Hybrid Printer

# HSP7000

# Software Manual

## – for OPOS Driver –

*Rev.2.0*

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# Introduction

The HSP7000 provides an OPOS driver and printer drivers to support various types of usage.
This document explains how to install and use the OPOS drivers.
For information about using the printer driver, refer to the printer-driver software manual.

# 1. Installing/Uninstalling

Before using the HSP7000 with Windows 2000, XP, or Vista, you must first install the printer drivers. If you have already installed an HSP7000 printer using CD1.0, you must first uninstall it before proceeding with installation of the driver software described here. Refer to the software manual in HSP7000 CD1.0 for information about how to uninstall.

**Important:** **1) Administrator privilege is required to run the installation.**
**2) If you uninstall OPOS under 64-bit windows, the USB vendor-class driver will be also be removed.**

## 1.1 Installing

**Important:** **If you are connecting to the printer by USB, complete this procedure before turning the printer on.**

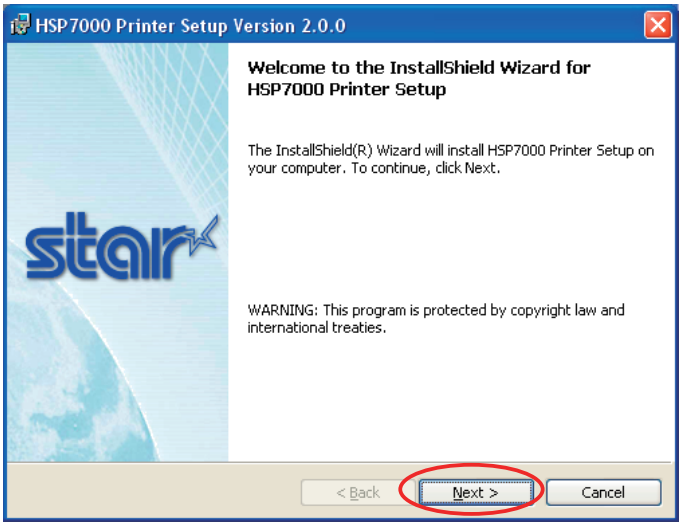
① Insert the included CD-ROM into your PC's CD-ROM drive. If an Autorun confirmation dialog appears, click **Run Autorun.exe**. When the following window appears, click **Installation—OPOS Driver**.

**Important:** **This procedure will not install the user manual onto your disk. If you wish to install the manual onto your disk, click Installation—Manual.**

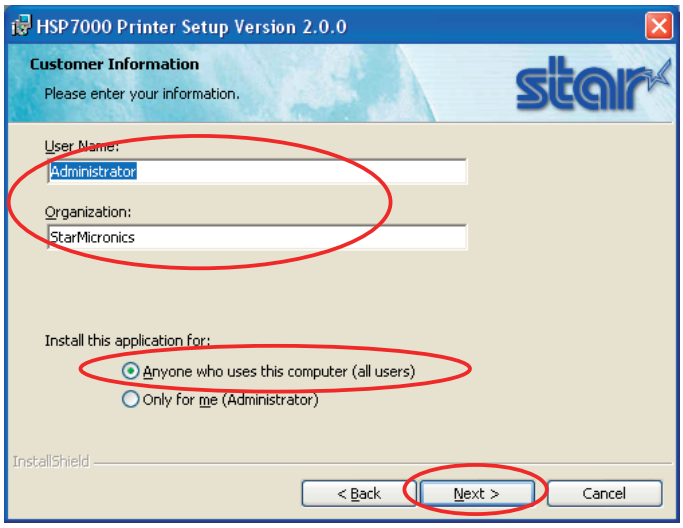
② Read the license agreement. If you agree with the terms and conditions of the agreement, click **I Accept**.

③ If you are using Vista, the **User Account Control dialog** appears. Click **Continue**.
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.

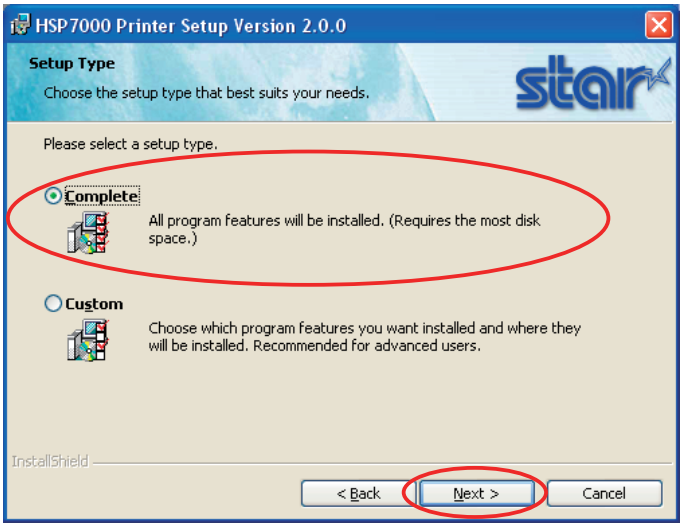
④ Click the **Next>** button to proceed.



⑤ 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.



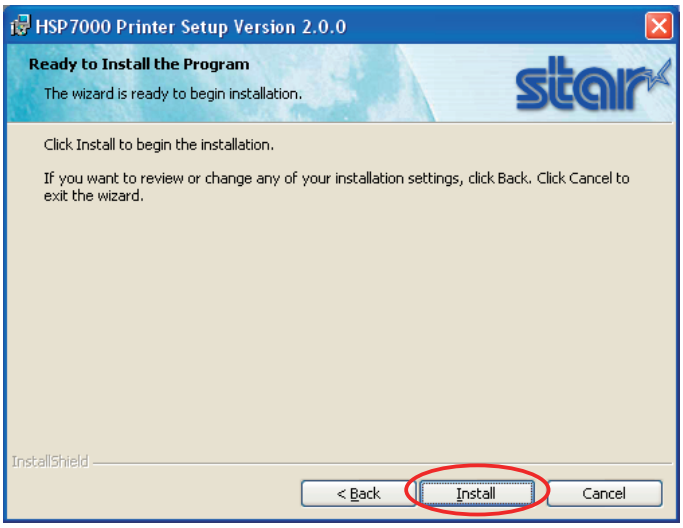

⑥ Select the type of setup.
Select **Complete** to install all of the program's features, and then click the **Next>** button.



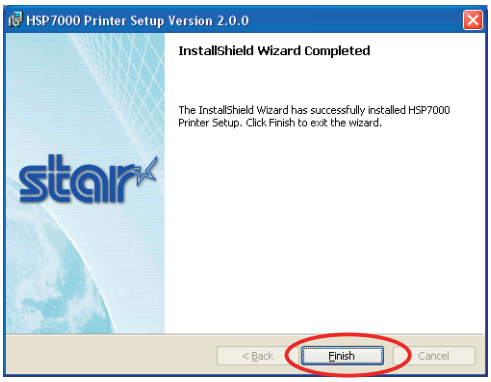

**Notes**

The configuration utilities will not be installed if you are using 64-bit Windows or Windows 2000 SP2 or earlier.

⑦ Click the **Install** button to begin the installation.




⑧ The wizard has completed installation of the program.
Click the **Finish** button to close the wizard.




⑨ Click **Exit** to close the following dialog box. Continue with the next section and add a printer.

⑩ This completes the installation of the OPOS driver.

### ■ If using a USB interface

If using a USB interface: Connect the printer to the computer with a USB cable, and turn the printer's power ON. The computer's Plug and Play capability will detect the new hardware and automatically make the appropriate device settings.

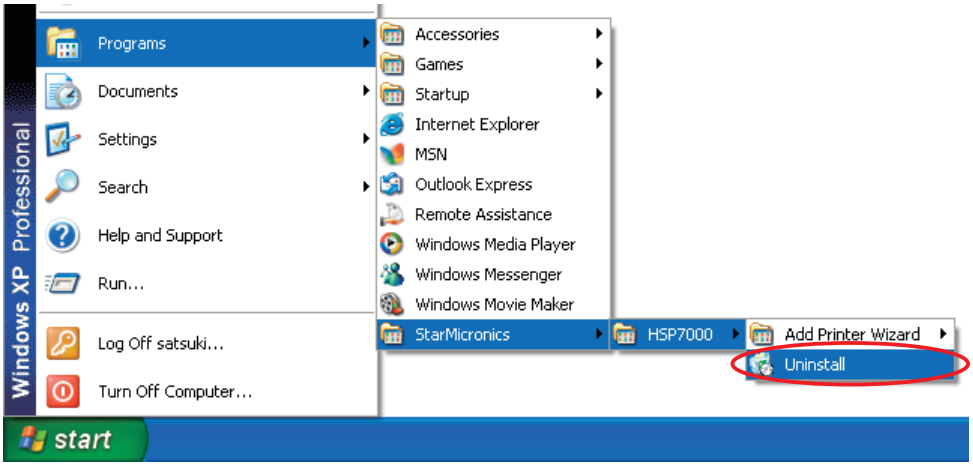
## 1.2 Uninstalling

To uninstall the driver, proceed as follows.

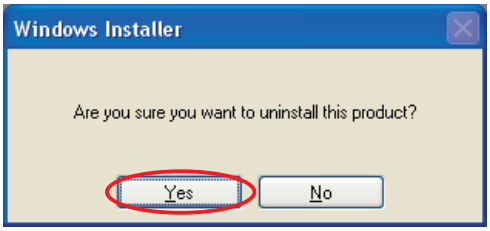
> **Important:** **If you uninstall OPOS on 64-bit Windows, the uninstall process will also remove the USB vendor-class driver.**

① Turn off the power switch of the HSP7000.

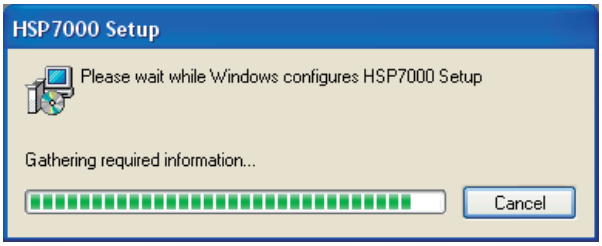
② From the Windows Start menu, select **Programs** – **StarMicronics** – **HSP7000** – **Uninstall**.




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




④ The uninstaller launches to remove all of the HSP7000 software from your computer.



# 2. Features

## 2.1 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.

## 2.2 Star HSP7000 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.

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

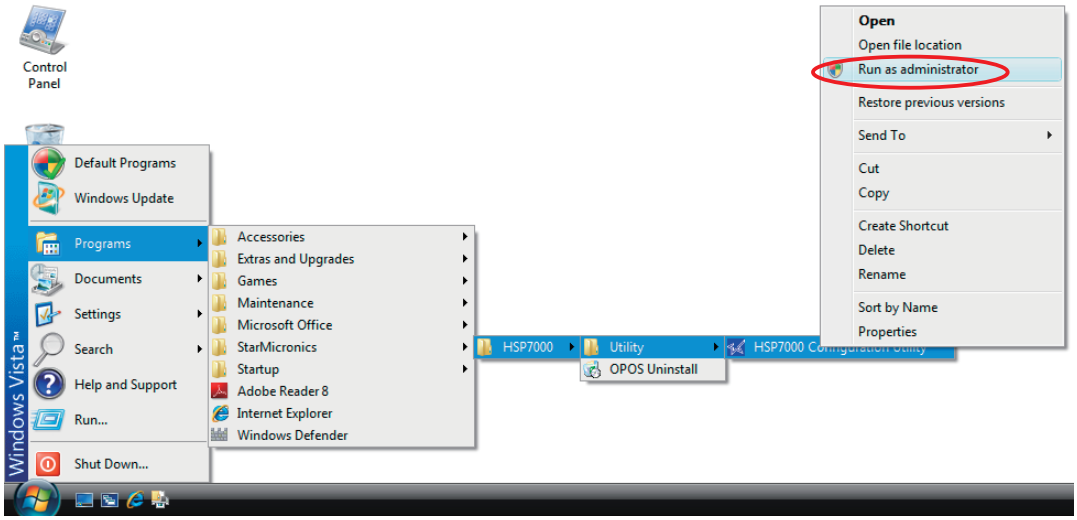
# 3. Star Configuration Utility (Windows 2000 SP3 or Later/XP/Vista 32-Bit Edition)

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 **Printer Configuration Utility** dialog as follows.

### ■ Windows Vista 32-Bit Edition

From the Windows Start menu, select **Programs** – **StarMicronics** – **HSP7000** – **Utility**, right-click **HSP7000 Configuration Utility**, and then select **Run as administrator**.

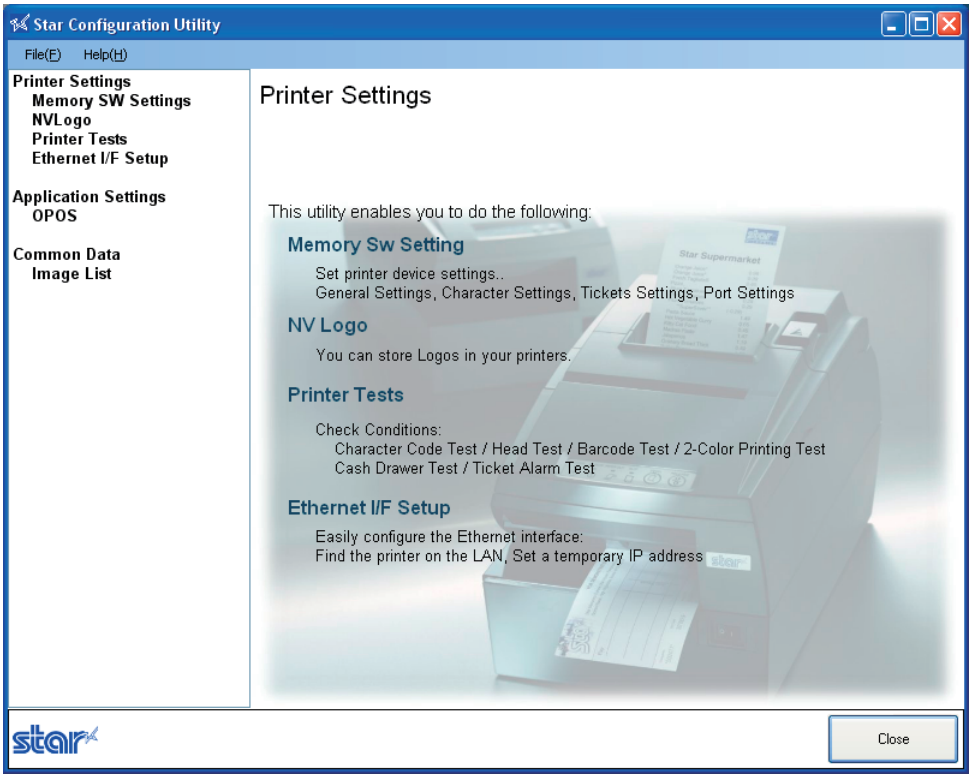



In the **User Account Control** dialog box, click the **Continue** or **Allow** button.

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

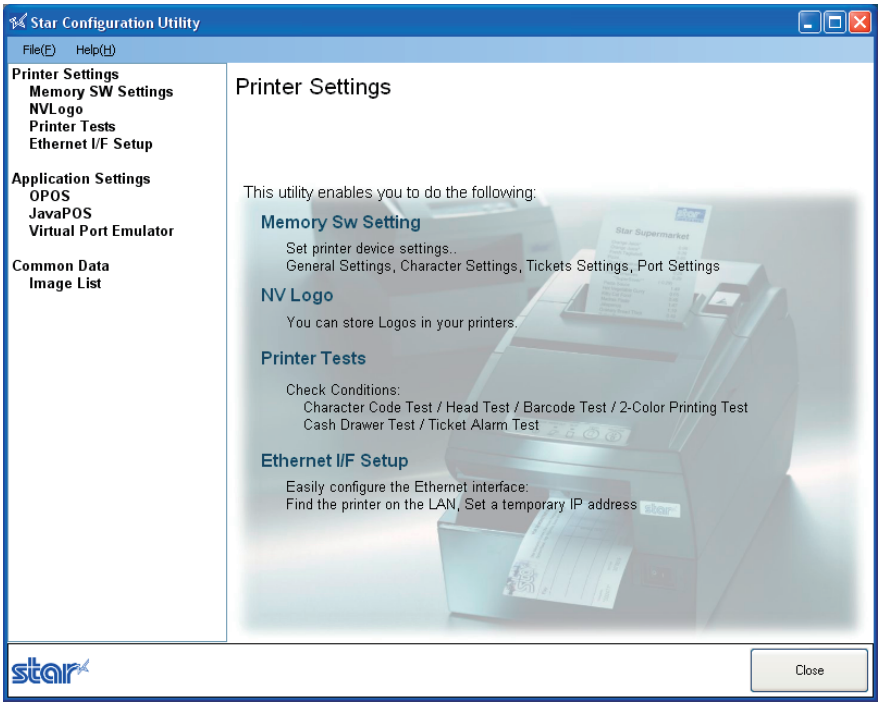
### ■ Windows 2000 SP3 or Later/XP

At the Windows Start menu, select **Programs — StarMicronics — HSP7000 — Utility — HSP7000 Configuration Utility**.




