

TUP900

Star Raster Mode Printer Driver Manual

for Windows 2000/XP/Vista 32bit

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Introduction

- This driver supports Windows 2000/XP/Vista 32bit.
- This driver conforms to the Star Raster command set. This implements the following features using Star Raster commands.
 - Graphics printing
 - Fast throughput
 - Quiet printing with minimal intra-document pausing
 - Page Length Control (including Black Mark sensing)
 - Cutter Control
 - Presenter Control
 - Logo printing and generation via Star Raster Logo files stored on the computer
 - Multiple copy printing with electronic journal capability
- This driver should be used with the printer at its default settings. However, to use some features (such as for black mark and the like), it is necessary to change the printer's settings. For details, see section 4. Printer Configuration.
- This driver supports parallel I/F and USB I/F.

1. Installation

1.1 Interfaces Other than USB (Windows 2000/XP/Vista 32 bit)

Use the Windows Add Printer Wizard to install the driver.

When doing so, be careful of the following.

- If you use Windows Vista 32bit, run the Add Printer Wizard from [Run as Administrator].
- Click on [Have Disk] when selecting the printer type, and specify "PrinterDriver\smjstup900R.inf" in the folder you expanded "TUP900_RasterPrtDrvWithstlm_yyyymmdd.zip".
- In the Hardware Installation dialog box, click the [Continue Anyway] button.

If <Star TUP992 Raster Printer> or <Star TUP942 Raster Printer> is displayed in the printer folder, the installation was successful.

1.2 USB Interface (Windows 2000/XP)

When the printer is turned ON, the driver begins installation by plug & play.

Be careful of the following during installation.

- To install, select [Install from a specific location], and specify the PrinterDriver folder in the folder you expanded TUP900_RasterPrtDrvWithstlm_yyyymmdd.zip.
- In the Hardware Installation dialog box, click the [Continue Anyway] button.
- When specifying the location where "TUP942.gpd" or "TUP992.gpd" are stored, specify "PrinterDriver\i386" in the folder you expanded "TUP900_RasterPrtDrvWithstlm_yyyymmdd.zip".

If <Star TUP992 Raster Printer> or <Star TUP942 Raster Printer> is displayed in the printer folder, the installation was successful.

1.3 USB Interface (Windows Vista 32 bit)

When the printer is turned on, the in-box driver <Star TUP900 Presenter (TUP992)> or <Star TUP900 (TUP942)> (TUP900 simple driver) are installed.

Select the icon of the simple driver installed from the printer folder, open [Run as Administrator] - [Properties], and click on [New Driver] in the [Advanced] tab to start the Add Printer Wizard.

Install the Star Raster Mode driver while being careful of the following items.

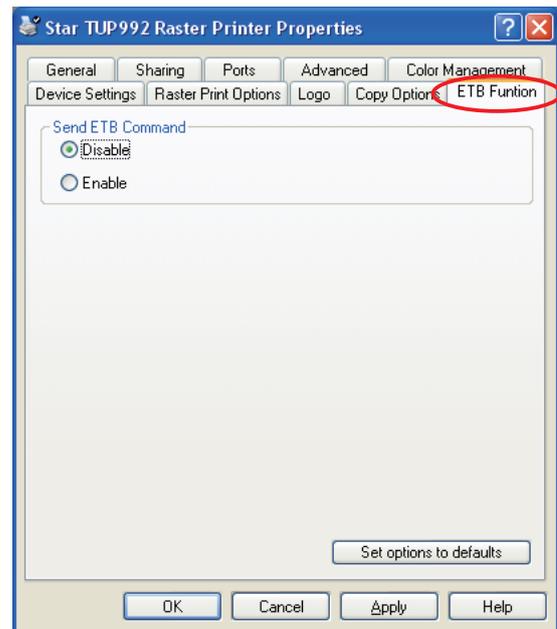
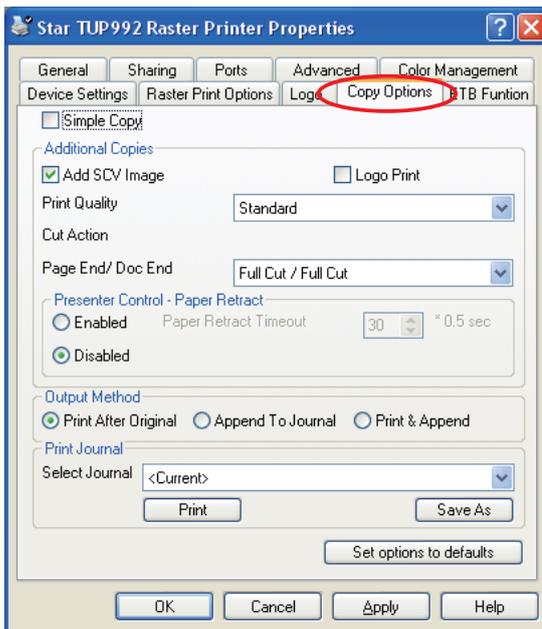
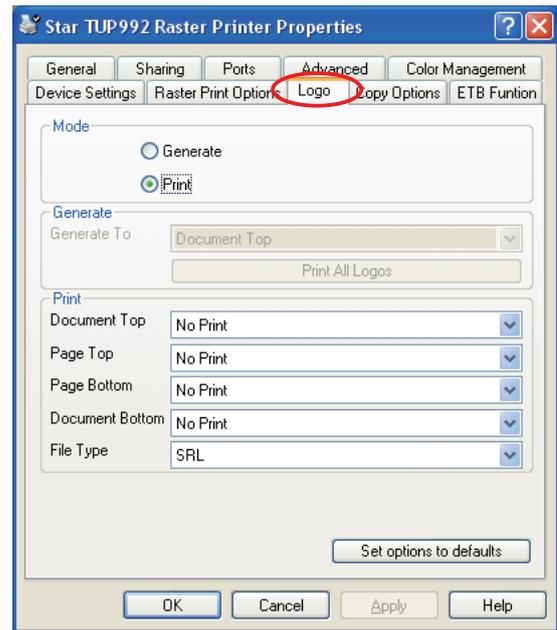
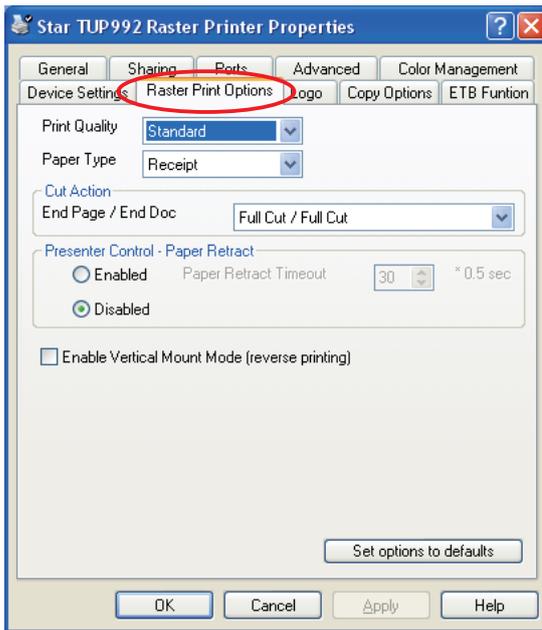
- Click on [Have Disk] when selecting the printer type, and specify "PrinterDriver\smjstup900R.inf" in the folder you expanded "TUP900_RasterPrtDrvWithstlm_yyyymmdd.zip".
- When the Wizard is done, check that "Star TUP992 Raster Mode Printer" or "Star TUP942 Raster Mode Printer" is displayed in the Driver: field, and open up the properties.

