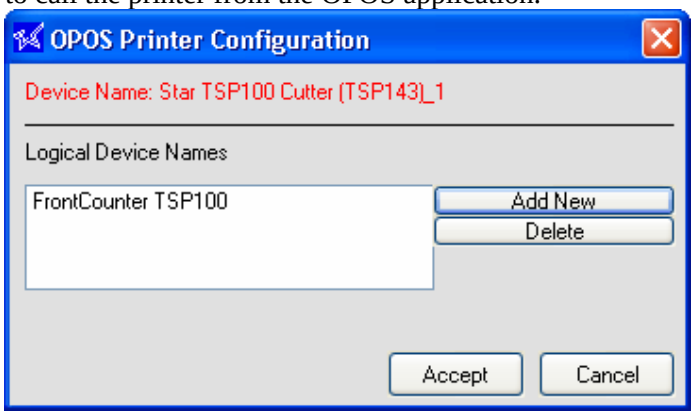
4.5.3. Delete

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 dialogue will be displayed before the device is actually deleted.



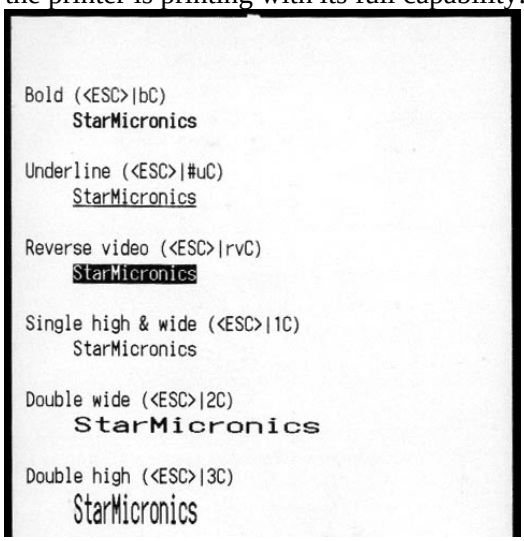
4.5.4. Configure

The “Configure” button allows for the creation of a logical name or alias for each device. In the sample the printer’s logical device name is “FrontCounter TSP100” and this name would be used to call the printer from the OPOS application.



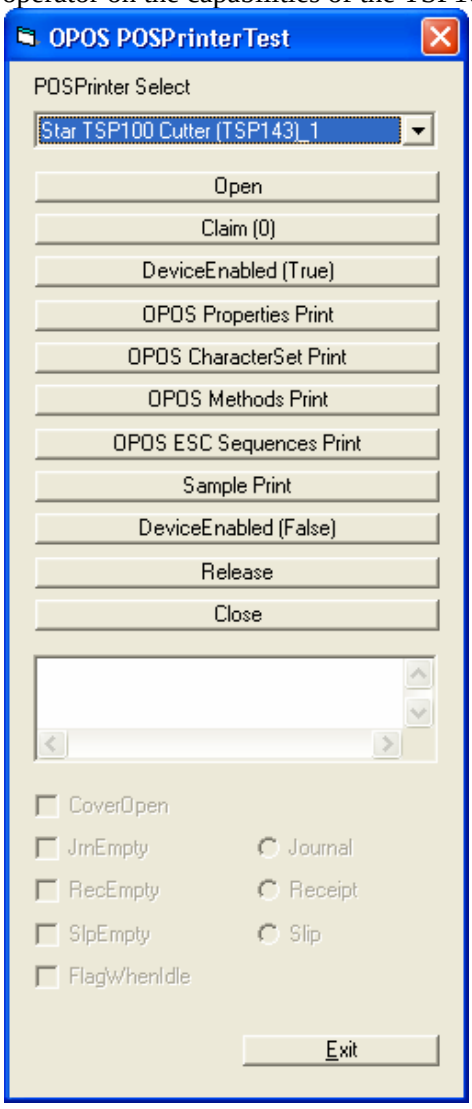
4.5.5. Check Health

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.



4.5.6. 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 Printer – Prints tables of each of the available OPOS character sets.

OPOS Methods Printer – 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.

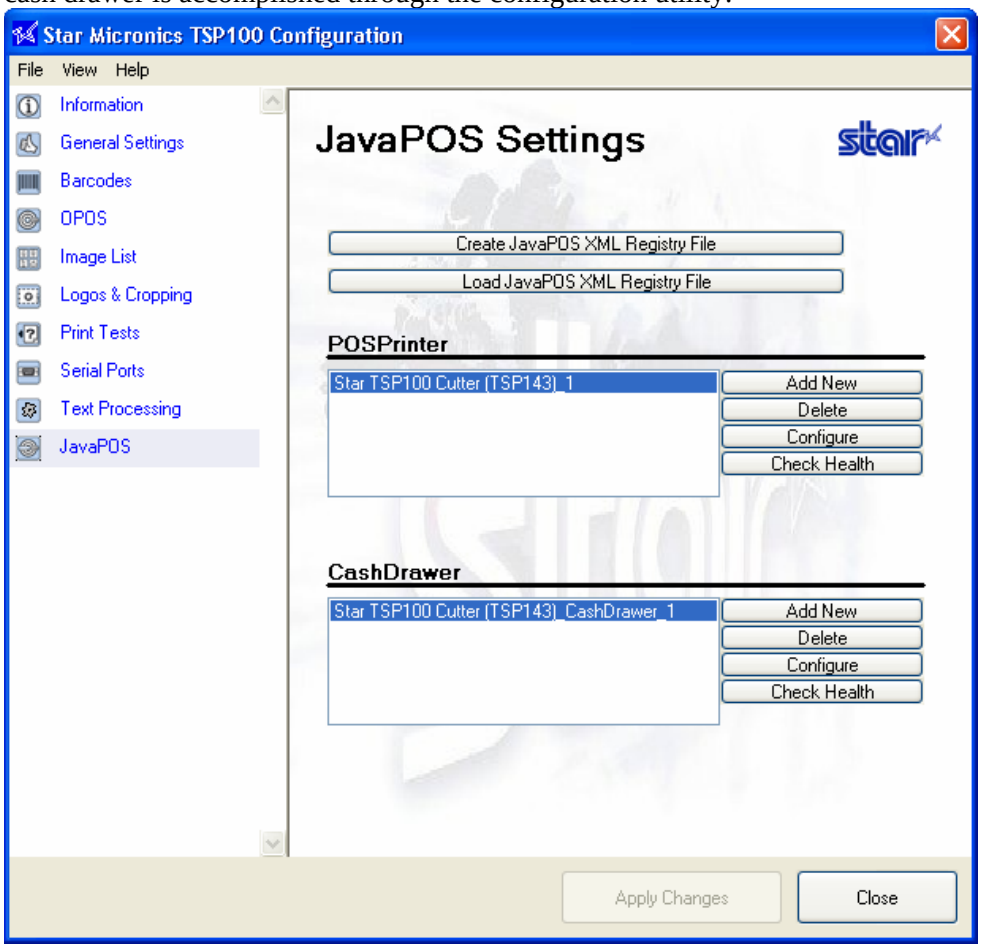
To exit the sample application, follow the steps below:

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.

4.6. JavaPOS™ Installation

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.



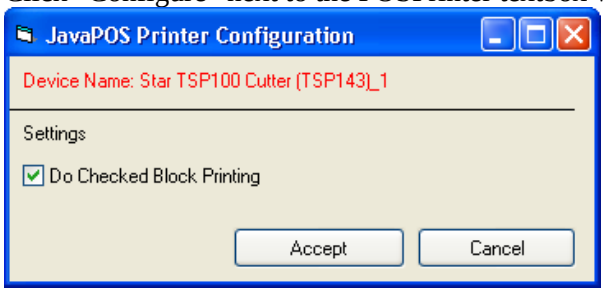
4.6.1. Add a New Printer Device

Click “Add New” next to the POSPrinter textbox
Enter a logical name for your JavaPOS™ printer device in the resulting dialogue

Click OK to add the new printer device

4.6.2. Configure a Printer Device

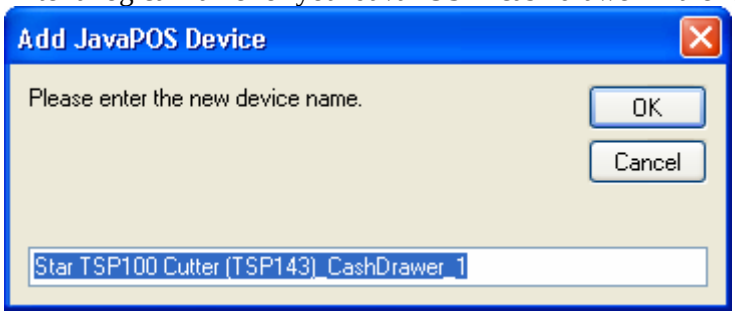
Click “Configure” next to the POSPrinter textbox with the desired device highlighted



Checked Block Printing will allow you to verify the success of any job printed to the device.

4.6.3. Add a New Cash Drawer Device

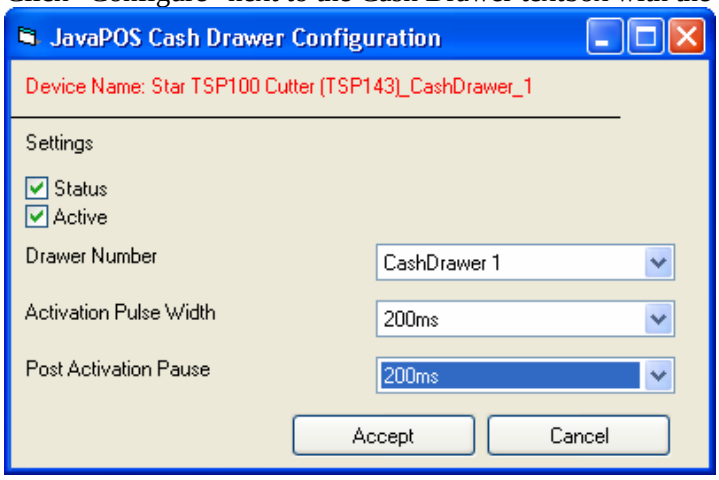
Click “Add New” next to the Cash Drawer textbox
Enter a logical name for your JavaPOS™ cash drawer in the resulting dialogue



Click OK to add the new cash drawer

4.6.4. Configure a Cash Drawer Device

Click “Configure” next to the Cash Drawer textbox with the desired device highlighted



Status

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

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.

