

Software Manual

Windows Driver

THERMAL RECEIPT PRINTER

Ver.1.01

Introduction

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).

Table of Contents

1. Operating System (OS) Environment	4
2. Supported Printers	4
3. Windows Driver Installation	5
3-1 Installation on Windows XP / Server 2003	5
3-2 Installation on Windows Vista / Server 2008 / 7 / 8 / Server 2012 / 10	5
3-3 Uninstallation.....	5
4. Windows Driver Settings	6
4-1 Layout	6
4-1-1 Paper Size	7
4-1-2 Paper Type	8
4-1-3 Copies.....	9
4-1-4 Image Rotation.....	9
4-1-5 Paper Reduction	9
4-1-6 Crop Function.....	9
4-1-7 Orientation	9
4-2 Document Settings.....	10
4-2-1 Send Command	11
4-2-2 Cash Drawer	11
4-2-3 Line Feed	11
4-2-4 Paper Cut.....	11
4-3 NV Image	12
4-4 Barcode.....	14
4-4-1 1d Barcode.....	15
4-4-2 2d Barcode.....	16
4-5 Dithering.....	17
4-6 Utility	19
4-6-1 Unified POS Utility.....	20
4-6-2 Special Font Edit Utility	20
4-6-3 Journal Viewer	21
4-6-4 Text-Key Function.....	22
4-6-5 Print Preview	26
4-7 Bidirectional Communication.....	27
5. Windows Driver Specification	29
5-1 Printer Fonts.....	29
5-2 Special functions	31
6. Use of Windows Driver	33
6-1 Use of Visual Basic	33
6-1-1 Windows Driver Selection	33
6-1-2 Text Printing.....	33
6-1-3 Barcode Printing.....	34
6-2 Use of WordPad	35
6-2-1 WordPad Environment Settings	35
6-2-2 Text Printing.....	35


1. 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)



Note

- Serial and Parallel 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).

2. Supported Printers

This manual provides information for the following printer drivers.

Model	Resolution
AP3	180 DPI
AP3-3	203 DPI

3. Windows Driver Installation

3-1 Installation on Windows XP / Server 2003

- 1) Double-click "Software_AP3_Windows_Driver_Vx.x.x.exe".
- 2) Follow the instructions on the screen to complete the installation process.

3-2 Installation on Windows Vista / Server 2008 / 7 / 8 / Server 2012 / 10

- 1) Double-click "Software_AP3_Windows_Driver_Vx.x.x.exe".



Note

Administrator privilege may be required to run the installation file.

- 2) Follow the instructions on the screen to complete the installation process.

3-3 Uninstallation

- 1) Open "Add or Remove Programs" or "Remove Programs" in the Control Panel.
 - * XP or Server 2003: Control Panel – Add or Remove Programs
 - * Vista or higher OS: Control Panel – Remove Programs
- 2) Double-click "AP3 Windows Driver" to uninstall the installed windows drivers.

4. Windows Driver Settings

4-1 Layout

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

The screenshot shows the 'Layout' tab of the Windows Driver Settings window. The 'Paper' section has 'Paper Size' set to '80 x 3276 mm' and 'Paper Type' set to 'Receipt'. The 'Number of copies' section has 'Copies' set to '1'. The 'Orientation' section has 'Portrait' selected. The 'Image Rotation' section has 'Normal' selected. The 'Paper Reduction' section has the checkbox unchecked, 'Rate' set to '100%', and 'Disable reducing barcode' selected. The 'Crop Function' section has 'Top Crop Length' and 'Bottom Crop Length' both set to '0'.

- 1) Open the **Printer Properties** window and then click **Printing Preferences** in the **General** tab.



Note

Please refer to below paths of Printer Properties window.

***Windows XP / Server 2003**

(Control Panel) – (Printers and Faxes) – (Right-click the icon of the printer) – (Click **Properties**)

***Windows Vista**

(Control Panel) – (Hardware and Sound) – (Printers) – (Right-click the icon of the printer) – (Click **Properties**)

***Server 2008 / 7 / 8 / Server 2012 / 10**

(Control Panel) – (Hardware and Sound) or (All Control Panel Items) – (Devices and Printers) – (Right-click the icon of the printer) – (Click **Printer Properties**)

- 2) Click the **Layout** tab.

4-1-1 Paper Size

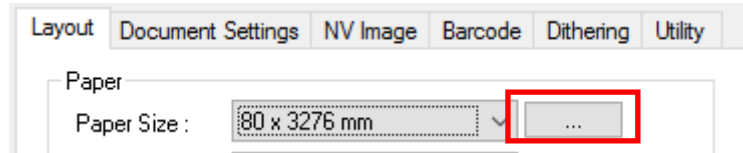
Paper size of **80 x 3276 mm** is selected by default, and the following sizes can be selected.

80 × 297 mm

80 × 3276 mm

A4 210 x 297 mm

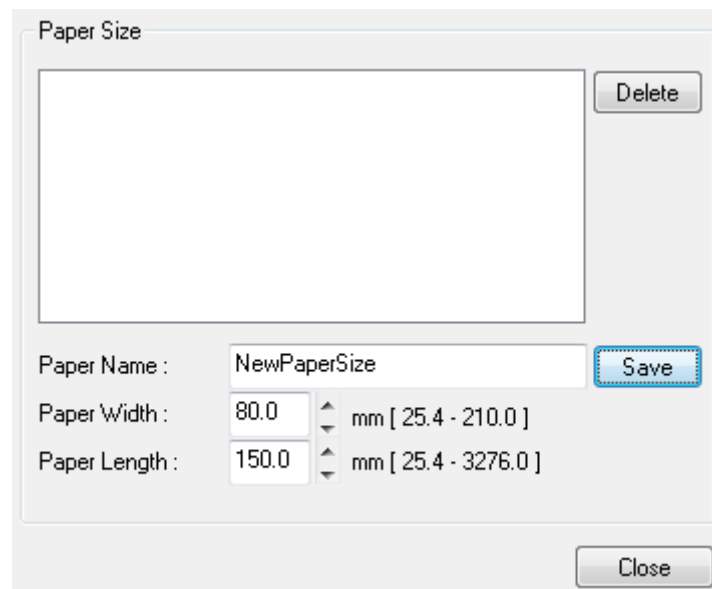
If a custom paper size is required, click “...” to add or update a custom paper size.



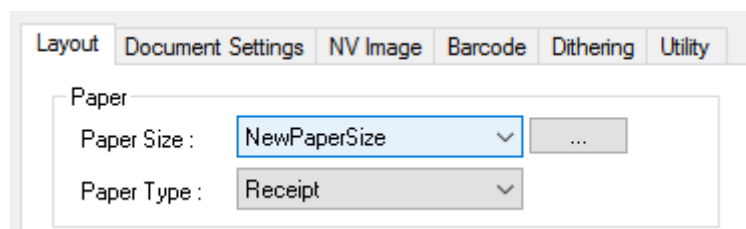
Click **Save** after specifying the paper width/length and a paper name. If the specified paper name already exists on the system, you can update the paper width/length.

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.

4-1-2 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.

The screenshot shows the 'Document Settings' tab in the 'Windows Driver' application. The 'Paper' section includes a 'Paper Size' dropdown set to '80 x 3276 mm' and a 'Paper Type' dropdown set to 'Receipt'. The 'Number of copies' section has a 'Copies' spinner set to '1'. The 'Orientation' section has 'Portrait' selected. The 'Image Rotation' section has 'Normal' selected. The 'Paper Reduction' section is unchecked. The 'Crop Function' section has 'Top Crop Length' and 'Bottom Crop Length' both set to '0' pixels.

4-1-3 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.

