

Sanei Utility Driver for Windows

User's guide

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Introduction

Please read the following terms and conditions of use before installing the software.

During installation, you are assumed to have agreed to the following terms and conditions of use.

If you do not agree to those, stop installing the software and delete all distributed files.

Caution

- This software is owned by SANEI ELECTRIC INC. (hereafter SANEI), and SANEI holds the copyright and other related rights for the product.
 - SANEI grants the right of use of the software to users so that they may use the products of SANEI in relation to the software.
 - This software cannot be modified in any form in whole or in part.
However, it can be copied or distributed as you desire.
 - SANEI assumes no responsibility with the failure of software and software itself.
 - SANEI assumes no responsibility with respect to possible direct or indirect loss or damage resulting from use of the software.
 - SANEI may change the specifications of the software without prior permission from or notification of the user.
- *Microsoft Windows is a registered trademark of the Microsoft Corporation in the United States.

1. Function overview

1-1. Function overview

This utility driver provides various extended functions from various software in addition to supporting printing functions. The documents including True type fonts or Graphic data are printed after converting to monochrome graphics. Abundant functions such as acquisition of error status, various format setting, network setting are available by the utility functions.

1-2. Operating Environment

OS:

- Microsoft Windows 7 (32bit / 64bit) SP1
- Microsoft Windows 8 (32bit / 64bit)
- Microsoft Windows 10 (32bit / 64bit)
- Microsoft Windows 11
- .NET Framework 4.0 or later

Interface:

- USB interface
- Serial interface.
- Ethernet interface.

1-3. Restriction

(1) Restriction on connecting multiple printers.

It is possible to monitor upto eight error status for one PC.

One utility driver is associated with one printer and when maximum 8 units are set up, eight utility drivers should be installed and set.

(2) Interface for status monitor

The serial interface and virtual COM support only the printing function.

Use the USB interface or Ethernet interface to monitor utility functions and printer status.

However, even if the Ethernet interface is used, the number of PCs whose status can be monitored is one.

(3) Printer friendly name

The installed utility driver identifies a friendly name. Therefore, do not change the name from the first 20 characters of the friendly name.

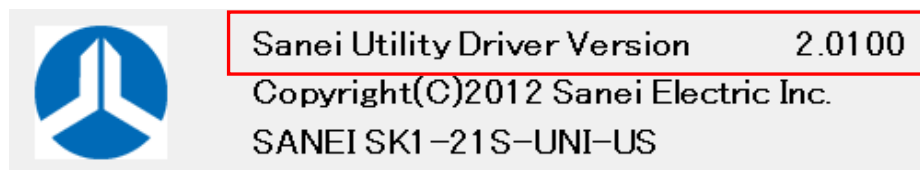
2. Uninstall

If the utility driver has already been installed, uninstall the utility driver and re-install it.

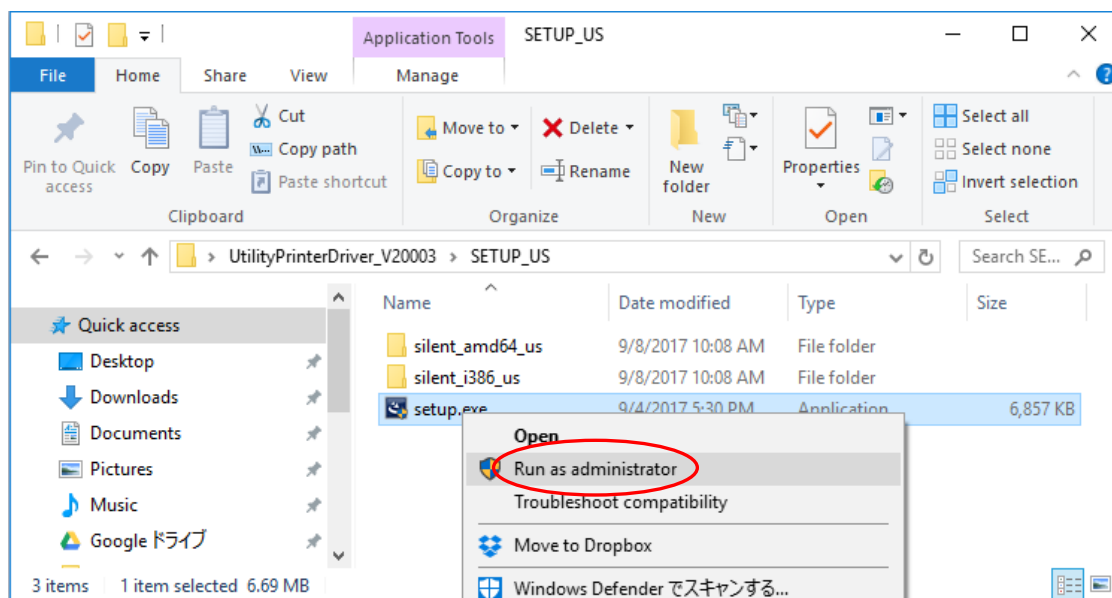
This chapter shows the procedure how to uninstall the utility driver.

