

Star Raster Printer Driver Windows 2000 and XP

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Specification and User Manual

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Software Description

This driver set includes Windows 2000 and Windows XP compatible printer drivers for the following models:

- TUP992
- TUP942
- TSP1000
- TSP847
- TSP743
- TSP643
- TSP613

All of these printer drivers are based on Star's Raster command set. Through the use of Star Raster commands, these drivers achieve the following major functional points:

- Graphics printing
- Fast throughput
- Quiet printing with minimal intra-document pausing
- Page length control (including black mark sensing)
- Cutter control
- Cash Drawer control
- Presenter control
- Logo printing and generation via Star Raster Logo files stored on the computer
- Multiple copy printing with electronic journal capability
- Variable reduction and zoom printing. (Only "Zoom" drivers for TSP800/TUP900 series)
- Fixed reduction printing for optimized graphics (Only "A4 Letter Zoom" drivers for TSP800/TUP900 series)

For all models, the factory default printer configuration need not be changed in order to begin using these drivers. When usage of a driver feature requires changes to a printer's configuration, that change will be fully described. An example of a feature that may require a printer's configuration to be changed is usage of black mark paper, which is a selectable feature within the driver.

This software has been distributed via the RasterDrv_2K-XP_yyyymmdd.exe¹ file. This is an automatic printer installer. By executing this single file you can automatically install any of the supported printers. All driver files are contained within this single executable. If you need to use the standard Windows Add Printer Wizard to install your printer (i.e. you are using a USB or Ethernet based printer), this installer will extract all required installation and driver files for use by the wizard. Distributing this driver set requires distribution of RasterDrv_2K-XP_yyyymmdd.exe only.

¹ This package is periodically updated to include bug-fixes or new functionality. Each release of this package will follow the naming scheme RasterDrv_2K-XP_yyyymmdd.exe. The first part of this, RasterDrv, tells you that this is a driver based on Star's Raster command set. The middle section, 2K-XP, tells you that this release is intended for use on Windows 2000 or Windows XP. The final section, yyyymmdd, is the 8 digit date on which the package was release.

Specification

The following is a detailed specification of this software. This information is most useful to someone who is creating an application that will use these printer drivers to interface with the printer.

Model Description

This table describes all of the printer models supported by this driver set.

Model	Paper Sizes	Printable Width	File Sets	Resolution
TUP992 Zoom	P1	832 dots	F1,F2	600*600dpi (printable 203*203dpi)
TUP942 Zoom	P1	832 dots	F1,F3	
TSP847 Zoom	P1	832 dots	F1,F4	
TUP992 A4 Letter Zoom	P7	832 dots	F1,F12	100*100dpi (printable 203*203dpi)
TUP942 A4 Letter Zoom	P7	832 dots	F1,F13	
TSP847 A4 Letter Zoom	P7	832 dots	F1,F14	
TUP992	P6	832 dots	F1,F5	203*203dpi
TUP942	P6	832 dots	F1,F6	
TSP1000	P4	640 dots	F1,F7	
TSP847	P2	832 dots	F1,F8	
TSP743	P5	640 dots	F1,F9	
TSP643	P3	576 dots	F1,F10	
TSP613	P3	576 dots	F1,F11	

Paper Sizes

This table defines the paper sizes references listed above for each model.

Reference Number	Paper Sizes
P1	US Letter, US Legal, A3, A4, A5, B4, B5, B6
P2	US Letter ¹ , A4, Full Width 104mm * Letter Length, Full Width 104mm * A4 Length, Full Width 104mm * Nmm ²
P3	US Letter, A4 ¹ Full Width 72mm * Letter Length, Full Width 72mm * A4 Length, Full Width 72mm * Nmm ²
P4 ³	US Letter, A4 ¹ Full Width 72mm * Letter Length, Full Width 72mm * A4 Length, Full Width 72mm * Nmm ² Full Width 80mm * Letter Length, Full Width 80mm * A4 Length, Full Width 80mm * Nmm ² 55mm * 200mm, 55mm * Receipt (3,000mm), 52mm * 200mm, 52mm * Receipt (3,000mm) 47mm * 200mm, 47mm * Receipt (3,000mm), 42mm * 200mm, 42mm * Receipt (3,000mm)
P5 ^{3,4}	US Letter, A4 ¹ Full Width 72mm * Letter Length, Full Width 72mm * A4 Length, Full Width 72mm * Nmm ² 80mm * 200mm, 80mm * Receipt (3,000mm), 52.5mm * 200mm, 52.5mm * Receipt (3,000mm) 50.8mm * 200mm, 50.8mm * Receipt (3,000mm)
P6 ⁵	US Letter, A4 ¹ Full Width 104mm * Letter Length, Full Width 104mm * A4 Length, Full Width 104mm * Nmm ² Full Width 80mm * Letter Length, Full Width 80mm * A4 Length, Full Width 80mm * Nmm ² Full Width 72mm * Letter Length, Full Width 72mm * A4 Length, Full Width 72mm * Nmm
P7	US Letter, A4

¹ The US Letter and A4 paper sizes in sets P2 ~ P6 have a printable width of 104mm, 80mm and 72mm respectively. The paper sizes are defined according to the Windows system standard paper size dimensions. When using these paper sizes your application must establish a right (or left) margin equal to the Windows system standard paper size width minus 104mm or 72mm, depending on which printer you are using.