4-1-4 Image Rotation

Image rotation is available for image data only. It means that rotation of printer fonts (device fonts) or barcode fonts is not supported.

4-1-5 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 into Windows fonts (True Type fonts) to make them smaller. The barcode size also can be reduced by selecting **"Enable reducing barcode"**.



Note

It can affect barcode recognition, if the barcode size is reduced.

4-1-6 Crop Function

This function crops the upper and lower end of the printing area by the specified number. It helps reduce the margin at the top and bottom when there is excessive margin. The value should be within the range of 0 to 255.

4-1-7 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.

4-2 Document Settings

- 1) Open the **Printer Properties** window and then click **Printing Preferences** in the **General** tab.



Note

Please refer to below paths of Printer Properties window.

***Windows XP / Server 2003**

(Control Panel) – (Printers and Faxes) – (Right-click the icon of the printer) – (Click **Properties**)

***Windows Vista**

(Control Panel) – (Hardware and Sound) – (Printers) – (Right-click the icon of the printer) – (Click **Properties**)

***Server 2008 / 7 / 8 / Server 2012 / 10**

(Control Panel) – (Hardware and Sound) or (All Control Panel Items) – (Devices and Printers) – (Right-click the icon of the printer) – (Click **Printer Properties**)

- 2) Click the **Document Settings** tab.

4-2-1 Send Command

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.



Note

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.

4-2-2 Cash Drawer

To open a cash-drawer before printing, check “Open before printing #1” or “Open before printing #2”.

To open a cash-drawer after printing, check “Open after printing #1” or “Open after printing #2”.

4-2-3 Line Feed

It is possible to set the number of line feeds between 0 and 99 for adding blank lines at the end of printing.

4-2-4 Paper Cut

Paper can be cut at the end of each page or each document (job).

Page/Job : No Cut / No Cut	:	Paper is not cut after printing.
Page/Job : No Cut / Partial Cut	:	Paper is cut at the end of each document (Job).
Page/Job : Partial Cut / Partial Cut	:	Paper is cut at the end of each page.

4-3 NV Image

The screenshot shows the 'NV Image' tab in a printer's properties window. It contains two main sections: 'NV Image Printing' and 'NV Image Command'. The 'NV Image Printing' section has four dropdown menus for 'Start Doc', 'Start Page', 'End Page', and 'End Doc', all currently set to 'None'. The 'NV Image Command' section has two radio buttons: 'GS (L)' is selected, and 'FS p' is unselected.

- 1) Open the **Printer Properties** window and then click **Printing Preferences** in the **General** tab.



Note

Please refer to below paths of Printer Properties window.

***Windows XP / Server 2003**

(Control Panel) – (Printers and Faxes) – (Right-click the icon of the printer) – (Click **Properties**)

***Windows Vista**

(Control Panel) – (Hardware and Sound) – (Printers) – (Right-click the icon of the printer) – (Click **Properties**)

***Server 2008 / 7 / 8 / Server 2012 / 10**

(Control Panel) – (Hardware and Sound) or (All Control Panel Items) – (Devices and Printers) – (Right-click the icon of the printer) – (Click **Printer Properties**)

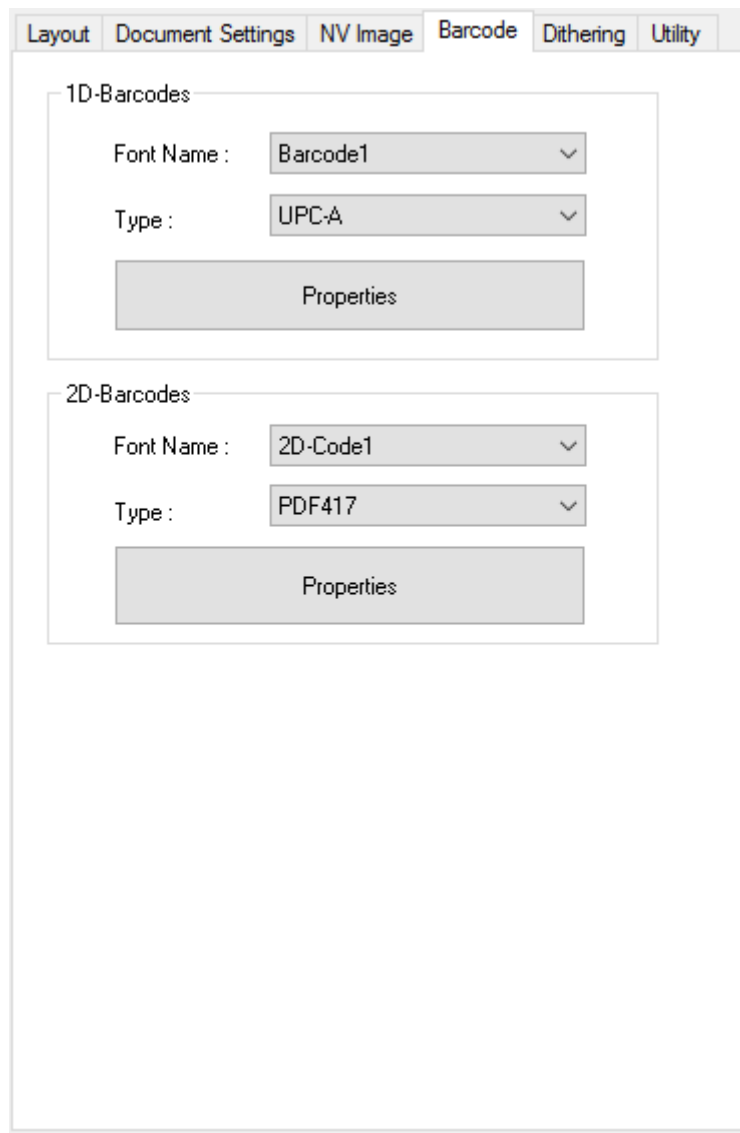
- 2) Click the **NV Image** tab.

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.

Note	<p>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.</p> <table><tr><td>NV bit image</td><td>:</td><td>FS p</td></tr><tr><td>NV graphics</td><td>:</td><td>GS (L</td></tr></table>	NV bit image	:	FS p	NV graphics	:	GS (L
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.

4-4 Barcode



- 1) Open the **Printer Properties** window and then click **Printing Preferences** in the **General** tab.



Note

Please refer to below paths of Printer Properties window.

***Windows XP / Server 2003**

(Control Panel) – (Printers and Faxes) – (Right-click the icon of the printer) – (Click **Properties**)

***Windows Vista**

(Control Panel) – (Hardware and Sound) – (Printers) – (Right-click the icon of the printer) – (Click **Properties**)

***Server 2008 / 7 / 8 / Server 2012 / 10**

(Control Panel) – (Hardware and Sound) or (All Control Panel Items) – (Devices and Printers) – (Right-click the icon of the printer) – (Click **Printer Properties**)

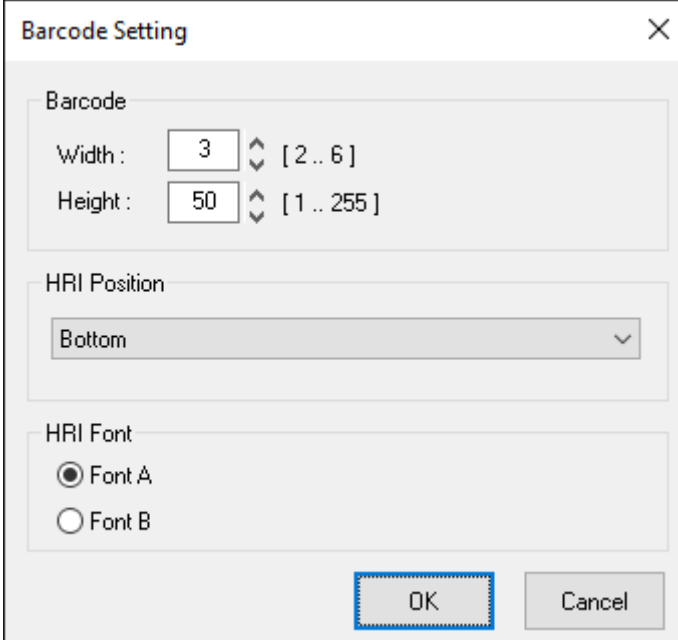
- 2) Click the **Barcode** tab.