Notes

If you have installed the OPOS driver as well as the printer drivers, a somewhat different dialog will open, providing access to features from all of these drivers.

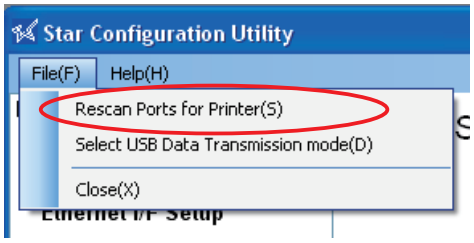


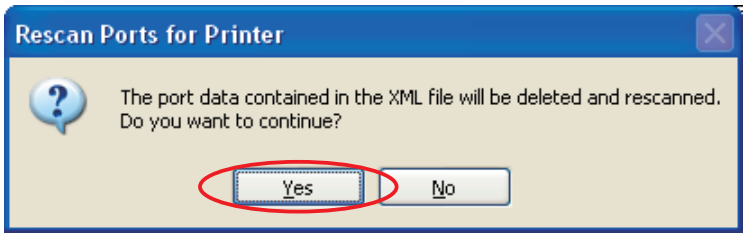
## ■ Menu Bar

(1) File

### • Rescan Ports for Printer

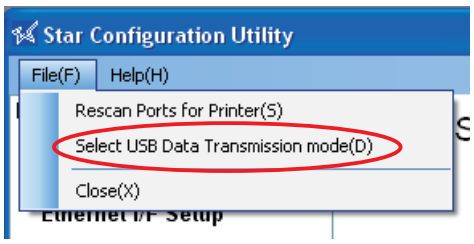
Rescans the ports.
To rescan, click **Yes**.

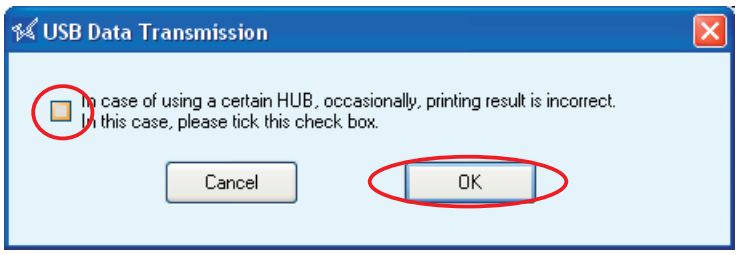



### • Select USB Data Transmission Mode

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.



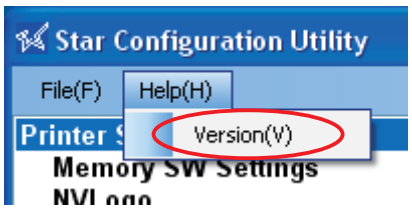



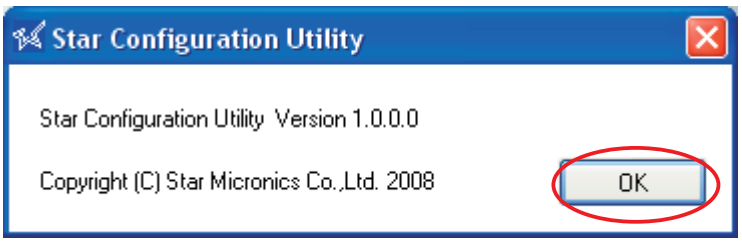

**Important: Checking the USB transmission mode checkbox may in some cases cause a drop in the printing speed.**

(2) Help

### • Version

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

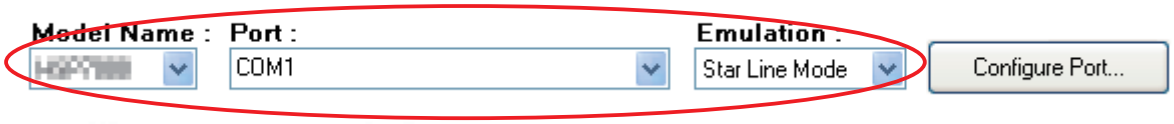


## 3.1 Printer Settings

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

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.



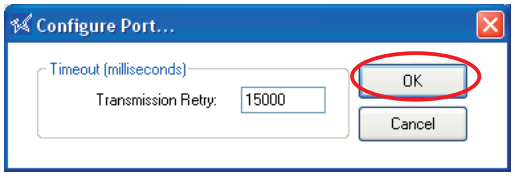

Notes

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.

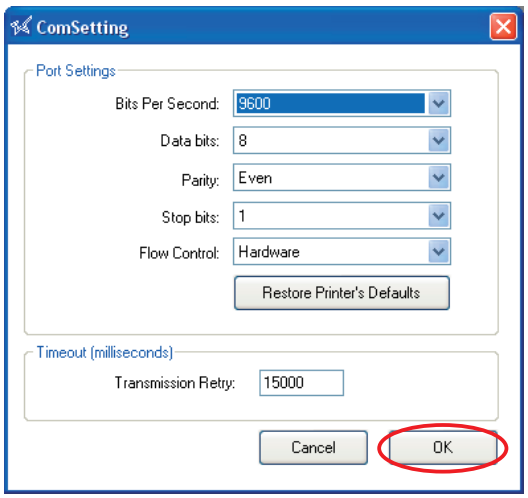
**Important: When using an Ethernet interface, the TCP/IP port will appear in the Port list by clicking the Search LAN for Printers button in Ethernet I/F Setup.**

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

<LPT> <USB>




<COM>




**Important:** **Match the port configurations to the printer settings.**
**The printer settings can be confirmed using the self-printing.**
**For details, refer to the Hardware Manual.**

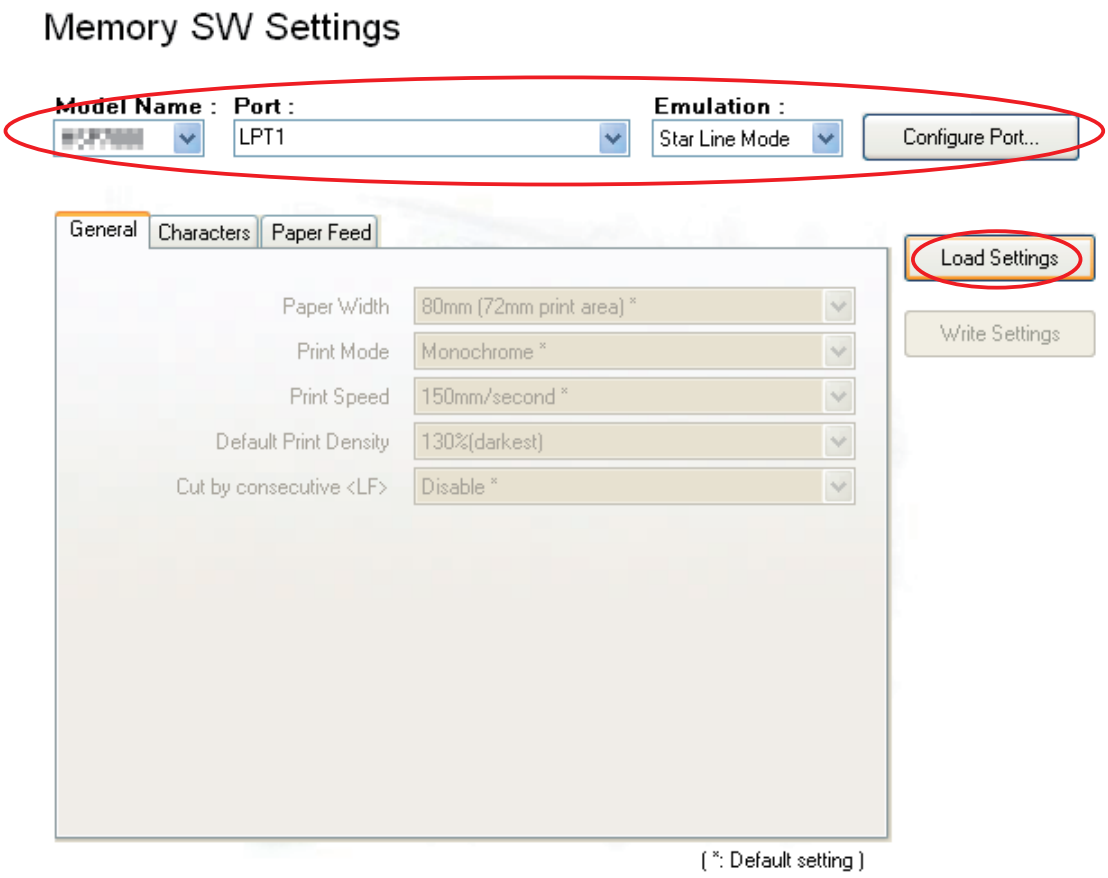
Notes

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**.

### 3.1.1 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.

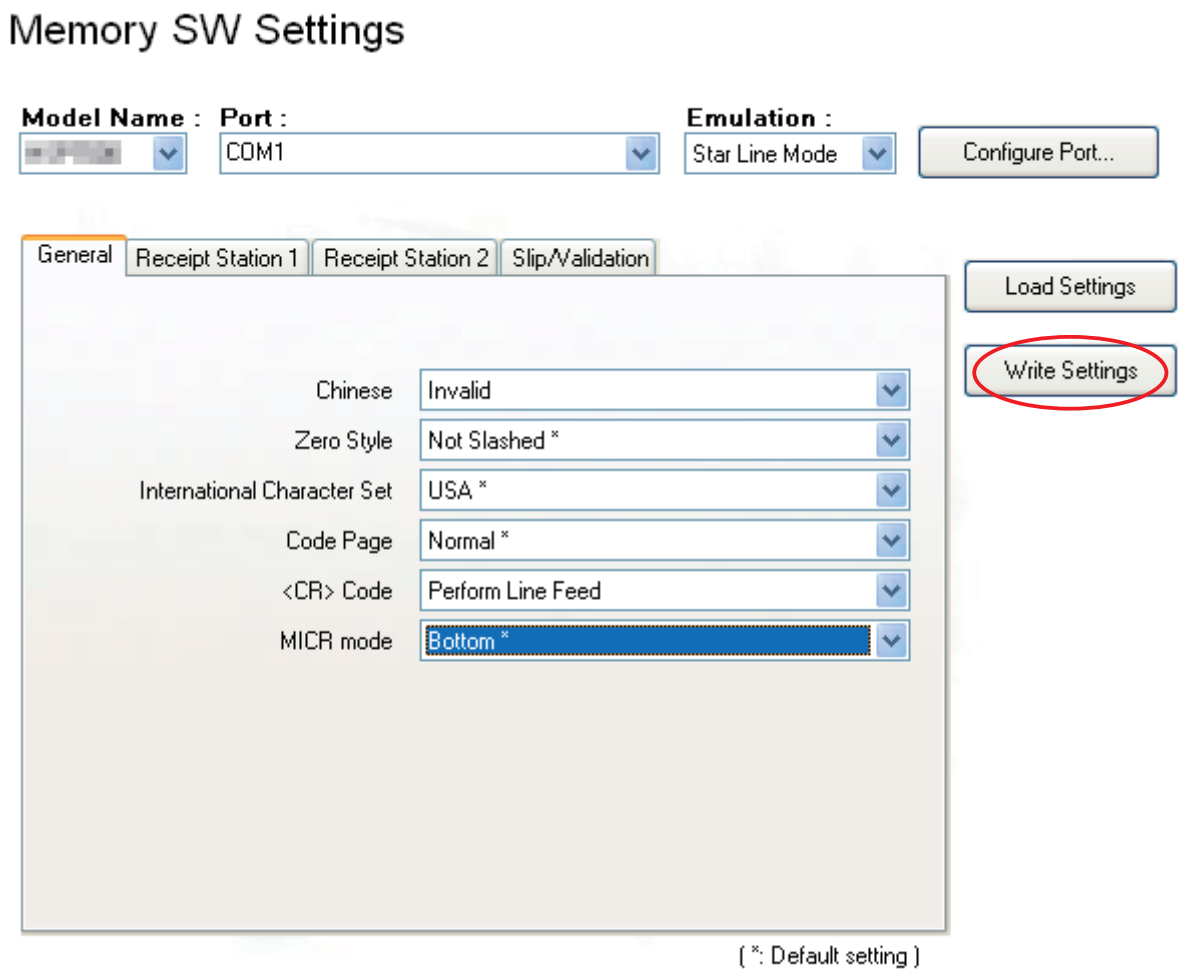



Notes

Values marked with * are the factory defaults.

| | |
|---|---|
| **Important:** | **Before clicking the button to load the settings, confirm that the model name, port name, and emulation settings match the printer settings.** |

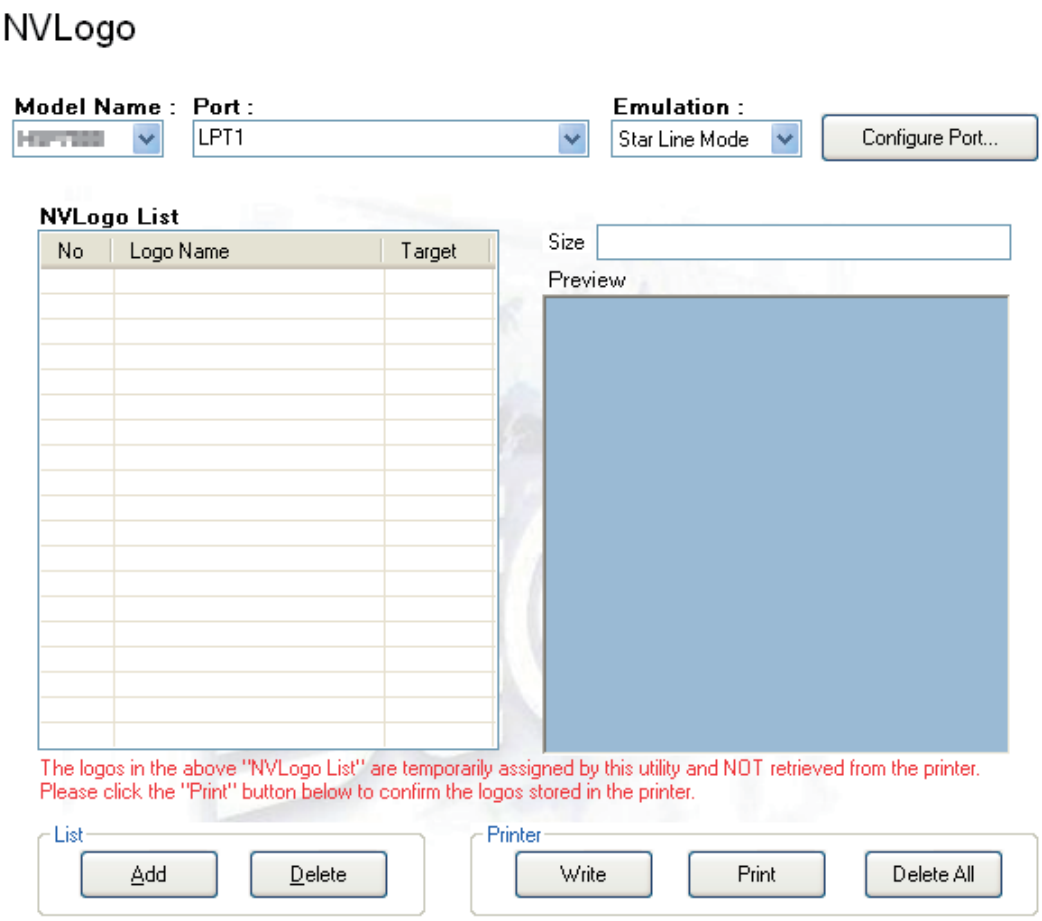
To change the memory switch settings, select items to change from the drop-down menus, and then click the **Write Settings** button.
The displayed settings are written to the printer.