² The Full Width 104mm * Nmm and Full Width 72mm * Nmm paper sizes in sets P2 ~ P6 are driver defined paper sizes. The N character in each of these paper size names is actually a bounded variable used for concision. These drivers define paper sizes with N ranging between 25mm and 200mm, in 5mm increments. For example, the two shortest paper sizes are Full Width 104mm * 25mm and Full Width 104mm * 30mm. Also, the two longest paper sizes are Full Width 104mm * 195mm and Full Width 104mm * 200mm.

³ The TSP1000 and TSP743 models support a number of paper widths. The TSP743 model required for F/W Ver. 6.0 or later.

⁴ The TSP743 model required memory switch setting before firmware version T7 6.0, when you use other than 72mm width paper. For full details on the function, see that printer's user manual.

⁵ The TUP992 and TUP942 model required memory switch setting, when you use other than 104mm width paper. For full details on the function, see that printer's user manual.

User Defined Paper

Windows 2000 and XP support User Defined paper sizes via the Server Properties dialog box accessible from the File menu of the Printers and Faxes folder. To create a custom form, follow these steps:

- Navigate to **Control Panel**, double-click **Printers**.
- On the **File** menu, click **Server Properties**.
- On the **Forms** tab, select the **Create A New Form** check box.
- Enter the settings for the new form.

NOTE: The maximum printable width for your printer will be either 104mm, 80mm or 72mm. The defined paper width must not exceed these limits.

- Click Save Form or OK

The TSP1000 and TSP743 models support a number of paper widths for User Defined paper sizes.

The following shows details.

Model	User Defined paper sizes		Usage Scenario
	width	length	
TSP1000	80.0mm	any length	Create 80mm User Defined Paper Size
	72.0mm		Create 72mm User Defined Paper Size
	55.0mm		Create 55mm User Defined Paper Size
	52.0mm		Create 52mm User Defined Paper Size
	47.0mm		Create 47mm User Defined Paper Size
	42.0mm		Create 42mm User Defined Paper Size
	other widths		Create User Defined 80mm and use document right and left margins $(80 - \text{width}) / 2$. ²
TSP743 Required for F/W Ver. T7 6.0 or later ¹	80.0mm	any length	Create 80mm User Defined Paper Size
	72.0mm		Create 72mm User Defined Paper Size
	52.5mm		Create 52.5mm User Defined Paper Size
	50.8mm		Create 50.8mm User Defined Paper Size
	other widths		Create User Defined 72mm and use document right margin $72 - \text{width}$. ³

Note:

¹ The TSP743 model required memory switch setting before firmware version T7 6.0, when you use other than 72mm width paper. For full details on the function, see that printer's user manual.

² For example, when using printable width of 60mm, create a custom form of width of 80mm, and configure your application with right and left margins of 10mm.

³ For example, when using printable width of 60mm, create a custom form of width of 72mm, and configure your application with right margin of 12mm.

File Sets

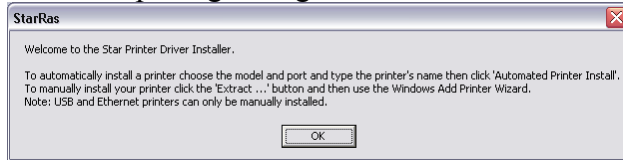
This table defined the files that comprise the driver for each supported model.

Reference Number	File Name	Version	Reference Number	File Name	Version
F1	oemprint.inf	n/a	F7	tsp1000.gpd	1.0
	tsp_ras.ini	n/a	F8	tsp800.gpd	1.0
	tsp_ras.dll	0.3.1281.9	F9	tsp700.gpd	1.0
	tsp_ras_ui.dll	0.3.1281.9	F10	tsp643.gpd	1.0
	tsp_ras_uni.dll	0.3.1281.9	F11	tsp613.gpd	1.0
F2	tup992_zoom.gpd	1.0	F12	tup992_fixzoom.gpd	1.0
F3	tup942_zoom.gpd	1.0	F13	tup942_fixzoom.gpd	1.0
F4	tsp800_zoom.gpd	1.0	F14	tsp800_fixzoom.gpd	1.0
F5	tup992.gpd	1.0			
F6	tup942.gpd	1.0			

Installation Instructions

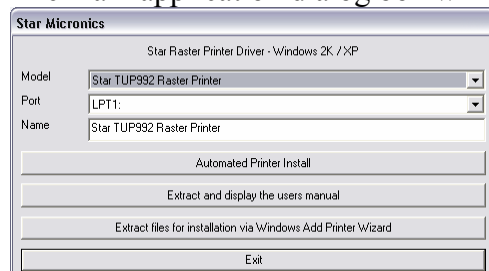
This driver set is distributed via the file RasterDrv_W2-XP_yyyymmdd.exe. The following explains how to use this automatic printer installer.

1. Open the installer by double clicking on the file RasterDrv_2K-XP_yyyymmdd.exe.
2. Read the opening dialog box. It will look like this:



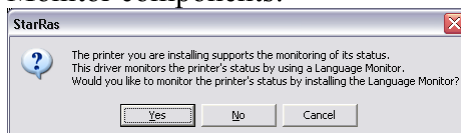
Click the OK button to proceed.

3. The main application dialog box will open and looks like this:



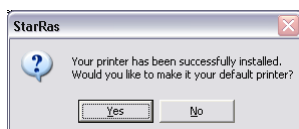
4. To automatically install your printer (parallel printers only) do this:
 - a. Choose the printer model from the upper most list box.
 - b. Choose the port that the printer is connected to from the middle list box.
 - c. Type the name of the printer queue for this newly installed printer into the Name field.
 - d. Click the Automated Printer Install button.