4-4-1 1d Barcode

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.

Font Name	Symbology	Supported Characters	Size (Point)
Barcode1	UPC-A	Numeric: 0~9	20,40,60,80
Barcode2	UPC-E	Numeric: 0~9	
Barcode3	JAN13 (EAN)	Numeric: 0~9	
Barcode4	JAN8 (EAN)	Numeric: 0~9	
Barcode5	Code39	Numeric: 0~9 Symbols: \$, +, -, ., / Letters: A~Z	
Barcode6	ITF	Numeric: 0~9	
Barcode7	Codabar	Numeric : 0~9 Symbols: \$, +, -, ., /, : Letters: A~D	
Barcode8	Code93	ASCII : 0x00 ~ 0x7F	
Barcode9	Code128	ASCII : 0x00 ~ 0x7F	

If you want to change the default value of 1d barcode properties, select a Font Name and Type of one-dimensional barcode, and then click Properties. Click OK after changing the values of properties.



The image shows a 'Barcode Setting' dialog box with a close button (X) in the top right corner. It contains three sections: 'Barcode' with 'Width' set to 3 (range [2..6]) and 'Height' set to 50 (range [1..255]); 'HRI Position' with a dropdown menu set to 'Bottom'; and 'HRI Font' with two radio buttons, 'Font A' (selected) and 'Font B'. At the bottom are 'OK' and 'Cancel' buttons, with the 'OK' button highlighted by a blue dashed border.

4-4-2 2d Barcode

Windows driver supports two-dimensional barcode fonts as shown in the following table. Barcodes can be printed on the printer by using following font names.

Font Name	Symbology	Size (Point)
2D-Code1	PDF417	9.5
2D-Code2	QR Code	
2D-Code3	DATAMATRIX Code	

If you want to change the default value of 2d barcode properties, select a Font Name and Type of two-dimensional barcode, and then click Properties. Click OK after changing the values of properties for PDF417, QR Code, DATAMATRIX Code.

2D-Code Setting

PDF417

Column : 0 [0 .. 30]

Step : 0 [0, 3 .. 90]

Width : 3 [2 .. 8]

Height : 3 [2 .. 8]

Error Correction : Level 0

☐ Set the processing of simplified PDF417 symbol

QR Code

Size : 3 [1 .. 8]

Model : Model 2

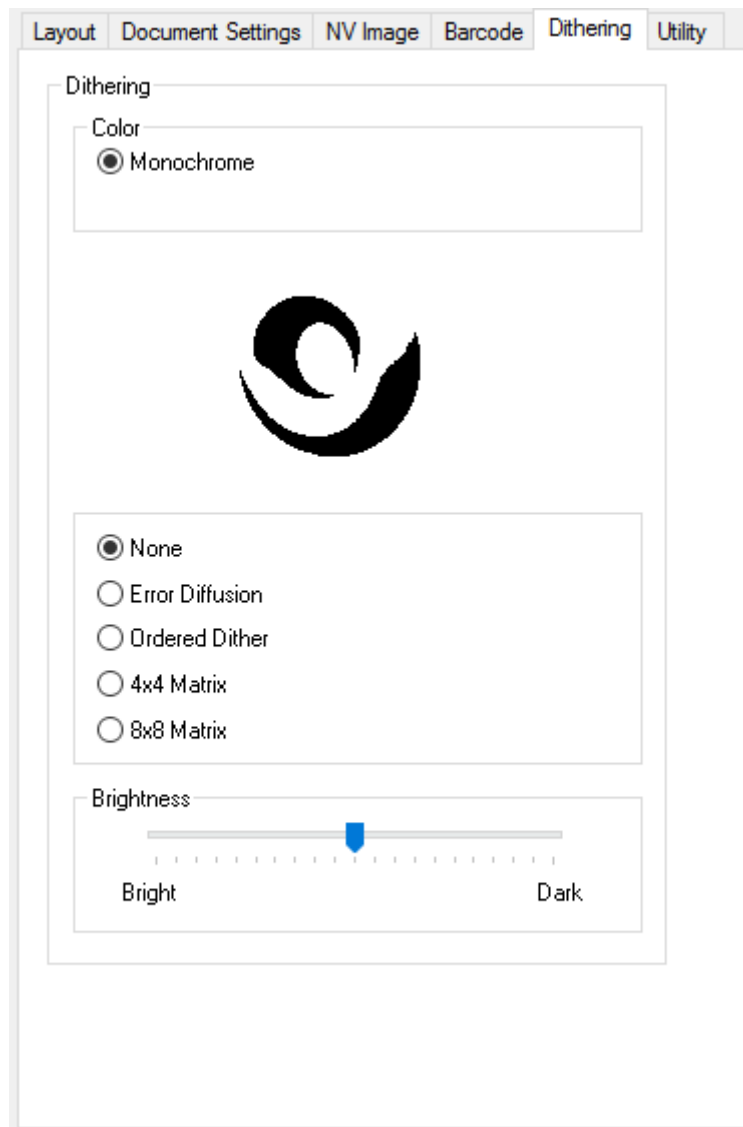
Error Correction : Level L

DATAMATRIX Code

Size : 3 [2, 3]

OK Cancel

4-5 Dithering



- 1) Open the **Printer Properties** window and then click **Printing Preferences** in the **General** tab.



Note

Please refer to below paths of Printer Properties window.

***Windows XP / Server 2003**

(Control Panel) – (Printers and Faxes) – (Right-click the icon of the printer) – (Click **Properties**)

***Windows Vista**

(Control Panel) – (Hardware and Sound) – (Printers) – (Right-click the icon of the printer) – (Click **Properties**)