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

### 3.1.2 NVLogo

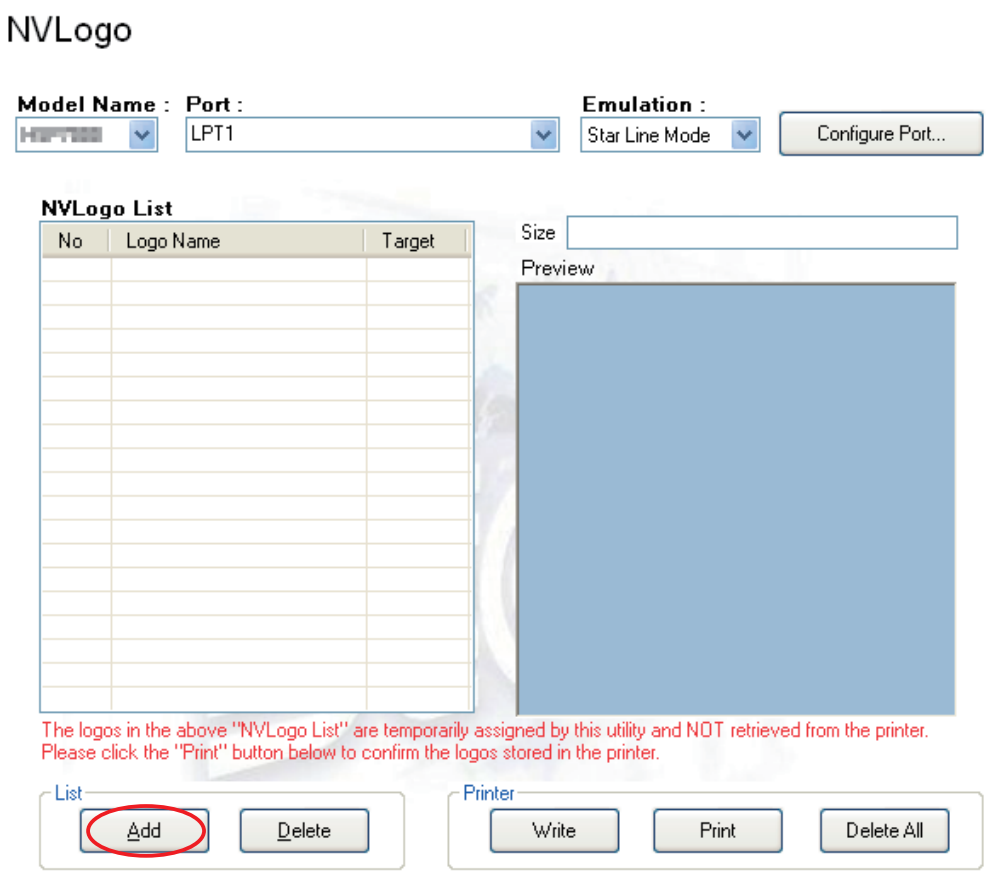
**NVLogo** is a function for registering image data, selected from data pre-registered in the **Image List**, to the printer in order to print them on the top or bottom of the page.



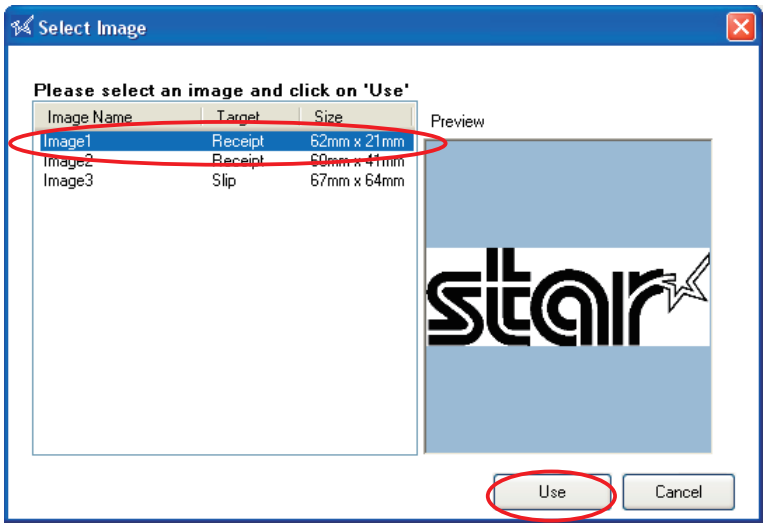

For details about adding image data to the NVLogo list, refer to “3.3.1 Image List”.

**Important: 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.

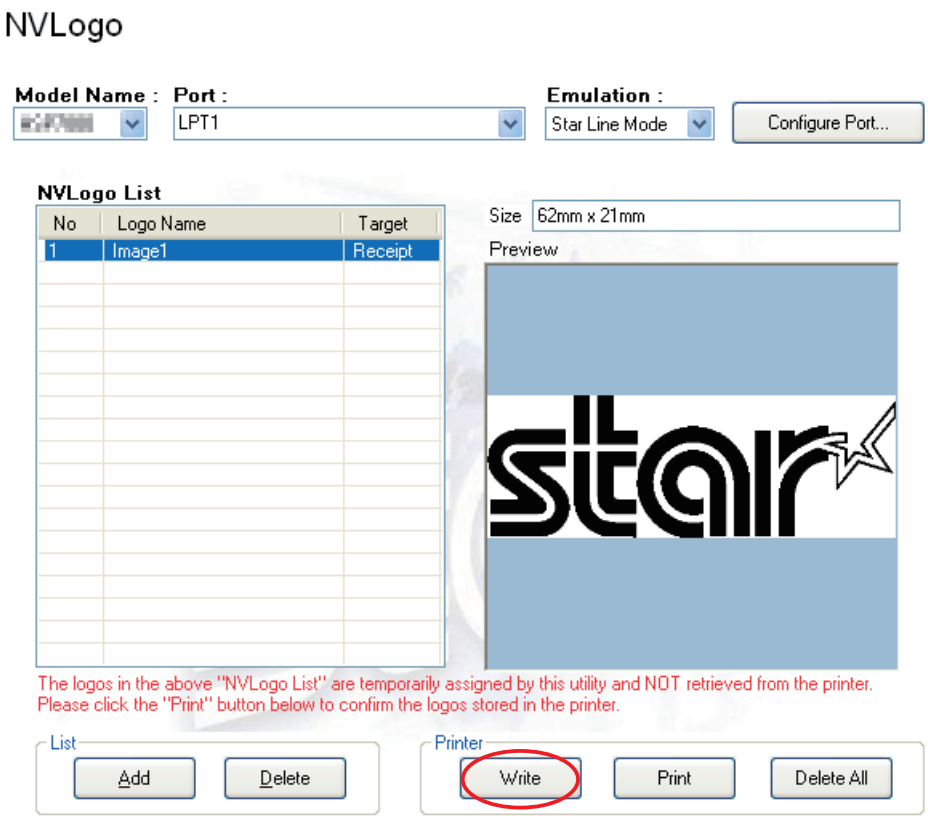



② Select the image that you want to register in the printer, and then click the **Use** button.



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. Note that the printout of logos that are registered for slip printout will not look the same as they do on slips, since the print density of the thermal printer is different.

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

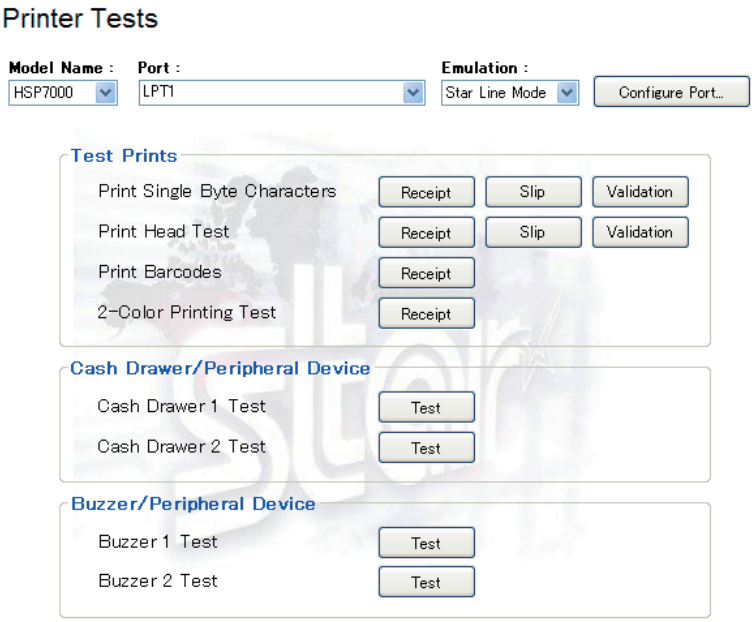
**Notes**

The memory capacity for NV logos in this printer is 512 KB.
After clicking the **Write**, **Print**, or **Delete All** button, the printer will be reset.

**Important:** **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.**

### 3.1.3 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.




## Test Prints

You can check operation of each printer driver (Receipt, Slip, and Validation) by clicking the corresponding button.

### ■ Print Single-Byte Characters

Prints out the single-byte character table.

### ■ Print Head Test

If you click **Receipt**: Tests the thermal printer head by printing several lines of solid black.

If you click **Slip** or **Validation**: Tests each of the pins on the dot-impact printer head.

If white vertical lines appear in the black area of the thermal printer head test sample, please clean the printer head. For information about how to clean the head, refer to the hardware manual.

If the test sample from the dot-impact head shows missing or defective dots, or if cleaning of the thermal head fails to improve thermal print results, please contact your dealer for assistance.

### ■ Print Barcodes

Prints out all supported barcodes.

### ■ 2-Color Printing Test

Executes 2-color sample printing.

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.

## Cash Drawer

### ■ Cash Drawer 1 Test

Click the **Test** button to drive cash drawer 1.

This allows you to confirm that cash drawer 1 works properly.

### ■ Cash Drawer 2 Test

Click the **Test** button to drive cash drawer 2.

This allows you to confirm that cash drawer 2 works properly.

## External buzzers

### ■ Buzzer 1 Test

Click the **Test** button to make buzzer 1 sound.

This allows you to confirm that buzzer 1 works properly.

### ■ Buzzer 2 Test

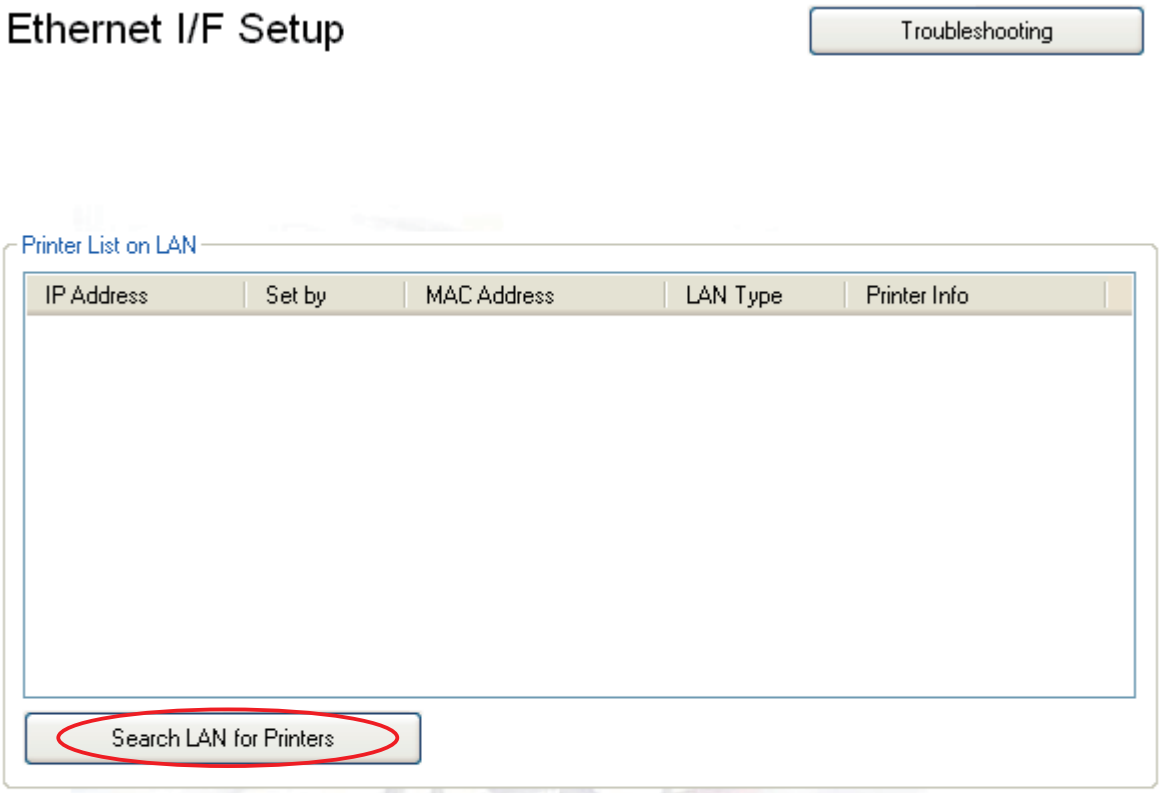
Click the **Test** button to make buzzer 2 sound.

This allows you to confirm that buzzer 2 works properly.

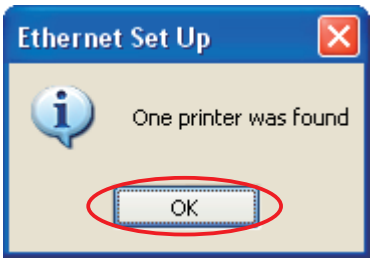
**Important: Cash drawers and external buzzers are optional devices.**
**Note that it is not possible to use buzzers and cash drawers at the same time.**

### 3.1.4 Ethernet I/F Setup

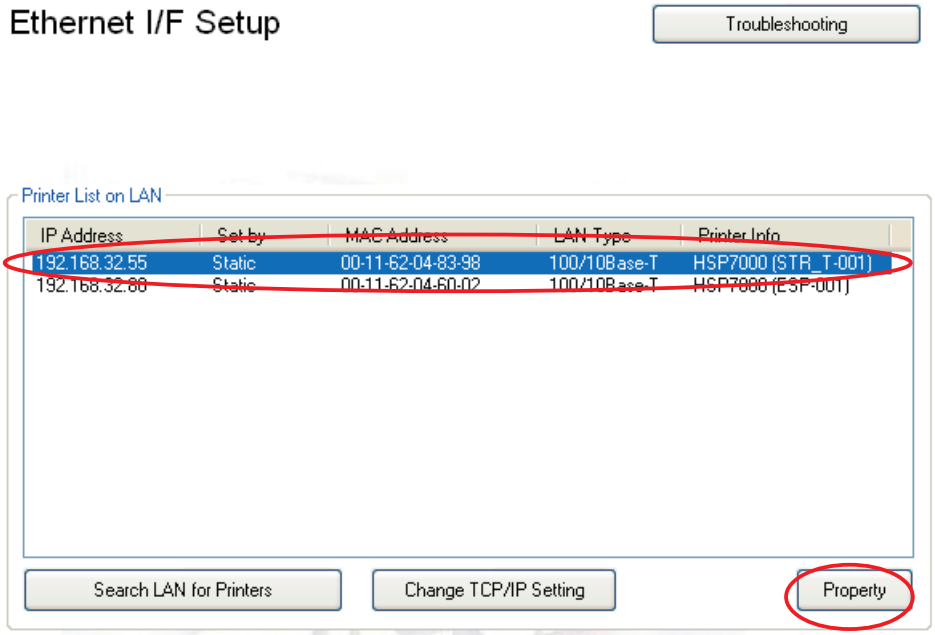
In **Ethernet I/F Setup**, settings for the Ethernet interface card connected to the printer can be made using the web browser.
In addition, when using a TCP/IP port with the configuration utility, the TCP/IP port will appear in the Port list by first clicking the **Search LAN for Printers** button.