If <Star TUP992 Raster Printer> or <Star TUP942 Raster Printer> is displayed in the printer folder, the installation was successful.

2. Setting the Printer Driver

Use the printer driver properties sheet to set various driver settings. The following shows how to display the printer properties sheet.

1. Open Windows Printer folder.
2. Right-click on the printer icon and click on [Properties] for Windows 2000/XP and [Run as Administrator] - [Properties] for Windows Vista 32 bit.
3. If you are using Windows Vista, the User Account Control screen is displayed. Click on [Continue].



* [Set options to defaults] button

This driver has a Return to Standard Values button on several settings screens.

Use this button to return the setting values of those screens to their default status.

2.1 Raster print Options

This property sheet page is used to control the printer during printing of the original or first copy.

• Print Quality

Choice	Default	Meaning
Standard	*	fastest printing speed used at a compromise to print quality
High		trade off between print speed and print quality
Best		best print quality via the slowest printing

• Paper Type

Choice	Default	Meaning
Receipt	*	variable length pages ending after the last printed line
Ticket		constant length pages as setup in the application
Black Mark		page length determined by the printers sensing of the paper's black markings

• Cut Action - End Page / End Doc (TUP942)

Choice	Default	Meaning
Form Feed / Form Feed		document printed
Form Feed / Tear Bar		last page fed to the tear bar position
Form Feed / Partial Cut	*	last page fed to the cutter and partially cut
Form Feed / Full Cut		last page fed to the cutter and fully cut
Form Feed / Full Cut Top Search		first page is reversed to top before printing & last page fed to cutter and fully cut
Partial Cut No Feed / Partial Cut No Feed		all pages partially cut immediately without being fed
Partial Cut / Partial Cut		all pages fed to the cutter and partially cut
Partial Cut No Feed / Full Cut No Feed		pages 1 ~ n-1 are partially cut without feeding and page n is fully cut without feeding
Partial Cut / Full Cut		pages 1 ~ n-1 are fed to the cutter and partially cut and page n is feed to the cutter and fully cut
Full Cut No Feed / Full Cut No Feed		all pages fully cut immediately without being fed
Full Cut / Full Cut		all pages fed to the cutter and fully cut
Full Cut Top Search / Full Cut Top Search		all pages are reversed to the top before printing and fed to the cutter and fully cut after printing

• Cut Action - End Page / End Doc (TUP992)

Choice	Default	Meaning
Full Cut No Feed / Full Cut No Feed		all pages fully cut immediately without being fed
Full Cut / Full Cut	*	all pages fed to the cutter and fully cut
Full Cut Top Search / Full Cut Top Search		all pages are reversed to the top before printing and fed to the cutter and fully cut after printing

• Presenter Control Paper Retract (TUP992 Only)

Choice	Default	Meaning
Enabled		printer will retract the paper if not taken within the specified time period
Disabled	*	printer will not retract the paper – the paper must be removed before next print

• Paper Retract Timeout (TUP992 Only)

Choice	Default	Meaning
1 ~ 255	30 (15 sec)	the amount of time the printer waits for paper removal before retracting it (units in ½ sec)

