

Thermal Printer
TUP500

Software Manual

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Introduction

This driver software runs on Windows 2000 (SP3 and later), XP, and Vista.

If you going to use Windows applications and are connecting by USB, please be sure to install the provided USB printer class driver. If you are planning to use OPOS applications over a USB connection, please install the USB vendor class driver. For instructions, see Chapter 1, “Installing/ Uninstalling,” and follow the steps that apply to the your environment and intended usage.

1. Installing/Uninstalling

The installation steps vary according to the operating system. Therefore, refer to the section for the environment that you are using.

Caution: Administrator privilege is required to run the installation.

1.1 Installing (Windows 2000/XP)

To install the driver, proceed as follows.

Note: If you are connecting to the printer by USB, do not turn the printer on yet. First carry out the steps under Section 1.1.1, “Installing the Software.” Then proceed to either Section 1.1.2, “Installing the USB Printer Class Driver” or to Section 1.1.4, “Installing the USB Vendor Class Driver,” and turn on the power when instructed to do so.

1.1.1 Installing the Software

- ① Open the “Star_TUP500_Software_Ver1_0” folder (created when the “Star_TUP500_Software_Ver1_0.zip” file is unzipped) and start “Star_TUP500_Installer.exe”.

The following window appears, and the wizard prepares to start the installation.

The time required for installation may be longer than usual depending on the environment used.

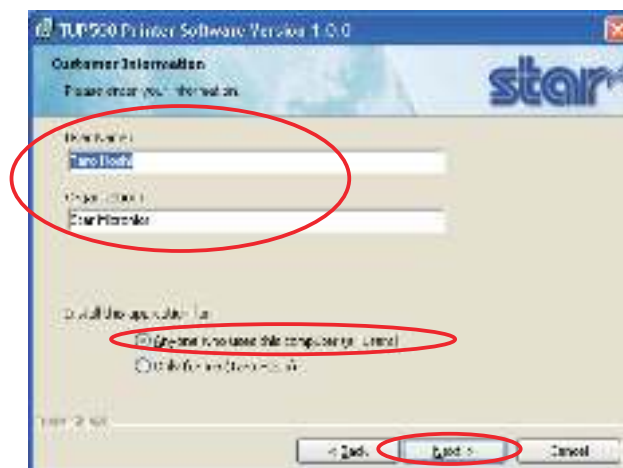


- ② Click the **Next** button to proceed.



- ③ Type your user information.

After typing your user name and the name of your organization and selecting whether the installed program is to be available to all users of this computer or only to you, click the **Next** button.



- ④ Select the setup type, either **Typical** or **Custom**. Use **Custom** if you wish to include installation of the virtual port emulator, or if you wish to suppress installation of features that you do not need. Otherwise, select **Typical**. Features included by a **Typical** installation are as indicated below. After selecting, click **Next**.



■ A **Typical** installation will install the following features:

- Printer driver
 - Language monitor plug-in
- USB vendor class driver
- OPOS driver
- JavaPOS
- Setup utilities

■ Note that a **Typical** install will not install the following. (Use **Custom** if you wish to include this feature.)

- Virtual port emulator

- ⑤ Click the **Install** button to begin the installation.



- ⑥ Software installation is now completed.
Click the **Finish** button to close the wizard.



- ⑦ Now install the driver software that matches your interface and intended use. Proceed to one of the following sections, in accordance with your needs:

- 1.1.2 Installing the USB Printer Class Driver
- 1.1.3 Installing the Non-USB Printer Driver
- 1.1.4 Installing the USB Vendor Class Driver

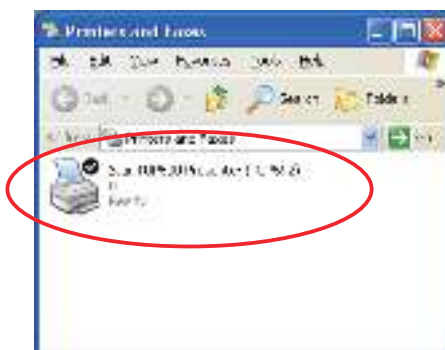
1.1.2 Installing the USB Printer Class Driver

To install the USB printer class driver, proceed as follows.

- ① Connect the printer, and then turn on the printer's power switch.
The computer's Plug and Play feature detects the connection of the printer hardware and automatically installs the driver software.
At this time, the following message will appear on the lower right of the Windows desktop.



- ② From the Windows Start menu, select **Printers and Faxes** and confirm that **Star TUP500 Presenter (TUP592)** or **Star TUP500 (TUP542)** appears in the folder. If the appropriate printer appears there, installation was completed successfully.



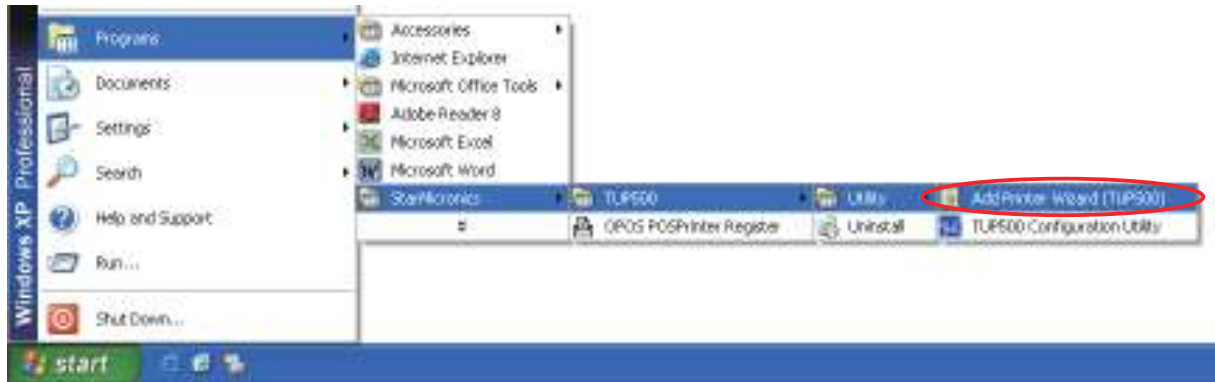
1.1.3 Installing the Non-USB Printer Driver

To install the non-USB driver, proceed as follows.

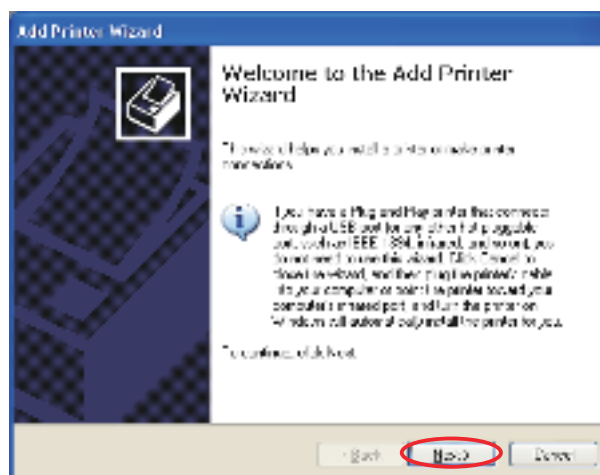
When using a TCP/IP interface, the port must be configured beforehand.

For details, see Section 6.3, “Setting up a TCP/IP Printer Port.”

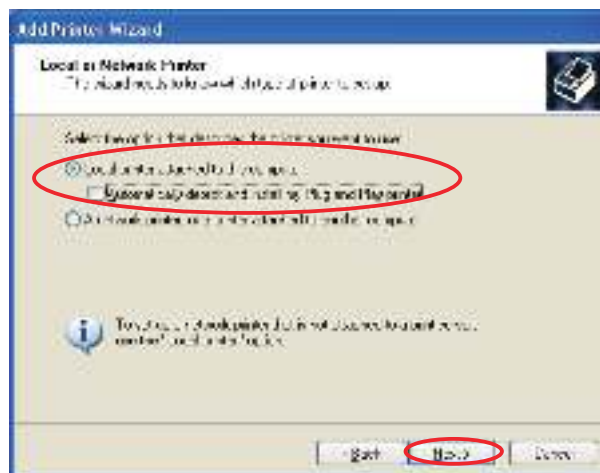
- ① From the Windows Start menu, select **Programs – StarMicronics – TUP500 – Utility – Add Printer Wizard (TUP500)**.



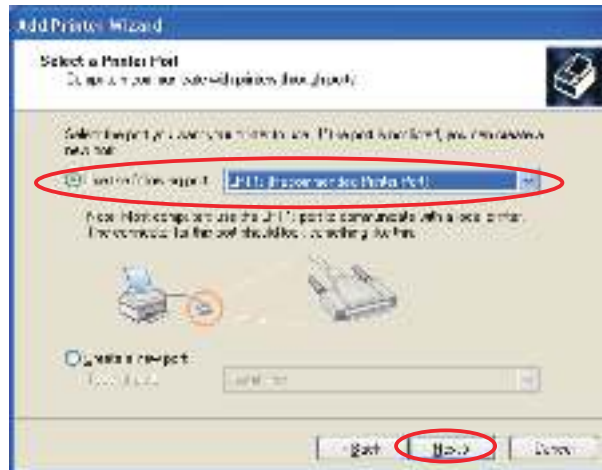
- ② In the **Add Printer Wizard** dialog box, click the **Next** button.



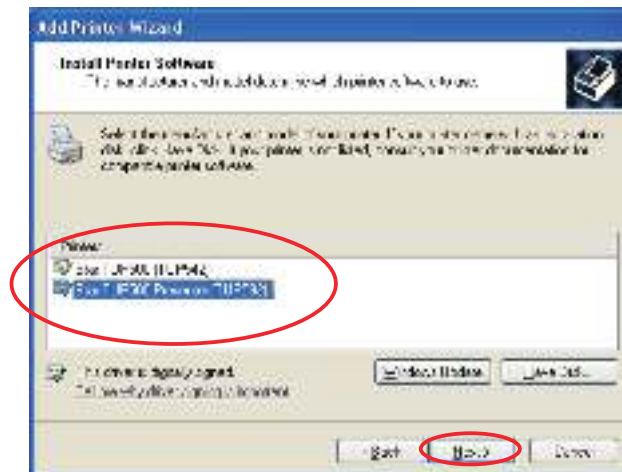
- ③ In the **Local or Network Printer** dialog box, select **Local printer attached to this computer** and uncheck **Automatically detect and install my Plug and Play printer**. Click the **Next** button to proceed.



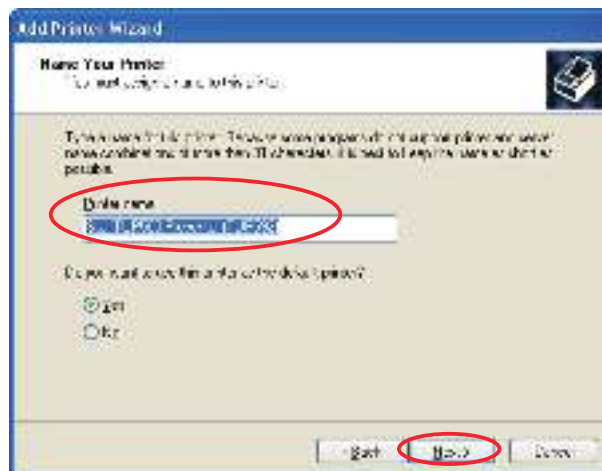
- ④ In the Select a Printer Port dialog box, select the port to use, and then click the **Next** button.



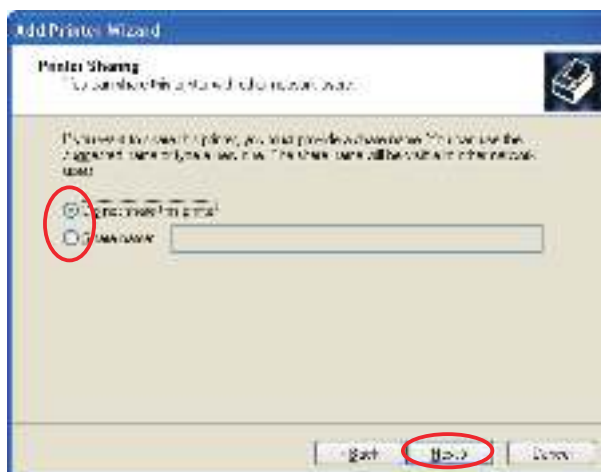
- ⑤ Select the printer to install, and then click the **Next** button.



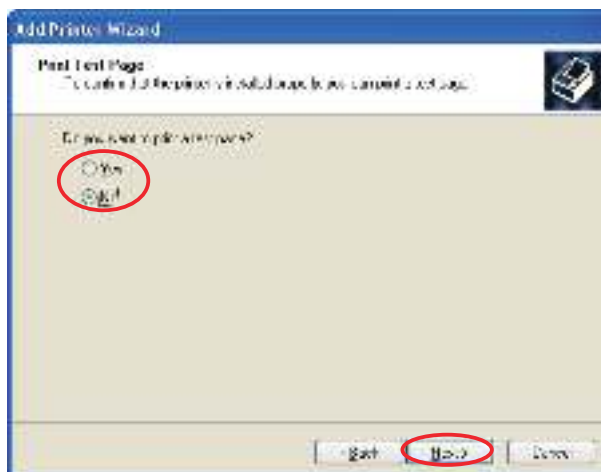
- ⑥ Specify the printer name that will be used after installation in Windows-based programs. Type the printer name if you wish to change it. Additionally, you may set the printer currently being installed as the default printer. Confirm the settings, and then click the **Next** button.



- ⑦ Make the appropriate printer-sharing settings, and then click the **Next** button.

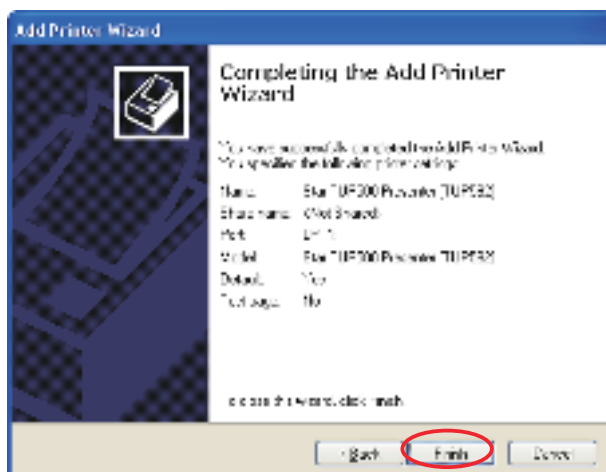


- ⑧ Select **Yes** to print a test page or **No** to not print one, and then click the **Next** button.

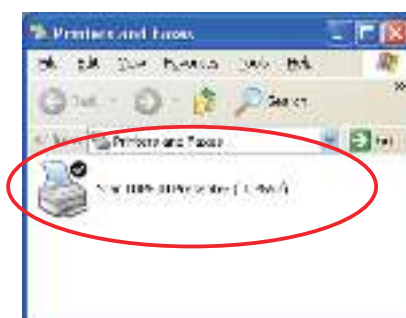


Note: When using a serial port, do not print the test page.
Confirm the printer and computer printer port settings when printing via a serial port.
For details, see Section 5.1, “Notes for Printing via a Serial Interface.”

- ⑨ The settings are displayed. If the settings are correct, click the **Finish** button to add the printer.



- ⑩ A From the Windows Start menu, select **Printers and Faxes** and confirm that **Star TUP500 Presenter (TUP592)** or **Star TUP500 (TUP542)** appears in the folder. If the appropriate printer appears there, installation was completed successfully.



1.1.4 Installing the USB Vendor Class Driver

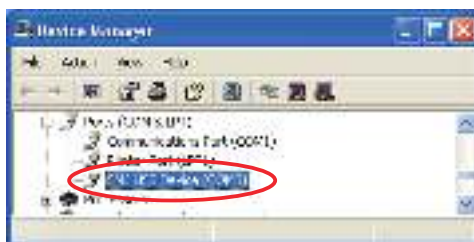
To install the USB vendor class driver, proceed as follows.

- ① At the printer, set DIP switch 1-5 to OFF. Then connect the printer to the computer, and turn on the printer's power.

The computer's Plug and Play feature detects the connection of the printer hardware and automatically installs the USB vendor class driver software.

Point! For information about the printer's DIP switches, refer to the Product Specifications Manual (issued separately).

- ② From the Start menu, select **Control Panel – System – Hardware – Device Manager** and confirm that **SMJ USB Device (COM*)** appears under **Ports (COM & LPT)**. If it does, installation has completed successfully.



1.2 Installing (Windows Vista 32-Bit Edition)

To install the driver, proceed as follows.

Note: If you are connecting to the printer by USB, do not turn the printer on yet. First carry out the steps under Section 1.2.1, "Installing the Software." Then proceed to either Section 1.2.2, "Installing the USB Printer Class Driver" or to Section 1.2.4, "Installing the USB Vendor Class Driver," and turn on the power when instructed to do so.

1.2.1 Installing the Software

- ① Open the "Star_TUP500_Software_Ver1_0" folder (created when the "Star_TUP500_Software_Ver1_0.zip" file is unzipped) and start "Star_TUP500_Installer.exe".
- ② In the **User Account Control** dialog box, click the **Continue** or **Allow** button.

The following window appears, and the wizard prepares to start the installation.

The time required for installation may be longer than usual depending on the environment used.

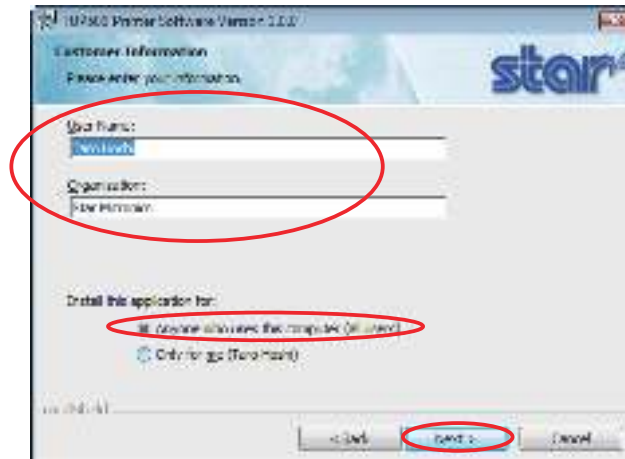


- ③ Click the **Next** button to proceed.

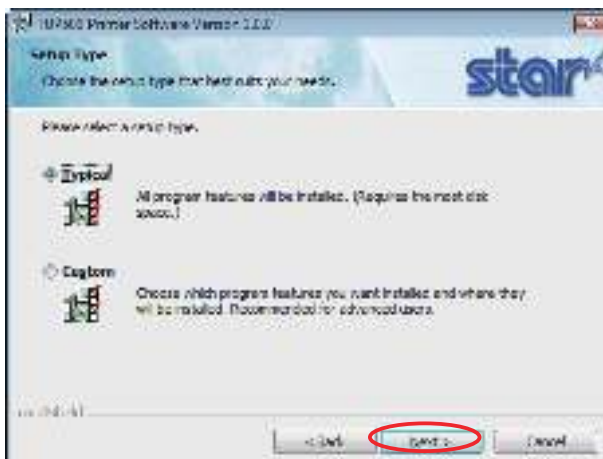


- ④ Type your user information.

After typing your user name and the name of your organization and selecting whether the installed program is to be available to all users of this computer or only to you, click the **Next** button.



- ⑤ Select the setup type, either **Typical** or **Custom**. Use **Custom** if you wish to include installation of the virtual port emulator, or if you wish to suppress installation of features that you do not need. Otherwise, select **Typical**. Features included by a **Typical** installation are as indicated below. After selecting, click **Next**.



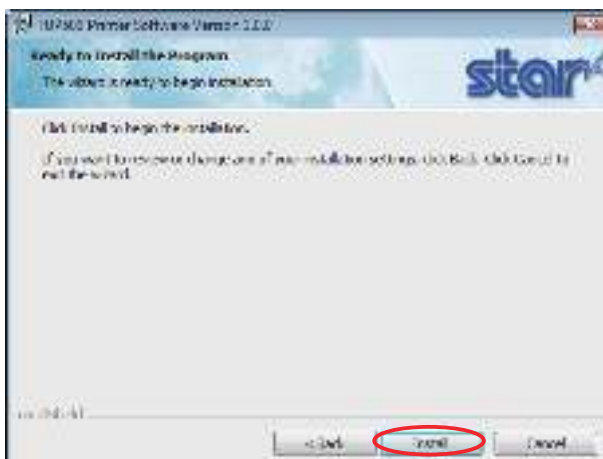
■ A **Typical** installation will install the following features:

- Printer driver
- Language monitor plug-in
- USB vendor class driver
- OPOS driver
- JavaPOS
- Setup utilities

■ **Note that a Typical install will not install the following. (Use Custom if you wish to include this feature.)**

- Virtual port emulator

- ⑥ Click the **Install** button to begin the installation.



- ⑦ If you have opted to install the virtual port emulator, the security window shown below will appear. Click **Install this driver software anyway** to continue the installation.



- ⑧ Software installation is now completed. Click the **Finish** button to close the wizard.



- ⑨ Now install the driver software that matches your interface and intended use. Proceed to one of the following sections, in accordance with your needs:

- 1.2.2 Installing the USB Printer Class Driver
- 1.2.3 Installing the Non-USB Printer Driver
- 1.2.4 Installing the USB Vendor Class Driver

1.2.2 Installing the USB Printer Class Driver

To install the USB printer class driver, proceed as follows.

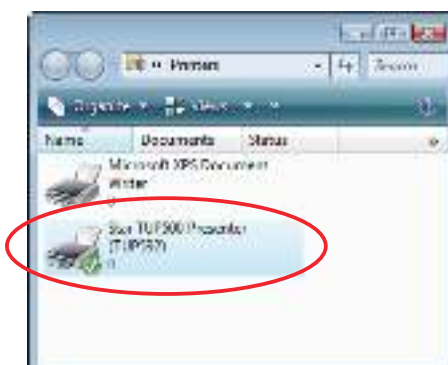
- ① Connect the printer, and then turn on the printer's power switch.
The Plug and Play feature detects the connection of the printer hardware and automatically installs the driver software.



If installation was completed successfully, the following message will appear on the lower right of the Windows desktop.



- ② From the Windows Start menu, select **Settings – Printers** to display the printer setting dialog box. Confirm that **Star TUP500 Present (TUP592)** or **Star TUP500 (TUP542)** appears in the folder. If the appropriate printer appears there, installation was completed successfully.



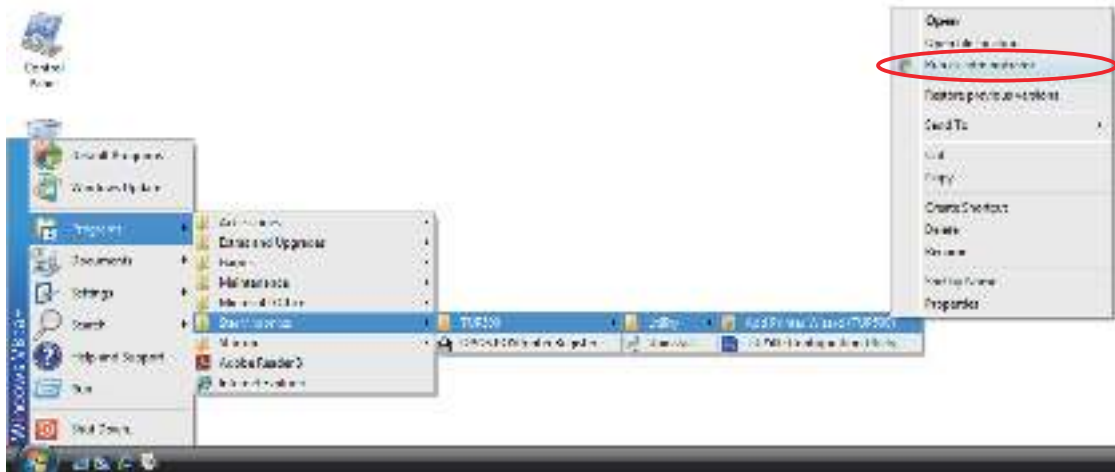
1.2.3 Installing the Non-USB Printer Driver

To add a printer, proceed as follows.

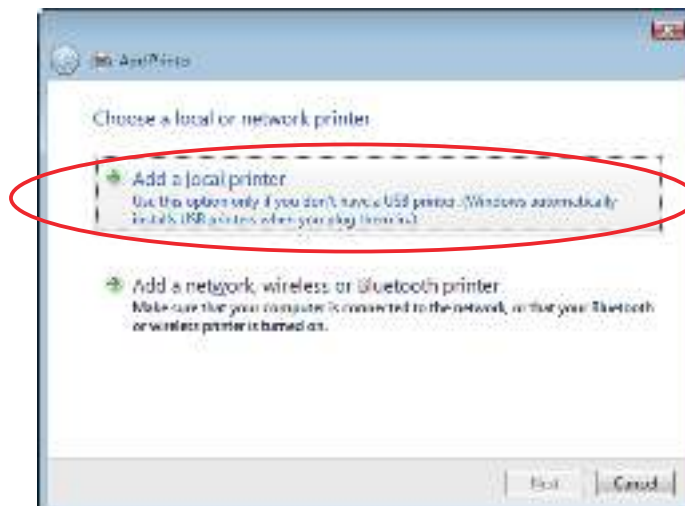
When using a TCP/IP interface, the port must be configured beforehand.

For details, see Section 6.3, “Setting up a TCP/IP Printer Port.”

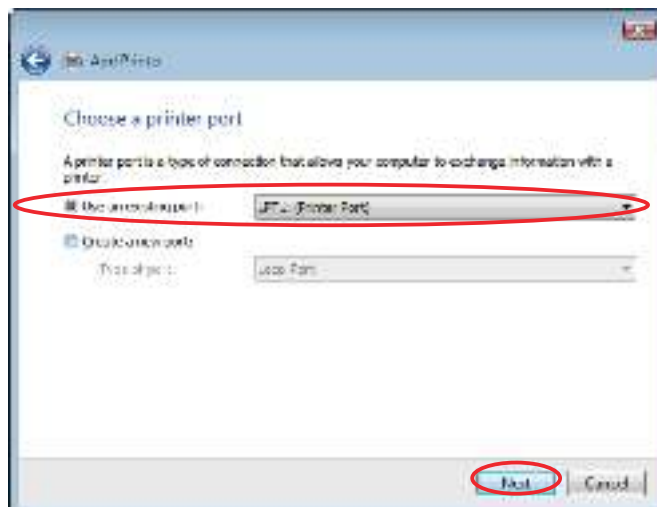
- ① From the Windows Start menu, select **Programs – StarMicronics – TUP500 – Utility**, right-click **Add Printer Wizard (TUP500)**, and then select **Run as administrator**.



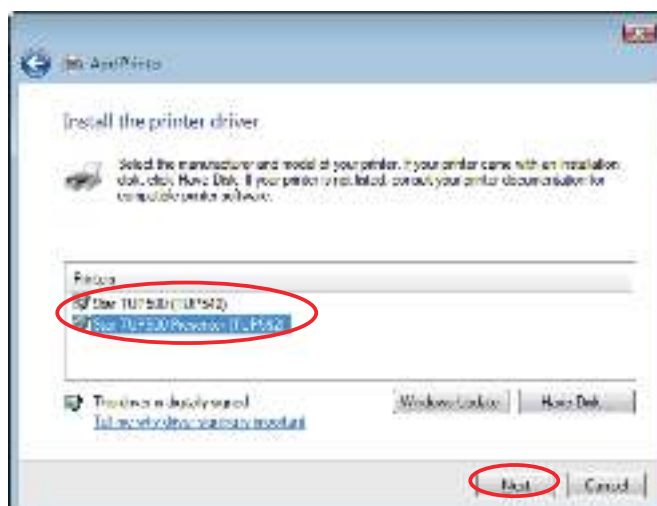
- ② In the **User Account Control** dialog box, click the **Continue** or **Allow** button.
- ③ In the Choose a local or network printer dialog box, click **Add a local printer**.



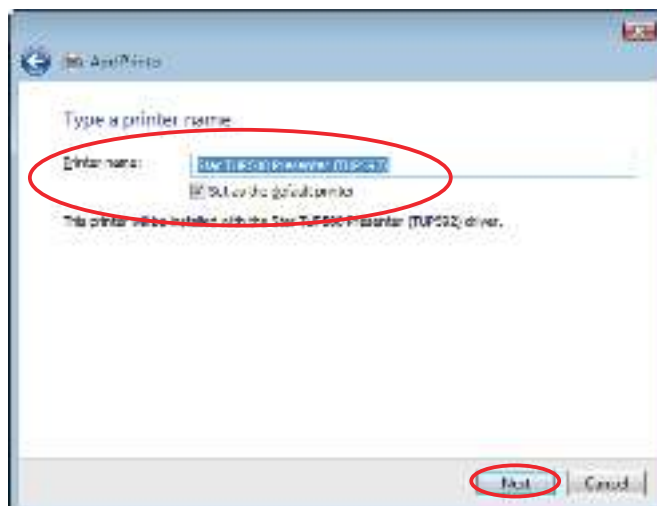
- ④ In the Choose a printer port dialog box, select the port to use, and then click the **Next** button.