This will begin the automated installation process. This installer includes Language and Status Monitor components that allow for the tracking of the printer's status. After clicking the Automated Printer Install button, the following dialog will appear asking you if you want to install the Language and Status Monitor components:



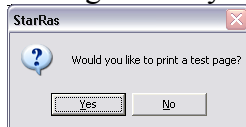
If you would like to install these components, click Yes (this will require a system restart), click no to skip installation of the Status and Language Monitor components and proceed with the printer installation, or click Cancel to abort the installation process all together.

- e. After a brief period this message box will appear. Respond Yes to this message box if the newly installed printer is to be the system's default printer. Respond No otherwise.

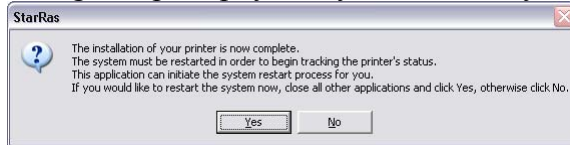


Installation Instructions

- f. This installer can initiate printing of a test page. Respond Yes to the following message box if you want to print a test page. Respond No otherwise.

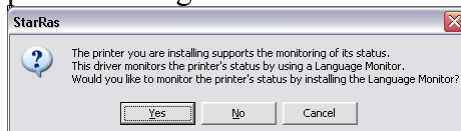


- g. If you chose to install the Language and Status Monitor components, the following dialog will prompt you if you want the system to be restarted or not:



Restarting the system is required to activate the Language and Status Monitor components and begin tracking the printer's status. Click Yes if you want this application to initiate the system's restart (be sure to save any open documents and close all applications before this), or click No if you will manually restart the system at a later point.

- h. The automatic installation of your printer is now completed. The printer is ready for use.
5. To manually install your printer (USB and Ethernet printers¹) via the Windows Add Printer Wizard do this:
- a. Click the Extract files for installation via Windows Add Printer Wizard button. This will create the StarRas directory in the same location as the installer. All driver files will then be extracted into the StarRas directory. In addition, you will be prompted to for the installation of the Star Language and Status Monitor components. Click Yes on the following dialog to install these components, click No to skip this part of the installation, or click cancel to abort the installation process all together.:



- b. Use the Windows Add Printer Wizard to install your printer as per the Windows provided instructions. When prompted to select the printer model choose Have Disk, locate and enter the StarRas folder, choose the OEMPRINT.INF file, and proceed.

¹ For USB and Ethernet printers you must use the Windows Add Printer Wizard. When a USB printer is connected to the computer for the first time Windows will start the Add Printer Wizard. You must have the driver files extracted (see step 5 above) in order to complete the Plug & Play initiated installation.

Configuration Instructions

Following the installation of your printer, you can configure it via the printer properties. To open the printer properties do this:

1. Open the Windows Printers and Faxes folder
2. Right click on the printer and choose the Properties option

This driver set includes 5 vendor supplied property sheet pages. The table below describes each of these:

Name	Function	Notes
Raster Print Options	Controls the printer during printing of the original copy	
Logo	Allows for the generation and printing of logos	
Copy Options	Controls the printer during the printing of additional copies	
Zoom	Allows for the selective printing of document subsections	Zoom drivers only
ETB	Controls the printer's maintenance counters	

Because each printer has a different feature set, the form that these property sheets take depends on the model.

The **Raster Print Options** property sheet page comes in the following variations:

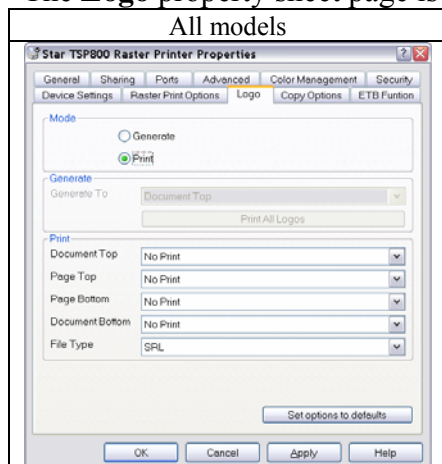
TUP992	TUP942	TSP1000
All other models		

The **Copy Options** property sheet page comes in the following variations:

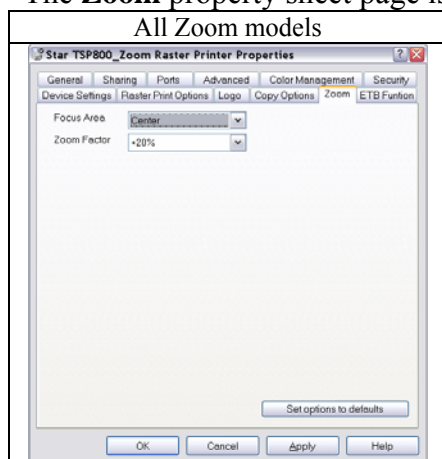
TUP992	All other models

Configuration Instructions

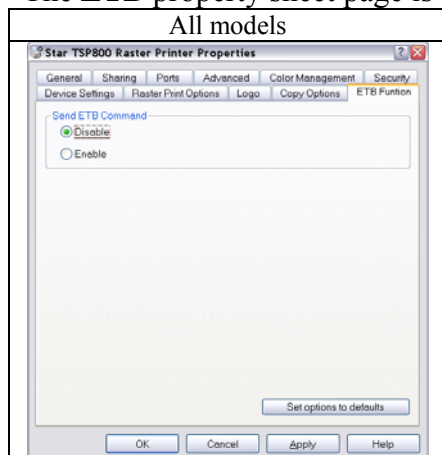
The **Logo** property sheet page is the same for all models, and looks like this:



The **Zoom** property sheet page is the same for all Zoom models and looks like this:



The **ETB** property sheet page is the same for all models, and looks like this:



Raster print Options - Property Sheet Page Usage

This property sheet page is used to control the printer during printing of the original or first copy. This page contains a table of choices for each option available on this property sheet page. Because the feature set of each printer differs slightly, not all options and choices described here will be available for all printers.