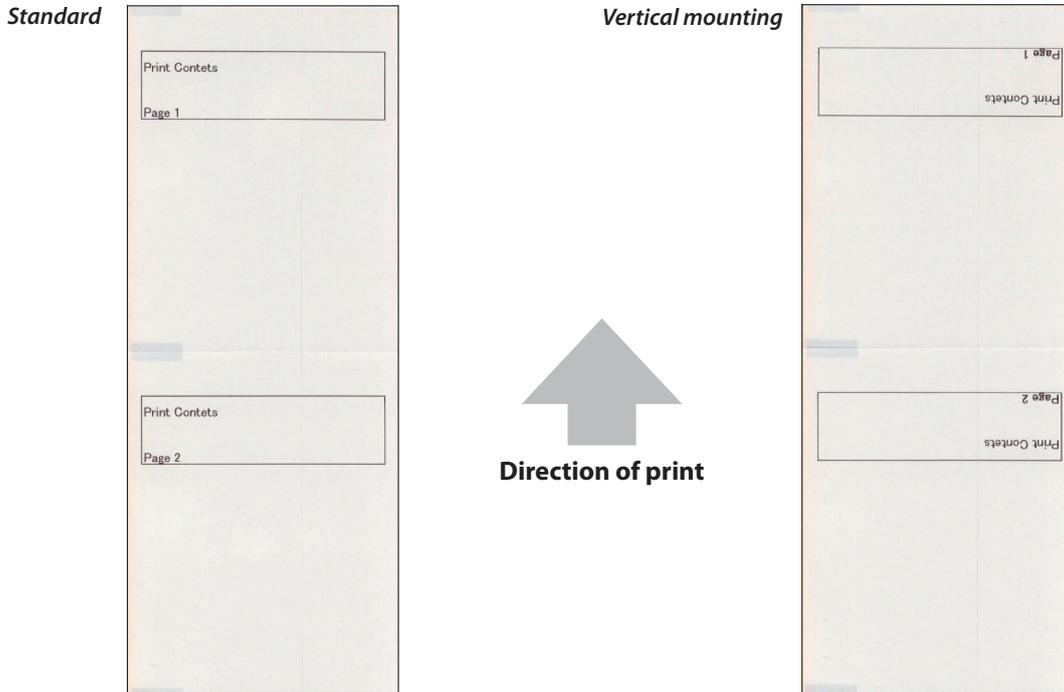
• Vertical Mounting

Choice	Default	Meaning
Checked		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.
Unchecked	*	receipts are printed top-to-bottom.

Result of Vertical Mount Printing

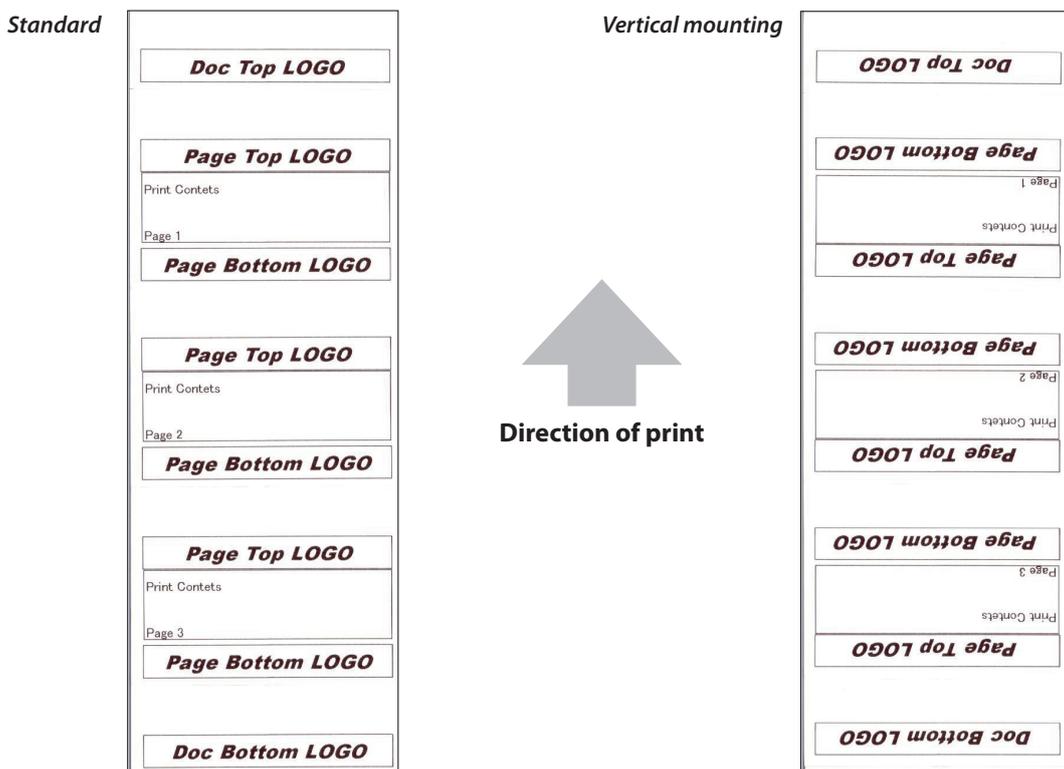
- In case of Black Mark Paper Printing

If you are using the black mark paper, it will be printed as following.



- In case of Logo Printing

If you add logo, it will be printed as following.