***Server 2008 / 7 / 8 / Server 2012 / 10**

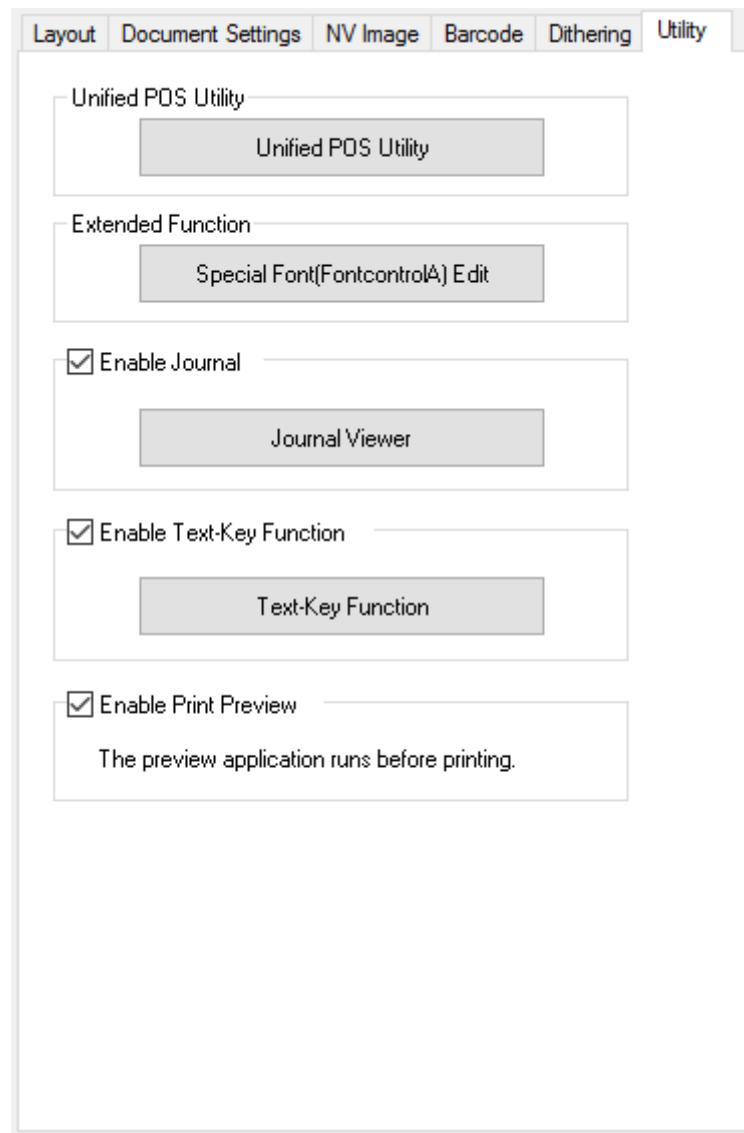
(Control Panel) – (Hardware and Sound) or (All Control Panel Items) – (Devices and Printers) – (Right-click the icon of the printer) – (Click **Printer Properties**)

- 2) Click the **Dithering** tab.

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

None	4x4 Matrix
Error Diffusion	8x8 Matrix
Ordered Dither	

4-6 Utility



- 1) Open the **Printer Properties** window and then click **Printing Preferences** in the **General** tab.



Note

Please refer to below paths of Printer Properties window.

***Windows XP / Server 2003**

(Control Panel) – (Printers and Faxes) – (Right-click the icon of the printer) – (Click **Properties**)

***Windows Vista**

(Control Panel) – (Hardware and Sound) – (Printers) – (Right-click the icon of the printer) – (Click **Properties**)

***Server 2008 / 7 / 8 / Server 2012 / 10**

(Control Panel) – (Hardware and Sound) or (All Control Panel Items) – (Devices and Printers) – (Right-click the icon of the printer) – (Click **Printer Properties**)

- 2) Click the **Utility** tab.

4-6-1 Unified POS Utility

Refer to the **Unified POS Utility** manual for details.

4-6-2 Special Font Edit Utility

The purpose of **FontControlA** font is not for text printing. It is used to define the printer command, assign the defined printer command to a specific ASCII character, and send it to the printer. The range of ASCII code that the command can be assigned is from 0x20 to 0x7F, and the command can be easily assigned using this utility.

- 1) Click **Special Font Edit**.
- 2) Select an ASCII code character and enter the print command. All values should be entered in hexadecimal number format.
- 3) Click **Apply** and then click **OK**.

The screenshot shows the 'FontControlA Editor' window. It contains a table with three columns: 'Char', 'Hex', and 'Command'. The first row is highlighted in blue, showing '!' for hex '20' with command '1B 3D 00'. Other rows show characters from '!"#\$%&' to '01234567' with their corresponding hex values and commands. To the right of the table is a panel with a 'Char' label, a text box containing '20', a 'Hex' label, and buttons for 'Apply', 'Delete', 'OK', and 'Cancel'. At the bottom, there is an 'Edit' section with a text box containing '1B 3D 00' and a scroll bar.

Char	Hex	Command
!	20	1B 3D 00
!"	21	48 44 48 0A
"	22	
#	23	
\$	24	
%	25	
&	26	
'	27	
(28	
)	29	
*	2a	
+	2b	
,	2c	
-	2d	
.	2e	
/	2f	
0	30	
1	31	
2	32	
3	33	
4	34	
5	35	
6	36	
7	37	

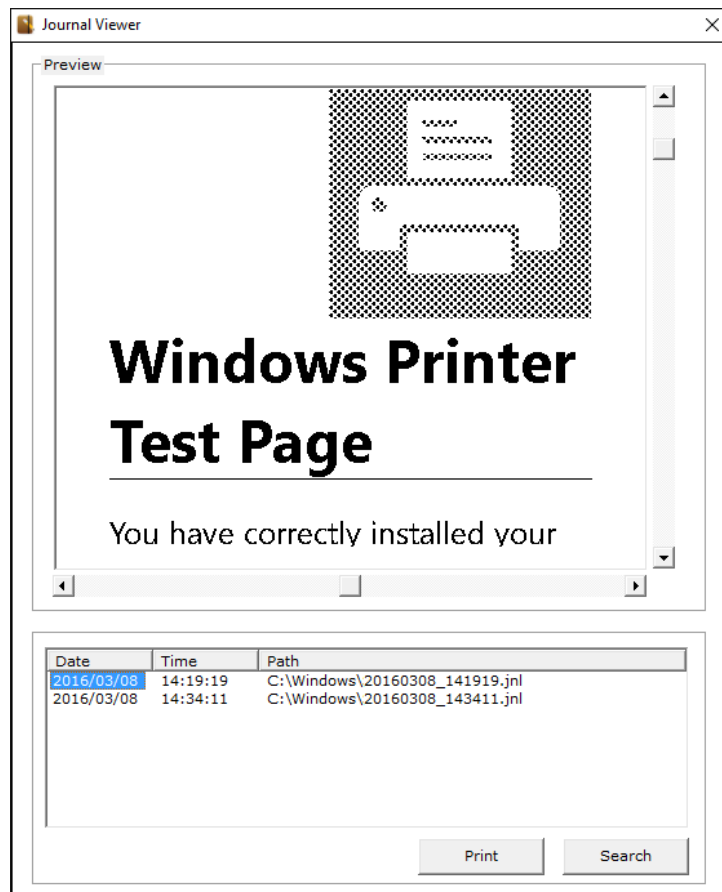
Char: [20]
Hex: [20]
[Apply] [Delete] [OK] [Cancel]

Edit: [1B 3D 00]

4-6-3 Journal Viewer

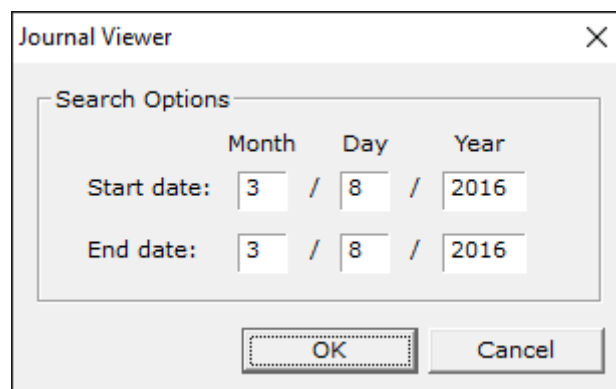
Journal is a function to save a copy of printed receipts. Copies can be saved without using journal printer with this function. Journal saves each printed document in a file and the saved file can be viewed by using this utility.

1) Check **Enable Journal** to run **Journal Viewer**, and then click **Journal Viewer**.



2) Click **Search** to set search condition, and then enter **Start Date** and **End Date**.

3) Click **OK** to search the files created within the specified period.