In case the version of utility driver already installed is Ver1.xx, refer to "Uninstall procedure of Version 1.xx" as per attached, first.

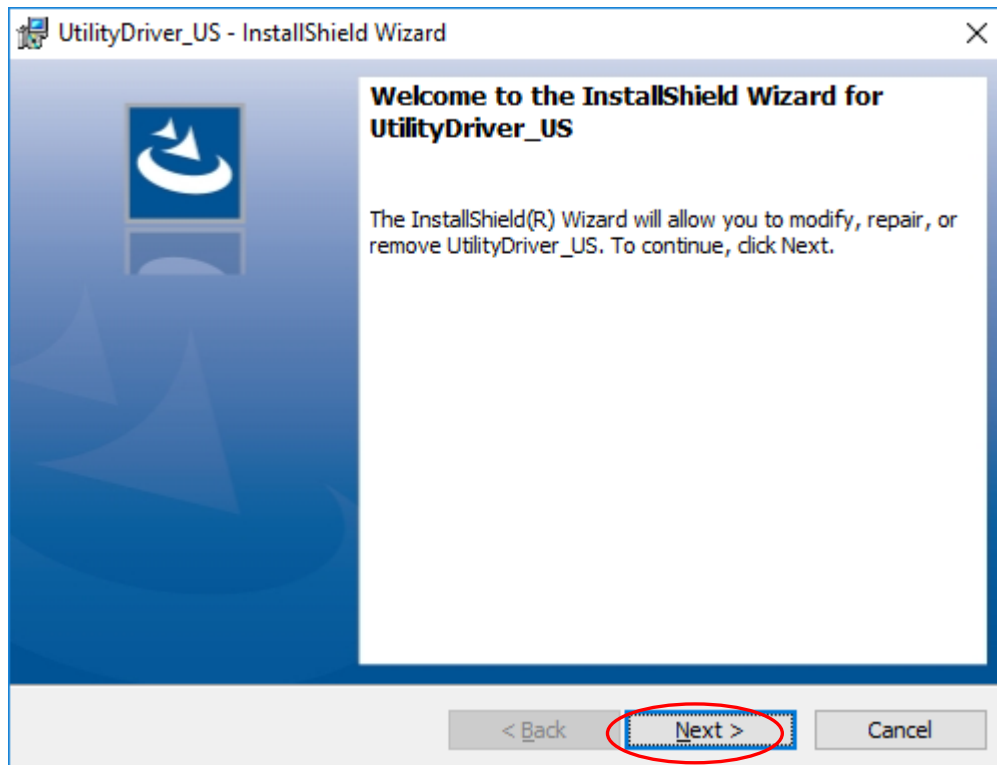
The version already installed can be checked by the top tab of utility tool.