The Default column of each table indicates the default choice as set immediately following the installation of a given model's driver. If the '☼' character appears in this column that indicates that this choice is the default for all models. If a model number(s) is listed in this column that indicates that this choice is the default for that (those) model(s).

Printer Quality - List Box Option		
Choice	Default	Description
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 - List Box Option		
Choice	Default	Description
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
Black Mark with Power on Search		page length determined by the printers sensing of the paper's black markings and black mark position is detected at a power on.


Cut Action - End Page / End Doc - List Box Option		
Choice	Default	Description
Form Feed / Form Feed		document printed
Form Feed / Tear Bar	613	last page fed to the tear bar position
Form Feed / Partial Cut	643,700, 800,942	last page fed to the cutter and partially cut
Form Feed / Full Cut	1000	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	992	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

Cash Drawer – Drawer 1 – Action / Timing - List Box Option		
Choice	Default	Description
No Use	☼	not opened during printing
Document Top		opened before printing
Document Bottom		opened after printing
Page Top		opened before printing <i>each</i> page (opened many times)


Cash Drawer – Drawer 1 – Pulse Width – Edit Box / Spin Button Option		
Choice	Default	Description
1 <= n <= 127	20	the pulse duration sent by the printer to the cash drawer on open (units in 10msec)

Raster print Options – Property Sheet Page Usage


Cash Drawer – Drawer 2 – Action / Timing - List Box Option		
Choice	Default	Description
No Use		not opened during printing
Document Top		opened before printing
Document Bottom		opened after printing
Page Top		opened before printing <i>each</i> page (opened many times)

Peripheral Unit (Buzzer) – Action / Timing - List Box Option		
Choice	Default	Description
No Use		not sounded during printing
Document Top		sounded before printing
Document Bottom		sounded after printing

Peripheral Unit (Buzzer) – Pulse Width – Edit Box / Spin Button Option		
Choice	Default	Description
1 <= n <= 255	10	the pulse duration sent by the printer to the Peripheral Unit (Buzzer) (units in 20msec)

Presenter Control – Paper Retract - Group Box Option		
Choice	Default	Description
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

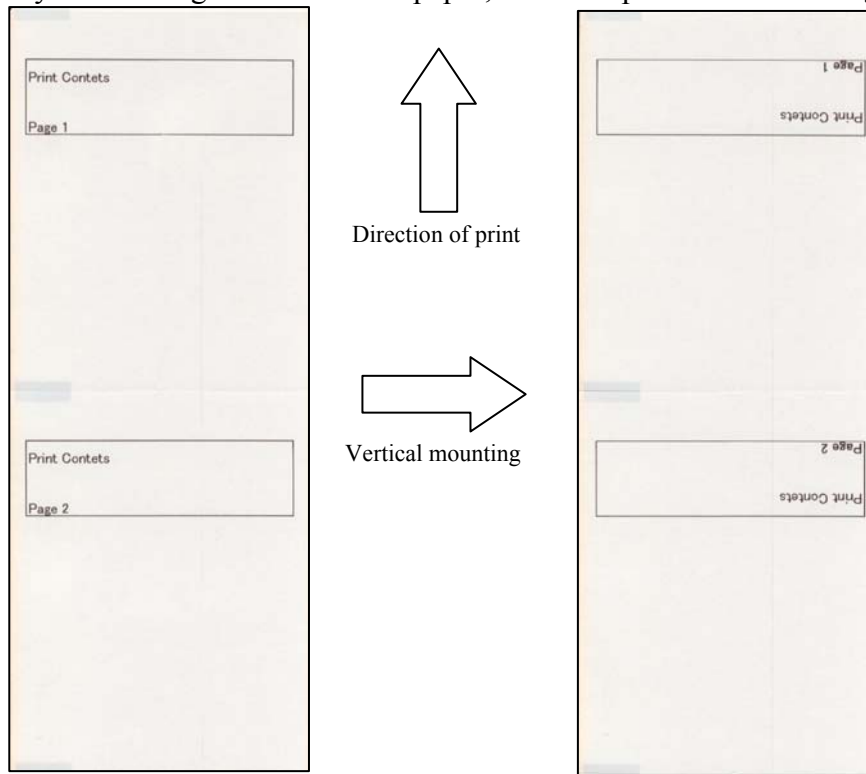
Presenter Control – Paper Retract Timeout – Edit Box / Spin Button Option		
Choice	Default	Description
1 <= n <= 255	30	the amount of time the printer waits for paper removal before retracting it (units in ½ sec)

Vertical Mounting - Check Box Option		
Choice	Default	Description
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.