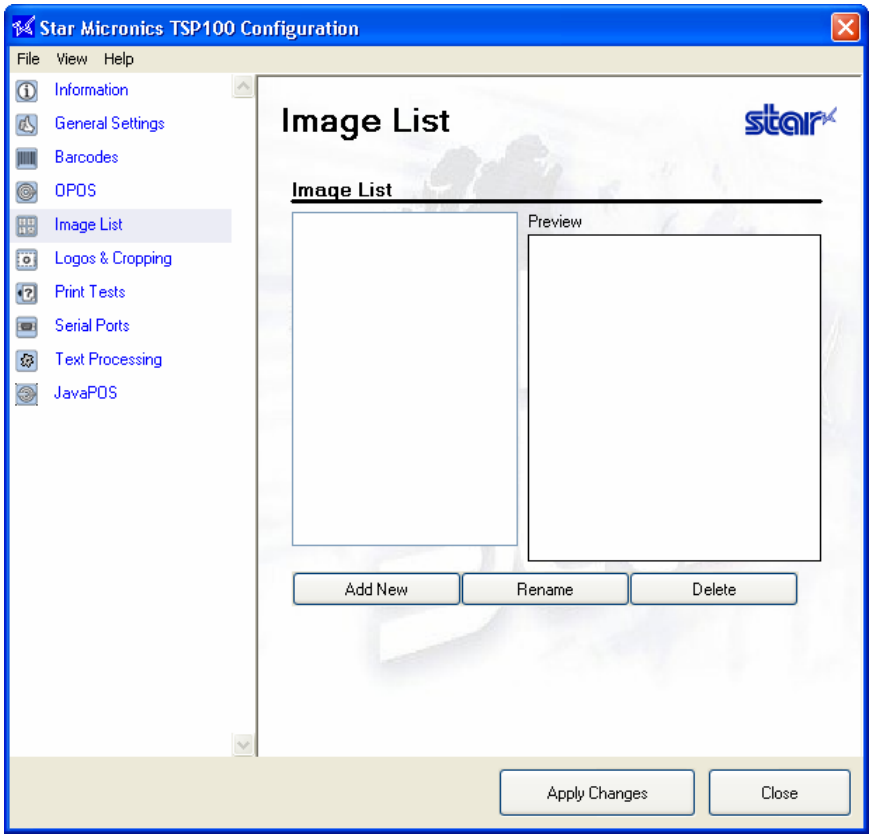
Post Activation Pause

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

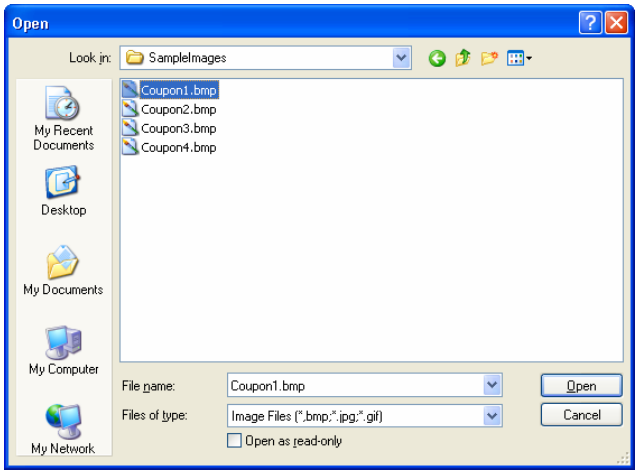
4.7. Image List

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.

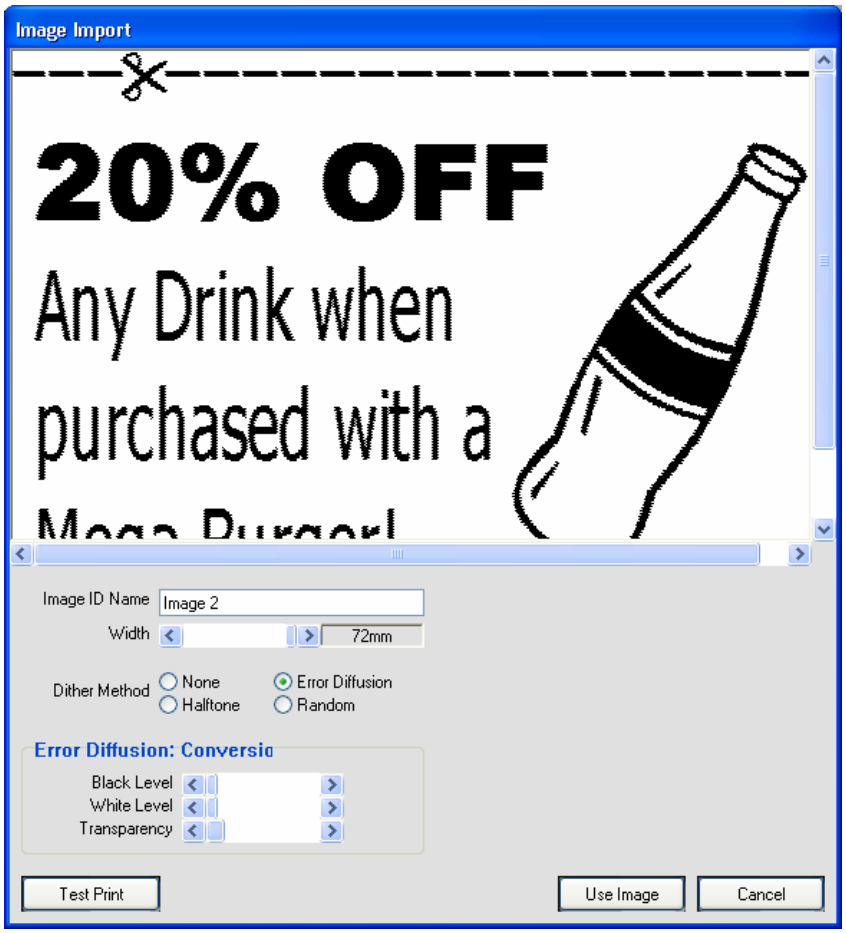
4.7.1. Adding an Image



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



Select the desired image and click “Open” to open the image in the image importer.



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

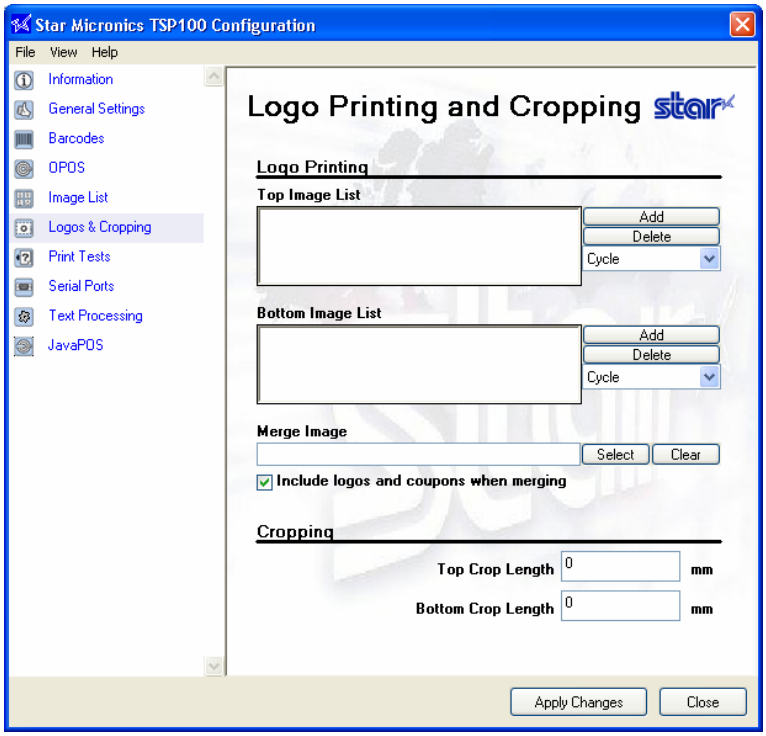
Note: Each dither method offers different adjustment options. For best results it is recommended to experiment with the settings to find which setting works best for any particular image.

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.

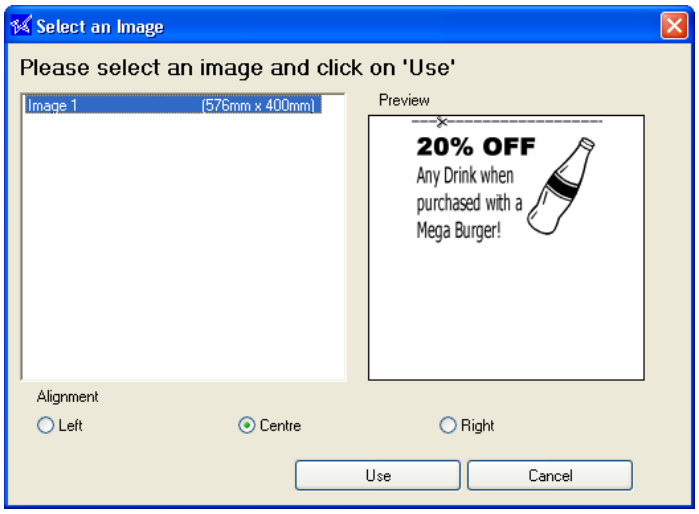
4.8. Logos & Cropping

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.

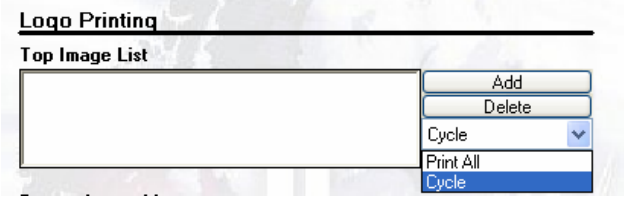
4.8.1. Logo Tool



Click “Add” next to the “Top Image List” textbox to add top images from the image list.



Choose an image from your currently available image list, select the preferred alignment and then click “Use”. Repeat the process, clicking “Select” next to the “Merge Image” textbox to select a merge image.



Select “Cycle” to change to the next image on every receipt printed. Select “Print All” to print all the images in the respective list with every receipt.

When finished selecting a top, bottom and/or merge image, simply click “Apply Changes” on the Logos & Cropping page of the configuration utility to save the preferences.

Top Image List

Indicates images that will be printed at the top of every receipt.