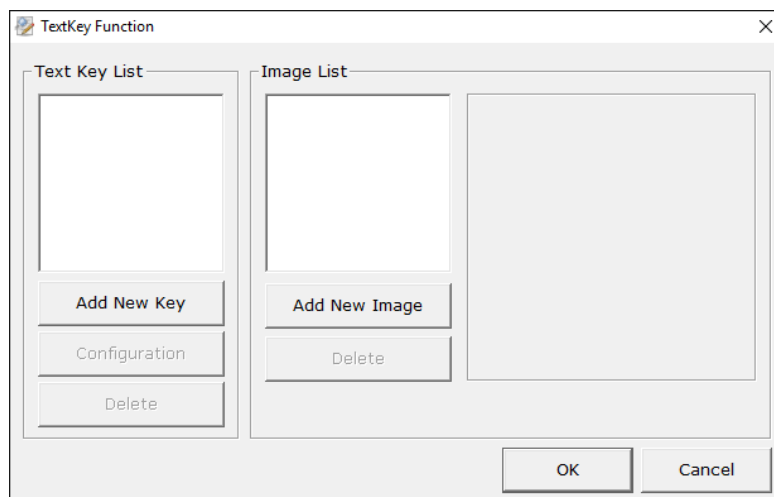
4) Select the file to print from the list and click **Print** to send the data stored in the file to the printer.

4-6-4 Text-Key Function

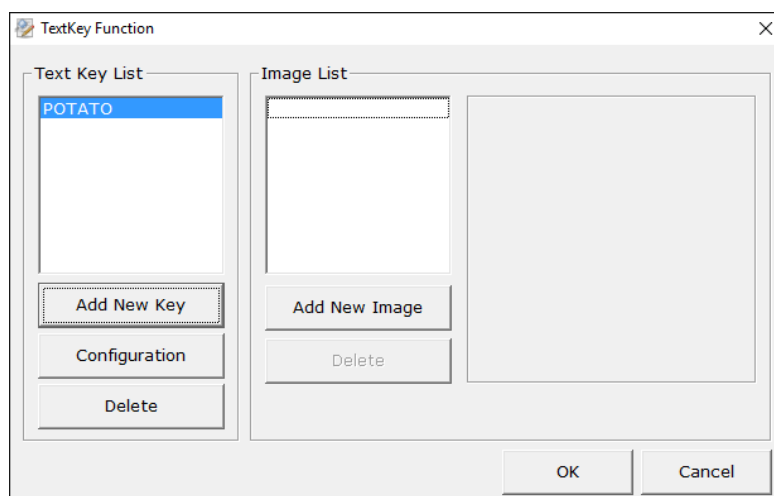
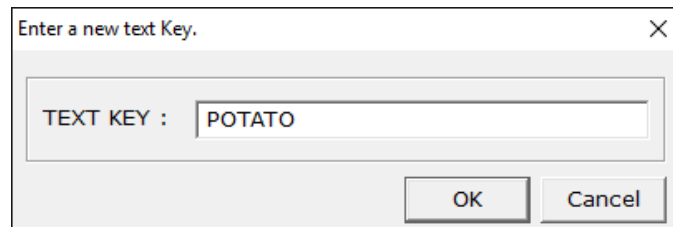
Text-Key Function is a utility to replace specific text (Text-Key) with other texts or graphic images, and to add images to the bottom of receipts. This function can be used only when using printer fonts (device fonts). It has no effect when using Windows fonts (True Type fonts) or the data for Text-Key does not exist on a Print-Job.

► How to replace Text-Key with other texts.

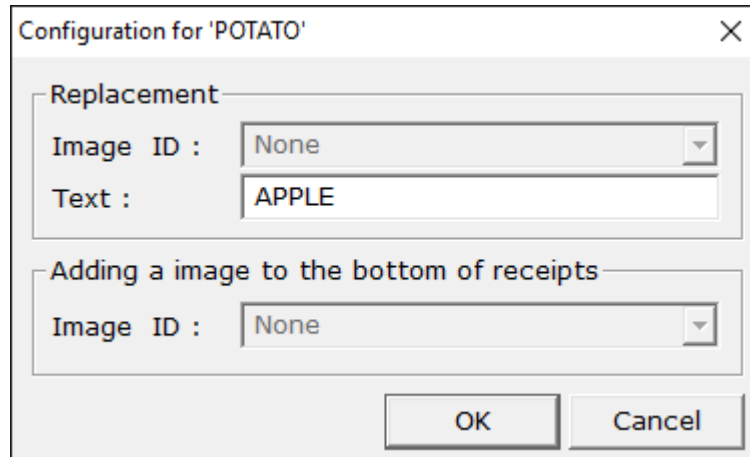
1) Check **Enable Text-Key Function** and then click **Text-Key Function**.



2) Click **Add New Key**, type a text to be used as Text-Key, and then click **OK**.

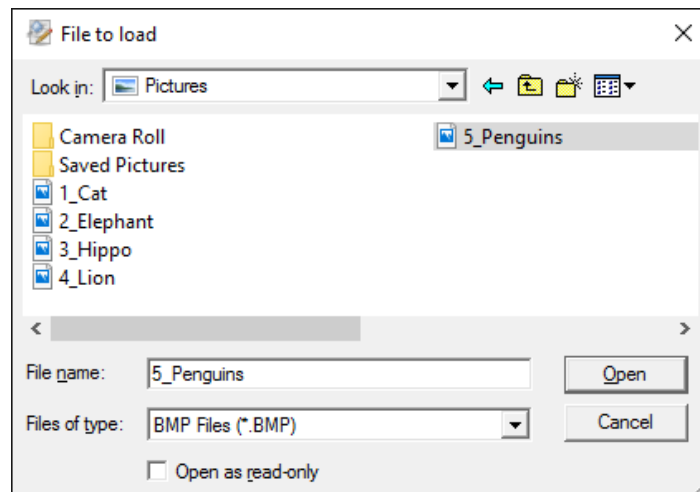


- 3) If the Text-Key is selected, The **Configuration** button is enabled.
- 4) Click **Configuration** to enter a text, which is used to replace the selected Text-Key with the text entered. For example, if you enter “**APPLE**” in the text box as below, the Text-key, “**POTATO**” can be replaced with “**APPLE**”.

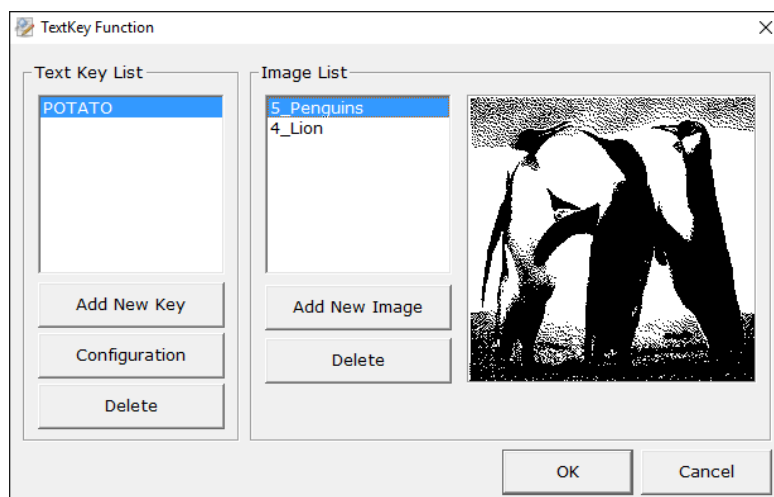
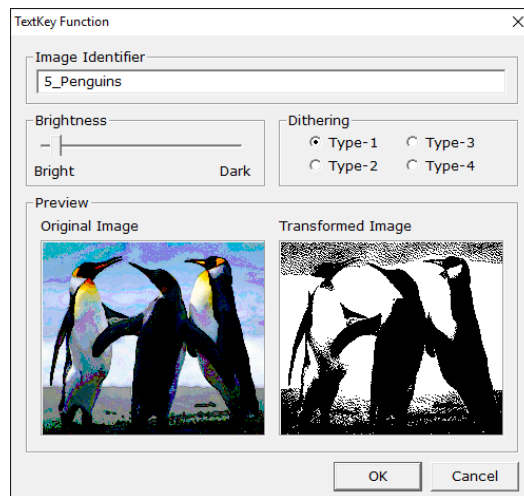


- How to replace Text-Key with a graphic image and to add it to the bottom of receipts.

