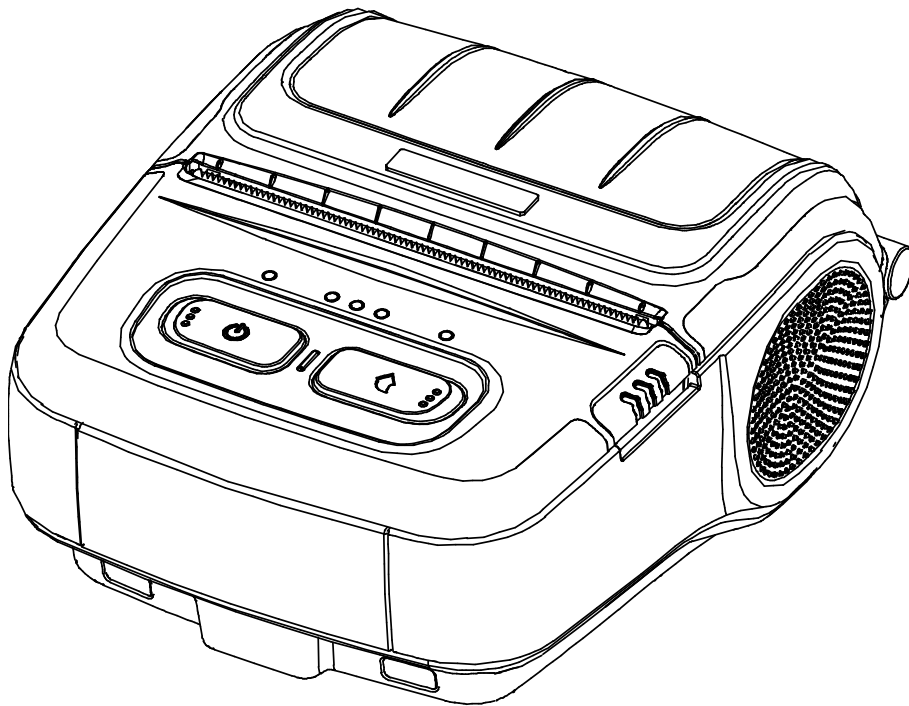


BIXOLON®

Windows Driver Manual
SPP-R310

Mobile Printer
Rev. 1.01



<http://www.bixolon.com>

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1. Manual Information

This Windows Driver Installation Manual provides information on installation, detailed specifications, and usage of the printer's Windows Driver according to PC operating system (OS).

We at BIXOLON maintain ongoing efforts to enhance and upgrade the functions and quality of all our products. In following, product specifications and/or user manual content may be changed without prior notice.

2. Operating System (OS) Environment

The following operating systems are supported for usage.

- Microsoft® Windows XP SP3 (32bit)
- Microsoft® Windows XP SP1 or later (64bit)
- Microsoft Windows Server 2003 SP1 or later (32bit/64bit)
- Microsoft Windows VISTA (32bit/64bit)
- Microsoft Windows Server 2008 (32bit/64bit)
- Microsoft Windows Server 2008R2 (64bit)
- Microsoft Windows 7 (32bit/64bit)
- Microsoft Windows 8 (32bit/64bit)
- Microsoft Windows Server 2012 (64bit)
- Microsoft Windows 10 (32bit/64bit)

* Serial and Bluetooth printer port do not work on Windows 10 version 1511 (OS Build 105860.104) specific. We recommend you to install the latest Windows 10 update through Windows Update before installing Windows Driver.

You can download and install the Windows Update in the Update & security tab of the Settings menu (☰ > Settings > Update & security > Windows Update).

3. Windows Driver Preparation

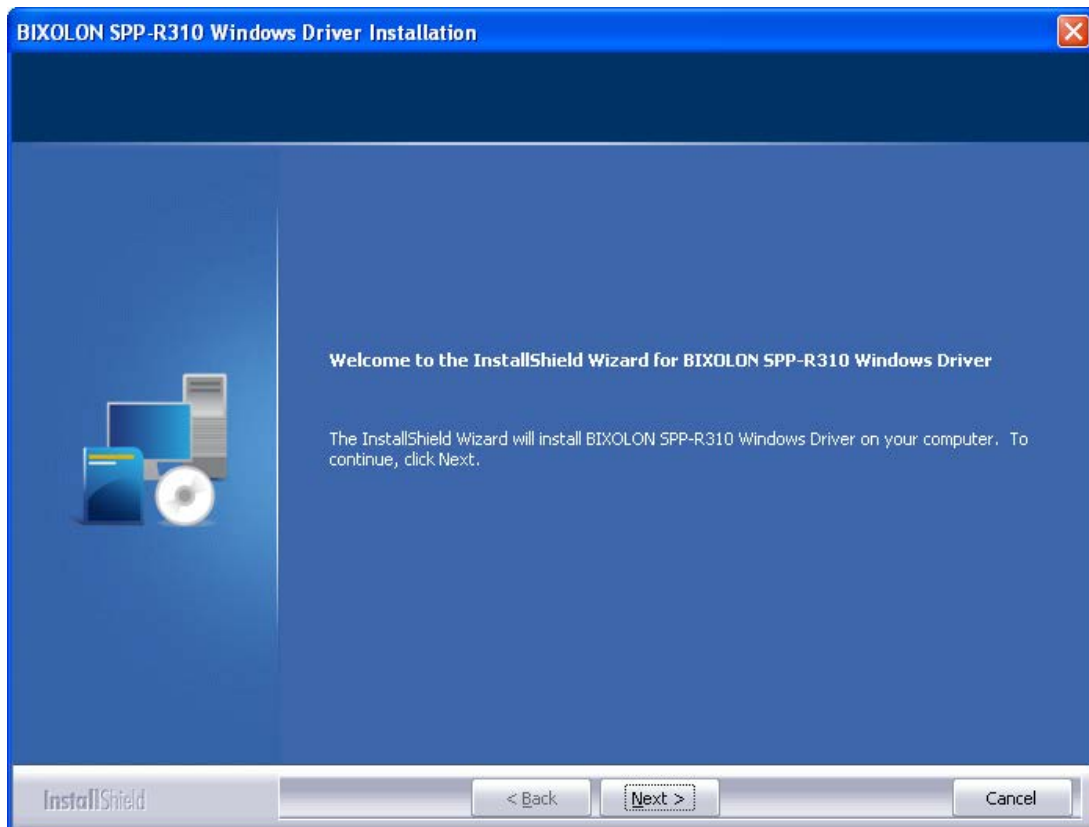
The Windows Driver is included in the enclosed CD, and the latest file version can be downloaded from BIXOLON website. (**www.bixolon.com**)

4. Windows Driver Installation

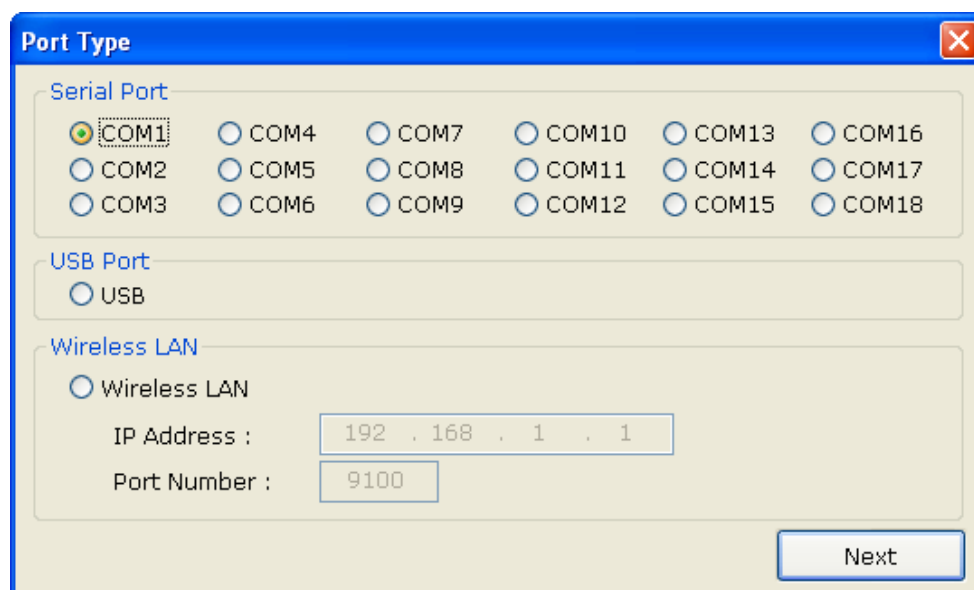
4-1 Installing on Windows XP / Server 2003

4-1-1 Via Serial Port or Bluetooth

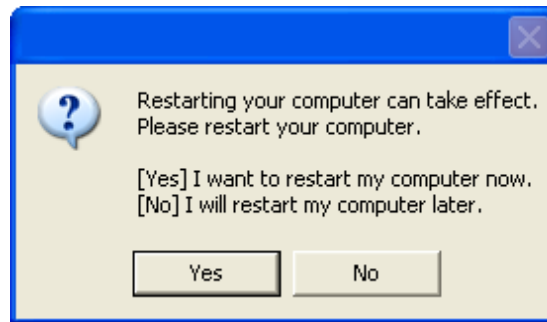
- 1) Double-click the Windows Driver installation file.
- 2) Click **Next**.



- 3) Select a COM port to be used and then click **Next**.



4) Click **Yes** to reboot the PC.



5) Open the printer properties window in the Windows OS.

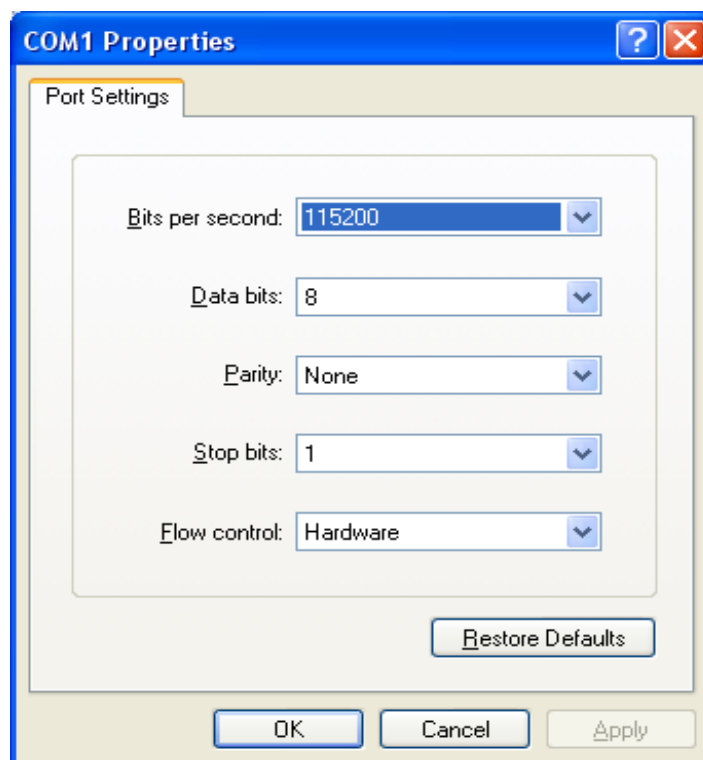
- ※ Control Panel – Printers and Faxes

6) In the **Ports** tab, click the **Configure Port...**

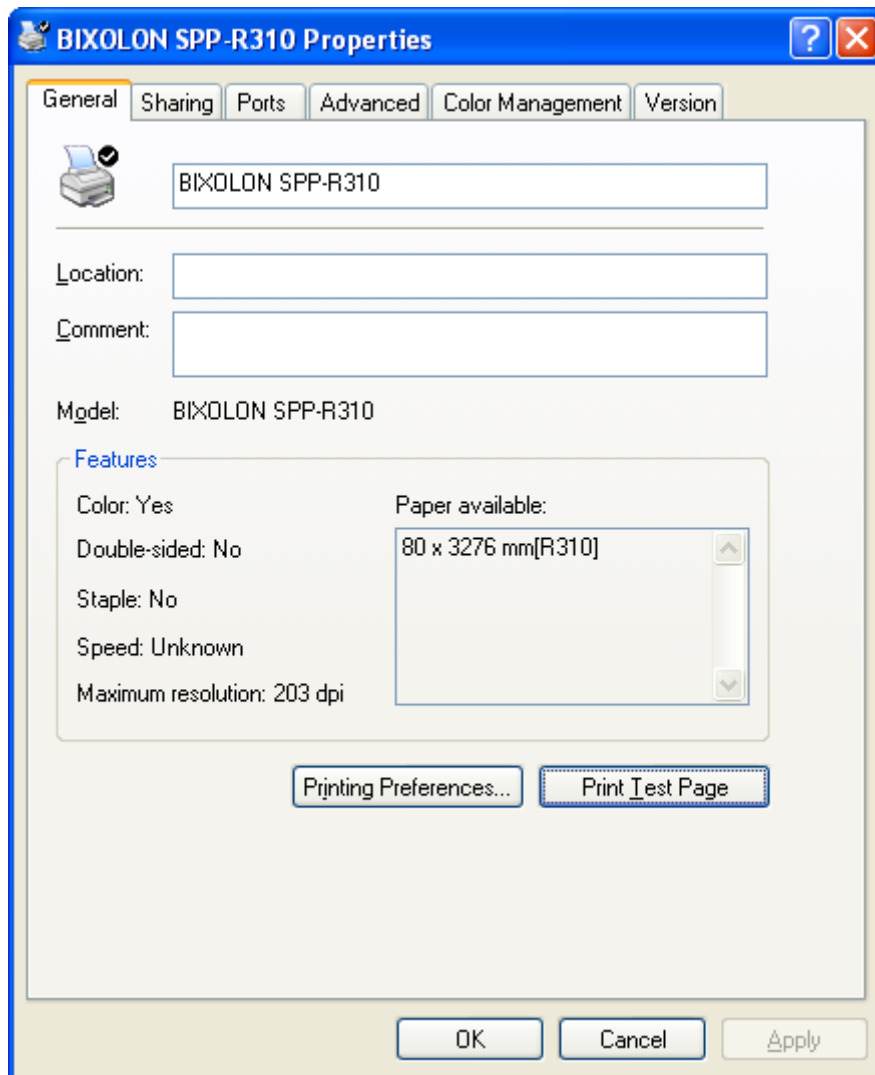
- ※ Skip this step in case of data communication using Bluetooth.