Bottom Image

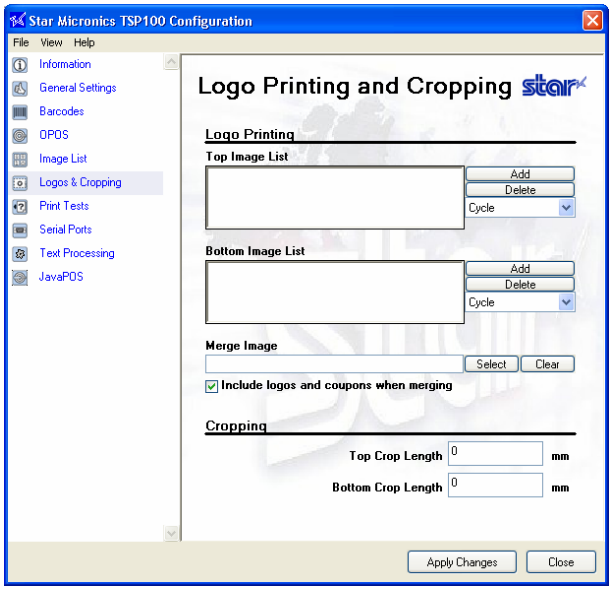
Indicates images that will be printed at the bottom of every receipt.

Merge Image

Indicates an image that will appear in the background of every receipt.

4.8.2. Crop Tool

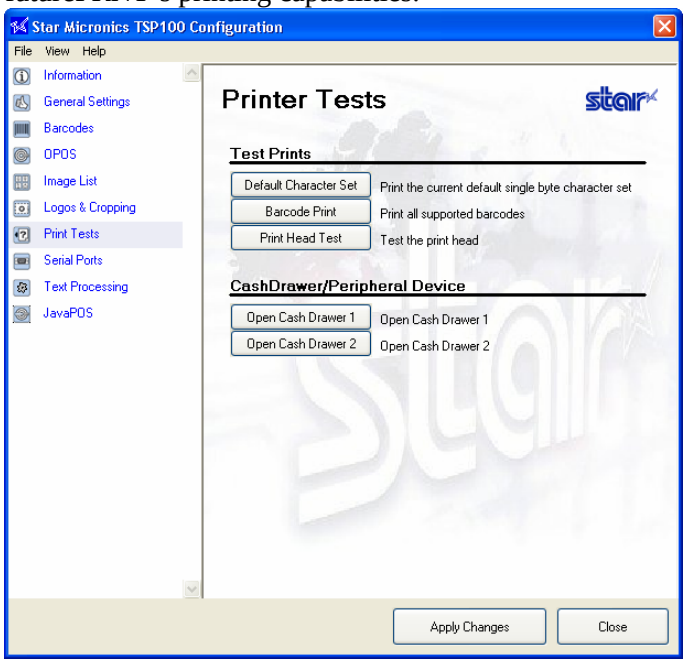
The crop tool uses smart margin management to eliminate wasted paper by better managing how the printer feeds paper between printing and cutting.



Enter in the approximate amount of blank space at the top of the receipt in mm. The Cropping tool will then eliminate that amount of space from the top of each receipt reducing the amount of paper used for each receipt and increasing the number of receipts that can be printed from each roll of paper.

4.9. Printer Tests

The printer tests are a few sample receipt printouts that will test/demonstrate the TSP100 futurePRNT's printing capabilities.



4.9.1. Default Character Set

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

4.9.2. Barcode Print

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

4.9.3. 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.

4.9.4. Open Cash Drawer 1

Tests the cash drawer 1.

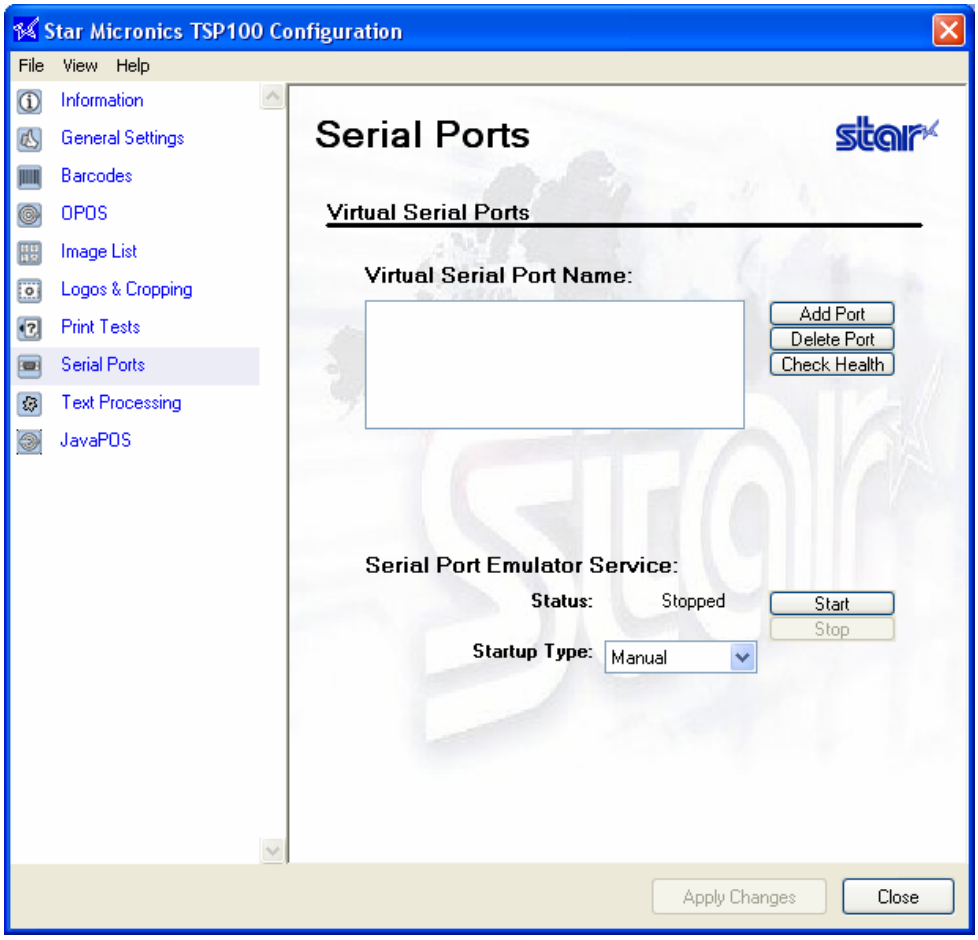
4.9.5. Open Cash Drawer 2

Tests the cash drawer 2.

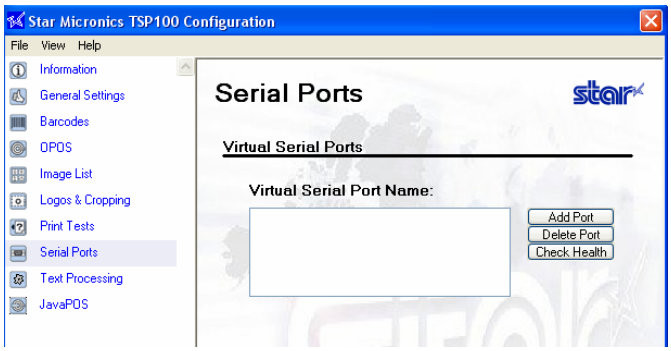
4.10. Serial Port Emulator

The Star Port Emulator enables the TSP100 futurePRNT to be compatible with legacy software solutions without support for USB printers. This functionality is made possible by the Star Port Emulator which allows the USB port to act as a standard serial (COM) port.

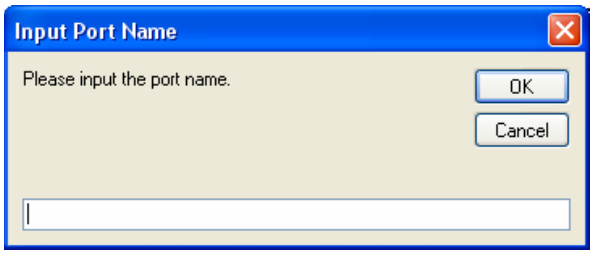
Note: Printing via the printer driver will be paused when you use the serial port created by the service.



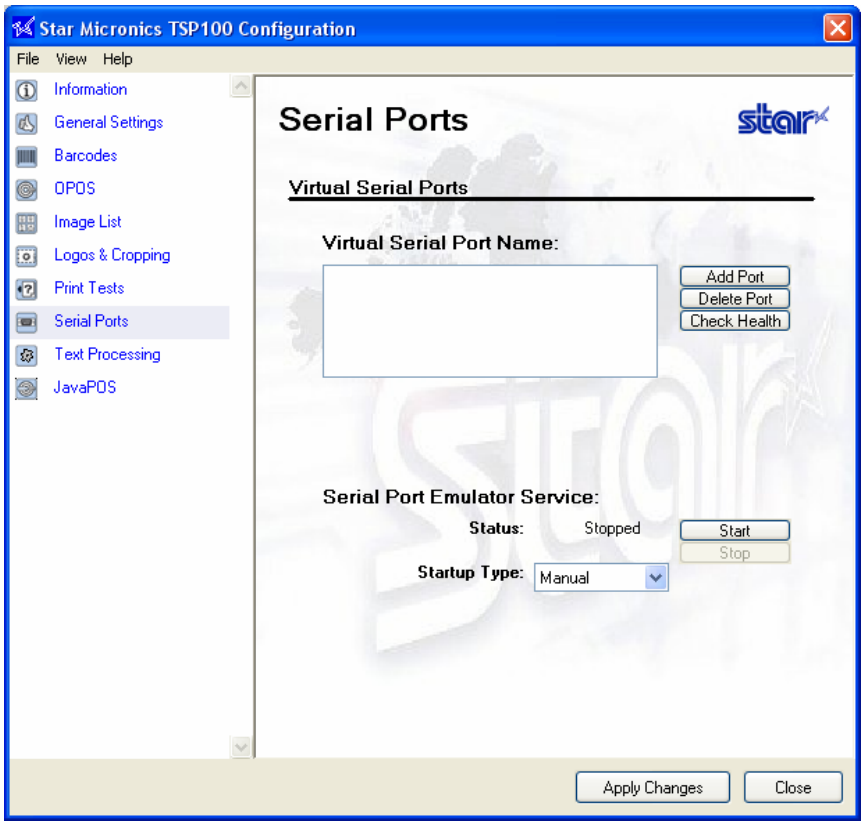
4.10.1. Creating a Virtual Serial Port



Click “Add port” to open the port name insertion dialogue.