2.2 Logo

This property sheet page is used to configure the driver for the printing and generation of logos. The steps required to generate and print logos are described in the Creating and printing logos section. This page contains a table of choices for each option available on this property sheet page. The option / choice combinations described here are referenced in the later section to give you a full understanding of the usage of the logo feature.

• Mode

Choice	Default	Meaning
Generate		the pages of the next printed job will be converted and stored as logo data files
Print	*	logos will be inserted into the printing process as configured by the options within the Print group box

• Generate (SRL only)

• Generate To

Choice	Default	Meaning
Document Top	*	generated logo data files will be associated with the document top timing point by storing them in the printer's document top logo data directory
Page Top		generated logo data files will be associated with the page top timing point by storing them in the printer's page top logo data directory
Page Bottom		generated logo data files will be associated with the page bottom timing point by storing them in the printer's page bottom logo data directory
Document Bottom		generated logo data files will be associated with the document bottom timing point by storing them in the printer's document bottom logo data directory

• Print

• Document Top

Choice	Default	Meaning
No Print	*	no logos will be printed at the document top timing point
Sequential		one logo will be sequentially (incremented across print jobs) printed at the document top timing point
All		all logos will be printed at the document top timing point

• Page Top

Choice	Default	Meaning
No Print	*	no logos will be printed at the page top timing point
Sequential		one logo will be sequentially (incremented across pages) printed at the page top timing point
All		all logos will be printed at the page top timing point

• Page Bottom

Choice	Default	Meaning
No Print	*	no logos will be printed at the page bottom timing point
Sequential		one logo will be sequentially (incremented across pages) printed at the page bottom timing point
All		all logos will be printed at the page bottom timing point

• Document Bottom

Choice	Default	Meaning
No Print	*	no logos will be printed at the document bottom timing point
Sequential		one logo will be sequentially (incremented across print jobs) printed at the document bottom timing point
All		all logos will be printed at the document bottom timing point

• File Type

Choice	Default	Meaning
SRL	*	the driver will look for and use SRL logo data files
BMP		the driver will look for and use BMP logo data files

2.3 Copy

This property sheet page is used to control the printer during printing of all additional copies. Additional copies are defined as being any copy 2 through n. Additional copies are printed by specifying the copy count in the printer's properties area or in the print dialog box of an application. The steps required to print or journal an additional copy are described in the Printing and journaling an addition copy section. This page contains a table of choices for each option available on this property sheet page. The option / choice combinations described here are referenced in the later section to give you a full understanding of the usage of the copy feature.

• Simple Copy

Choice	Default	Meaning
Checked	*	additional copies are printed exactly as the original (journaling not possible)
Unchecked		other options on this property sheet page set how additional copies are printed

• Additional Copies

• Add SCV Image

Choice	Default	Meaning
Checked	*	the SCV image is added down the left hand side of all additional copies
Unchecked		the SCV image is not added

• Print Logo

Choice	Default	Meaning
Checked	*	any logos printed on the original copy are also printed on the additional copies
Unchecked		any logos printed on the original copy are removed when printing the additional copies

• Printer Quality

Choice	Default	Meaning
Standard	*	Fastest printing speed used at a compromise to print quality
High		Trade off between print speed and print quality
Best		Best print quality via the slowest printing

• Cut Action - End Page / End Doc (TUP942)

Choice	Default	Meaning
Form Feed / Form Feed		document printed
Form Feed / Tear Bar		last page fed to the tear bar position
Form Feed / Partial Cut	*	last page fed to the cutter and partially cut
Form Feed / Full Cut		last page fed to the cutter and fully cut
Form Feed / Full Cut Top Search		first page is reversed to top before printing & last page fed to cutter and fully cut
Partial Cut No Feed / Partial Cut No Feed		all pages partially cut immediately without being fed
Partial Cut / Partial Cut		all pages fed to the cutter and partially cut
Partial Cut No Feed / Full Cut No Feed		pages 1 ~ n-1 are partially cut without feeding and page n is fully cut without feeding
Partial Cut / Full Cut		pages 1 ~ n-1 are fed to the cutter and partially cut and page n is feed to the cutter and fully cut
Full Cut No Feed / Full Cut No Feed		all pages fully cut immediately without being fed
Full Cut / Full Cut		all pages fed to the cutter and fully cut
Full Cut Top Search / Full Cut Top Search		all pages are reversed to the top before printing and fed to the cutter and fully cut after printing

• Cut Action - End Page / End Doc (TUP992)

Choice	Default	Meaning
Full Cut No Feed / Full Cut No Feed		all pages fully cut immediately without being fed
Full Cut / Full Cut	*	all pages fed to the cutter and fully cut
Full Cut Top Search / Full Cut Top Search		all pages are reversed to the top before printing and fed to the cutter and fully cut after printing

• Presenter Control - Paper Retract (TUP992)

Choice	Default	Meaning
Enabled		printer will retract the paper if not taken within the specified time period
Disabled	*	printer will not retract the paper – the paper must be removed before next print

• Presenter Control - Paper Retract Timeout (TUP992)

Choice	Default	Meaning
1 ~ 255	30 (15 sec)	the amount of time the printer waits for paper removal before retracting it (units in ½ sec)

• Output Method

Choice	Default	Meaning
Print After Original	*	all additional copies are printing immediately after the original
Append to Journal		all additional copies are not printed and appended to the current journal file
Print & Append		one additional copy is printed and the remaining are appended to the current journal file

The remaining controls on this page are not used to configure the printing or journaling of additional copies. They are rather, used to print and manage previously constructed journal files. Usage of the controls described below will causes immediate action, such as the immediate printing of a previously constructed journal file.