Note: Result of Vertical Mount Printing

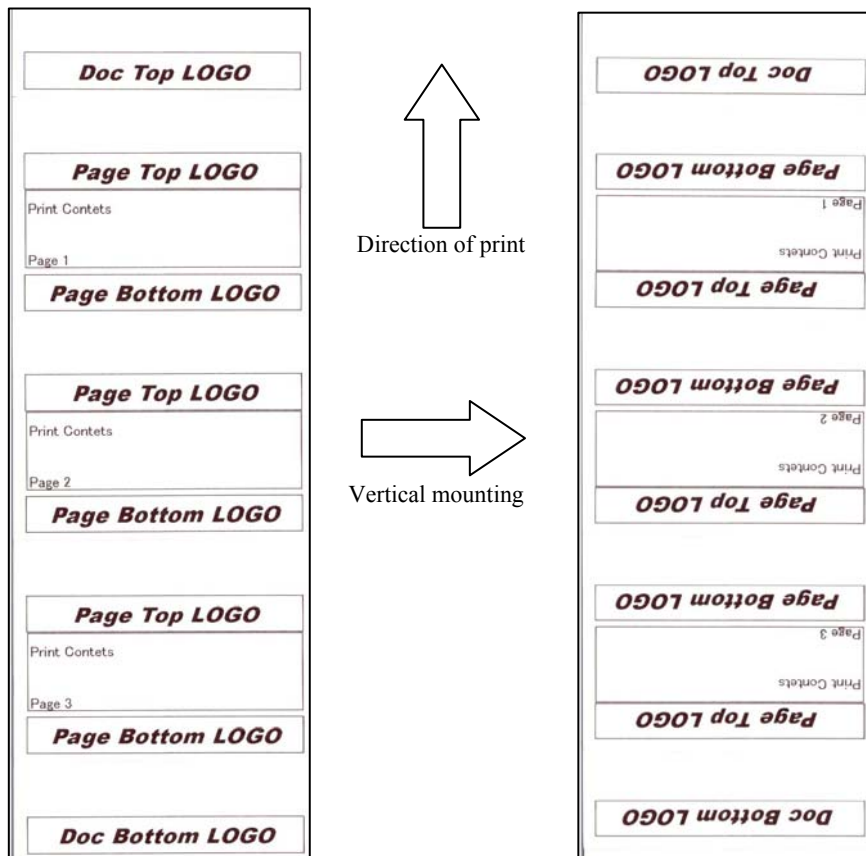
In case of Black Mark Paper Printing

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.



Logo - Property Sheet Page Usage

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 - Group Box Option		
Choice	Default	Description
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 – Generate To - List Box Option		
Choice	Default	Description
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 - List Box Option		
Choice	Default	Description
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

Print – Page Top - List Box Option		
Choice	Default	Description
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


Print – Page Bottom - List Box Option		
Choice	Default	Description
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


Print – Document Bottom - List Box Option		
Choice	Default	Description
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


Print – File Type - List Box Option		
Choice	Default	Description
SRL	☼	the driver will look for and use SRL logo data files
BMP		the driver will look for and use BMP logo data files


Copy - Property Sheet Page Usage

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 - Check Box Option		
Choice	Default	Description
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 - Check Box Option		
Choice	Default	Description
Checked		the SCV image is added down the left hand side of all additional copies
Unchecked		the SCV image is not added

Additional Copies - Print Logo - Check Box Option		
Choice	Default	Description
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

Additional Copies - Printer Quality - List Box Option		
Choice	Default	Description
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 - List Box Option		
Choice	Default	Description
Form Feed / Form Feed		document printed
Form Feed / Tear Bar	613	last page fed to the tear bar position
Form Feed / Partial Cut	643,700, 800,942	last page fed to the cutter and partially cut
Form Feed / Full Cut	1000	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 fed 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	992	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

Copy - Property Sheet Page Usage

Output Method - Group Box Option		
Choice	Default	Description
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 - List Box Option		
Choice	Default	Description
<Current>		the journal file currently being constructed by append operations
<All>		all journal files associated with this printer
<i>dynamic</i> ¹		the names of all journal files created by saving the <Current> journal file under a new file name via the Save As button

Print Journal - Print – Button		
Choice	Default	Description
Pushed		the journal file chosen in the Select Journal option is outputted for printing to the printer

Print Journal – Save As – Button		
Choice	Default	Description
Pushed		the Save As dialog box appears prompting the user for a new file name under which the current journal file should be saved


¹ 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.


Zoom - Property Sheet Page Usage

This property sheet is used to control which portion of the document is printed. By limiting the printing to only a portion of a document you can make that portion larger. The steps required to correctly select a portion of a document are described in the Using the zoom feature to print a page subsection 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 zoom feature.

Note that the **Zoom** property sheet page is only available on zoom models. The zoom models included in this driver set are:


- TUP992 Zoom Raster Printer
- TUP942 Zoom Raster Printer
- TSP847 Zoom Raster Printer

Focus Area - List Box Option		
Choice	Default	Description
All		the entire document is printed
Right		the specified Zoom Factor percentage of the document is removed from the <i>left</i> and the remaining <i>right</i> portion of the document is scaled to printable width and printed
Center		the specified Zoom Factor percentage divided by 2 is removed from both the <i>left</i> and <i>right</i> and the remaining <i>center</i> portion of the document is scaled to printable width and printed
Left		the specified Zoom Factor percentage of the document is removed from the <i>right</i> and the remaining <i>left</i> portion of the document is scaled to printable width and printed