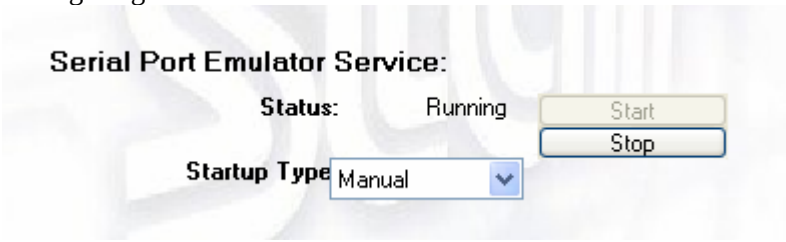


Insert a name for the port. The name you choose should be comparable with the expected port names of your POS application. (i.e. COM3)



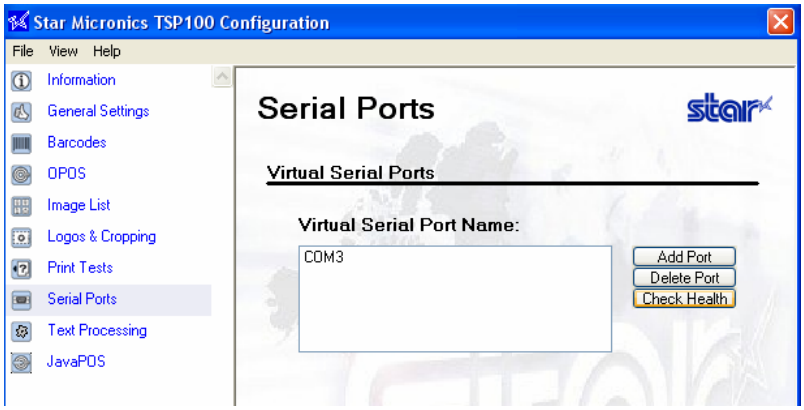
Click “Apply Changes” to complete the process.

Configuring the Port Emulator Service



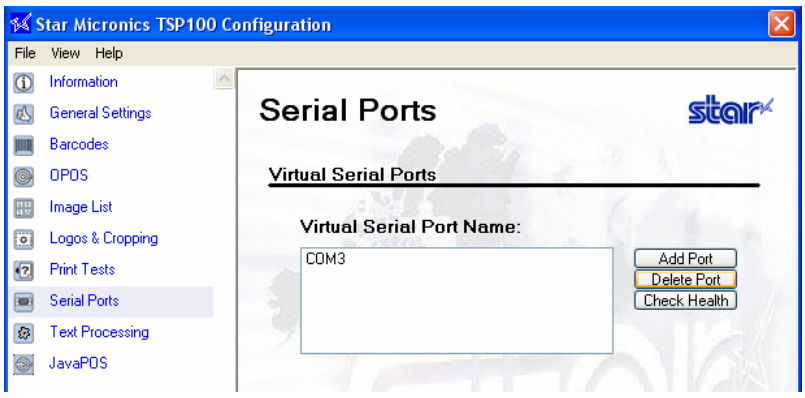
By default, the port emulator service is disabled. To use the port emulator, the service must be set to either manual or automatic operation. Automatic is the most common usage as it will start each time the system is booted. Manual operation requires that the service be started manually before it can 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.

4.10.2. Check Health



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

4.10.3. Removing the Virtual Serial Port



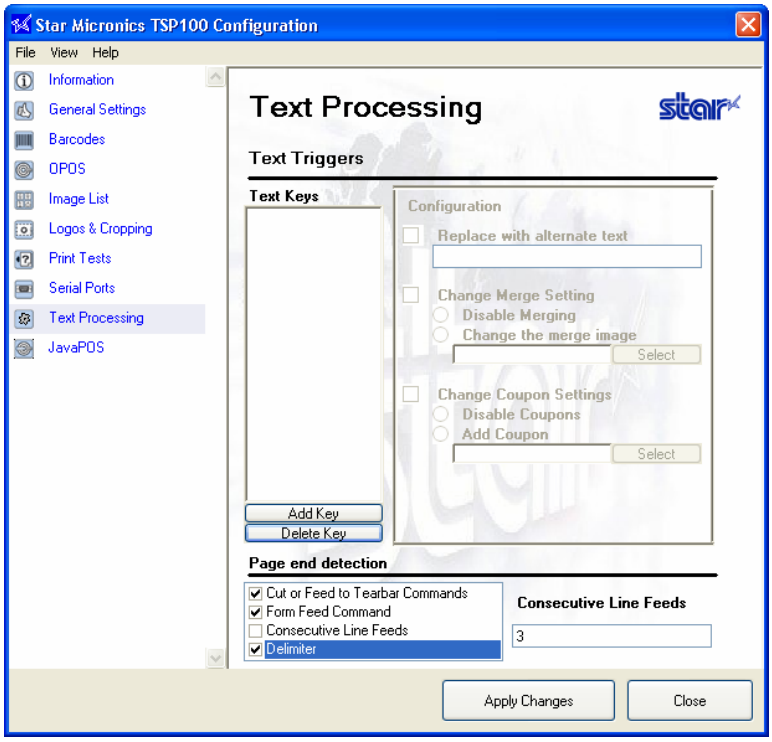
Click “Delete Port” with the specific port selected to remove it from your system, then click “Apply Changes” to complete the process.

4.11. Text Processing

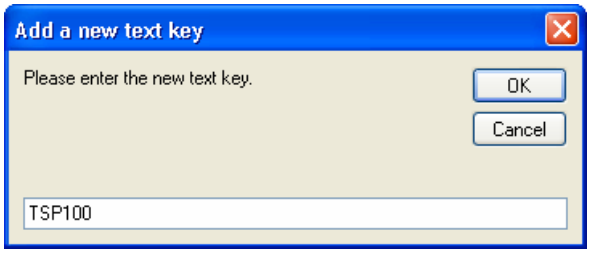
The Text Processing configuration panel allows for setting options that enable the TSP100 to detect certain “Text Keys” and modify each receipt based on them. This panel also allows for configuring how the TSP100 futurePRNT will detect the end of page so that receipts can be properly buffered and modified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

4.11.1. Text Triggers

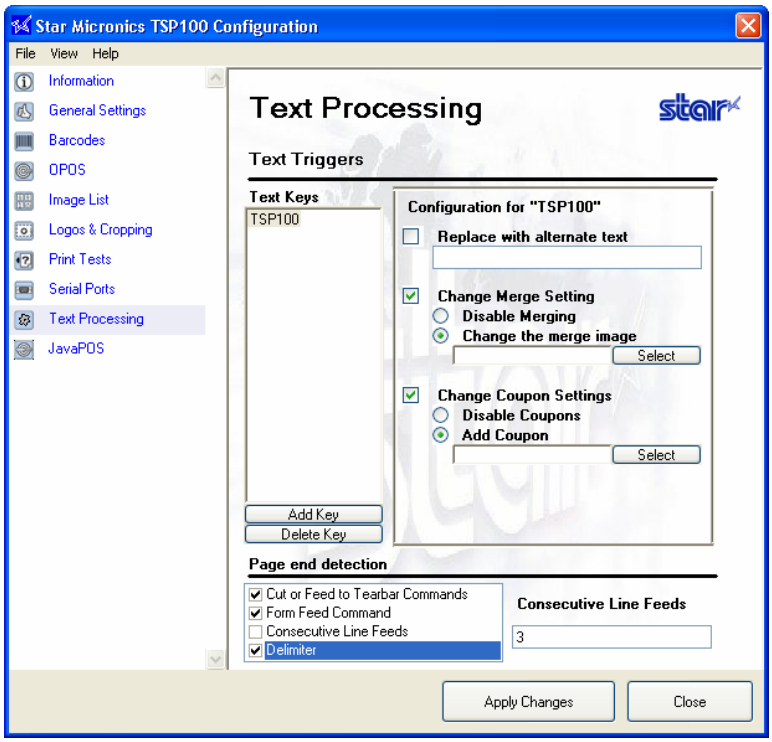
In order to modify receipts based on their contents, Text Keys that will serve as triggers must be inputted.



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



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



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.

4.11.2. End Page Detect

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

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.

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.

Delimiter

Enable <1Bh><1Fh>p commands to function as page end flags.

5. Windows 98/Me Driver Installation

5.1. USB Printing Support Installation

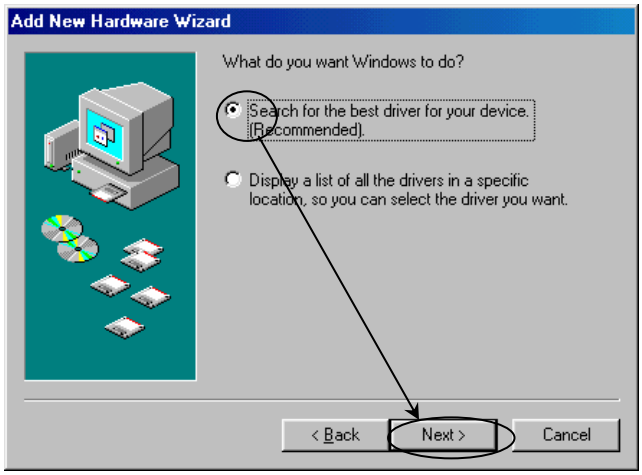
After loading a roll of paper, connect the printer to the host PC following the instructions included on the installation mat. Turning the printer on will then load the Windows “Add New Hardware Wizard.

Below, the installation method of the USB Printing Support is explained.

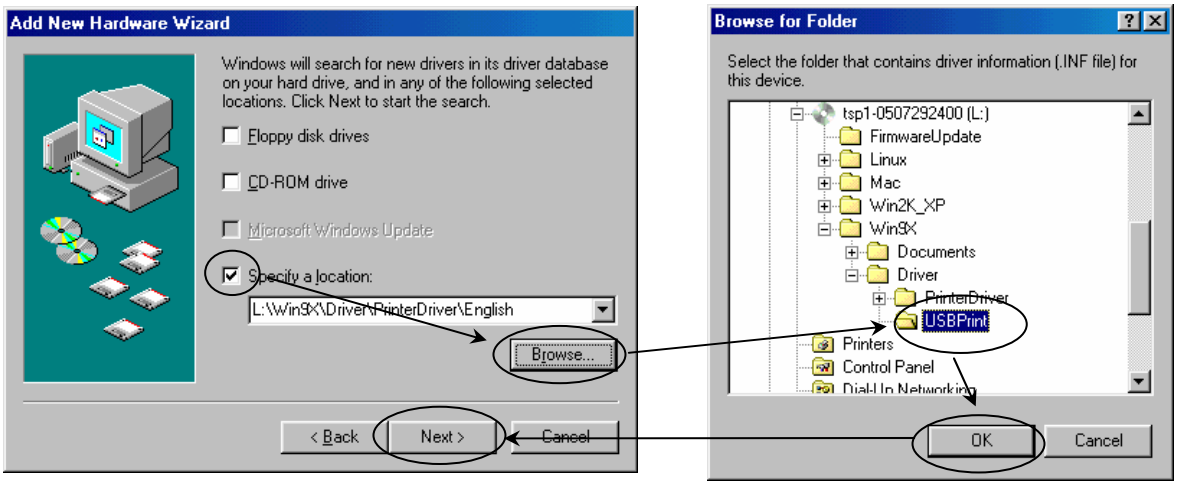
STEP 1: connection of USB cable
1. Turn the Printer off.
2. Make sure that the PC is running (Windows 98/Me).
3. Please set “TSP100 Software CD”
4. Connect PC and Printer with USB cable.