7) Match the communication settings to those of the printer. The communication settings of the printer can be performed by conducting a self-test.

- ※ Skip this step in case of data communication using Bluetooth.

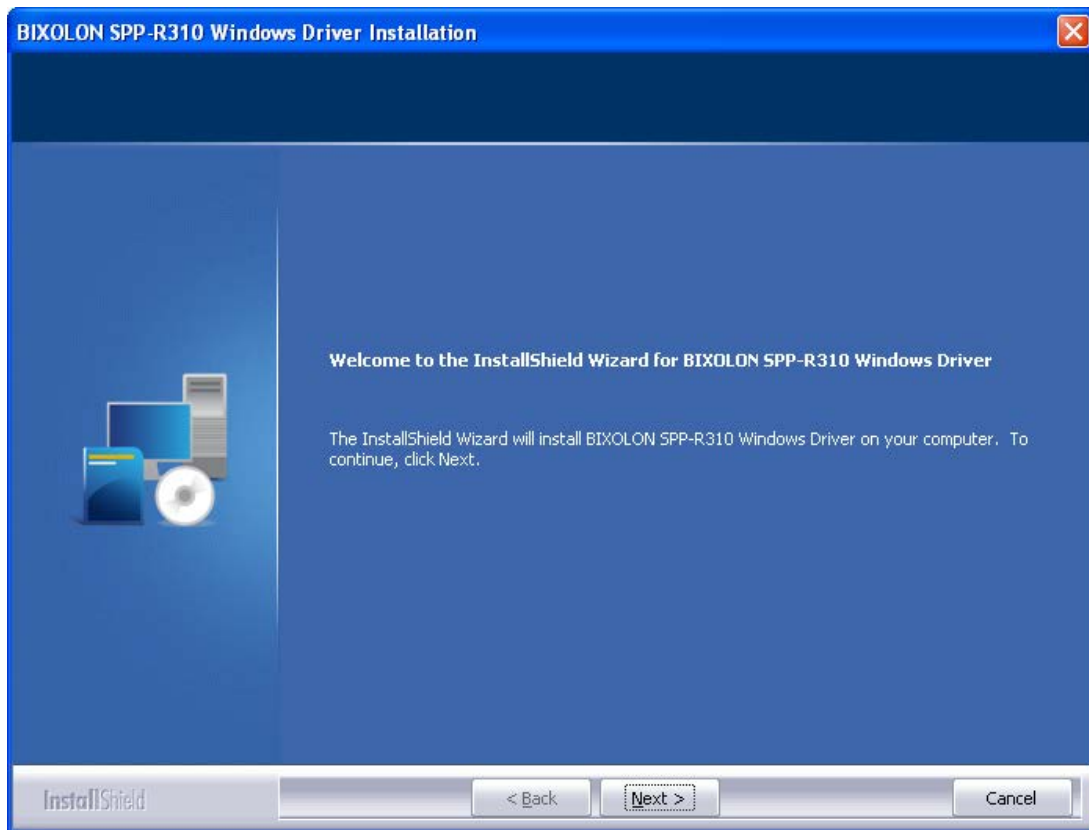


8) Click **Print Test Page** and check printing status. Proper installation of the driver is indicated if the test page is printed normally.

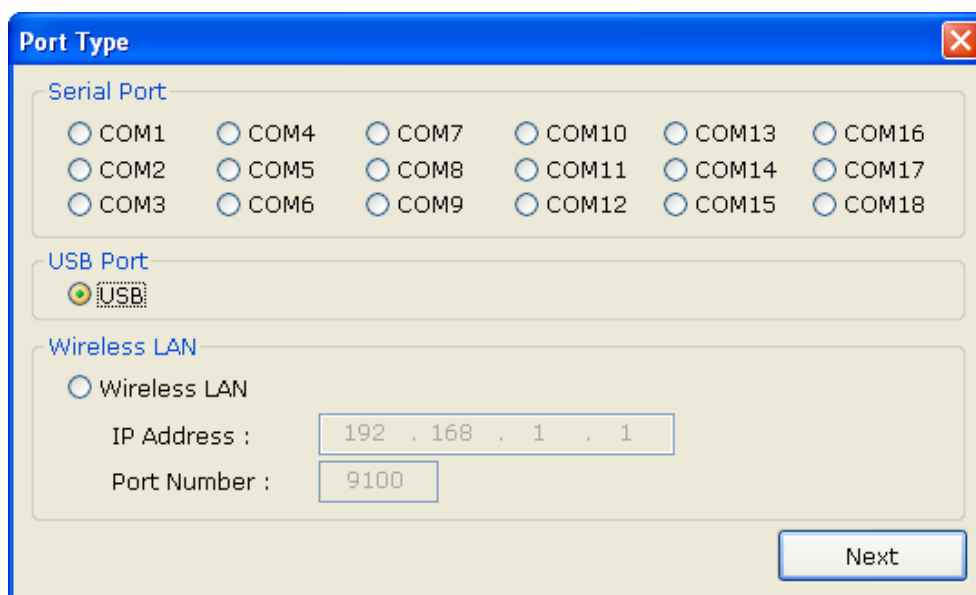


4-1-2 Via USB Port

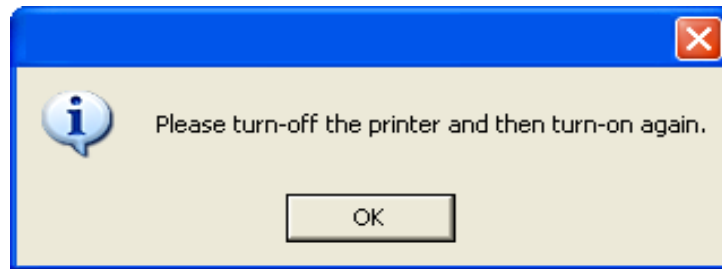
- 1) Double-click the Windows Driver installation file.
- 2) Click **Next**.



- 3) Select **USB** and then click **Next**.



4) Click **OK**.

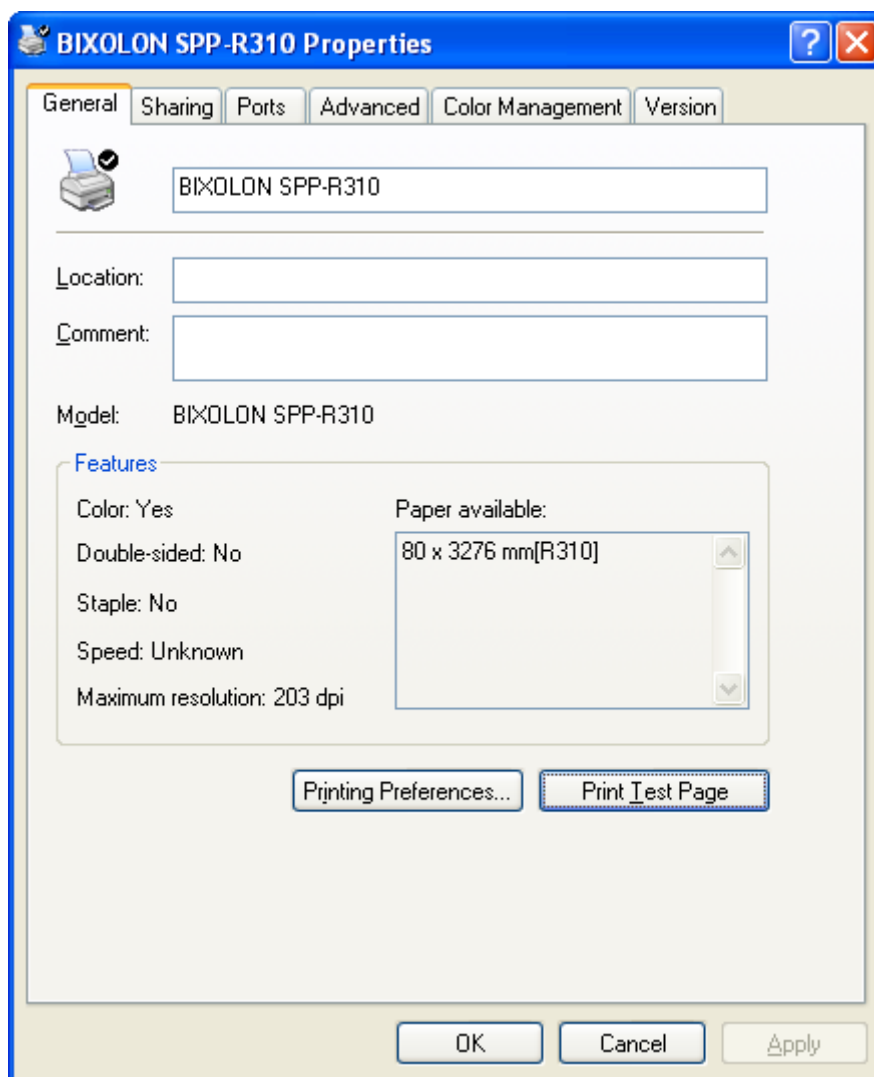


5) Turn off the printer and then turn it on. The printer driver will be installed automatically.

6) Open the printer properties window in the Windows OS.

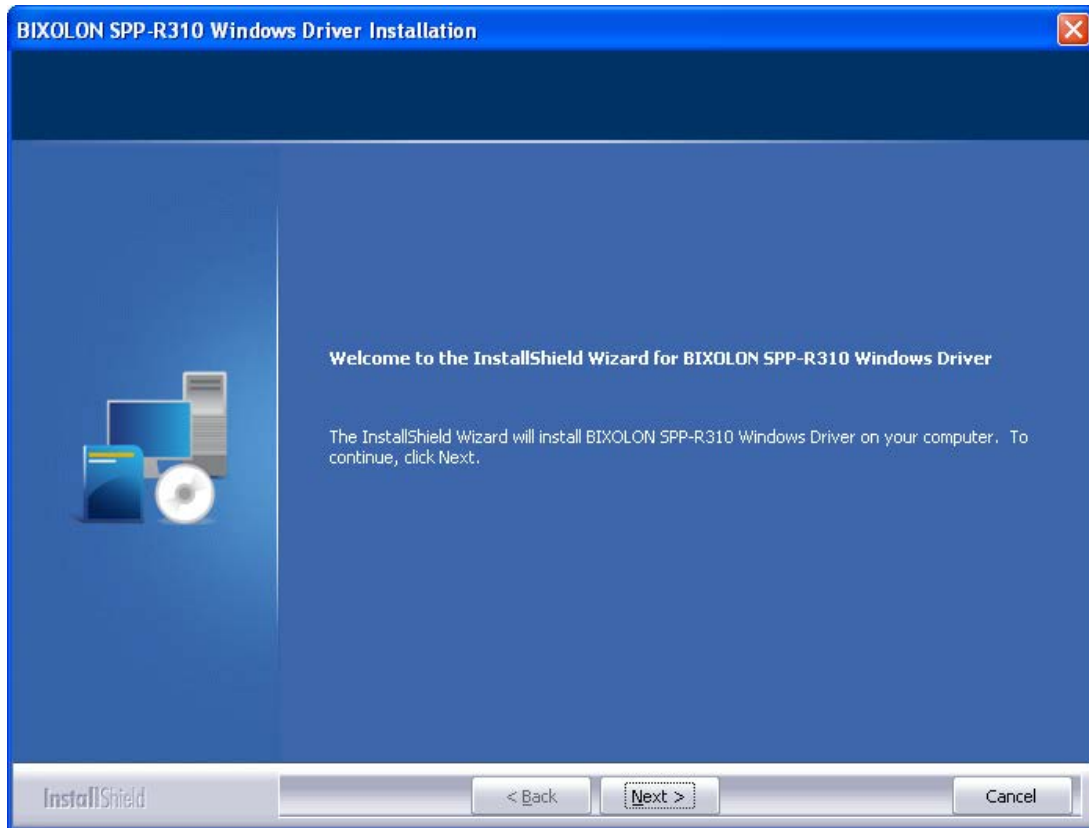
※ Control Panel – Printers and Faxes

7) Click **Print Test Page** and check printing status. Proper installation of the driver is indicated if the test page is printed normally.