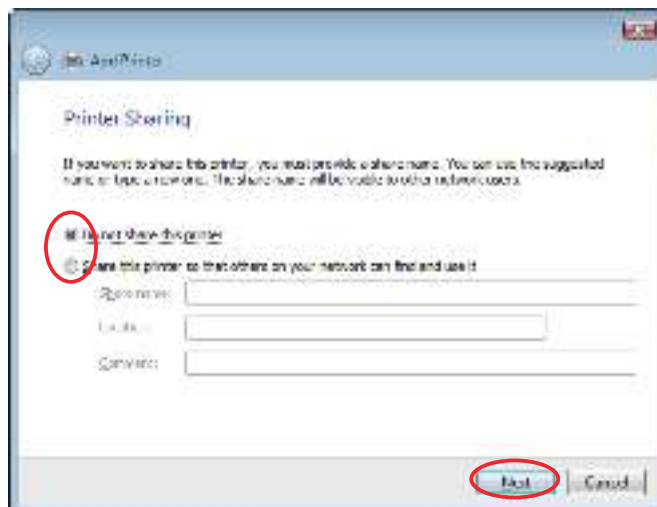
- ⑤ Select the printer to install, and then click the **Next** button.



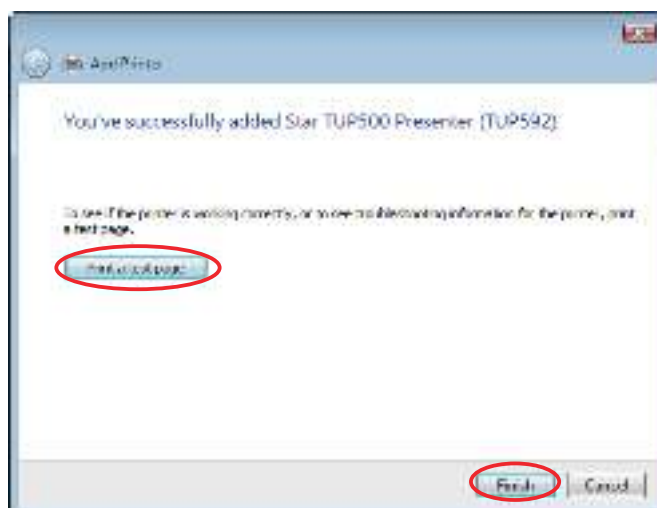
- ⑥ Specify the printer name that will be used after installation in Windows-based programs. Type the printer name if you wish to change it. Additionally, you may set the printer currently being installed as the default printer. Click the **Next** button to begin the installation.



- ⑦ Make the appropriate printer-sharing settings, and then click the **Next** button.



- ⑧ If installation was completed successfully, the following dialog box will appear. To print a test page, click the **Print a test page** button. Click the **Finish** button to complete the installation.



Note: When using a serial port, do not print the test page.
Confirm the printer and computer printer port settings when printing via a serial port.
For details, see Section 5.1, “Notes for Printing via a Serial Interface.”

- ⑨ From the Windows Start menu, select **Settings – Printers** to display the printer setting dialog box. Confirm that **Star TUP500 Presenter (TUP592)** or **Star TUP500 (TUP542)** appears in the folder. If the appropriate printer appears there, installation was completed successfully.



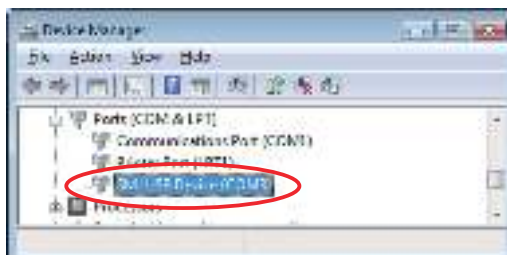
1.2.4 Installing the USB Vendor Class Driver

To install the USB vendor class driver, proceed as follows.

- (1) At the printer, set DIP switch 1-5 to OFF. Then connect the printer to the computer, and turn on the printer's power. The computer's Plug and Play feature detects the connection of the printer hardware and automatically installs the USB vendor class driver software.

Point! For information about the printer's DIP switches, refer to the Product Specifications Manual (issued separately).

- (2) From the Start menu, select **Settings – Control Panel – Device Manager** and confirm that **SMJ USB Device (COM*)** appears under **Ports (COM & LPT)**. If it does, installation has completed successfully.



1.3 Installing (Windows Vista 64-Bit Edition)

If you are using OPOS on a 64-bit Windows system, you must install the separate OPOS standalone package. To enable installation of the package, open the “Star_TUP500_Software_Ver1_0” folder (created when the “Star_TUP500_Software_Ver1_0.zip” file is unzipped) and unzip the file named “Win2K_XP_Vista\Driver\OPOS_POSPrinter_1.8.8_Win32_yyyymmdd.zip” (where yyyymmdd gives the most recent date). Note that the installed OPOS driver runs on 32-bit OPOS applications.

Installation depends on the interface and applications you will be using. Proceed to one of the following sections, in accordance with your needs.

1.3.1 Installing the USB Printer Class Driver

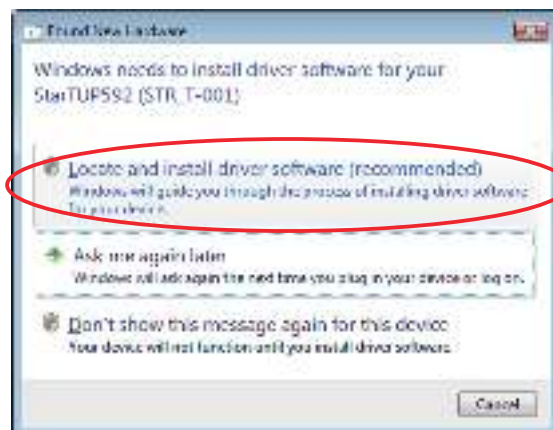
1.3.2 Installing the Non-USB Printer Driver

1.3.3 Installing the USB Vendor Class Driver

1.3.1 Installing the USB Printer Class Driver

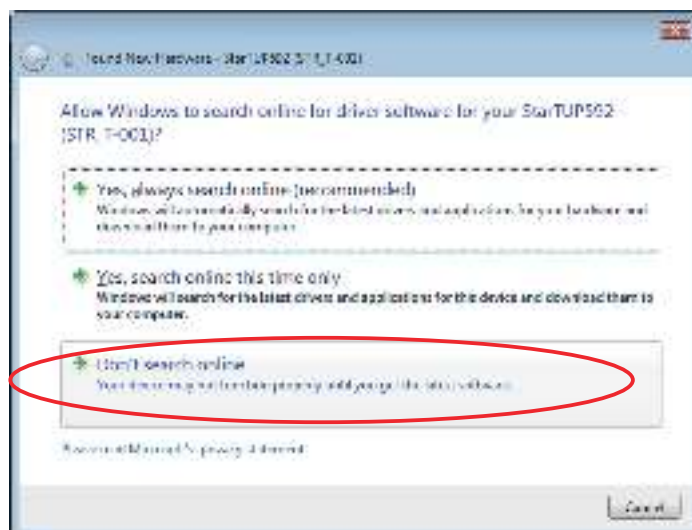
To install the USB printer class driver, proceed as follows.

- ① Connect the printer, and then turn on the printer’s power switch.
The Plug and Play feature detects the connection of the printer hardware and automatically starts installing the driver software.
- ② In the following dialog box, click **Locate and install driver software (recommended)**.

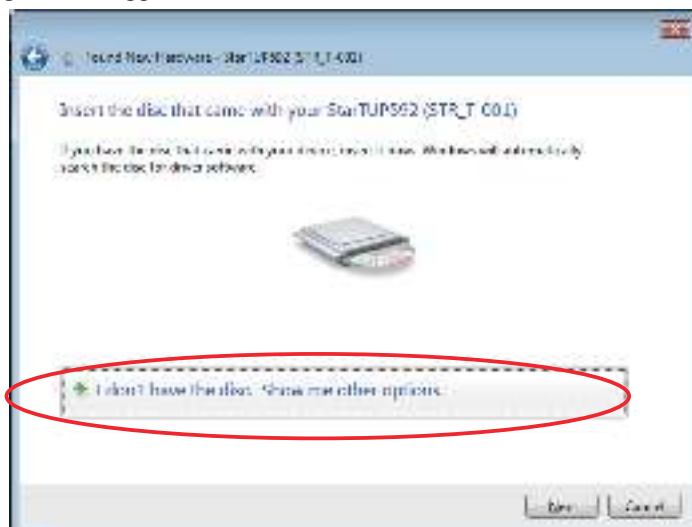


- ③ In the **User Account Control** dialog box, click the **Continue** or **Allow** button.
Installation begins.
The time required for installation may be longer than usual depending on the environment used.

- ④ If the following window appears, click **Don't search online**.



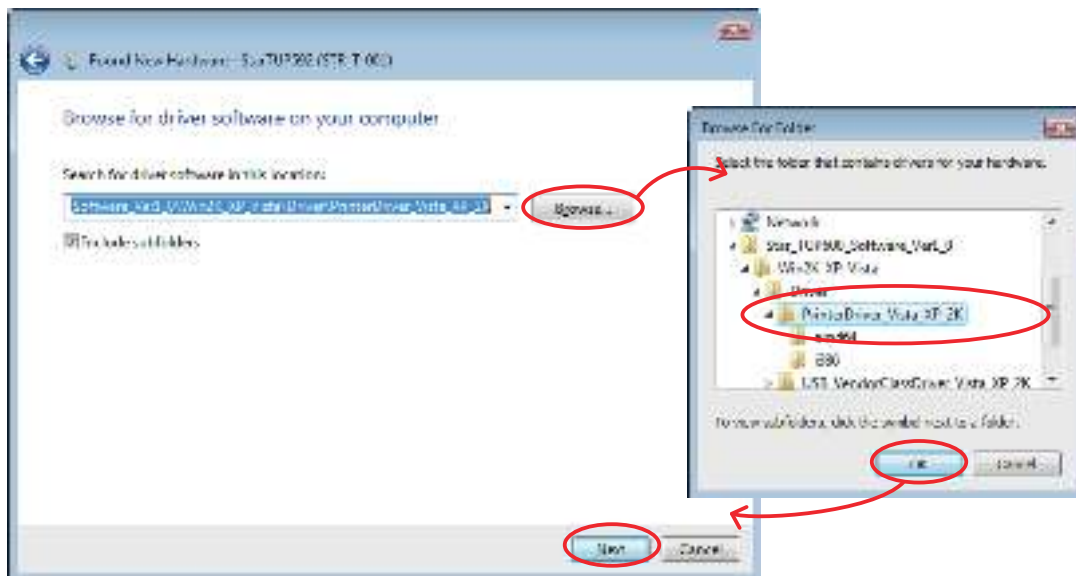
- ⑤ When the following window appears, click **I don't have the disc Show me other options**.



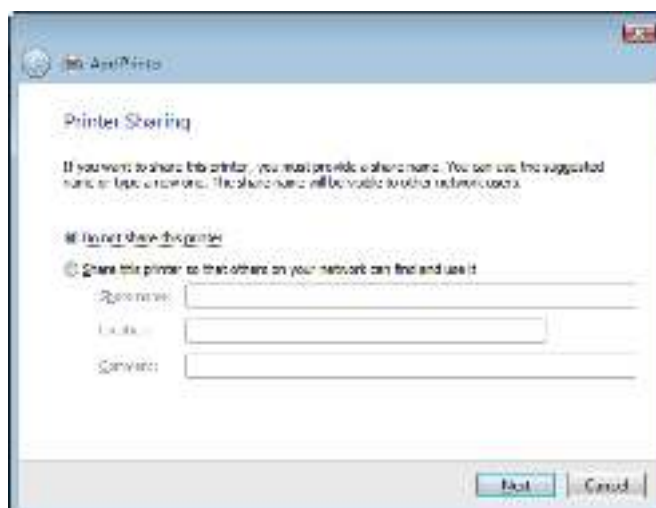
- ⑥ Click **Browse my computer for driver software (advanced)**.



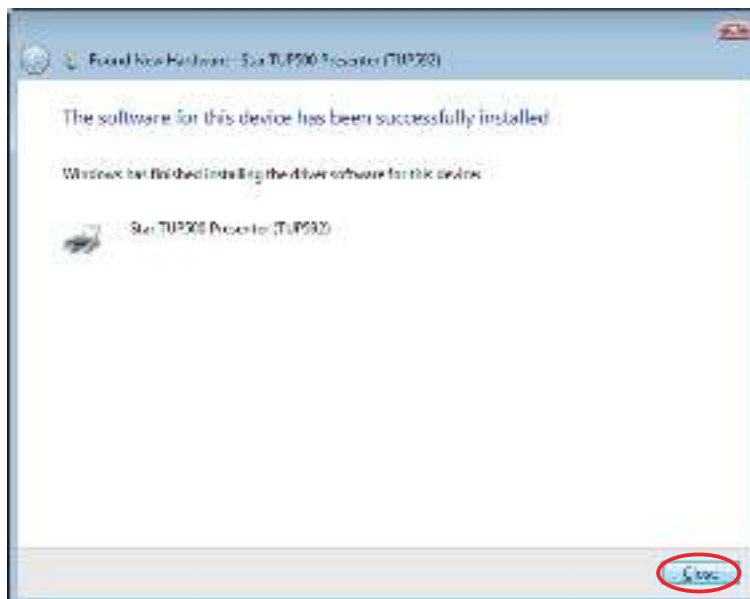
- ⑦ Click **Browse**. Under the “Star_TUP500_Software_Ver1_0” folder (created when you unzipped “Star_TUP500_Software_Ver1_0.zip”), select “Win2k_XP_Vista\Driver\PrinterDriver_Vista_XP_2k”, and click **Next**.



- ⑧ Make the appropriate printer-sharing settings, and then click the **Next** button.



- ⑨ If installation was completed successfully, the following dialog box will appear.
Click the **Close** button to complete the installation.



- ⑩ From the Windows Start menu, select **Settings – Printers** to display the printer setting dialog box.
Confirm that **Star TUP500 Presenter (TUP592)** or **Star TUP500 (TUP542)** appears in the folder. If the appropriate printer appears there, installation was completed successfully.



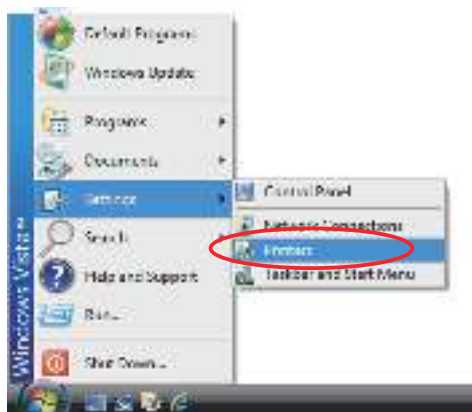
1.3.2 Installing the Non-USB Printer Driver

To install the non-USB driver, proceed as follows.

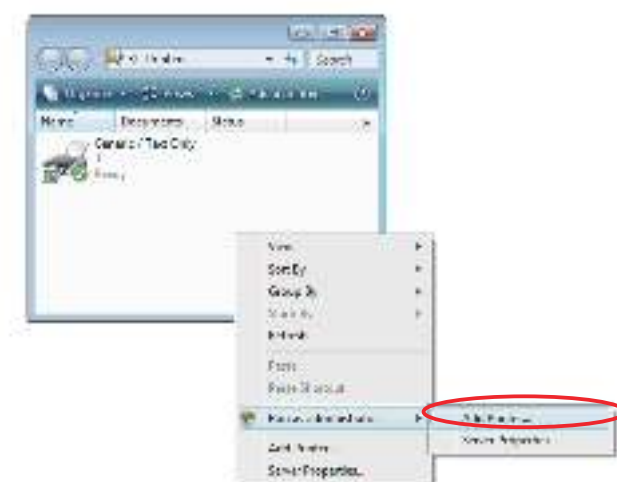
When using a TCP/IP interface, the port must be configured beforehand.

For details, see Section 6.3, “Setting up a TCP/IP Printer Port.”

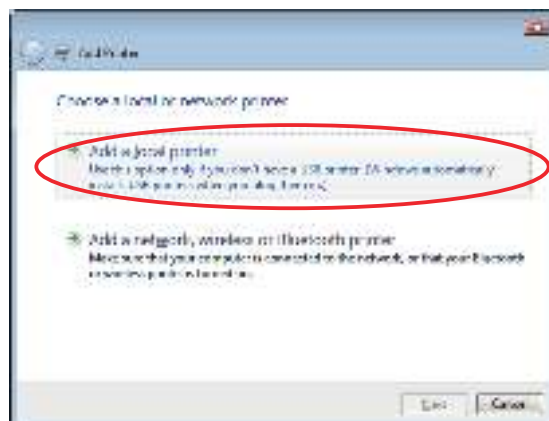
- ① From the Windows Start menu, select **Settings – Printers**.



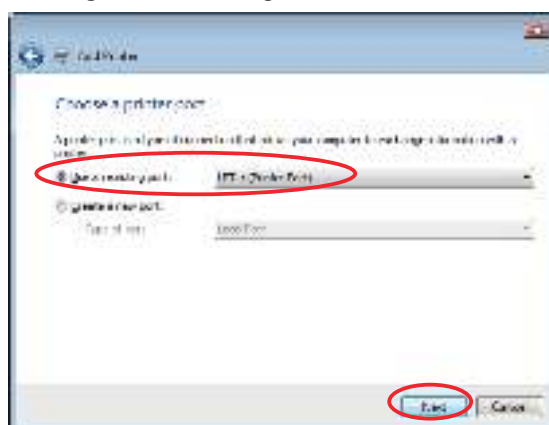
- ② Right-click over a blank area in the Printers folder to open the drop-down menu, and select **Run as administrator** – **Add Printer**.



- ③ Click **Add a local printer**.



- ④ In the Choose a printer port dialog box, select the port to use, and then click the **Next** button.



- ⑤ In the Install the printer driver dialog box, click the **Have Disk** button.



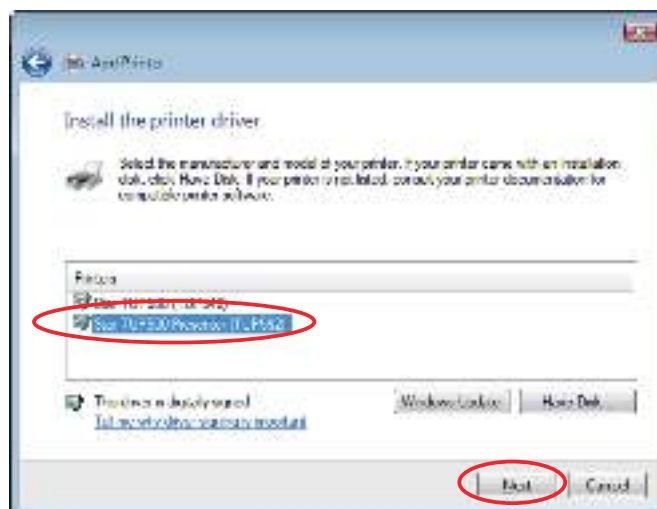
- ⑥ At the Install From Disk window, click **Browse** to open the Locate File window. Under the “Star_TUP500_Software_Ver1_0” folder (created when you unzipped “Star_TUP500_Software_Ver1_0.zip”), open “Win2K_XP_Vista\Driver\PrinterDriver_Vista_XP_2K”, select “smjt500.inf”, and click **Open**.



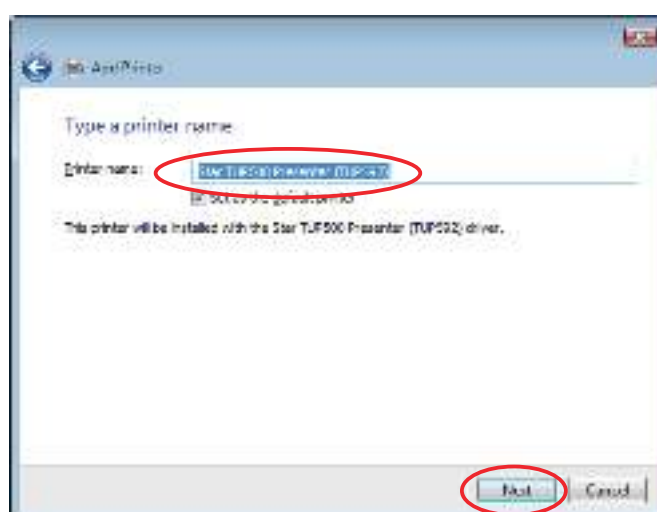
- ⑦ Click the **OK** button.



- ⑧ In the Install the printer driver dialog box, select the printer to use, and then click the **Next** button.



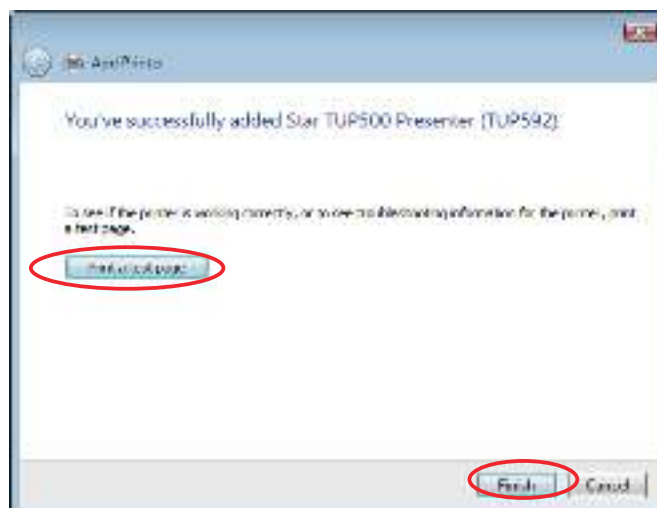
- ⑨ Specify the printer name that will be used after installation in Windows-based programs. Type the printer name if you wish to change it. Additionally, you may set the printer currently being installed as the default printer. Click the **Next** button to begin the installation.



- ⑩ In the **User Account Control** dialog box, click the **Continue** or **Allow** button.
The printer is installed.

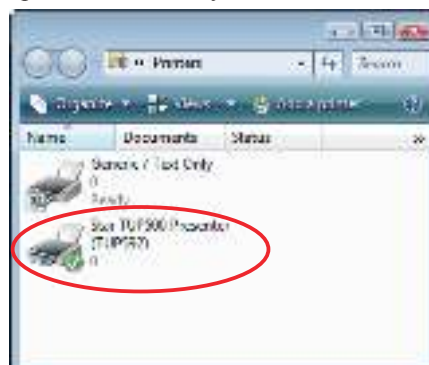


- ⑪ If installation was completed successfully, the following dialog box will appear. To print a test page, click the **Print a test page** button. Click the **Finish** button to complete the installation.



Note: When using a serial port, do not print the test page.
Confirm the printer and computer printer port settings when printing via a serial port.
For details, see Section 5.1, “Notes for Printing via a Serial Interface.”

- ⑫ From the Windows Start menu, select **Settings – Printers** to display the printer setting dialog box. Confirm that **Star TUP500 Presenter (TUP592)** or **Star TUP500 (TUP542)** appears in the folder. If the appropriate printer appears there, installation was completed successfully.



1.3.3 Installing the USB Vendor Class Driver

To install the USB vendor class driver, proceed as follows.

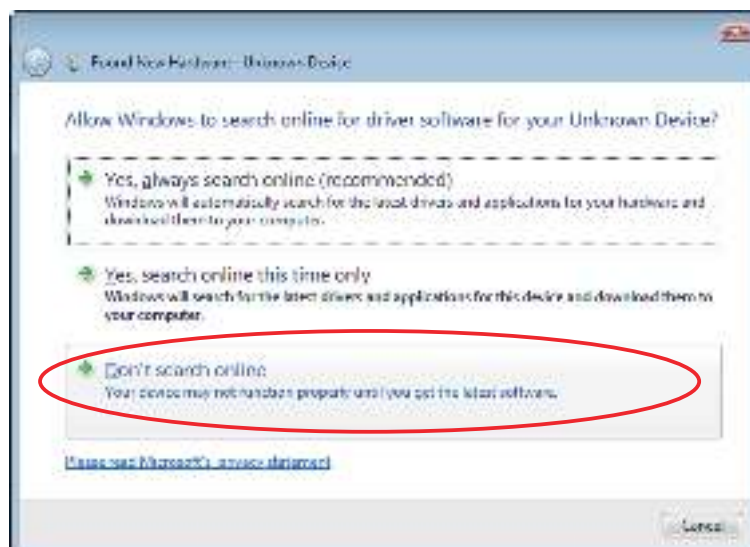
- ① At the printer, set DIP switch 1-5 to OFF. Then connect the printer to the computer, and turn on the printer's power. The computer's Plug and Play feature detects the connection of the printer hardware and automatically installs the USB vendor class driver software.

Point! For information about the printer's DIP switches, refer to the Product Specifications Manual (issued separately).

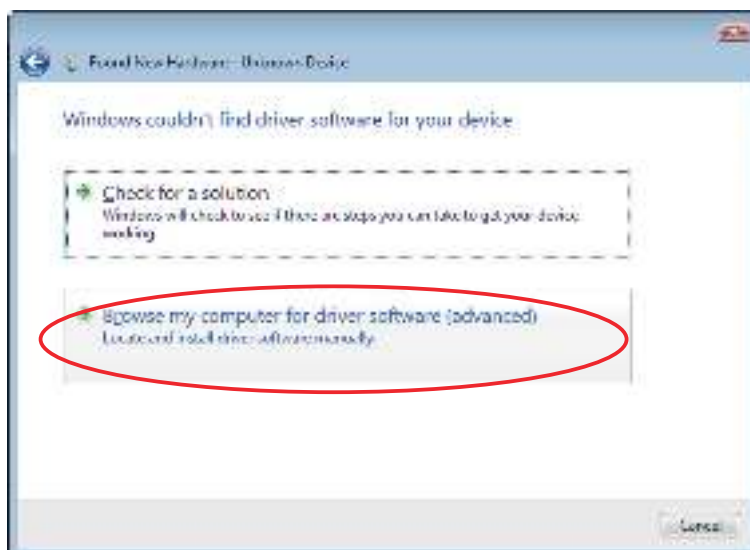
- ② In the following dialog box, click **Locate and install driver software (recommended)**.



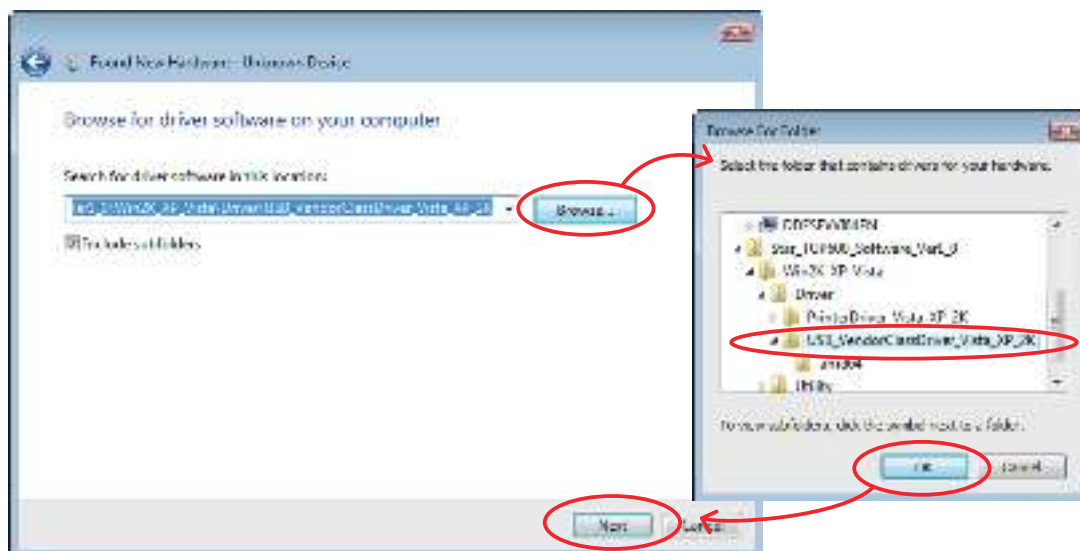
- ③ In the **User Account Control** dialog box, click the **Continue** or **Allow** button. Installation begins.
The time required for installation may be longer than usual depending on the environment used.
- ④ If the following window appears, click **Don't search online**.



- ⑤ Click **Browse my computer for driver software (advanced)**.



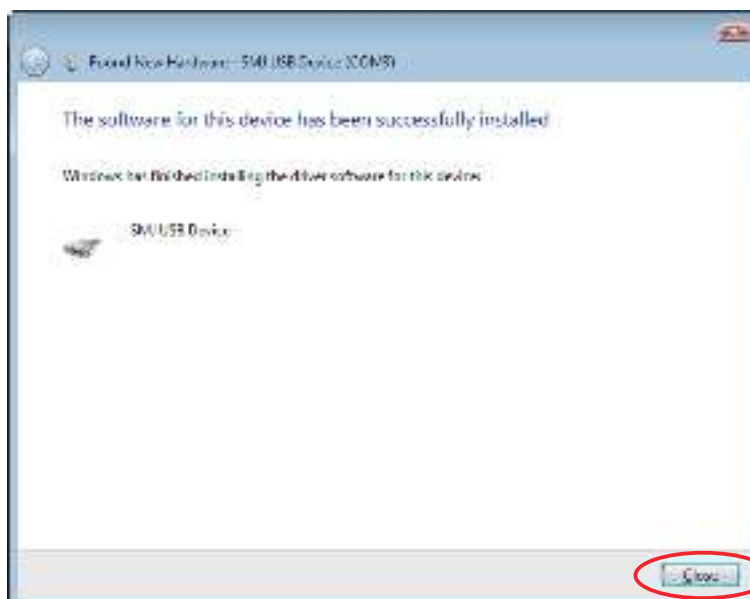
- ⑥ Click **Browse**. Under the “Star_TUP500_Software_Ver1_0” folder (created when you unzipped “Star_TUP500_Software_Ver1_0.zip”), select “Win2k_XP_Vista\Driver\USB_VendorClassDriver_Vista_XP_2k”, and click **Next**.