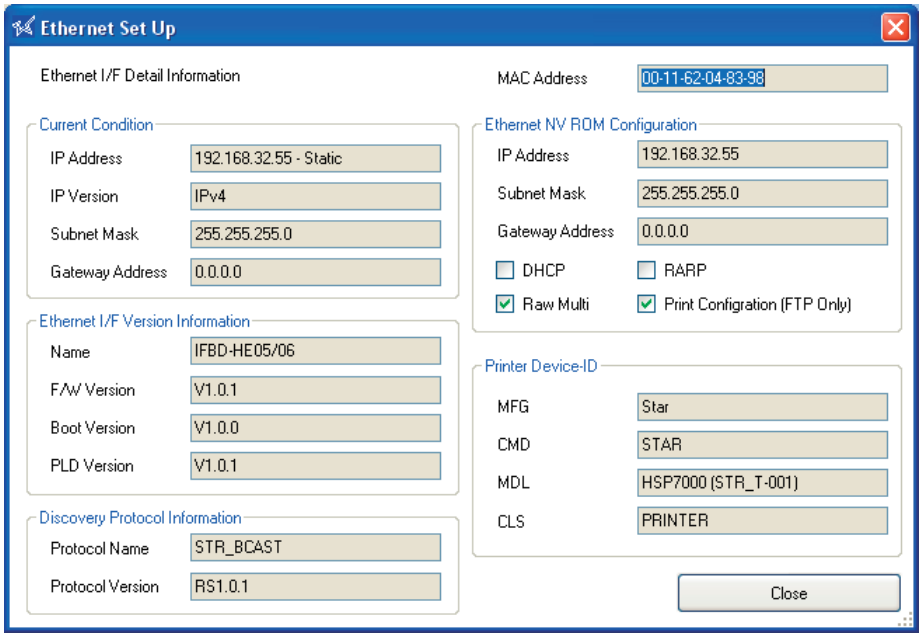

Click the **Search LAN for Printers** button to search the printers connected on your LAN.
If there is an applicable printer, the following dialog box will appear. Click the **OK** button.



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.

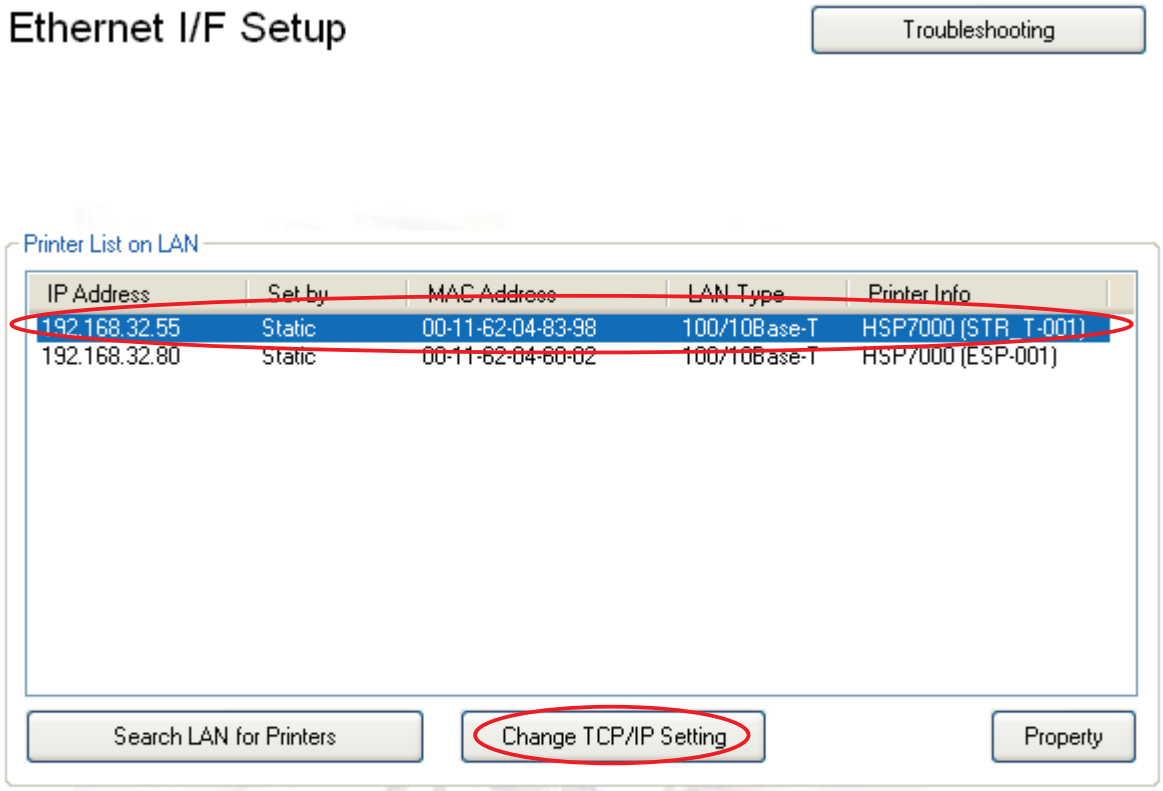



If the printers on the LAN cannot be found, click the **Troubleshooting** button to display "Ethernet I/F Setup Trouble-shooting".

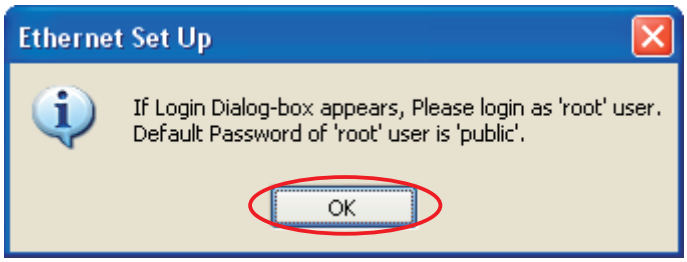
The steps to change the printer TCP/IP settings vary according to whether or not the IP address is assigned automatically by a DHCP server.
Use the steps according to the environment that you are using.

### ■ When IP Address is Automatically Assigned by DHCP Server

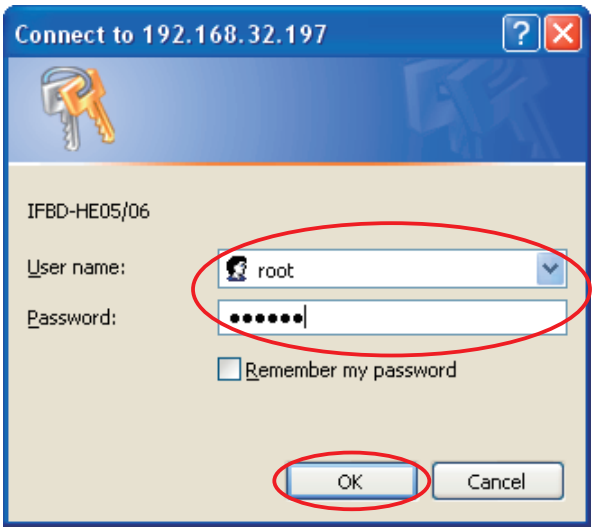
① Select the printer from the Printer List on LAN, and then click the **Change TCP/IP Setting** button.




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.



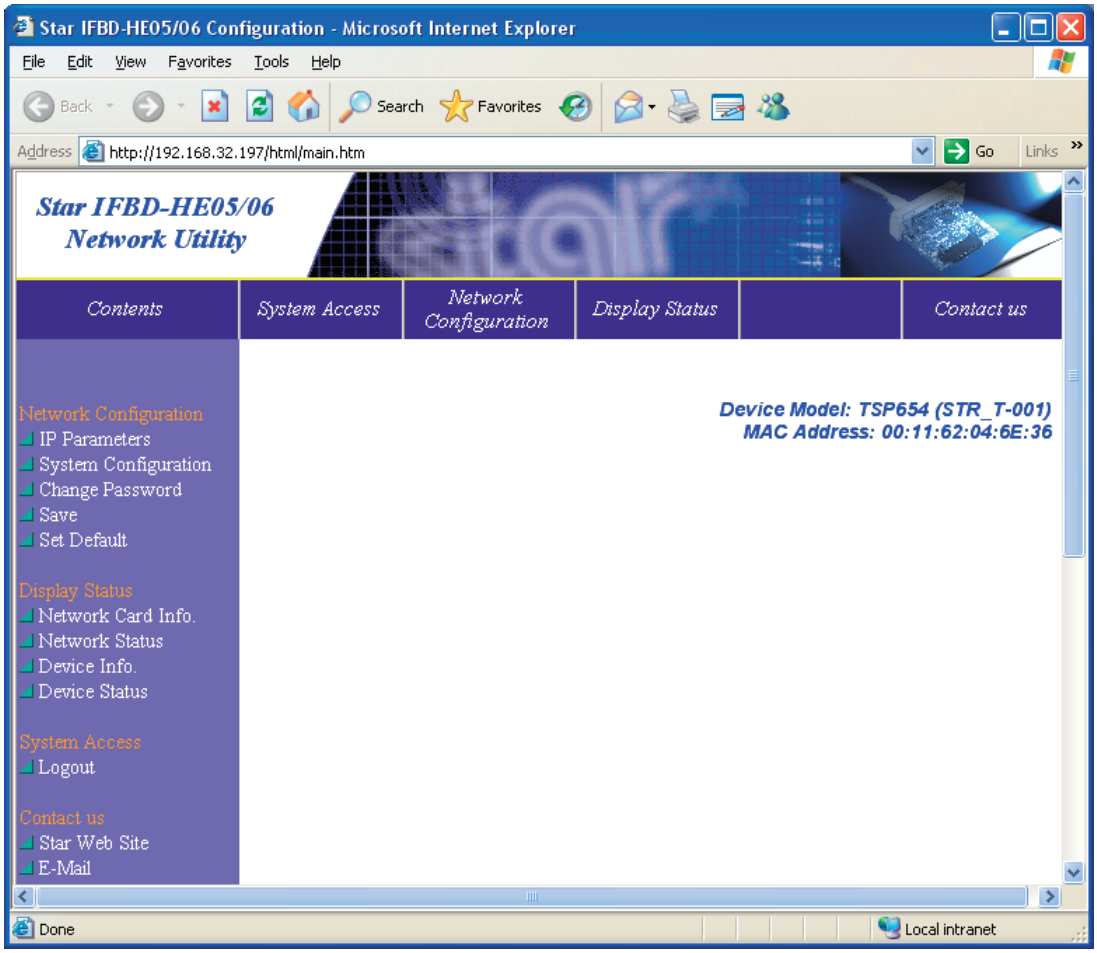
③ Enter the corresponding user name and the default password displayed in the previous dialog box, and then click the **OK** button.




Notes

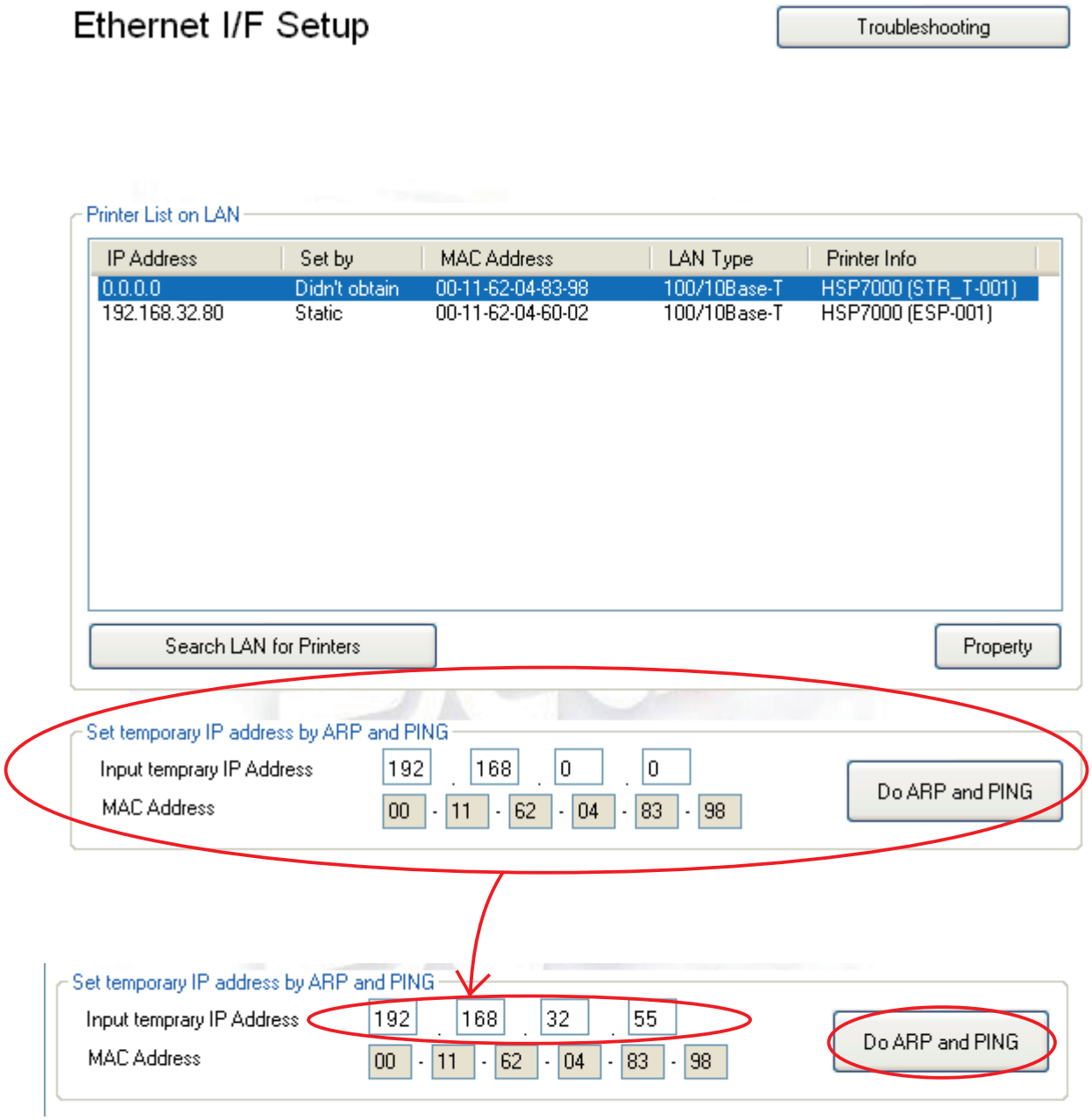
The password can be changed on the web browser.
If the password was changed, enter the new password.

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

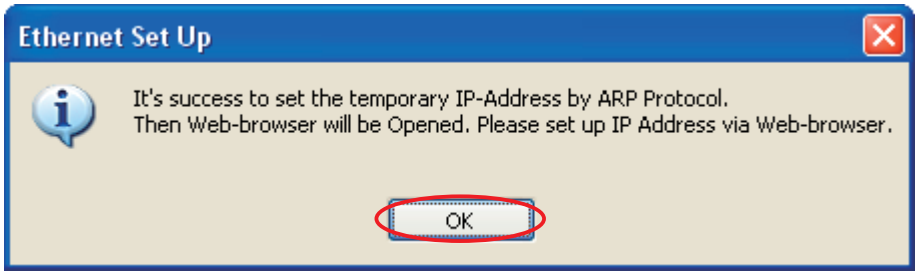


### ■ When IP Address is Not Assigned by DHCP Server

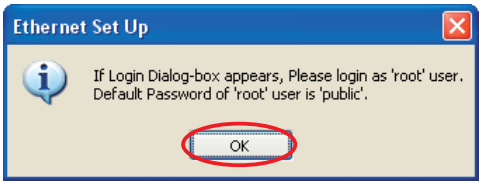
① If there are no set IP addresses, you cannot move on to the Change TCP/IP Setting screen.
If a printer was selected that does not have a set IP address, a temporary IP address can be set. Enter the IP address, and then click the **Do ARP and PING** button.



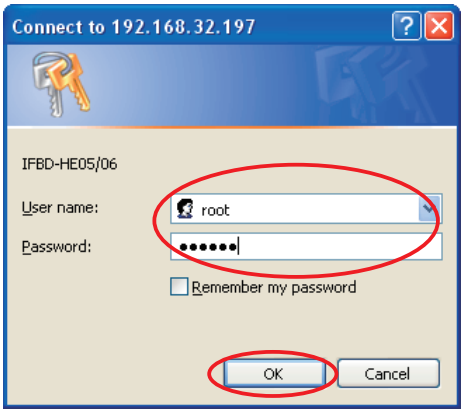

② When the temporary IP address is issued, the following dialog box will appear. Then click the **OK** button.



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.