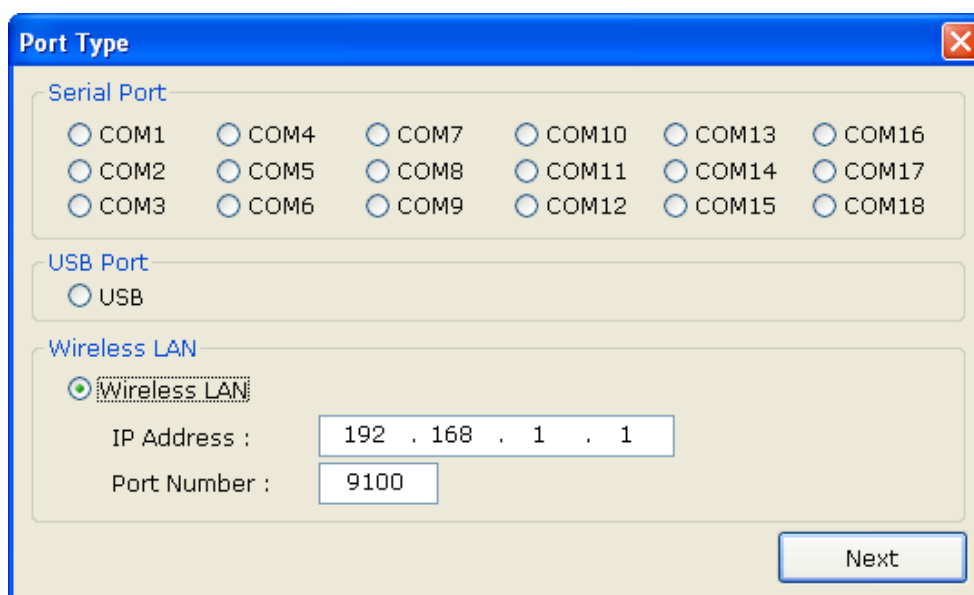


4-1-3 Via WLAN Port

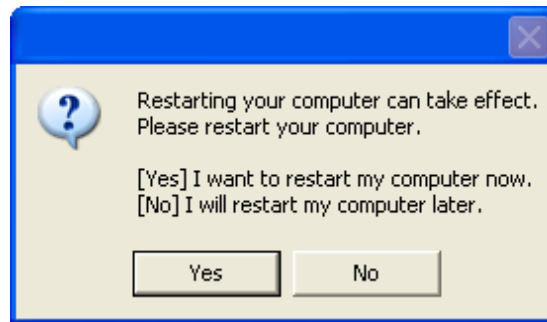
- 1) Double-click the Windows Driver installation file.
- 2) Click **Next**.



- 3) Select **Wireless LAN**.
- 4) Enter the IP address and port number, and then click **Next**.



5) Click **Yes** to reboot the PC.



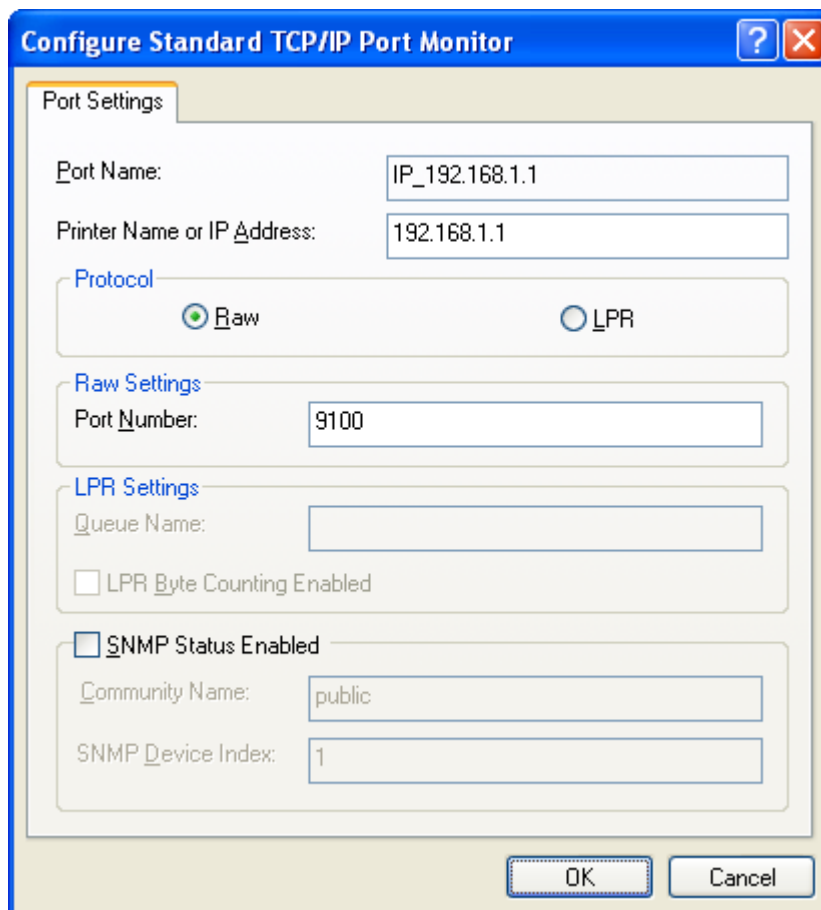
6) Open the printer properties window in the Windows OS.

※ Control Panel – Printers and Faxes

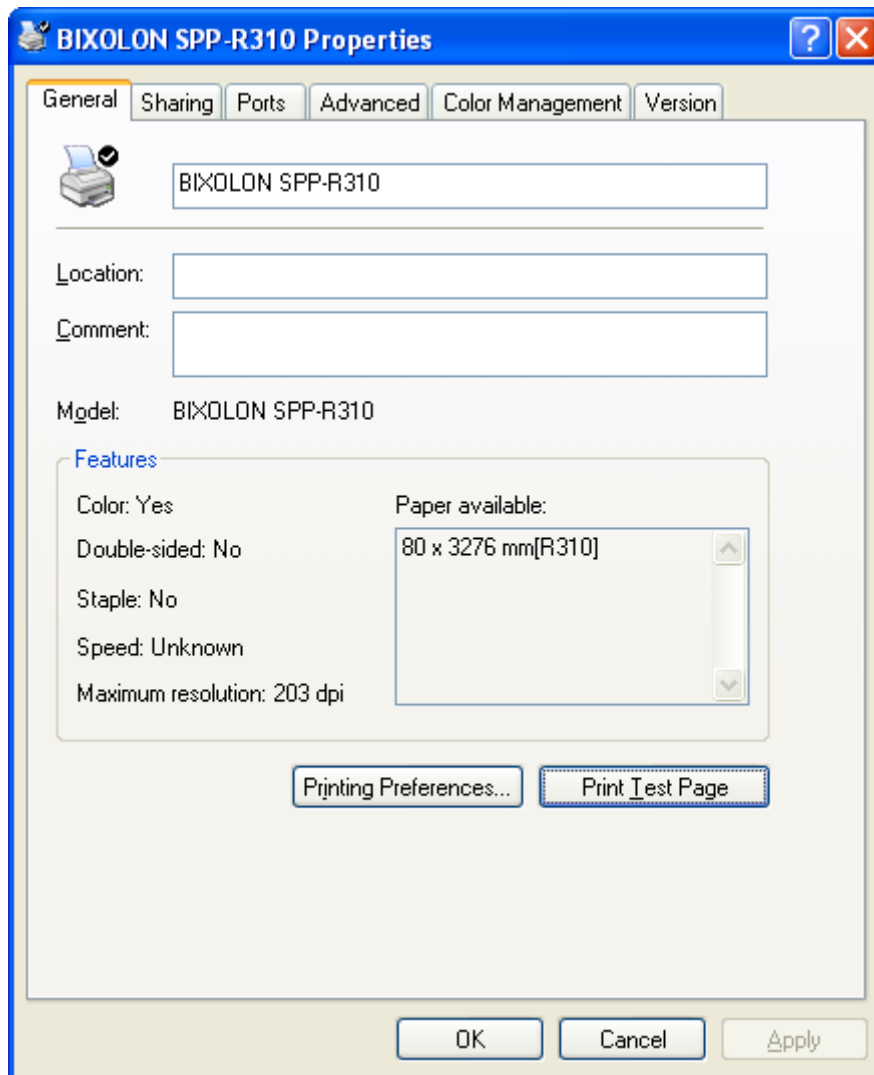
7) In the **Ports** tab, click **Configure Port....**

8) Match the communication settings to those of the printer.

※ The “LPR” protocol is not supported with this printer.



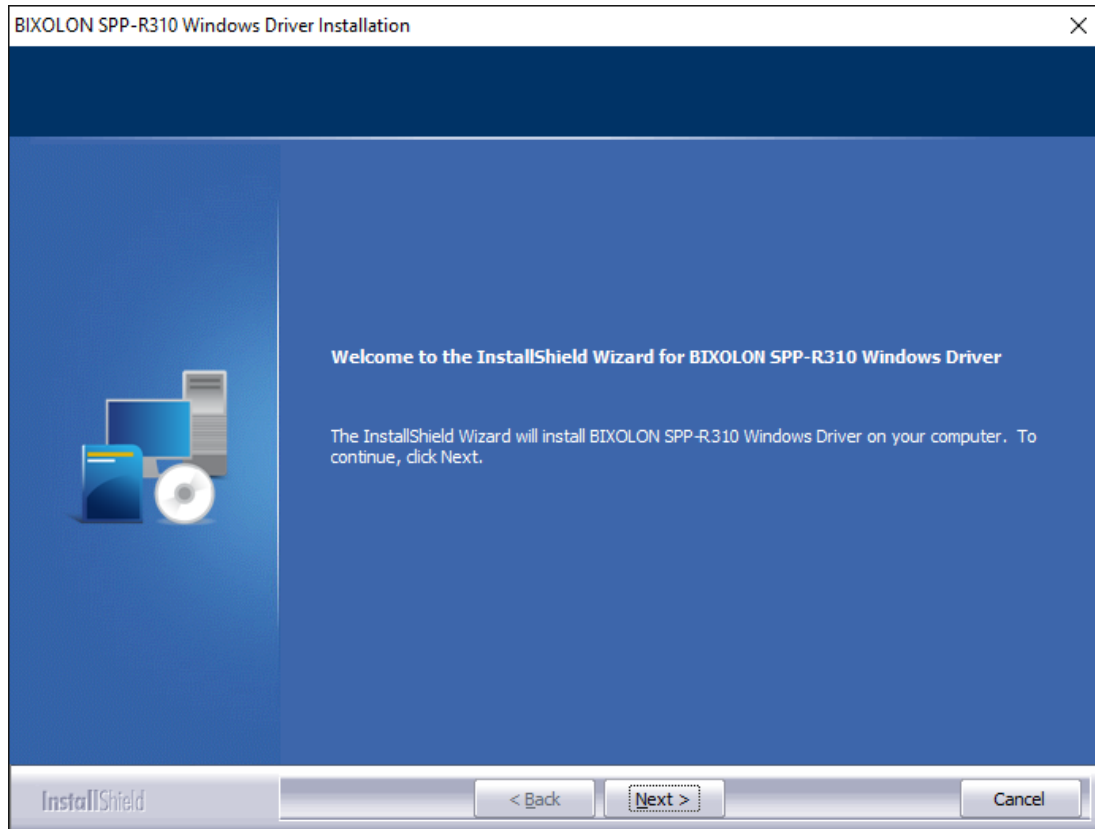
- 9) Click **Print Test Page** and check printing status. Proper installation of the driver is indicated if the test page is printed normally.



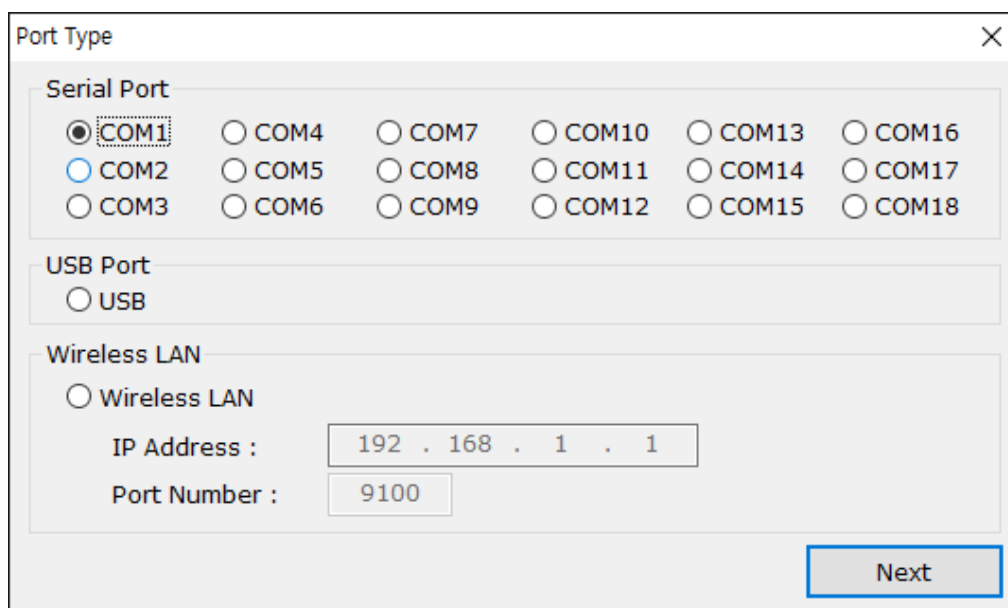
4-2 Installing on Windows VISTA / Sever 2008 / 7 / 8 / Server 2012 / 10

4-2-1 Via Serial Port or Bluetooth

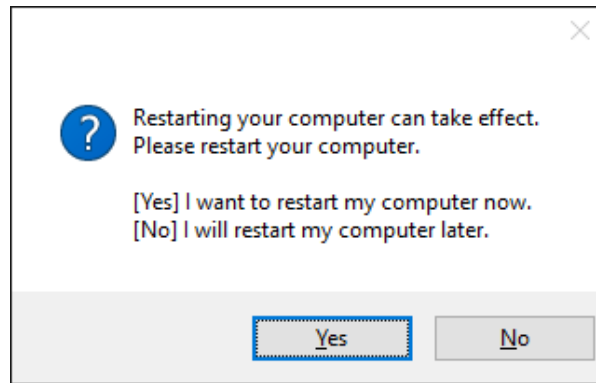
- 1) Double-click the Windows Driver installation file.
- 2) Click **Next**.



- 3) Select a COM port to be used and then click **Next**.



4) Click **Yes** to reboot the PC.



5) Open the printer properties window in the Windows OS.

