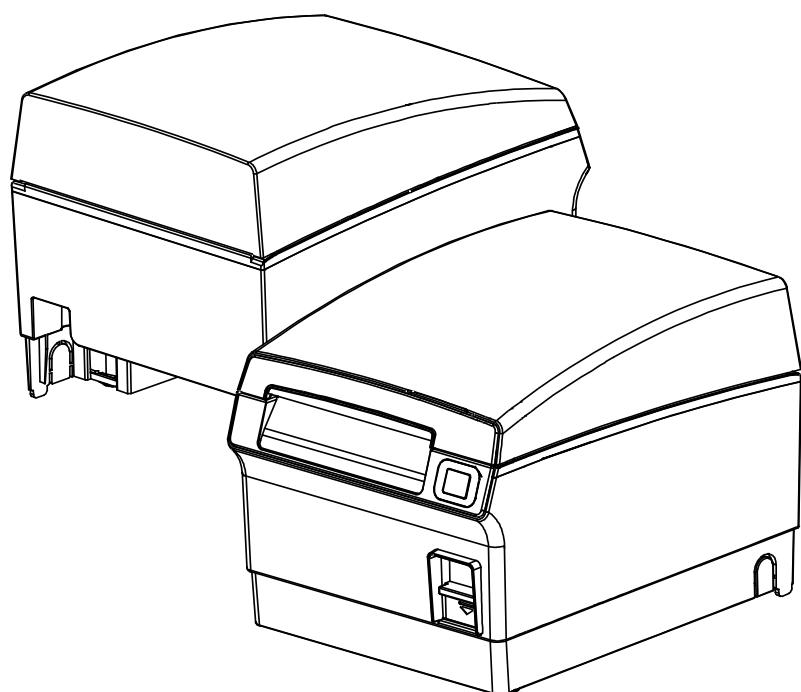


BIXOLON®

Windows Driver Manual

SRP-F312

Thermal printer
Rev. 1.01



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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 (32bit/64bit)
- Microsoft Windows Server 2003 (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)

3. Windows Driver Preparation

The Windows Driver is included in the enclosed CD, and Latest file versions can be downloaded from the Bixolon website. (www.bixolon.com)

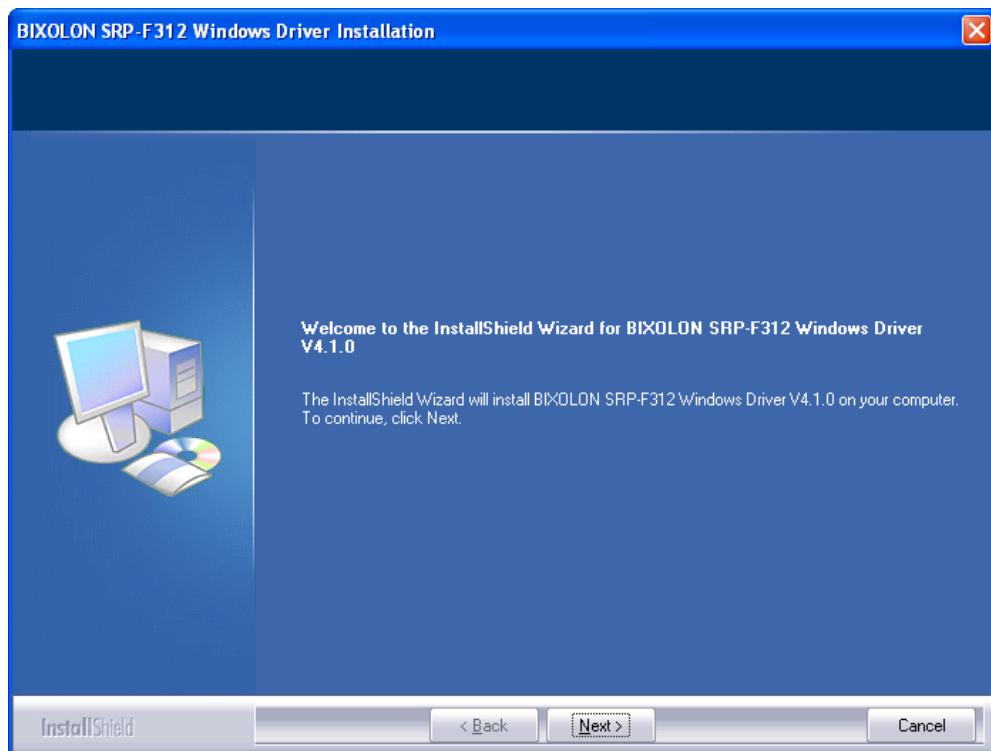
4. Windows Driver Installation

4-1 Installing on Windows XP / Server 2003

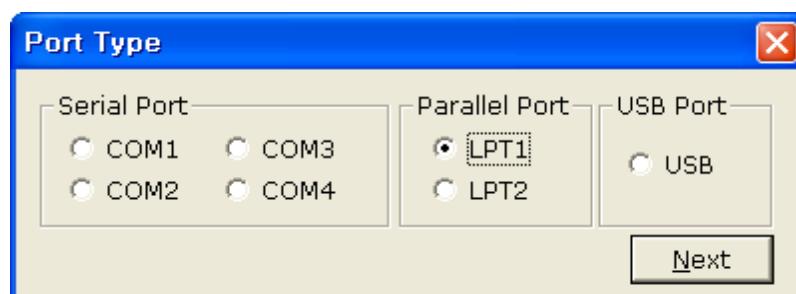
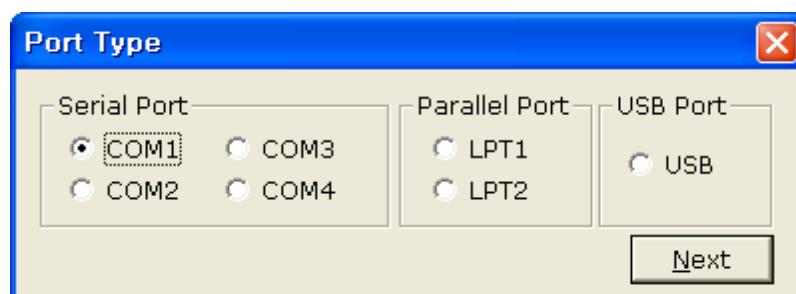
4-1-1 Via Serial Port or Parallel Port

1) Double-click the Windows Driver installation file.

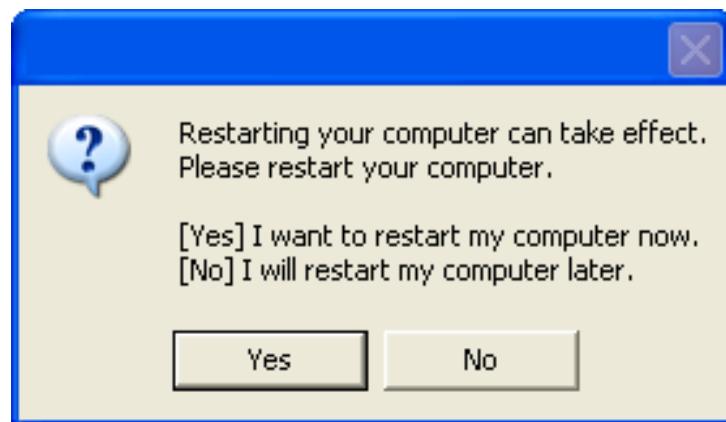
2) Click the “Next” button.



3) Select the COM or LPT (Which one you want to use) port to be used and click the “Next” button.



- 4) Clicking the “Yes” button will reboot the PC.

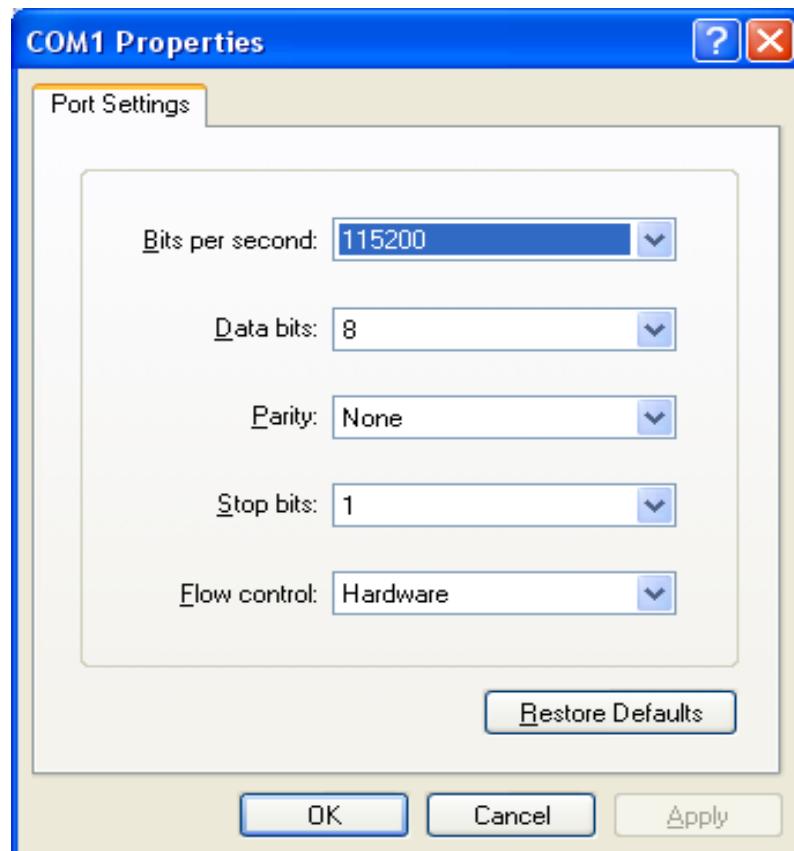


- 5) Open the printer properties window in the Windows OS.

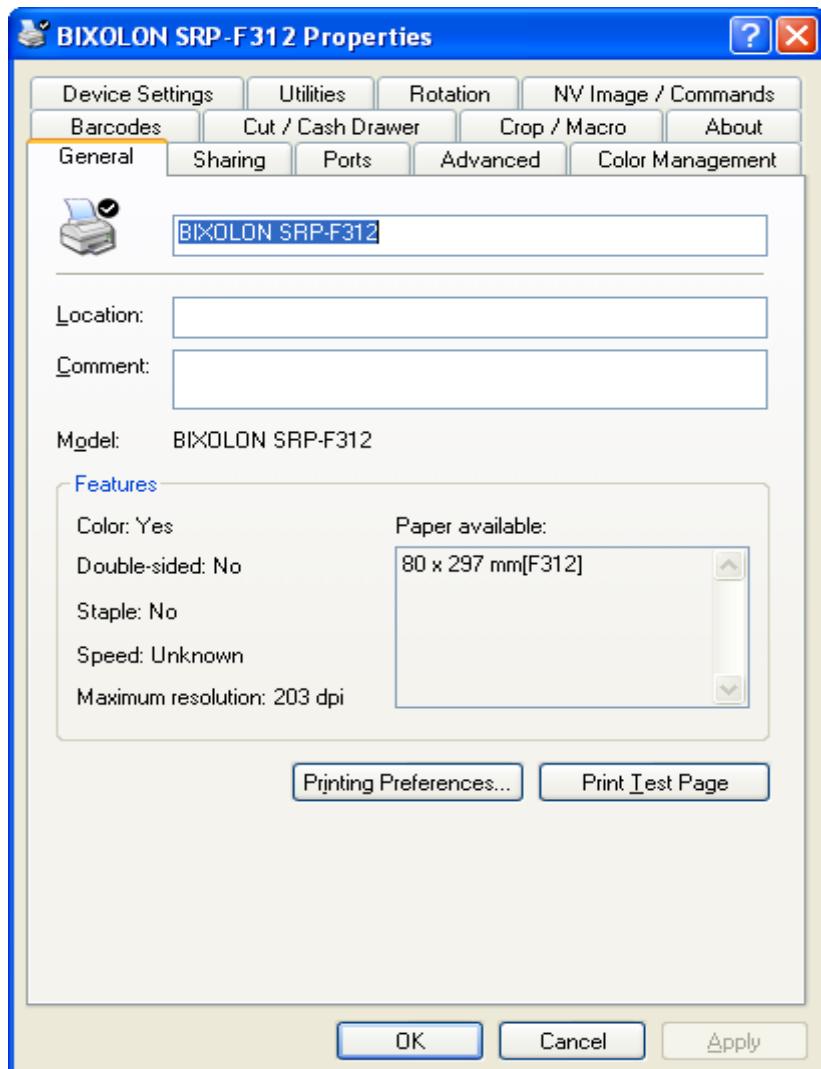
※ Control Panel – Printers and Faxes.

- 6) If you select a serial port, click the “Configure Port...” button in the “Ports” tab.

- 7) If you select a serial port, match the communication settings to those of the printer.
(The communication settings of the printer can be performed by conducting a self-test.)



8) Click the “Print Test Page” button and check printing status.