STEP 2: Turn on the printer
Turn the printer on. Installation wizard for USB driver automatically runs.
Make sure that the driver of USB Printer is retrievable, and click ’Next’ button.

STEP 3: Click ’Next’ button



STEP 4: Appoints the folder where USB Printer Class Driver exists.
Specify a location where USB Printing Support is located.
Click ‘Browse’ button and choose folder.
Folder: "[CD Drive]:\Win9X\Driver\USBPrint"



STEP 5:
Make sure that "USB Printing Support" is displayed, and click ’Next’ button.

STEP 6: Installation of USB Printing Support is completed
Click 'Finish' button.

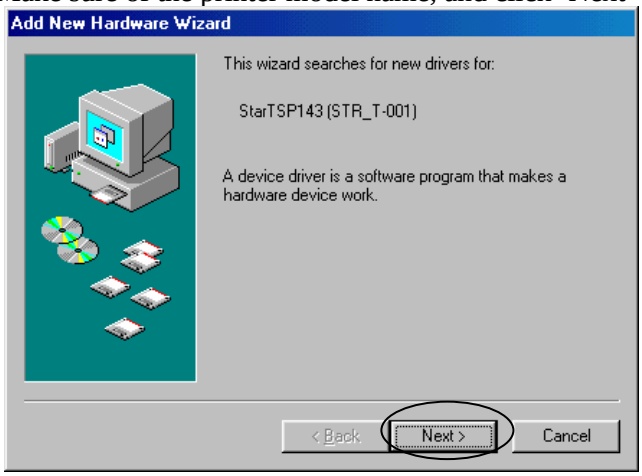
Installation of USB Printing Support is finished.

After Installation of USB Printing Support, Installation of TSP100 future PRNT Printer Driver begins automatically.

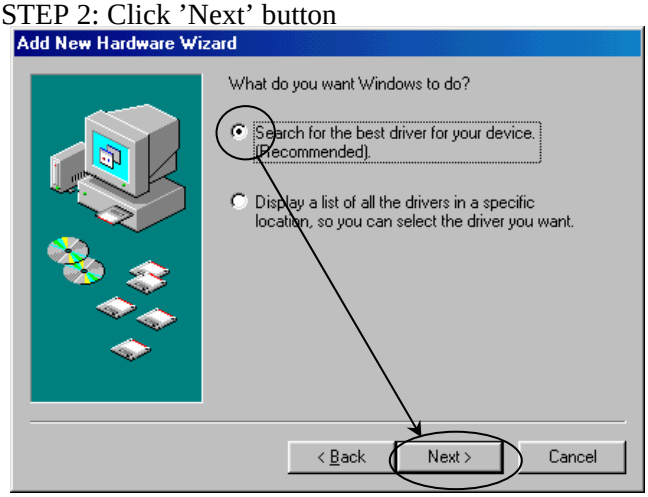
5.2. TSP100 futurePRNT Printer Driver Installation

After installing USB printing support, the Add new Hardware Wizard should open again. However, it should now be searching for drivers for the TSP100 futurePRNT. If this wizard does not appear, make sure that the printer is connected and powered on and then restart the computer.

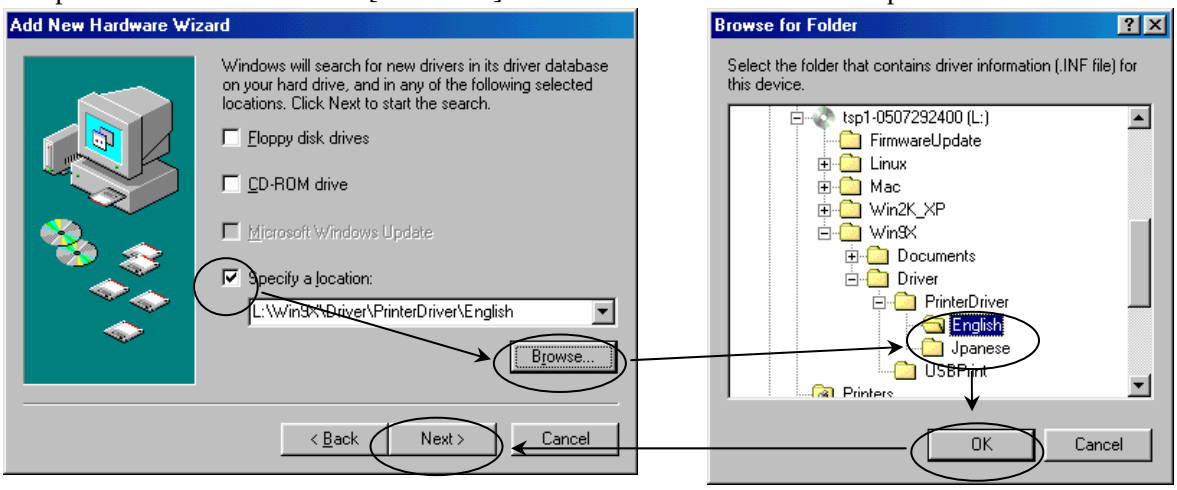
STEP 1: Start of automatic installation by Plug and Play.
Make sure of the printer model name, and click 'Next' button.



STEP 2: Click 'Next' button

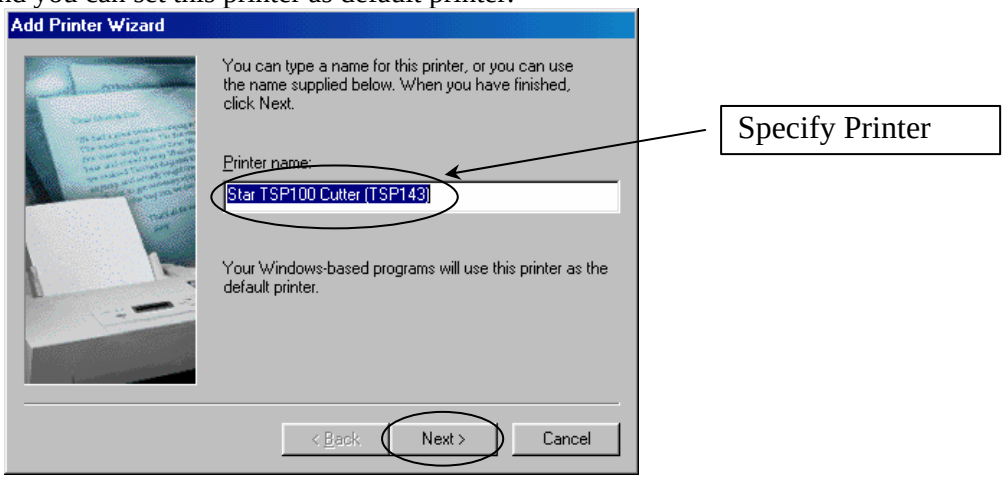


STEP 3: Specify the location (folder name) where the printer driver exists.
Specify the installation folder of the TSP100 futurePRNT Printer Driver.
Click ‘Browse’ button and choose folder.
English version folder: "[CD Drive]:\Win9X\Driver\PrinterDriver\English"
Japanese version folder: "[CD Drive]:\Win9X\Driver\PrinterDriver\Japanese"

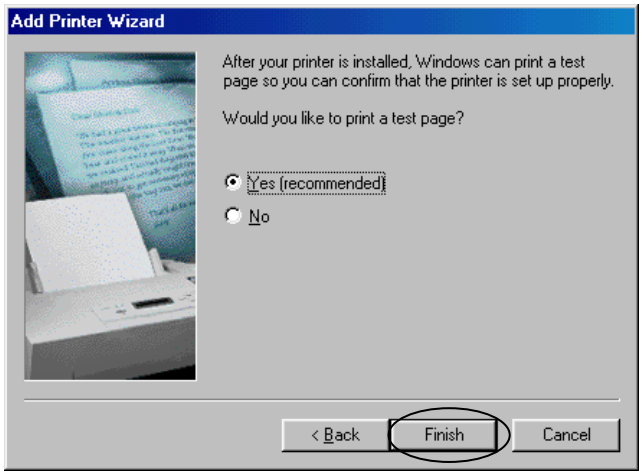


STEP 4:
Make sure of the printer driver model name, and click ’Next’ button.

STEP 5: Specify the Printer icon
Change the name of the printer icon according to Windows wizard if it is desired, and Click 'Next' button.
And you can set this printer as default printer.

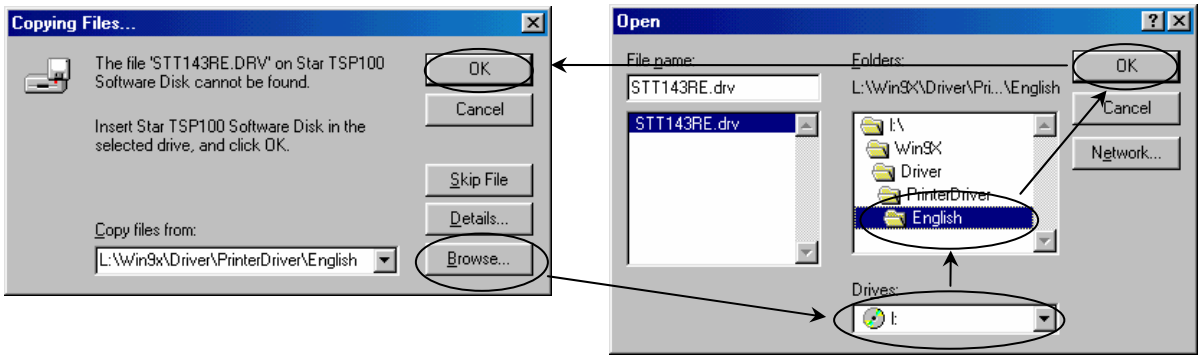


STEP 6: Specify Test Print
Respond: Yes if you want to print a test page.
Respond: No otherwise.
Click 'Finish' button.