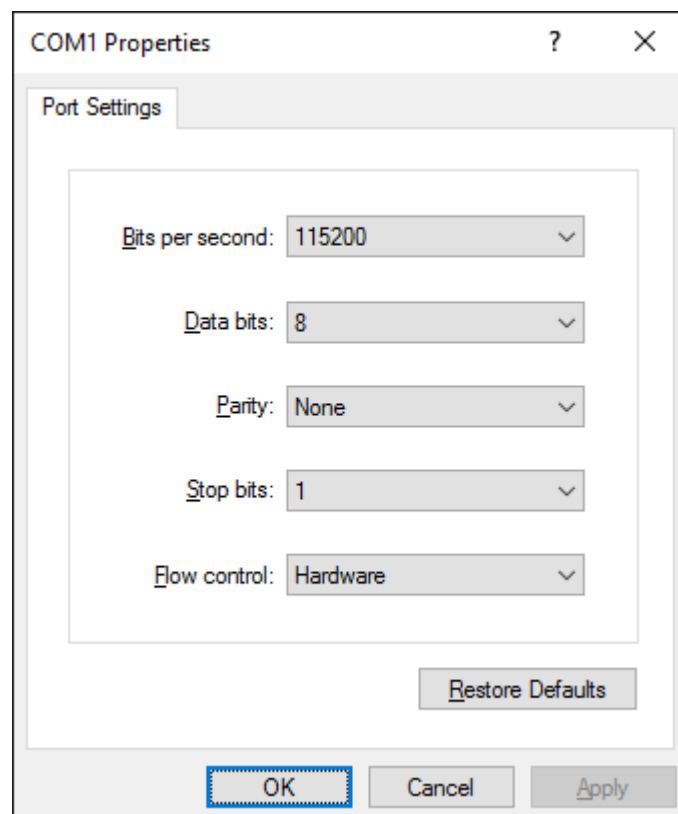
※ Control Panel – Hardware and Sound – Device and Printers.

6) In the **Ports** tab, click **Configure Port**.

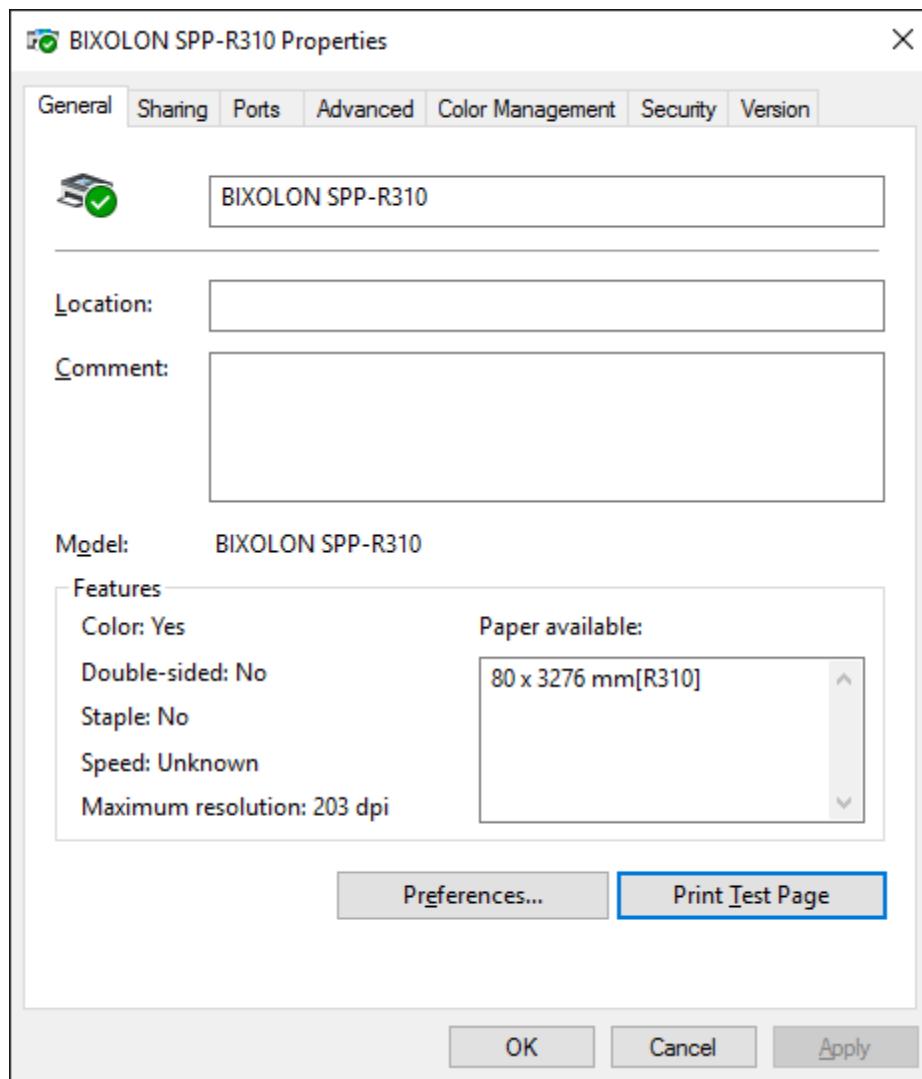
※ Skip this step in case of data communication using Bluetooth.

7) Match the communication settings to those of the printer. The communication settings of the printer can be performed by conducting a self-test.

※ Skip this step in case of data communication using Bluetooth.

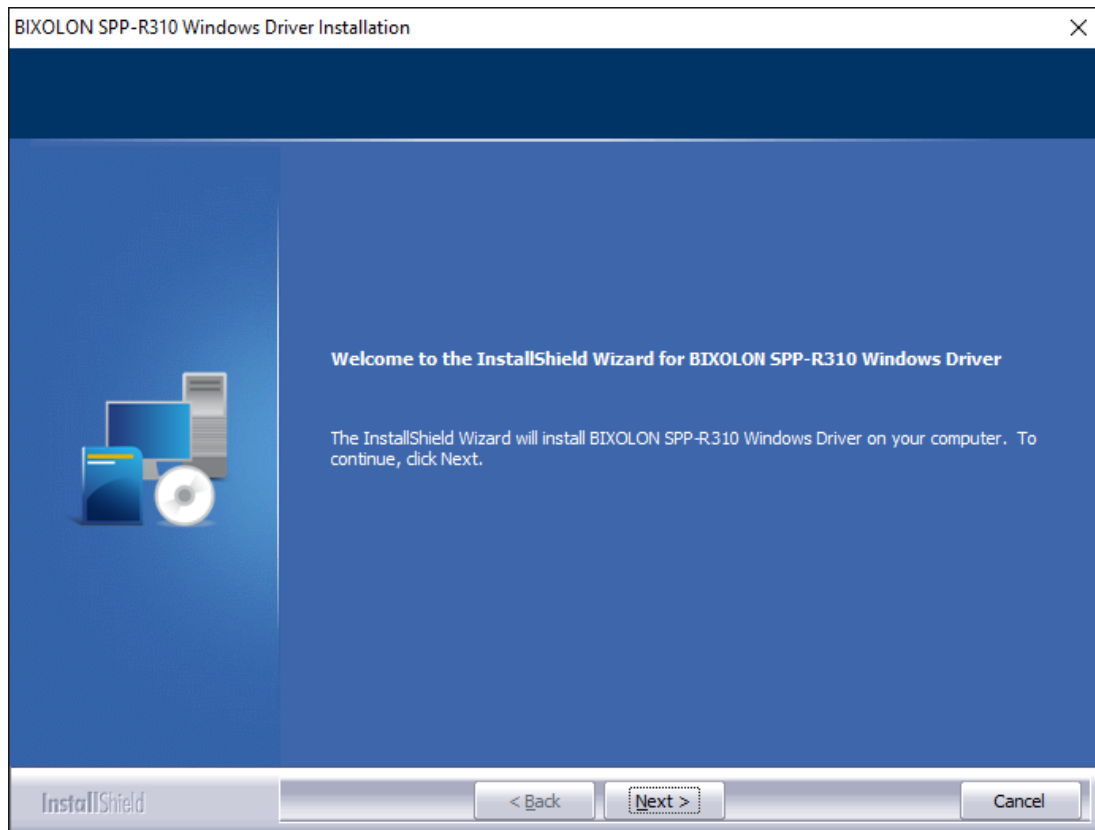


8) Click **Print Test Page** and check printing status. Proper installation of the driver is indicated if the test page is printed normally.

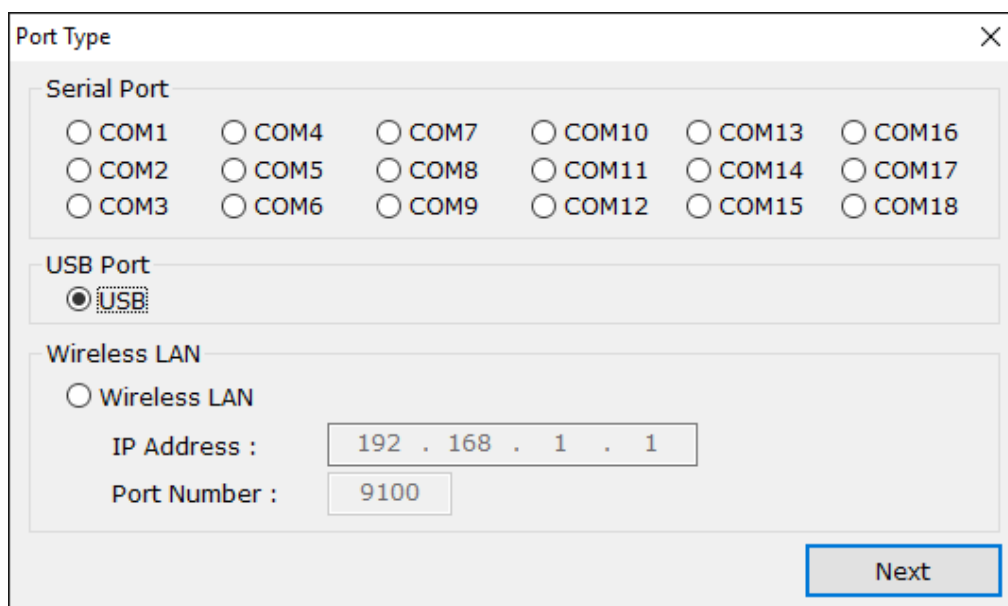


4-2-2 Via USB Port

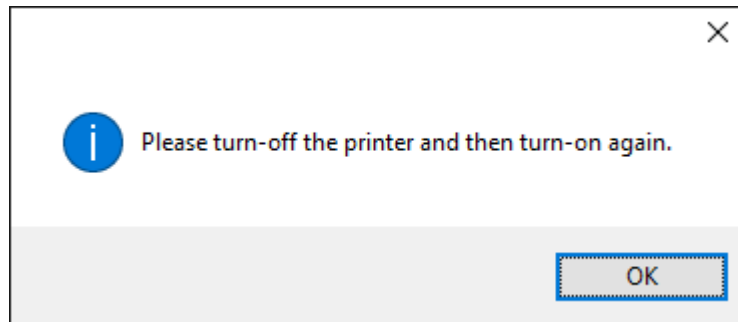
- 1) Double-click the Windows Driver installation file.
- 2) Click **Next**.



- 3) Select **USB** and click **Next**.



4) Click **OK**.

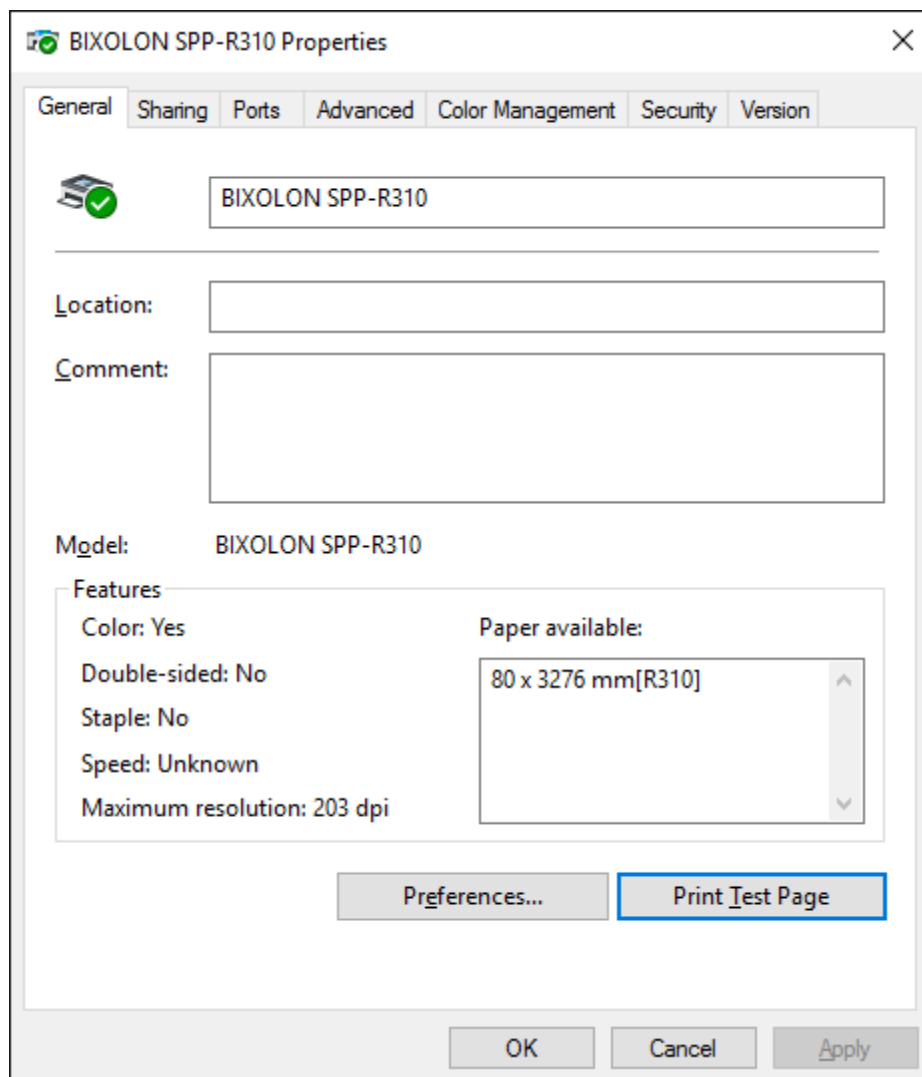


5) Turn off the printer and then turn it on. The printer driver will be installed automatically.