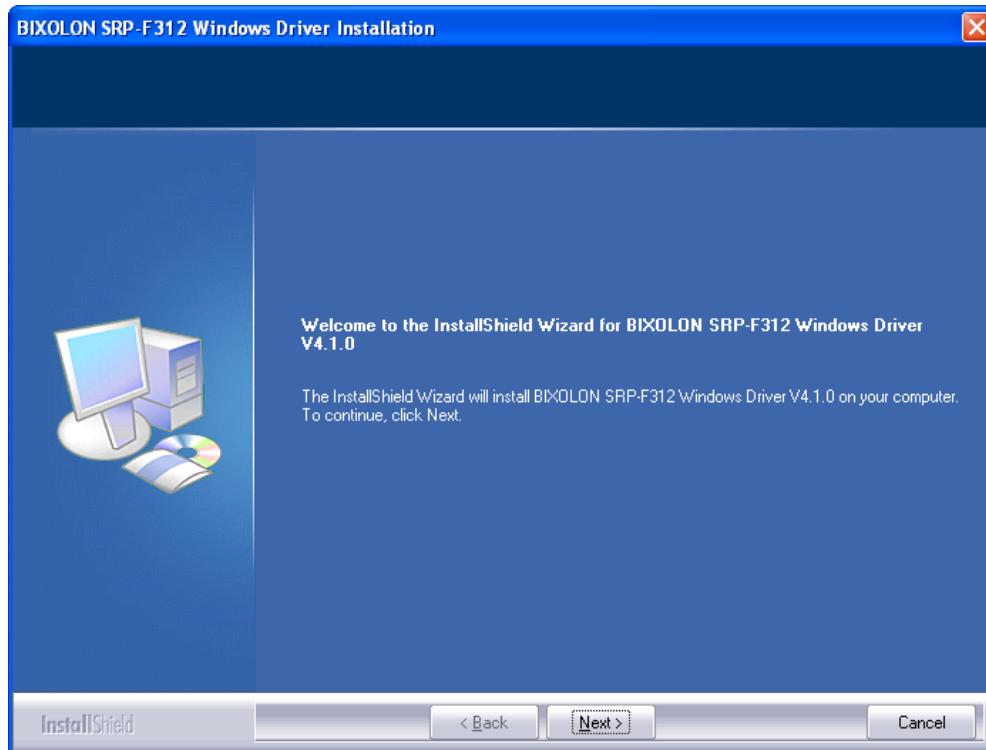


9) Proper installation of the driver is indicated if the test page is printed normally.

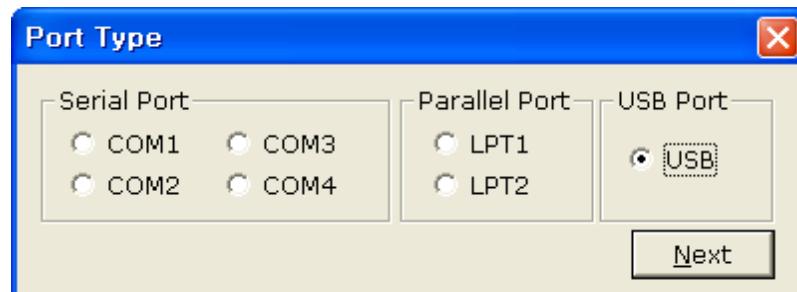
4-1-2 Via USB Port

1) Double-click the Windows Driver installation file.

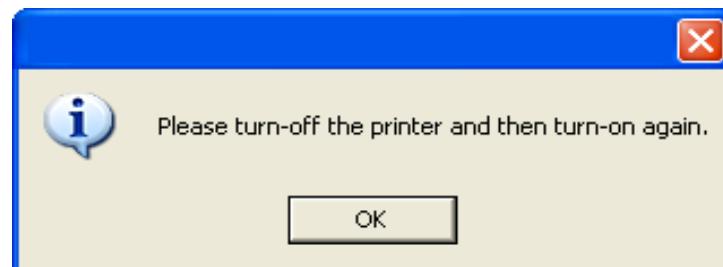
2) Click the “Next” button.



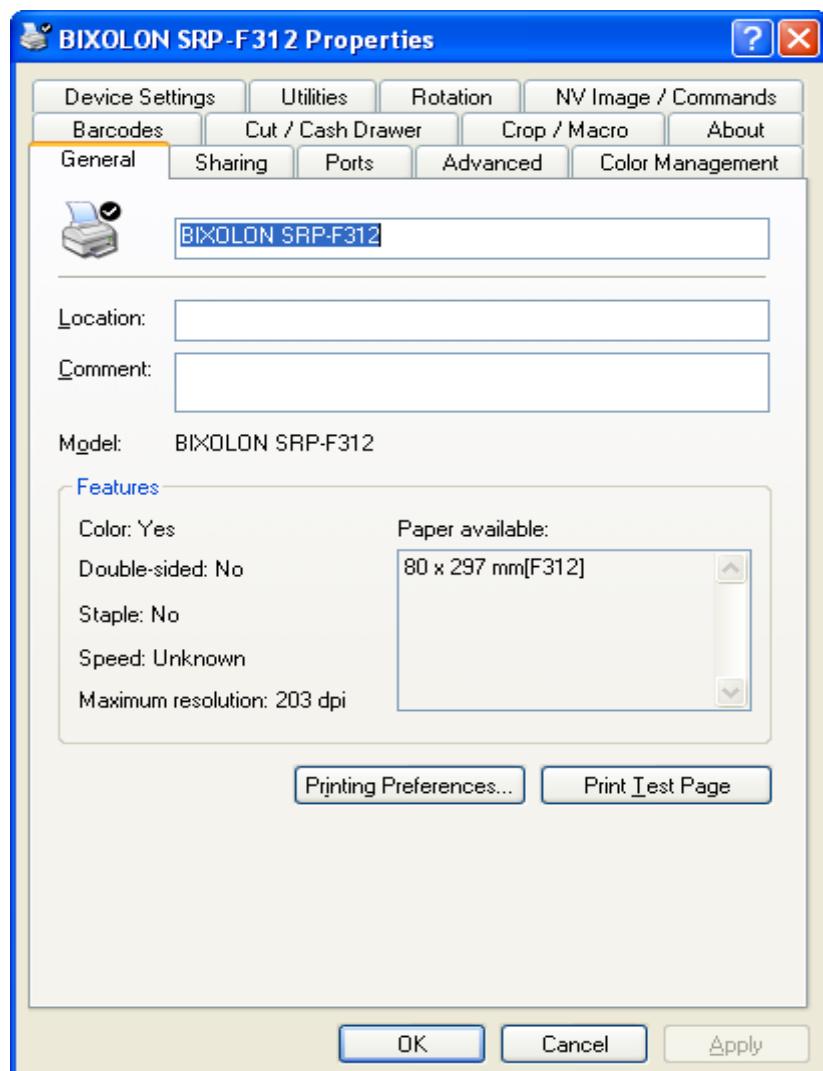
3) Select USB and click the “Next” button.



4) Click the “OK” button.



- 5) Turn off the printer and then turn on again. The printer driver will be installed automatically.
- 6) Open the printer properties window in the Windows OS.
※ Control Panel – Printers and Faxes.
- 7) Click the “Print Test Page” button and check printing status.

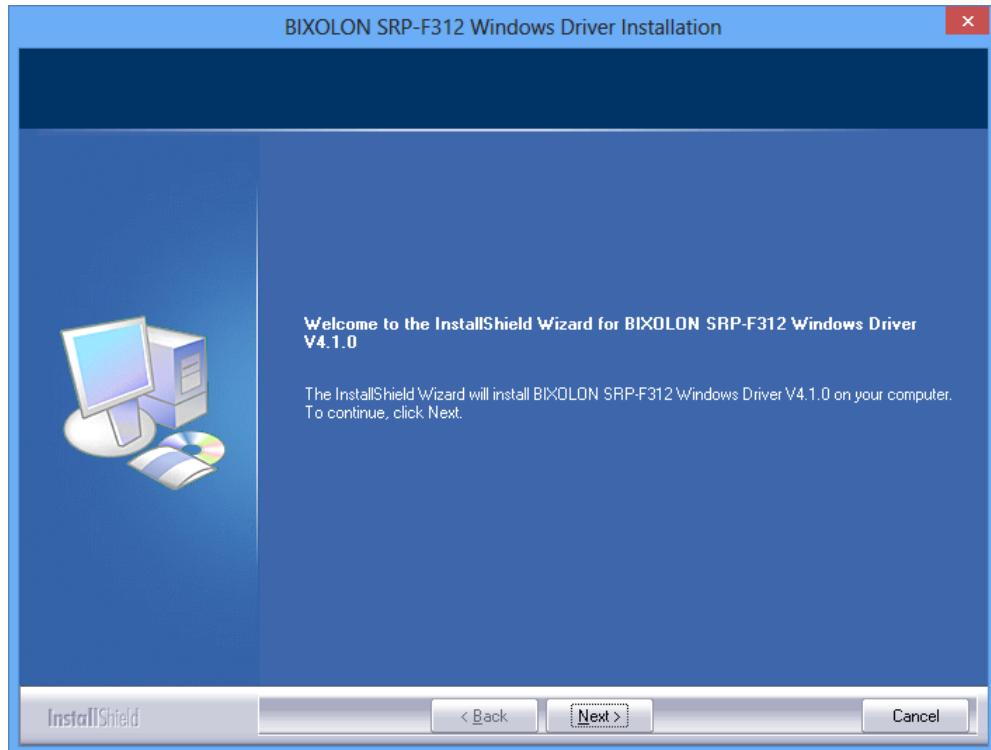


- 8) Proper installation of the driver is indicated if the test page is printed normally.

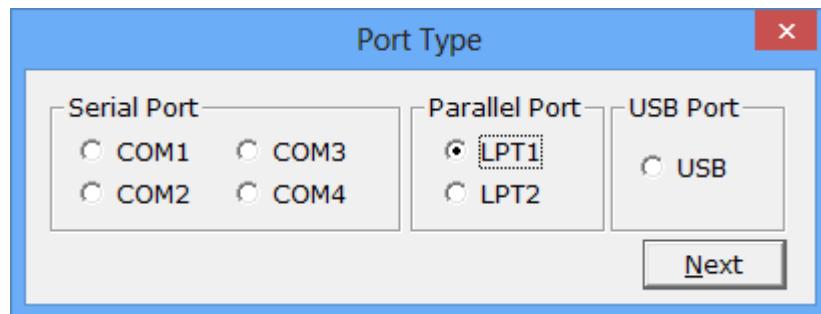
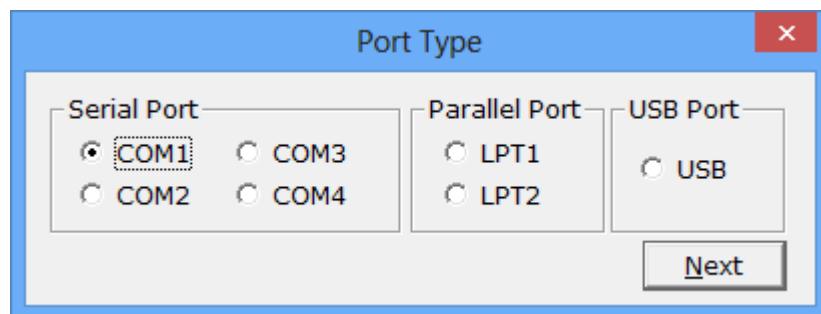
4-2 Installing on Windows VISTA / Server 2008 / 7 / 8

4-2-1 Via Serial Port or Parallel Port

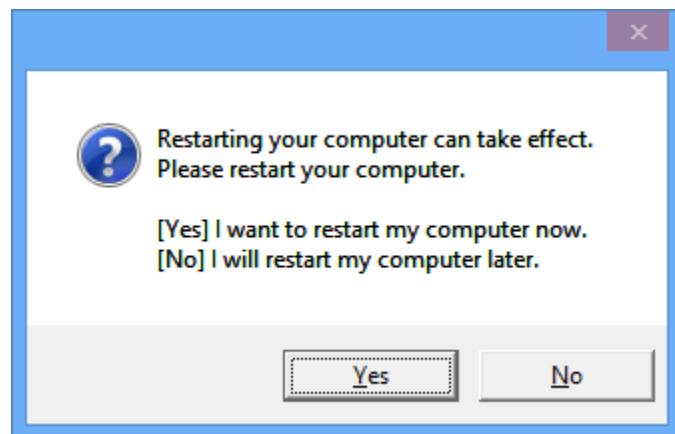
- 1) Double-click the Windows Driver installation file.
- 2) Click the “Next” button.



- 3) Select the COM or LPT (Which one you want to use) port to be used and click the “Next” button.



4) Clicking the “Yes” button will reboot the PC.