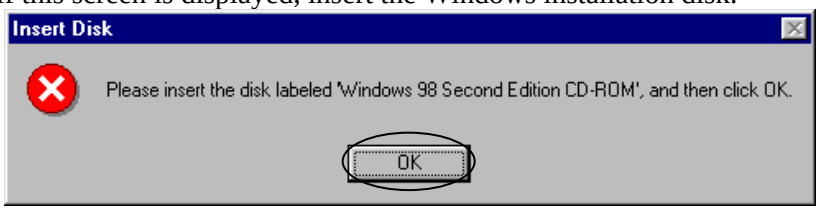


STEP 7: Installation of the USB Port Monitor and TSP100 futurePRNT Printer Driver (If the message is displayed)
Click 'OK' button without inserting the disk.

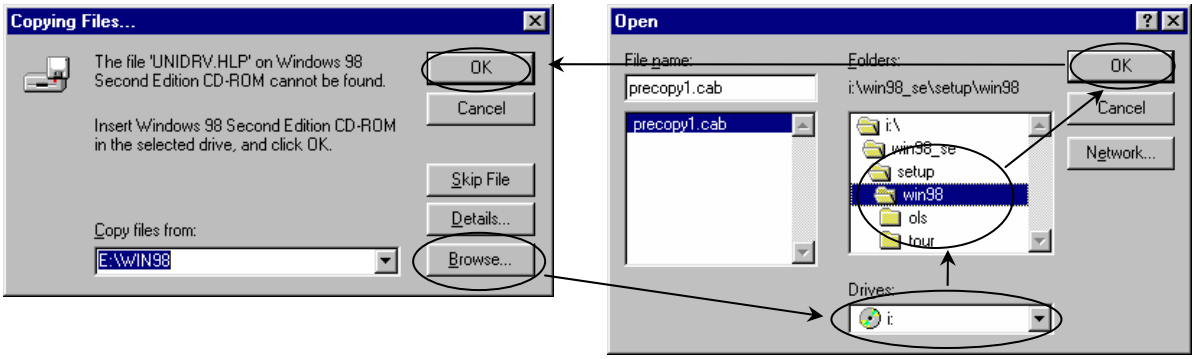
Specify the folder of the printer driver specified in "STEP3".



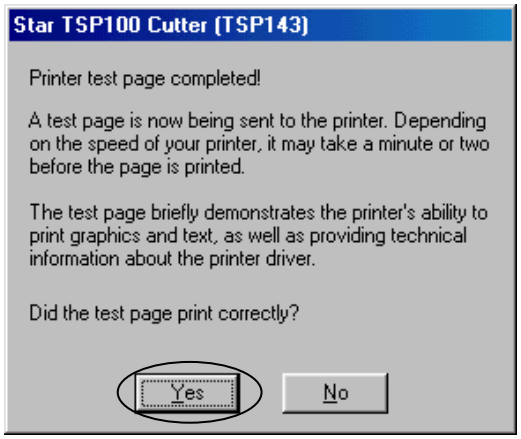
STEP 8: Request windows OS CD
If this screen is displayed, insert the Windows installation disk.

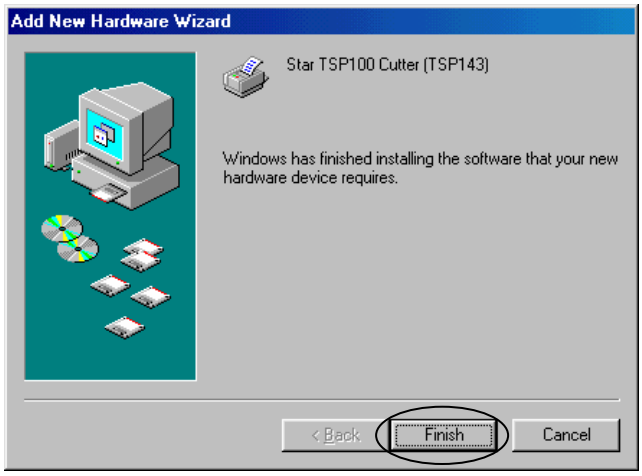


<NOTE> Usually, it moves to the screen of "STEP 9".
If the following screen is displayed, check the drive name which inserted windows98 CD.



STEP 9: Finish of installation
Finish the installation of the printer driver according to the Windows wizard.
If you do print test, the following window appears.





Click “Finish” to complete the Add New Hardware wizard.

6. Windows 98/Me Printer Driver Usage

6.1. Printer Driver Configuration

This driver provides various functions.
You can set up all of these by using the property sheet of the driver.

Please follow below to enter the configuration window of Raster mode printer driver:

1. Go to the Start menu, and hit the Printers and Faxes option.
2. The Printers and Faxes folder contains icons for all printers installed. Choose the icon for TSP100 printer, then right click it to find the 'Properties' option.
3. When the printer properties window opens, go to the 'Device Settings' tab.

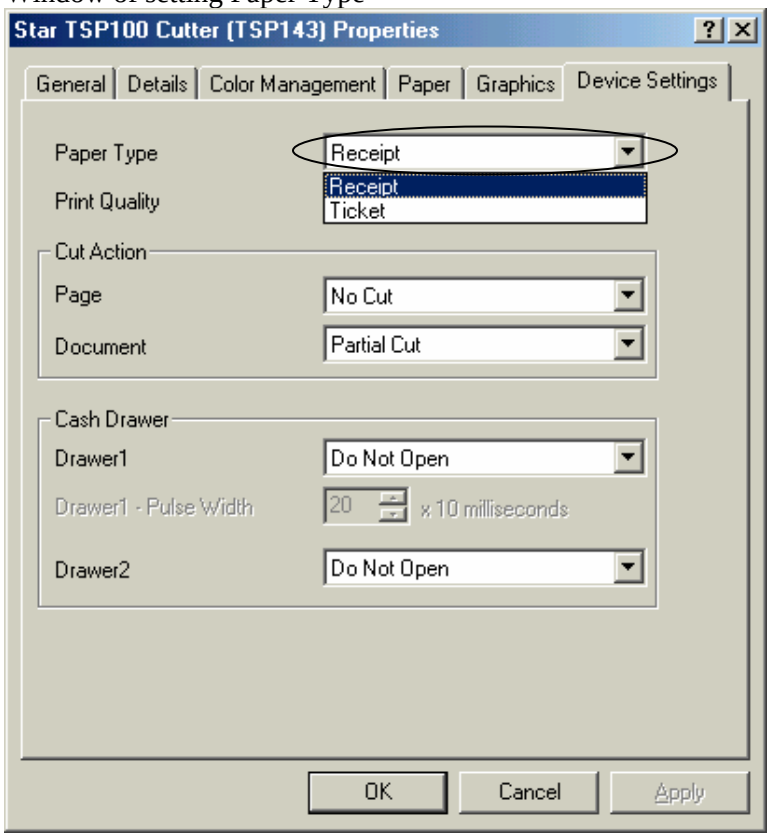
The following is a description of Raster mode feature.

6.1.1. Paper Type

You can choose the length of each printed page.
Setting values are as follows;

Paper Type	Default	Details
Receipt	*	Each page can be printed with various lengths until the last line.
Ticket		Each page can be printed with the same length.

Window of setting Paper Type

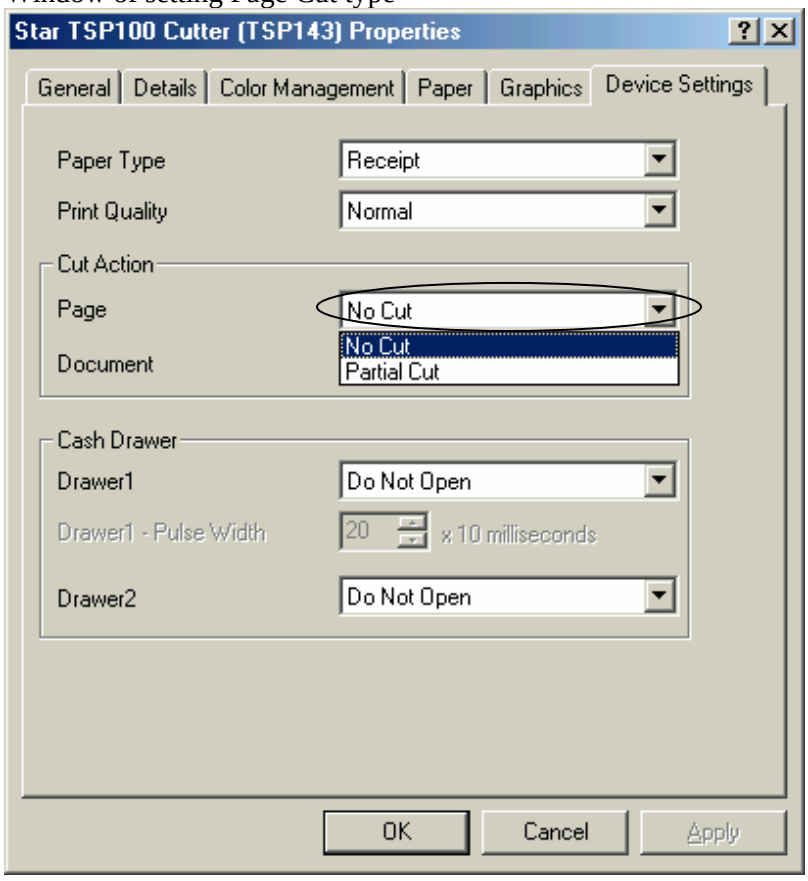


6.1.2. Cut Action -Page- (TSP143 only)

You can choose the cut type that is performed at the end of all pages except the last page.
Setting values are as follows;

Cut Type	Default	Details
No Cut	*	All pages except the last page are not fed to the cutter and are not cut.
Partial Cut		All pages except the last page are fed to the cutter and partially cut.