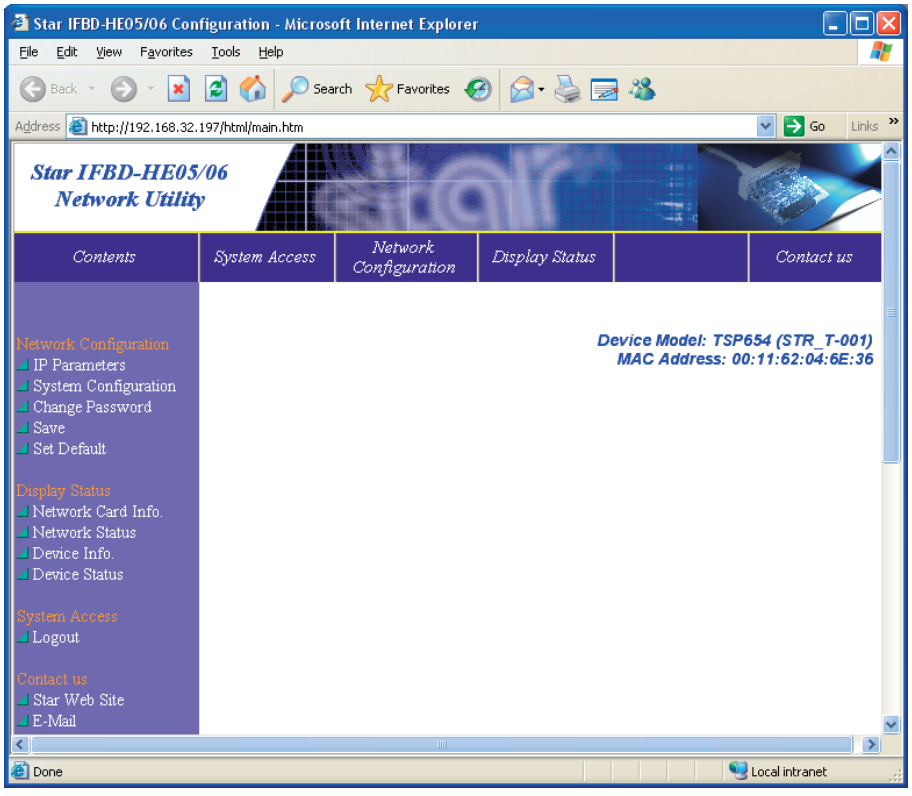

④ Enter the corresponding user name and the default password displayed in the previous dialog box, and then click the **OK** button.




**Notes**

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.



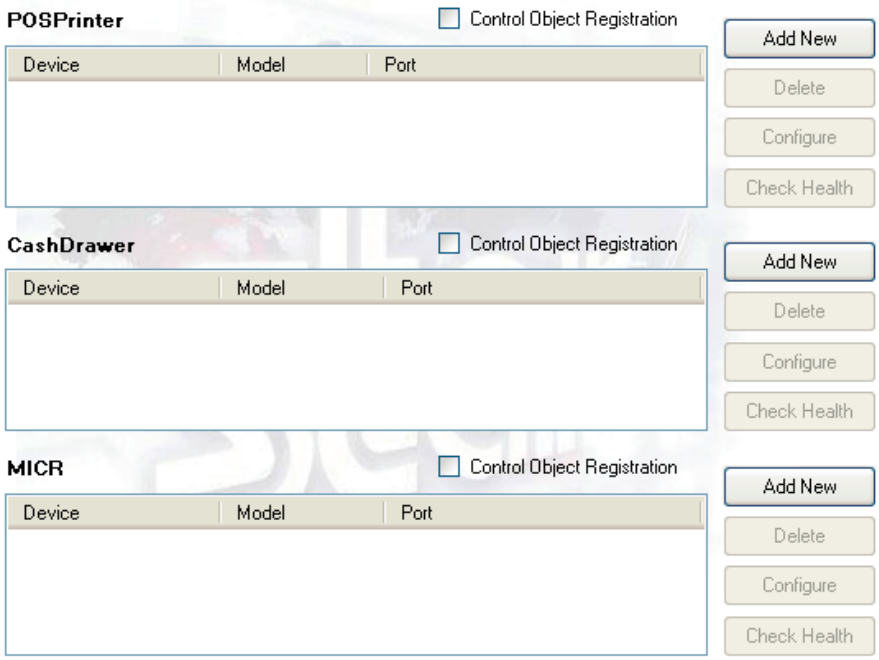
## 3.2 Application Settings

This is for setting each application.

### 3.2.1 OPOS

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

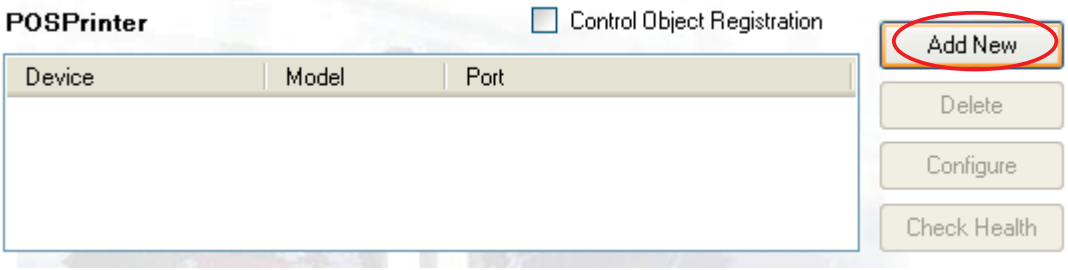
OPOS



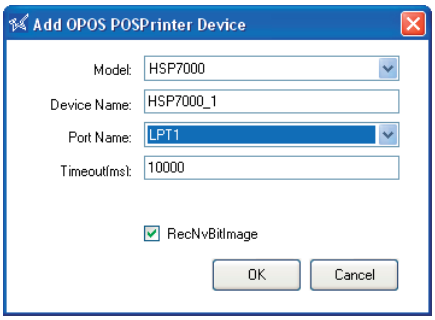

**Important:** **Only one control object can be registered for each device.**
**When you register a Star control object, any control object from another company will be disabled.**
**Please be sure to register a Star control object for the printer, as correct operation cannot be guaranteed if the printer is used without registration of a control object.**

## ■ Adding a Printer

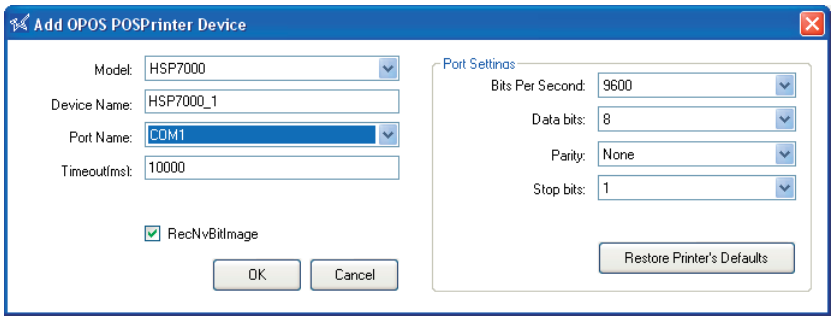
Click the **Add New** button.




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>

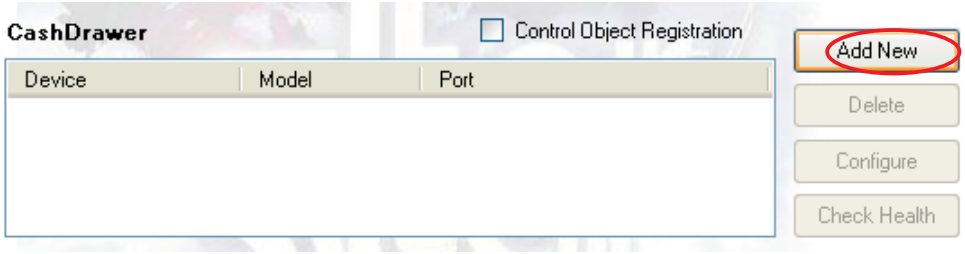
The **RecNvBitImage** check box is selected by default.

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

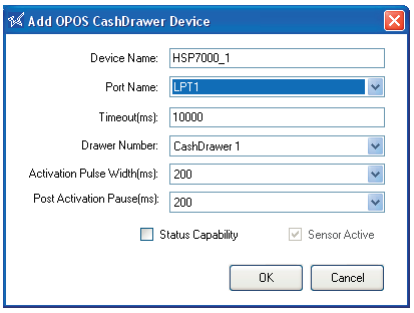
Click the **OK** button to add the printer.

### ■ Adding a Cash Drawer

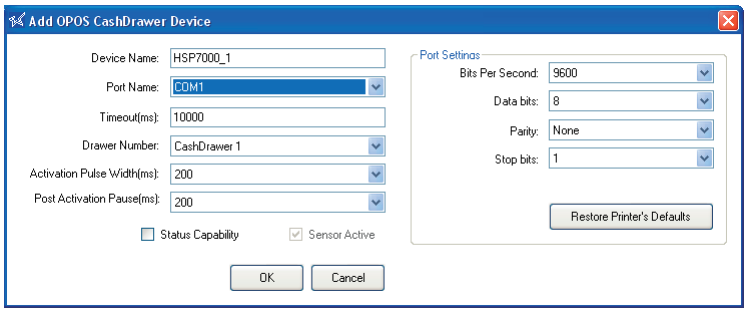
Click the **Add New** button.




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>

If the cash drawer you use supports the status function, select the **Status Capability** check box if you wish to monitor the cash drawer status (open or closed).

When using the status function, refer to the following table and select or clear the **Sensor Active** check box according to the switch used to detect the opening of the cash drawer.

| | |
|---|---|
| On (selected) | Switch is in the open state when the cash drawer is open |
| Off (cleared) | Switch is in the closed state (shorted) when the cash drawer is open |

**Important: The status function is enabled only if the cash drawer is equipped with a compulsion switch. Also, it is not compatible for use with a parallel interface.**

Notes

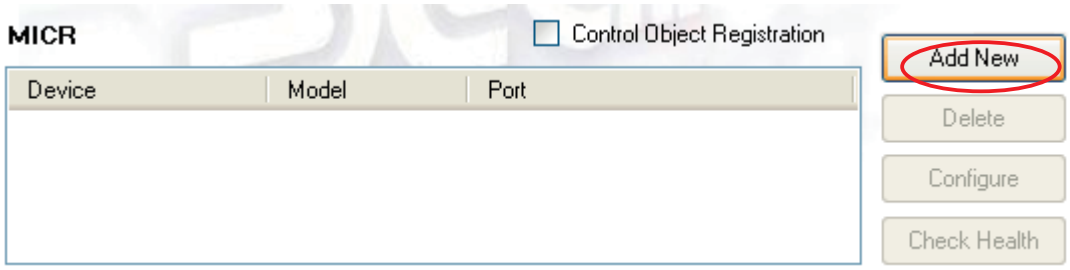
When using a serial interface, match the **PortSettings** to the printer settings. The printer settings can be confirmed using the self-printing.
For details, refer to the Hardware Manual.

- **Drawer Number**
  Select the cash drawer number.
- **Activation Pulse Width (ms)**
  Select the pulse width for the selected cash drawer.
- **Post Activation Pause (ms)**
  Select the post activation pause for the selected cash drawer.

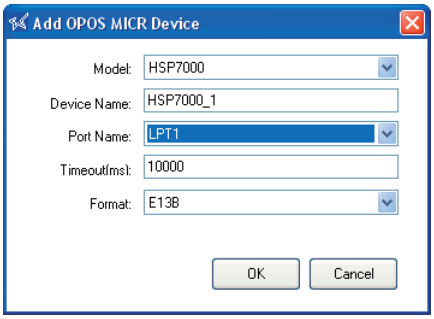
Click the **OK** button to add the cash drawer.

### ■ Adding MICR

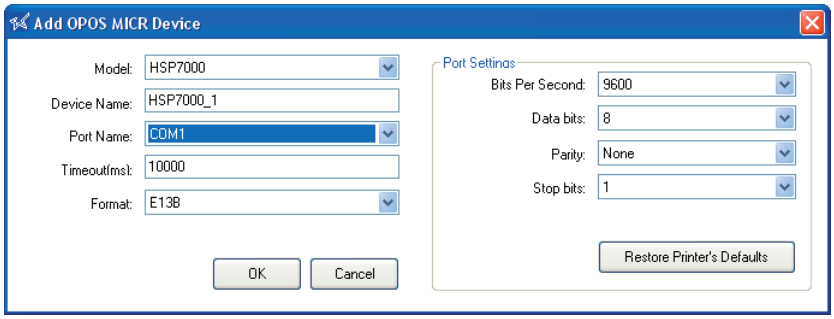
Click **Add New.**




The following dialog appears. Enter appropriate settings.




<LPT> <USB> <TCP/IP>




<COM>

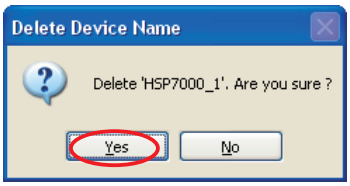
• Format
Select the MICR format that you wish to read.

Click **OK** to add MICR support.

### ■ Delete

Deletes the selected printer, cash drawer, or MICR.
To delete a device, select it from the OPOS device listing and click **Delete**.

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




### ■ Configure

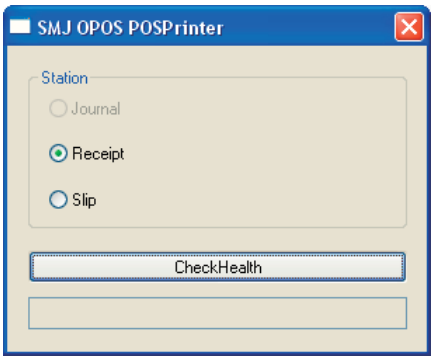
Allows you to make changes to the selected printer, cash drawer, or MICR.
To change the settings for a device, select the device from the OPOS device listing and click **Configure**.

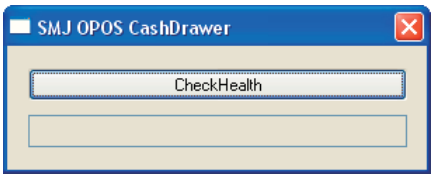
The same dialog box as when clicking the **Add New** button will appear; therefore, change the settings using the same procedure as when they were first set.

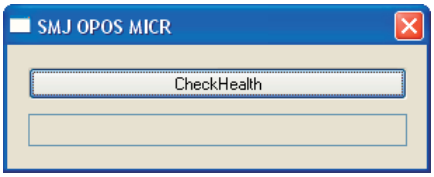
### ■ Check Health

The printer, cash drawer, and MICR **Check Health** buttons can be used to run a system check. To check the health of a device, select the device from the OPOS device listing and click **Check Health**.

The following dialog appears. If doing a printer system check, select the output device you wish to check and click **Check Health**. The system check will determine whether the selected device (printer, cash drawer, or MICR) is correctly connected, and will check that OPOS operation is correct.