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

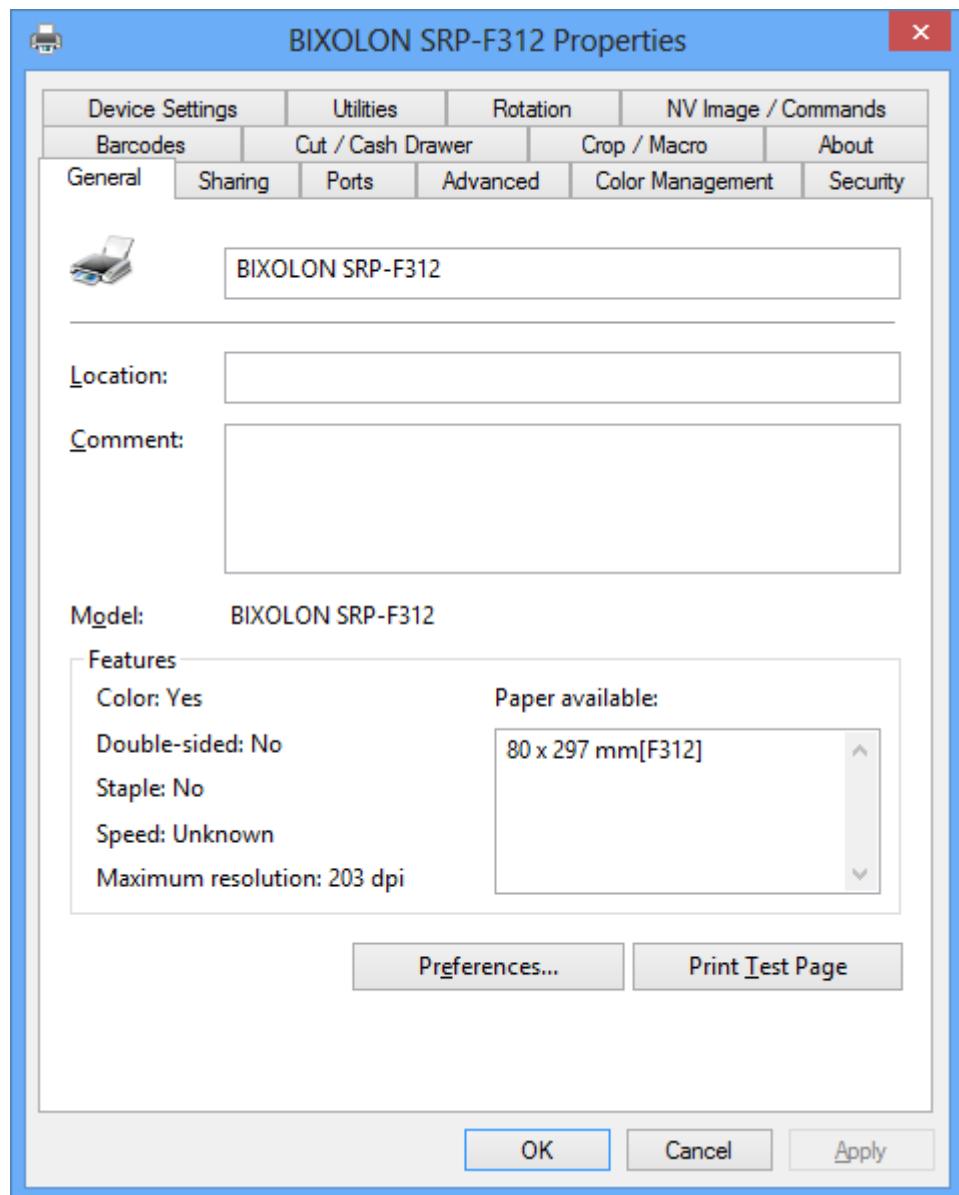
※ Control Panel – Hardware and Sound – Device and Printers.

6) If you select a serial port, click the “Configure Port...” button in the “Ports” tab.

7) If you select a serial port, match the communication settings to those of the printer.
(The communication settings of the printer can be performed by conducting a self-test.)



8) Click the “Print Test Page” button and check printing status.

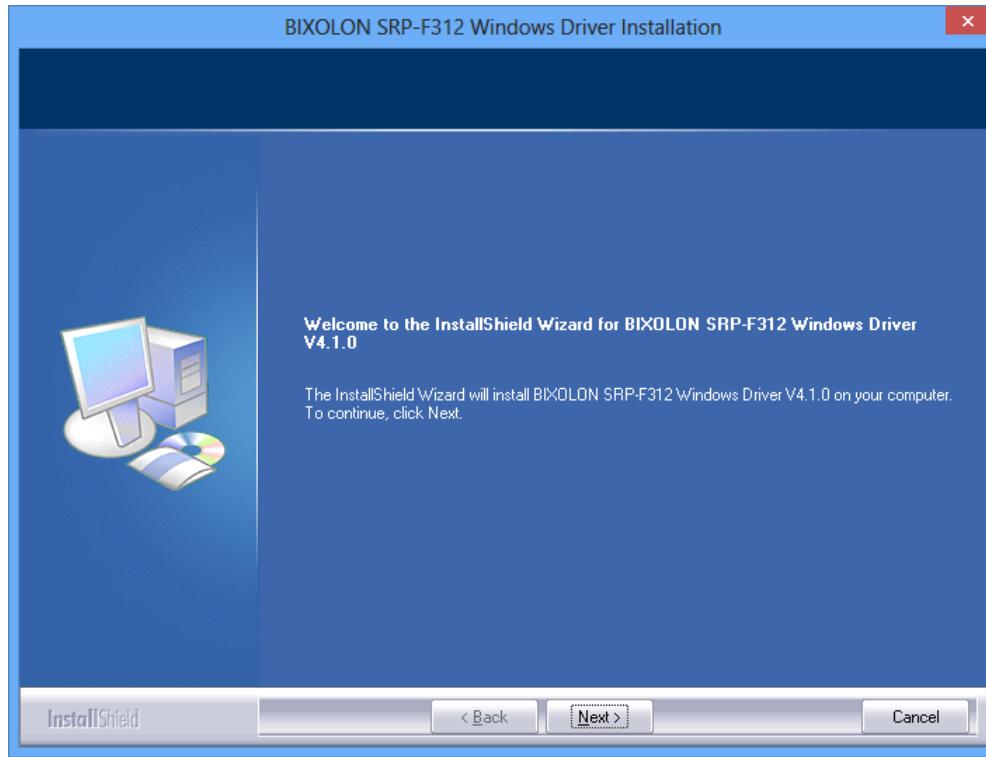


9) Proper installation of the driver is indicated if the test page is printed normally.

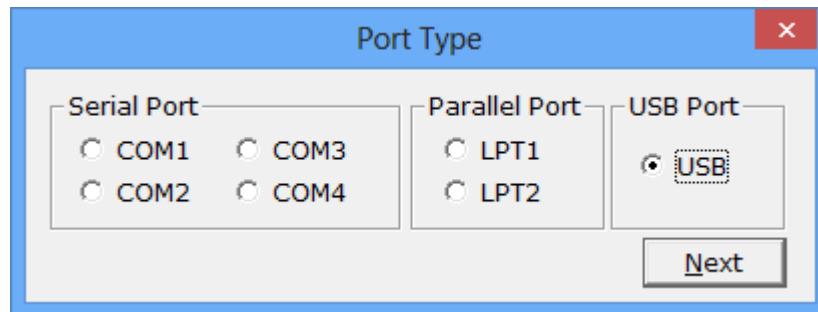
4-2-2 Via USB Port

1) Double-click the Windows Driver installation file.

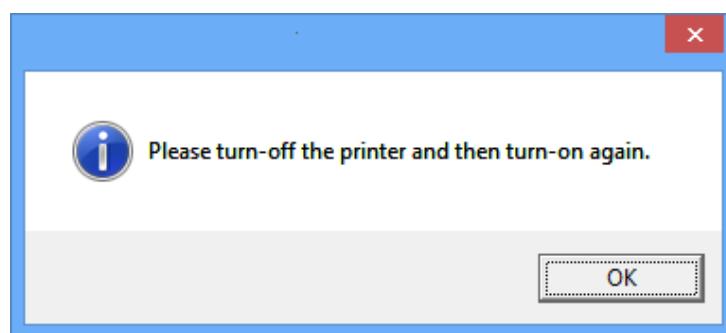
2) Click the “Next” button.



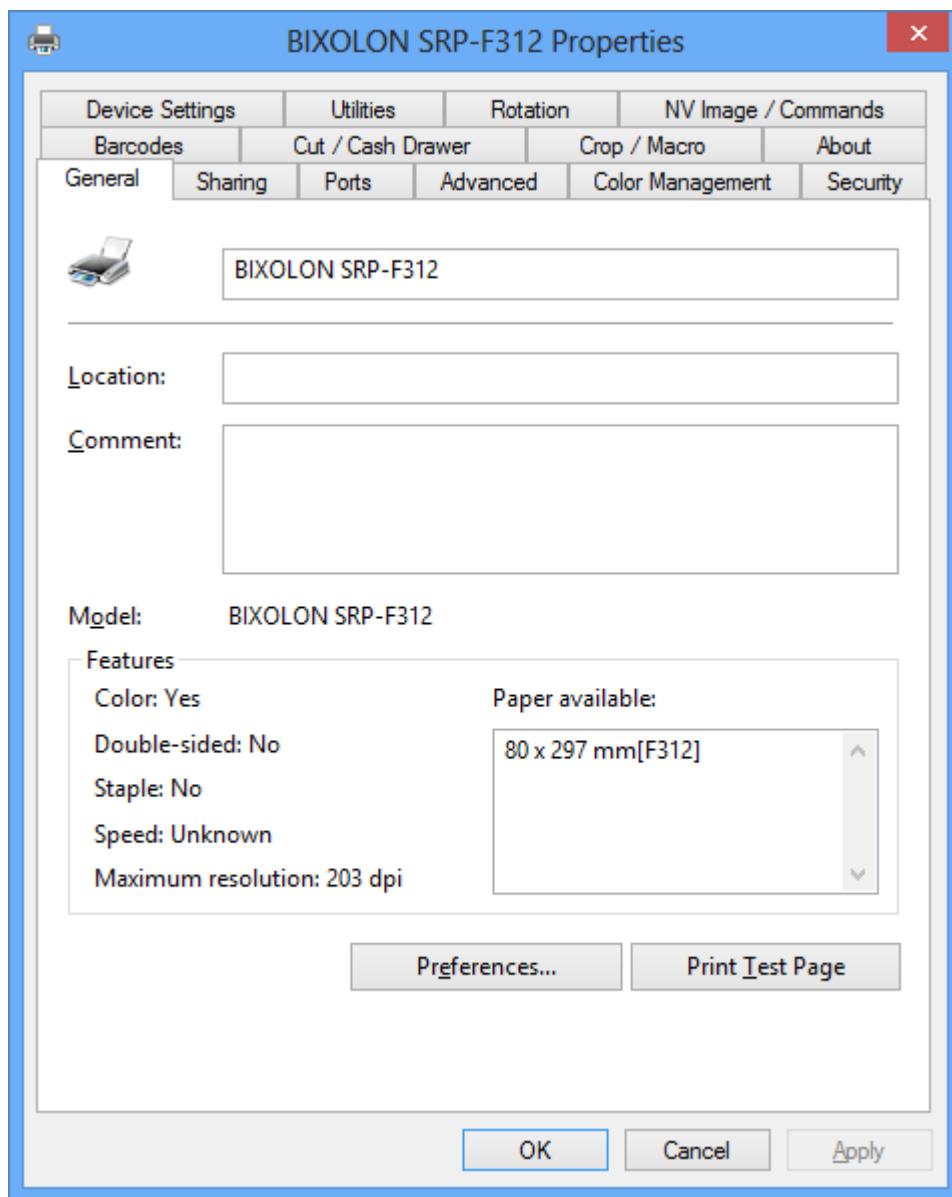
3) Select the USB and click the “Next” button.



4) Click the “OK” button.



- 5) Turn off the printer and then turn on again. 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 the “Print Test Page” button and check printing status.



- 8) Proper installation of the driver is indicated if the test page is printed normally.

5. Detailed settings of Windows driver

The following functions can be set in detail after the Windows Driver installation is complete.