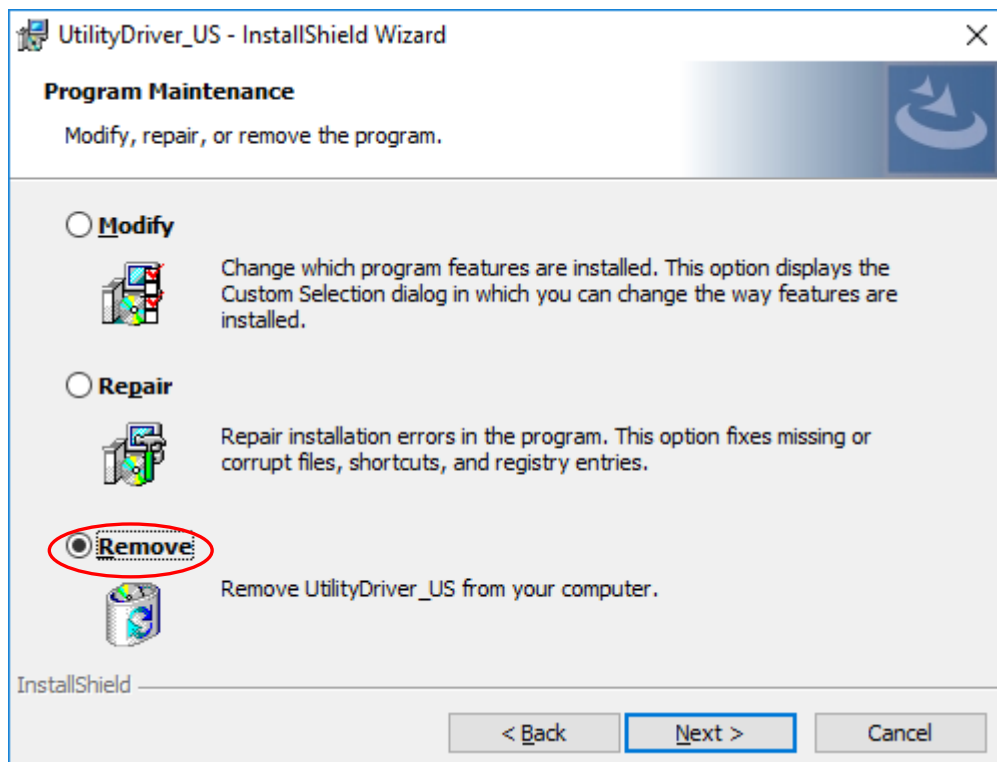
STEP1. Right-click "setup.exe" in the SETUP_US folder and select "Run as administrator".



STEP2. Click "Next".