Zoom Factor - List Box Option		
Choice	Default	Description
+00%		the entire document is printed
+05%		05% of the document is removed and 95% printed across the printable width
+10%		10% of the document is removed and 90% printed across the printable width
+15%		15% of the document is removed and 85% printed across the printable width
+20%		20% of the document is removed and 80% printed across the printable width
+25%		25% of the document is removed and 75% printed across the printable width
+30%		30% of the document is removed and 70% printed across the printable width
+35%		35% of the document is removed and 65% printed across the printable width
+40%		40% of the document is removed and 60% printed across the printable width
+45%		45% of the document is removed and 55% printed across the printable width
+50%		50% of the document is removed and 50% printed across the printable width
+55%		55% of the document is removed and 45% printed across the printable width
+60%		60% of the document is removed and 40% printed across the printable width
+65%		65% of the document is removed and 35% printed across the printable width
+70%		70% of the document is removed and 30% printed across the printable width
+75%		75% of the document is removed and 25% printed across the printable width
+80%		80% of the document is removed and 20% printed across the printable width
+85%		85% of the document is removed and 15% printed across the printable width
+90%		90% of the document is removed and 10% printed across the printable width
+95%		95% of the document is removed and 05% printed across the printable width

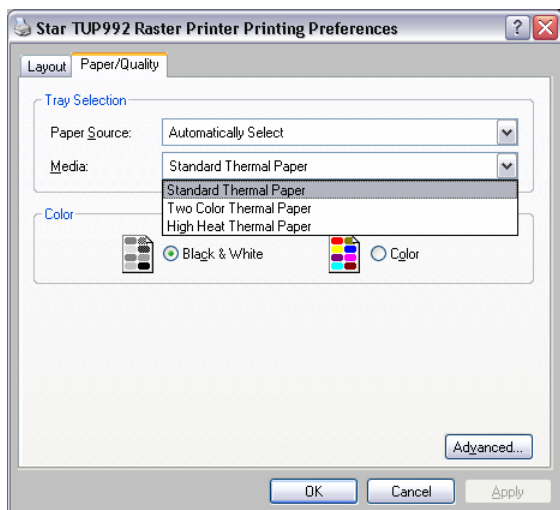
ETB - Property Sheet Page Usage

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 - Group Box Option		
Choice	Default	Description
Disable		the ETB maintenance counter increment command is not sent
Enable		the ETB maintenance counter increment command is sent

Two Color and Media Type Usage

These two features are standard to all printers and 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:

1. 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.

2. 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.

3. 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.

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 or 72mm (depending on the model of printer used)
- 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 these printer drivers do 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 drivers usage.

Setting page and document cut options

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.

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

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 or the top of label stock with a high degree of repeatable accuracy. When using black mark paper with Star printers, you must configure both the printer and the printer driver.

Use the following configuration to achieve the above scenario:

model	driver setting	printer setting	
	Paper Type	required memory switch setting	
TSP1000	Black Mark or Black Mark with Power on Search	Setting not required	
TUP992 Zoom	Black Mark	Black mark sensor enabled (memory switch 1-8 : 1)	Black mark sensor disabled (memory switch 1-8 : 0)
TUP942 Zoom			
TSP847 Zoom			
TUP992			
TUP942			
TSP847			
TSP743	Black Mark or Black Mark with Power on Search	Setting not required for F/W Ver. T7 6.0 or later. Black mark sensor enabled (memory SW 1-8:1) before F/W Ver. T7 6.0	
TSP643	Black Mark	black mark sensor enabled (memory switch 1-8 : 1)	black mark sensor disabled (memory switch 1-8 : 0)
TSP613			

Note:

The TSP743 model, Black Mark with Power on Search is not supported before firmware version T7 6.0.

The TSP643 and TSP613 models do not include a black mark sensor by default. The black mark sensor for these printers must be purchased and installed separately. Once installed, it can be enabled by setting the memory switch as described above.

When printing on labels, so that printing can begin at the label's top most point, you should configure the driver to use the Top Search function. The Top Search function causes the printer to reverse the paper to the top most point before printing. The Top Search function is included in the Cut Action field of the printer driver.

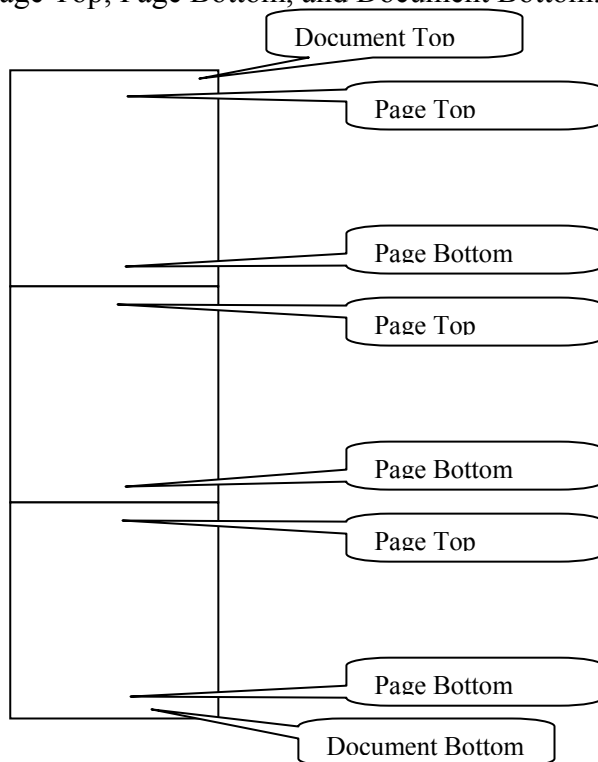
Creating and printing logos

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.