6) Open the printer properties window in the Windows OS.

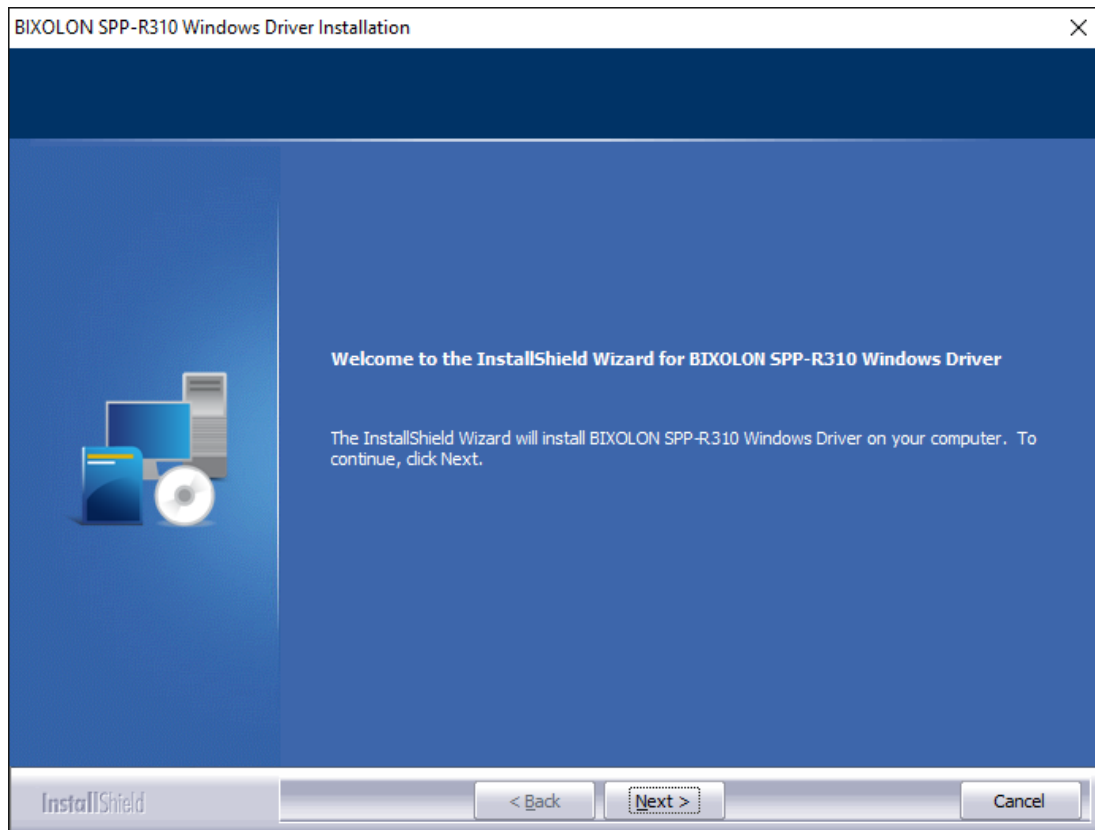
※ Control Panel – Hardware and Sound – Device and Printers.

7) Click **Print Test Page** and check printing status. Proper installation of the driver is indicated if the test page is printed normally.

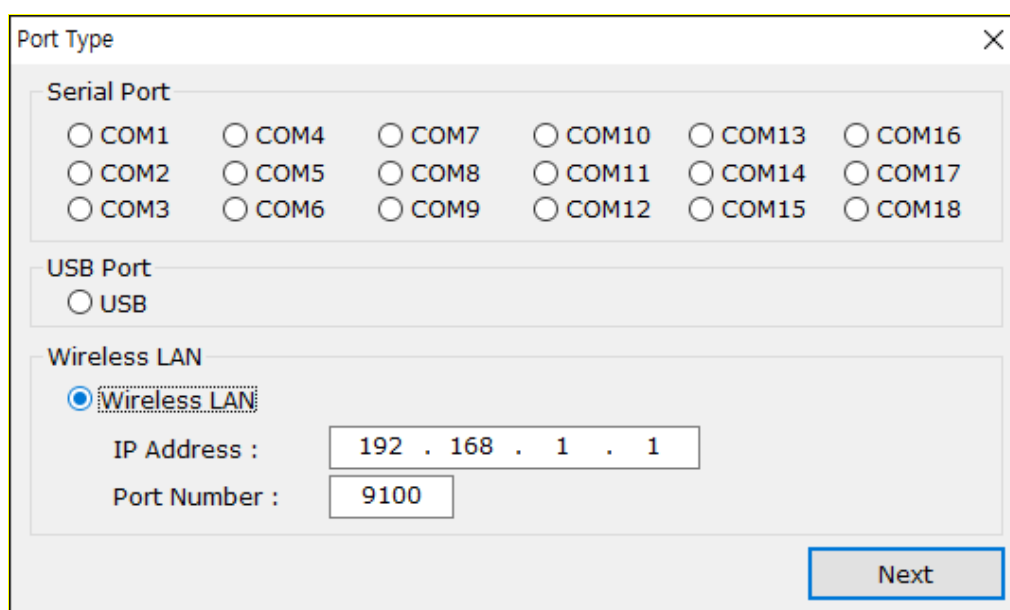


4-2-3 Via WLAN Port

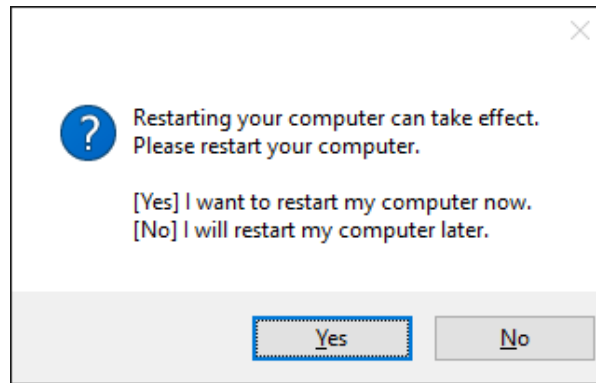
- 1) Double-click the Windows Driver installation file.
- 2) Click **Next**.



- 3) Select **Wireless LAN**.
- 4) Enter the IP address and port number, and then click **Next**.



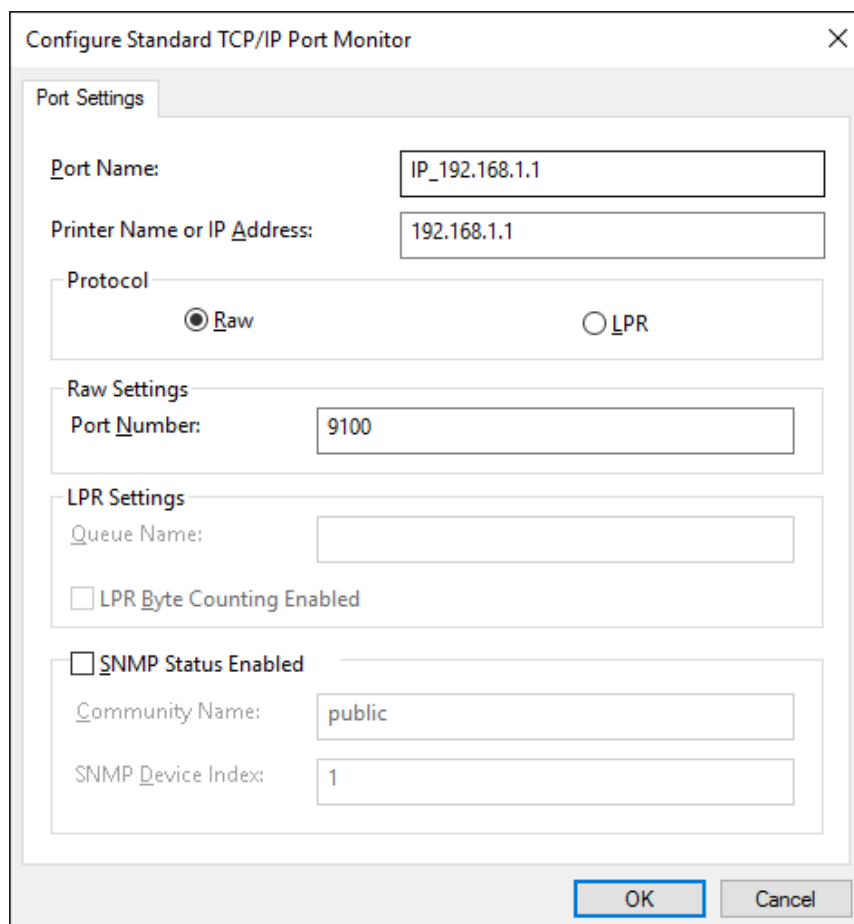
5) Click **Yes** to reboot the PC.



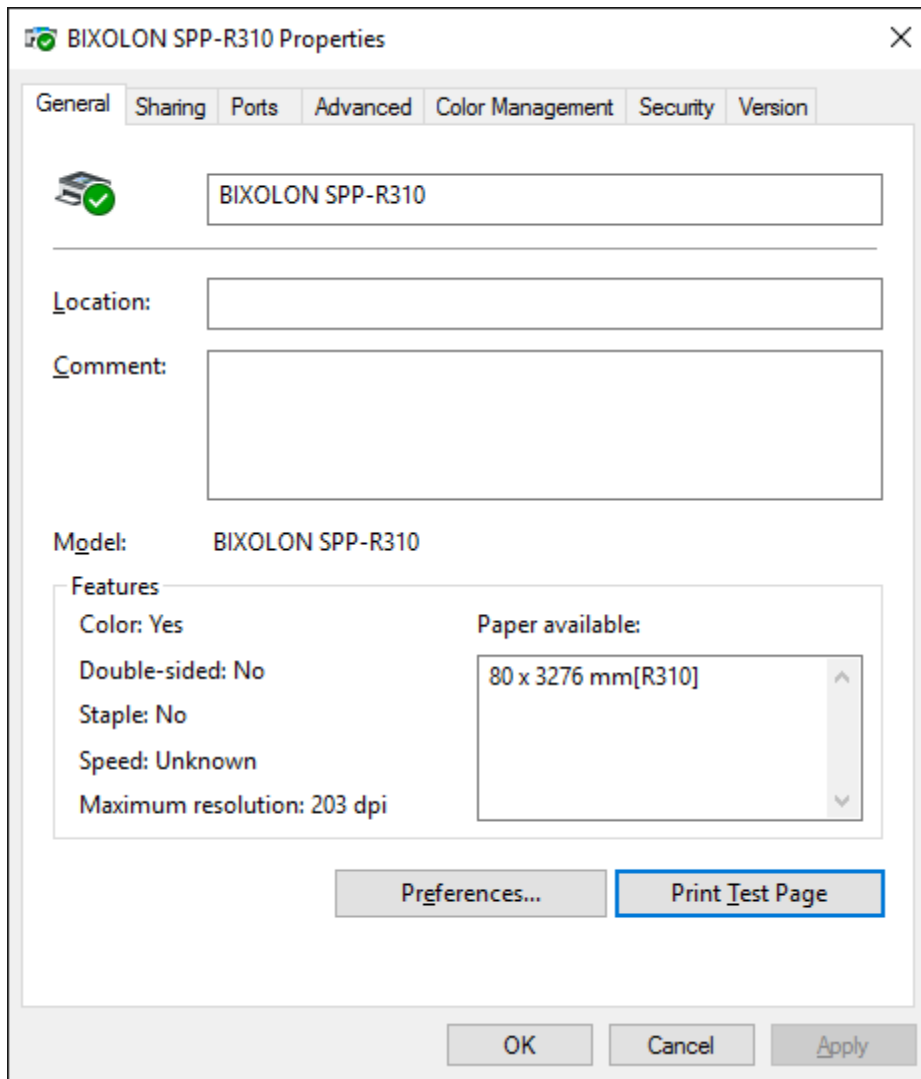
6) Open the printer properties window in the Windows OS.
※ Control Panel – Hardware and Sound – Device and Printers.

7) In the **Ports** tab, click **Configure Port....**

8) Match the communication settings to those of the printer.
※ The “LPR” protocol is not supported with this printer.



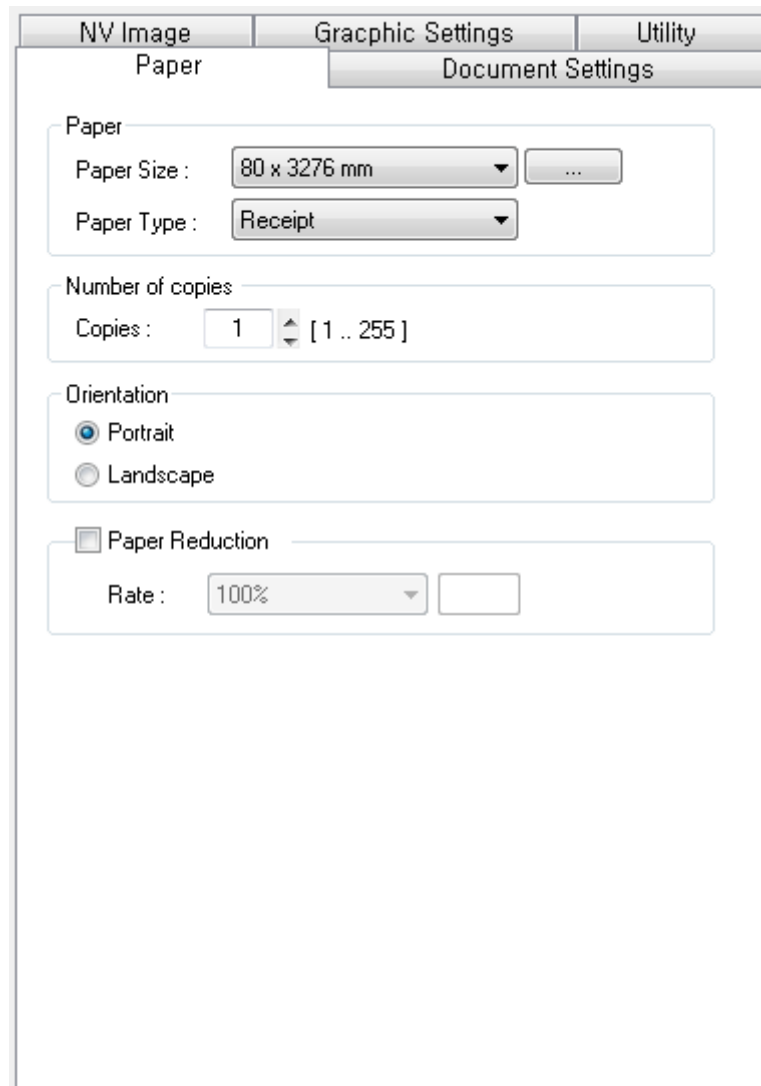
9) Click **Print Test Page** and check printing status. Proper installation of the driver is indicated if the test page is printed normally.