- 1) This utility can also replace the selected Text-Key with a graphic image instead of texts and can add a graphic image to the bottom of receipts. It is necessary to add images to the image list.
- 2) Click **Add New Image** to browse for an image to add to the list.

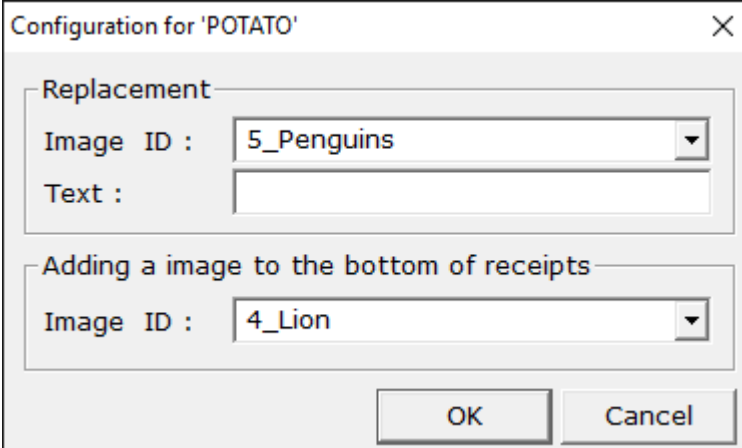


- 3) Enter a unique name to be added, adjust the brightness, select a dithering type, and then click **OK**. Repeat 2 to 3 step to add up to as much as you want.



- 4) Select a Text-Key in the Text-Key list, and then click **Configuration**.

- 5) To replace the selected Text-Key with a graphic image, select one of the available identifier via the combo box under “**Replacement**” label. There are two replacement functions but only one of the two is available.



Configuration for 'POTATO'

Replacement

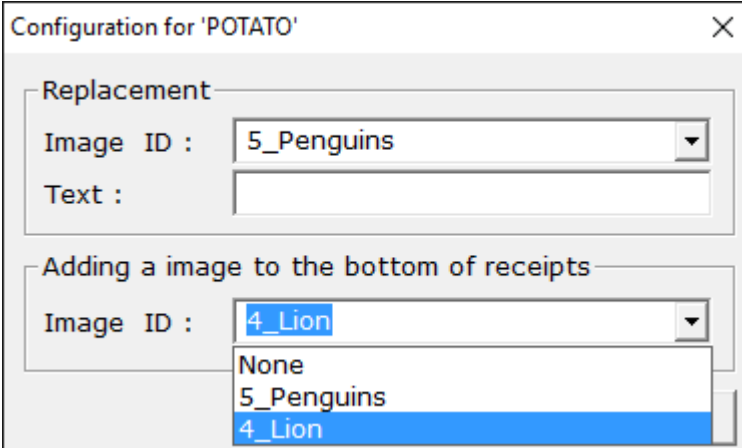
Image ID : 5_Penguins

Text :

Adding a image to the bottom of receipts

Image ID : 4_Lion

OK Cancel



Configuration for 'POTATO'

Replacement

Image ID : 5_Penguins

Text :

Adding a image to the bottom of receipts

Image ID : 4_Lion

None
5_Penguins
4_Lion

- 6) In order to print a graphic image to the bottom of receipts, select one of the available identifier via the combo box under “**Adding a image to the bottom of receipts**” label. The graphic image for the selected identifier only will be printed if the data for the selected Text-Key were found on a Print-Job.

4-6-5 Print Preview

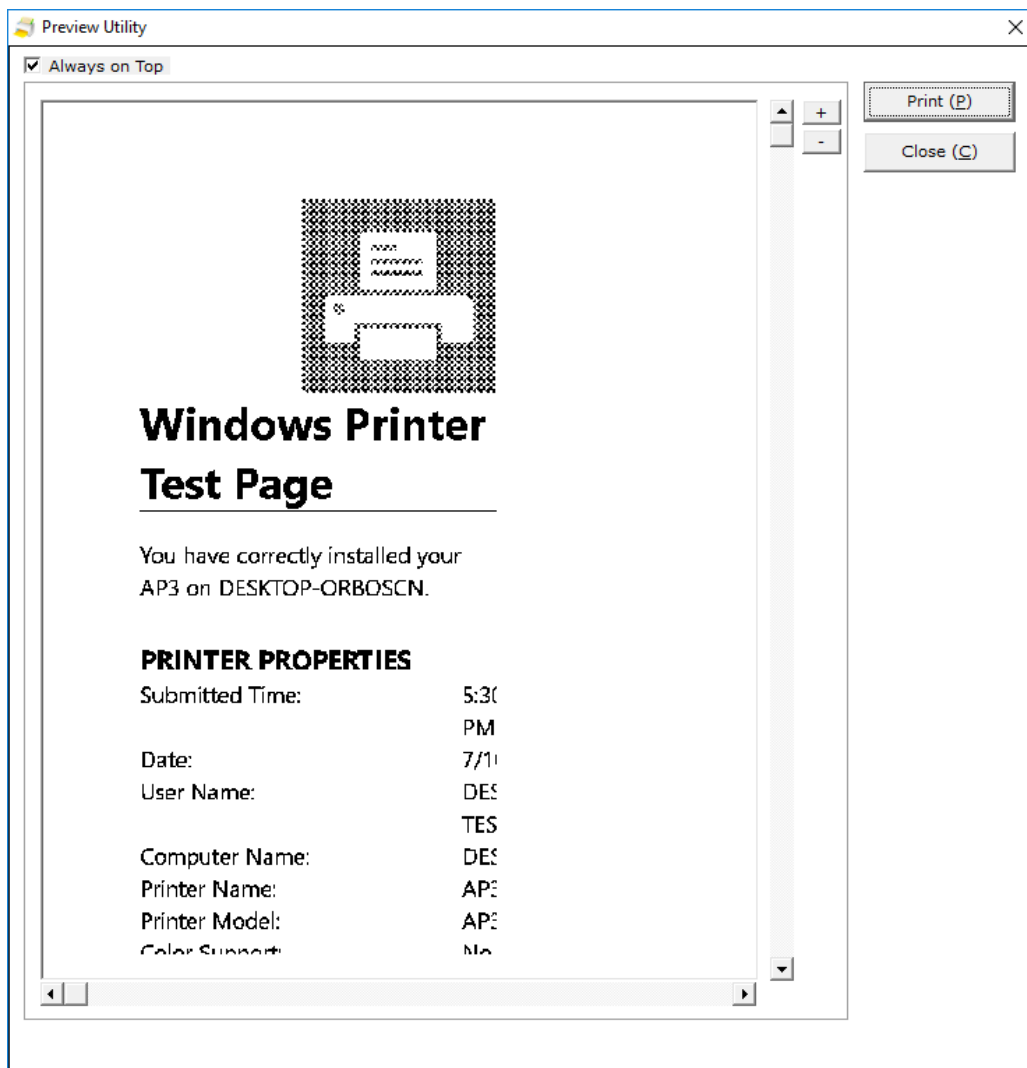
This application with a preview of a print-job runs, and windows driver does not directly send print-job data to the printer when enabled by clicking “**Enable Print Preview**”. Print-job data can only be sent to the printer in the application.



Note

The actual output of preview image processed by the application might look a little different.