• Print Journal

• Select Journal

Choice	Default	Meaning
<Current>	*	the journal file currently being constructed by append operations
<All>		all journal files associated with this printer
<i>dynamic</i>		the names of all journal files created by saving the <Current> journal file under a new file name via the Save As button

Point! The dynamic choice appearing in the table above indicates that there will be choices available to the user that are determined by the user's actions and that change over time. In this case, each time the user saves the <Current> journal under a different file name (via the "Save As") button, the new file name will be dynamically added to this option.

• Print

The journal file chosen in the Select Journal option is outputted for printing to the printer

• Save As

The Save As dialog box appears prompting the user for a new file name under which the current journal file should be saved

2.4 ETB

This property sheet page is used to control the printer's maintenance counters. By enabling the ETB function you can have the printer track the number of successful and unsuccessful print jobs. These statistics can help you to manage a smooth integration by spotting units that have commonly occurring problems, possibly caused by misuse, faulty mounting, or otherwise. This page contains a table of choices for each option available on this property sheet page.

• Send ETB Command

Choice	Default	Meaning
Disable	*	the ETB maintenance counter increment command is not sent
Enable		the ETB maintenance counter increment command is sent

2.5 Paper Sizes

The TUP900 drivers let you use both preset standard sizes and custom, user-defined sizes.

2.5.1 Standard Paper Sizes

The following table shows the predefined paper sizes available for the TUP900 driver.

Paper Size	Width	Length
Full Width 104mm * 75mm - 200mm	104 mm	75 mm - 200 mm
Full Width 104mm * A4 Length	104 mm	297.3 mm
Full Width 104mm * Letter Length	104 mm	11 inch
Full Width 104mm * Receipt	104 mm	4,000 mm (4 m)
80mm * 75mm - 200mm	80 mm	75 mm - 200 mm
80mm * A4 Length	80 mm	297.3 mm
80mm * Letter Length	80 mm	11 inch
80mm * Receipt	80 mm	4,000 mm (4 m)
72mm * 75mm - 200mm	72 mm	75 mm - 200 mm
72mm * A4 Length	72 mm	297.3 mm
72mm * Letter Length	72 mm	11 inch
72mm * Receipt	72 mm	4,000 mm (4 m)
A4	210 mm	297 mm
Letter	8.5 inch	11 inch

Note: To use paper that is wider than 104 mm, the printer memory switch must be set. Refer to the product specifications manual for details.

Point!

The US Letter and A4 paper sizes have a printable width of 104mm. When using these paper sizes your application must establish a right (or left) margin equal to the paper size width minus 104mm.

2.5.2 User Defined Paper Sizes

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

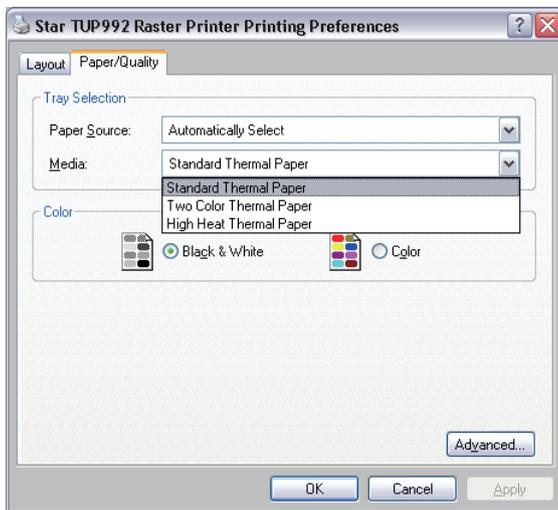
The following table lists the maximum user defined paper size dimensions for the printer driver.

Maximum Width	Maximum Height
104 mm	4,000 mm

Creating a user defined paper size of the maximum length and using the Receipt choice for the Paper Type option results in printing with no page breaks, and is often the optimal setting for retail POS.

2.6 Two Color and Media Type Usage

These two features are accessible via the Paper/Quality tab of the Printing Preferences dialog box. To open the Printing Preferences dialog box, enter the Printer Properties dialog box as previously described and then click the Printing Preferences button. The following should appear:



Choose your usage circumstance from one of the following:

■ Using Standard Thermal Paper

When using Standard Thermal Paper, choose Standard Thermal Paper for the Media option, and Black & White for the Color option.

This is the most common and default usage circumstance.

■ Using Two Color Thermal Paper

If you are using two color thermal paper (i.e. Red & Black or Blue & Black), choose Two Color Thermal Paper for the Media option, and Color for the Color option. The document you are printing should contain portions in black and portions in red or blue.

■ Using High Heat Thermal Paper

If you are using thermal paper that requires the application of higher than normal heat levels to affect printing (typically label stock paper or thick paper), choose High Heat Thermal Paper for the Media option, and Black & White for the Color option.

3. Usage Notes

This section will teach you how to effectively create receipts, tickets, and other print jobs for printing via these drivers. It is important to understand some of the unique points about the use of Star printers with these printer drivers.