5. Windows Driver Settings

The following functions can be configured after installing the Windows driver.

5-1 Paper



- 1) Open the Printer Properties window for the corresponding OS.
- 2) In the **General** tab, click **Preferences** (Printing Preferences).
- 3) Click the **Paper** tab.

5-1-1 Paper Size

Paper size of **80 x 3276 mm** is selected by default, and the following sizes can be selected.

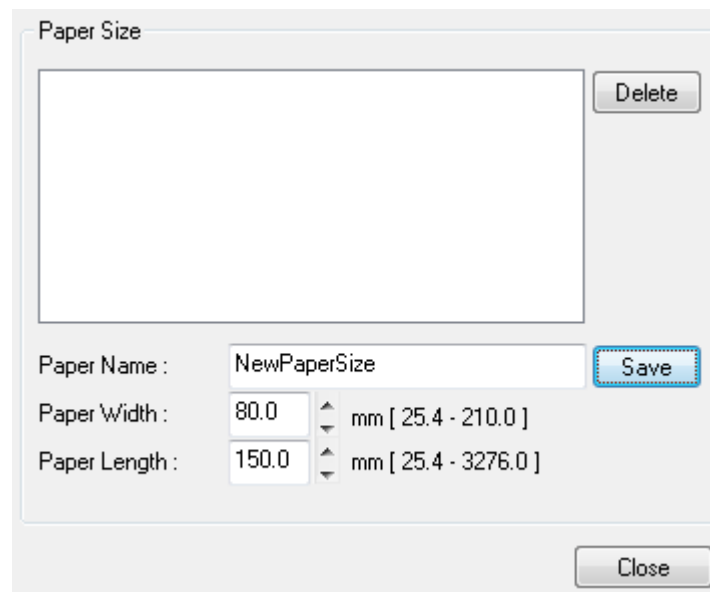
80 x 297 mm

80 x 3276 mm

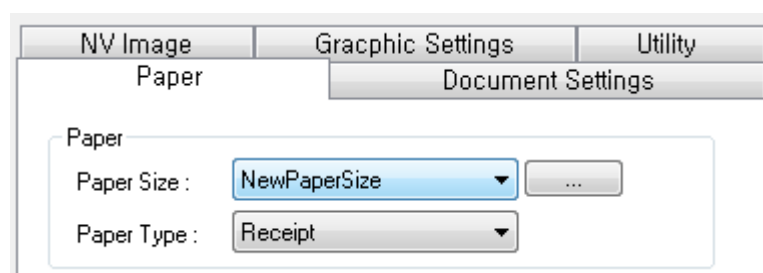
A4 210 x 297 mm

If a custom paper size is required, click “...” to add or update a custom paper size. Click **Save** after specifying the paper width/length and a paper name. If the specified paper name already exists on the system, you can update the paper width/length.

Paper Width : 25.4 mm (Min) ~ 210.0 mm (Max)
Paper Length : 25.4 mm (Min) ~ 3276.0 mm (Max)



You can choose the new paper size on the **Paper Size** combo-box after adding a paper size.



Delete button : Deletes the paper size selected in the list.

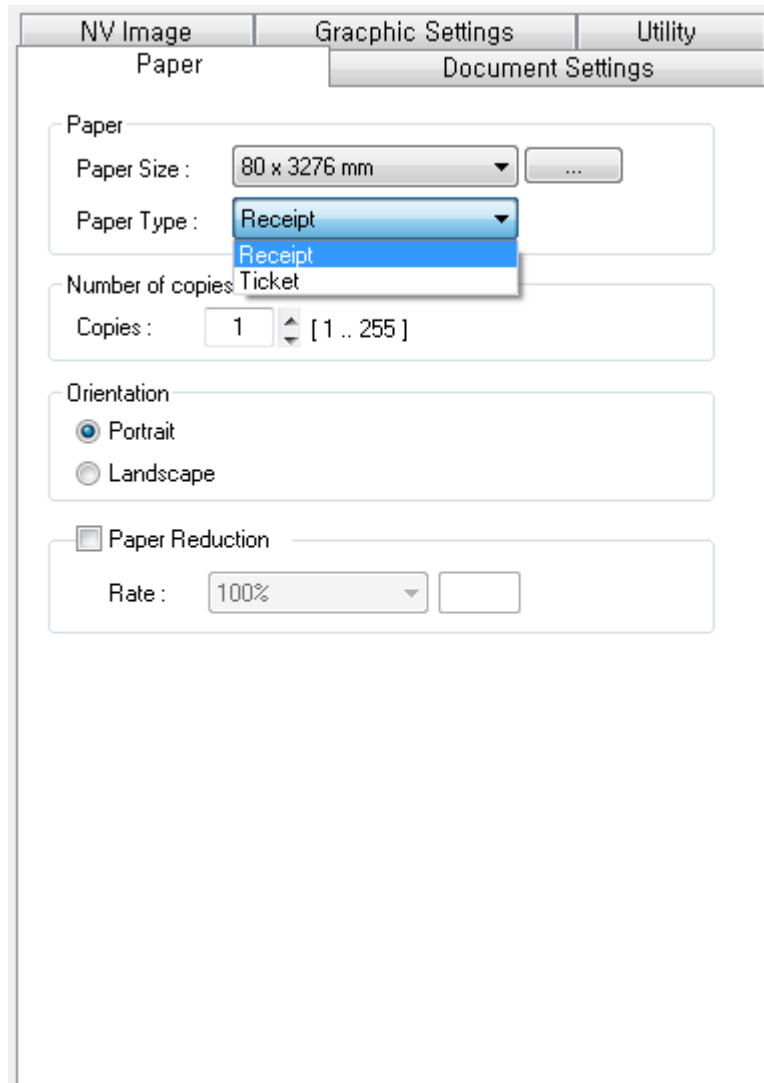
Save button : Adds a new paper size or update the paper size selected in the list if the paper name already exists on the system.

5-1-2 Paper Type

You can choose **Receipt** or **Ticket** as paper types. Receipt allows flexible paper length according to the data length. Ticket print in fixed length even the print data is short. Default setting is **Receipt**.

Receipt : Receipt allows flexible paper length according to the data length.

Ticket : Ticket print in fixed length even the print data is short.



5-1-3 Copies

Copies are printed by specifying the copy count. The copy count is set to 1 by default. Set this value bigger than 1 to set the number of copies to print. The value should be within the range of 1 to 255.

5-1-4 Orientation

Printing orientation can be set to **Portrait** (which is the default) or **Landscape**. It is not possible to use printer fonts (device fonts) and barcode fonts in landscape.

Portrait: Printing in the vertical direction.

Landscape: Printing in the horizontal direction.

5-1-5 Paper Reduction

Reduction function reduces the size of the print image to save print paper. If this function is enabled and print-job data includes text data created by using a printer font (device font), printer fonts are converted to Windows fonts (True Type fonts) to make them smaller. The barcode size also can be reduced by selecting "Enable reducing barcode".

5-2 Document Settings

The screenshot shows a dialog box titled "Document Settings" with three tabs: "NV Image", "Graphic Settings", and "Utility". The "Document Settings" tab is active. It contains several sections:

- Send Command:** A group box containing four text input fields: "Start Doc:", "Start Page:", "End Page:", and "End Doc:". Below these fields is the text "Example : <1B4A00>".
- Feed:** A group box containing two spinners. The first is labeled "Line-feeds after printing:" and the second is labeled "Form-feeds after printing:". Both spinners are set to "0" and have a range of "[0 .. 99]".
- Tear Off Position:** A group box containing a checked checkbox labeled "Feed to Tear Off Position".
- Buzzer:** A group box containing two unchecked checkboxes: "Buzzer sound before printing" and "Buzzer sound after printing".

- 1) Open the Printer Properties window for the corresponding OS.
- 2) In the **General** tab, click **Preferences** (Printing Preferences).
- 3) Click the **Document Settings** tab.

5-2-1 Send Commands

The Windows driver serves to receive the content for print from an application and send it to the printer. The “Send Commands” function allows for the addition of desired commands at the start or end of the print content.

Start Doc : Addition of command at the beginning of the document.
Start Page : Addition of command at the beginning of the page.
End Page : Addition of command at the end of the page.
End Doc : Addition of command at the end of the document.

For more information about the hexadecimals that can be entered in “Start Doc”, “Start Page”, “End Page” and “End Doc”, refer to the Commands Manual.

5-2-2 Paper Feed

Enter a number between 0 and 99 for adding line feed commands (0x0A) or form feed commands (0x0C) at the end of printing.

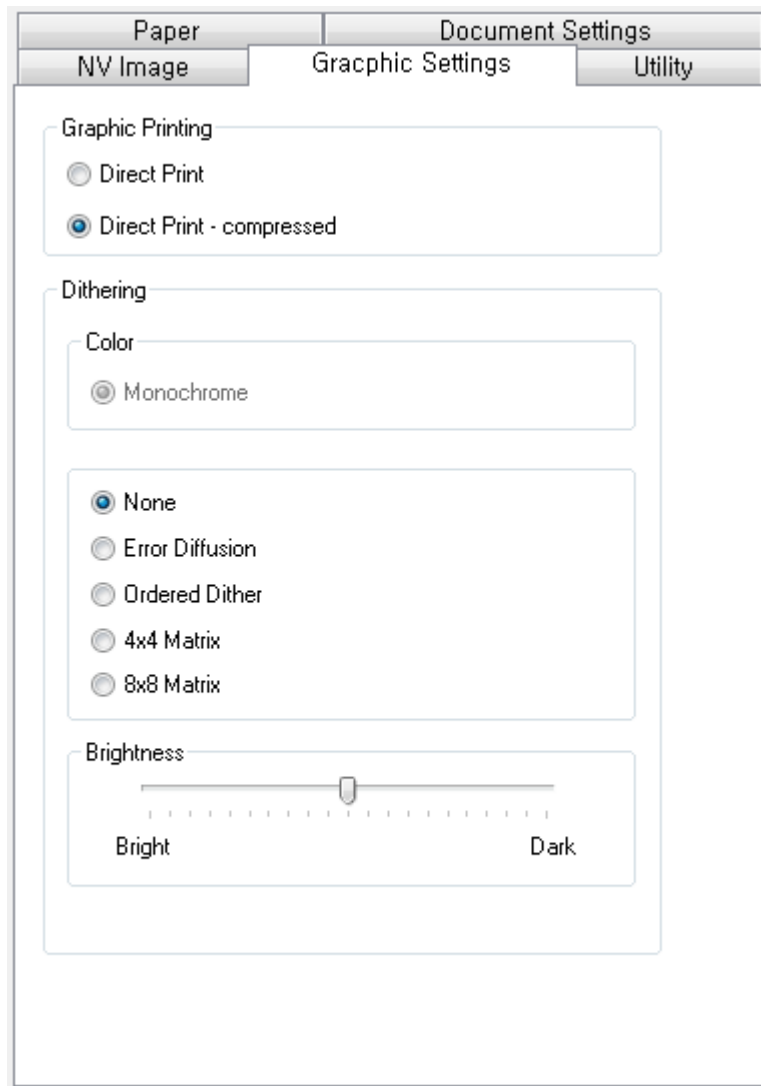
5-2-3 Tear-Off Position

When this option is ticked, paper moves to tear off position (manual cutter position) after printing each page in a document. It probably needs to de-select this option if printing labels.

5-2-4 Buzzer Sound

Tick “Buzzer sound before printing” or “Buzzer sound after printing” to generate the printer buzzer sound at the start time or the end time of printing.

5-3 Graphic Settings



- 1) Open the Printer Properties window for the corresponding OS.
- 2) In the **General** tab, click **Preferences** (Printing Preferences).
- 3) Click the **Graphic Settings** tab.