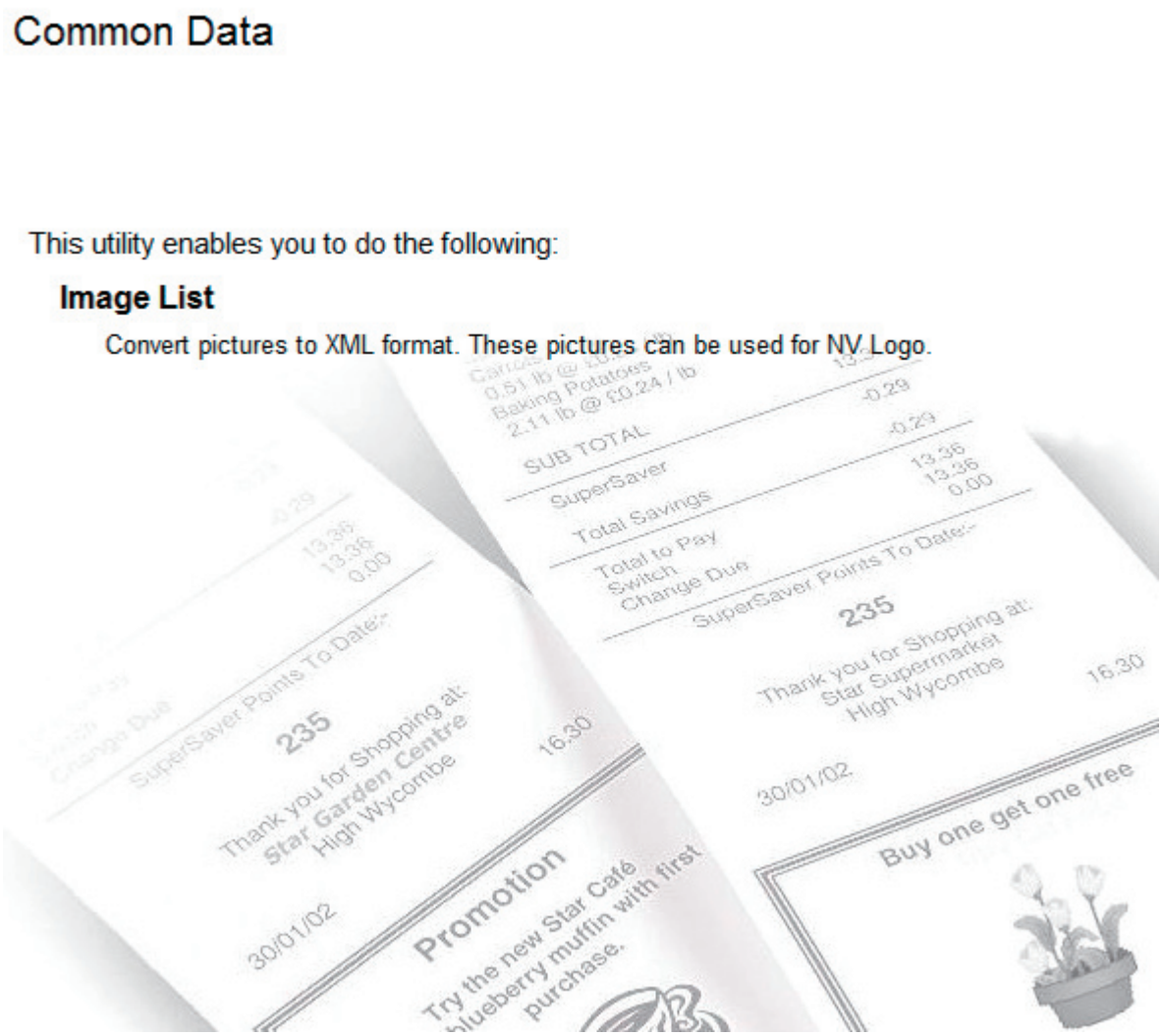


## 3.3 Common Data

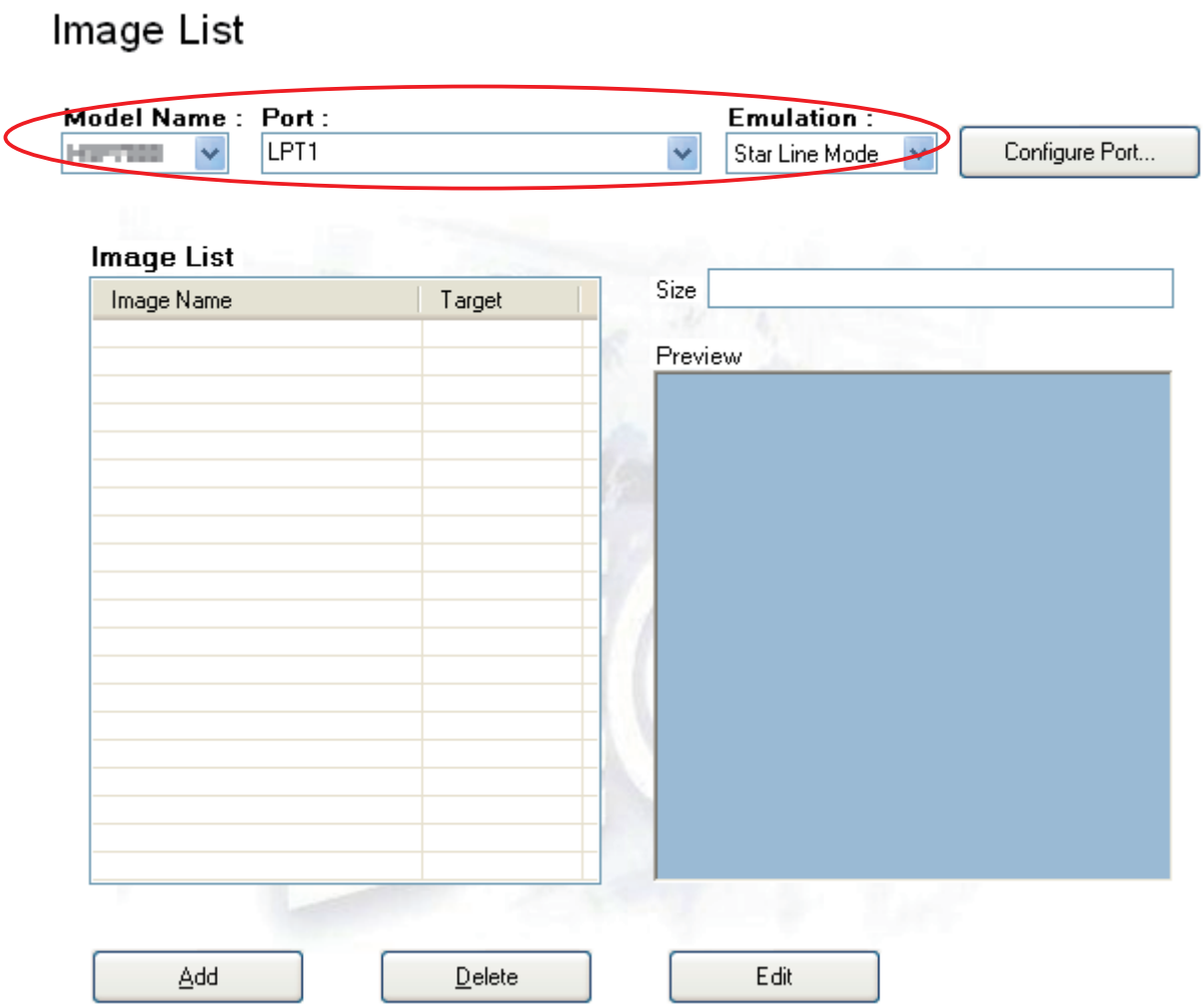
You can register graphic data that will be used as NV logos.



### 3.3.1 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.

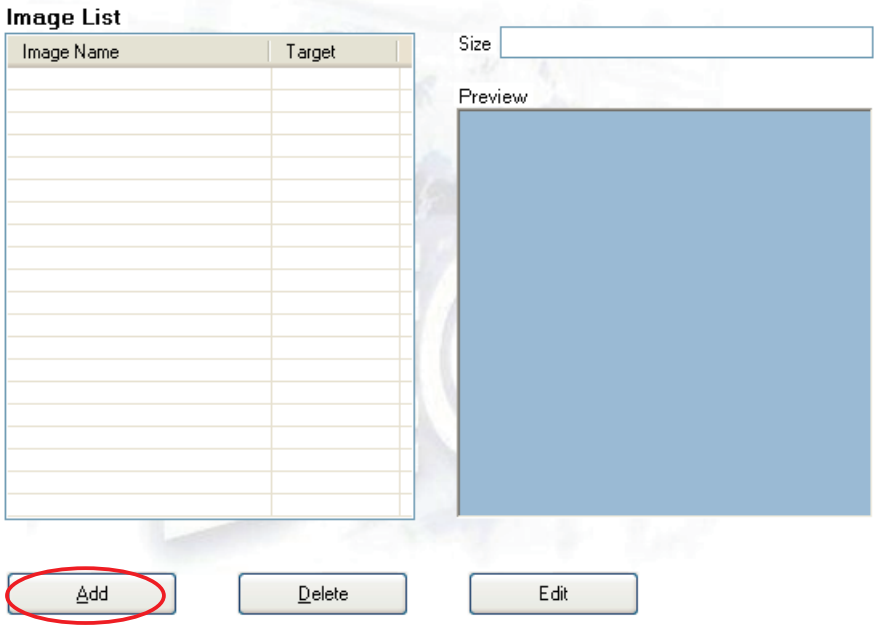



JPG, PNG, GIF, and BMP are available as formats of registerable graphic data.

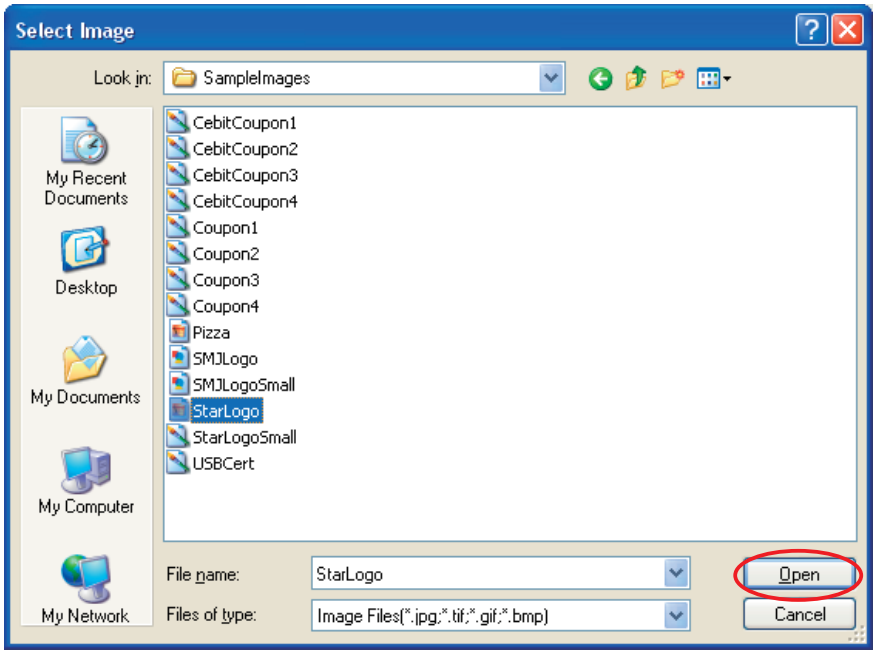
Graphic data registered here is used for **NV logos**. For details, refer to “3.1.2 NVLogo”.

### ■ Adding Graphic Data

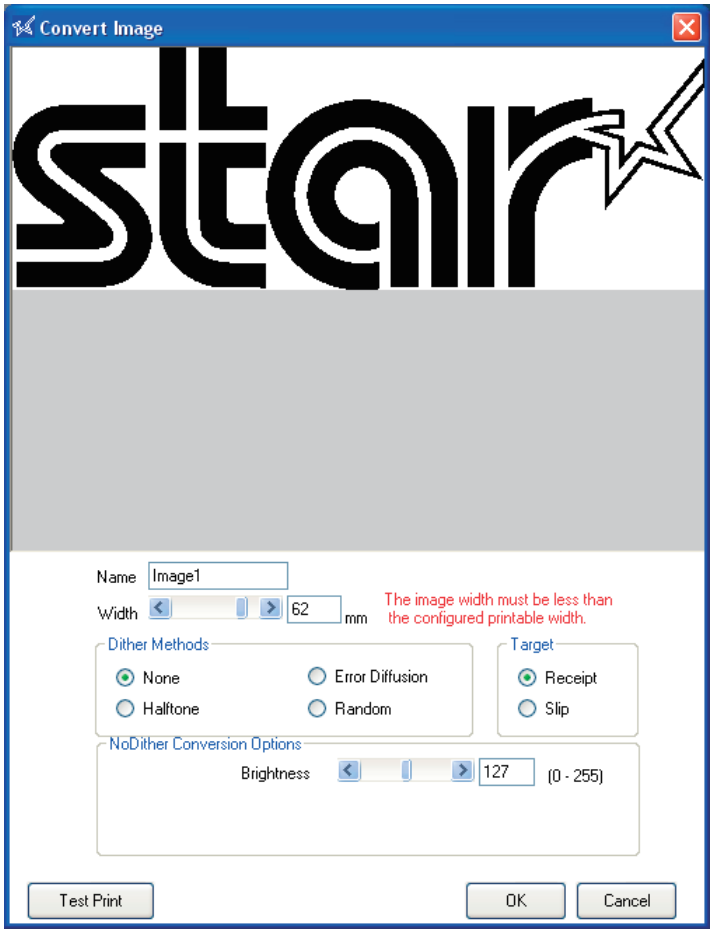
① Click the **Add** button.




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.
  This feature allows you to register images to match both receipt resolution and slip resolution.

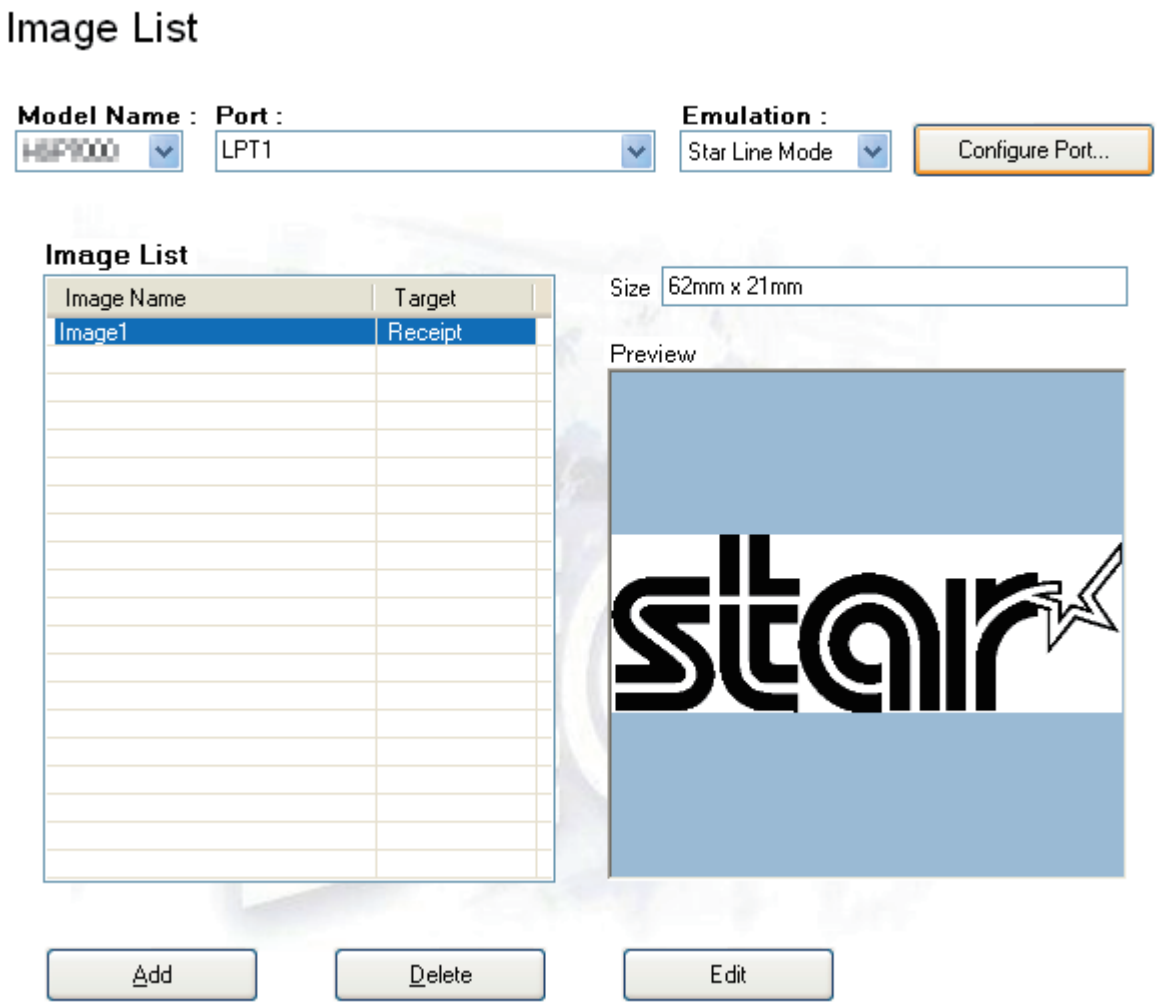
Click the **Test Print** button to run a test print in order to check the print results of the graphic data being adjusted.

Notes

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.