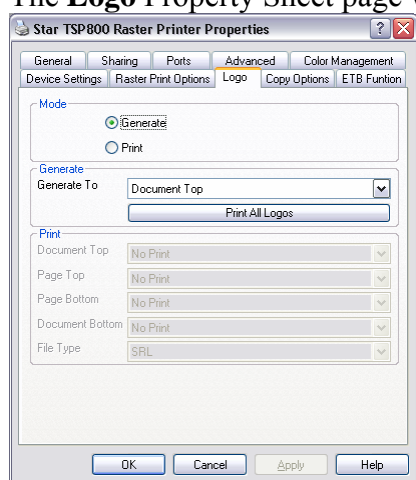
Creating logos

This section will explain how to configure the printer driver in order to create SRL logo data files.

Configuration and procedure for generating SRL logos

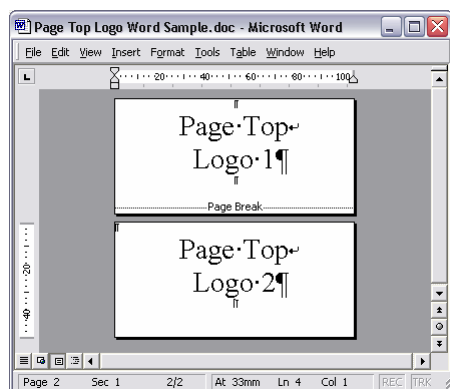
1. Enter the printer driver's properties by right clicking on the printer's icon in the Windows Printers and Faxes folder
2. Navigate to the **Logo** property sheet page
3. In the **Mode** group box, choose the **Generate** option.
4. In the **Generate** group box, choose one of the 4 different document 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:



Printing logos

This section will explain how to configure the printer driver in order to print logo data files.

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

Printing logos

Procedure for printing SRL logos (continued)

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.

Procedure for printing BMP logos

Although these printer drivers support the printing of BMP logo data files, these printer drivers 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 directory structure on the default hard drive, you will have to manually create this directory structure and then populate it with the BMP logo data files. Before BMP logo data files can be used this directory structure must be created. The following is an illustration of this directory structure:

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

Note that this directory structure is rooted in the root directory 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 directory of \Star is written as \Printer Name. The *Printer Name* portion of this directory should be replaced with the name of the printer queue for which these directories 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. For example, if the icon looks like:



Then the directory structure would begin like this:

```
\Star
  \Register Printer
    ...
```

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

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

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.

Printing and journaling additional copies

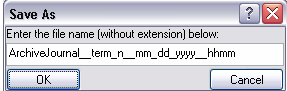
These printer drivers support the printing and journaling of additional copies. The motivation behind creating a printer driver for thermal printers that handles multiple copies is to allow for the use of thermal printers where dot-matrix printers would have been or are being used. Dot-matrix printers effect additional copies through the use of multiple ply paper. These printer drivers 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.

Procedure for printing additional copies

1. Configure the printer driver to print n copies of each print job. This is done by:
 - a. Enter the printer driver's properties by right clicking on the printer's icon in the Windows Printers and Faxes folder.
 - 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 [Copy – Property Sheet Page Usage](#) 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.

Printing and journaling additional copies

Procedure for journaling additional copies

1. Configure the printer driver to print n copies of each print job. This is done by:
 - a. Enter the printer driver's properties by right clicking on the printer's icon in the Windows Printers and Faxes folder.
 - 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 if 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 Copy – Property Sheet Page Usage 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. Enter the printer driver's properties by right clicking on the printer's icon in the Windows Printers and Faxes folder.
 - 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:The image shows a standard Windows 'Save As' dialog box. It has a title bar with a question mark icon and a close button. The main text says 'Enter the file name (without extension) below:'. Below this, there is a text input field containing the text 'ArchivedJournal__term_n__mm_dd_yyyy__hhmm'. At the bottom, there are two buttons: 'OK' and 'Cancel'.
 - f. Click OK to complete the operation

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.

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

1. Enter the printer driver's properties by right clicking on the printer's icon in the Windows Printer and Faxes folder.
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.

Using the zoom feature to print a page subsection

The following printer drivers include the ability to print standard paper sizes and also to “zoom” in on certain portions of a document and print them in an enlarged state.

Printer Driver	Function		Print quality	driver setting
		Description		Focus area
TUP992_Zoom TUP942_Zoom TSP800_Zoom	Reduction printing (variable rate)	A3, A4, A5, B4, B5, B6, Letter, Legal	Normal	“All”
	Zoom printing (variable rate)	Zoom in on certain portions of a document		“Right”, “Center”, “Left”. (See below description)
TUP992_A4 Letter Zoom TUP942_A4 Letter Zoom TSP800_A4 Letter Zoom	Reduction printing (fixed rate)	A4, Letter	Best	Non setting tab

The motive behind creating printer drivers for these printers that are capable of printing standard paper sizes was so that these printers can be used in place of more conventional printers such as laser printers. For example, if a laser printer is being used in a kiosk application to print web pages for customers, now any one of these small and more cost effective products can take its place.

Printing a standard paper size document through these printer drivers does not require any changes from the printer driver’s default configuration; as by default there is no zoom applied. Also note, the application that is printing the document need not be changed in any way.

These printer drivers support edge-to-edge printing of all paper sizes. This means that no margins are required when printing. If an older application has margins hard coded into the document, the zoom feature can be used so that the document is printed in an edge-to-edge manner, by having the driver crop out these unnecessary margins.

Another situation where you might want to use the zoom feature to crop the original document and print only a portion of it is this. Assume you are developing HTML pages for an airline-ticketing kiosk. You hope to display a map of the gate and the ticket to the customer, all on one HTML page. Because only the ticket is to be printed, you must use the zoom feature to crop out the map and print (selectively) only the ticket.