5-3-1 Graphic Printing

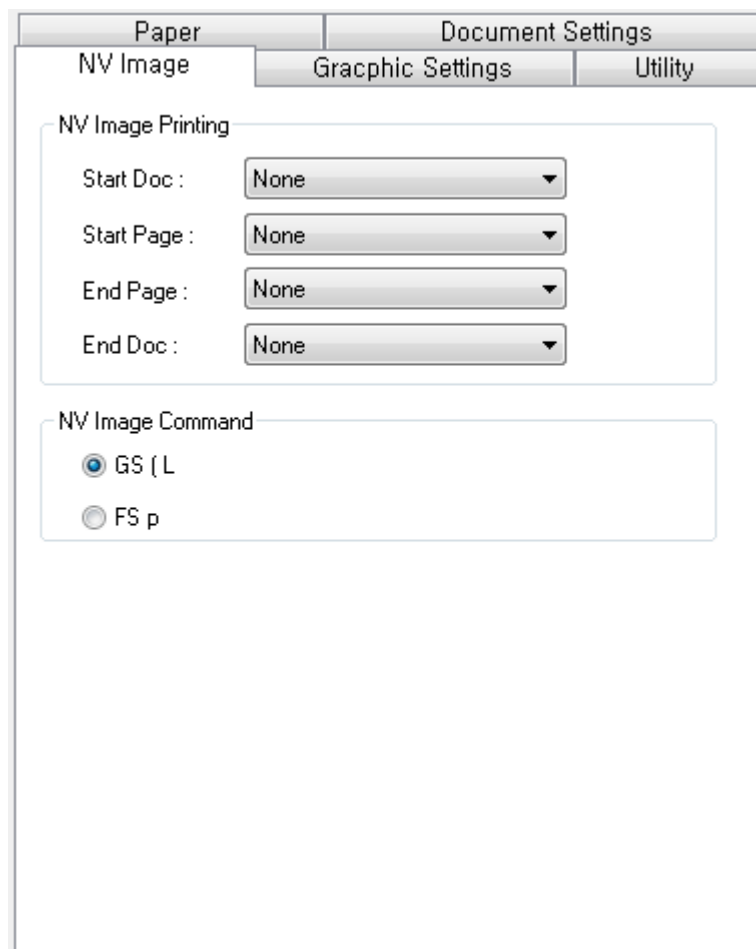
Depending on graphic printing option, printer driver sends raw image data or compressed image data using RLE (Run-length encoding) to the printer. Select “**Direct Print - compressed**” if you want to print faster.

5-3-2 Dithering

This printer model is a black and white printing device including dithering function and brightness level adjustment function to produce a sharper or softer image. The following dithering algorithms can be selected.

- None
- Error Diffusion
- Ordered Dither
- 4x4 Matrix
- 8x8 Matrix

5-4 NV Image



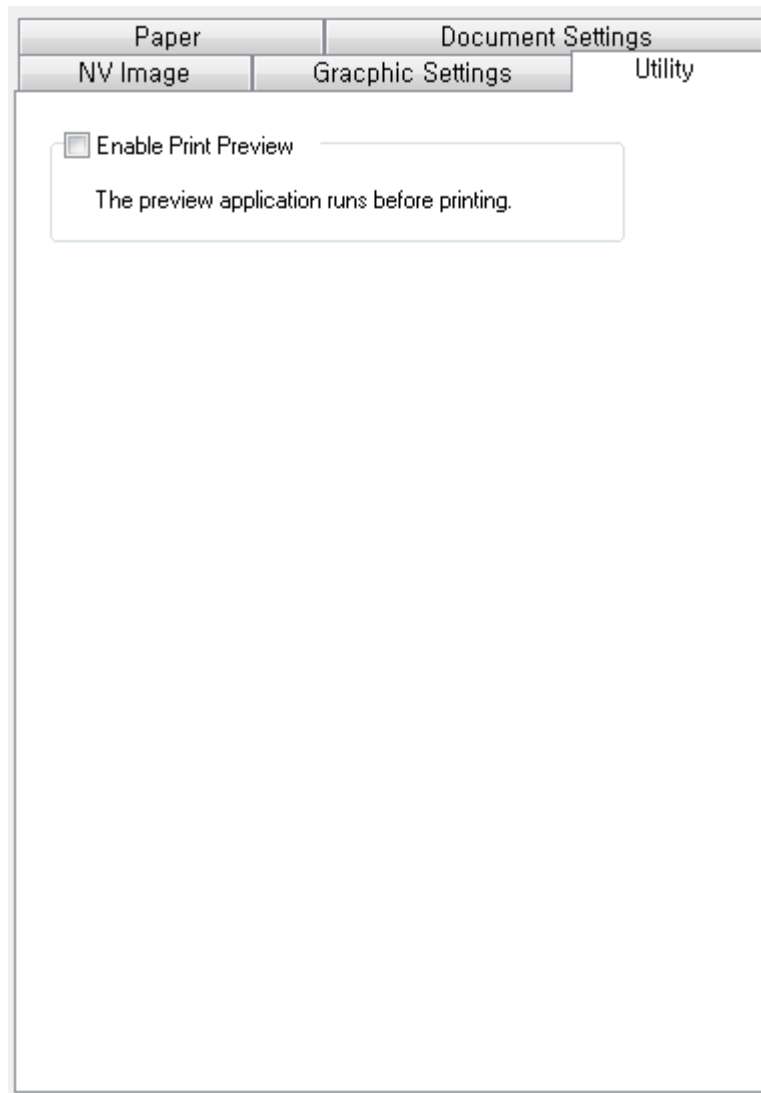
- 1) Open the Printer Properties window for the corresponding OS.
- 2) In the **General** tab, click **Preferences** (Printing Preferences).
- 3) Click the **NV Image** tab.

The position to print NV image stored in the printer can be set at the beginning and/or end of the document and beginning and end of each page. Also, there are two commands for NV Image printing. Take care of selecting one of the two commands because NV images cannot be printed depending on the selected command.

- ※ NV bit image: “FS p”
- ※ NV graphics: “GS (L”

- Start Doc : Insert NV image at the top of the document.
- Start Page : Insert NV image at the top of the page.
- End Page : Insert NV image at the end of the page.
- End Doc : Insert NV image at the end of the document.

5-5 Utility

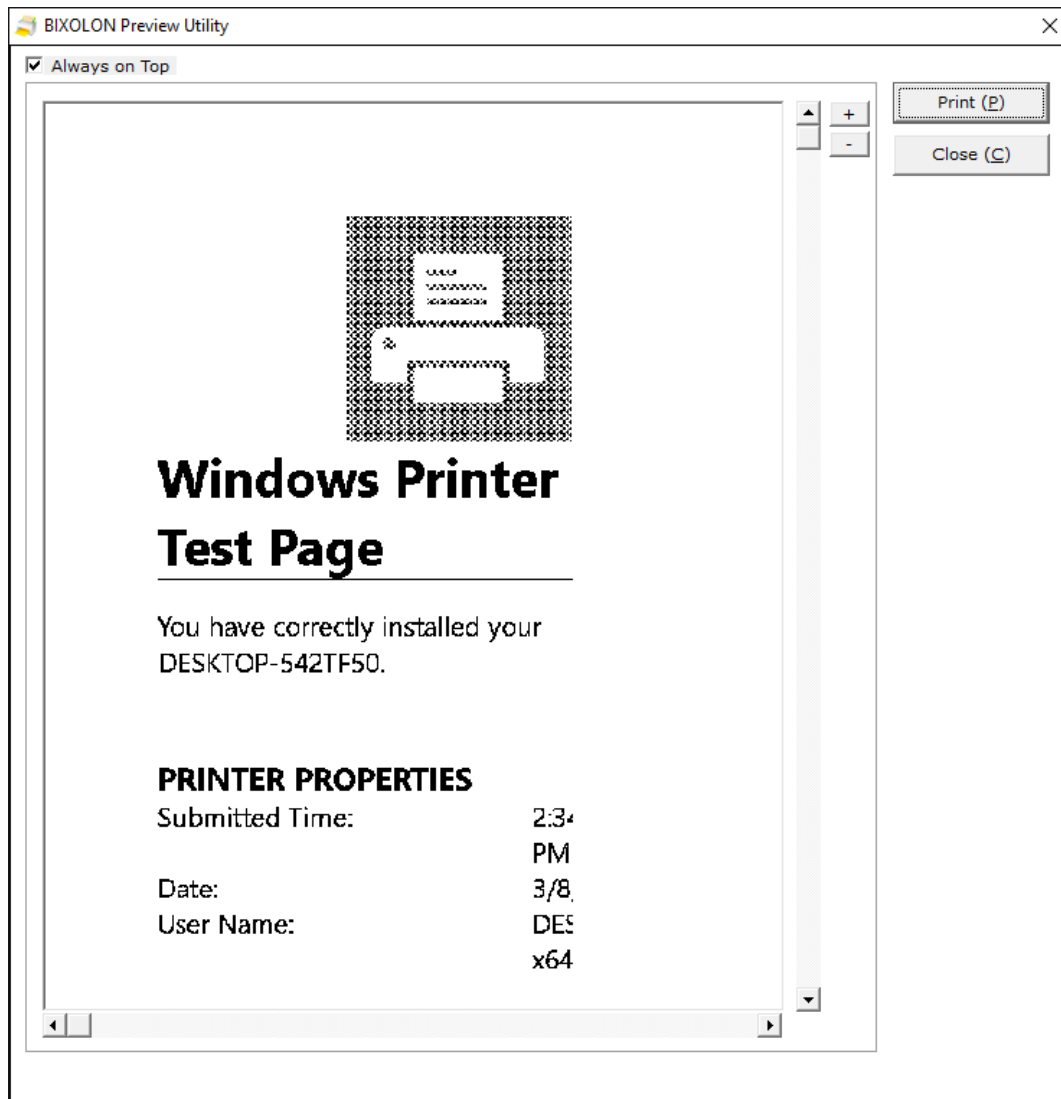


- 1) Open the Printer Properties window for the corresponding OS.
- 2) In the **General** tab, click **Preferences** (Printing Preferences).
- 3) Click the **Utility** tab.

5-5-1 Print Preview

This application with a preview of a print-job runs, and windows driver does not directly send print-job data to the printer when enabled by clicking “**Enable Print Preview**”. Print-job data can only be sent to the printer in the application. The actual output of preview image processed by the application might look a little different.

1) Tick **Enable Print Preview** to make Windows Driver ready for running the application.



2) When print-job data are created via Windows Driver, the application runs, and then loads the data to draw the expected output on screen.

3) Click **Print** if you want to print, or click **Close** to exit the application.

6. Windows Driver Specifications

6-1 Printer Fonts

This Windows driver supports various printer fonts (device fonts) in the following table. Printing using these fonts is faster than using Windows fonts provided by the operating system.

Printer Font Name			Font Size (dot)	Font Size (point)
FontA1x1	FontA1x1[Ext.]	FontA1x1[255]	FontA1x1(12x24)	8.5
FontA1x2	FontA1x2[Ext.]	FontA1x2[255]	FontA1x2(12x48)	17
FontA2x1	FontA2x1[Ext.]	FontA2x1[255]	FontA2x1(24x24)	8.5
FontA2x2	FontA2x2[Ext.]	FontA2x2[255]	FontA2x2(24x48)	17
FontA2x4	FontA2x4[Ext.]	FontA2x4[255]	FontA2x4(24x96)	34
FontA4x2	FontA4x2[Ext.]	FontA4x2[255]	FontA4x2(48x48)	17
FontA4x4	FontA4x4[Ext.]	FontA4x4[255]	FontA4x4(48x96)	34
FontA4x8	FontA4x8[Ext.]	FontA4x8[255]	FontA4x8(48x192)	68
FontA8x4	FontA8x4[Ext.]	FontA8x4[255]	FontA8x4(96x96)	34
FontA8x8	FontA8x8[Ext.]	FontA8x8[255]	FontA8x8(96x192)	68
FontB1x1	FontB1x1[Ext.]	FontB1x1[255]	FontB1x1(9x17)	6
FontB1x2	FontB1x2[Ext.]	FontB1x2[255]	FontB1x2(9x34)	12
FontB2x1	FontB2x1[Ext.]	FontB2x1[255]	FontB2x1(18x17)	6
FontB2x2	FontB2x2[Ext.]	FontB2x2[255]	FontB2x2(18x34)	12
FontB2x4	FontB2x4[Ext.]	FontB2x4[255]	FontB2x4(18x68)	24
FontB4x2	FontB4x2[Ext.]	FontB4x2[255]	FontB4x2(36x34)	12
FontB4x4	FontB4x4[Ext.]	FontB4x4[255]	FontB4x4(36x68)	24
FontB4x8	FontB4x8[Ext.]	FontB4x8[255]	FontB4x8(36x136)	48.5
FontB8x4	FontB8x4[Ext.]	FontB8x4[255]	FontB8x4(72x68)	24
FontB8x8	FontB8x8[Ext.]	FontB8x8[255]	FontB8x8(72x136)	48.5
FontC1x1	FontC1x1[Ext.]	FontC1x1[255]	FontC1x1(9x24)	8.5
FontC1x2	FontC1x2[Ext.]	FontC1x2[255]	FontC1x2(9x48)	17
FontC2x1	FontC2x1[Ext.]	FontC2x1[255]	FontC2x1(18x24)	8.5
FontC2x2	FontC2x2[Ext.]	FontC2x2[255]	FontC2x2(18x48)	17
FontC2x4	FontC2x4[Ext.]	FontC2x4[255]	FontC2x4(18x96)	34
FontC4x2	FontC4x2[Ext.]	FontC4x2[255]	FontC4x2(36x48)	17
FontC4x4	FontC4x4[Ext.]	FontC4x4[255]	FontC4x4(36x96)	34
FontC4x8	FontC4x8[Ext.]	FontC4x8[255]	FontC4x8(36x192)	68
FontC8x4	FontC8x4[Ext.]	FontC8x4[255]	FontC8x4(72x96)	34
FontC8x8	FontC8x8[Ext.]	FontC8x8[255]	FontC8x8(72x192)	68

Printer Fonts are defined as follows.

1) FontA1x2

- ANSI Character code support (Code Page 1252)
- Character size (dot): 12 x 48 (double height)
- Character size (point): 17

2) FontA1x2[Ext.]

- IBM expansion Character code support (Code Page 437)
- Character size (dot): 12 x 48 (double height)
- Character size (point): 17

3) FontA1x2[255]

- Buyer exclusive code support
- Character size (dot): 12 x 48 (double height)
- Character size (point): 17

6-2 Special Functions

This Windows driver supports the special functions as shown in the following table. Select **FontControl** font first and use the characters in the table to use the special functions. Take care as this function is not for printing general texts.