- **Paper:**

- Length: roll paper (see paper specification for exact length)

- Width: 104mm

- **Print Data:**

- Raster: all print data is in the form of raster dot-image data

- **Device Fonts:**

- None: these drivers do not support the printing of device fonts

- **Two Color Printing:**

- Supported: must have two color paper installed into the printer

- **Margins:**

- Not required: the paper sizes defined by these drivers support edge-to-edge printing, and do not require the use of margins on any side

Of particular importance is the fact that this printer driver does not support the printing of device fonts. When documents are created, you should always use TrueType fonts as the basis for any text sections. Note that fonts such as Courier New are mono-spaced fonts, which make the layout of receipt type documents much easier. Of course you can also embed graphics such as images, icons, or clipart into your documents for printing.

The following pages describe particular aspects of this driver's usage.

3.1 Setting page and document cut options

3.1.1 Typical configuration for receipt printing:

Receipt printing (as used in this context) means that you are printing a variable length document (often dependent on the number of service or products consumed) without any intra-document cuts being performed. In other words, the first customer will be handed a receipt of length X and the next customer will be handed a receipt of length Y.

Use the following configuration to achieve the above scenario:

Paper Type:	Receipt
Cut Action – End Page / End Doc:	Form Feed / anything

Note that the End Doc half of the Cut Action field is not fixed. Use the action most appropriate for your business. But, by using Form Feed for the End Page half the printed receipt will have no intra-document cuts, and will be one long length of paper.

3.1.2 Typical configuration for ticket printing

Ticket printing (as used in this context) means that you are printing a constant length document repeatedly, possibly with a cut performed between each page or each document. For example, the tickets given at a movie theater or baseball game are all the same length.

Use the following configuration to achieve the above scenario:

Paper Type:	Ticket
-------------	--------

3.1.3 Typical configuration for printing with black mark paper (including label stock)

When using black mark paper, the length of each printed page is determined by the printer's detection of the paper's black markings. The black markings drawn on the paper are typically a constant length away from one another, and thus the length of the printed page will be constant. The advantage of using black mark paper is that printing positions can be synchronized with preprinted portions of the paper with a high degree of repeatable accuracy. When using black mark paper with TUP900, you must configure both the printer and the printer driver. For details on printer settings, see section 4. Setting the Printer.

Use the following configuration to achieve the above scenario:

Paper Type:	Black Mark
-------------	------------

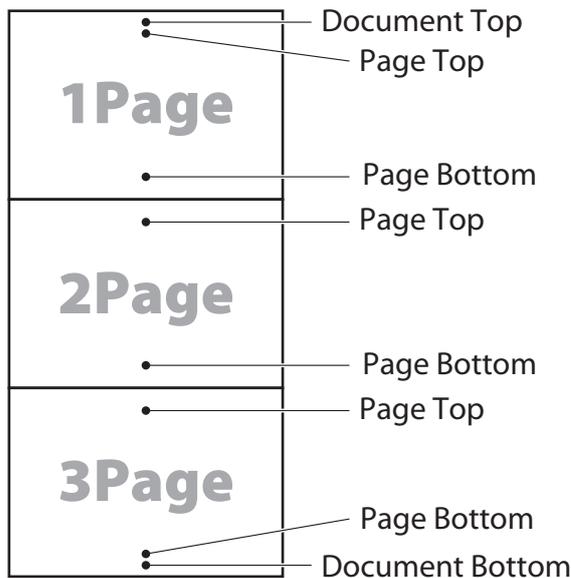
3.2 Creating and printing logos

Logo printing (as used in this context) is defined as the automatic, driver initiated, insertion of graphic images into the print job at particular points. For example, by using the instructions that follow, you can add your store logo to the top of each receipt, without modifying your receipting application at all. The motive behind logo printing is the ability to add graphics to the print job without the need for application modification.

These printer drivers use logo data files stored on the computer. This allows for the inclusion of very large logos into the printing process. An example of a large “logo” might be a full length coupon or voucher that would be printed following the receipt. These printer drivers can operate on two types of logo data files: SRL or Star Raster Logo files, and BMP or bitmap image files. The default logo data file type is SRL.

In addition to printing logos, these drivers also provide a mechanism to generate them. By configuring the driver as described below, you can use any Windows application to create your SRL logo data files. All that is required to do this is to draw each logo on a different page of the document, and then print the document through the properly configured printer driver. In this way, these drivers contain a fully self-contained logo printing system.

These printer drivers can insert logo images into the print job at 4 different points: Document Top, Page Top, Page Bottom, and Document Bottom. These points are illustrated below:

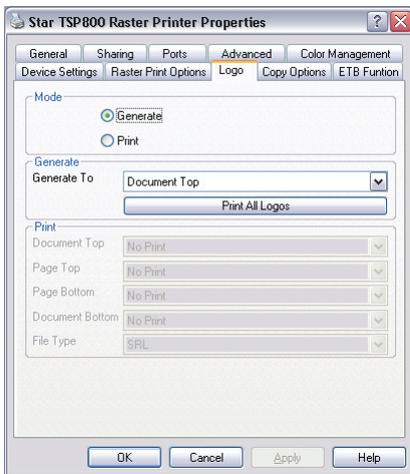


In the above illustration, the application-generated document contains three pages. The very top of the first page is defined to be the Document Top point. The very bottom of the last page is defined to be the Document Bottom point. In between these two points, at the top and bottom of every page are the Page Top and Page Bottom points. You will notice that the Page Top and Page Bottom points are repeated for each page.