**Important:** **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.**

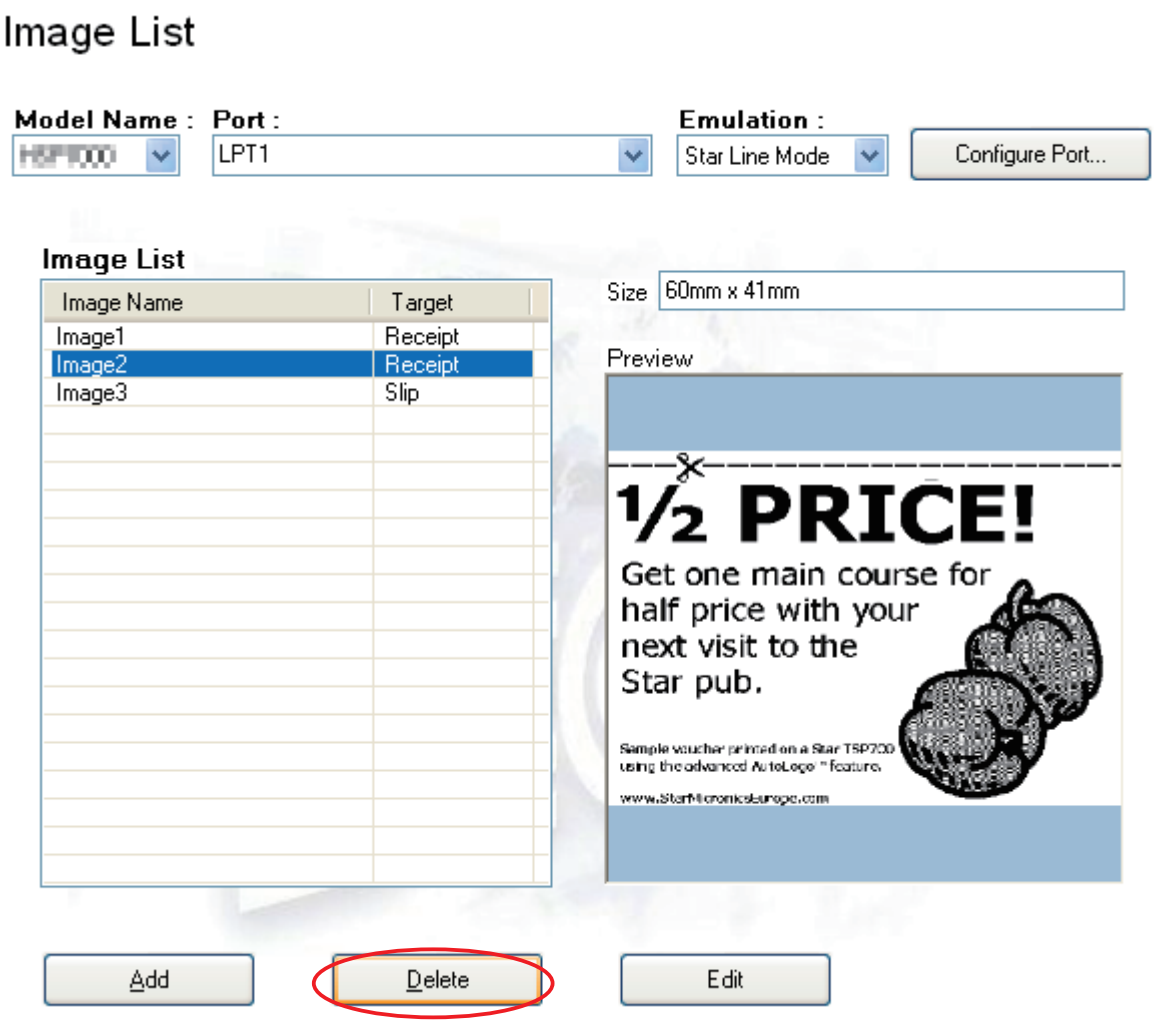
④ Click the **OK** button to add the graphic data to the **Image List**.



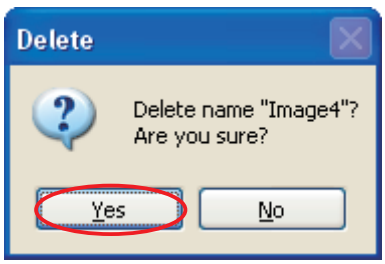

The graphic data is added to the **Image List** and can be used as an **NV logo**. For details on using the data, refer to "3.1.2 NVLogo".

### ■ Deleting Graphic Data

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




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 “Adding Graphic Data” item.

# 4. OPOS Register 2008 (Windows 2000 SP2 or earlier or Vista 64-Bit Edition)

You can use this software on Windows 2000 SP2 or earlier or on Windows Vista 64-bit edition.
This application allows you to configure or confirm printer settings for use on the OPOS environment.

## 4.1 POSPrinterRegister

To configure an OPOS printer, proceed as follows.

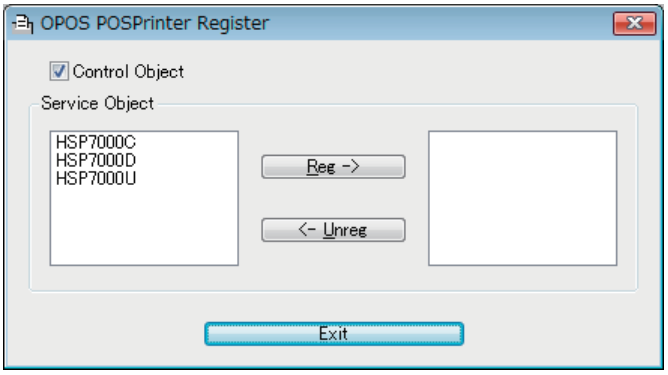
### ■ Windows 2000 SP2 or Earlier

From the Windows Start menu, select **Programs — StarMicronics — OPOS Register 2008 — POSPrinterRegister**.

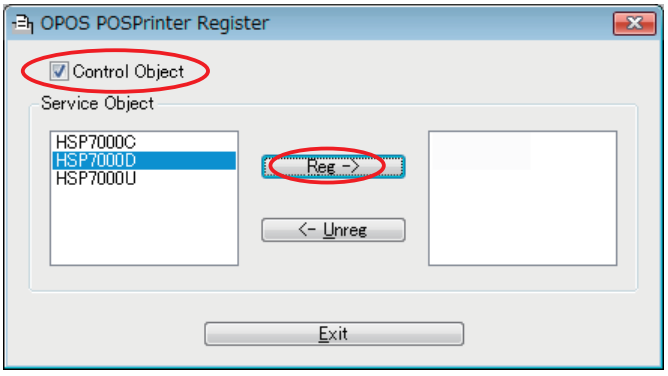
### ■ Windows Vista 64-bit Edition

From the Windows Start menu, select **Programs — StarMicronics — OPOS Register 2008**, right-click **POSPrinterRegister**, and then select **Run as administrator**.

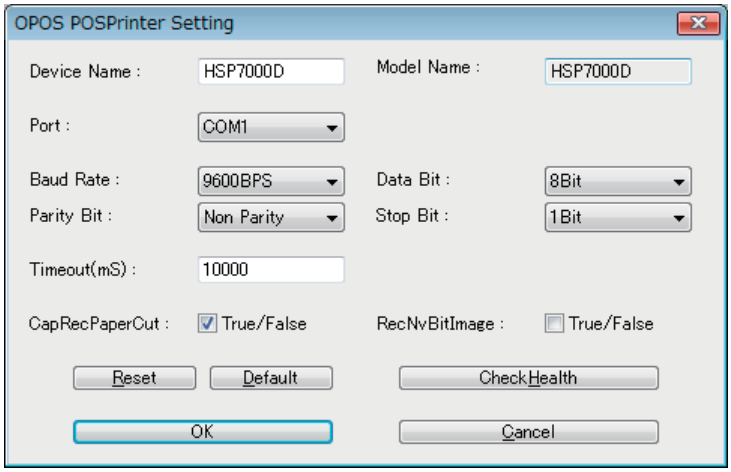
The following window appears.




The selectable printer models appear in the left list.
To configure a device, select the appropriate model name, and then click the **Reg ->** button.
If you select the **Control Object** check box, the Star Control Object will be registered along with the device settings.



When the following window appears, enter appropriate settings.




**Device Name** — Set the device name.

**CapRecPaperCut** — Select whether or not to use the receipt auto cutter feature.
Select the check box to enable the auto cutter feature on the OPOS.

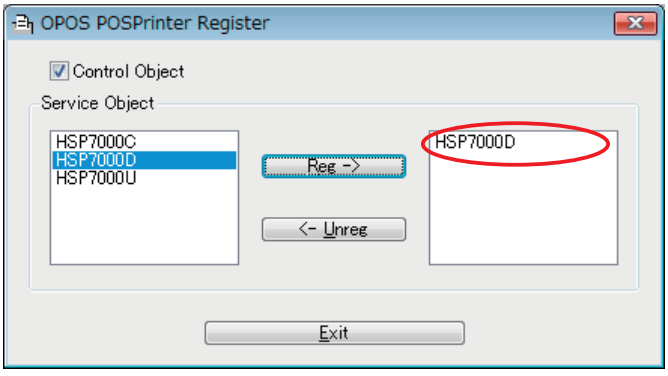
**RecNvBitImage** — Select whether or not to use the receipt NvBitImage feature.
Select the check box to enable the logo printing feature on the OPOS.

**[ Reset ]** — Reset the settings.

**[ Default ]** — Set the settings to default values.

**[ Check Health ]** — Execute check health.
Checks the system to see whether the printer will operate properly through OPOS.
Set paper into the slip printer before you click the button.

Click the **OK** button to create a device with the specified settings and add the device to the registered device list.




Click **Exit** to close the registration window.

**Important:**
1) **Set the printer communication handshaking to DTR mode.**
2) **Configure the port settings to match the printer settings. You can check the printer settings by performing self-printing. For details, refer to the Hardware Manual.**

## 4.2 CashDrawerRegister

To configure a CashDrawer Register, proceed as follows.

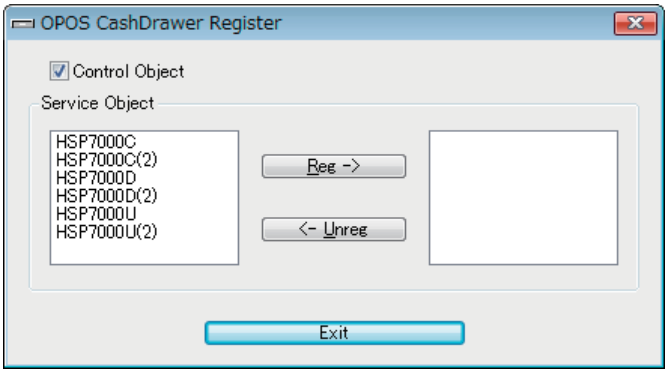
### ■ Windows 2000 SP2 or Earlier

From the Windows Start menu, select **Programs — StarMicronics — OPOS Register 2008 — CashDrawerRegister**.

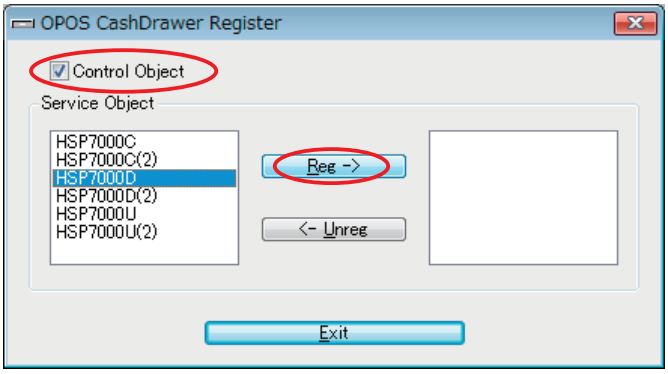
### ■ Windows Vista 64-bit Edition

From the Windows Start menu, select **Programs — StarMicronics — OPOS Register 2008**, right-click **CashDrawerRegister**, and then select **Run as administrator**.

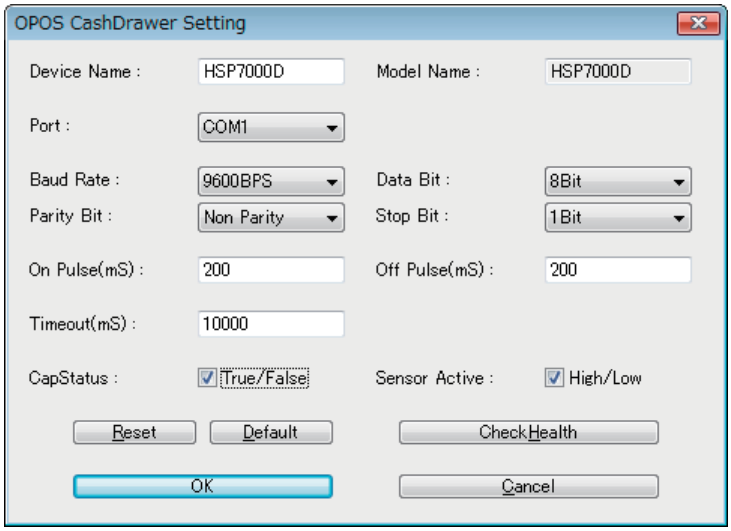
The following window appears




The selectable printer models appear in the left list.
To configure a device, select the appropriate model name, and then click the **Reg ->** button.
If you select the **Control Object** check box, the Star Control Object will be registered along with the device settings.



When the following window appears, enter appropriate settings.




**Device Name** — Set the device name.

**CapStatus** — Select whether or not to use the cash drawer status feature.
Select the check box to be notified of the cash drawer open or close status.

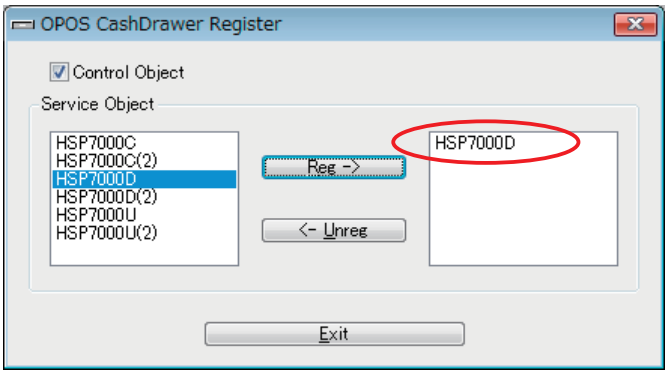
**Sensor Active** — Set the operation of the cash drawer open/close detection switch when the status feature is enabled.
If the check box is selected, the open/close detection switch will be open when the cash drawer is open. If the check box is not selected, the open/close detection switch will be closed when the cash drawer is open.

**[ Reset ]** — Reset the settings.

**[ Default ]** — Set the settings to default values.

**[ Check Health ]** — Execute check health.
Checks the system to see whether the cash drawer will operate properly through OPOS.

Click the **OK** button to create a device with the specified settings and add the device to the registered device list.




Click **Exit** to close the registration window.

**Important:** **Configure the port settings to match the printer settings. You can check the printer settings by performing self-printing. For details, refer to the Hardware Manual.**

## 4.3 MICR Register

To configure an MICR, proceed as follows

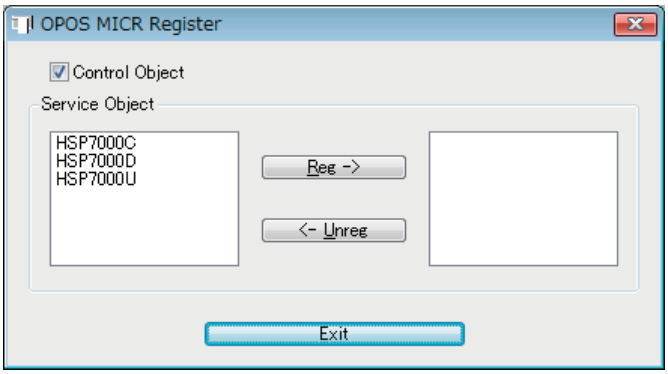
### ■ Windows 2000 SP2 or Earlier

From the Windows Start menu, select **Programs — StarMicronics —OPOS Register 2008 — MICRRegister**.

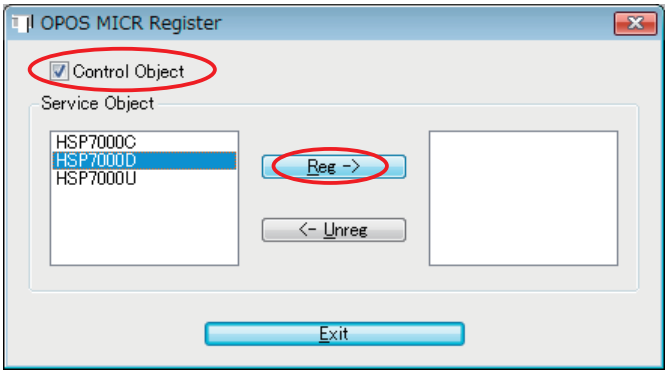
### ■ Windows Vista 64-bit Edition

From the Windows Start menu, select **Programs — StarMicronics — OPOS Register 2008**, right-click **MICRRegister**, and then select **Run as administrator**.

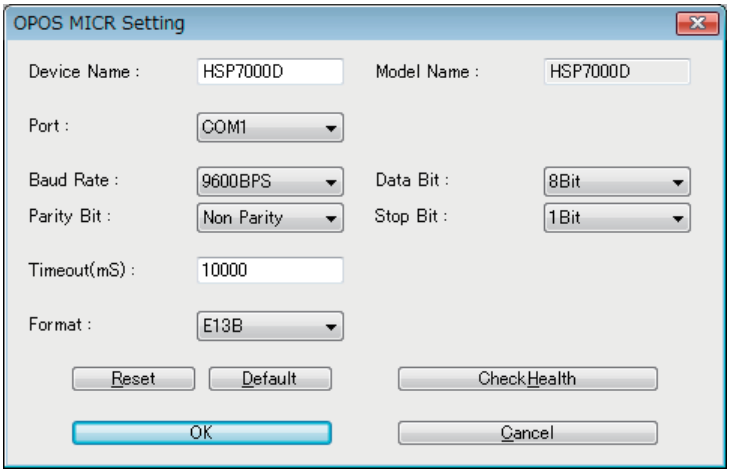
The following window appears




The selectable printer models appear in the left list.
To configure a device, select the appropriate model name, and then click the **Reg ->** button.
If you select the **Control Object** check box, the Star Control Object will be registered along with the device settings.