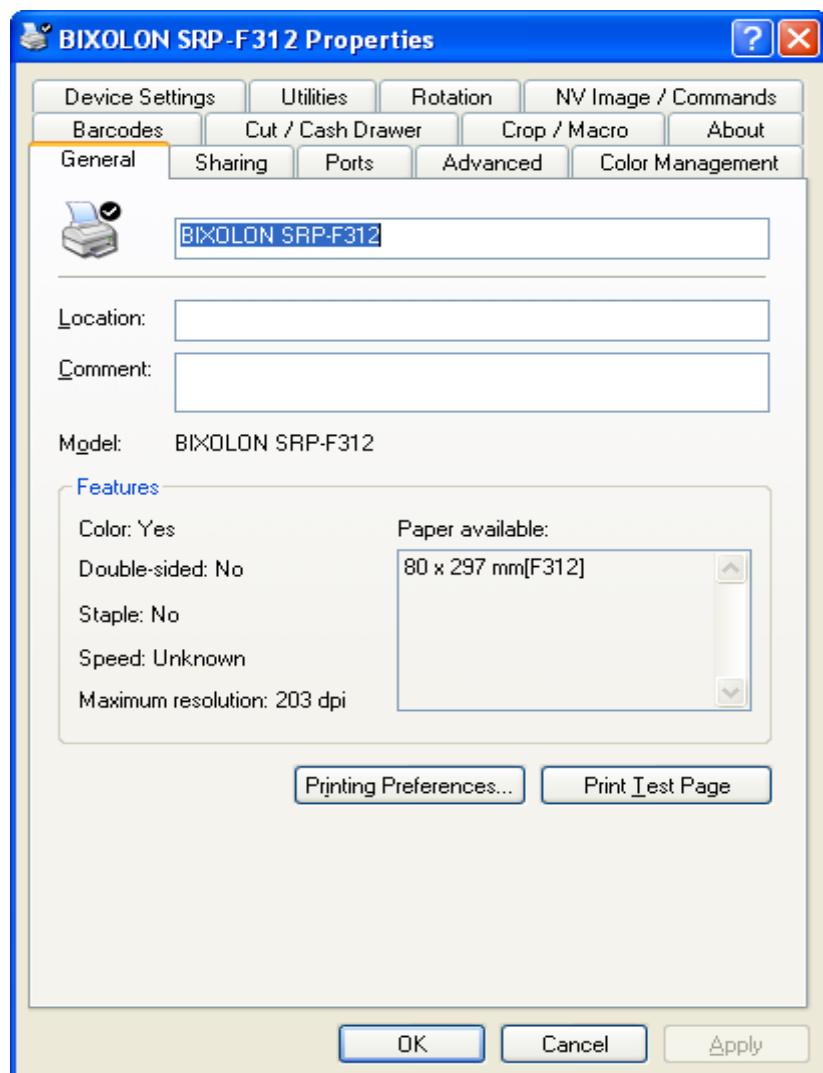
5-1 Paper Supply Method

The printer supports two paper sources.

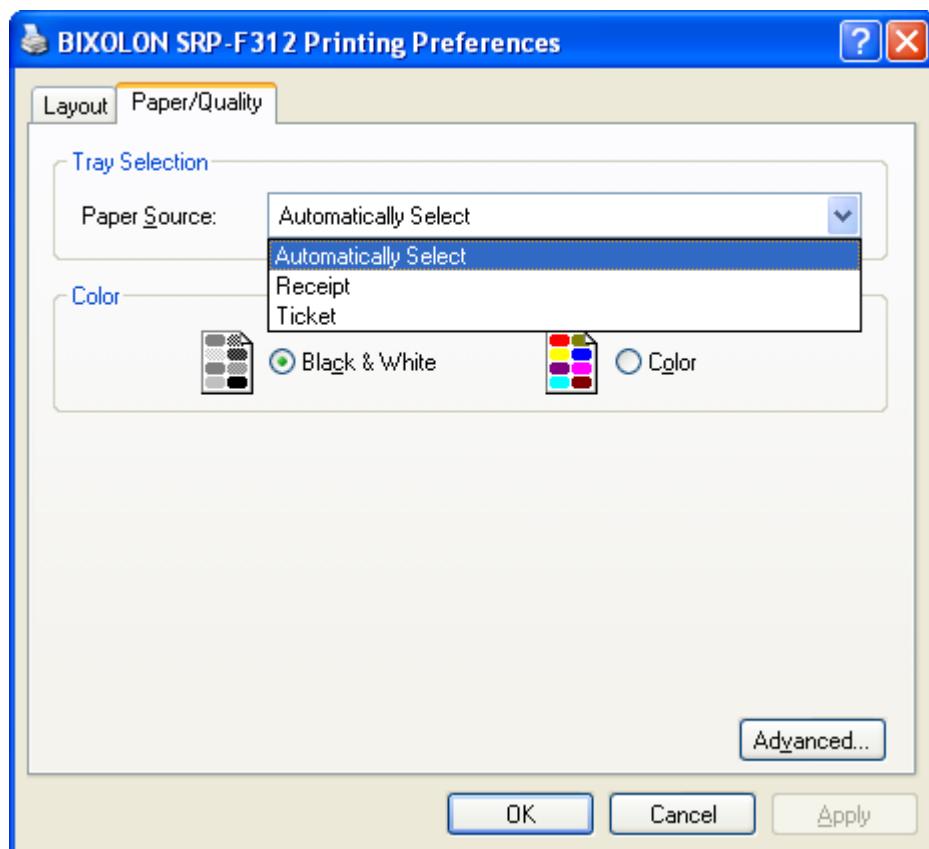
- Automatically Select : Select the “Receipt” automatically.
- Receipt : Each page can be printed with various lengths until the last line.
- Ticket : Each page can be printed with the same length.

Follow the instructions shown below for setting options.

- 1) Open the Printer Properties window for the corresponding OS.



- 2) Click the “Preferences” or “Printing Preferences” button in the “General” tab.
The button name varies by Windows OS.
- 3) Select the desired setting in the “Paper/Quality” tab.



5-2 Paper size

The paper sizes available in the Windows Driver are as follows.

80 × 40 mm[F312]

80 × 297 mm[F312]

80 × 80 mm[F312]

80 × 3276 mm[F312]

80 × 120 mm[F312]

80 × 160 mm[F312]

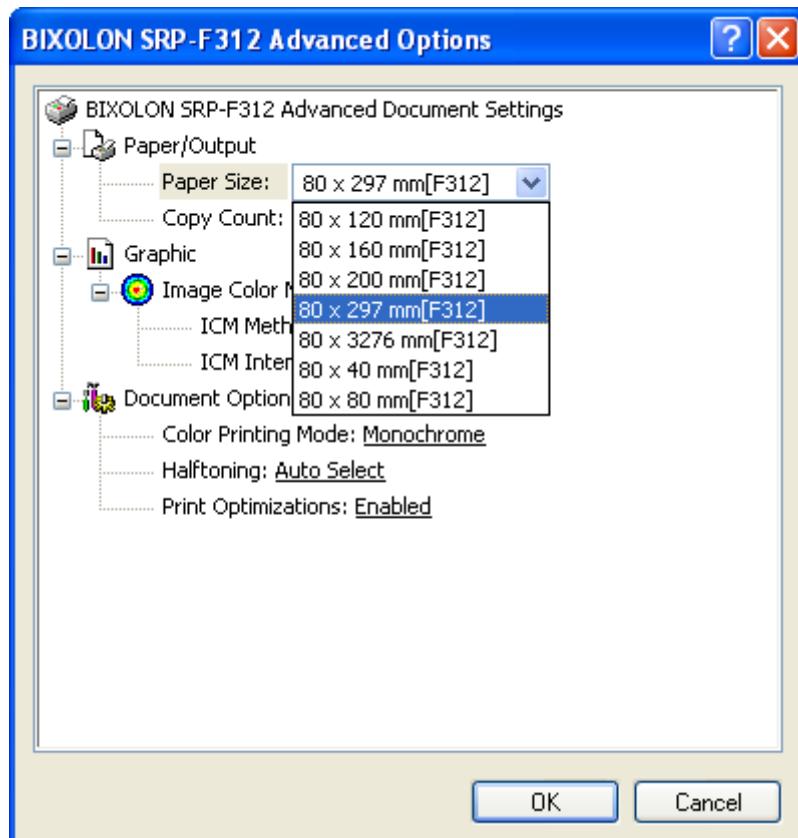
80 × 200 mm[F312]

Follow the instructions shown below to set the options.

1) Select the “General” tab and click the “Printing Preferences” button.

2) Select the “Paper/Quality” tab and click the “Advanced” button.

Select the function to configure.



3) You can add your own custom paper size by clicking “New Paper Size” in the “Utility” tab of the Properties window.

5-3 NV Image & Commands

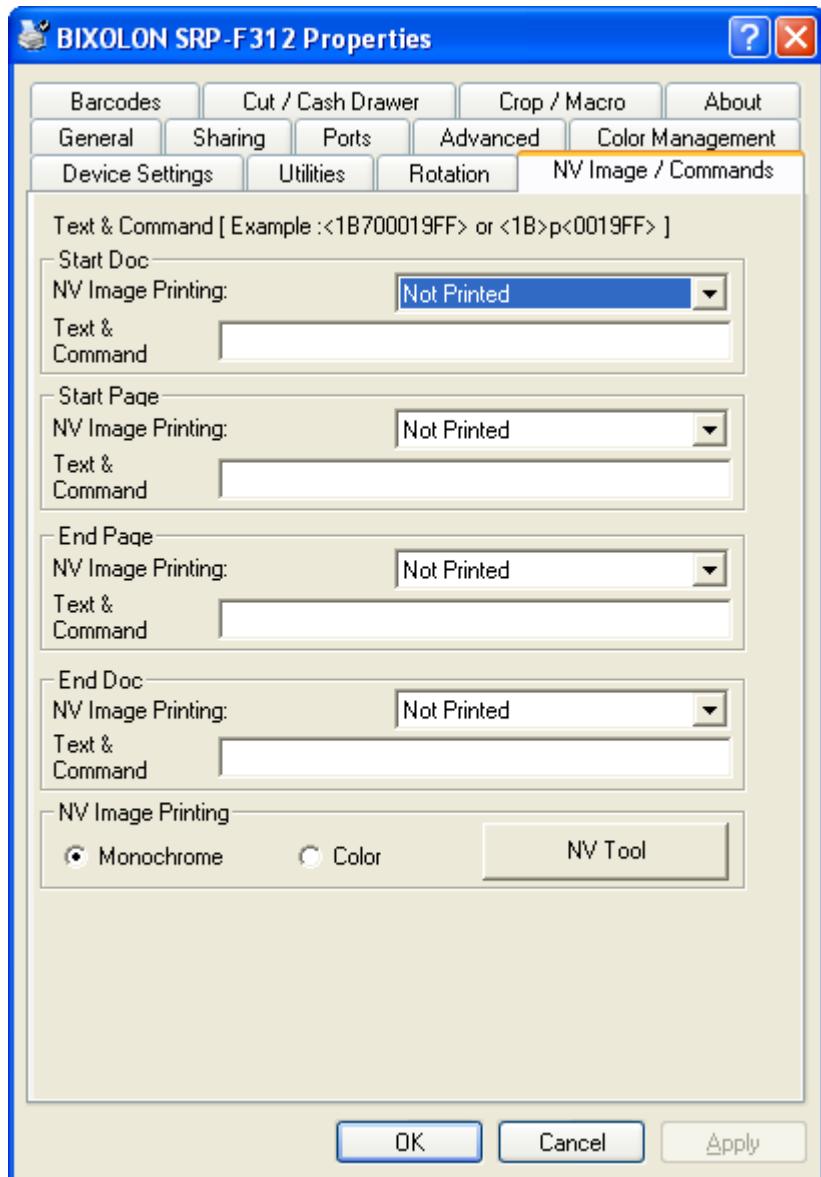
The Windows Driver serves to receive the content for print from an application and send it to the printer. The NV Image and Commands function allows for the addition of desired NV Images and commands at the beginning or end of the print content sent to the printer.

The command functions available are as follows.

- Start Doc : Addition of NV Images and command at the beginning of the print job.
- Start Page : Addition of NV Images and command at the beginning of the print page.
- End Page : Addition of NV Images and command at the end of the print page.
- End Doc : Addition of NV Images and command at the end of the print job.

Follow the instructions shown below to set the options.

- 1) Open the printer properties window in the Windows OS.
- 2) Click the “NV Image / Commands” tab.



- 3) If the user want to open Cash Drawer 1 prior to printing, enter “<1B700019FF>” in the “Start Doc” space and click the “OK” button.
 - 4) If you want to open Cash Drawer 1 after printing, enter “<1B700019FF>” in the “End Doc” field and click the “OK” button.
 - 5) If you want to print the NV image with the document, select the NV image number in the memory and click the “OK” button.
- ※ Image print command changes when the image is downloaded into the printer using the NV Image Tool.
- [NV bit image]
Command: FS p n m (Hex: 1C 70 m n)
 - [NV Graphics]
Command: GS (L pL pH m fn kc1 kc2 x y (Hex: 1D 28 4C pL pH m fn kc1 kc2 x y)

5-4 Crop and Macro

This Windows driver supports “Crop / Macro” function.

Crop function

- Crop function is to crop white space of receipt and it can be set from 0-99 mm.