Character	Special Function
5	Prints HT (0x09)
6	Prints LF (0x0A)
7	Prints CR (0x0D)
p	Does not add HRI characters to the barcode
q	Adds HRI characters in Font A above the barcode
r	Adds HRI characters in Font A below the barcode
s	Adds HRI characters in Font B above the barcode
t	Adds HRI characters in Font B below the barcode
u	Turns white/black reverse printing mode on
v	Turns white/black reverse printing mode off
w	Left Alignment
x	Center Alignment
y	Right Alignment
G	Prints the NV bitmap saved in the 00 address
H	Prints the NV bitmap saved in the 01 address
I	Prints the NV bitmap saved in the 02 address
J	Prints the NV bitmap saved in the 03 address
K	Prints the NV bitmap saved in the 04 address
R	Prints the NV Image saved in the 00 address
S	Prints the NV Image saved in the 01 address
T	Prints the NV Image saved in the 02 address
U	Prints the NV Image saved in the 03 address
V	Prints the NV Image saved in the 04 address

1) Example

Select **FontControl** font and send 6 for “LF” (Line Feed) operation (instead of printing character “6”).

2) **FontControl** font functions.

Printer Font for Special Function	Function	Size (point/dot)
FontControl	Alignment (Left/Center/Right), Output HT, Output LF, Output CR, Printing NV bitmap/Image	(8.5 / 12x24)

6-3 Barcodes

Windows driver supports one-dimensional barcode fonts as shown in the following table. Barcodes can be printed on the printer by using following font names. In addition, the FontControl font can be used to add HRI characters.

Font Name	Size	Supported Characters
Codabar	18 / 35.5 / 53 / 71	Numeric : 0~9 Symbols : \$,+,-,.,/,; Letters : A~D
Code39	18 / 35.5 / 53 / 71	Numeric : 0~9 Symbols : \$,+,-,.,/,; Letters : A~D
JAN13 (EAN)	18 / 35.5 / 53 / 71	Numeric : 0~9
JAN8 (EAN)	18 / 35.5 / 53 / 71	Numeric : 0~9
ITF	18 / 35.5 / 53 / 71	Numeric : 0~9
UPC-A	18 / 35.5 / 53 / 71	Numeric : 0~9
UPC-E	18 / 35.5 / 53 / 71	Numeric : 0~9
Code93	18 / 35.5 / 53 / 71	ASCII CODE : 0x00~0x7F
Code128	18 / 35.5 / 53 / 71	ASCII CODE : 0x00~0x7F

1) Sample Use

Select **Code39** and Size **18**, and then enter "1234". The barcode corresponding to "1234" is printed.

2) When Using Code128

Select **Code128** and Size **18**, and then enter "{B1234". The barcode corresponding to "1234" is printed. When using Code128, characters, such as "{A", "{B", "{C", should be included before the input data.

6-4 Two-Dimensional Barcodes

The Windows Driver supports the following two-dimensional barcodes.

PDF417	GS1 Databar Omnidirect	GS1 Databar UPC-E
QR Code	GS1 Databar Truncated	GS1 Databar EAN-13
DATAMATRIX Code	GS1 Databar Stacked	GS1 Databar EAN-8
Aztec	GS1 Databar Stacked Omnidirect	GS1 Databar UCC/EAN-128&CC-A/B
MAXI Code[Mode4]	GS1 Databar Omnidirect	
GS1 Databar	GS1 Databar UPC-A	

Usage is identical to that for barcodes.

7. Use of Windows Driver

7-1 Use of Visual Basic

This section contains example codes to control the printer using Windows driver with Visual Basic. Sample programs are included in the CD.

7-1-1 Windows Driver Selection

The following example code explains how to select "BIXOLON SPP-R310" Windows driver.

```
For Each prnPrinter In Printers
    If prnPrinter.DeviceName = "BIXOLON SPP-R310" Then
        Set Printer = prnPrinter
    Exit For
End If
Next
```

7-1-2 Text Printing

The following example code explains how to print texts using Windows fonts and printer fonts (device fonts).

```
'Print in Windows font
Printer.FontSize = 9
Printer.FontName = "Arial"
Printer.Print "Arial Test"

'Print in printer font
Printer.FontSize = 8.5
Printer.FontName = "FontA1x1"
Printer.Print "FontA1x1Test"

Printer.EndDoc
```

7-1-3 Barcode Printing

The following example code explains how to print the barcode (JAN8 (EAN)).

```
'Print Bar Code.  
Printer.FontSize = 18  
  
Printer.FontName = "JAN8 (EAN)"  
Printer.Print "1234567"  
  
Printer.EndDoc
```

7-1-4 Two-Dimensional Barcode Printing

The following example code explains how to print the 2D barcode (PDF417).

```
'Print Two-dimensional Codes.  
Printer.FontSize = 8.5  
  
Printer.FontName = "PDF417"  
Printer.Print "Print Test PDF417"  
  
Printer.EndDoc
```

7-2 Use of WordPad

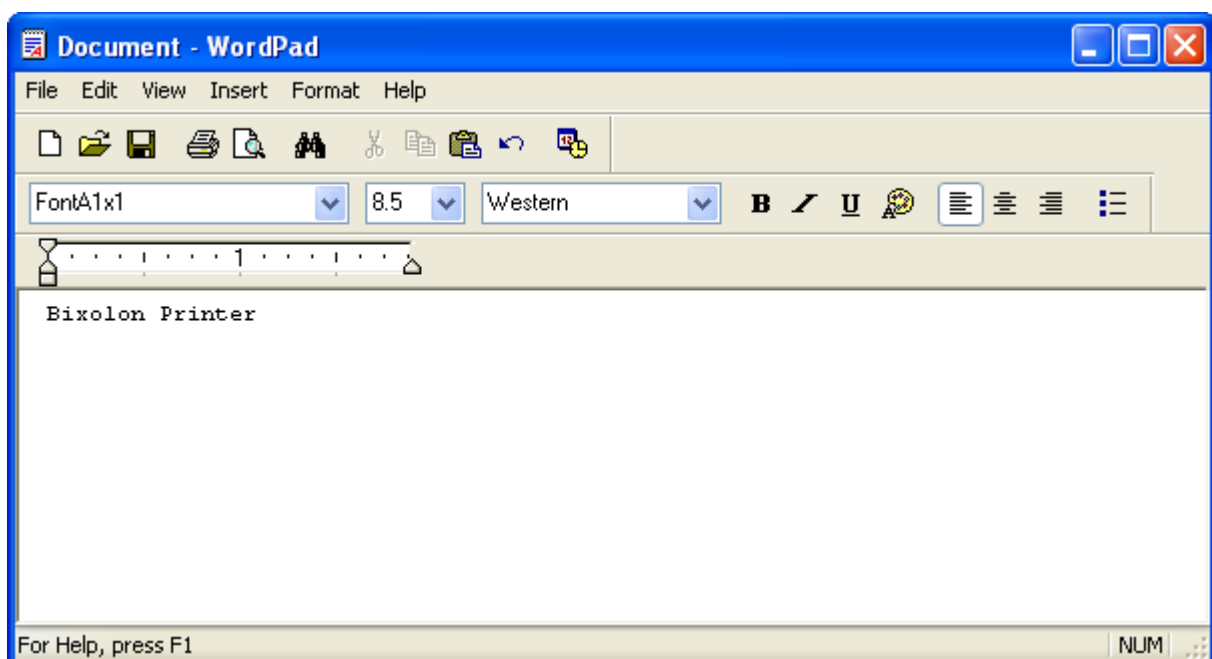
7-2-1 WordPad Environment Settings

Launch WordPad, set the printing related options as follows, and test the printer with WordPad.

- Select printer
Select "Print" from the "File" menu, and select the printer (BIXOLON SPP-R310).
- Set paper size, orientation, margin, etc.
Select the "Page Setting" from "File" menu, and set paper size, orientation, and margin.

7-2-2 Text Printing

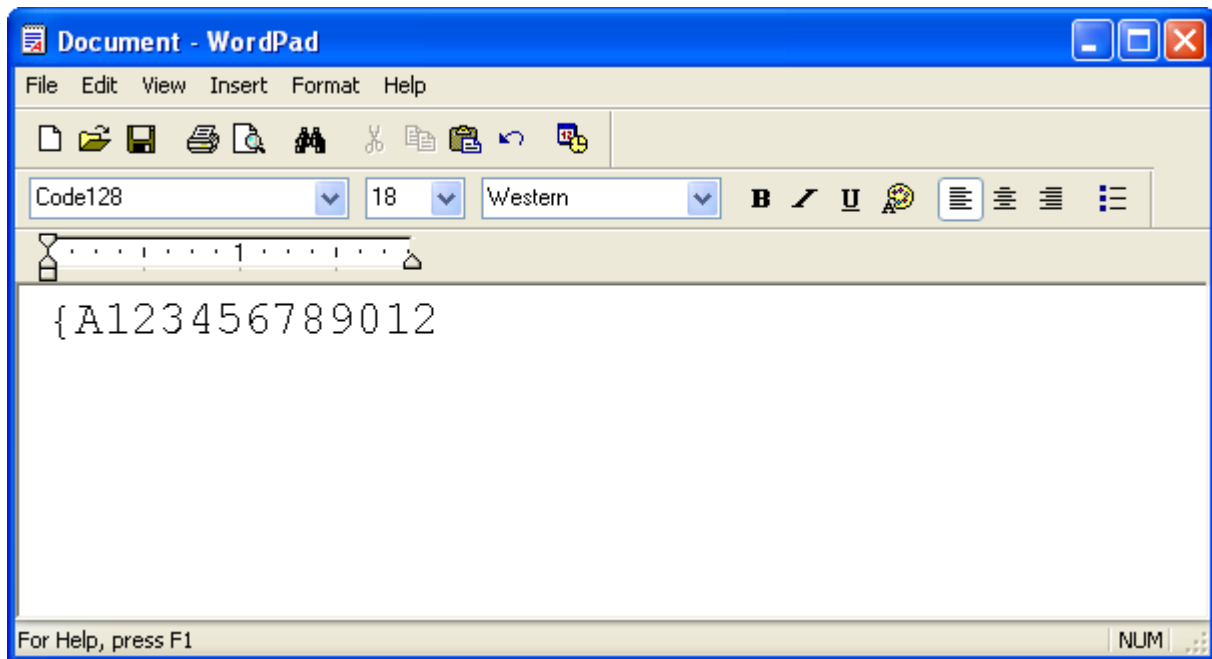
Print the text from WordPad using the Windows driver of the printer.



- 1) Select the font from the font selection box (FontA1x1).
- 2) Select the point size from the point selection box (8.5).
- 3) Enter the text to print.
- 4) Click the **Print** button in the toolbar to print.

7-2-3 Barcode Printing

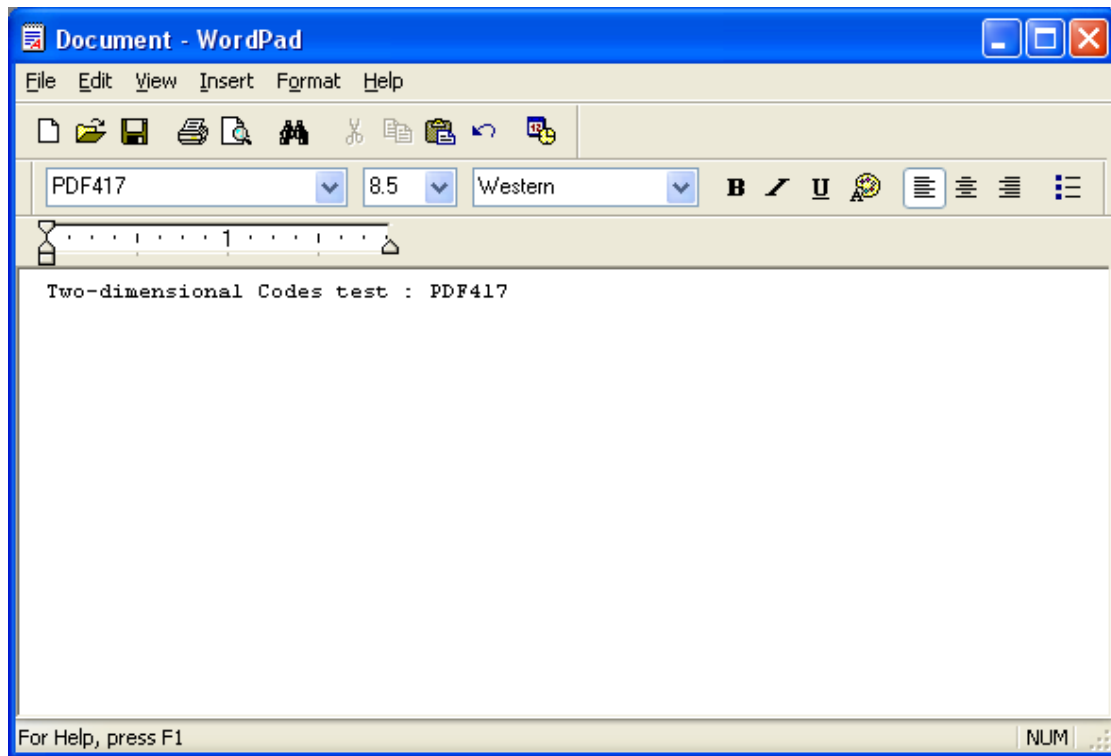
Use the Windows Driver of the printer to print the barcode.



- 1) Select the desired barcode from the Font menu (Code128).
- 2) Select the desired font size (18).
- 3) Enter "{A123456789012}" in WordPad.
- 4) Click the **Print** button in the toolbar to print.

7-2-4 Two-Dimensional Barcode Printing

Use the Windows Driver of the printer to print the two-dimensional barcode.



- 1) Select the desired two-dimensional barcode from the Font menu (PDF417).
- 2) Select the desired font size (8.5).
- 3) Enter "Two-dimensional Codes Test: PDF417" in WordPad.
- 4) Click the **Print** button in the toolbar to print.