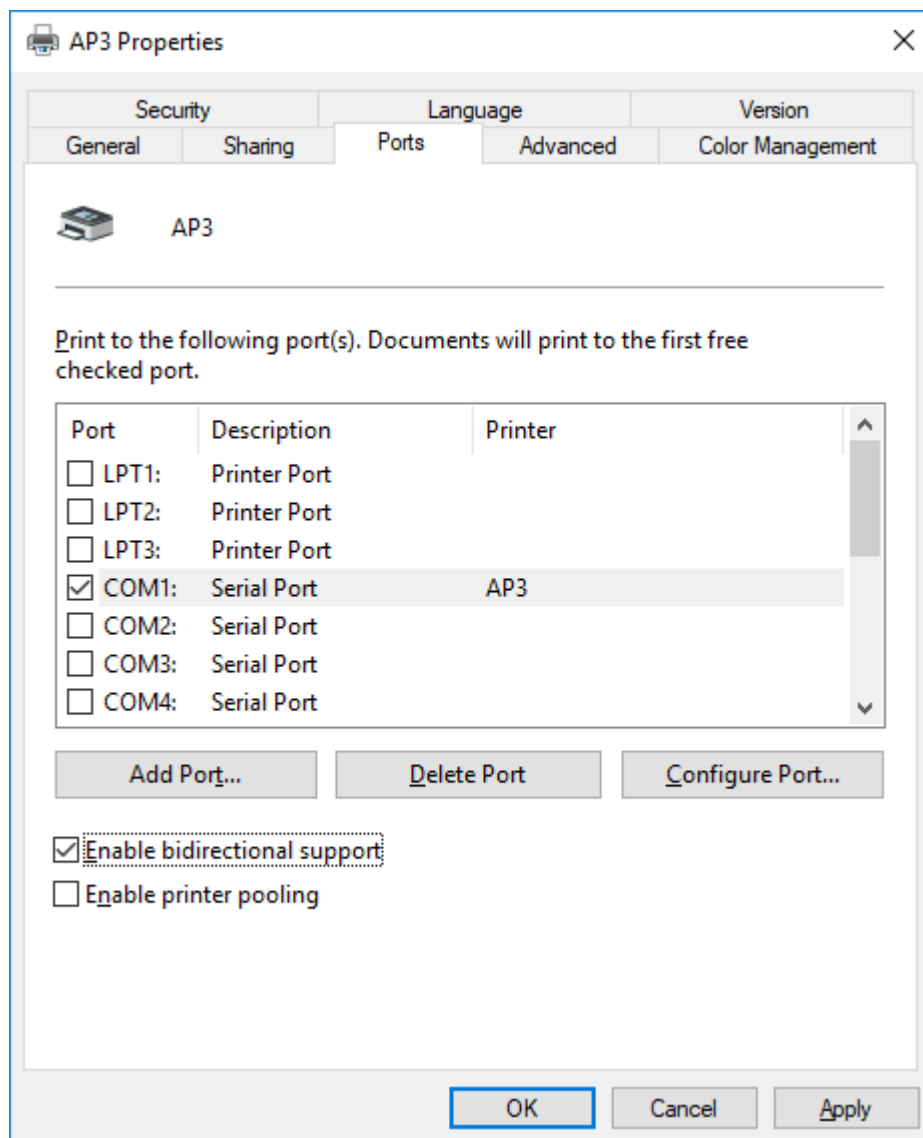
1) Check **Enable Print Preview** to make Windows Driver ready for running the application.



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.

4-7 Bidirectional Communication



1) Open the Printer Properties window.



Note

Please refer to below paths of Printer Properties window.

***Windows XP / Server 2003**

(Control Panel) – (Printers and Faxes) – (Right-click the icon of the printer) – (Click **Properties**)

***Windows Vista**

(Control Panel) – (Hardware and Sound) – (Printers) – (Right-click the icon of the printer) – (Click **Properties**)

***Server 2008 / 7 / 8 / Server 2012 / 10**

(Control Panel) – (Hardware and Sound) or (All Control Panel Items) – (Devices and Printers) – (Right-click the icon of the printer) – (Click **Printer Properties**)

2) Click **Ports** tab.

Windows Driver

Because “**bidirectional support**” is disabled by default, it is necessary to check Enable bidirectional support to get status from the printer. Sample codes can help you get more status information than the status information that OS supplies as standard way. This windows driver supports only one-on-one communication between the printer and host (typically a PC).

Printer status that OS supports	Printer status that OS does not support
<ul style="list-style-type: none">- ONLINE/OFFLINE- PAPER EMPTY	<ul style="list-style-type: none">- CASH DRAWER OPEN/CLOSE

5. Windows Driver Specification

5-1 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			Size (Dot)	Size (Point)	
				180 dpi	203 dpi
FontA1x1	FontA1x1[Ext.]	FontA1x1[255]	12x24	9.5	8.5
FontA1x2	FontA1x2[Ext.]	FontA1x2[255]	12x48	19	17
FontA2x1	FontA2x1[Ext.]	FontA2x1[255]	24x24	9.5	8.5
FontA2x2	FontA2x2[Ext.]	FontA2x2[255]	24x48	19	17
FontA2x4	FontA2x4[Ext.]	FontA2x4[255]	24x96	38.5	34
FontA4x2	FontA4x2[Ext.]	FontA4x2[255]	48x48	19	17
FontA4x4	FontA4x4[Ext.]	FontA4x4[255]	48x96	38.5	34
FontA4x8	FontA4x8[Ext.]	FontA4x8[255]	48x192	77	68
FontA8x4	FontA8x4[Ext.]	FontA8x4[255]	96x96	38.5	34
FontA8x8	FontA8x8[Ext.]	FontA8x8[255]	96x192	77	68
FontB1x1	FontB1x1[Ext.]	FontB1x1[255]	9x17	7	6
FontB1x2	FontB1x2[Ext.]	FontB1x2[255]	9x34	13.5	12
FontB2x1	FontB2x1[Ext.]	FontB2x1[255]	18x17	7	6
FontB2x2	FontB2x2[Ext.]	FontB2x2[255]	18x34	13.5	12
FontB2x4	FontB2x4[Ext.]	FontB2x4[255]	18x68	27	24
FontB4x2	FontB4x2[Ext.]	FontB4x2[255]	36x34	13.5	12
FontB4x4	FontB4x4[Ext.]	FontB4x4[255]	36x68	27	24
FontB4x8	FontB4x8[Ext.]	FontB4x8[255]	36x136	54.5	48.5
FontB8x4	FontB8x4[Ext.]	FontB8x4[255]	72x68	27	24
FontB8x8	FontB8x8[Ext.]	FontB8x8[255]	72x136	54.5	48.5
FontC1x1	FontC1x1[Ext.]	FontC1x1[255]	9x24	9.5	8.5
FontC1x2	FontC1x2[Ext.]	FontC1x2[255]	9x48	19	17
FontC2x1	FontC2x1[Ext.]	FontC2x1[255]	18x24	9.5	8.5
FontC2x2	FontC2x2[Ext.]	FontC2x2[255]	18x48	19	17
FontC2x4	FontC2x4[Ext.]	FontC2x4[255]	18x96	38.5	34
FontC4x2	FontC4x2[Ext.]	FontC4x2[255]	36x48	19	17
FontC4x4	FontC4x4[Ext.]	FontC4x4[255]	36x96	38.5	34
FontC4x8	FontC4x8[Ext.]	FontC4x8[255]	36x192	77	68
FontC8x4	FontC8x4[Ext.]	FontC8x4[255]	72x96	38.5	34
FontC8x8	FontC8x8[Ext.]	FontC8x8[255]	72x192	77	68

Printer Fonts are defined as follows.