Window of setting Page Cut type



6.1.3. Cut Action -Document-

You can choose the Cut action for the last page.
Setting values are as follows;

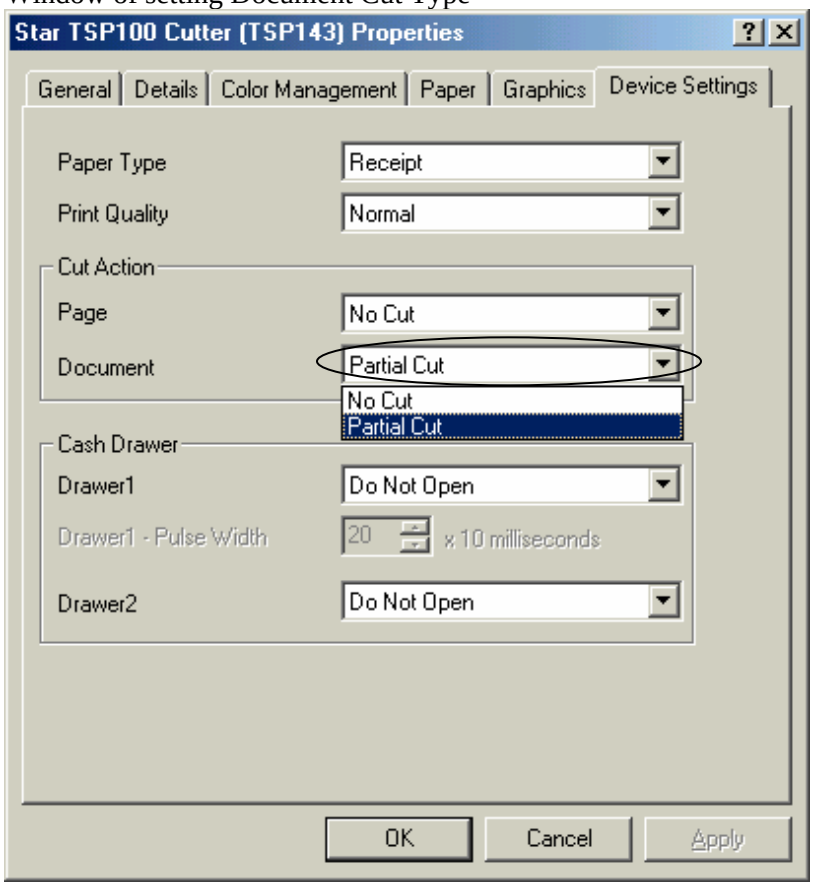
< TSP143 >

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

< TSP113>

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

Window of setting Document Cut Type

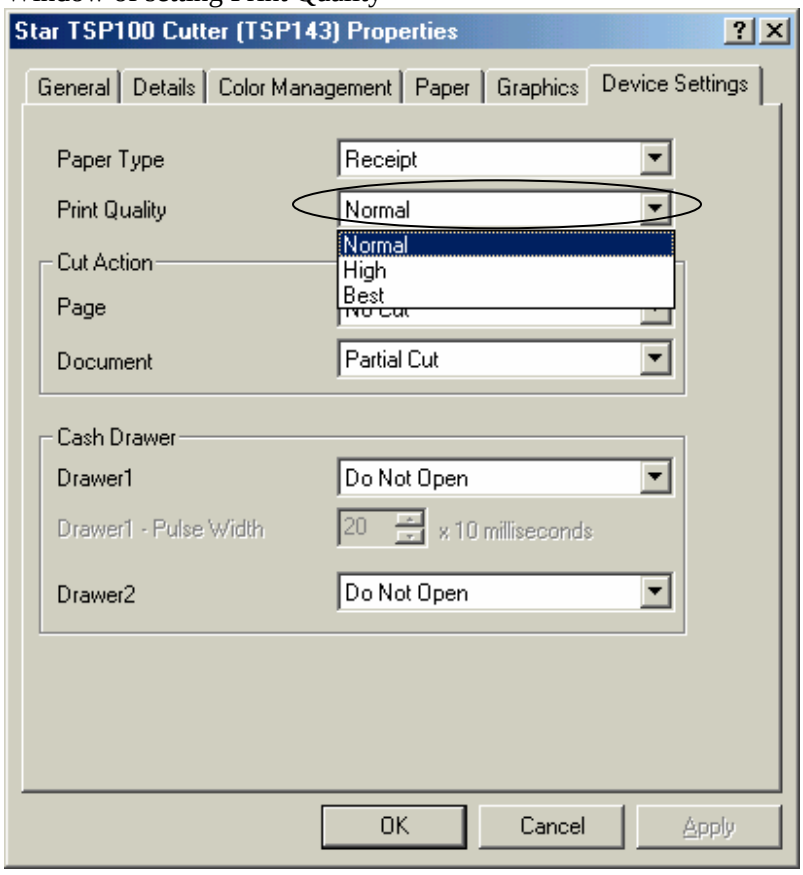


6.1.4. Print Quality

You can select the print speed and the print quality.
Setting values are as follows;

Print Quality	Default	Details
Normal	*	Fast Printing.
High		Trade off between print speed and print quality.
Best		Slowest printing for best quality.

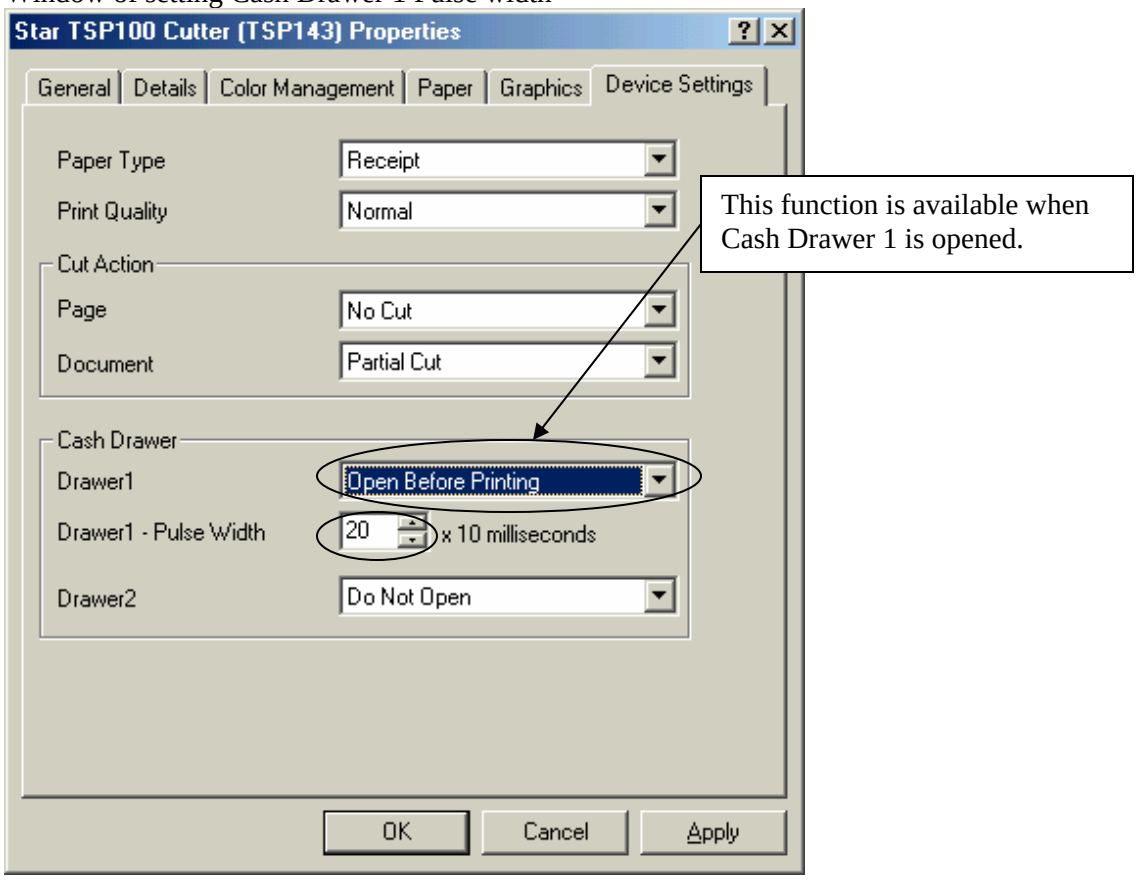
Window of setting Print Quality



6.1.5. Cash Drawer 1 Pulse width

You can choose the length of the open drawer signal that is sent from the printer to the cash drawer 1.
This function is available when Cash Drawer 1 is opened.
Cash Drawer 1 Pulse width is input value * 10 million seconds.
Setting value is from 1 to 127.

Window of setting Cash Drawer 1 Pulse width

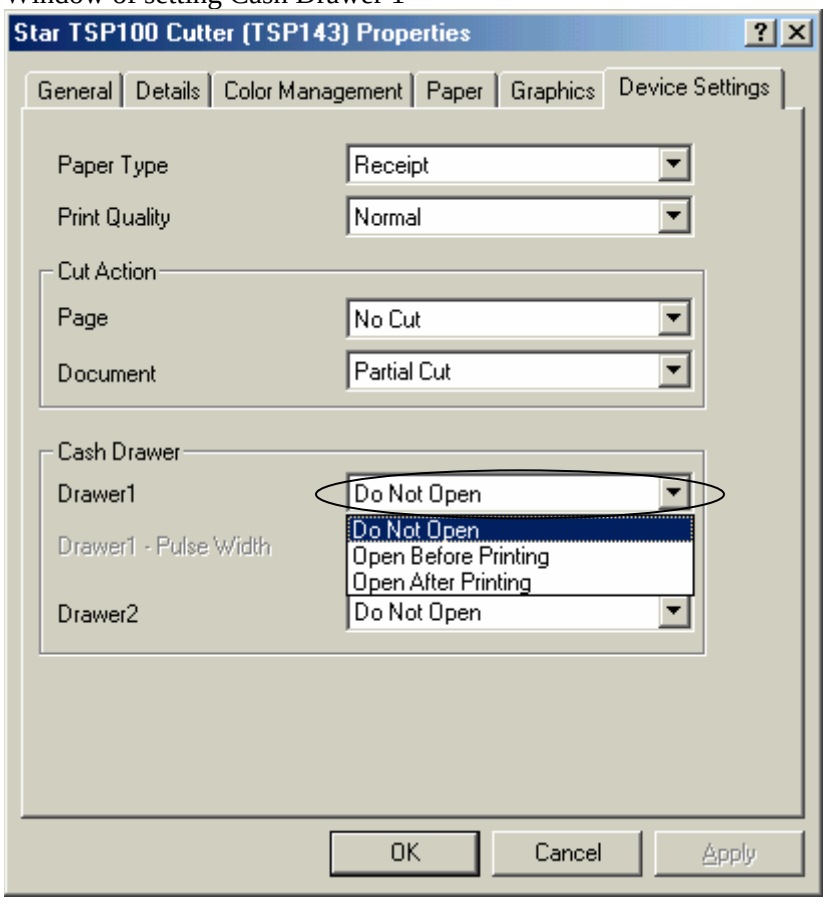


6.1.6. Cash Drawer 1

You can choose either open or not open Cash Drawer 1.
Setting values are as follows;

Mode	Default	Details
Do Not Open	*	Not open Cash Drawer1.
Open Before Printing		Open Cash Drawer1 before printing.
Open After Printing		Open Cash Drawer1 after printing