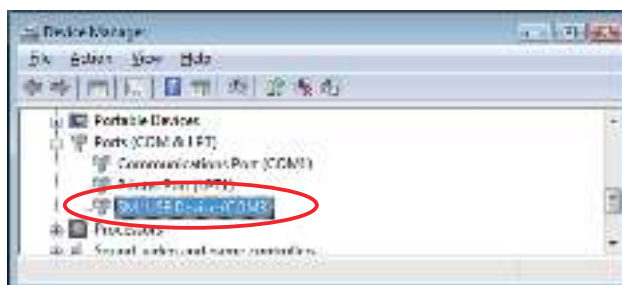
The computer installs the driver software.



- ⑦ If installation was completed successfully, the following dialog box will appear. Click the **Close** button to complete the installation.



- ⑧ From the Start menu, select **Settings – Control Panel – Device Manager** and confirm that **SMJ USB Device (COM*)** appears under **Ports (COM & LPT)**. If it does, installation has completed successfully.



1.4 Uninstalling

1.4.1 Windows 2000/XP

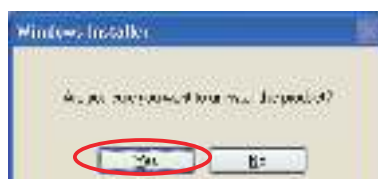
To uninstall the driver, proceed as follows.

Point! If you have been using the USB vendor class driver, please read the “readme_En.txt” file (included in the ZIP file with the drivers) before uninstalling.

- ① Turn off the power switch of the TUP500.
- ② From the Windows Start menu, select **Programs – StarMicronics – TUP500 – Uninstall**.



- ③ When the following confirmation dialog box appears, click the **Yes** button to continue.



- ④ The uninstaller launches to remove all of the TUP500 software from your computer.

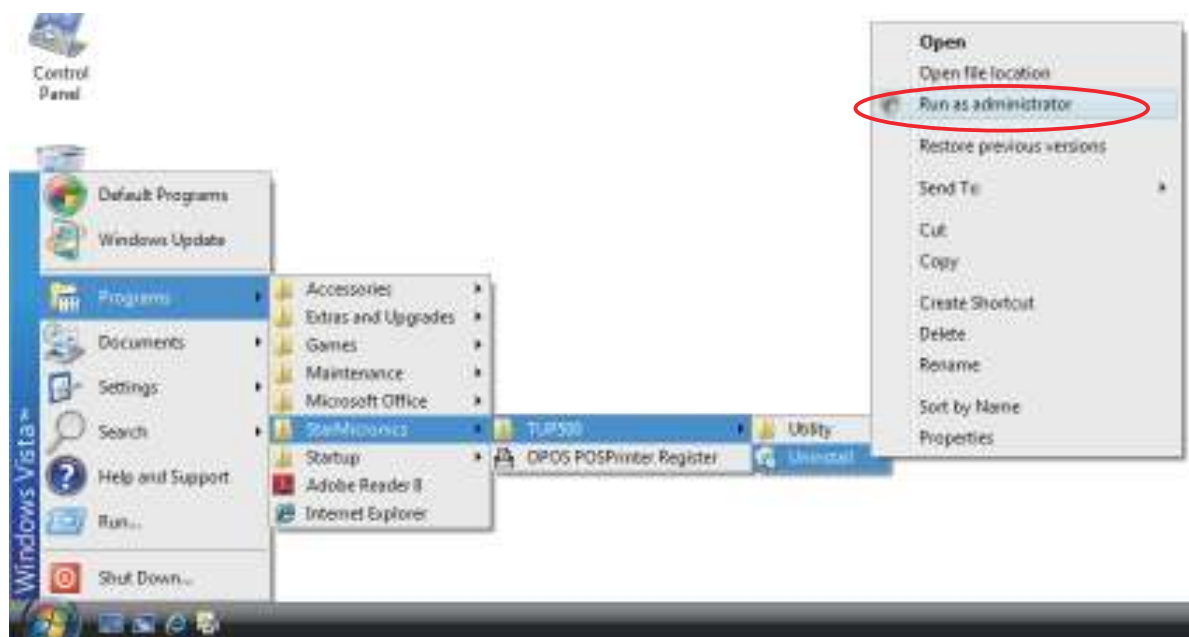


1.4.2 Windows Vista 32-Bit Edition

To uninstall the driver, proceed as follows.

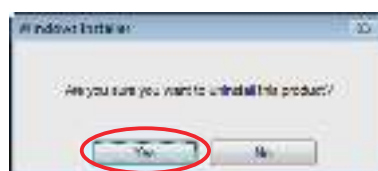
Point! If you have been using the USB vendor class driver, please read the “readme_En.txt” file (included in the ZIP file with the drivers) before uninstalling.

- ① Turn off the power switch of the TUP500.
- ② From the Windows Start menu, select **Programs – StarMicronics – TUP500**, right-click **Uninstall**, and then select **Run as administrator**.

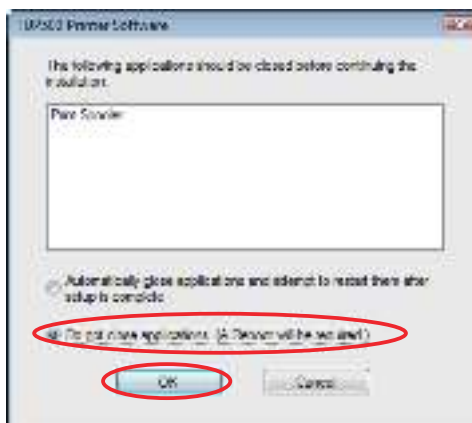


- ③ In the **User Account Control** dialog box, click the **Continue** or **Allow** button.

When the following confirmation dialog box appears, click the **Yes** button to continue.



- ④ If the following window appears, select **Do not close applications**, and click **OK**.



- ⑤ If the following window appears, click **OK**.



- ⑥ The uninstaller launches to remove all of the TUP500 software from your computer.

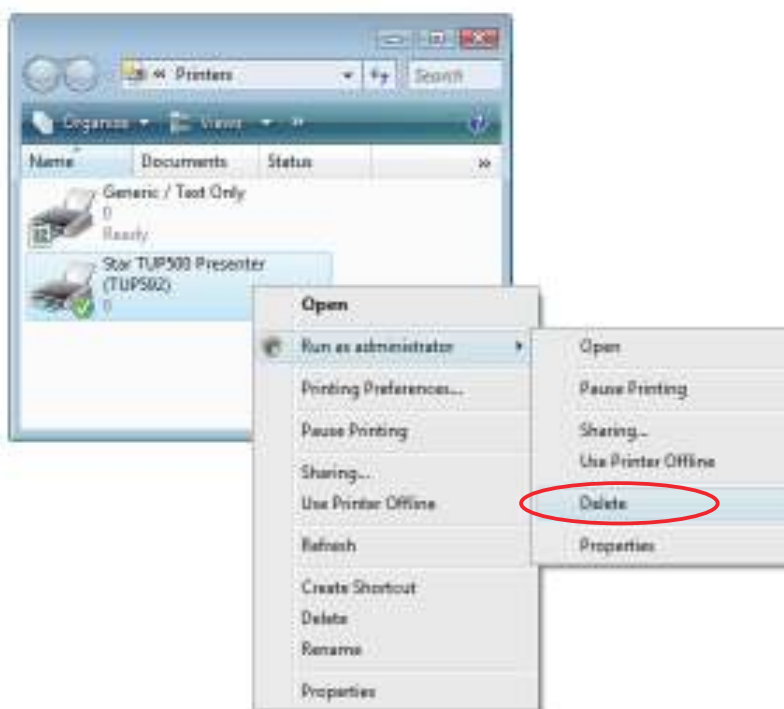


1.4.3 Windows Vista 64-Bit Edition

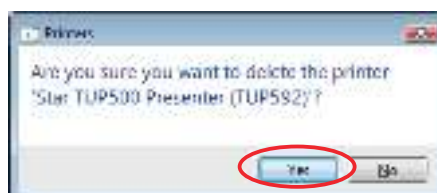
To uninstall the driver, proceed as follows.

Point! If you have been using the USB vendor class driver, please read the “readme_En.txt” file (included in the ZIP file with the drivers) before uninstalling.

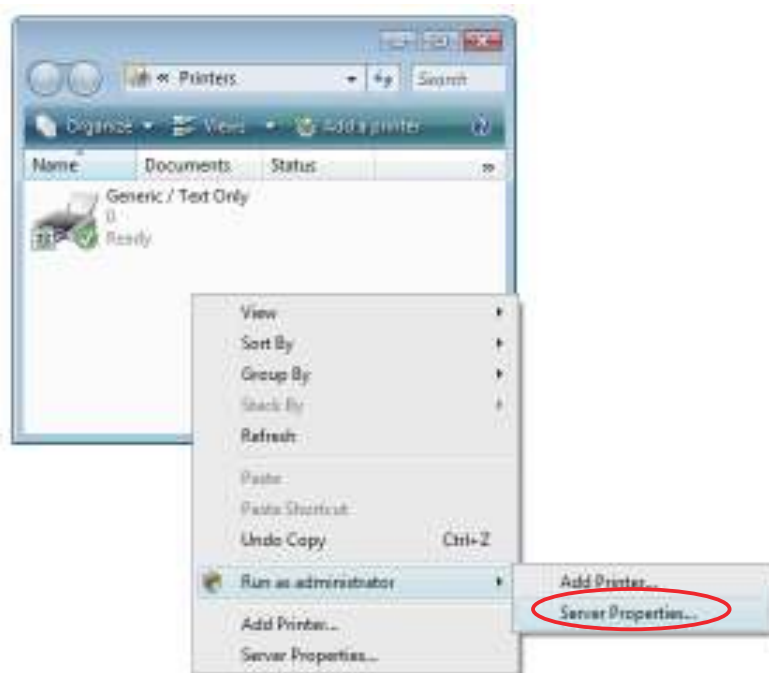
- ① Turn off the power switch of the TUP500.
- ② From the Windows Start menu, select **Settings – Printers** to open the printers folder. Right-click the **Star TUP500** printer icon, and then select **Run as administrator – Delete**.



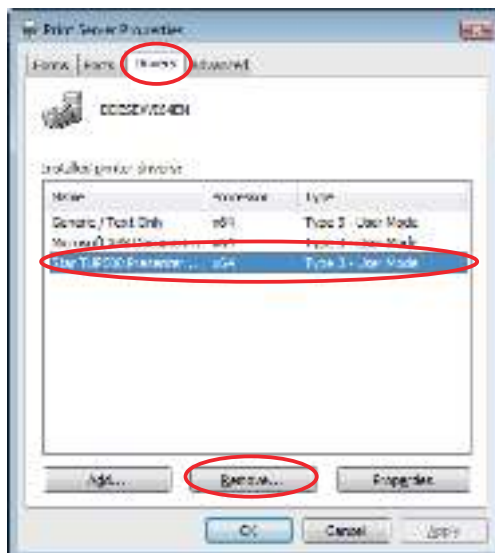
- ③ In the **User Account Control** dialog box, click the **Continue** or **Allow** button.
- ④ When the following confirmation dialog box appears, click the **Yes** button to continue.



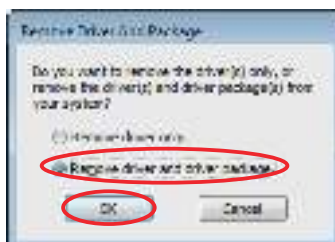
- ⑤ Right-click a blank area in the printers folder, and then select **Run as administrator – Server Properties**.



- ⑥ In the **User Account Control** dialog box, click the **Continue** or **Allow** button.
- ⑦ In the Print Server Properties dialog box, click the **Drivers** tab. Select the **Star TUP500** printer from **Installed printer drivers**, and then click the **Remove** button.



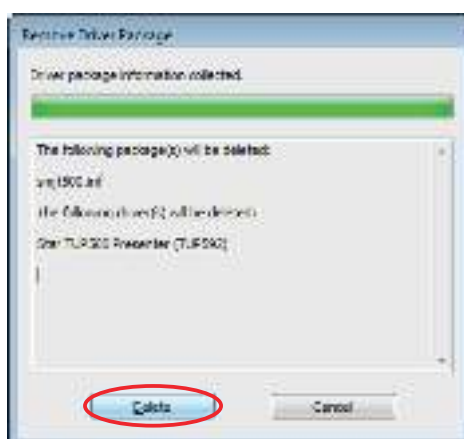
- ⑧ The dialog box to select the deletion method will appear.
Select **Remove driver and driver package**, and then click the **OK** button.



- ⑨ When the following confirmation dialog box appears, click the **Yes** button to continue.



- ⑩ The following dialog box will appear. Click the **Delete** button to continue.



Note: If the dialog box shown in step ⑪ does not appear after performing step ⑩, the driver(s) and driver package(s) were not deleted successfully. Restart the computer, and then perform the uninstalling procedure again from step ⑤.

- ⑪ If the driver(s) and driver package(s) were deleted, the following dialog box will appear. Click the **OK** button.



- ⑫ If the **Star TUP500** printer no longer appears in the following Print Server Properties dialog box, the uninstalling procedure was completed successfully. Click the **Close** button to close the dialog box.



2. Features

2.1 TUP500 Printer Driver

This driver can be used to set basic printing functions, such as the print mode and paper types, and it can also be used to make graphic logo settings and advanced settings for peripheral units (presenter, snout).

2.2 Star TUP500 Configuration Utility

The Star Configuration Utility provides an easy way to set the printer's memory switches, to register graphic logos, and to make other such hard print settings.

It also offers an easy way to set up an Ethernet interface card.

Also, note that you may choose to install the utility only, without also installing the driver software.

Note: This function is supported by Windows 2000 (SP3 or later)/XP/Vista 32-bit edition.

2.3 OPOS Driver

OPOS (Open Point of Service) is an architecture supporting Win32-based POS access. The architecture makes it easy for Windows-based POS systems to access POS peripherals.

The OPOS driver makes it easy for the printer not only to output data to peripherals but also to read the current operating status of peripherals. In addition, the driver enables use of any of the many existing OPOS-compliant applications.

The driver provided here conforms to OPOS Version 1.8.

For more information, refer to the separate OPOS Manual.

After installing the OPOS driver, you will find the manual in the following directory:

/Program Files/StarMicronics/OPOS POSPrinter Register/OPOSPrinterADG(US).doc

2.4 JavaPOS Driver

JavaPOS (Java for Retail Point of Sale) is an architecture that supports access to Java-based POS peripherals. It offers the same kind of advantages as OPOS while adding the extra advantage of platform independence. Another advantage is support for inexpensive system configurations, since the minimal requirements for a Java virtual computer environment are quite low.

The driver provided here is fully compliant with Version 1.4 of the JavaPOS standards, as established by the Java for Retail POS standards committee.

To use this driver with JavaPOS applications, it is recommended that you use Java Runtime Environment (JRE) 1.5 or later.

To use the driver on Java Runtime Environment (JRE) 1.4 or earlier, you must specify the following command-line option.

`-Dsmj.dllpath=<absolute path to the folder that contains StarIOPort.dll – StarIOJ.dll>`

This DLL file is located in the following folder if you did not change the default installation folder.

Program Files\StarMicronics\TUP500\Software\JavaPOS

Command-line option example:

```
java -Dsmj.dllpath="C:\Program Files\StarMicronics\TUP500\Software\JavaPOS" application.class
```

2.5 Virtual Port Emulator

By using this software, printers equipped with a USB interface card or Ethernet interface card can be used with applications that support only serial printers.

Note: Some applications do not support this feature.
This function is supported by Windows 2000 (SP3 or later)/XP/Vista 32-bit edition.

2.6 Printer-Status Setting Tool

You can use this software to obtain status information about the TUP500 printer.

3. Windows 2000/XP/Vista Printer Driver Settings

The driver supports two print modes: **Raster mode** and **Line mode**.

The default mode for this driver is **Raster mode**.

When printing via a USB interface, it is recommended to select **Raster mode**, and when printing via a serial interface, it is recommended to select **Line mode**.

Notable differences between these two modes are as follows.

Raster


- Prints graphics at high speed.
- Suitable for reverse printing.

Line

- Supports device fonts.
- Suitable for printing barcode device fonts.

The main capabilities that can be set by this driver are as follows.

	Raster	Line
Paper Type	Yes	Yes
Detect Black-Mark Position at Power-On	Yes	Yes
Feeding	Yes	No
Page Cut	Yes	Yes
Print Speed	Yes	Yes
Print Density	Yes	Yes
Reverse printing	Yes	No
Document Top/Bottom Logos	No	Yes
Page Top/Bottom Logos	No	Yes
Presenter Mode	Yes	Yes
Snout Function	Yes	Yes
Print Quality	Yes	No
2-Color Printing	Yes	No
Device Font	No	Yes
Control Font	No	Yes
Barcode Font	No	Yes
2-Dimensional Barcodes	No	Yes

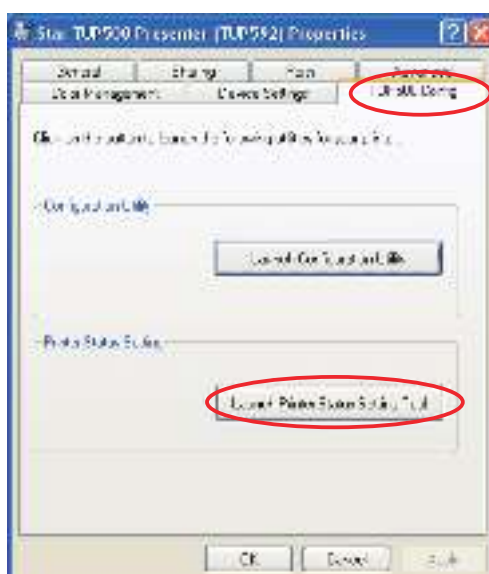
Note: Some of the above operations are mutually exclusive. If a  mark appears in the Device Settings tab, refer to Section 3.2 and recheck your settings.

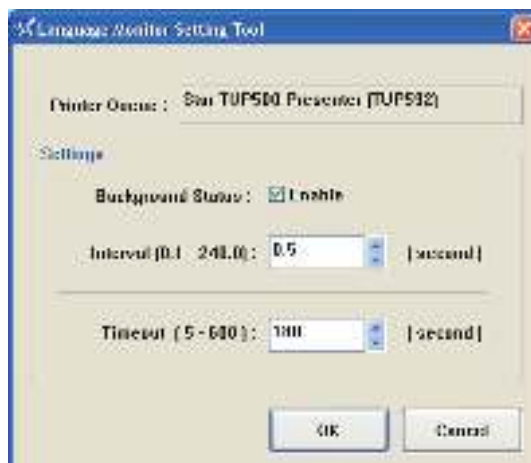
Point! Operational settings may not work as expected if you switch between Raster and Line mode while your application is still running. Please restart the application after switching the mode.

3.1 Printer-Status Setting Tool

This software allows you to set the system so that you can get printer status.
To open the setting tool's dialog, proceed as follows.

- ① On Windows 2000 and XP, go to the Start menu and open **Printers and Faxes**. On Windows Vista, go to the Start menu and select **Settings – Printers**.
- ② In the folder that opens, right-click the **TUP500** printer icon. From the drop-down menu, select **Properties** (if Windows 2000 or XP) or select **Run as administrator – Properties** (if Vista).
- ③ If you are using Windows Vista, the **User Account Control** dialog appears. Click **Continue**.
- ④ At the **Properties** dialog, click the **TUP500 Config** tab, and click **Launch Printer Status Setting Tool**.





■ Background Status

Check the **Enable** box to enable acquisition of status information (“cover open”, “offline”, etc.). The default is **Disable**.

Caution: Status acquisition is not available if you are using the USB vendor class driver. If you are using such an environment, the Enable setting has no meaning.

■ Timeout

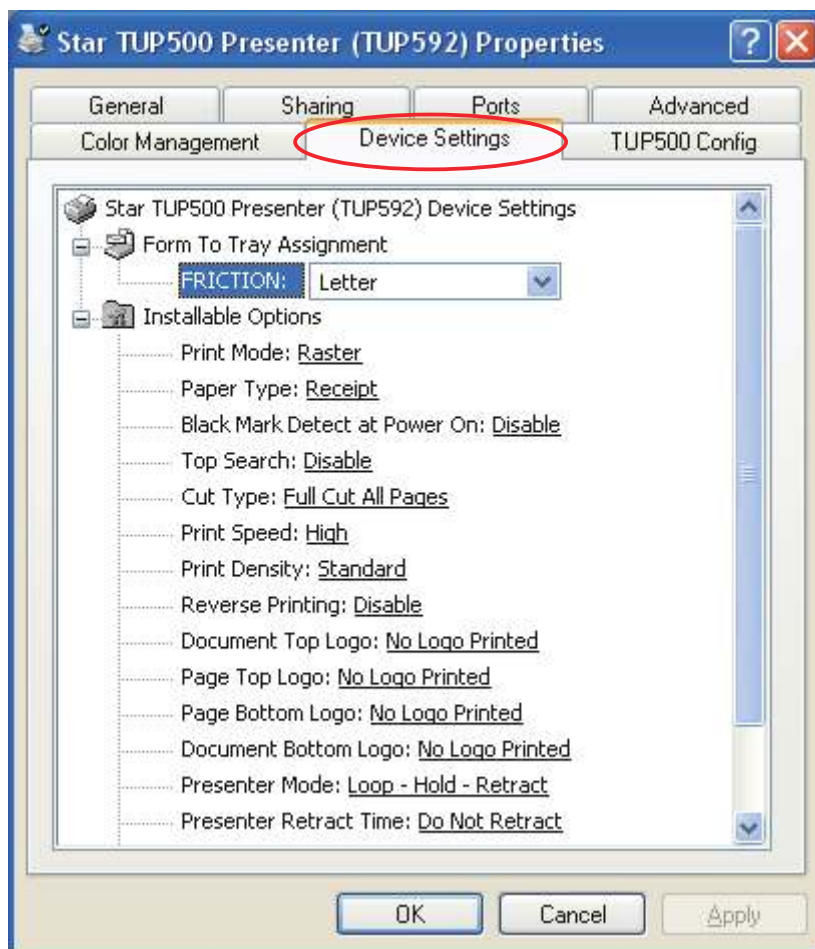
The timeout value sets the maximum time that the printer will wait to resume printing after paper runs out or some other problem occurs that interrupts the data flow. If the problem is corrected within the timeout period, the printer will resume printing from where it left off. If using the TUP592 presenter, please set the timeout time so that it is longer than the presenter retraction time. The default timeout is 180 seconds.

Caution: If the problem is not corrected within the timeout period, an error message appears and the remaining print data is deleted.

3.2 Setting the Printer

Using the printer's Properties dialog box, you can set various functions of this driver. Begin by opening the Properties dialog box, as follows.

- ① On Windows 2000 and XP, go to the Start menu and open **Printers and Faxes**. On Windows Vista, go to the Start menu and select **Settings – Printers**.
- ② In the folder that opens, right-click the **TUP500** printer icon. From the drop-down menu, select **Properties** (if Windows 2000 or XP) or select **Run as administrator – Properties** (if Vista).
- ③ If you are using Windows Vista, the **User Account Control** dialog appears. Click **Continue**.
- ④ At the **Properties** dialog, click the **Device Settings** tab.



Point! Available device settings vary according to whether operation is in Raster mode or Line mode. In the following explanations, **Raster** and **Line** appear to the right of the setting name to indicate the mode to which the setting applies.

3.2.1 Explanation of Device Settings

• Print Mode

Raster

Line

Sets the print mode. For details of each mode, refer to Chapter 3, “Windows 2000/XP/Vista Printer Driver Settings”.

Setting	Default	Meaning
Raster	<input type="radio"/>	Sets Raster mode.
Line	<input type="radio"/>	Sets Line mode.

• Setting the Paper Type

Raster

Line

Changes the paper type setting.

Setting	Default	Meaning
Receipt	<input type="radio"/>	Variable length: the printer does not output white-space padding at the end of the page data.
Ticket	<input type="radio"/>	Fixed length: the printer outputs white-space padding up to the end of the fixed-length page.
Black Mark	<input type="radio"/>	Fixed length: the printer outputs white-space padding up to the next black mark.

Point! If you would like to generate journal-type printing (with no page breaks) when using the TUP542: Set the paper type to “Receipt”, and set the paper size to a “receipt” length (for example “72 mm×Receipt”) as explained in Section 3.4.1, “Standard Sizes”.

• Enabling/Disabling Black Mark Detection

Raster

Line

If this feature is set to **Enable**, the printer will detect the black mark position when turned on.

Setting	Default	Meaning
Disable	<input type="radio"/>	At power on, does not execute paper feed in accordance with detection of black mark position.
Enable	<input type="radio"/>	At power on, feeds paper according to black mark position.

Note: This setting is not available if the paper type is set to **Receipt** or **Ticket**.

• Feeding

Raster

Selects whether the printer executes a reverse-feed after cutting the paper.

Setting	Default	Meaning
Disable	○	No reverse-feed after cutting. (Top margin is 11 mm.)
Enable		Executes reverse-feed after cutting. (Top margin is 3 mm.)

Note: This setting is effective only in Raster print mode.

• Page Cut Type (TUP542 only)

Raster

Line

Sets the cutting method for the end of each non-final page of a document.

Setting	Default	Meaning
No Cut	○	Printer does not feed or cut paper.
Full Cut		Printer feeds paper to the cut position, and then cuts it (full cut).

• Document Cut Type (TUP542 only)

Raster

Line

Sets the cutting method for the final page of the document.

Setting	Default	Meaning
No Cut	○	Printer does not feed or cut paper.
Full Cut		Printer feeds paper to the cut position, and then cuts it (full cut).

• Cut Type (TUP592 only)

Raster

Line

Sets the cut type.

Setting	Default	Meaning
Full Cut All Pages	○	Cuts all pages. (Feeds each page to the cut position, then cuts it.)
Full Cut Last Page		Cuts last page of document when that page reaches the cut position. (Does not cut each page.)

• Print Speed

Raster

Line

Sets the print speed. Note that the setting also affects the print quality.

Setting	Default	Meaning
Standard	○	Priority is given to print speed over print quality.
Middle		Sets print quality and print speed to intermediate level.
Low		Provides the highest print quality but lowers print speed.
High		Gives maximum priority to print speed. Speed is limited by paper width and by diameter of paper roll.

- Note:**
- 1) The Print Speed setting is ignored (and fixed speed will be used) if print quality is set to 203×406 dpi, or if printing is in color.
 - 2) Available speed settings may vary according to paper width, roll diameter, and paper type. For more information, refer to the Product Specifications Manual (issued separately).

• Print Density

Raster

Line

Sets the print density.

Setting	Default	Meaning
-3 to -1		Larger value with – (minus) makes print density lighter.
Standard	○	Prints with normal density.
+1 to +3		Larger value with + (plus) makes print density darker.

- Note:** When setting up color printing, this density setting has no effect on black print density (which is fixed).

• Reverse Printing

Raster

Set this to **Enable** if you wish to rotate printing 180 degrees.

Setting	Default	Meaning
Disable	○	Prints normally.
Enable		Printing is inverted, top to bottom.

- Note:** This setting is effective only in Raster print mode.

• Document Top Logo

Line

The NV logos are identified by their NV logo (image list) numbers. To select a top-of-document logo, choose the appropriate logo number. Before making this setting, you must load NV logos into the printer's nonvolatile memory. Refer to Section 4.1.2, "NVLogo".

Setting	Default	Meaning
No Logo Printed	○	No logo printed at the document top.
Print Logo 1, ..., 10		Prints the selected logo at the document top.

Note: This setting is effective only in Line print mode.

• Page Top Logo

Line

To select a top-of-page logo, choose the appropriate NV logo (image list) number. Before making this setting, you must load NV logos into the printer's nonvolatile memory. Refer to Section 4.1.2, "NVLogo".

Setting	Default	Meaning
No Logo Printed	○	No logo printed at the page top.
Print Logo 1, ..., 10		Prints the selected logo at the page top.

Note: This setting is effective only in Line print mode.

• Page Bottom Logo

Line

To select the bottom-of-page logo, choose the appropriate NV logo (image list) number. Before making this setting, you must load NV logos into the printer's nonvolatile memory. Refer to Section 4.1.2, "NVLogo".

Setting	Default	Meaning
No Logo Printed	○	No logo printed at the page bottom.
Print Logo 1, ..., 10		Prints the selected logo at the page bottom.

Note: This setting is effective only in Line print mode.