3.2.1 Configuration and procedure for generating SRL logos

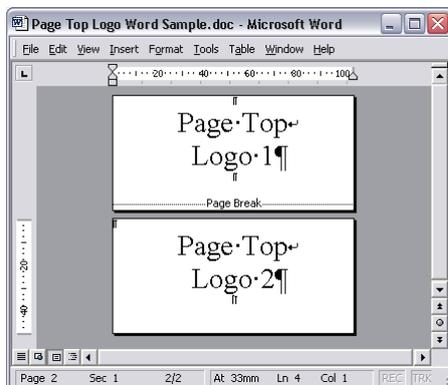
1. Enter the printer driver's properties by right clicking on the printer's icon in the Windows Printers and Faxes folder
2. Navigate to the Logo property sheet page
3. In the Mode group box, choose the Generate option.
4. In the Generate group box, choose one of the 4 different document points that the next print job's pages should be converted into logos for. For example, if you want to create logos for the Document Top point then choose Document Top, if you want to create logos for the Page Bottom point then choose Page Bottom.

The Logo Property Sheet page will appear like this:



5. Close the printer driver's properties dialog by clicking the OK button.
6. Now that the printer driver is setup in logo generate mode, you must create and print your document. Begin by creating a new document.
7. Setup the document's paper size to one of the paper sizes available for the previously configured printer driver; for example, 104mm * 50mm.
8. Draw one logo per page. All image data contained on one page will be converted into one logo. In order to create three logos for example, your document will need three pages.
9. Print the document. The logos will be printed and simultaneously stored on the computer in SRL logo data file format.
10. Repeat this procedure from step 1 for each different document point you want to create logos for.

Using Microsoft Word as an example, a document containing Page Top logos might look like:



3.2.2 Procedure for printing SRL logos

1. Enter the printer driver's properties by right clicking on the printer's icon in the Windows Printers and Faxes folder.
2. Navigate to the Logo property sheet page.
3. In the Mode group box, choose the Print option.
4. In the Print group box choose one pattern for each of the four document points, Document Top, Page Top, Page Bottom, and Document Bottom. The following is a description of the patterns available.

a. Pattern descriptions for Document Top and Document Bottom points

i. No Print

No logos are printed

ii. Sequential

Assuming that there are three logos established for these timing points, this pattern would result in the following:

Logo 1 prints on job 1
Logo 2 prints on job 2
Logo 3 prints on job 3
Logo 1 prints on job 4
...

In other words, logos are printed sequentially across print jobs, with one logo printed on each print job.

iii. All

All logos established for these timing points are printed on each print job. Assuming there are two such logos:

Logo 1 and Logo 2 print on job 1
Logo 1 and Logo 2 print on job 2
Logo 1 and Logo 2 print on job N

b. Pattern descriptions for Page Top and Page Bottom points

i. No Print

No logos are printed

ii. Sequential

Assuming that there are two logos established for these timing points and three pages in the print job, this pattern would result in the following:

Logo 1 prints on page 1
Logo 2 prints on page 2
Logo 1 prints on page 3

This same pattern beginning at Logo 1 will occur for each print job. If there are the same number of logos as pages then each logo will be printed once.

In other words, logos are printed sequentially across pages, with one logo printed on each page.

iii. All

All logos established for these timing points are printed on each page. Assuming there are two such logos:

Logo 1 and Logo 2 print on page 1
Logo 1 and Logo 2 print on page 2
Logo 1 and Logo 2 print on page 3

5. In the Print group box choose SRL for the File Type option.
6. Print your receipt or other document and verify that the logo are inserted into the print job.

3.2.3 Procedure for printing BMP logos

Although this printer driver support the printing of BMP logo data files, this printer driver cannot generate BMP logo data files. In addition, because one operation performed by the printer driver during the creation of SRL logo data files is the creation of a driver folder structure on the default hard drive, you will have to manually create this folder structure and then populate it with the BMP logo data files. In case use BMP file as a logo data, please store those data in following folder using BMP file name with sequence number starting from 0. Before BMP logo data files can be used this folder structure must be created. The following is an illustration of this folder structure:

```

\Star
  \[ Printer Name ]
    \StarRasterLogoData
      \StartDoc
      \StartPage
      \EndPage
      \EndDoc
  
```

Note that this folder structure is rooted in the root folder of the default hard drive. The default hard drive is the drive from which the Windows operating system was loaded and is executing.

Also, note that the child folder of \Star is written as \[Printer Name]. The Printer Name portion of this folder should be replaced with the name of the printer queue for which these folders are to be associated. The name of the printer queue is the name appearing under the printer icon in the Windows Printers and Faxes folder.

Then the folder structure would begin like this:

```

\Star
  \Star TUP992 Raster Printer
    \StarRasterLogoData
      ...
  
```

After creating this folder structure, copy the BMP logo data files into the deepest 4 directories. Because the names of these folders and the names of the options given on the Logo property sheet page are different, refer to the following correspondence table:

Logo Property Sheet Option	Folder Name
Document Top	StartDoc
Page Top	StartPage
Page Bottom	EndPage
Document Bottom	EndDoc

Now that these operations are completed, configure the Logo property sheet page exactly as described in the Procedure for printing SRL logos section. The only difference is in step number 5, where you must choose BMP for the File Type option.

Once again, Star urges the use of SRL logo data files. Using SRL logo data files allows for the completely automated management and printing of logos.