Window of setting Cash Drawer 1

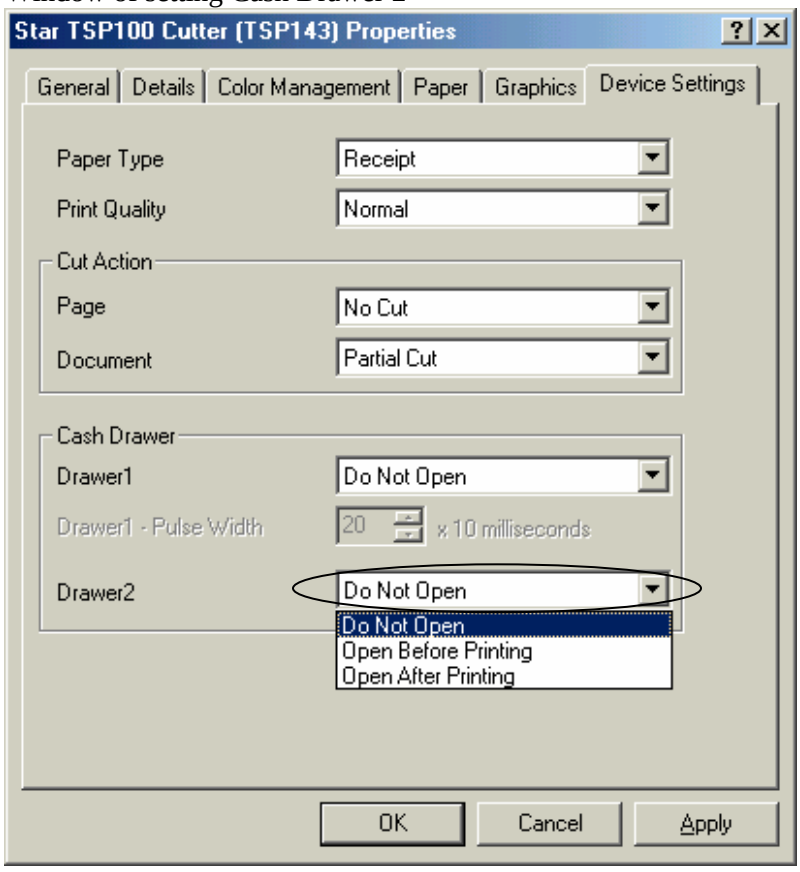


6.1.7. Cash Drawer 2

You can choose either open or not open Cash Drawer 2.
Setting values are as follows;

Mode	Default	Details
Do Not Open	*	Not open Cash Drawer2.
Open Before Printing		Open Cash Drawer2 before printing.
Open After Printing		Open Cash Drawer2 after printing

Window of setting Cash Drawer 2



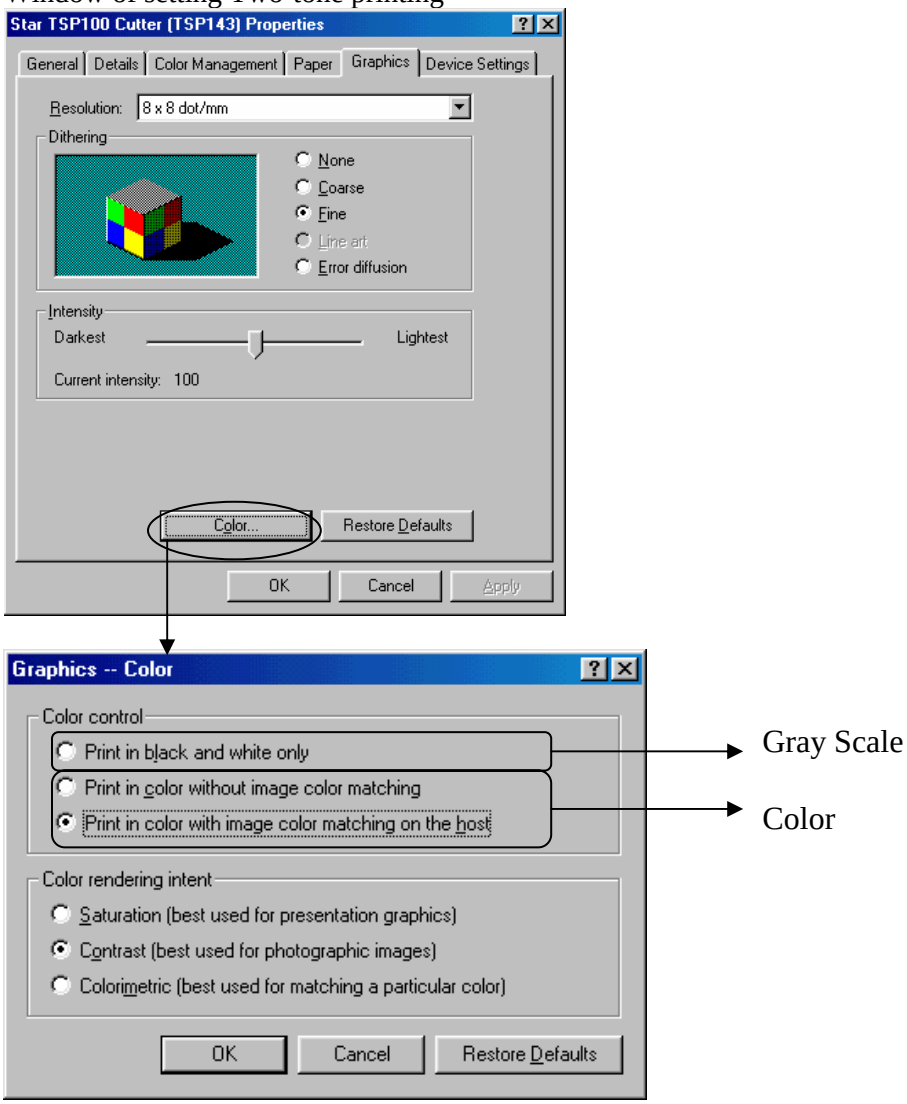
6.1.8. Two-tone printing

This raster mode compatible printer driver handles two-tone printing. Black print data is printed using black, and data of other colors is printed a single color*1.

*1 Single color depends on the color of the paper. If the paper type is red and black, the print will be red. If the paper type is blue and black, the print will be blue.

You can choose either color or gray scale printing. Please see below:
1. Go to the Start menu, and hit the Printers and Faxes option.
2. The Printers and Faxes folder contains icons for all printers installed. Choose the icon for TSP100 printer, then right click it to find the 'Properties' option.
3. When the printer properties window opens, go to the 'Graphics' tab.
4. Click the 'Color…' button and set choose the 'Color control' which you want to use.

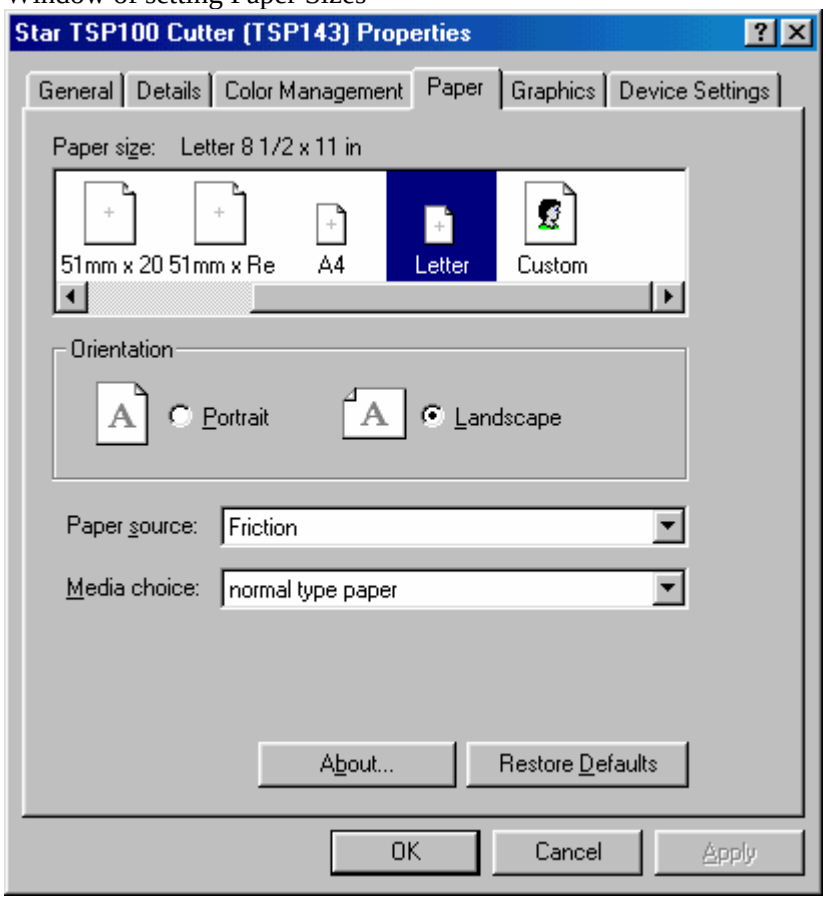
Window of setting Two-tone printing



6.2. Paper Sizes

Please follow below to set paper sizes:
1. Go to the Start menu, and hit the Printers and Faxes option.
2. The Printers and Faxes folder contains icons for all printers installed. Choose the icon of TSP100 printer, then right click it to find the 'Properties' option.
3. When the printer properties window opens, go to the 'Paper' tab.

Window of setting 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
72mm x 200mm	72mm	200mm
72mm x Receipt	72mm	3,000mm
51mm x 200mm	51mm	200mm
51mm x Receipt	51mm	3,000mm
A4	210mm(Printable area is 72mm)	297mm
Letter	8.5inch(Printable area is 72mm)	11inch

The paper width is set as printable area.
For example, if you use 80mm width roll paper, set paper size to 72mm.

For journal printing (without form feed), set Paper size to ‘72mm x Receipt’ or ‘51mm x Receipt’, and set Paper Type to Receipt.

The following table is the list of the maximum paper size which user defines.

Width	Length
72mm	3,276mm

6.3. Document Formatting Guidelines

1. This driver does not require any margins. Set all document margins to 0.

6.3.1. Restriction and Caution

1. This driver may not operate normally according to the setting of the memory switch of a printer. Except for the case of this manual instruction, please return to default settings.
2. 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.

7. Release History

Rev. No.	Date	Contents
Rev.1.0	Sep. 1 2005	New Release
Rev.1.1	Sep. 20 2005	Added electronic journal function
Rev.1.2	Sep.30.2005	Multi language support