• Document Bottom Logo

Line

To select the bottom-of-document logo, choose the appropriate NV logo (image list) number. Before making this setting, you must load NV logos into the printer's nonvolatile memory. Refer to Section 4.1.2, "NVLogo".

Setting	Default	Meaning
No Logo Printed	○	No logo printed at the document bottom.
Print Logo 1, ..., 10		Prints the selected logo at the document bottom.

Note: This setting is effective only in Line print mode.

• Presenter Mode (TUP592 only)

Raster

Line

Sets the presenter operation.

Setting	Default	Meaning
Loop-Hold-Retract	○	After printing is completed, presents (outputs and holds) the printed paper and waits for it to be removed. Retracts the paper if it is not removed within the specified retraction time.
Loop-Hold-Eject		After printing is completed, presents (outputs and holds) the printed paper and waits for it to be removed. Ejects the paper if it is not removed within the specified retraction time.
NoLoop-Hold-Retract		Begins outputting the paper while printing is in progress, then holds it and waits for its removal. Retracts the paper if it is not removed within the specified retraction time.
NoLoop-Hold-Eject		Begins outputting the paper while printing is in progress, then holds it and waits for its removal. Ejects the paper if it is not removed within the specified retraction time.
NoLoop-NoHold-Eject		Outputs the paper while printing is in progress, and then ejects it. Does not hold the paper.

Note: The Presenter Retract Time (see below) sets the retraction time. If the Presenter Retract Time is set to "Do Not Retract," the presenter will present the paper and continue to hold it until it is removed. It will not retract or eject the paper.

• Presenter Retract Time (TUP592 only)

Raster

Line

Sets amount of time the presenter will hold out the printed paper before either retracting or ejecting it.

Setting	Default	Meaning
Do not Retract	○	Holds paper until it is removed.
1 ~ 125 second		Sets amount of time the presenter will hold out the printed paper before either retracting or ejecting it. Can be set in 5-second increments.

Note: If the Presenter Mode is set to "NoLoop – NoHold – Eject", the Retraction Time setting is meaningless and the presenter will eject the paper without holding it. If the timeout time elapses, the printer will display an error message and will delete any remaining data. For details, refer to Section 3.1, "Printer-Status Setting Tool."

• Snout Control (TUP592 only)

Raster

Line

Sets the snout LED operation.

Setting	Default	Meaning
Disable	○	Snout not used.
Snout LED GREEN Enable		Green LED blinks during printing.
Snout LED RED Enable		Red LED blinks when error occurs (paper out, etc.).
Snout LED GREEN and RED Enable		Green LED blinks during printing, and red LED blink when error occur. (paper out, etc.)

Note: Snout LEDs are optional devices.

• Snout LED GREEN Interval (TUP592 only)

Raster

Line

Sets the blink interval for the green LED.

Setting	Default	Meaning
Default (100 milliseconds)	○	Blink every 100 ms.
200 milliseconds		Blink every 200 ms.
500 milliseconds		Blink every 500 ms.
1000 milliseconds		Blink once per second.

• Snout LED RED Interval (TUP592 only)

Raster

Line

Sets the blink interval for the red LED.

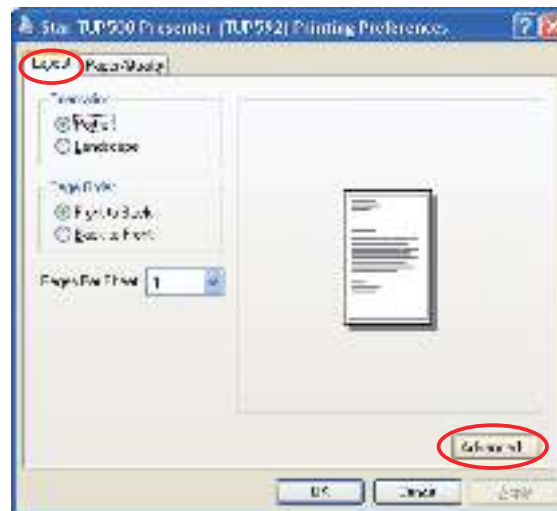
Setting	Default	Meaning
Default (100 milliseconds)	○	Blink every 100 ms.
200 milliseconds		Blink every 200 ms.
500 milliseconds		Blink every 500 ms.
1000 milliseconds		Blink once per second.

3.3 Setting the Print Quality

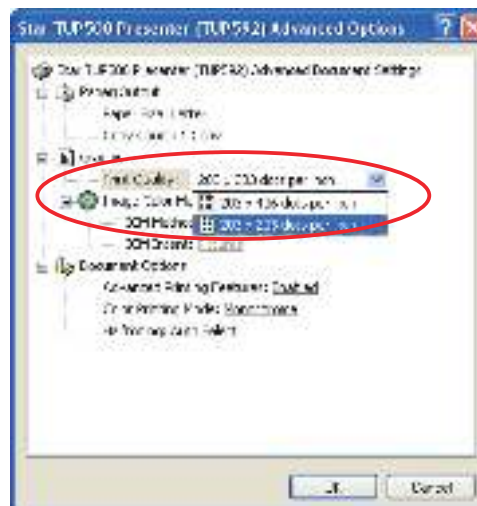
Raster

To open the dialog, proceed as follows.

- ① On Windows 2000 and XP, go to the Start menu and open **Printers and Faxes**. On Windows Vista, go to the Start menu and select **Settings – Printers**.
- ② Right-click the print driver that you wish to set. In the drop-down menu, click **Printing Preferences**.
- ③ Click the **Layout** tab, and then click the **Advanced** button.



- ④ At the Advanced Options dialog, set **Graphic — Print Quality** to the desired setting.



The following settings are available.

Setting	Default	Meaning
203 × 406 dots per inch		Print at 203 dpi (w) × 406 dpi (h).
203 × 203 dots per inch	○	Print at 203 dpi (w) × 203 dpi (h).

Note: The 203×406-dpi setting is effective only in Raster print mode and only if color printing has been disabled.

3.4 Setting the Paper Size

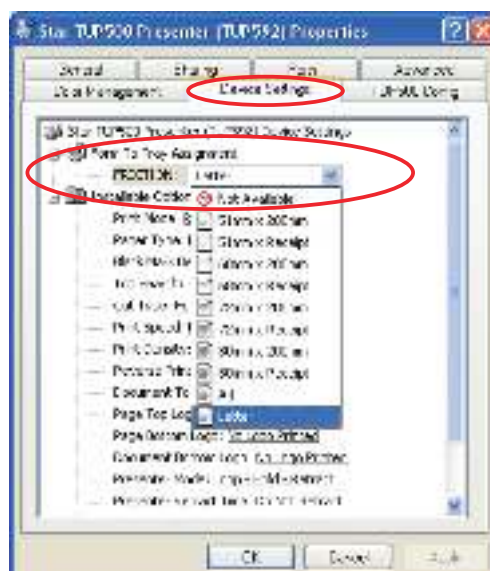
Raster

Line

The TUP500 drivers let you use both preset standard sizes and custom, user-defined sizes.

3.4.1 Standard Sizes

The paper size can be selected separately for each driver. To proceed, open the driver's Properties window and click the **Device Settings** tab.



The following table shows the predefined paper sizes available for the TUP500 driver.

Setting	Default	Print Width	Length
51mm × 200mm		51mm	200mm
51mm × Receipt		51mm	3,000mm
68mm × 200mm		68mm	200mm
68mm × Receipt		68mm	3,000mm
72mm × 200mm		72mm	200mm
72mm × Receipt		72mm	3,000mm
80mm × 200mm		80mm	200mm
80mm × Receipt		80mm	3,000mm
A4		210mm	297mm
Letter	○	8.5 inch	11 inch

Please be sure to set a print width that is smaller than the paper width, so as to allow for margins.

Point! When using the TUP542, you can generate journal-type printing (printing without page breaks) by setting the paper type to Receipt and setting the paper size to a "receipt" length.

Caution: If selecting a receipt size for use with the presenter, be sure to select so that the output length of a single sheet does not exceed 300mm.

3.5 User-Defined Paper Settings

Raster

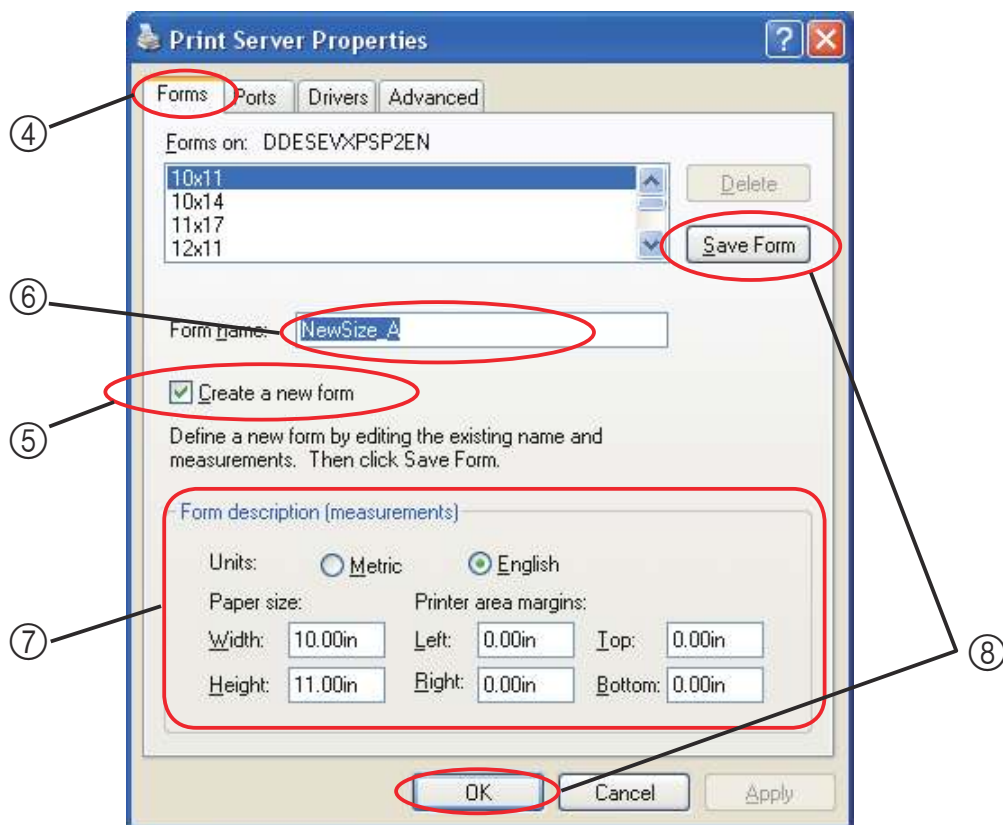
Line

The paper size that will be used can be defined.
The procedure is as follows.

- ① On Windows 2000 and XP, go to the Start menu and open **Printers and Faxes**. On Windows Vista, go to the Start menu and select **Settings – Printers**.
- ② Right-click over a blank area in the Printers folder to open the drop-down menu. If using Windows 2000 or XP, select **Server Properties** from the menu. If using Windows Vista, select **Run as administrator – Server Properties**.
- ③ If you are using Windows Vista, the **User Account Control** dialog appears. Click **Continue**.
- ④ Click the **Forms** tab.
- ⑤ Select the **Create a new form** check box.
- ⑥ In the **Form name** textbox, overwrite the current name with a new name for the custom size you are defining.
- ⑦ In the **Form description (measurements)** area, select the appropriate Units and type the desired **Width** and **Height** settings.

Note: Set all four margins (left, right, top, and bottom) to “0”.

- ⑧ Click the **Save Form** button. Click the **OK** button to close the dialog box.



Available paper sizes are as follows.

	Width		Height	
	Minimum	Maximum	Minimum	Maximum
TUP592	25.4 mm	80.0 mm	75.0 mm	300.3 mm
TUP542	25.4 mm	80.0 mm	25.4 mm	3276.7 mm

Point! User-defined sizes are available to all drivers that can support the dimensions (as indicated in the table).

3.6 Setting the Print Color and Paper Type

Raster

The TUP500 printer driver's Raster mode supports two-color printing. This section explains how to set up color printing, and how to set the printer to print on special paper types.

- ① On Windows 2000 and XP, go to the Start menu and open **Printers and Faxes**. On Windows Vista, go to the Start menu and select **Settings – Printers**.
- ② In the folder, right-click the **Star TUP500** icon, and select **Printing Preferences** to open the printer's Printing Preferences dialog box.
- ③ Click the **Paper/Quality** tab.
Select the paper type appropriate for the specified print color.

Selecting the paper type and print color:



■ **For normal monochrome printing (Standard thermal paper)**

- | | | |
|-------|---|---|
| Media | : | Select normal type paper . |
| Color | : | Select check button of Black & White . |

■ **For color printing (2-color thermal paper)**

- | | | |
|-------|---|---------------------------------------|
| Media | : | Select 2 color paper . |
| Color | : | Select check button of Color . |

■ **For printing on special paper (dense black printing; some special high-stability papers)**

- | | | |
|-------|---|---|
| Media | : | Select high image stability paper . |
| Color | : | Select check button of Black & White . |

3.7 Device Fonts

Line

The TUP500 printer driver provides device fonts that can be used during operation in Line mode. As these fonts were designed specifically to match the characteristics of the printer, they offer clearer printing than TrueType fonts. Furthermore, device fonts for this driver are compatible with device fonts for the Star POS series printers, TSP600/TSP700/TSP800/TSP1000 series, so the same printing results can be obtained.

Note: Select the proper height when using device fonts.
For two-color printing, refer to “3.6 Selecting the Print Color and Paper Type” for setup.

Fonts	Width (pixels)	Height (pixels)	Columns at 72 mm (576 dots)	Meaning
Printer 17cpi	12	24	48	Thermal printer fonts
Printer 8.5cpi	24	24	24	
Printer 17cpi Tall	12	48	48	
Printer 8.5cpi Tall	24	48	24	
Printer 16cpi	13	24	44	
Printer 8cpi	26	24	22	
Printer 16cpi Tall	13	48	44	
Printer 8cpi Tall	26	48	22	
Printer 14cpi	15	24	38	
Printer 7cpi	30	24	19	
Printer 14cpi Tall	15	48	38	
Printer 7cpi Tall	30	48	19	
Printer 17cpi (RED)	12	24	48	
Printer 8.5cpi (RED)	24	24	24	
Printer 17cpi Tall (RED)	12	48	48	
Printer 8.5cpi Tall (RED)	24	48	24	
Printer 16cpi (RED)	13	24	44	
Printer 8cpi (RED)	26	24	22	
Printer 16cpi Tall (RED)	13	48	44	
Printer 8cpi Tall (RED)	26	48	22	
Printer 14cpi (RED)	15	24	38	
Printer 7cpi (RED)	30	24	19	
Printer 14cpi Tall (RED)	15	48	38	
Printer 7cpi Tall (RED)	30	48	19	

Fonts	Width (pixels)	Height (pixels)	Columns at 72 mm (576 dots)	Meaning
Control	12	24	48	Control fonts
ESC_FONT	1	24	576	
ESC_FONT_KANJI	2	24	288	
UPC-E	12	24	48	Barcode fonts
UPC-A	12	24	48	
JAN/EAN-8	12	24	48	
JAN/EAN-13	12	24	48	
CODE39	12	24	48	
ITF	12	24	48	
NW-7(Codabar)	12	24	48	
QR-CNTL	1	24	576	2D code fonts
PDF417	1	24	576	
DATA1	1	24	576	
DATA2	1	24	576	
DATA3	1	24	576	

3.8 Control Fonts

Line

The TUP500 printer driver provides a control font that can be used during operation in Line mode. The control font is used to execute various printer actions, and is not used for printing. Each character in the font is associated with a particular action.

3.8.1 Control Font Characters and Their Operations

The operations that can be executed through the control font are shown below.

Character	Operation
A	Drive cash drawer 1 (50 ms)
B	Drive cash drawer 1 (100 ms)
C	Drive cash drawer 1 (150 ms)
D	Drive cash drawer 1 (200 ms)
E	Drive cash drawer 1 (250 ms)
d	Drive cash drawer 2 (200 ms)
6	Output LF
7	Output CR
F	Auto-cutter: Full-cut
P	Auto-cutter: Partial-cut
G	Print NV Bit Image 1 in regular mode
H	Print NV Bit Image 2 in regular mode
I	Print NV Bit Image 3 in regular mode
J	Print NV Bit Image 4 in regular mode
K	Print NV Bit Image 5 in regular mode
Q	Print NV Bit Image 1 in double-width mode
R	Print NV Bit Image 2 in double-width mode
S	Print NV Bit Image 3 in double-width mode
T	Print NV Bit Image 4 in double-width mode
U	Print NV Bit Image 5 in double-width mode
V	Print NV Bit Image 1 in double-height mode
W	Print NV Bit Image 2 in double-height mode
X	Print NV Bit Image 3 in double-height mode
Y	Print NV Bit Image 4 in double-height mode
Z	Print NV Bit Image 5 in double-height mode
[	Print NV Bit Image 1 in 4x mode
]	Print NV Bit Image 2 in 4x mode
^	Print NV Bit Image 3 in 4x mode
_	Print NV Bit Image 4 in 4x mode

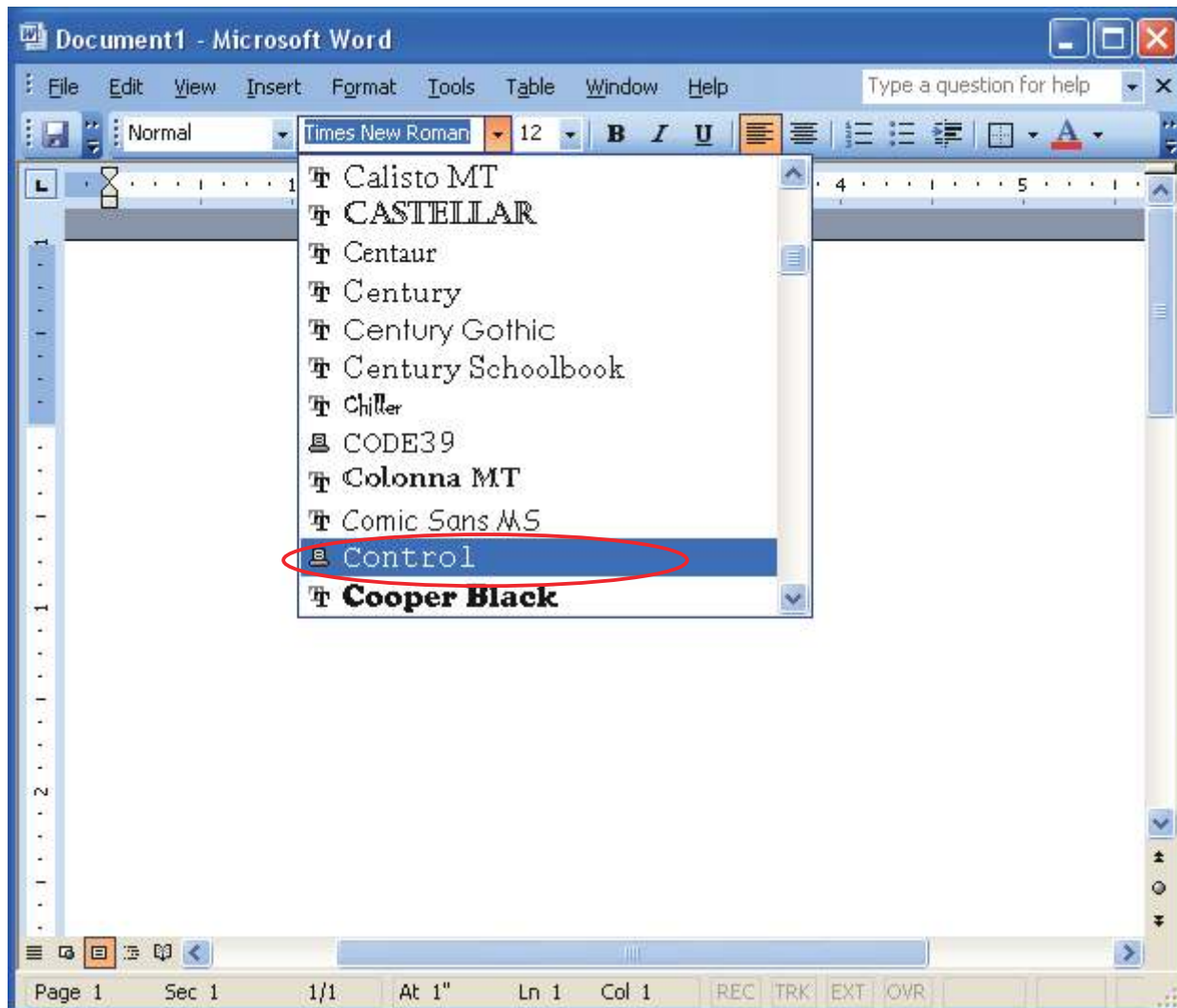
Character	Operation
`	Print NV Bit Image 5 in 4x mode
a	Align left
b	Align center
c	Align right
e	Set new line to 3 mm (1/8 inch)
f	Set new line to 4 mm (1/6 inch)
g	International character select: USA
h	International character select: France
i	International character select: Germany
j	International character select: England
k	International character select: Denmark I
l	International character select: Sweden
m	International character select: Italy
n	International character select: Spain I
o	International character select: Japan
p	International character select: Norway
q	International character select: Denmark II
r	International character select: Spain II
s	International character select: Latin America
t	Print using black/white inversion
u	Cancel black/white inversion
v	Customer display: Start data transfer
w	Customer display: End data transfer
x	Customer display: Display clear

Note: The printer ignores control font characters that it does not support.

3.8.2 Using the Control Font

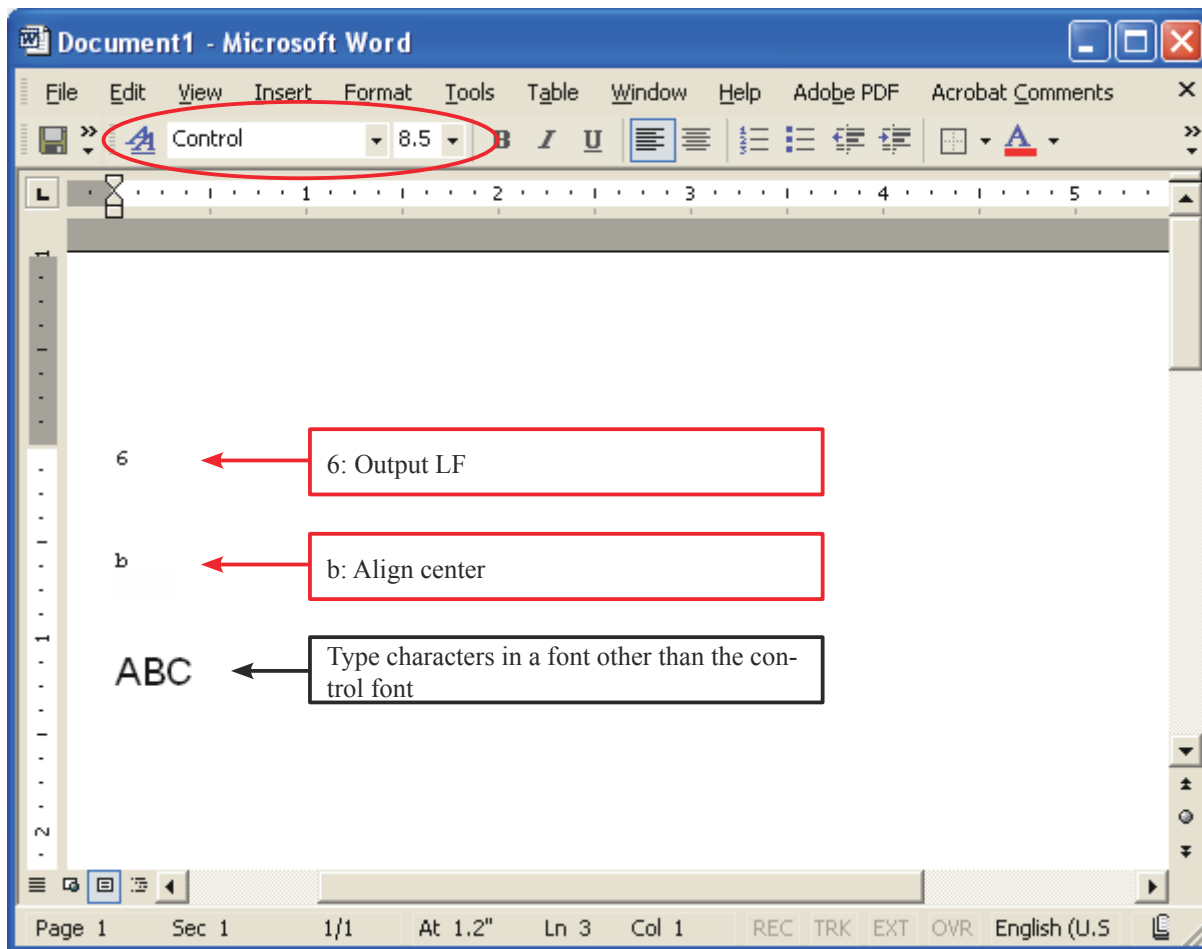
The following is an example of how to use the control font.

- ① Select the **Control** font from the font list.



Note: When using device fonts with Microsoft Word, refer to “5.2 Notes for Using Microsoft Word”.

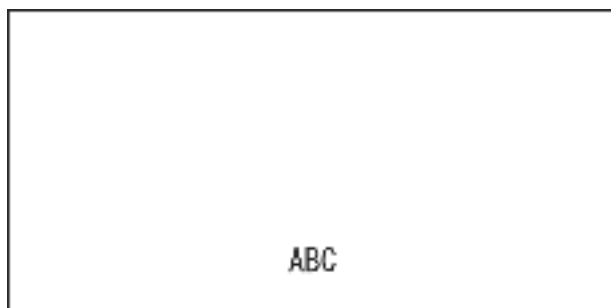
- ② Input the character for each operation you wish to execute (refer to Section 3.8.1, “Control Font Characters and Their Operations”).



Point! For the characters that set the control font, set the font height to the specified value “8.5”.

- ③ Print.
In this example, the printer executes a linefeed and then prints **ABC** at the center of the page.

<Print Sample>



3.9 Barcode Fonts

Line

The TUP500 printer driver's barcode fonts are available for use during operation in Line mode.
Select barcode fonts and enter the code to generate and print the barcode.
When printing a barcode image is printed, and then notations are printed under the barcode image.
Barcode images do not appear in the window of the application.

3.9.1 Barcode Font List

The table below shows supported types of barcode fonts and available types of characters.

Barcode Type	Character Columns	Available Character Set
UPC-E	12 columns	Value: 0 to 9
UPC-A	12 columns	Value: 0 to 9
JAN/EAN-8	8 columns	Value: 0 to 9
JAN/EAN-13	13 columns	Value: 0 to 9
CODE39	More than 1 column	Value: 0 to 9 Symbol: -, ., <SP>, \$, /, +, % Alphabet: A to Z Start/stop code: * (*1)
ITF	More than 2 column (even number)	Value: 0 to 9
NW-7 (Codabar)	More than 1 column	Value: 0 to 9 Symbol: -, \$, :, /, ., +, Alphabet: A to D

*1) Start/stop code is automatically entered, so there is no need to specify it when entering the code.

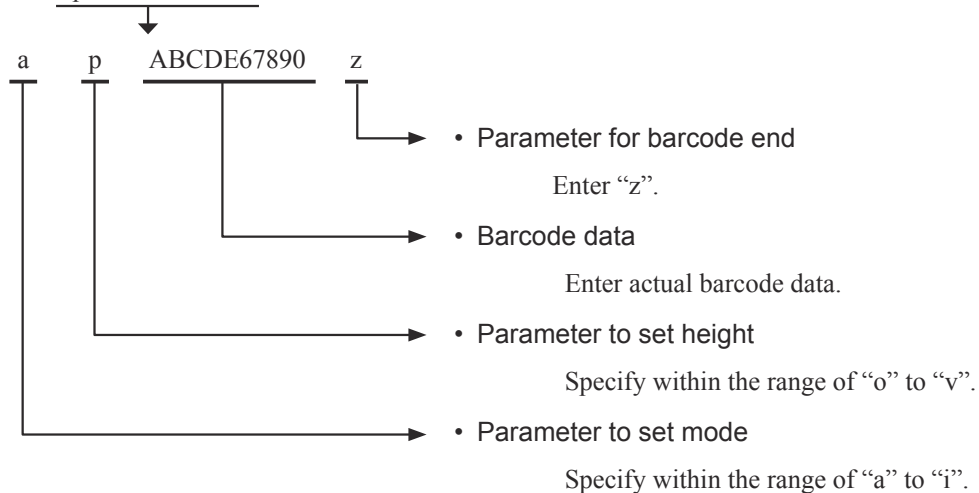
3.9.2 Entering the Barcode Font

Enter barcode fonts in the following format.

Enter “z”, which is the final character of the barcode font, at the end of the code.

e.g., For CODE39

Data to enter: apABCDE67890z



For details of each parameter, refer to **Barcode Font Parameter List** on the next page.