3.3 Printing and journaling additional copies

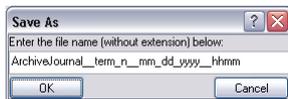
This printer driver support the printing and journaling of additional copies. The motivation behind creating a printer driver for thermal printers that handles multiple copies is to allow for the use of thermal printers where dot-matrix printers would have been or are being used. Dot-matrix printers effect additional copies through the use of multiple ply paper. This printer driver effect additional copies on thermal printers by buffering all print job data and then either outputting it to the printer many times, or saving it to disk in the form of a journal file.

3.3.1 Procedure for printing additional copies

1. Configure the printer driver to print n copies of each print job. This is done by:
 - a. Right-click on the printer driver icon in the Windows [Printers and Faxes] folder, and select on [Properties] for Windows 2000/XP, and [Run as Administrator] - [Properties] for Windows Vista 32bit to display the printer properties window.
 - b. From the **General** property sheet page, click the **Printing Preferences** button.
 - c. The Printing Preferences dialog box will appear. From the **Layout** property sheet page click the **Advanced** button.
 - d. The **Advanced Options** dialog box will appear. Under the **Paper/Output** node of the option tree, find the **Copy Count** option. Set the **Copy Count** option to the number of copies you want printed. Notice that is this field is set to 1 then 1 (the original copy) of all print jobs will be printed, if set to 3 then 3 copies (including the original) will be printed.
 - e. Close the **Advanced Options** and **Printing Preferences** dialog boxes, then navigate to the **Copy Options** property sheet page of the printer's properties dialog box.
 - f. Configure all options as described in the "2.3 Copy" section.
 - g. Choose **Print After Original** in the **Output Method** group box.
 - h. Close the printer properties.
2. From your receipting or other application, print your documents and verify that the configured number of copies were printed.

3.3.2 Printing and journaling additional copies

1. Configure the printer driver to print n copies of each print job. This is done by:
 - a. Right-click on the printer driver icon in the Windows [Printers and Faxes] folder, and select on [Properties] for Windows 2000/XP, and [Run as Administrator] - [Properties] for Windows Vista 32bit to display the printer properties window.
 - b. From the **General** property sheet page, click the **Printing Preferences** button.
 - c. The **Printing Preferences** dialog box will appear. From the **Layout** property sheet page click the **Advanced** button.
 - d. The **Advanced Options** dialog box will appear. Under the **Paper/Output** node of the option tree, find the **Copy Count** option. Set the **Copy Count** option to the number of copies you want printed. Notice that is this field is set to 1 then 1 (the original copy) of all print jobs will be printed, if set to 3 then 3 copies (including the original) will be printed.
 - e. Close the **Advanced Options** and **Printing Preferences** dialog boxes, then navigate to the **Copy Options** property sheet page of the printer's properties dialog box.
 - f. Configure all options as described in the "2.3 Copy" section.
 - g. Choose **Append To Journal** in the **Output Method** group box.
 - h. Close the printer properties.
2. From your receipting or other application, print your documents and verify that only the original copy was printed. (all additional copies were stored on disk in the current journal file)
3. Repeat step 2 until you want to begin a new journal file, and then proceed.
4. To save the current journal file under a new name and then reset the current journal file, do this:
 - a. Right-click on the printer driver icon in the Windows [Printers and Faxes] folder, and select on [Properties] for Windows 2000/XP, and [Run as Administrator] - [Properties] for Windows Vista 32bit to display the printer properties window.
 - b. Navigate to the **Copy Options** property sheet page.
 - c. Choose <Current> from the **Select Journal** list box option in the **Print Journal** group box.
 - d. Click the **Save As** button
 - e. Enter the file name for the new journal file into this dialog box:



- f. Click OK to complete the operation
5. After completing step 4 you can verify that the new journal file has been saved correctly by finding its file name in the **Select Journal** list box option in the **Print Journal** group box.

3.3.3 Procedure to print the a previously built journal file(s)

1. Right-click on the printer driver icon in the Windows [Printers and Faxes] folder, and select on [Properties] for Windows 2000/XP, and [Run as Administrator] - [Properties] for Windows Vista 32bit to display the printer properties window.
2. Navigate to the **Copy Options** property sheet page.
3. Choose the journal file you want to print from the **Select Journal** list box option in the Print Journal group box. (To print all journal files, choose <All>)
4. Click the **Print** button in the **Print Journal** group box and verify that the chosen journal file(s) were printed.

4. Printer Configuration

Star printers can be configured via two different mechanisms.

1. DIP switches (mechanical switched)
2. Memory switches

When using these drivers with your Star printer **no changes to the factory default DIP switch settings are required.**

In addition, the **factory default memory switch settings do not need to be changed unless you choose to use black mark paper.**

When using black mark paper with your printer you must enable the printer's black mark sensor. This is done via memory switches. The table below lists the memory switch position used to enable the black mark sensor for TUP900.

Memory seitch 1 (MSW1)	Function	ON : 1	OFF : 0 (Default Setting)
8	black mark sensor	Enabled	Disabled
9	top search function	Enabled	Disabled

5. Document Formatting Guidelines

So that you can most effectively use your printer with these printer drivers, please observe the following points when creating your documents and print forms:

- Margins:
This driver do not require any margins. Set all document margins to 0.
- User defined paper sizes:
This driver include one predefined paper size, but support user defined paper sizes. You can create a custom 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.



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Please access the following URL

<http://www.star-m.jp/eng/dl/dl02.htm>

for the latest revision of the manual.

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