Macro function

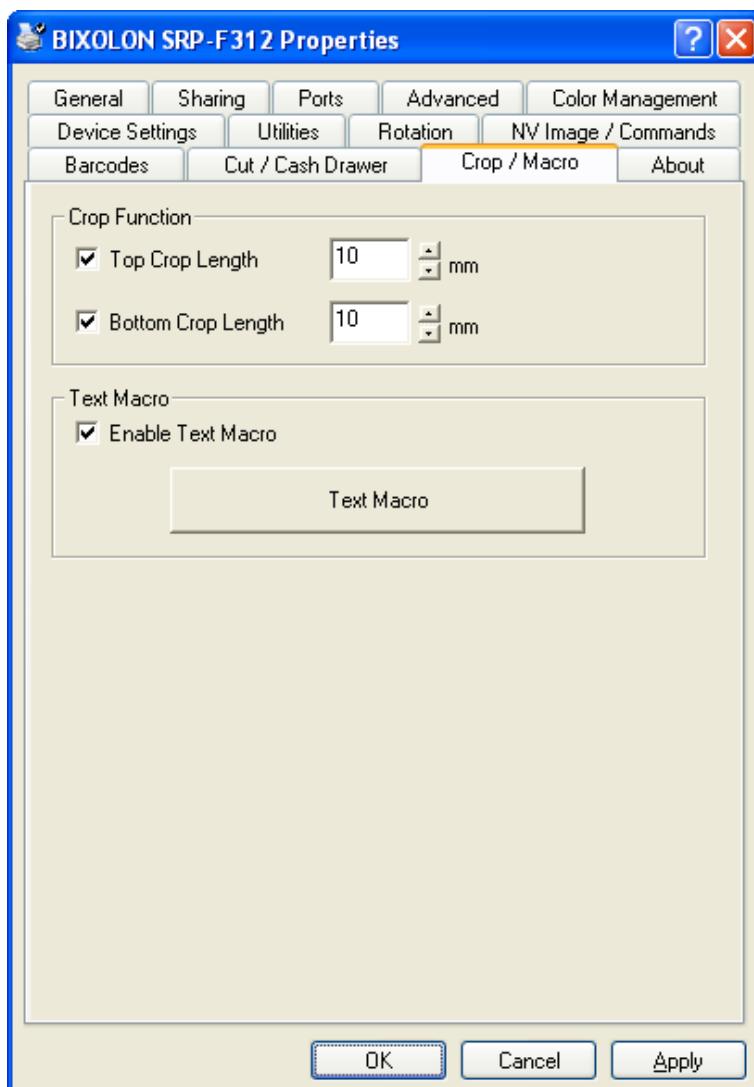
- Text Macro function is to replace certain text string with another text string for printing, and it is useful for changing address or telephone number from the application software. And Image Macro function replaces certain text string with an image.

Follow the instructions shown below to set the options.

Crop

1) Open the Printer Properties window for the corresponding OS.

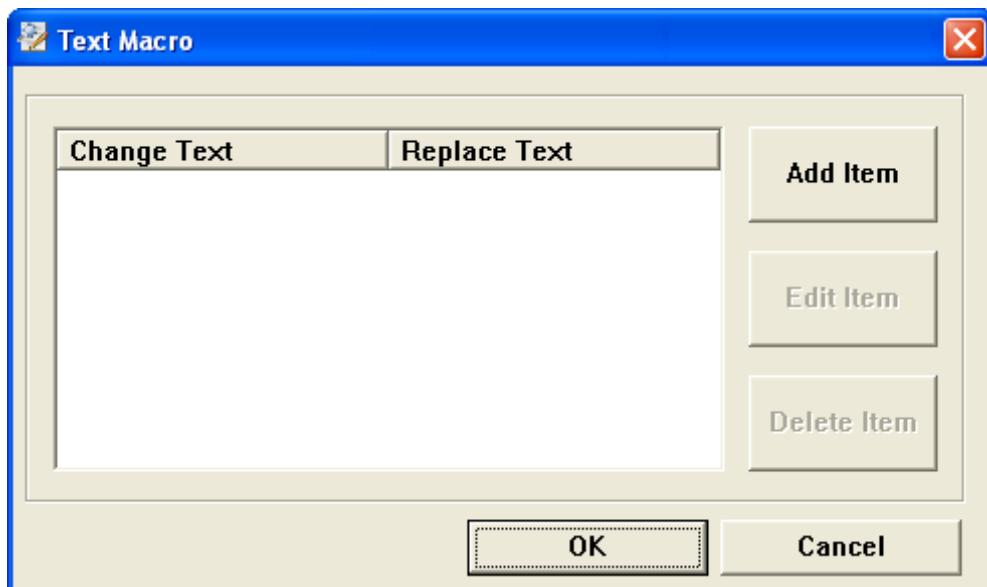
2) Select the “Crop / Macro” tab.



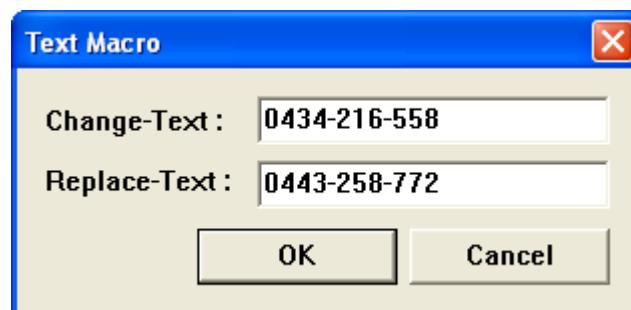
- 3) If you want to cut the space at the top of the receipt, check the “Top Crop Length” Check box and specify the length to cut.

Text Macro

- 1) Open the Printer Properties window for the corresponding OS.
- 2) Select the “Crop / Macro” tab.
- 3) Check the “Enable Text Macro” checkbox and click the “Text Macro” button.



- 4) When the Text Macro window comes up, click “Add Item” and set “Change Text”, “Replace Text”.



- 5) Click “OK” Button.

5-5 Barcodes

The Windows Driver supports the barcodes indicated below.
This function is available when entering barcode data after selecting “Printer Font Name”.

Barcodes

Printer 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~Z
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: 0~127
Code128	18/35.5/53/71	ASCII CODE: 0~127

Two-Dimensional Barcodes

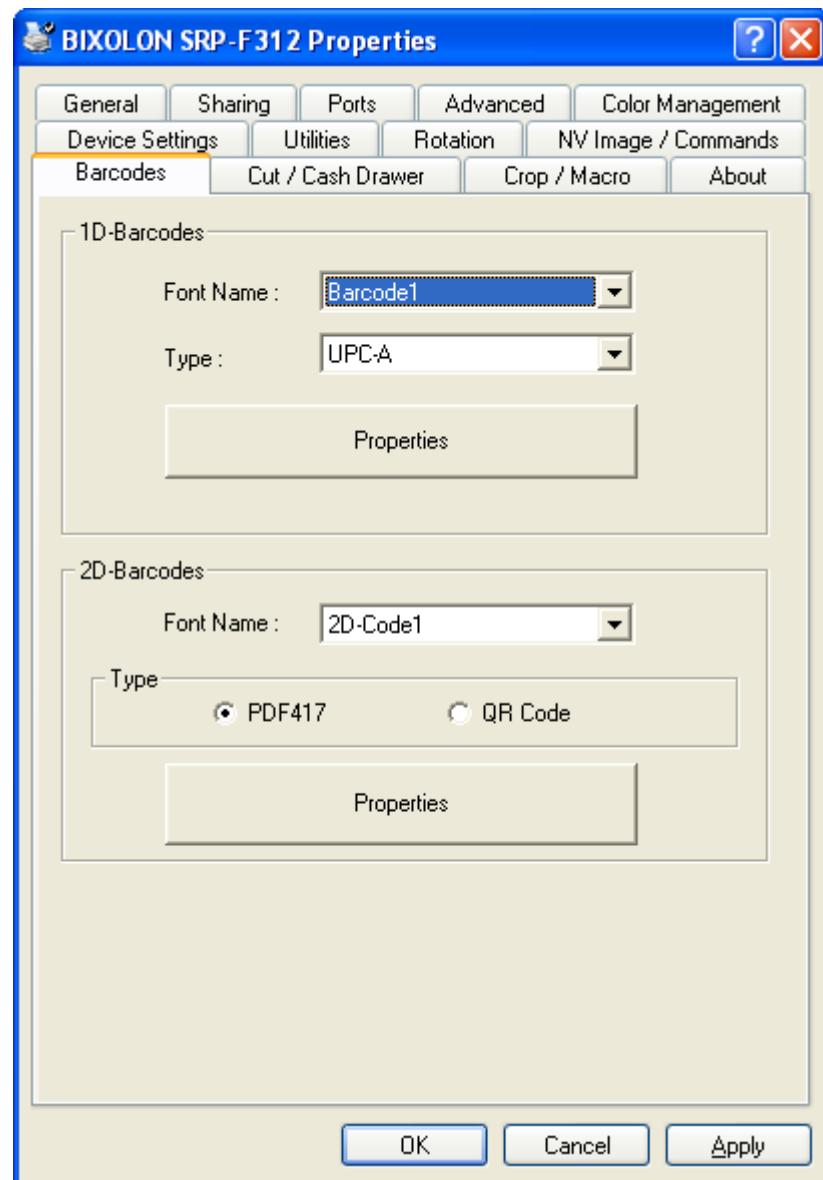
The Windows Driver supports the following two-dimensional barcodes.

- PDF417
- QR Code

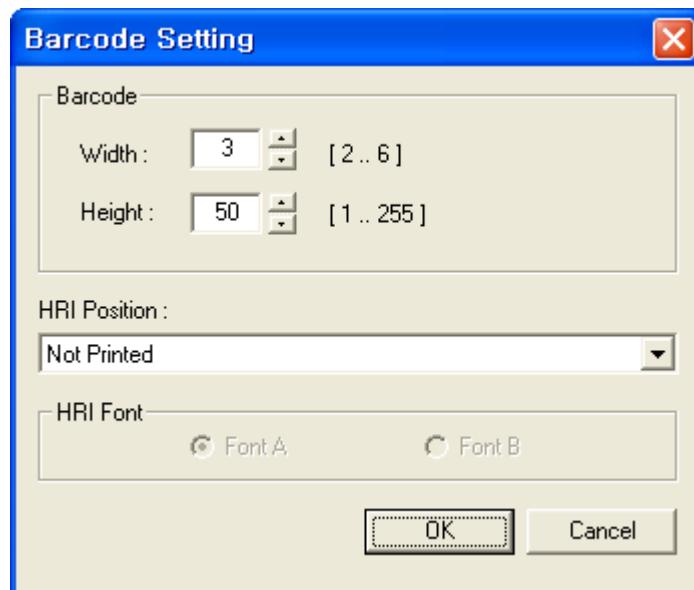
Follow the instructions shown below to use this function.

1) Open the Printer Properties window for the corresponding OS.

2) Select the “Barcodes” tab.

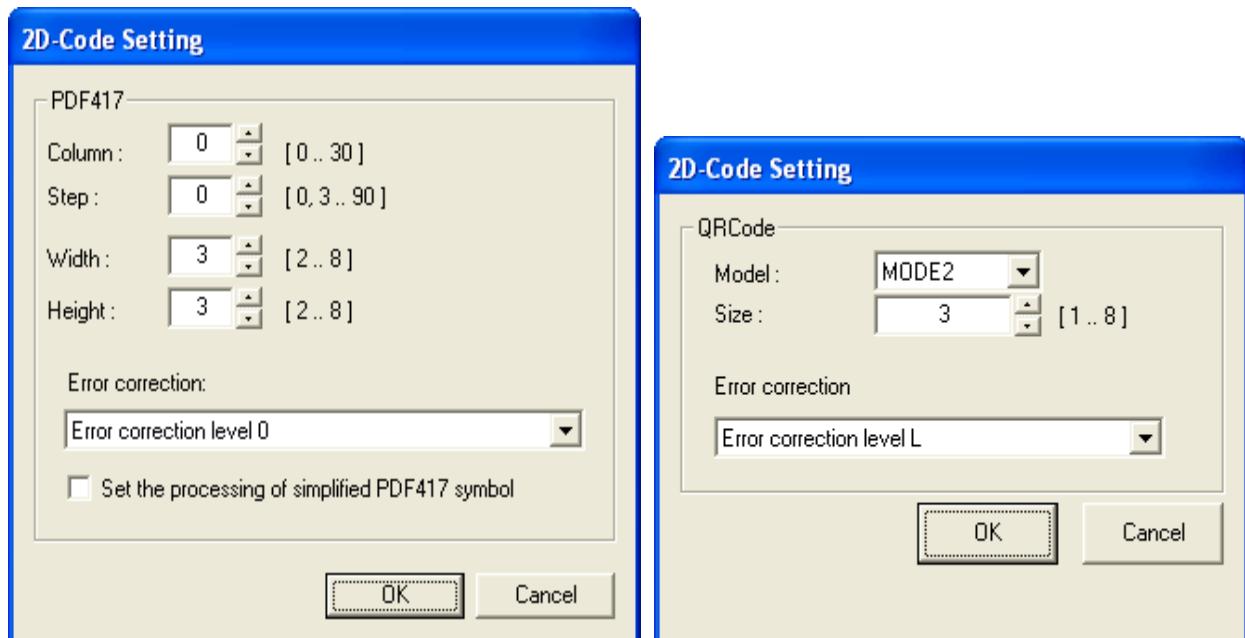


- 3) If the user wants to set Barcodes, set the “Font Name” and select a type of barcodes and click the “Properties” button.



- 4) Set Barcode's width, Height and HRI Position and Font type are also available.

- 5) If the user wants to set 2D Barcodes, set the “Font Name” and select type of barcodes and click the “Properties” button.



- 6) Set Barcodes options and click “OK” button.