■ Barcode Font Parameter List

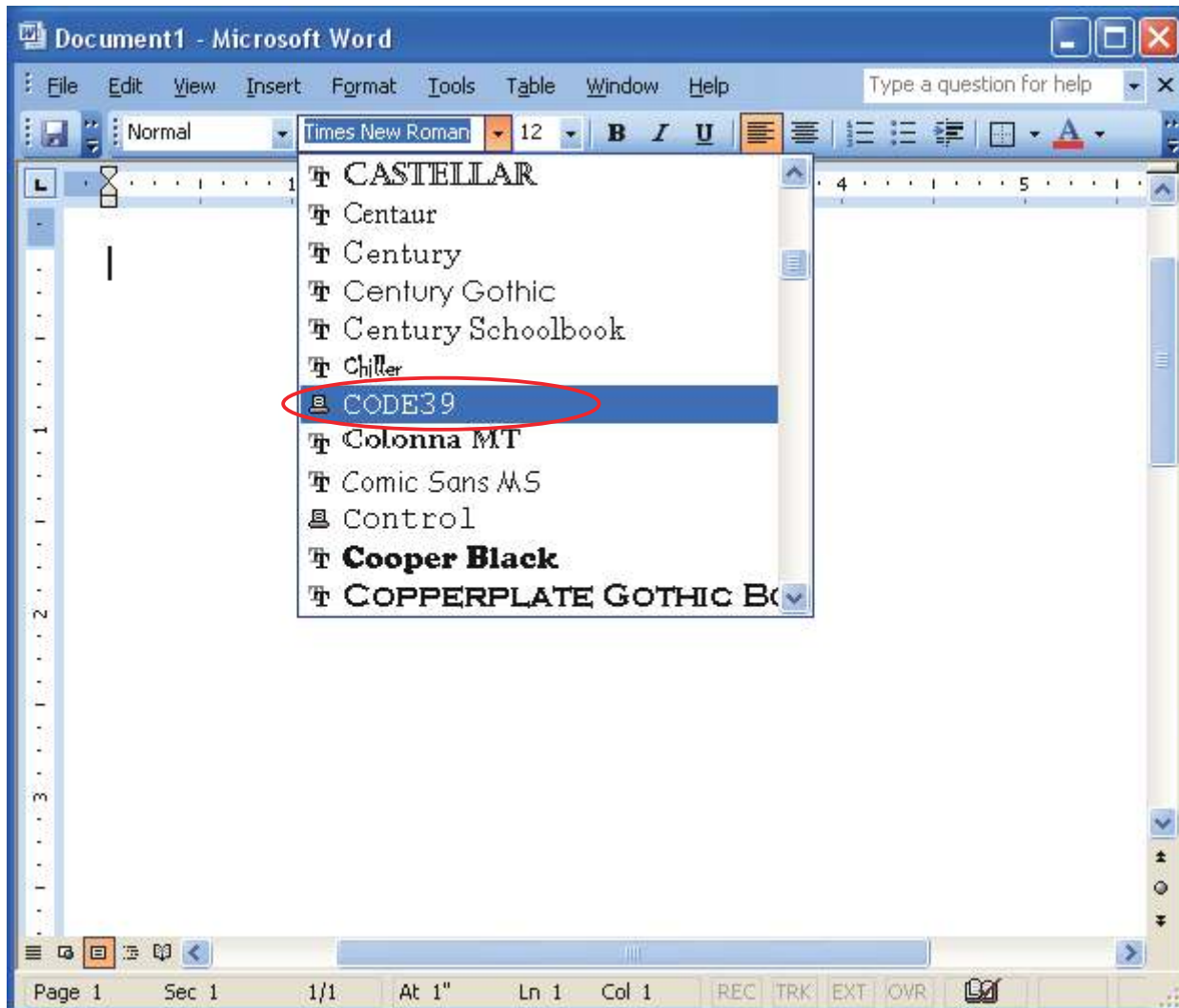
Character to use barcode font	Operation			Remarks UPC-E, UPC-A JAN/EAN-8, JAN/EAN-13
	UPC-E, UPC-A JAN/EAN-8, JAN/EAN-13	CODE39 NW-7 (*1)	ITF (*1)	
a	2 dots	2 dots (6)	2 dots (5)	Minimum module width
b	3 dots	3 dots (9)	4 dots (10)	Minimum module width
c	4 dots	4 dots (12)	6 dots (15)	Minimum module width
d	—	2 dots (5)	2 dots (4)	Minimum module width
e	—	3 dots (8)	4 dots (8)	Minimum module width
f	—	4 dots (10)	6 dots (12)	Minimum module width
g	—	2 dots (4)	2 dots (6)	Minimum module width
h	—	3 dots (6)	3 dots (9)	Minimum module width
i		4 dots (8)	4 dots (12)	Minimum module width
o	Barcode height: 32 dots (4 mm)			
p	Barcode height: 64 dots (8 mm)			
q	Barcode height: 96 dots (12 mm)			
r	Barcode height: 128 dots (16 mm)			
s	Barcode height: 160 dots (20 mm)			
t	Barcode height: 192 dots (24 mm)			
u	Barcode height: 224 dots (28 mm)			
v	Barcode height: 255 dots (31.9 mm)			
z	Ending code of barcode data (1 EH)			

*1) Number in () means number of dots with thick pattern.

3.9.3 Using the Barcode Font

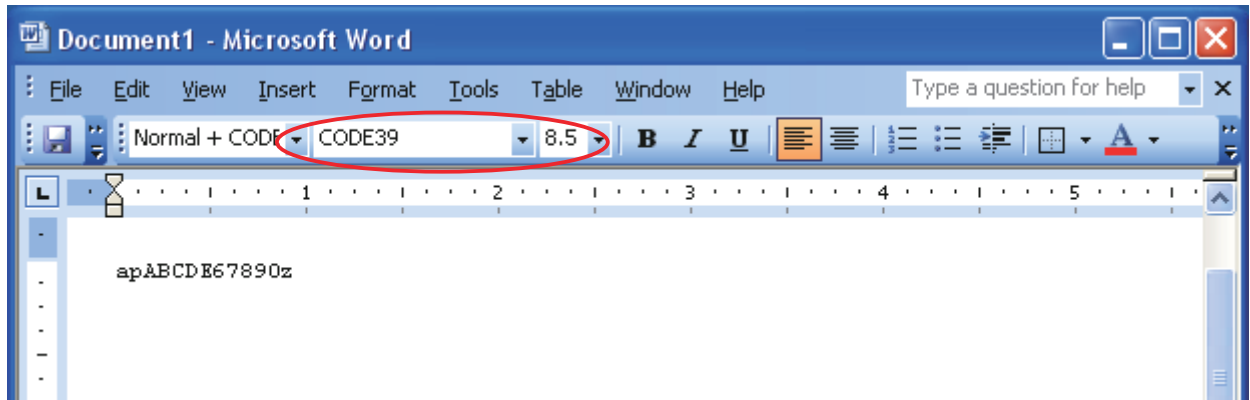
The following is an example of how to set and use barcode fonts.

- ① Select the device font with the barcode name from the font list.
In the following example, select the barcode font of **CODE39**



Note: When using device fonts with Microsoft Word, refer to “5.2 Notes for Using Microsoft Word”.

- ② Enter codes.
Also, set the font height. (For CODE39, set the font height to “8.5”.)



- ③ Print.
When printing, a barcode is generated and printed out.

<Print Sample>



3.10 Two-dimensional Code Printing Function (two-dimensional code font)

Line

The TUP500 Receipt driver, when operating in Line mode, is capable of printing QR and PDF417 bar codes through use of the appropriate TUP500 device fonts.

To print QR code/PDF417, use a two-dimensional font (“QR_CNTL”, “PDF417”, “DATA1”, “DATA2”, “DATA3”) and control font (“ESC_FONT”, “ESC_FONT_KANJI”) together.

Each font has the following features.

Fonts	Operation	Comments	Remarks
QR_CNTL	QR code Command setting	Outputs each command for printing two-dimensional code.	
PDF417	PDF417 Command setting	Outputs each command for printing PDF417.	
DATA1	Data setting	Replaces ¥x20 ~ ¥x7F with ¥x00 to ¥x5F.	Can output ¥x00 to ¥xFF.
DATA2		Replaces ¥x20 to ¥x7F with ¥x60 to ¥xBF.	
DATA3		Replaces ¥x20 to ¥x5F with ¥xC0 to ¥xFF.	
ESC_FONT		Outputs without replacing ¥x20 to ¥x7F.	Can output ¥x20 to ¥x7F
ESC_FONT_KANJI ^{*1}		Outputs Kanji registered to Shift JIS within the range of ¥x8140 to ¥x9FFC and ¥xE040 to ¥xEAA4.	

*1 QR code only (Kanji can't be used with PDF417).

3.10.1 Two-dimensional Code Command Setting Font

■ QR code setting font (QR_CNTL)

The table below shows details for setting the QR_CNTL font.

Character to use for the "QR_CNTL" font	Operation	Code output by the driver
0	For parameters to set the command for each QR code	¥x00
1	For parameters to set the command for each QR code	¥x01
2	For parameters to set the command for each QR code	¥x02
3	For parameters to set the command for each QR code	¥x03
4	For parameters to set the command for each QR code	¥x04
5	For parameters to set the command for each QR code	¥x05
6	For parameters to set the command for each QR code	¥x06
7	For parameters to set the command for each QR code	¥x07
8	For parameters to set the command for each QR code	¥x08
9	For parameters to set the command for each QR code	¥x09
M	Model setting of QR code	¥x1b¥x1dyS0
M1	Model setting of QR code: Model 1	¥x1b¥x1dyS0¥x01
M2	Model setting of QR code: Model 2	¥x1b¥x1dyS0¥x02
E	Correction level setting	¥x1b¥x1dyS1
* El(E0)	Correction level L (Correction rate 7%)	¥x1b¥x1dyS1¥x00
* Em(E1)	Correction level M (Correction rate 15%)	¥x1b¥x1dyS1¥x01
* Eq(E2)	Correction level Q (Correction rate 25%)	¥x1b¥x1dyS1¥x02
* Eh(E3)	Correction level H (Correction rate 30%)	¥x1b¥x1dyS1¥x03
S1 to S8	Module size setting (unit: dot)	¥x1b¥x1dyS2(¥x01 to 08)
A0	QR code data setting (data automatic analysis)	¥x1b¥x1dyD1¥x00
B	QR code data setting (data manual analysis)	¥x1b¥x1dyD2
P	QR code printing	¥x1b¥x1dyP

*) The correction level can be set using the method in ().

■ PDF417 setting font (PDF417)

The table below shows details for setting the PDF417 font.

Character to use for the "PDF417" font	Operation	Code output by the driver
0	For parameters to set the command for each PDF417	¥x00
1	For parameters to set the command for each PDF417	¥x01
2	For parameters to set the command for each PDF417	¥x02
3	For parameters to set the command for each PDF417	¥x03
4	For parameters to set the command for each PDF417	¥x04
5	For parameters to set the command for each PDF417	¥x05
6	For parameters to set the command for each PDF417	¥x06
7	For parameters to set the command for each PDF417	¥x07
8	For parameters to set the command for each PDF417	¥x08
9	For parameters to set the command for each PDF417	¥x09
S	Setting PDF417 barcode size	¥x1b¥x1dxS0
E	Setting PDF417 security level (ECC)	¥x1b¥x1dxS1
M	Setting X-direction size of PDF417 module	¥x1b¥x1dxS2
A	Setting aspect ratio of PDF417 module	¥x1b¥x1dxS3
D	Setting PDF417 barcode data	¥x1b¥x1dxD
P	Prints PDF417 barcode	¥x1b¥x1dxP
I	Acquires explanatory information of PDF417 barcode	¥x1b¥x1dxI

3.10.2 Two-dimensional Code Data Setting Font (DATA1, DATA2, DATA3, ESC_FONT)

The table below shows details for setting the DATA1, DATA2, DATA3, and ESC_FONT fonts.

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

Data to enter Character information specified by the user in applications (Word, VB, etc.)		Data to output Character code to actually output to the printer by the printer driver			
Character	Character code	ESC_FONT	DATA1	DATA2	DATA3
B	¥x42	¥x42	¥x22	¥x82	¥xE2
C	¥x43	¥x43	¥x23	¥x83	¥xE3
D	¥x44	¥x44	¥x24	¥x84	¥xE4
E	¥x45	¥x45	¥x25	¥x85	¥xE5
F	¥x46	¥x46	¥x26	¥x86	¥xE6
G	¥x47	¥x47	¥x27	¥x87	¥xE7
H	¥x48	¥x48	¥x28	¥x88	¥xE8
I	¥x49	¥x49	¥x29	¥x89	¥xE9
J	¥x4A	¥x4A	¥x2A	¥x8A	¥xEA
K	¥x4B	¥x4B	¥x2B	¥x8B	¥xEB
L	¥x4C	¥x4C	¥x2C	¥x8C	¥xEC
M	¥x4D	¥x4D	¥x2D	¥x8D	¥xED
N	¥x4E	¥x4E	¥x2E	¥x8E	¥xEE
O	¥x4F	¥x4F	¥x2F	¥x8F	¥xEF
P	¥x50	¥x50	¥x30	¥x90	¥xF0
Q	¥x51	¥x51	¥x31	¥x91	¥xF1
R	¥x52	¥x52	¥x32	¥x92	¥xF2
S	¥x53	¥x53	¥x33	¥x93	¥xF3
T	¥x54	¥x54	¥x34	¥x94	¥xF4
U	¥x55	¥x55	¥x35	¥x95	¥xF5
V	¥x56	¥x56	¥x36	¥x96	¥xF6
W	¥x57	¥x57	¥x37	¥x97	¥xF7
X	¥x58	¥x58	¥x38	¥x98	¥xF8
Y	¥x59	¥x59	¥x39	¥x99	¥xF9
Z	¥x5A	¥x5A	¥x3A	¥x9A	¥xFA
[	¥x5B	¥x5B	¥x3B	¥x9B	¥xFB
¥	¥x5C	¥x5C	¥x3C	¥x9C	¥xFC
]	¥x5D	¥x5D	¥x3D	¥x9D	¥xFD
^	¥x5E	¥x5E	¥x3E	¥x9E	¥xFE
_	¥x5F	¥x5F	¥x3F	¥x9F	¥xFF
`	¥x60	¥x60	¥x40	¥xA0	-
a	¥x61	¥x61	¥x41	¥xA1	-
b	¥x62	¥x62	¥x42	¥xA2	-
c	¥x63	¥x63	¥x43	¥xA3	-
d	¥x64	¥x64	¥x44	¥xA4	-
e	¥x65	¥x65	¥x45	¥xA5	-

Data to enter Character information specified by the user in applications (Word, VB, etc.)		Data to output Character code to actually output to the printer by the printer driver			
Character	Character code	ESC_FONT	DATA1	DATA2	DATA3
f	¥x66	¥x66	¥x46	¥xA6	-
g	¥x67	¥x67	¥x47	¥xA7	-
h	¥x68	¥x68	¥x48	¥xA8	-
i	¥x69	¥x69	¥x49	¥xA9	-
j	¥x6A	¥x6A	¥x4A	¥xAA	-
k	¥x6B	¥x6B	¥x4B	¥xAB	-
l	¥x6C	¥x6C	¥x4C	¥xAC	-
m	¥x6D	¥x6D	¥x4D	¥xAD	-
n	¥x6E	¥x6E	¥x4E	¥xAE	-
o	¥x6F	¥x6F	¥x4F	¥xAF	-
p	¥x70	¥x70	¥x50	¥xB0	-
q	¥x71	¥x71	¥x51	¥xB1	-
r	¥x72	¥x72	¥x52	¥xB2	-
s	¥x73	¥x73	¥x53	¥xB3	-
t	¥x74	¥x74	¥x54	¥xB4	-
u	¥x75	¥x75	¥x55	¥xB5	-
v	¥x76	¥x76	¥x56	¥xB6	-
w	¥x77	¥x77	¥x57	¥xB7	-
x	¥x78	¥x78	¥x58	¥xB8	-
y	¥x79	¥x79	¥x59	¥xB9	-
z	¥x7A	¥x7A	¥x5A	¥xBA	-
{	¥x7B	¥x7B	¥x5B	¥xBB	-
|	¥x7C	¥x7C	¥x5C	¥xBC	-
}	¥x7D	¥x7D	¥x5D	¥xBD	-
~	¥x7E	¥x7E	¥x5E	¥xBE	-
.	¥x7F	¥x7F	¥x5F	¥xBF	-

3.10.3 Using the Two-dimensional Code Font

When using the QR code/PDF417 font, data of the two-dimensional code can be specified up to 500 bytes. (500 bytes includes the types of data entered and the separator.)

A sample program for Visual Basic using two-dimensional code font is provided below.

■ QR code print—Sample 1 (QR code data setting: For data manual analysis setting)

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

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

    Printer.Font.Name = "QR_CNTL"           ' Sets QR_CNTL font
    Printer.Print "M2";                     ' Sets barcode model
    Printer.Print "Em";                     ' Sets correction level (Correction rate 15%)
    Printer.Print "S3"                     ' Sets module size (Module size 3 dots)

    Printer.Print "B1";                     ' Sets barcode data (Manual analysis) + Number of
                                           blocks
    Printer.Print "2";                     ' Alphanumeric (Data type)

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

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

    Printer.Font.Name = "QR_CNTL"          ' Sets QR_CNTL font
    Printer.Print "P"                       ' Prints barcode data

    Printer.EndDoc
End Sub
```

Point! When QR code data is set to data manual analysis, be sure to set the number of blocks and type of data to enter.
For details on setup, refer to the separate “STAR Line Mode Command Specifications”.

■ **QR code print—Sample 2 (QR code data setting: For data automatic analysis setting)**

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

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

    Printer.Font.Name = "QR_CNTL"           ' Sets QR_CNTL font
    Printer.Print "M1";                     ' Sets barcode model
    Printer.Print "Eq";                     ' Sets correction level (Correction rate 25%)
    Printer.Print "S7"                      ' Sets module size (Module size 7 dots)

    Printer.Print "A0";                     ' Sets barcode data (Automatic analysis)

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

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

    Printer.Font.Name = "QR_CNTL"          ' Sets QR_CNTL font
    Printer.Print "P"                       ' Prints barcode data

    Printer.EndDoc
End Sub
```

■ QR code print—Sample 3 (QR code data setting: For data automatic analysis setting)

```
Private Sub Command3_Click()
Printer.Font.Name = "Printer 17cpi Tall"
Printer.Print "QR Code Test Print for VB 6.0"
Printer.Font.Name = "Printer 17cpi"
Printer.Print
Printer.Print "DATA:"
Printer.Font.Name = "Kanji double-byte 8 cpi"
Printer.Print "STAR MICRONICS CO., LTD."
Printer.Print
Printer.Font.Name = "Printer 17cpi"
Printer.Print "QR code:";

Printer.Font.Name = "QR_CNTL" ' Sets QR_CNTL font
Printer.Print "M2"; ' Sets barcode model
Printer.Print "E1"; ' Sets correction level (Correction rate 7%)
Printer.Print "S6" ' Sets module size (Module size 6 dots)

Printer.Print "A0"; ' Sets barcode data (Data automatic analysis)

Printer.Font.Name = "DATA1" ' DATA1 = 0x0000 - 0x005F
Printer.Print Chr(&H32); ' Converts 0x35→0x15, 0x20→0x0
Printer.Print Chr(&H20); ' Number of bytes: 21(0x15)+0(0x0)=21 b

Printer.Font.Name = "ESC_FONT_KANJI" ' ESC_FONT_KANJI = Shift JIS
Printer.Print "STAR MICRONICS CO., LTD."; ' Barcode data (18 byte)

Printer.Font.Name = "QR_CNTL" ' Sets QR_CNTL font
Printer.Print "P" ' Prints barcode data

Printer.EndDoc
End Sub
```

■ PDF417 print — Sample 1

```
Private Sub Command4_Click()
    Printer.Font.Name = "Printer 17cpi Tall"
    Printer.Print "PDF417 Test Print for VB 6.0"

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

    Printer.Font.Name = "PDF417"

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

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

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

    Printer.Font.Name = "PDF417"
    Printer.Print "P"               ' Prints barcode data

    Printer.EndDoc
End Sub
```

■ PDF417 print — Sample 2

```
Private Sub Command5_Click()
    Printer.Font.Name = "Printer 17cpi Tall"
    Printer.Print "PDF417 Test Print for VB 6.0"

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

    Printer.Font.Name = "PDF417"

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

    Printer.Print "D";              ' Sets barcode data

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

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

    Printer.Font.Name = "PDF417"

    Printer.Print "P"               ' Prints barcode data

    Printer.EndDoc
End Sub
```

4. Star Configuration Utility (Windows 2000 SP3 or Later/XP/Vista 32-Bit Edition)

This software is supported by Windows 2000 (SP3 or later)/XP/Vista 32-bit edition. The **Star Configuration Utility** allows you to set a variety of print-related settings.

Open the **Star Configuration Utility** dialog as follows.

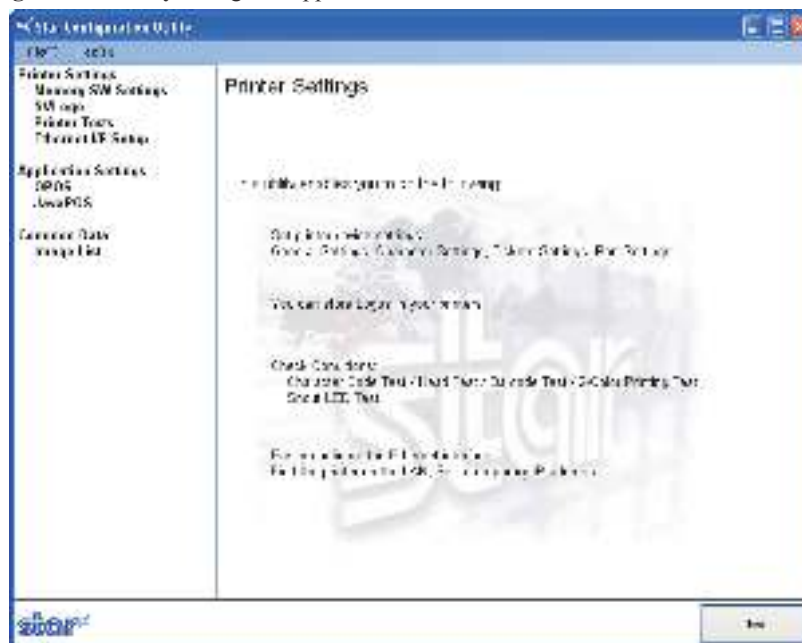
■ Windows 2000 SP3 or Later/XP

At the Windows Start menu, select **Programs — StarMicronics — TUP500 — Utility — TUP500 Configuration Utility**, and follow steps ① to ④ below.

- ① From the Windows Start menu, select **Printers and Faxes** to open the folder.
- ② Right-click the **Star TUP500** printer icon, and select **Properties**.
- ③ Click the **TUP500 Config** tab, and click **Launch Configuration Utility**.



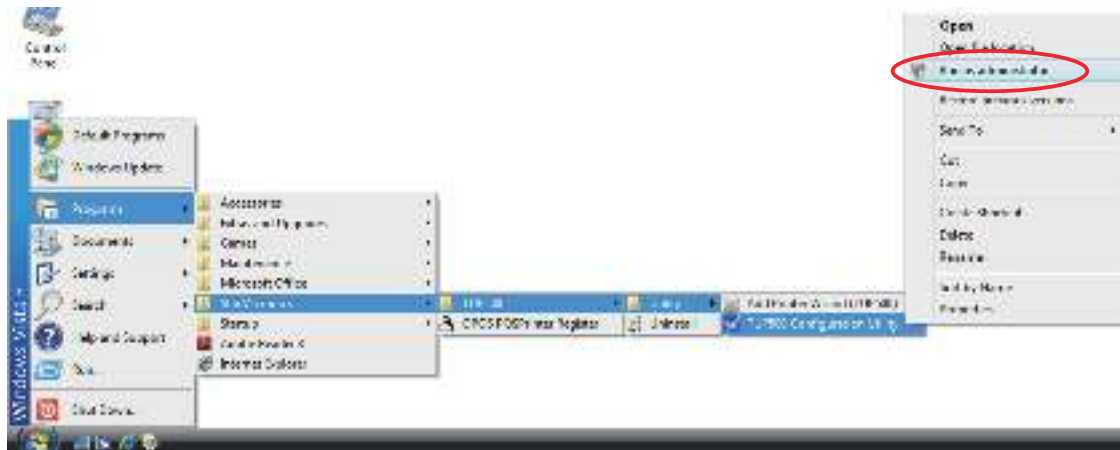
- ④ The **Star Configuration Utility** dialog box appears.



Point! If you did not install all program capabilities at install-time, the utility window will show only the installed capabilities that are currently available.

■ Windows Vista 32-Bit Edition

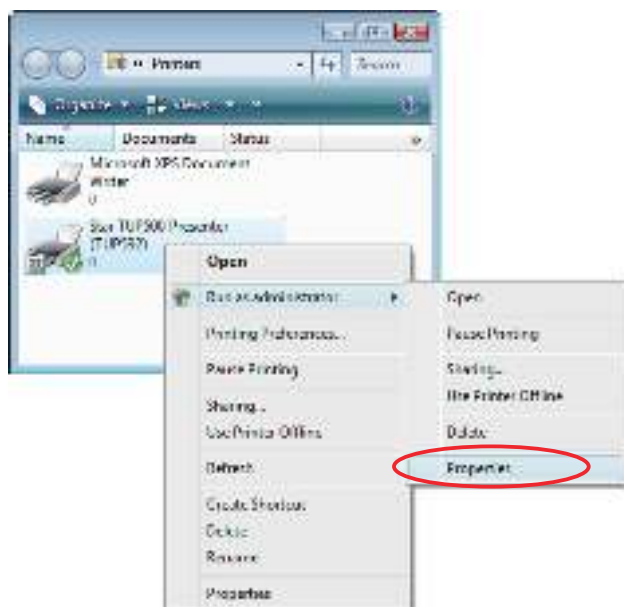
From the Windows Start menu, select **Programs – StarMicronics – TUP500 – Utility**, right-click **TUP500 Configuration Utility**, and then select **Run as administrator**.



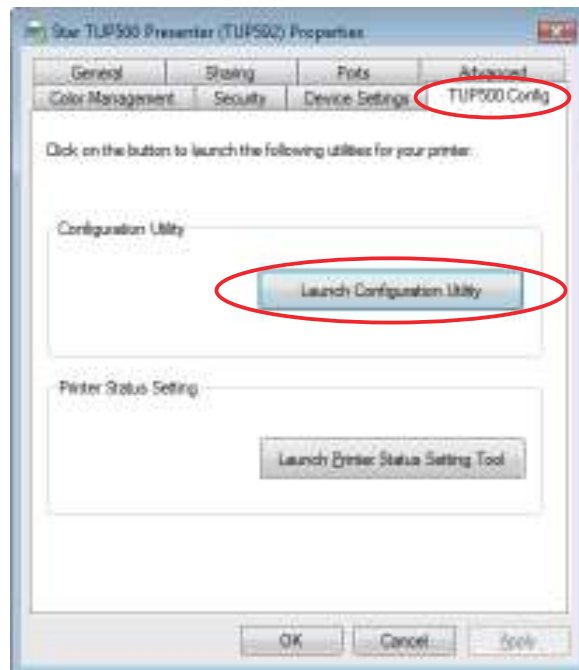
In the **User Account Control** dialog box, click the **Continue** or **Allow** button.

Follow steps ① to ⑥ below.

- ① From the Windows Start menu, select **Settings – Printers** to open the **printers** folder.
- ② Right-click the **Star TUP500** printer icon, and then select **Run as administrator – Properties**.



- ③ In the **User Account Control** dialog box, click the **Continue** or **Allow** button.
- ④ Click the **TUP500 Config** tab, and click **Launch Configuration Utility**.



- ⑤ The **Star Configuration Utility** dialog box appears.



Point! If you did not install all program capabilities at install-time, the utility window will show only the installed capabilities that are currently available.

Caution: If you are using Windows 32-bit Vista, you must select **Run as administrator** when opening the configuration utility and when opening the Properties dialog. If you do not run these operations as administrator, any changes that you make may not work as expected.

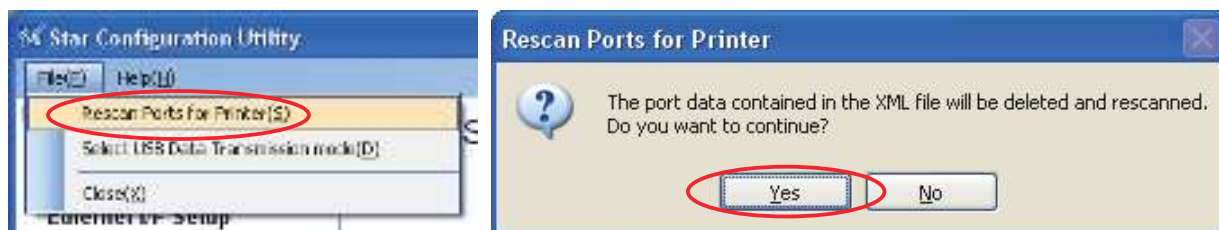
■ Menu Bar

(1) File

• Rescan Ports for Printer

Rescans the ports.

To rescan, click Yes.



• Select USB Data Transmission Mode

You can use this feature to set a smaller transmission size. In some cases, use of USB hubs may cause incorrect printing. If you are having this problem, check the checkbox.