1) FontA1x2

- ANSI Character code support (Code Page 1252)
- Font size (Dot): 12 x 48 (Double height)
- Font size (Point): 19 (180 dpi)
- Font size (Point): 17 (203 dpi)

2) FontA1x2[Ext.]

- IBM expansion Character code support (Code Page 437)
- Font size (Dot): 12 x 48 (Double height)
- Font size (Point): 19 (180 dpi)
- Font size (Point): 17 (203 dpi)

3) FontA1x2[255]

- Buyer exclusive code support (User Code page)
- Font size (Dot): 12 x 48 (Double height)
- Font size (Point): 19 (180 dpi)
- Font size (Point): 17 (203 dpi)

5-2 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.

**Note**

This function is not for printing general texts.

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 pulse width)
b	Open Drawer 2 (100ms pulse width)
c	Open Drawer 2 (150ms pulse width)
d	Open Drawer 2 (200ms pulse width)
e	Open Drawer 2 (250ms pulse width)
f	Open Drawer 2 without paper feeding (50ms pulse width)
g	Cut Receipt (Partial cut) without paper feeding
i	Prints the NV Image(FS p) saved in the 00 address (double-size)
j	Prints the NV Image(FS p) saved in the 01 address (double-size)
k	Prints the NV Image(FS p) saved in the 02 address (double-size)
l	Prints the NV Image(FS p) saved in the 03 address (double-size)
m	Prints the NV Image(FS p) saved in the 04 address (double-size)
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	Aligns text to the left
x	Aligns text to the center
y	Aligns text to the right
A	Open Drawer 1 (50ms pulse width)
B	Open Drawer 1 (100ms pulse width)
C	Open Drawer 1 (150ms pulse width)
D	Open Drawer 1 (200ms pulse width)
E	Open Drawer 1 (250ms pulse width)
F	Open Drawer 1 without paper feeding (50ms pulse width)
G	Prints the NV bitmap(GS (L) saved in the 00 address
H	Prints the NV bitmap(GS (L) saved in the 01 address
I	Prints the NV bitmap(GS (L) saved in the 02 address
J	Prints the NV bitmap(GS (L) saved in the 03 address
K	Prints the NV bitmap(GS (L) saved in the 04 address
P	Cut Receipt (Partial cut)
R	Prints the NV Image(FS p) saved in the 00 address
S	Prints the NV Image(FS p) saved in the 01 address
T	Prints the NV Image(FS p) saved in the 02 address
U	Prints the NV Image(FS p) saved in the 03 address

V	Prints the NV Image(FS p) saved in the 04 address
[Prints the NV bitmap(GS (L) saved in the 00 address (double-size)
]	Prints the NV bitmap(GS (L) saved in the 01 address (double-size)
^	Prints the NV bitmap(GS (L) saved in the 02 address (double-size)
_	Prints the NV bitmap(GS (L) saved in the 03 address (double-size)
`	Prints the NV bitmap(GS (L) saved in the 04 address (double-size)

1) Example

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

2) **FontControl** font functions.

Font Name	Special Functions	Size (Point)	
		180 dpi	203 dpi
FontControl	Open Drawer #1 / # 2 Cut Receipt Cut receipt(without paper feeding) Justification (Left/Center/Right) Output HT, Output LF, Output CR, Print NV Image	9.5	8.5

Font Name	Special Functions	Size (Point)	
		180 dpi	203 dpi
FontControl	Open Drawer #1 / # 2 Cut Receipt Cut receipt(without paper feeding) Justification (Left/Center/Right) Output HT, Output LF, Output CR, Print NV Image	9.5	8.5

6. Use of Windows Driver

6-1 Use of Visual Basic

- This section contains example codes to control the printer using Windows driver with Visual Basic.

6-1-1 Windows Driver Selection

The following example code explains how to select “AP3” Windows driver.

```
For Each prnPrinter In Printers
    If prnPrinter.DeviceName = "AP3" Then
        Set Printer = prnPrinter
    Exit For
End If
Next
```

6-1-2 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 = 9.5
Printer.FontName = "FontA1x1"
Printer.Print "FontA1x1 Font"

Printer.EndDoc
```

6-1-3 Barcode Printing

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

```
'Print Bar Code.  
Printer.FontSize = 20  
  
Printer.FontName = "Barcode4"  
Printer.Print "1234567"  
  
Printer.EndDoc
```

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

```
'Print Two-dimensional Codes.  
Printer.FontSize = 9.5  
  
Printer.FontName = "2D-Code1"  
Printer.Print "Print Test PDF417"  
  
Printer.EndDoc
```

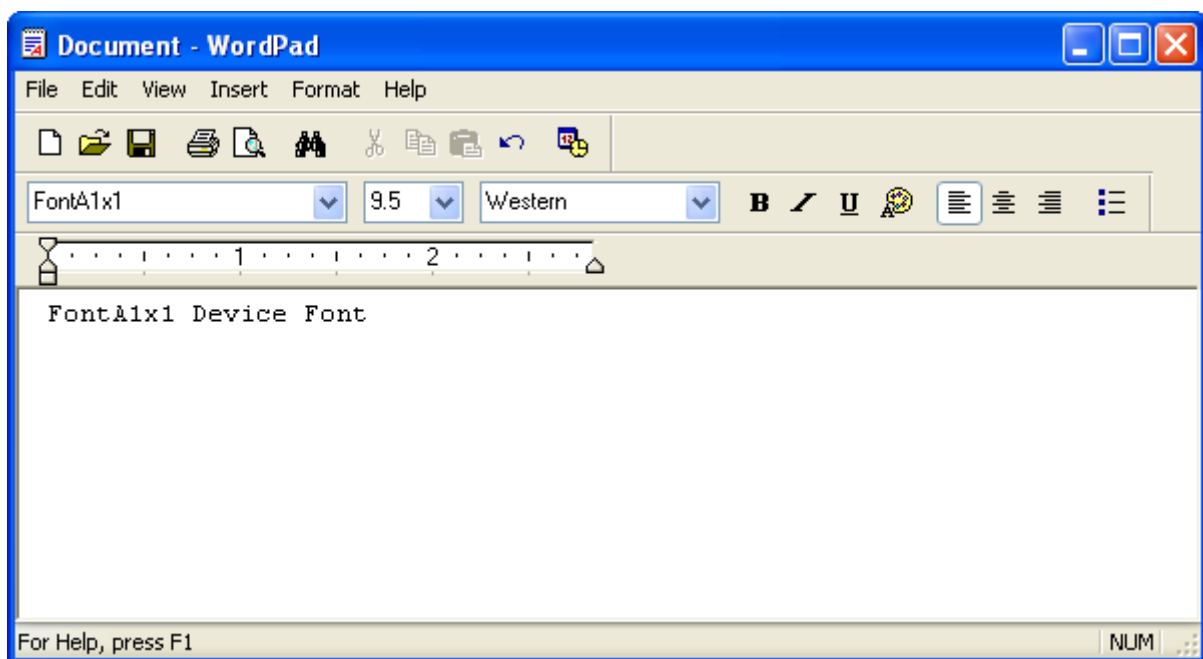
6-2 Use of WordPad

6-2-1 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 (AP3).
- Set paper size, orientation, margin, etc.
Select the "Page Setting" from "File" menu, and set paper size, orientation, and margin.

6-2-2 Text Printing



- 1) Select the font from the font selection box (FontA1x1).
- 2) Select the point size from the point selection box (9.5).
- 3) Enter the text to print.
- 4) Click the Print icon in the toolbar to print the text.

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Caution

Some semiconductor devices are easily damaged by static electricity. You should turn the printer “OFF”, before you connect or remove the cables on the rear side, in order to guard the printer against the static electricity. If the printer is damaged by the static electricity, you should turn the printer “OFF”.

Revision history

[illegible]