5-6 Cutting and Cash Drawer

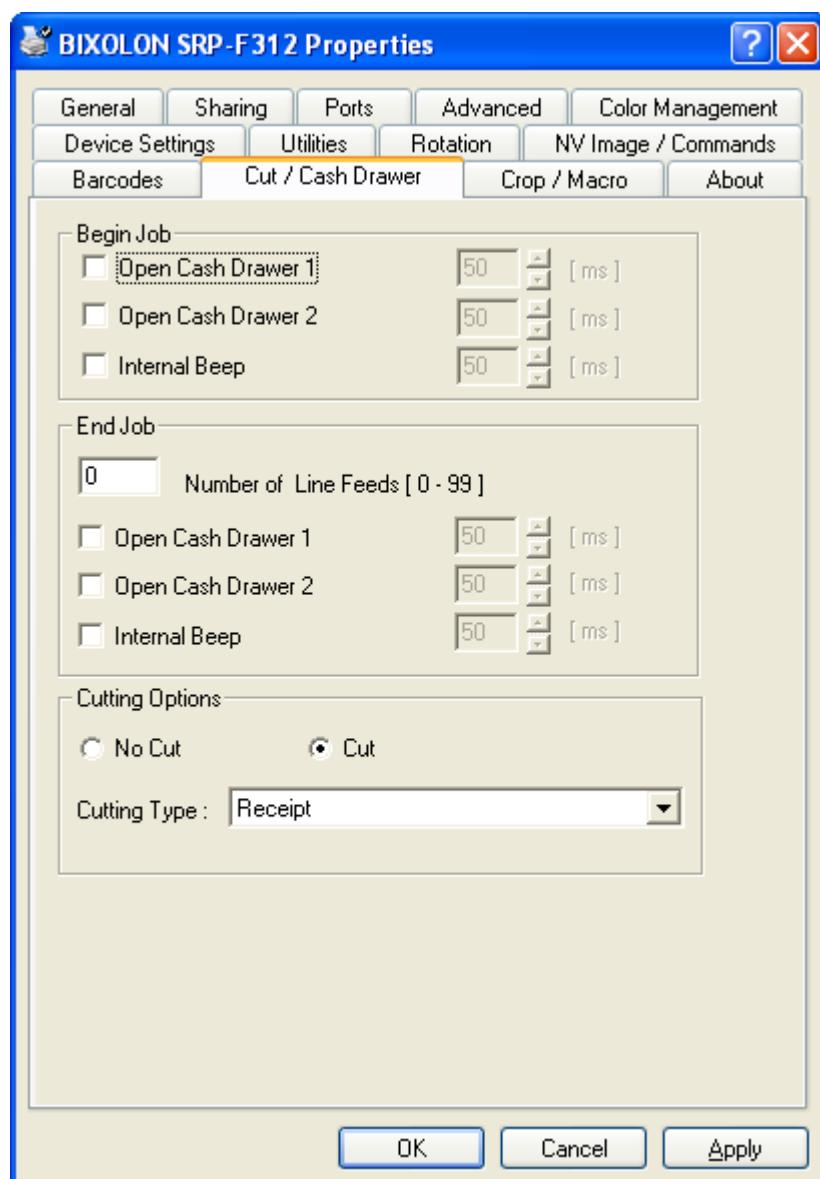
Windows driver supports “Open cash drawer”, “Internal Beep”, and “Cutting Option” functions.

The user can set “Open cash drawer” and “Internal beep” both before printing and after printing and the user also can set “Cutting options” the cutting option can be adjusted as follows.

No Cut: There's no cutting after the end of printing.

Partial Cut:

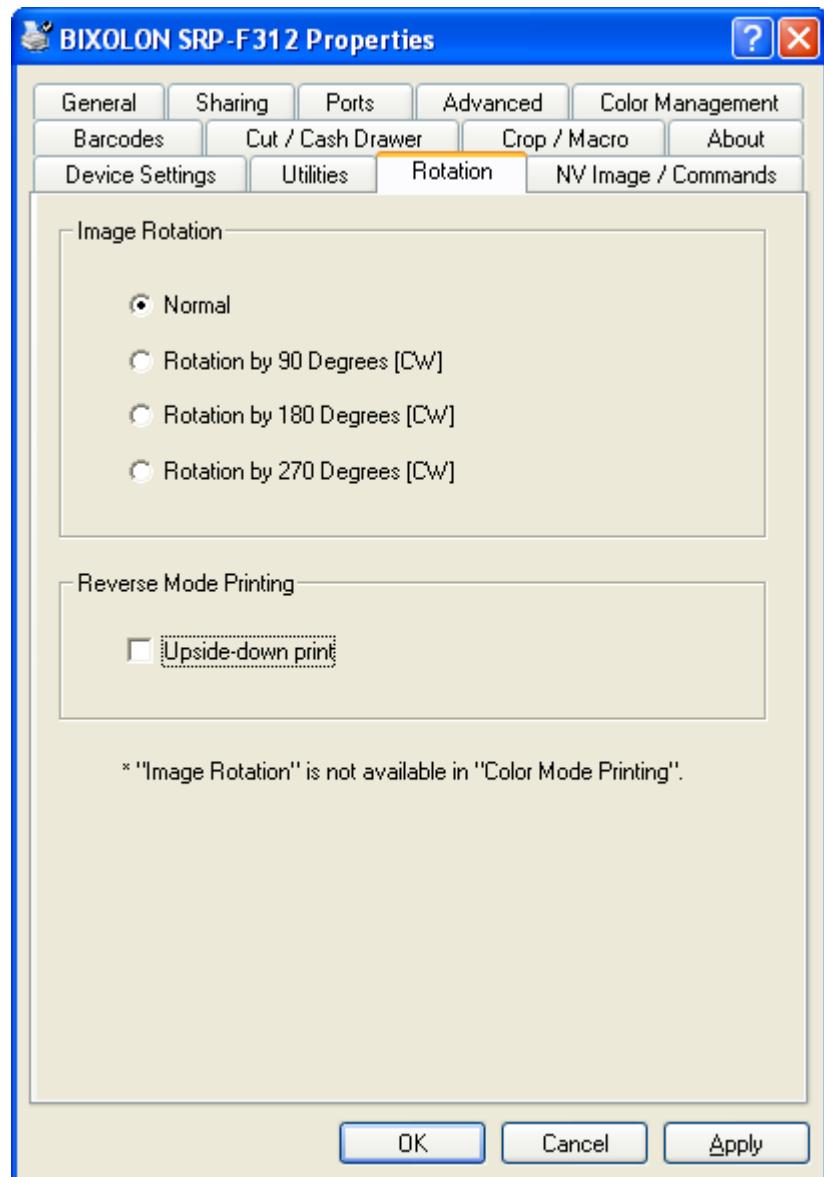
- Receipt : A paper is cut by auto cutter.
- Receipt [without paper feeding] : A paper is cut by auto cutter without paper feeding.
- Form : For long print jobs, printed text is transferred and cut according to the Receipt option per selected paper size.



5-7 Image Rotation and Reverse printing

The Windows Driver supports “Reverse printing” and “Image Rotation printing” functions.

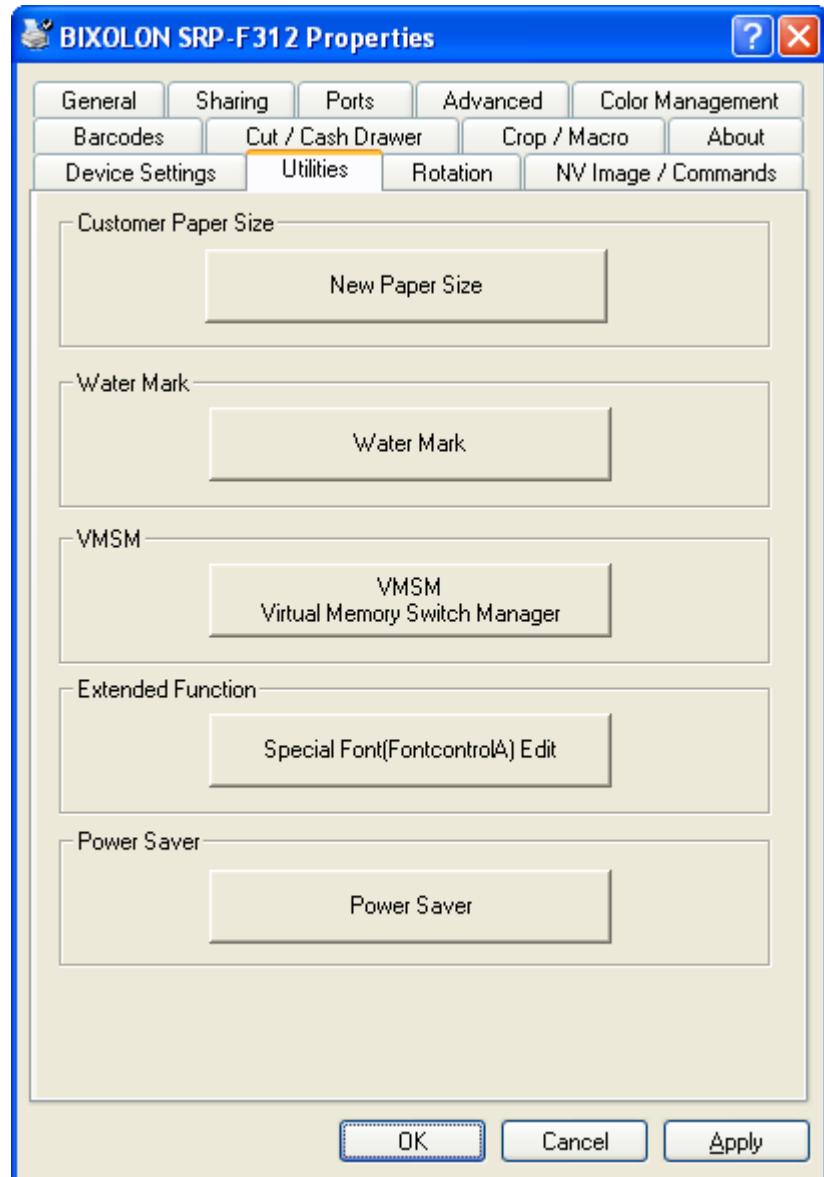
“Reverse printing” and “Image Rotation printing” functions don’t support “Color Mode Printing”. If the user choose rotate or reverse mode in “Color Mode Printing”, the printing will be set to “Monochrome Printing” automatically.



5-8 Utilities

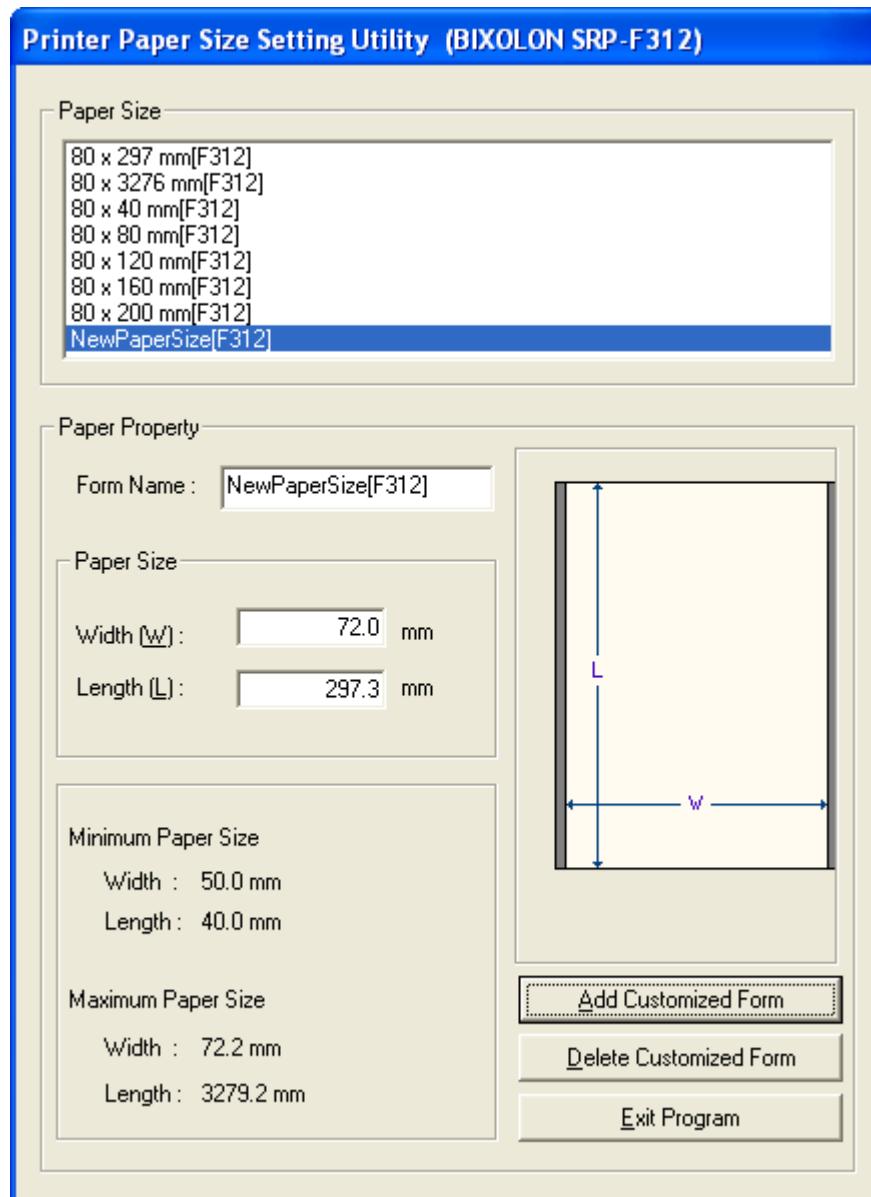
This Windows driver provides the following utilities.