Note: Checking the USB transmission mode checkbox may in some cases cause a drop in the printing speed.

(2) Help

• Version

Select **Help (H) — Version (V)** to display the version of Star Configuration Utility.



4.1 Printer Settings

Use the printer settings to set the memory switches, set up NV logos, carry out printer tests, and configure the Ethernet interface.

Printer Settings

This utility enables you to do the following:

Memory Sw Setting

Set printer device settings.

General Settings, Character Settings, Tickets Settings, Port Settings

NV Logo

You can store Logos in your printers.

Printer Tests

Check Conditions.

Character Code Test / Head Test / Barcode Test / 2-Color Printing Test

Snout LED Test

Ethernet I/F Setup

Easily configure the Ethernet interface.

Find the printer on the LAN, Set a temporary IP address

If you select any of the items, the top part of the dialog box will display the name of the connected printer, the name of the port it is connected to, the current emulation, and a **Configure Port** button.

Select the model name, port name, and emulation according to the environment used.



Model Name : TUP592 ▼ Port : LPT1 ▼ Emulation : Star Line Mode ▼ Configure Port...

Point! Printer settings correspond to usage in Star line mode and ESC/POS mode. Select the emulation, and make settings at the printer side, in accordance with the application you are using. Note also that memory switch settings only support operation in Star Page Mode. If you wish to set up Star Page Mode, please set the emulation to Star Line Mode. To change emulations, use the DIP switches on the printer. For information, refer to the Product Specifications Manual (issued separately).

Note: When using an Ethernet interface, the TCP/IP port will appear in the Port list by clicking the Search LAN for Printers button in Ethernet I/F Setup.

Click the **Configure Port** button to display the configuration dialog box for the selected port. After making the appropriate settings, click the **OK** button.

Model Name : TUP592 **Port :** LPT1 **Emulation :** Star Line Mode **Configure Port...**

<LPT> <USB> <TCP/IP>

The 'Configure Port...' dialog box for LPT1 shows a 'Timeout (milliseconds)' field set to 15000 and a 'Transmission Retry' field set to 15000. The 'OK' button is circled in red.

<COM>

The 'ComSetting' dialog box for COM port shows 'Port Settings' with 'Baud Per Second' set to 9600, 'Data bits' set to 8, 'Parity' set to None, 'Stop bits' set to 1, and 'Flow Control' set to Hardware. There is a 'Restore Printer's Defaults' button. Below, the 'Timeout (milliseconds)' field is set to 15000 and the 'Transmission Retry' field is set to 15000. The 'OK' button is circled in red.

Point! In the configuration utility, the **Flow Control** for the serial interface cannot be set to **Xon/Xoff**. If the printer setting is **Xon/Xoff**, change it to **DTR** and set the port configuration setting to **Hardware**.

Note: Match the port configurations to the printer settings.
The printer settings can be confirmed using the self-printing.
For details, refer to the Product Specifications Manual (issued separately).

4.1.1 Memory SW Settings

In **Memory SW Settings**, the printer memory switch settings can be loaded and written.

Select the model name, port name, and emulation according to the environment used, and then click the **Load Settings** button to read the printer's current memory switch settings.

Memory SW Settings

Model Name : TUP592 **Port :** LPT1 **Emulation :** Star Line Mode **Configure Port...**

General Characters Communication Paper Feed Sensor

Print Area: 72mm (Default) *

Print Mode: Monochrome *

Print Speed: Standard (180mm/second) *

Default Print Density: Normal *

Vertical Mount Mode: Disable *

Printing Trigger: Page *

Load Format Number (Page Mode): Not Specified when Power on *

Reset at Recover from Error: Invalid *

Snout Control: Disable *

Load Settings **Write Settings**

(*: Default setting)

Point! Values marked with * are the factory defaults.

- Note:**
- 1) Before clicking the button to load the settings, confirm that the model name, port name, and emulation settings match the printer settings.
 - 2) Memory switch settings cannot be used for port names created with the virtual port emulator.

To change the memory switch settings, select items to change from the drop-down menus, and then click the **Write Settings** button.

The displayed settings are written to the printer.

Memory SW Settings

Model Name : TUP592 **Port :** LPT1 **Emulation :** Star Line Mode [Configure Port...](#)

General Characters Communication Paper Feed Sensor

Print Area: 80mm

Print Mode: Monochrome *

Print Speed: Standard (180mm/second) *

Default Print Density: Normal *

Vertical Mount Mode: Disable *

Printing Trigger: Page *

Load Format Number (Page Mode): Not Specified when Power on *

Reset at Recover from Error: Invalid *

Snout Control: Disable *

[Load Settings](#) [Write Settings](#)

[*: Default setting]

Note: Click the **Write Settings** button to make your changes effective.
After changing the settings, be sure to click the **Write Settings** button.

4.1.2 NVLogo

NVLogo is a function for registering image data, selected from data pre-registered in the **Image List**, to the printer in order to print them on the top or bottom of the page.

NVLLogo

[illegible]

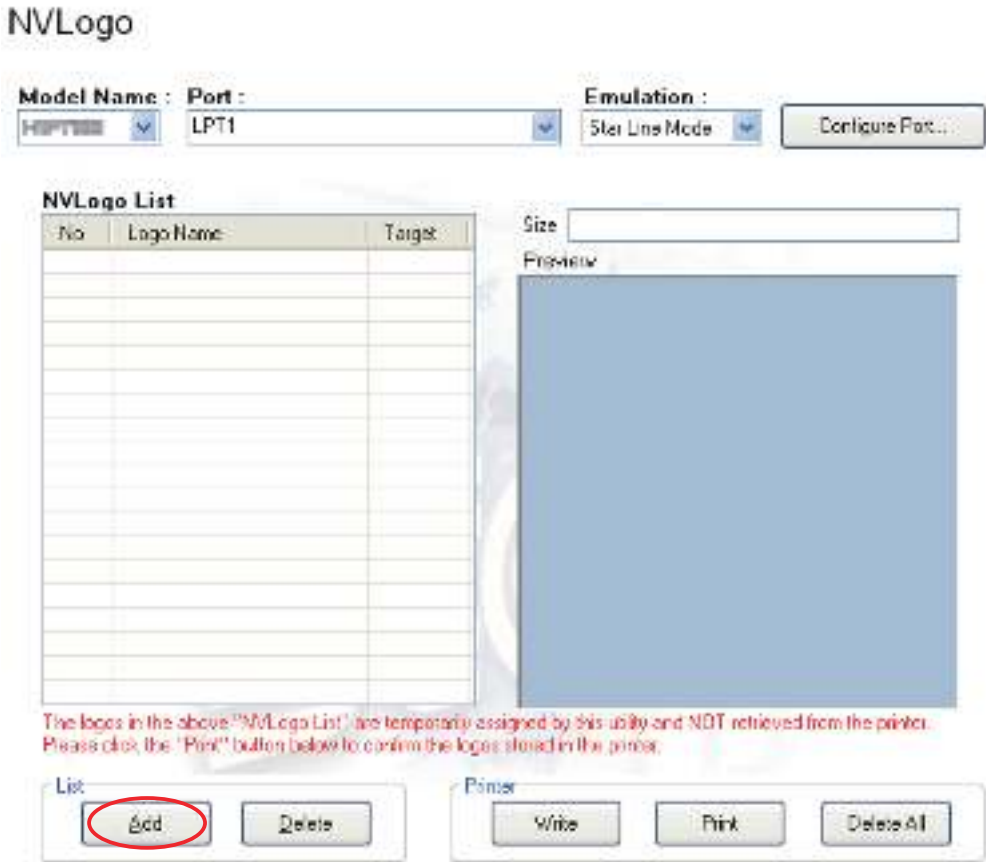
For details about adding image data to the NVLogo list, refer to “4.3.1 Image List”.

To set the print data of NV logos, use the printer driver.

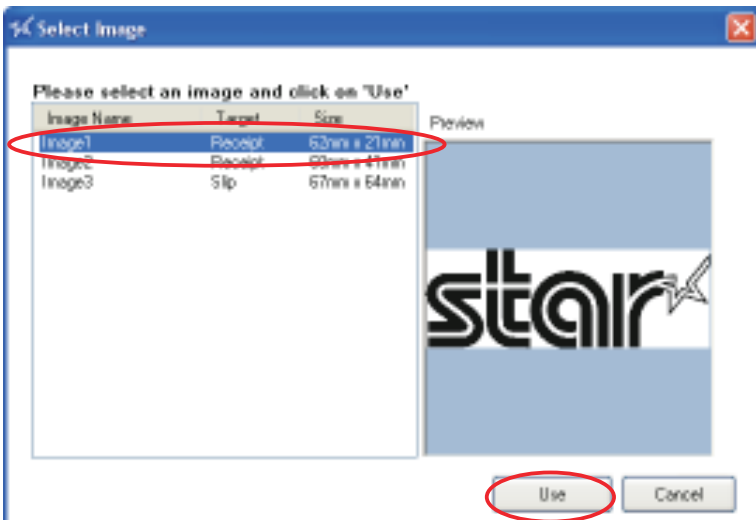
For details, refer to the information in “3.2.1 Explanation of Device Settings”.

Note: The **NVLogo List** is a list of the data registered in the computer.
To check the images registered in the printer, click the **Print** button.

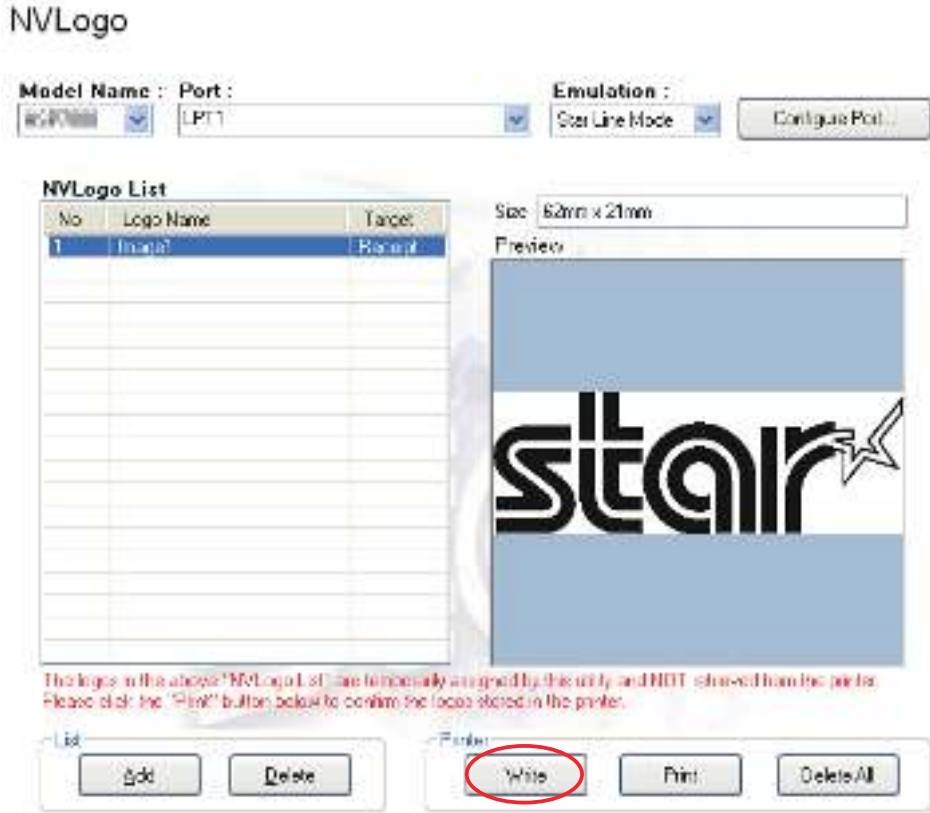
- ① Click the **Add** button.



- ② Select the image that you want to register in the printer, and then click the **Use** button.



- ③ The selected graphic data is added to the NVLogo List.
To register multiple images in the printer, repeat steps ① and ②.
To delete the selected image from the NVLogo List, click the **Delete** button.
- ④ When you have moved all graphic data to register into the NVLogo List, click the **Write** button. Data shown in the NVLogo List is written to the printer.



Clicking the **Print** button will generate a thermal printout of all of the NV logo data written to the printer. This makes it possible for you to check all of the image data currently registered in the printer.

To delete all of the NV logo data in the printer, click the **Delete All** button.

Point! The memory capacity for NV logos in this printer is 504 KB.
After clicking the **Write**, **Print**, or **Delete All** button, the printer will be reset.

Caution: By executing Write, data shown in the “NVLogo List” will be overwritten to the NV logo memory of the printer.
All data previously registered will be deleted.

4.1.3 Printer Tests

Printer Tests executes the printing function of the printer and prints several samples. Furthermore, it allows you to confirm that the peripherals work properly.



Note: Printer testing cannot be used with port names created with the virtual port emulator.

Test Prints

■ Print Single-Byte Characters

When you click **Print**, the printer prints out the single-byte character table.

■ Print Head Test

When you click **Print**, the printer tests the print head by printing several lines of solid black. If any white vertical lines appear in the black area, please clean the print head. For information about how to clean the head, refer to the Product Specifications Manual (issued separately).

■ Print Barcodes

When you click **Print**, the printer prints out all supported barcodes.

■ 2-Color Printing Test

Executes 2-color sample printing.

Point! For 2-color printing, confirm that paper for two colors is set.
The printer performs monochrome printing if this type of paper is not set.
Also, refer to “3.6 Setting the Print Color and Paper Type” for setup.

Snout LEDs

■ Snout Green LED Test

When you click **Test**, the green snout LED blinks five times. Watch the LED to confirm that it is working properly.

■ Snout Red LED Test

When you click **Test**, the red snout LED blinks five times. Watch the LED to confirm that it is working properly.

Note: Snout LEDs are optional devices.

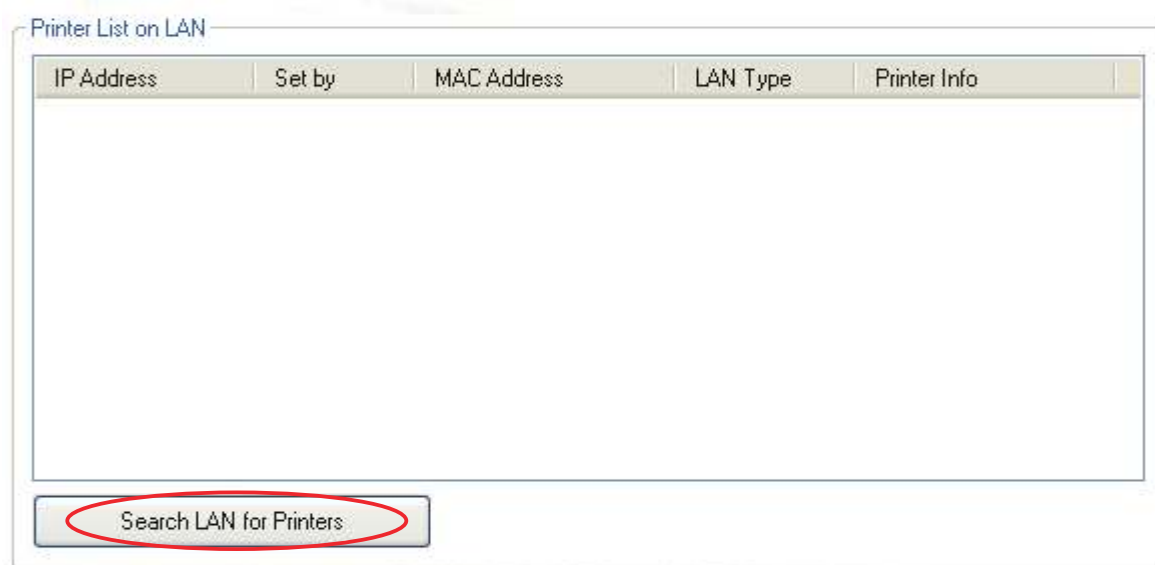
4.1.4 Ethernet I/F Setup

In **Ethernet I/F Setup**, settings for the Ethernet interface card connected to the printer can be made using the web browser.

In addition, when using a TCP/IP port with the configuration utility, the TCP/IP port will appear in the Port list by first clicking the **Search LAN for Printers** button.

Ethernet I/F Setup

Troubleshooting



Click the **Search LAN for Printers** button to search the printers connected on your LAN. If there is an applicable printer, the following dialog box will appear. Click the **OK** button.

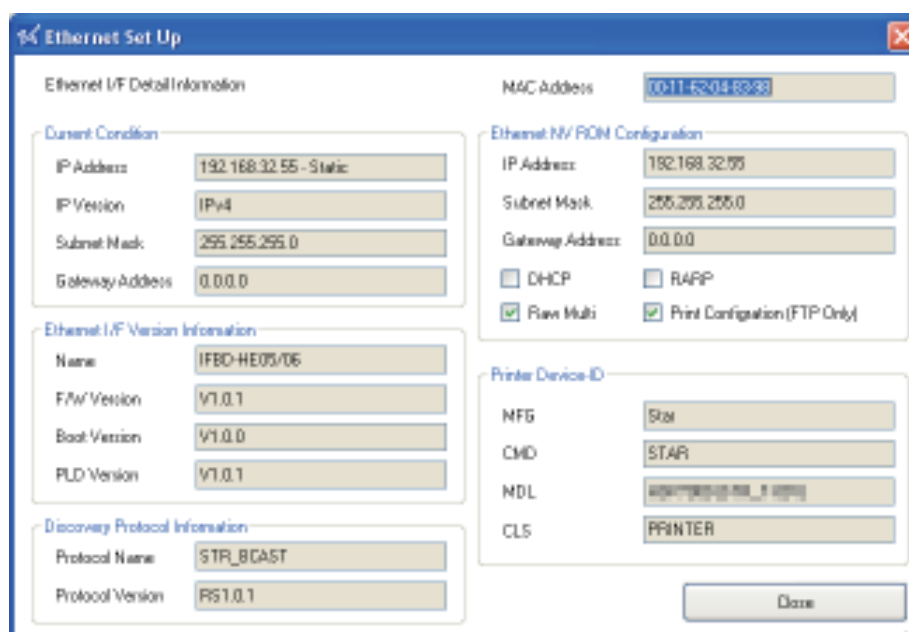


Caution: If you are using Vista in an environment without a DHCP server, the printer search will not find any printers that do not have set IP addresses. If you wish to find a printer that does not yet have a set IP address, set the printer's TCP/IP settings as explained in Chapter 6, "Guidelines for Usage in an Ethernet Environment."

All connected LAN printers are shown in the Printer List on LAN.



Select the printer from the Printer List on LAN and click the **Property** button to display the detailed information of the current Ethernet interface for the selected printer.



If the printers on the LAN cannot be found, click the **Troubleshooting** button to display “Ethernet I/F Setup Troubleshooting”.

The steps to change the printer TCP/IP settings vary according to whether or not the IP address is assigned automatically by a DHCP server.

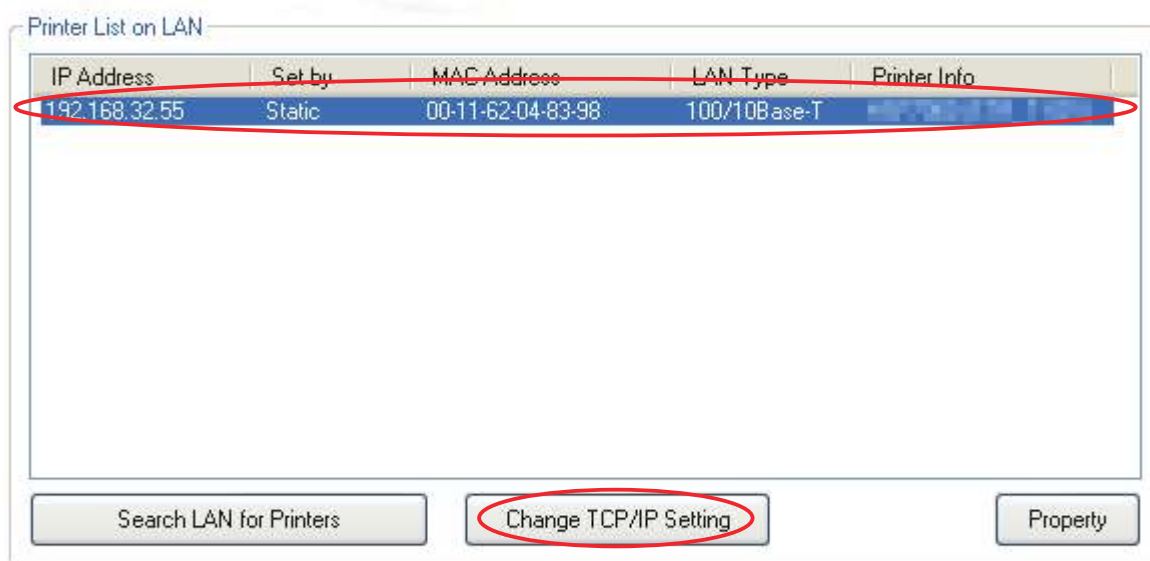
Use the steps according to the environment that you are using.

■ When IP Address is Automatically Assigned by DHCP Server

- ① Select the printer from the Printer List on LAN, and then click the **Change TCP/IP Setting** button.

Ethernet I/F Setup

Troubleshooting



- ② The utility detects the Ethernet interface card type and displays the corresponding user name and the default password. Confirm the settings, and then click the **OK** button.

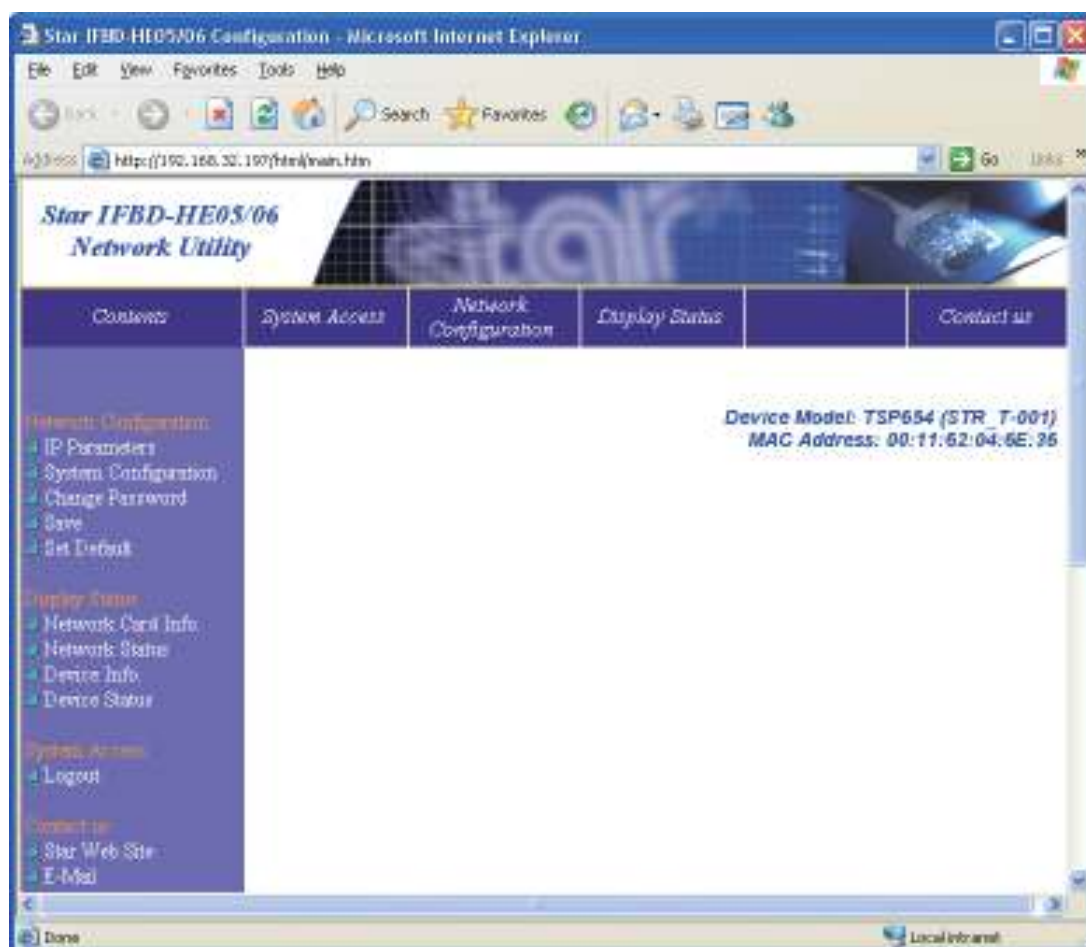


- ③ Enter the corresponding user name and the default password displayed in the previous dialog box, and then click the **OK** button.



Point! The password can be changed on the web browser.
If the password was changed, enter the new password.

- ④ The setting dialog box will appear depending on the web browser.
The TCP/IP settings can be performed.



■ When IP Address is Not Assigned by DHCP Server

- ① If there are no set IP addresses, you cannot move on to the Change TCP/IP Setting screen.
If a printer was selected that does not have a set IP address, a temporary IP address can be set. Enter the IP address, and then click the **Do ARP and PING** button.

Ethernet I/F Setup

Troubleshooting

Printer List on LAN

IP Address	Set by	MAC Address	LAN Type	Printer Info
0.0.0.0	Didn't obtain	00-11-62-04-6E-36	100/10Base-T	

Search LAN for Printers

Property

Set temporary IP address by ARP and PING

Input temprary IP Address: 192 . 168 . 0 . 0

MAC Address: 00 - 11 - 62 - 04 - 6E - 36

Do ARP and PING

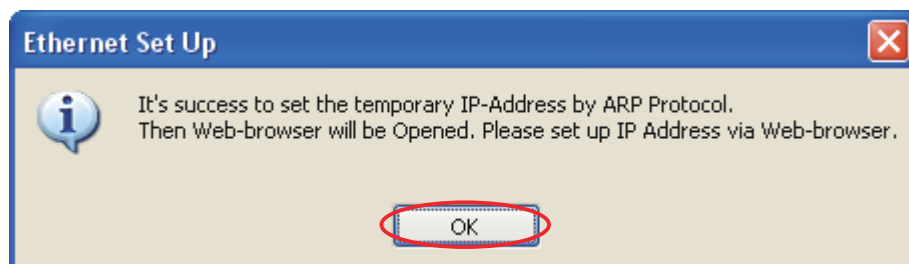
Set temporary IP address by ARP and PING

Input temprary IP Address: 192 . 168 . 32 . 130

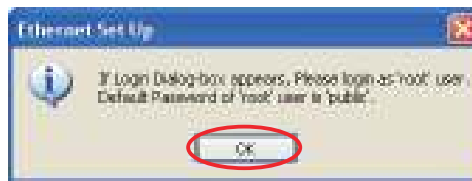
MAC Address: 00 - 11 - 62 - 04 - 6E - 36

Do ARP and PING

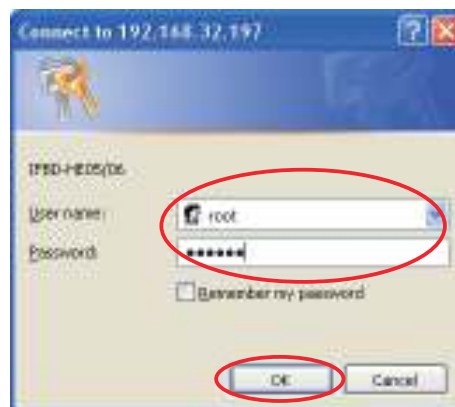
- ② When the temporary IP address is issued, the following dialog box will appear. Then click the **OK** button.



- ③ The utility detects the Ethernet interface card type and displays the corresponding user name and the default password.
Confirm the settings, and then click the **OK** button.

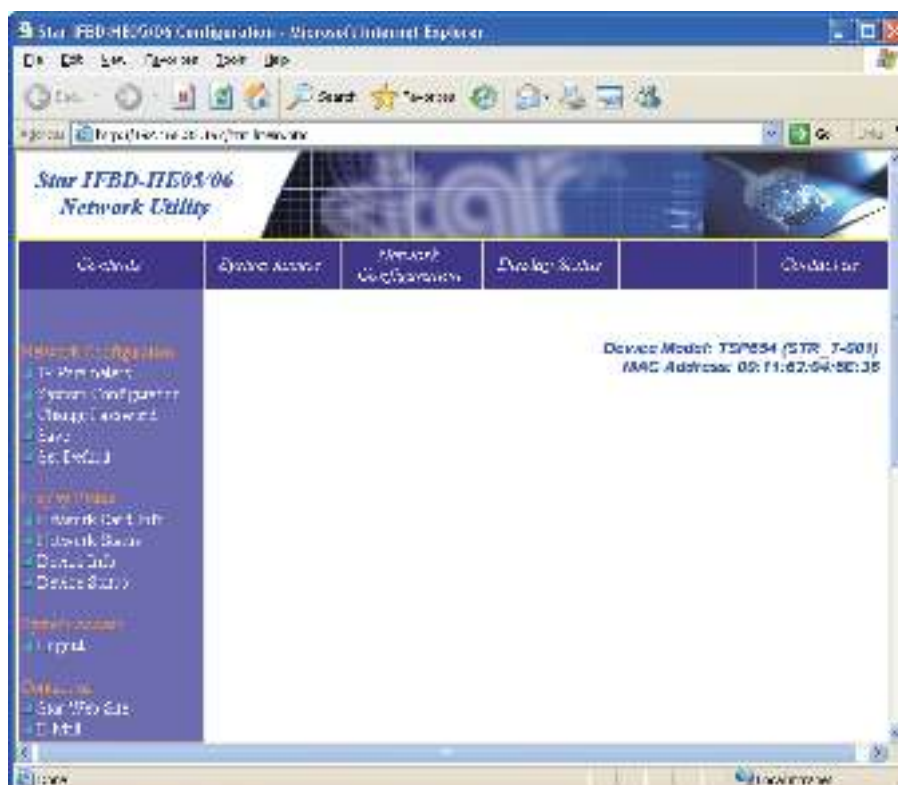


- ④ Enter the corresponding user name and the default password displayed in the previous dialog box, and then click the **OK** button.