Procedure for printing the right portion of a document by cropping the left:

1. Enter the printer driver’s properties by right clicking on the printer’s icon in the Windows Printer and Faxes folder
2. Navigate to the **Zoom** property sheet page.
3. Choose **Right** for the **Focus Area** option
4. Choose the appropriate horizontal percentage of the document to **crop from the left**.
5. Print your document and verify that the only the right portion was printed.

Procedure for printing the left portion of a document by cropping the right:

1. Enter the printer driver’s properties by right clicking on the printer’s icon in the Windows Printer and Faxes folder
2. Navigate to the **Zoom** property sheet page.
3. Choose **Left** for the **Focus Area** option
4. Choose the appropriate horizontal percentage of the document to **crop from the right**.
5. Print your document and verify that the only the left portion was printed.

Procedure for printing the center portion of a document by cropping the left & right:

1. Enter the printer driver's properties by right clicking on the printer's icon in the Windows Printer and Faxes folder
2. Navigate to the **Zoom** property sheet page.
3. Choose **Center** for the **Focus Area** option
4. Choose the appropriate horizontal percentage of the document to **crop from the left & right (n/2% from the left and n/2% from the right)**.
5. Print your document and verify that the only the center portion was printed.

Star Language and Status Monitor Overview

The Star Language and Status Monitor components have been included in the distribution of these drivers to provide a complete printing solution, including the ability to track the printer's status. Through the use of the Star Language and Status Monitor components, you can:

- Track the printer's status in real-time via the Windows Printers & Faxes Folder.
- Create custom applications that link with the Star Status Monitor component to allow for the real-time display of the printer's status within your application's user interface.
- Configure the Star Language and Status Monitor components to suppress the warning messages that Windows usually posts to the user following a failed print attempt (this is valuable, for example, in a kiosk environment, where the user would be unable to effectively respond to such an error).

This package's installer creates the Star Micronics \ SMJ Language Monitor folder in the Windows Start Menu \ Programs path. Find this by clicking the Start Button, entering the Programs menu, then the StarMicronics menu, and finally SMJ Language Monitor.

Within this group are the following entries:

- SMJ Language Monitor
This application allows you to configure the SMJ Language Monitor component.
- SMJSMonDIIADG
This Microsoft Word document details the API (Application Programming Interface) exposed by the Star Language Monitor component.
- VBSample
This is a Visual Basic sample project that demonstrates the usage of the SMJ Language and Status Monitor components. You must have Visual Basic in order to open this item.
- VCSample
This is a compiled VC project that has been provided so that users who do not have Visual Basic can see what a sample application might do.

When using the Star Language and Status Monitor software with serial or parallel printers, the following printer configuration must be effected.

Model	ASB Enable	NSB Enable
TSP613	Dip Switch 1-7 OFF	Dip Switch 1-8 OFF
TSP643	Dip Switch 1-7 OFF	Dip Switch 1-8 OFF
TSP700	Dip Switch 1-7 OFF	Dip Switch 1-8 OFF
TSP800	Dip Switch 1-7 OFF	Dip Switch 1-8 OFF
TUP942	Memory Switch 7-C ON	Memory Switch 7-8 ON -
TUP992	Memory Switch 7-C ON	Memory Switch 7-8 ON -
TSP1000	Dip Switch 1-7 OFF	Dip Switch 1-8 OFF

For full details on the function and usage of the Star Language and Status Monitor components, see that package's user manual.

Release History

The following is a release history for this driver set.

Note	Date	Distribution File
<ul style="list-style-type: none">• initial release• includes TSP800, TSP700 TSP643, and TSP613 printers	2002/03/??	
<ul style="list-style-type: none">• includes TUP992 and TUP942• added online help• distributed via Star Installer• includes this user manual	2002/06/14	RasterDrv_2K-XP_20020614.exe
<ul style="list-style-type: none">• Installer includes Star Language and Status Monitor components• Updates TUP942 & TUP992 presenter loop control• Japanese manual included	2002/07/05	RasterDrv_2K-XP_20020705.exe
<ul style="list-style-type: none">• Added the Media Type feature to all GPD files with the <u>High Heat Thermal Paper</u> option included to support that type of paper	2003/04/03	RasterDrv_2K-XP_20030403.exe
<ul style="list-style-type: none">• include TSP1000• TSP743 supported a number of paper widths• TSP743 paper type added• “Set options to defaults” button added to all property sheets• TUP992 supported new device ID	2004/10/18	RasterDrv_2K-XP_20041018.exe
<ul style="list-style-type: none">• TUP992 / 942 80mm and 72mm width paper added	2004/12/03	RasterDrv_2K-XP_20041203.exe
<ul style="list-style-type: none">• TSP1000 55mm, 52mm, 47mm and 42mm width paper added	2005/03/28	RasterDrv_2K-XP_20050328.exe
<ul style="list-style-type: none">• Bug Fix TSP1000 / 700 Paper Type U/I TUP992 Cut Action	2005/05/12	RasterDrv_2K-XP_20050512.exe
<ul style="list-style-type: none">• Added the Fixed reduction printing driver for optimized graphics: TUP992/942 A4 Letter Zoom and TSP800 A4 Letter Zoom.	2005/05/20	RasterDrv_2K-XP_20050520.exe
<ul style="list-style-type: none">• Added vertical mount function.	2006/06/01	RasterDrv_2K-XP_20060601.exe

Document End