- | | |
|-------------------|---|
| New Paper Size | : The user can define new paper sizes as the user want. |
| Water Mark | : The user can make water mark effect on the printing result. |
| VMSM | : Virtual Memory Switch Manager. |
| Special Font Edit | : The User can set your own special fonts using this utility. |
| Power Saver | : Electronic power saving utility. |



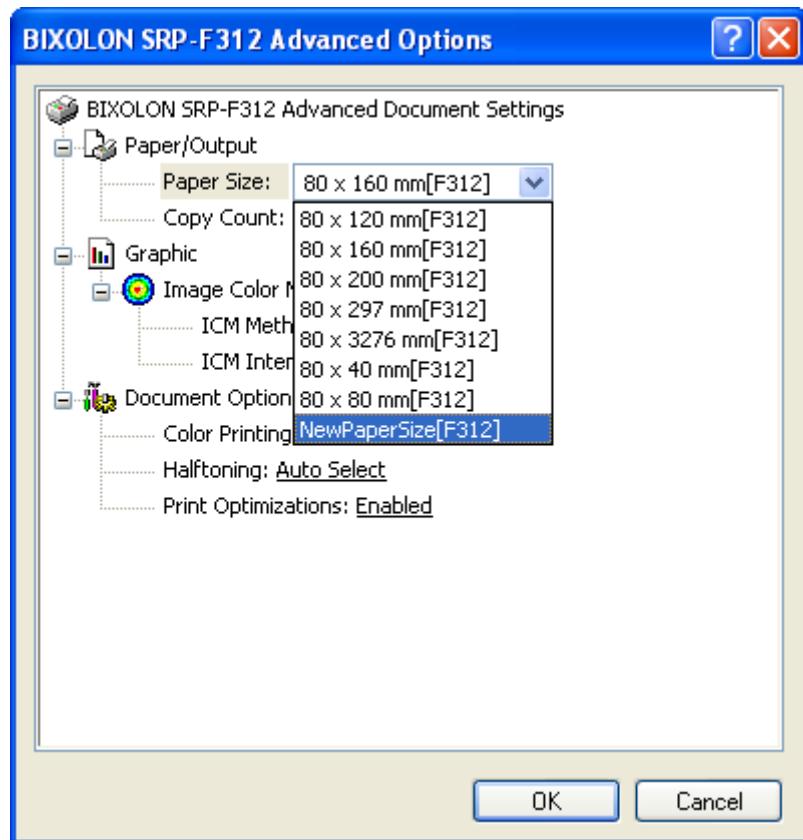
5-8-1 New Paper Size

- 1) Select the “Utilities” tab and click the “New Paper Size” button.
- 2) Enter the values in the Form Name, Width, and Length fields.



- 3) Click the “Add Customized Form” button.

- 4) Select the newly added paper size from the “Advanced Option” window.



5-8-2 Water Mark

See Water Mark manual in CD.

5-8-3 VMSM

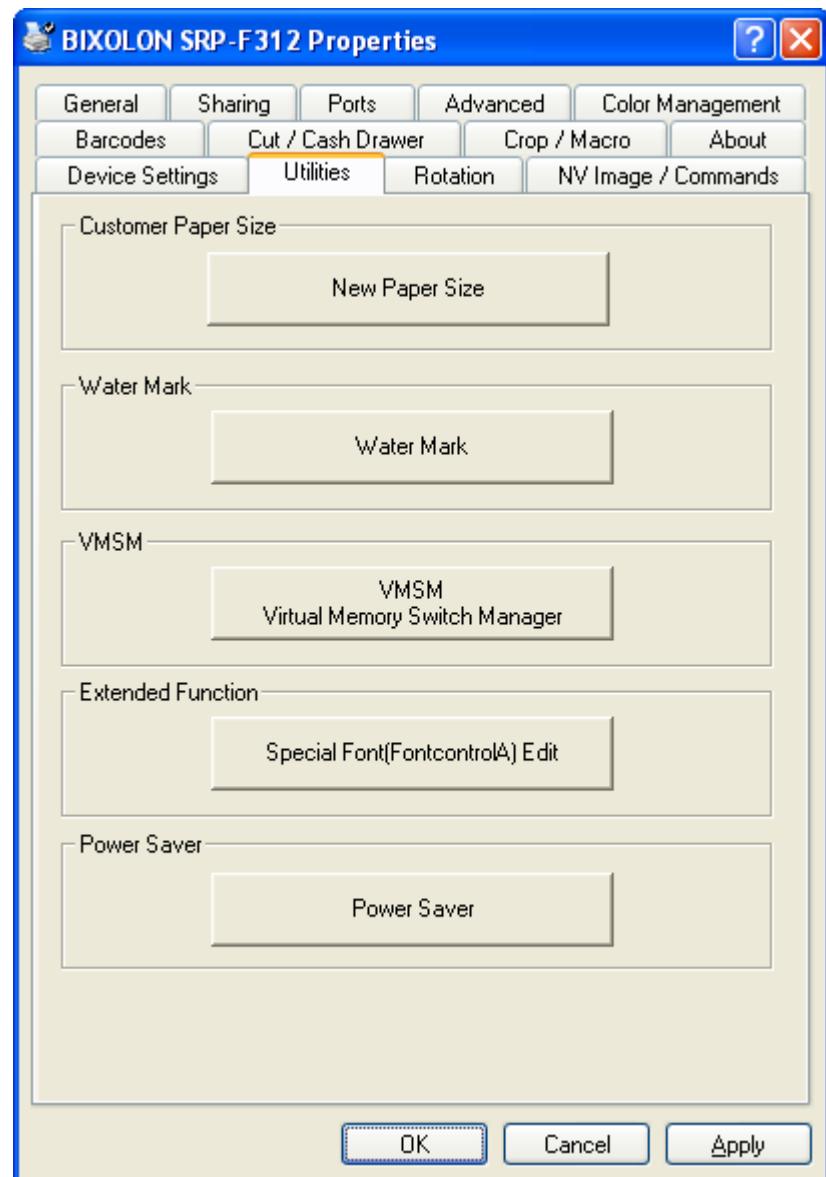
See VMSM manual in CD.

5-8-4 Extended Special Functions

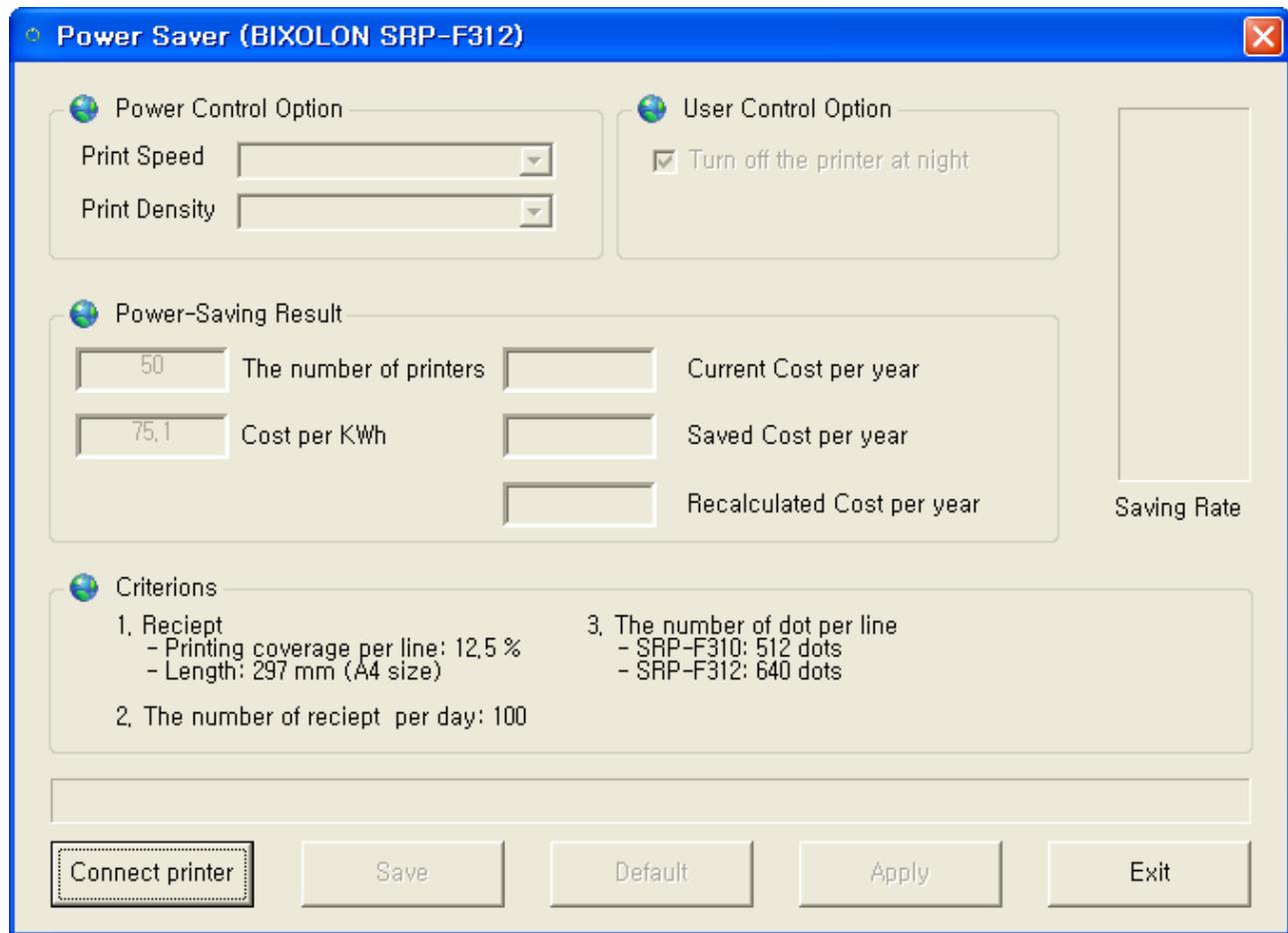
Refer to the section “6-2-1”.

5-8-5 Power Saver

- 1) Check “Power Saver” Button in Utilities Tab.



2) Upon initiation of the program, the following pop-up window will appear.



3) This utility show Power Saving result and rate as selecting each option.

4) Clicking "Save" button allows the user to designate switch settings of the printer regarding to Printer speed and density.

6. Windows Driver Specifications

6-1 Font

The Windows Driver of the printer supports the fonts listed below.

Printing is done at faster speed when using the fonts below as opposed to the Windows fonts of the OS.

Printer Fonts			Character Size (dot)	Sizes (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 16: 1252)
- Font size (dot): 12 x 48 (Double height)
- Point size: 17

2) FontA1x2 [Ext]

- IBM expansion Character code support (Code page 0: 437)
- Font size (dot): 12 x 48 (Double height)
- Point size: 17

3) FontA1x2 [255]

- BUYER ONLY code support (Code page 255)
- Font size (dot): 12 x 48 (Double height)
- Point size: 17

6-2 Special functions

The Windows Driver supports the special functions indicated below.
 These special functions are available when using the characters after the “FontControl” font is selected.

This function is not an ordinary character printing function. Take special care.

Character	Special Function
5	Prints HT (0 x 09)
6	Prints LF (0 x 0A)
7	Prints CR (0 x 0D)
a	Open Drawer 2 (50ms drive pulse width)
b	Open Drawer 2 (100ms drive pulse width)
c	Open Drawer 2 (150ms drive pulse width)
d	Open Drawer 2 (200ms drive pulse width)
e	Open Drawer 2 (250ms drive pulse width)
f	Open Drawer 2 (50ms drive pulse width) without feeding
g	Cut Receipt (partial cut) without paper feeding
i	Prints double-sized color image saved in the 00 address
j	Prints double-sized color image saved in the 01 address
k	Prints double-sized color image saved in the 02 address
l	Prints double-sized color image saved in the 03 address
m	Prints double-sized color image saved in the 04 address
p	Does not add HRI characters to the barcode
q	Adds HRI characters in FontA above the barcode
r	Adds HRI characters in FontA below the barcode
s	Adds HRI characters in FontB above the barcode
t	Adds HRI characters in FontB below the barcode
w	Aligns text to the left
x	Aligns text to the center
y	Aligns text to the right
A	Open Drawer 1 (50ms drive pulse width)
B	Open Drawer 1 (100ms drive pulse width)
C	Open Drawer 1 (150ms drive pulse width)
D	Open Drawer 1 (200ms drive pulse width)
E	Open Drawer 1 (250ms drive pulse width)
F	Open Drawer 1 (50ms drive pulse width) without feeding
G	Prints 1 st NV bit image
H	Prints 2 nd NV bit image
I	Prints 3 rd NV bit image
J	Prints 4 th NV bit image
K	Prints 5 th NV bit image
P	Cut Receipt (partial cut)
R	Prints the color image saved in the 00 address
S	Prints the color image saved in the 01 address
T	Prints the color image saved in the 02 address
U	Prints the color image saved in the 03 address
V	Prints the color image saved in the 04 address
[Prints 1 st NV bit image in double-sized mode.
]	Prints 2 nd NV bit image in double-sized mode.
^	Prints 3 rd NV bit image in double-sized mode.
-	Prints 4 th NV bit image in double-sized mode.
\`	Prints 5 th NV bit image in double-sized mode.