Point! The password can be changed on the web browser.
If the password was changed, enter the new password.

- ⑤ The setting dialog box will appear depending on the web browser.
The TCP/IP settings can be performed.



4.2 Application Settings

This is for setting each application.

Application Settings

This utility enables you to do the following:

OPOS

OpenPOS(OPOS) was created by industry leaders as a device standard for POS hardware. OPOS is a Win32-based architecture for POS device access. The benefits of this standard are realized in the ease of access to hardware in not only outputting data to devices, but also reading back the status of the device. Star's OPOS driver offers full compliance with the OPOS standard version 1.8.

JavaPOS

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

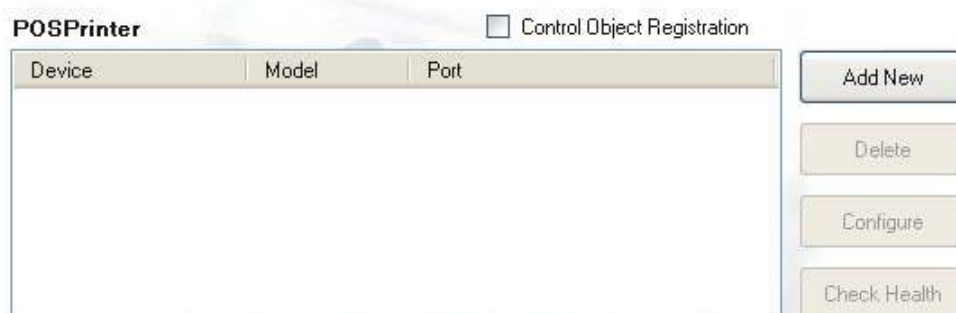
Point! You can set applications for each port and cue.

Note: The virtual port emulator will be available only if you selected custom install, and included the emulator, when installing the driver software. If you select standard installation, the emulator will not be installed.

4.2.1 OPOS

This allows you to check and set devices when the printer is used in an OPOS environment.

OPOS



■ Adding a Printer Device

Click the **Add New** button.



When clicking the **Add New** button, the **Control Object Registration** check box will be selected and the following dialog box will appear. Sets each item properly.



<LPT> <USB> <TCP/IP>



<COM>

The **RecNvBitImage** check box is selected by default.

When selected, the logo printing function using OPOS becomes enabled.

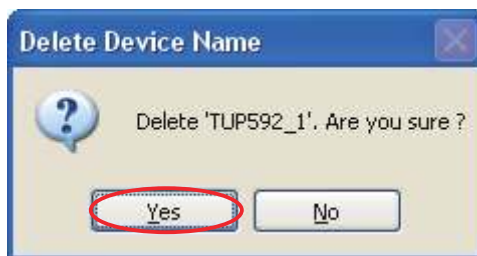
Click the **OK** button to add the printer.

Note: Only one control object can be registered.
When a Star control object is registered, control objects from other companies become disabled.
If using this printer under an OPOS environment, please register the Star control object. Correct operation cannot be guaranteed if the printer is used without registration of the control object.

■ Delete

Deletes the selected printer device.

When the following confirmation dialog box appears, click the **Yes** button to continue.



■ Configure

Allows you to change the settings for the selected printer device. The operational flow is the same as when using the **Add New** button.

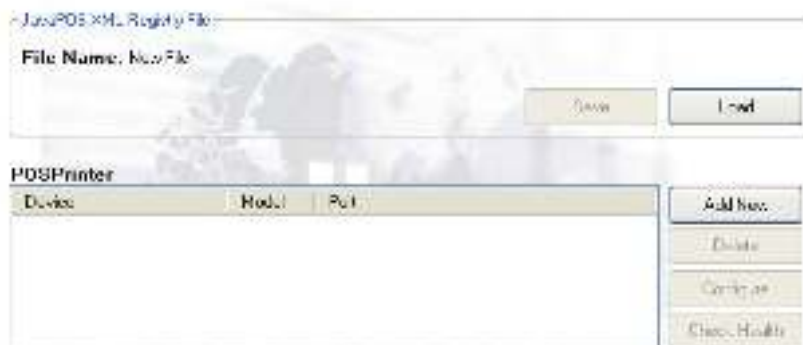
■ Check Health

Executes a system check to determine whether the selected device is correctly connected and to confirm that OPOS operation is correct. If the check is successful, the printer prints out sample data.

4.2.2 JavaPOS

This allows you to check and set devices when the printer is used in a JavaPOS environment.

JavaPOS



Click the **Load** button to load the existing JavaPOS XML file.



Note: To use this driver with JavaPOS applications, it is recommended that you use Java Runtime Environment (JRE) 1.5 or later.

To use the driver on Java Runtime Environment (JRE) 1.4 or earlier, you must specify the following command-line option.

-Dsmj.dllpath=<absolute path to the folder that contains StarIOPort.dll - StarIOJ.dll>

This DLL file is located in the following folder if you did not change the default installation folder.

Program Files\StarMicronics\TUP500\Software\JavaPOS

Command-line option example:

```
java -Dsmj.dllpath="C:\Program Files\StarMicronics\TUP500\Software\JavaPOS" application.class
```

■ Adding a Printer

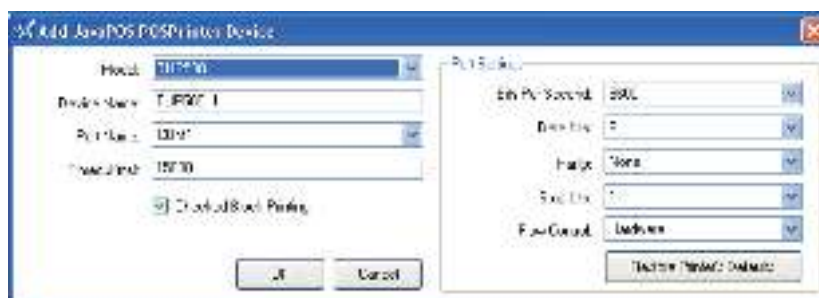
Click the **Add New** button.



The following dialog box will appear. Sets each item properly.



<LPT> <USB> <TCP/IP>



<COM>

When the **Checked Block Printing** check box is selected, you can confirm that data to be printed is correctly sent to the printer.

Click the **OK** button to add the printer.

When you have finished making the settings, click the **Save** button to save the JavaPOS XML file.



■ Delete

Deletes the selected printer device.

When the following confirmation dialog box appears, click the **Yes** button to continue.



■ Configure

Allows you to change the settings for the selected printer device. The operational flow is the same as when using the **Add New** button.

■ Check Health

Executes a system check to determine whether the selected device is correctly connected and to confirm that JavaPOS operation is correct. If the check is successful, the printer prints out sample data.

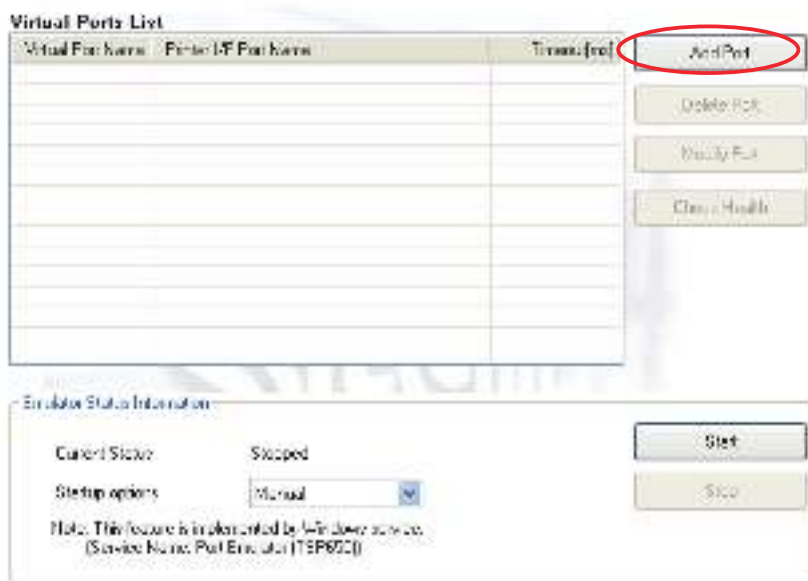


Note: Before running a health check, be sure to click the **Save** button so as to save the JavaPOS XML file.

4.2.3 Virtual Port Emulator

In **Virtual Port Emulator**, printers equipped with a USB interface or Ethernet interface can be configured as virtual serial ports. With this feature, printers equipped with a USB interface or Ethernet interface can be used with applications that support only serial printers.

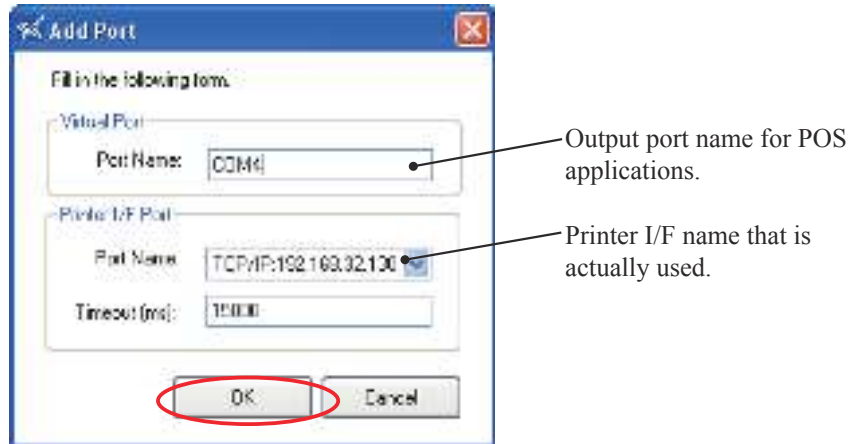
Virtual Port Emulator



Note: The virtual port emulator will be available only if you selected custom install, and included the emulator, when installing the driver software. If you select standard installation, the emulator will not be installed.

■ Adding a Virtual Port

- ① Click the **Add Port** button to display the following dialog box.
Set all of the items, and then click the **OK** button.

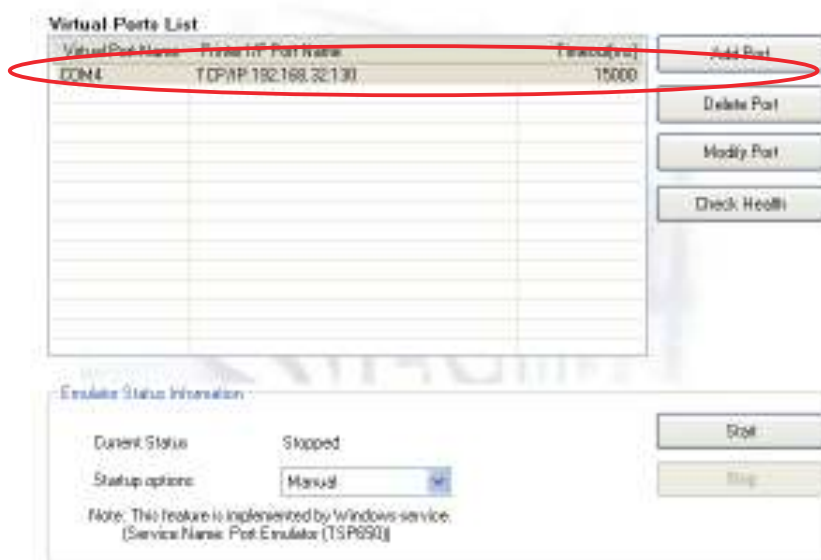


Point! Enter the output port name of the POS application for the virtual port name.
In addition, for the Port Name of the Printer I/F Port, select the actual printer interface name.
Selection is limited to USB (printer class) and Ethernet ports.

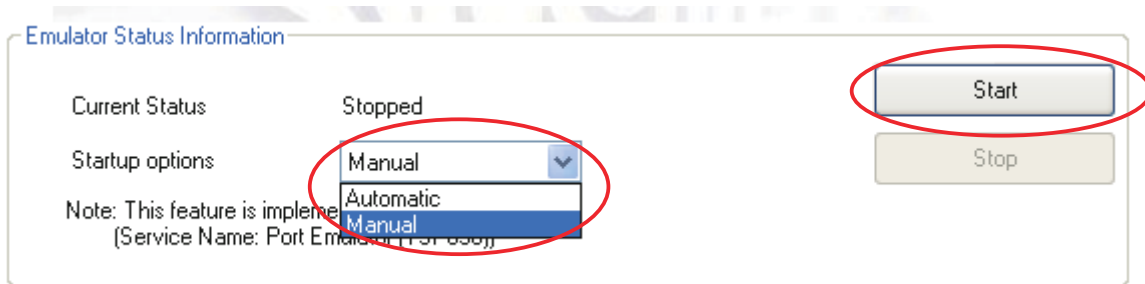
- Note:**
- 1) USB interface virtual serial ports cannot be used in “ESC/POS mode”.
In addition, the USB vendor-class driver is not compatible with virtual serial ports.
 - 2) If you are using the USB Printer Class, the selected printer I/F port name must consist of single-byte characters only. Please do not use double-byte characters when creating the printer queue.

- ② Created ports are displayed in the Virtual Ports List.

Virtual Port Emulator

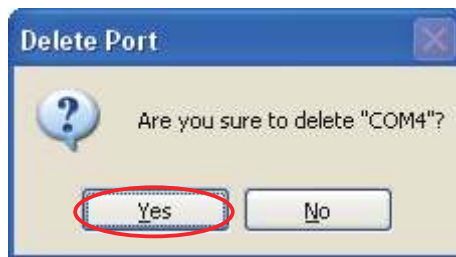


- ③ Click the **Start** button to start the emulator function service.
- ④ Select the timing to start up the emulator function.
When **Automatic** is selected, this function starts at the same time as the system. This is the most common setting.
When **Manual** is selected, you must click the **Start** button manually before using the virtual port emulator to start the service each time the system starts.



■ Deleting a Virtual Port

- ① Select the port to delete from the Virtual Ports List, and then click the **Delete Port** button.
- ② When the following confirmation dialog box appears, click the **Yes** button to continue.

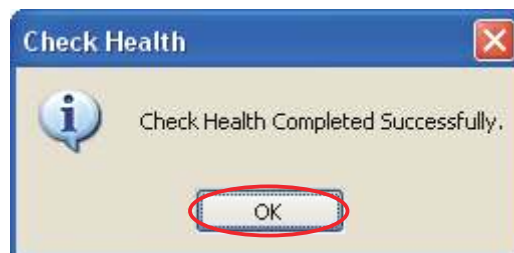


■ Modifying a Virtual Port

- ① Select the port to modify from the Virtual Ports List, and then click the **Modify Port** button.
- ② The same dialog box as when clicking the **Add Port** button will appear; therefore, change the settings using the same procedure as when they were first set.

■ Check Health

- ① Select the port to check from the Virtual Ports List, and then click the **Check Health** button.
- ② If the check completes successfully, the printer prints out sample data and the following dialog box appears. Click **OK**.



4.3 Common Data

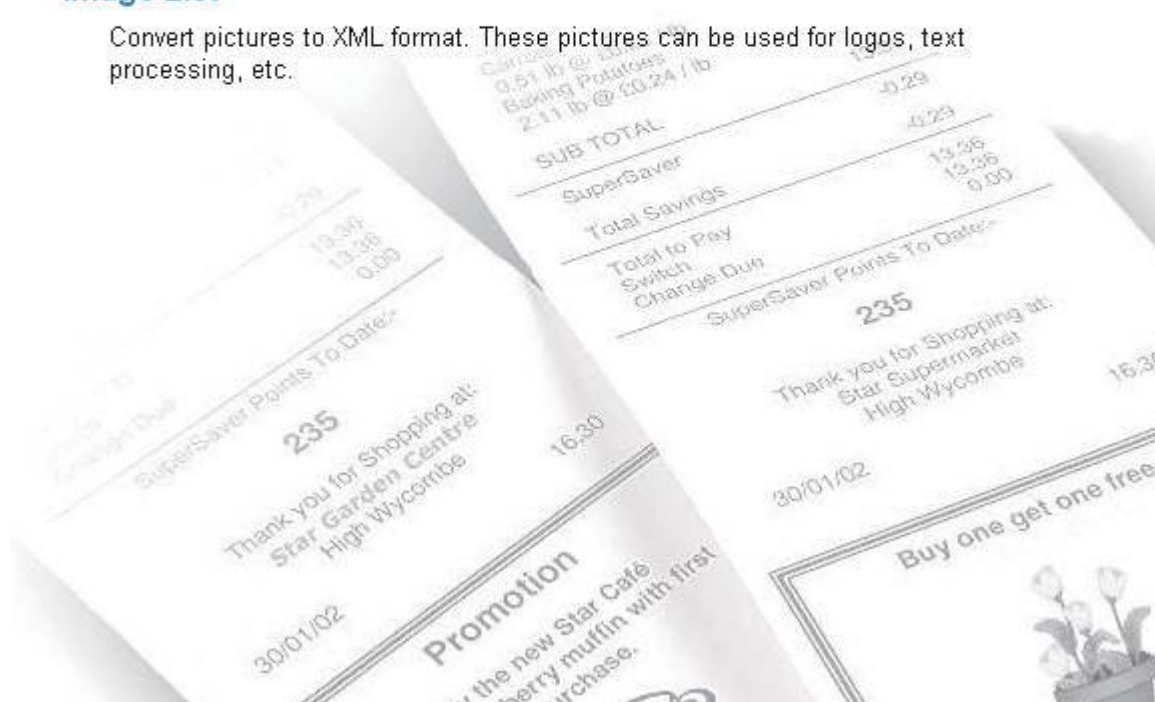
You can register graphic data that will be used as NV logos.

Common Data

This utility enables you to do the following:

Image List

Convert pictures to XML format. These pictures can be used for logos, text processing, etc.



4.3.1 Image List

The **Image List** allows you to register graphic data, such as logos that will be used repeatedly afterward, in the computer.

A test print will be made when adding graphic data; therefore, select the model name, port name, and emulation according to the environment used.

Image List

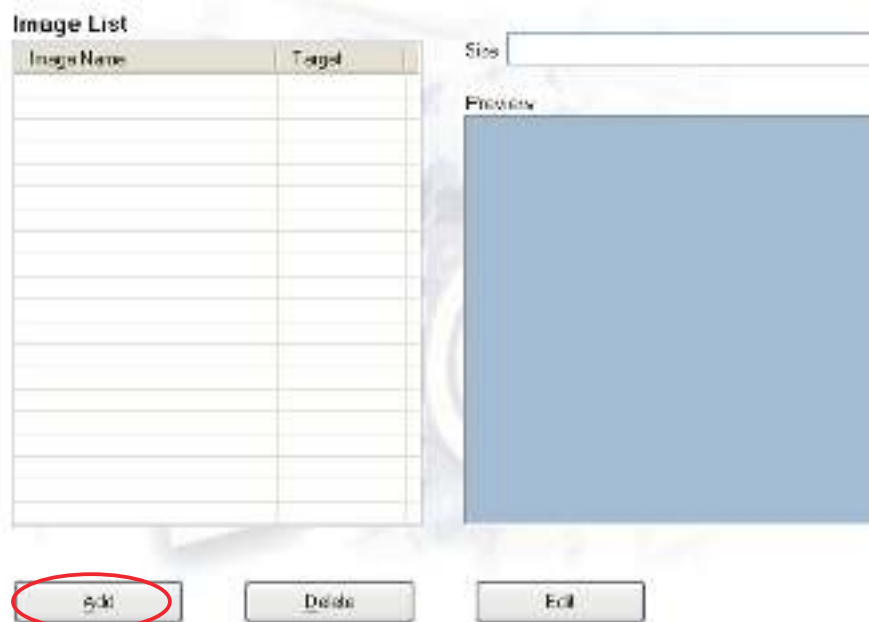
[illegible]

JPG, PNG, GIF, and BMP are available as formats of registerable graphic data.

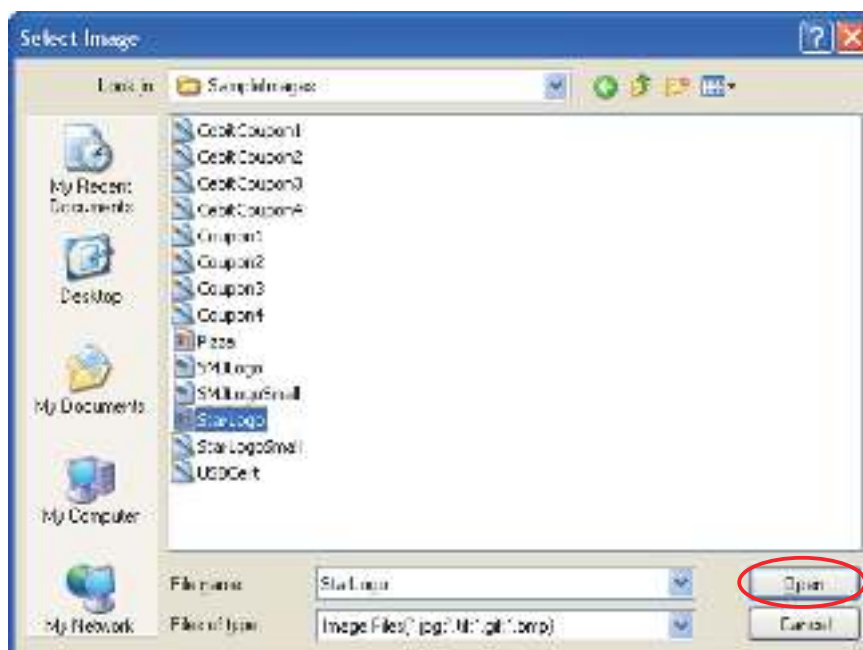
Graphic data registered here is used for **NV logos**. For details, refer to “4.1.2 NVLogo”.

■ Adding Graphic Data

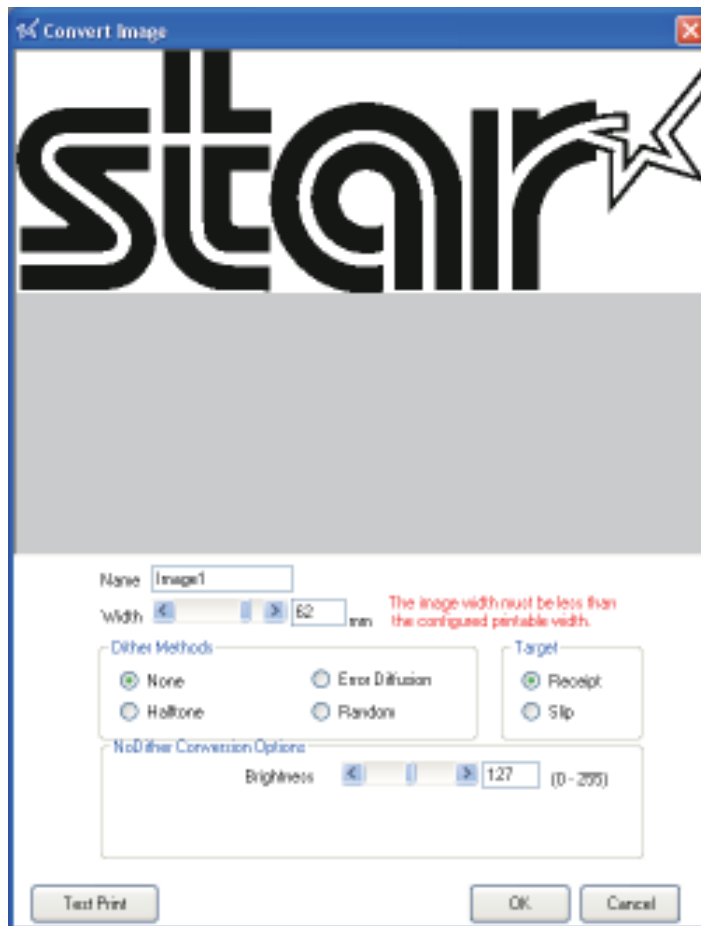
- ① Click the **Add** button.



- ② Select the graphic data that you want to register, and then click the **Open** button.



- ③ The following **Convert Image** dialog box will appear.



The data can be adjusted here.

- Type a name to register in the Name field.
- Adjust the width of the graphic data using the slider.
- Set the appropriate dithering method.
- Adjust the options which are displayed according to the dithering method.
- Select whether the image is to be used for receipt printing or slip printing.

Click the **Test Print** button to run a test print in order to check the print results of the graphic data being adjusted.

Point! Items in the options are different depending on the dithering selected.
Better printing results can be obtained by combining several settings to identify which settings are appropriate.

Note: According to differences between the actual printing properties of the printer and the display capacity of your computer display, the printing result and preview of the registered graphic data may look different in print density and other details.
It is recommended that you run a test print job to check the print result.

- ④ Click the **OK** button to add the graphic data to the **Image List**.

Image List

Model Name : HSP1000 ▾

Port : LPT1 ▾

Emulation : Star Line Mode ▾

[Configure Port...](#)

Image List

Image Name	Target
image1	Receipt

Size: 62mm x 21mm

Preview:

A preview window showing a blue rectangular area containing the word "star" in a stylized black font. The letter 'r' has a white outline and a small starburst or lightning bolt symbol at its end.

The graphic data is added to the **Image List** and can be used as an **NV logo**. For details on using the data, refer to “4.1.2 NVLogo”.

■ Deleting Graphic Data

To delete graphic data, select the unnecessary data from the **Image List**, and then click the **Delete** button.

Image List


Model Name : TSP654 **Port :** COM1 **Emulation :** Star Line Mode Configure Port...

Image List

Image Name
Image1
Image2
Image3
Image4

Size: 72mm x 50mm

Preview:



Add Delete Edit

When the following confirmation dialog box appears, click the **Yes** button to continue.



■ Editing Graphic Data

Click the **Edit** button to open the **Convert Image** dialog box. The graphic image data can be adjusted using the same procedure as when it was registered. For details, refer to the “Registration” item.

5. Guidelines for Printing Documents

- There is no need to set paper margins with this driver.
Set all margins to 0.
- This driver supports 4 predefined custom paper sizes and also user-defined paper sizes. Feel free to use user-defined sizes as needed.
(For details, refer to “3.5 User-Defined Paper Settings”.)

5.1 Notes for Printing via a Serial Interface

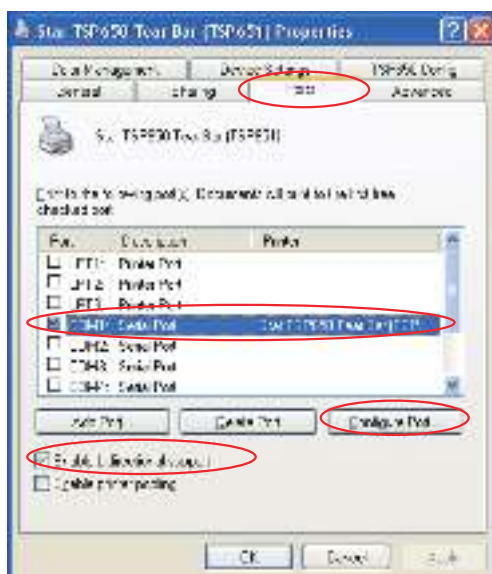
When using a TUP500 Windows driver to print through a serial interface, it is recommended that you use Line mode. For fastest print speed, use Line mode with device fonts.

Note also that printer settings and printer-port settings must be correctly matched.

You can check the printer settings by doing a self-print.
For information, refer to the Product Specifications Manual (issued separately).

To configure the printer port, proceed as follows.

- ① On Windows 2000 and XP, go to the Start menu and open **Printers and Faxes**. On Windows Vista, go to the Start menu and select **Settings – Printers**.
- ② Right-click the printer queue for the printer drive you want to set. If using Windows 2000 or XP, select **Properties** from the drop-down menu. If using Windows Vista, select **Run as Administrator – Properties**.
- ③ If you are using Windows Vista, the **User Account Control** dialog appears. Click **Continue**.
- ④ Click the **Ports** tab.
Select the port you will connect to, and then click the **Configure Port** button to display the port properties dialog box. Match the settings to the printer settings.



Point! If the **Flow Control** for the serial connection is set to **Xon/Xoff**, clear the **Enable bidirectional support** check box.