When the following window appears, enter appropriate settings.




**Device Name** Set the device name.

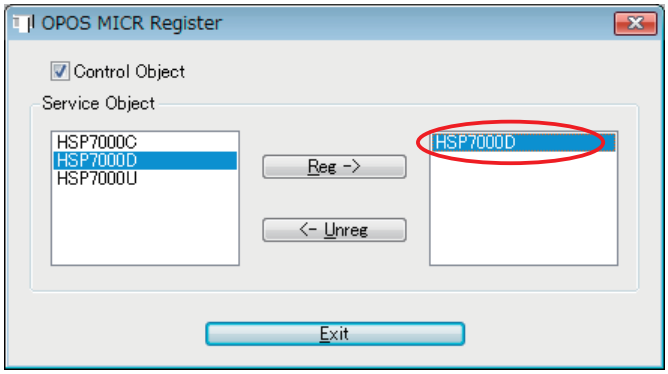
**Format** Set the format of the MICR you want to load.

**[ Reset ]** Reset the settings.

**[ Default ]** Set the settings to default values.

**[ Check Health ]** Execute check health.
Checks the system to see whether the cash drawer will operate properly through OPOS.
Set paper into the slip printer before you click the button.

Click the **OK** button to create a device with the specified settings and add the device to the registered device list.




Click **Exit** to close the registration window

**Important:** **Configure the port settings to match the printer settings. You can check the printer settings by performing self-printing. For details, refer to the Hardware Manual.**

# 5. DirectIO Specifications

The DirectIO specifications of the HSP7000 OPOS driver are as follows.

**■ OPOS POSPrinter**

| | |
|---|---|
| DirectIO | No methods |
| DirectIOEvent | No events |

**■ CashDrawer**

| | |
|---|---|
| DirectIO | No methods |
| DirectIOEvent | No events |

**■ MICR**

| | |
|---|---|
| DirectIO | No methods |
| DirectIOEvent | No events |

# 6. Result Code List

■ **POS Printer**

| Method | ResultCode | ResultCodeExtended |
|---|---|---|
| Open | OPOS_SUCCESS | - |
| | OPOS_E_NOSERVICE | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_NOEXIST | - |
| Close | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| ClaimDevice | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_TIMEOUT | - |
| ReleaseDevice | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| CheckHealth | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_BUSY | - |
| ClearOutput | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| DirectIO | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| ResetStatistics | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| RetrieveStatistics | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| UpdateStatistics | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| PrintNormal | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_NOHARDWARE | - |
| | OPOS_E_OFFLINE | - |
| | OPOS_E_TIMEOUT | - |
| | OPOS_E_BUSY | - |
| | OPOS_EXTENDED | OPOS_EPTR_COVER_OPEN |
| | | OPOS_EPTR_JRN_EMPTY |
| | | OPOS_EPTR_REC_EMPTY |
| | | OPOS_EPTR_SLP_EMPTY |

| Method | ResultCode | ResultCodeExtended |
|---|---|---|
| PrintTwoNormal | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_BUSY | - |
| PrintImmediate | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_NOHARDWARE | - |
| | OPOS_E_OFFLINE | - |
| | OPOS_E_TIMEOUT | - |
| | OPOS_EXTENDED | OPOS_EPTR_COVER_OPEN |
| | | OPOS_EPTR_JRN_EMPTY |
| | | OPOS_EPTR_REC_EMPTY |
| | | OPOS_EPTR_SLP_EMPTY |
| BeginInsertion | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_TIMEOUT | - |
| | OPOS_E_BUSY | - |
| EndInsertion | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_BUSY | - |
| | OPOS_E_EXTENDED | OPOS_EPTR_SLP_EMPTY |
| BeginRemoval | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_TIMEOUT | - |
| | OPOS_E_BUSY | - |
| EndRemoval | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_BUSY | - |
| | OPOS_E_EXTENDED | OPOS_EPTR_SLP_FORM |

| Method | ResultCode | ResultCodeExtended |
|---|---|---|
| CutPaper | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_NOHARDWARE | - |
| | OPOS_E_OFFLINE | - |
| | OPOS_E_TIMEOUT | - |
| | OPOS_E_BUSY | - |
| | OPOS_EXTENDED | OPOS_EPTR_COVER_OPEN |
| | | OPOS_EPTR_REC_EMPTY |
| RotatePrint | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_NOHARDWARE | - |
| | OPOS_E_OFFLINE | - |
| | OPOS_E_TIMEOUT | - |
| | OPOS_E_BUSY | - |
| | OPOS_EXTENDED | OPOS_EPTR_COVER_OPEN |
| | | OPOS_EPTR_JRN_EMPTY |
| | | OPOS_EPTR_REC_EMPTY |
| | | OPOS_EPTR_SLP_EMPTY |
| PrintBarCode | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_NOHARDWARE | - |
| | OPOS_E_OFFLINE | - |
| | OPOS_E_TIMEOUT | - |
| | OPOS_E_BUSY | - |
| | OPOS_EXTENDED | OPOS_EPTR_COVER_OPEN |
| | | OPOS_EPTR_REC_EMPTY |
| | | OPOS_EPTR_SLP_EMPTY |
| PrintBitmap | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_NOHARDWARE | - |
| | OPOS_E_OFFLINE | - |
| | OPOS_E_NOEXIST | - |
| | OPOS_E_TIMEOUT | - |
| | OPOS_E_BUSY | - |
| | OPOS_EXTENDED | OPOS_EPTR_TOOBIG |
| | | OPOS_EPTR_COVER_OPEN |
| | | OPOS_EPTR_BADFORMAT |
| | | OPOS_EPTR_REC_EMPTY |
| | | OPOS_EPTR_SLP_EMPTY |

| Method | ResultCode | ResultCodeExtended |
|---|---|---|
| TransactionPrint | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_NOHARDWARE | - |
| | OPOS_E_OFFLINE | - |
| | OPOS_E_TIMEOUT | - |
| | OPOS_E_BUSY | - |
| | OPOS_EXTENDED | OPOS_EPTR_COVER_OPEN |
| | | OPOS_EPTR_JRN_EMPTY |
| | | OPOS_EPTR_REC_EMPTY |
| | | OPOS_EPTR_SLP_EMPTY |
| ValidateData | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_FAILURE | - |
| SetBitmap | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_NOEXIST | - |
| | OPOS_EXTENDED | OPOS_EPTR_TOOBIG |
| | | OPOS_EPTR_BADFORMAT |
| SetLogo | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| ChangePrintSide | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| MarkFeed | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |

**Important: Some properties can only be set in reference to the left margin depending on the printer.**
**There may be limitations to OPOS Escape Sequence and Vertical Mount (reverse printing) features.**
**For details, refer to the "Command Specifications."**

■ **Cash Drawer**

| Method | ResultCode | ResultCodeExtended |
|---|---|---|
| Open | OPOS_SUCCESS | - |
| | OPOS_E_NOSERVICE | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_NOEXIST | - |
| Close | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| ClaimDevice | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_TIMEOUT | - |
| ReleaseDevice | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| CheckHealth | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_CLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_BUSY | - |
| DirectIO | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| ResetStatistics | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| RetrieveStatistics | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| UpdateStatistics | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| OpenDrawer | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_CLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_NOHARDWARE | - |
| | OPOS_E_OFFLINE | - |
| | OPOS_E_TIMEOUT | - |
| | OPOS_E_BUSY | - |
| WaitForDrawerClose | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_CLAMIED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_BUSY | - |

**Important:** **1) If the relevant POSPrinter status is busy (for example the cover is open), the cash drawer does not open and OPOS_E_TIMEOUT occurs.**
**2) The WaitForDrawerClose method does not produce a beep sound.**

■ **MICR**

| Method | ResultCode | ResultCodeExtended |
|---|---|---|
| Open | OPOS_SUCCESS | - |
| | OPOS_E_NOSERVICE | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_NOEXIST | - |
| Close | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| ClaimDevice | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_TIMEOUT | - |
| ReleaseDevice | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| CheckHealth | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_BUSY | - |
| ClearInput | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| DirectIO | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| ResetStatistics | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| RetrieveStatistics | OPOS_E_CLOSED | - |
| | OPOS_E_ILLEGAL | - |
| BeginInsertion | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_TIMEOUT | - |
| | OPOS_E_BUSY | - |
| EndInsertion | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_BUSY | - |
| | OPOS_E_EXTENDED | OPOS_EMICR_NOCHECK |

| Method | ResultCode | ResultCodeExtended |
|---|---|---|
| BeginRemoval | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_TIMEOUT | - |
| | OPOS_E_BUSY | - |
| EndRemoval | OPOS_SUCCESS | - |
| | OPOS_E_CLOSED | - |
| | OPOS_E_NOTCLAIMED | - |
| | OPOS_E_DISABLED | - |
| | OPOS_E_ILLEGAL | - |
| | OPOS_E_BUSY | - |
| | OPOS_E_EXTENDED | OPOS_EMICR_CHECK |

# 7. Property List

## ■ POS Printer

| Property | HSP7000C | HSP7000D | HSP7000U |
|---|---|---|---|
| CapPowerReporting | OPOS_PR_STANDARD | OPOS_PR_STANDARD | OPOS_PR_STANDARD |
| CapStatisticsReporting | FALSE | FALSE | FALSE |
| CapUpdateStatistics | FALSE | FALSE | FALSE |
| CapCharacterSet | PTR_CCS_ASCII | PTR_CCS_ASCII | PTR_CCS_ASCII |
| CapConcurrentJrnRec | FALSE | FALSE | FALSE |
| CapConcurrentJrnSlp | FALSE | FALSE | FALSE |
| CapConcurrentRecSlp | FALSE | FALSE | FALSE |
| CapCoverSensor | TRUE | TRUE | TRUE |
| CapMapCharacterSet | TRUE | TRUE | TRUE |
| CapTransaction | TRUE | TRUE | TRUE |
| CapJrnPresent | FALSE | FALSE | FALSE |
| CapJrn2Color | FALSE | FALSE | FALSE |
| CapJrnBold | FALSE | FALSE | FALSE |
| CapJrnDhigh | FALSE | FALSE | FALSE |
| CapJrnDwide | FALSE | FALSE | FALSE |
| CapJrnDwideDhigh | FALSE | FALSE | FALSE |
| CapJrnEmptySensor | FALSE | FALSE | FALSE |
| CapJrnItalic | FALSE | FALSE | FALSE |
| CapJrnNearEndSensor | FALSE | FALSE | FALSE |
| CapJrnUnderline | FALSE | FALSE | FALSE |
| CapJrnCartridgeSensor | 0 | 0 | 0 |
| CapJrnColor | 0 | 0 | 0 |
| CapRecPresent | TRUE | TRUE | TRUE |
| CapRec2Color | FALSE | FALSE | FALSE |
| CapRecBarCode | TRUE | TRUE | TRUE |
| CapRecBitmap | TRUE | TRUE | TRUE |
| CapRecBold | TRUE | TRUE | TRUE |
| CapRecDhigh | TRUE | TRUE | TRUE |
| CapRecDwide | TRUE | TRUE | TRUE |
| CapRecDwideDhigh | TRUE | TRUE | TRUE |
| CapRecEmptySensor | TRUE | TRUE | TRUE |
| CapRecItalic | FALSE | FALSE | FALSE |
| CapRecLeft90 | FALSE | FALSE | FALSE |
| CapRecNearEndSensor | TRUE | TRUE | TRUE |
| CapRecPapercut | TRUE | TRUE | TRUE |
| CapRecRight90 | FALSE | FALSE | FALSE |
| CapRecRotate180 | TRUE | TRUE | TRUE |
| CapRecStamp | FALSE | FALSE | FALSE |
| CapRecUnderline | TRUE | TRUE | TRUE |
| CapRecCartridgeSensor | 0 | 0 | 0 |
| CapRecColor | PTR_COLOR_PRIMARY | PTR_COLOR_PRIMARY | PTR_COLOR_PRIMARY |
| CapRecMarkFeed | 0 | 0 | 0 |
| CapSlpPresent | TRUE | TRUE | TRUE |
| CapSlpFullslip | TRUE | TRUE | TRUE |
| CapSlp2Color | FALSE | FALSE | FALSE |
| CapSlpBarCode | FALSE | FALSE | FALSE |
| CapSlpBitmap | TRUE | TRUE | TRUE |
| CapSlpBold | TRUE | TRUE | TRUE |
| CapSlpDhigh | TRUE | TRUE | TRUE |
| CapSlpDwide | TRUE | TRUE | TRUE |
| CapSlpDwideDhigh | TRUE | TRUE | TRUE |
| CapSlpEmptySensor | TRUE | TRUE | TRUE |
| CapSlpItalic | FALSE | FALSE | FALSE |
| CapSlpLeft90 | FALSE | FALSE | FALSE |
| CapSlpNearEndSensor | TRUE | TRUE | TRUE |
| CapSlpRight90 | FALSE | FALSE | FALSE |
| CapSlpRotate180 | TRUE | TRUE | TRUE |
| CapSlpUnderline | TRUE | TRUE | TRUE |
| CapSlpBothSidesPrint | FALSE | FALSE | FALSE |
| CapSlpCartridgeSensor | 0 | 0 | 0 |
| CapSlpColor | PTR_COLOR_PRIMARY | PTR_COLOR_PRIMARY | PTR_COLOR_PRIMARY |

■ **Cash Drawer**

| Property | HSP7000C | HSP7000C(2) | HSP7000D | HSP7000D(2) |
|---|---|---|---|---|
| CapPowerReporting | OPOS_PR_ STANDARD | OPOS_PR_ STANDARD | OPOS_PR_ STANDARD | OPOS_PR_ STANDARD |
| CapStatisticsReporting | FALSE | FALSE | FALSE | FALSE |
| CapUpdateStatistics | FALSE | FALSE | FALSE | FALSE |
| CapStatus | FALSE (TRUE) | FALSE (TRUE) | FALSE (TRUE) | FALSE (TRUE) |
| CapStatusMultiDrawerDetect | FALSE | FALSE | FALSE | FALSE |

| Property | HSP7000U | HSP7000U(2) |
|---|---|---|
| CapPowerReporting | OPOS_PR_ STANDARD | OPOS_PR_ STANDARD |
| CapStatisticsReporting | FALSE | FALSE |
| CapUpdateStatistics | FALSE | FALSE |
| CapStatus | FALSE (TRUE) | FALSE (TRUE) |
| CapStatusMultiDrawerDetect | FALSE | FALSE |

■ **MICR**

| Property | HSP7000C | HSP7000D | HSP7000U |
|---|---|---|---|
| CapPowerReporting | OPOS_PR_ STANDARD | OPOS_PR_ STANDARD | OPOS_PR_ STANDARD |
| CapStatisticsReporting | FALSE | FALSE | FALSE |
| CapUpdateStatistics | FALSE | FALSE | FALSE |
| CapValidationDevice | TRUE | TRUE | TRUE |

# 8. Guidelines for Printing Documents

- There is no need to set paper margins with this driver.
  Set all margins to **0**.
- It is recommended to use device fonts supported by this driver.
  Device fonts make it possible to print at higher speed.

## 8.1 Notes for Printing via a Serial Interface

When using HSP7000 Windows drivers to print through a serial interface, the printer and printer-port settings must be correctly matched.

The printer settings can be confirmed using the self-printing.
For details, refer to the Hardware Manual.

If you are using Windows 2000 SP3 or later, Windows XP, and Windows Vista 32-Bit Edition, you can configure OPOS devices by using the **Start Configuration Utility**. If you are using Windows 2000 SP2 or earlier or Windows Vista 64-Bit Edition, you can use **OPOS Register 2008**. For details, refer to "3.2.1 OPOS" or "4. OPOS Register 20008".

Notes

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

## 8.2 Restrictions and Precautions

- 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.

# 9. Revision History

| Rev. No. | Date of Revision | Changes |
|---|---|---|
| Rev. 2.0 | Jul. 2008 | First edition |
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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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