1) Sample Use

If the “FontControl” font is selected and 6 is entered, the “LF” (Line Feeding) operation is activated. (does not entail the printing of the character “6”)

2) “FontControl” character function

Printer Font for Special Function	Function	Size (point/dot)
FontControl	Open Drawer 1/2 Cut receipt Cut receipt(without paper feeding) Justification (Left/Center/Right) Output HT, Output LF, Output CR Barcode Printing Print NV Graphic Data	(8.5 / 12x24)

6-2-1 “Special Font Edit” Utility

“FontControlA” font is provided as an inherent special function. By using with a command defined file (SRPF312.INI), you can designate a desired command string as the “FontControlA” font arbitrary character (a character code with a range between 0x20 to 0x7F).

Specify each key in a hexadecimal character code corresponding to FontControlA font.

E.g. When “A” is specified for FontcontrolA font, write the key as 41=.

* The range that can be specified for each key is 0x20 to 0x7F.

Specify each data as a hexadecimal command corresponding to the character code specified in FontcontrolA font.

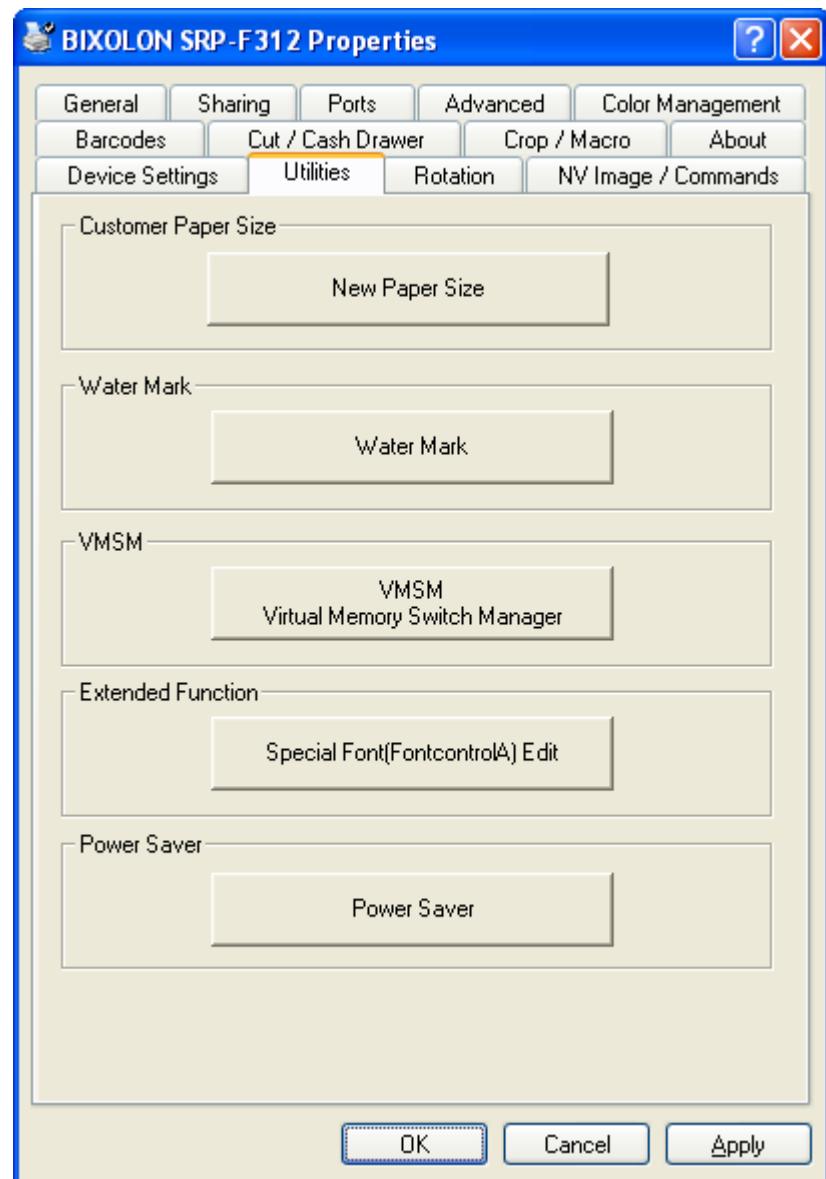
E.g. When you want to send the initialization command (ESC @), write the data as 1B40.

- Sample description of an INI file:

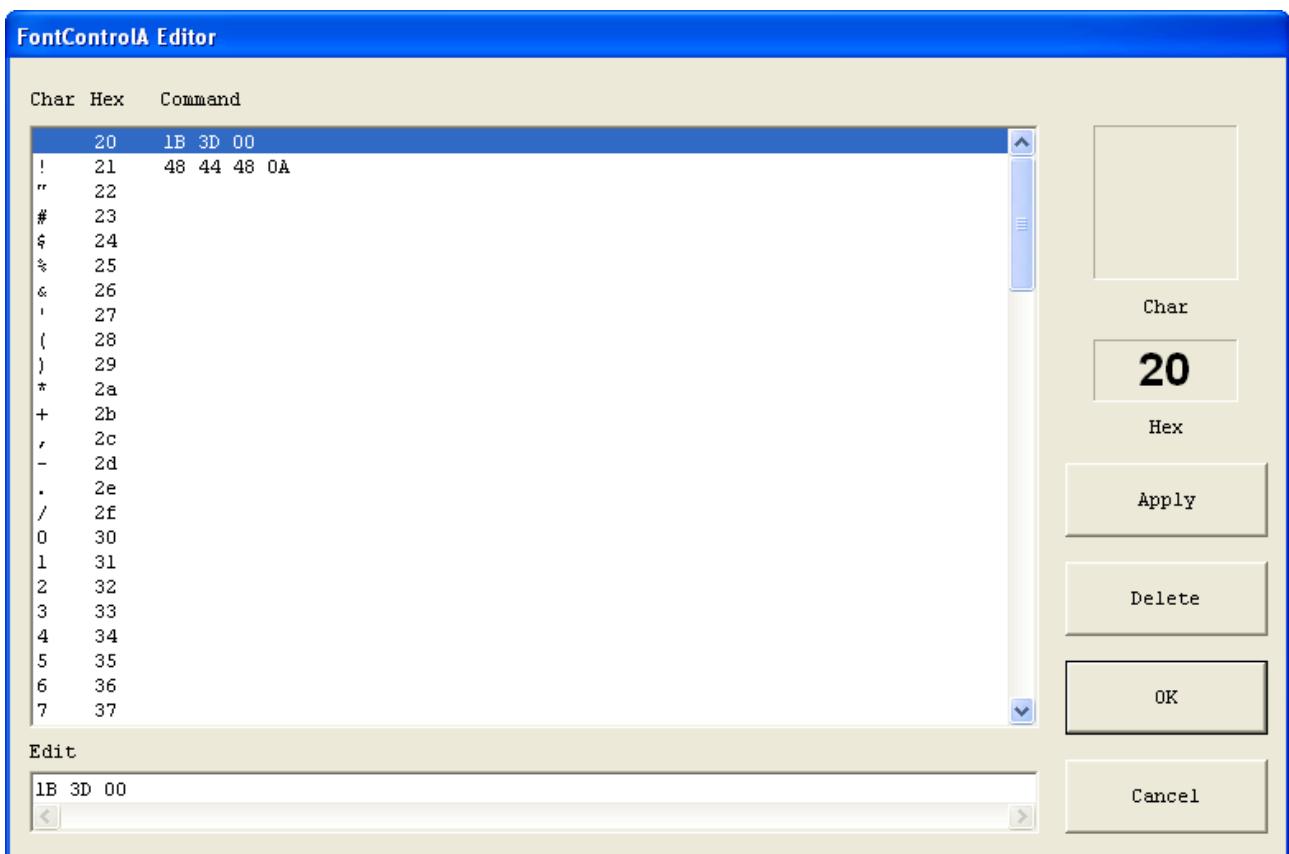
20=1B3D00

21=4844480A

1) You can edit INI file through special utility, FontControlA Editor in Utilities tab.



- 2) After editing data in edit control, you have to click “Apply button” to apply data.
As clinking “OK” button, the utility set up the data in INI file.



7. Use of Windows Driver

7-1 Use of Visual Basic

This section explains the use of the Windows Driver with Visual Basic to control the printer (SRP-F312).

7-1-1 Windows Driver Selection

The following code is an example of the selection of the “BIXOLON SRP-F312” Windows Driver.

```
For Each prnPrinter In Printers  
    If prnPrinter.DeviceName = "BIXOLON SRP-F312" Then  
        Set Printer = prnPrinter  
        Exit For  
    End If  
Next
```

7-1-2 Test Printing

The following code is an example of the printing of Arial Test via the Windows font, and FontA1x1Test via the printer font.

```
'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 "FontA1x1 Font"  
  
Printer.EndDoc
```

7-1-3 Barcode Printing

The following code is an example of the printing of the JAN8 (EAN) barcode.

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

7-1-4 Two-Dimensional Barcode Printing

The following code is an example of the printing of the PDF417 two-dimensional barcode.

```
'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

After running WordPad and setting the following conditions, conduct a test.

- Select printer

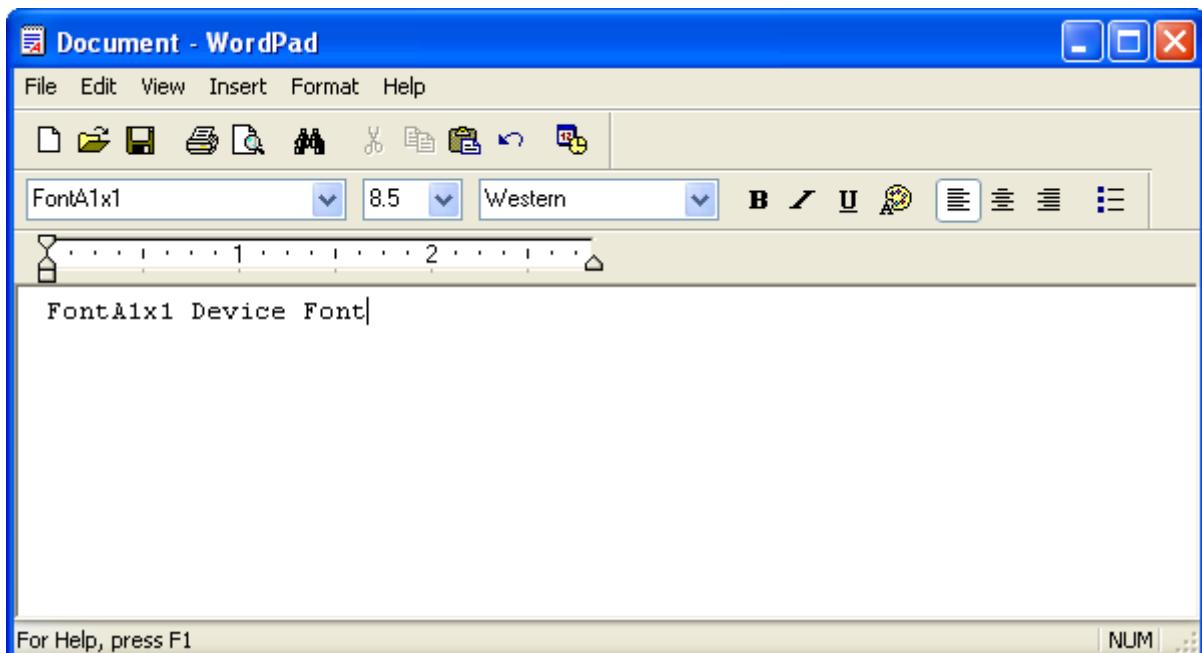
After selecting “Print” from the “File” menu, select the printer (BIXOLON SRP-F312).

- Select Paper Size, Orientation, and Margins

After selecting “Page Setup” from the “File” menu, select the paper size, orientation, and margins.

7-2-2 Text Printing

Use the Windows Driver of the printer to run a test.



- 1) Select the desired font from the Font menu (FontA1x1).
- 2) Select the desired font size (8.5).
- 3) Enter the text to be printed in WordPad.
- 4) Click the Print button in the toolbar to print.