5.2 Notes for Using Microsoft Word

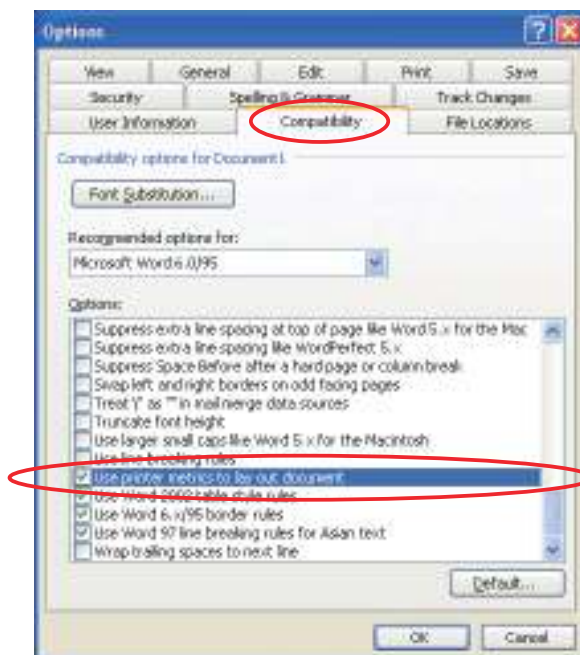
When you use default document formats of Word97 and later, device fonts will not work properly. To enable correct use of device fonts, perform the following settings.

■ Windows 2000/XP

- ① Open Microsoft Word's **Tools** menu, and select **Options**.



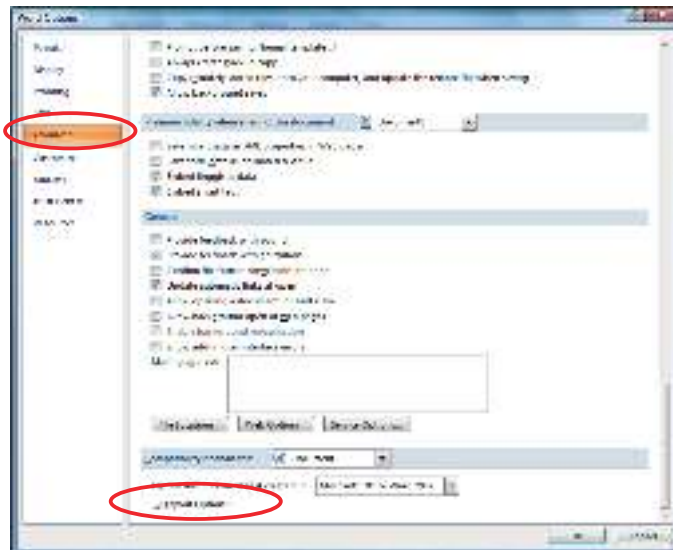
- ② Click the **Compatibility** tab, and in the **Options** area select the **Use printer metrics to lay out document** check box. Then click the **OK** button.



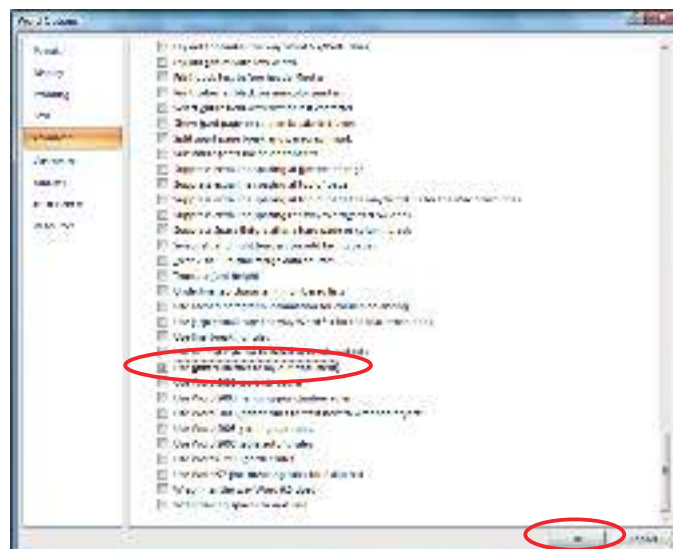
- ③ Open Word's **File** menu, and select **Save** to save the document.

■ Windows Vista 32-Bit/64-Bit Edition

- ① Click the Office Button , and then click the **Word Options** button. Select **Advanced**, and click **Layout Options**.



- ② Select the **Use printer metrics to lay out document** check box. Then click the **OK** button.



- ③ Open Word's **File** menu, and select **Save** to save the document.

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

5.3 Restrictions and Precautions

- Please do not use more than one device font on a single line.
Mixing device fonts on a single line may result in skewed printing.
- Do not include graphic data (Windows fonts, ruled lines, etc.) on the same line with a device font, as this too may cause skewed print results.
- Remember that the “Control” device font cannot be used for normal character printing.
Use fonts other than the “Control” device font to print characters.

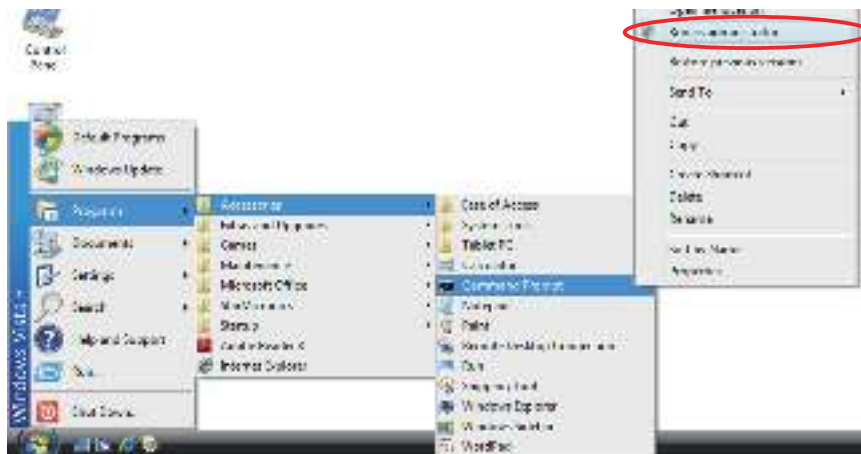
6. Guidelines for Usage in an Ethernet Environment

6.1. Manually Setting a Temporary IP Address

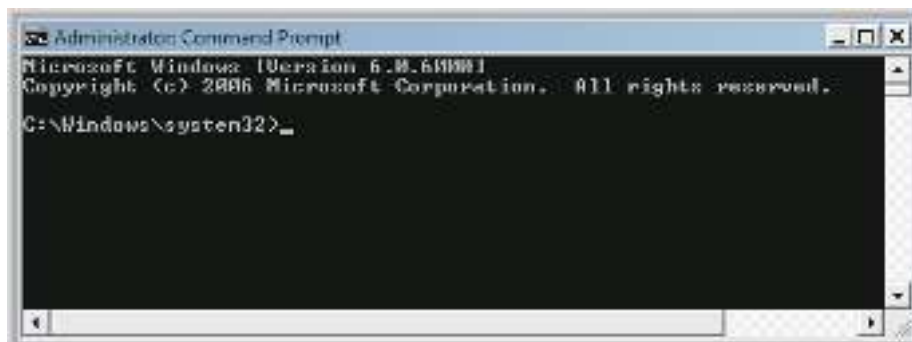
You can use the following procedure to set a temporary IP address for a TUP500 printer. Use of a temporary address will allow you to connect to a printer that does not yet have an IP address setting.

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

<<On Windows Vista>>



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



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

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

Example: To set a temporary IP address of 192.168.32.55

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

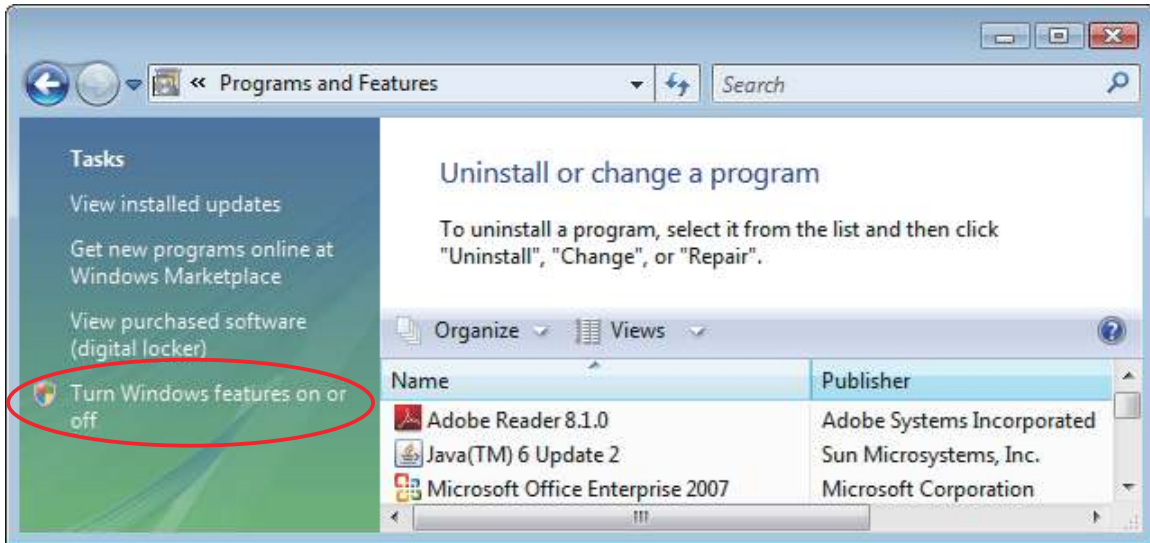
Point! The temporary IP address that you set here will be cleared when the printer's power is switched off. You should therefore immediately proceed to set a regular IP address for the printer.

6.2. Manually Setting an IP Address

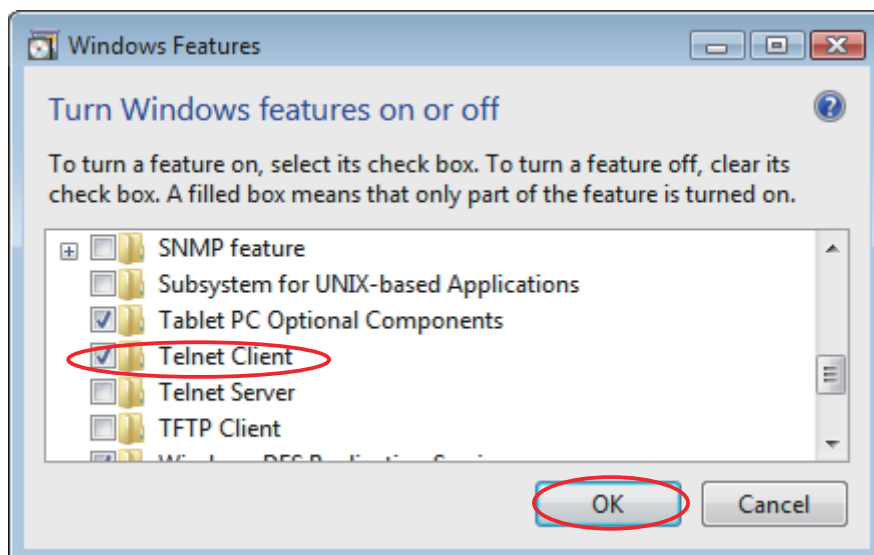
You can use the telnet command to connect directly to a TUP500 printer.

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

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



- ④ When the **User Account Control** dialog appears, click **Continue**.
- ⑤ If **Telnet Client** is not yet checked, place a check next to it. Then click **OK**.



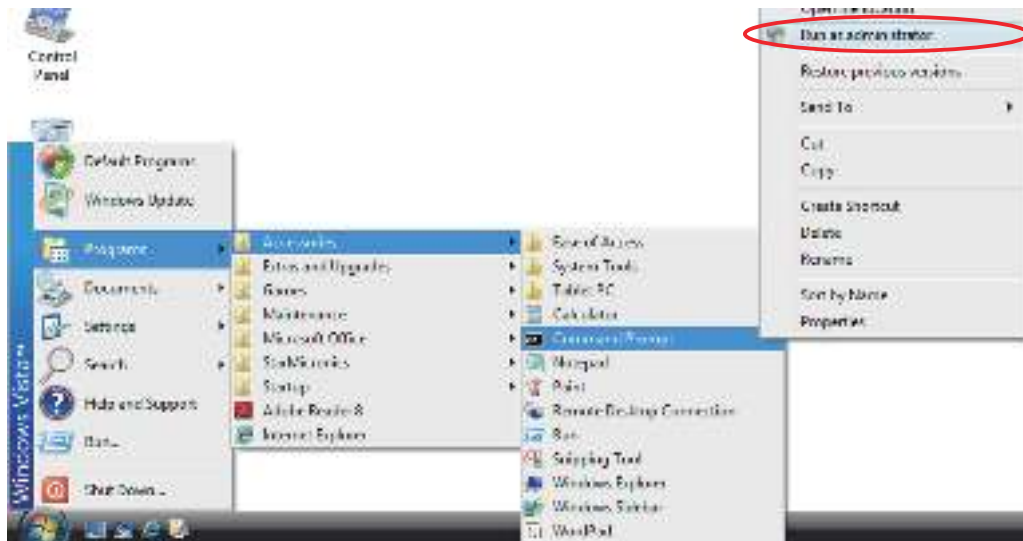
- ⑥ If you had to add the check in the previous step (if Telnet Client was not already checked to begin with), you must now restart your computer.

To manually set the IP address, proceed as follows.

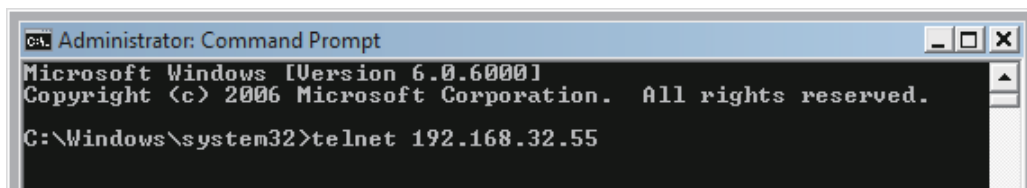
- ① Open a Command Prompt window.

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

<<On Windows Vista>>



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



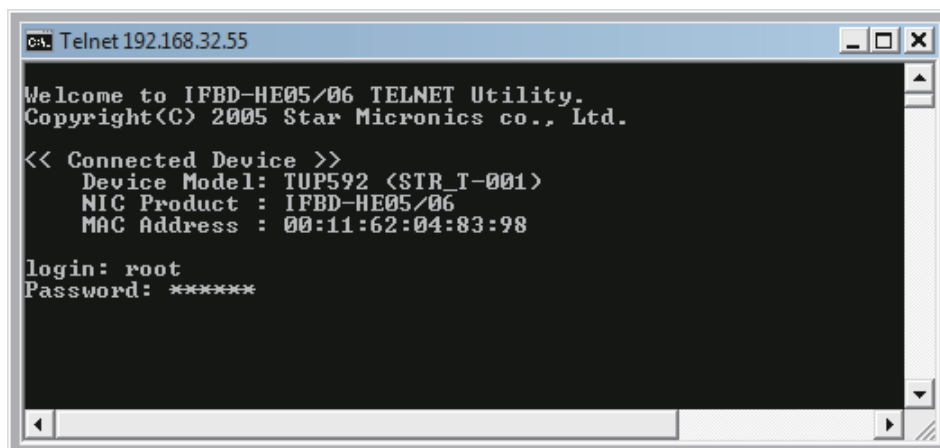
Example:> telnet 192.168.32.55



IP address of the printer you wish to set.

Point! You cannot connect to a printer that does not have an IP address. If necessary, set a temporary IP address for the printer before using telnet.
For instructions, refer to Section 6.1, "Manually Setting a Temporary IP Address."

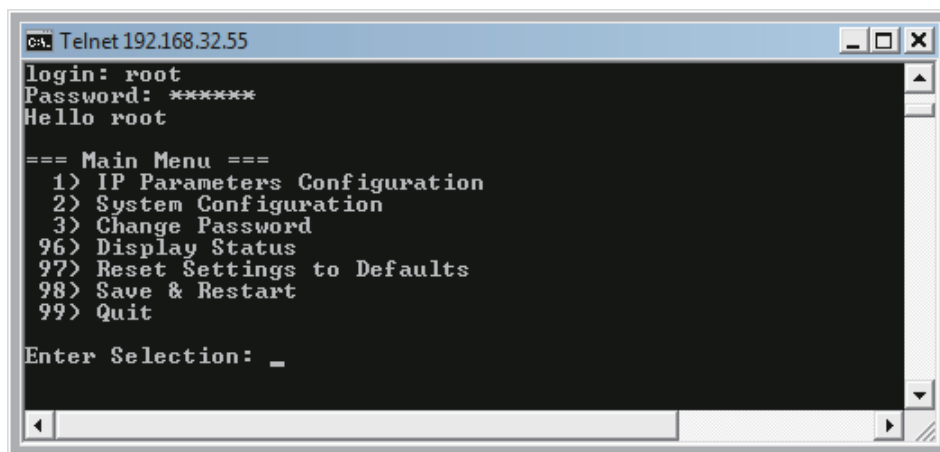
- ③ Log into the printer as "root".
The factory default setting for the password is "public".
(If the password has been changed, use the current password.)



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

Enter Selection:

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



```
C:\> Telnet 192.168.32.55
login: root
Password: *****
Hello root

=== Main Menu ===
 1> IP Parameters Configuration
 2> System Configuration
 3> Change Password
96> Display Status
97> Reset Settings to Defaults
98> Save & Restart
99> Quit

Enter Selection: _
```

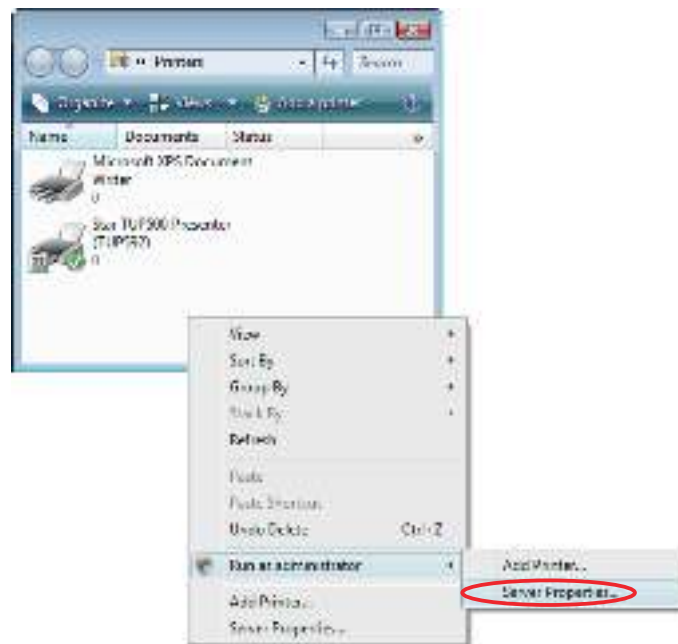
- ⑤ When you have finished making settings, select 98 (Save and Restart) and then select either 1 (Save & Restart device and Configuration printing) or 2 (Save & Restart Device). This will save the settings and reset the printer.

6.3. Setting up a TCP/IP Printer Port

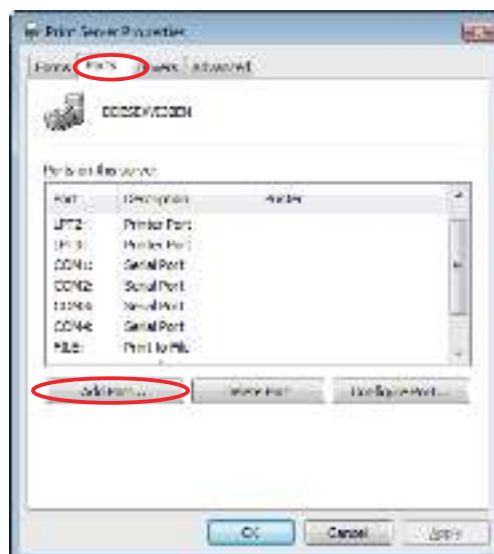
6.3.1 Adding a TCP/IP Printer Port

- ① On Windows 2000 and XP, go to the Start menu and open **Printers and Faxes**. On Windows Vista, go to the Start menu and select **Settings – Printers**.
- ② Right-click over a blank area in the Printers folder to open the drop-down menu. If using Windows 2000 or XP, select **Server Properties** from the menu. If using Windows Vista, select **Run as administrator – Server Properties**.

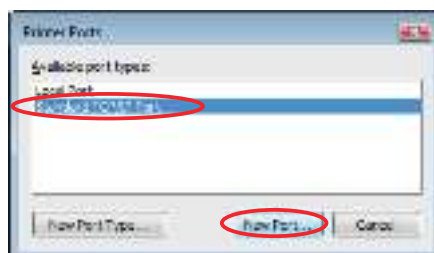
<<On Windows Vista>>



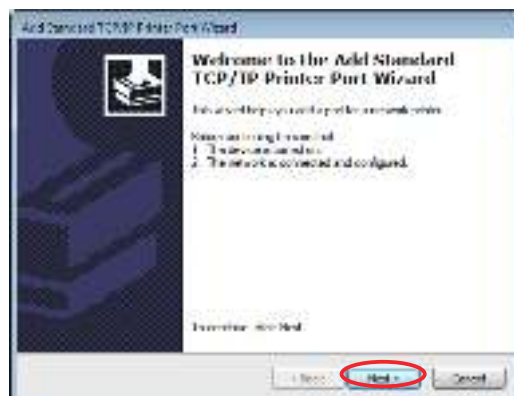
- ③ If you are using Windows Vista, the **User Account Control** dialog appears. Click **Continue**.
- ④ Select the **Ports** tab, and click **Add Port**.



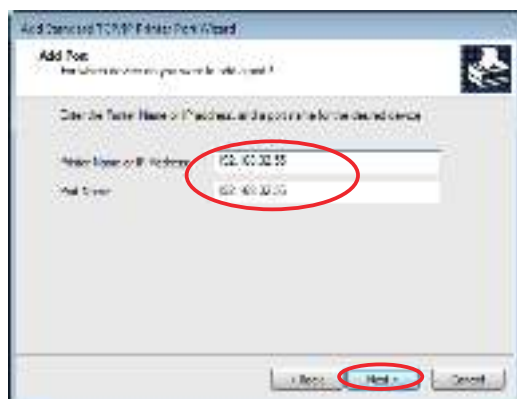
- ⑤ For the port type, select **Standard TCP/IP Port**. Then click **New Port**.



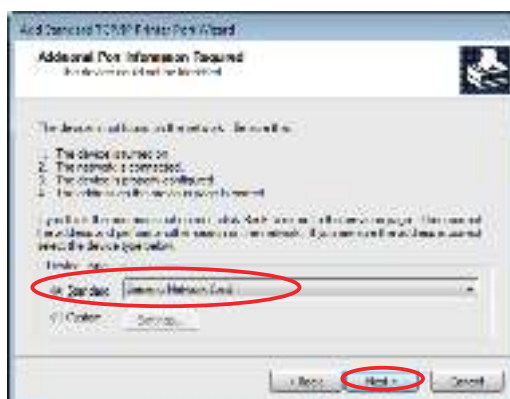
- ⑥ Click **Next**.



- ⑦ Next to **Printer Name or IP Address**, enter the IP address for the TCP/IP port you are creating. Next to **Port Name**, enter the port name to be created. Then click **Next**.
The TCP/IP port detection window appears, and Windows detects the port.



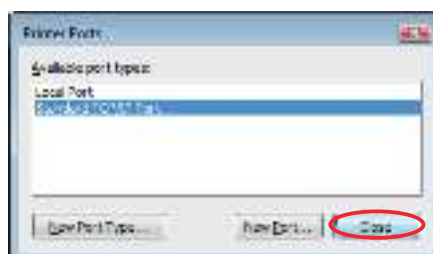
- ⑧ For the device type, select **Generic Network Card**. Then click **Next**.



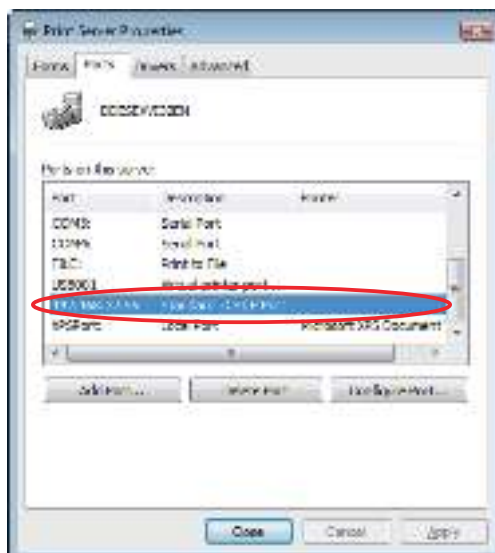
- ⑨ The wizard's completion window appears. To complete creation of the port with the displayed characteristics, click **Finish**.



- ⑩ Click **Close**.



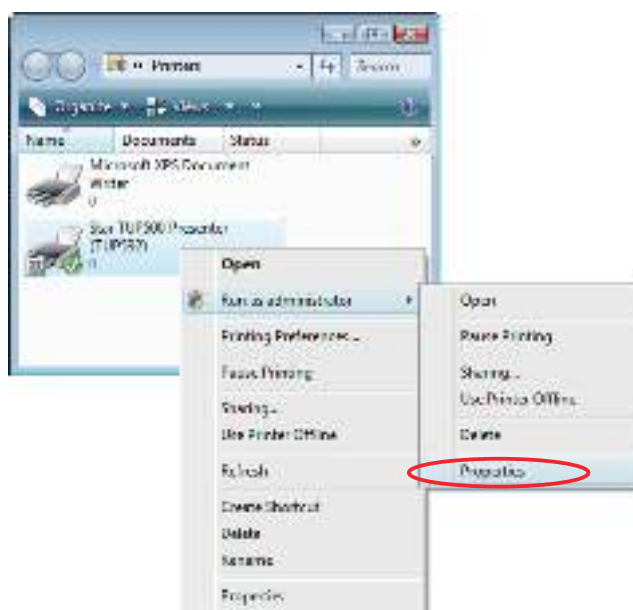
- ⑪ If the new TCP/IP port appears correctly in the port list, port creation has completed successfully.



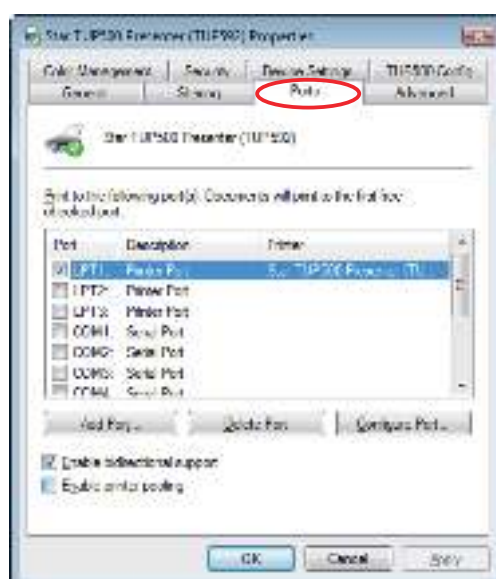
6.3.2 Changing a TCP/IP Printer Port

- ① On Windows 2000 and XP, go to the Start menu and open **Printers and Faxes**. On Windows Vista, go to the Start menu and select **Settings – Printers**.
- ② In the folder that opens, right-click the **TUP500** printer icon. From the drop-down menu, select **Properties** (if Windows 2000 or XP) or select **Run as administrator – Properties** (if Vista).

<<On Windows Vista>>

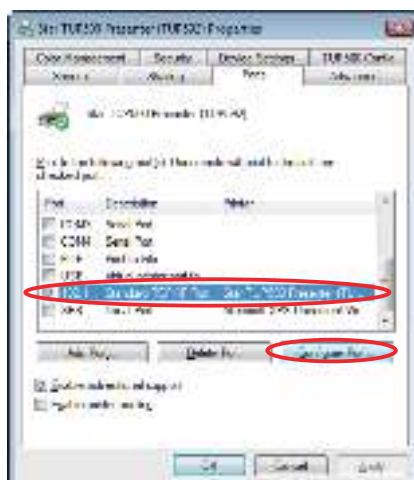


- ③ If you are using Windows Vista, the **User Account Control** dialog appears. Click **Continue**.
- ④ Select the **Ports** tab.



■ To change the IP address...

- ① Select the port whose address you wish to change, and click **Configure Port**.

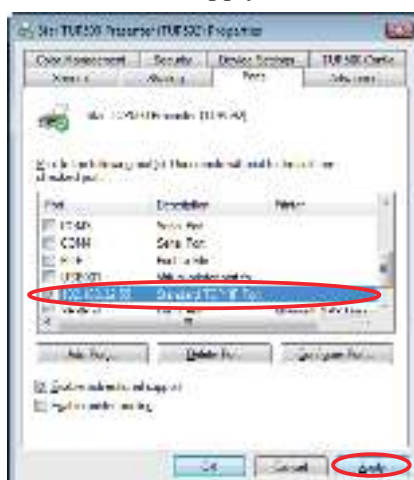


- ② Enter the new IP address, and click **OK**.



■ To change the port used to print...

Select the desired port from the port list, and click **Apply**.



■ To change the port name...

It is not possible to change the name of an existing port. Instead, add a new port under the desired new name, select that port for printing, and then delete the port with the old name.

7. Revision History

[illegible]



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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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