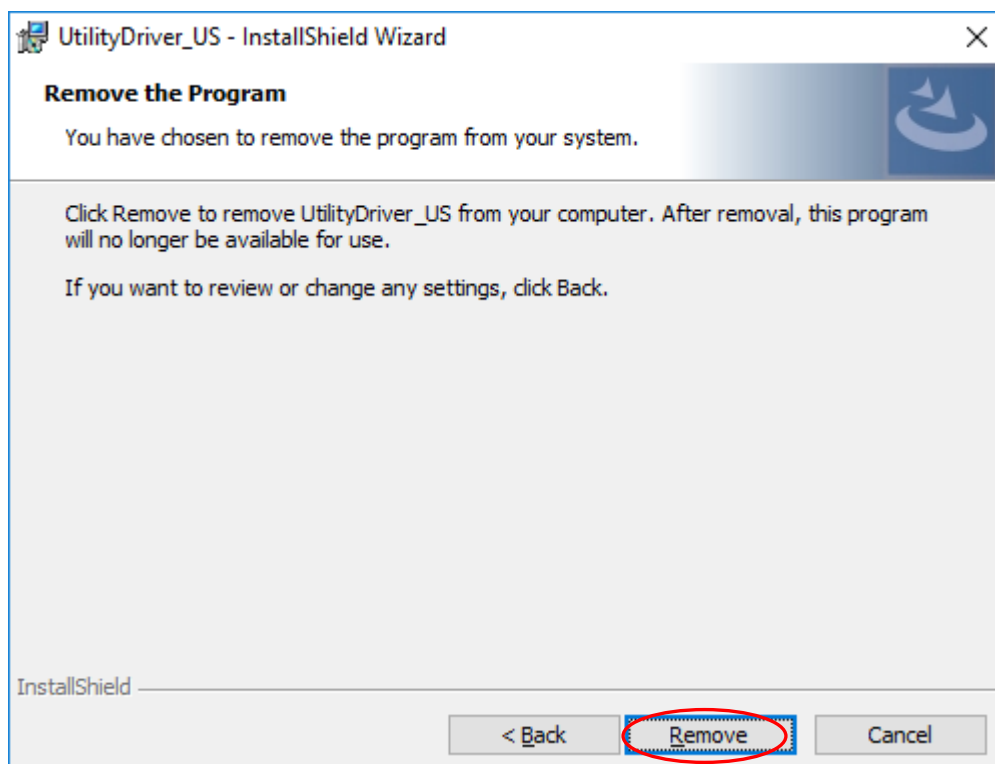


STEP3. Check the "Remove" and Click "Next".



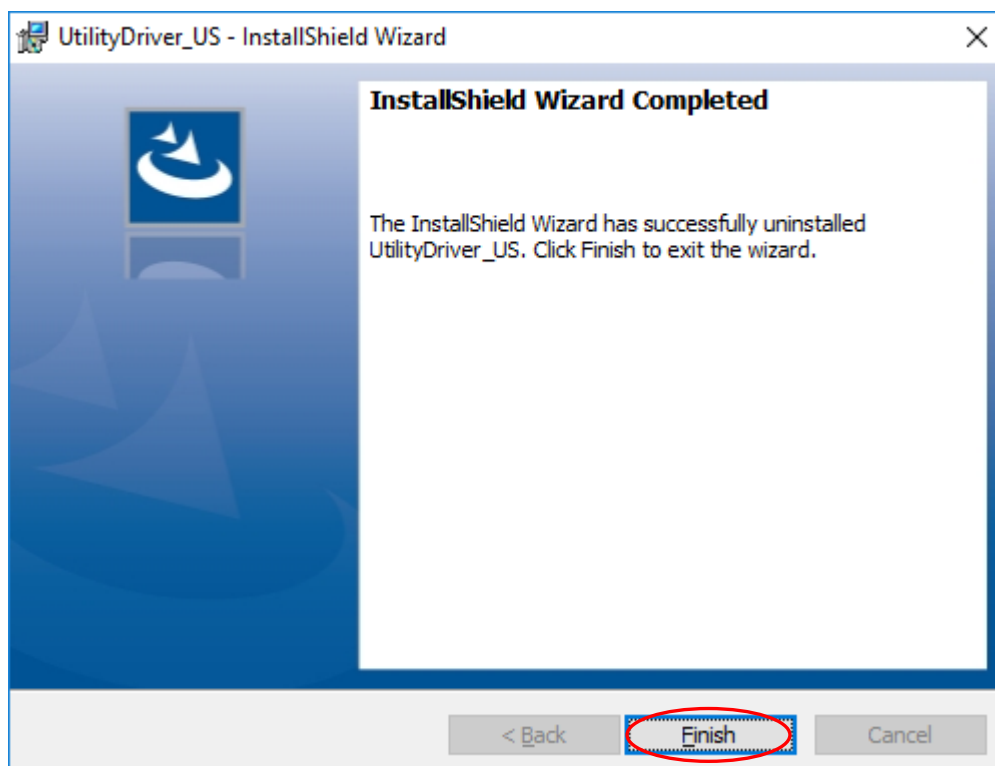
*This driver does not correspond to modify and repair.

STEP4. Click "Remove".



STEP5. Click "Finish".

The utility driver will be deleted in this step.



3. Install

The procedure explained below is an example for installing SANEI SK1-31S-UNI-US driver.

The following procedure example is a guidance screen of Windows10 64bit.

<Note before installation>

- Depending on the OS, installation method might be different from this procedure.
- Delete (uninstall) the older printer drivers prior to install this Utility driver.
- Make sure the latest firmware is installed the printer
- Make sure the printer parameter is set up correct values before installation. (ex. SK1 kiosk printer)

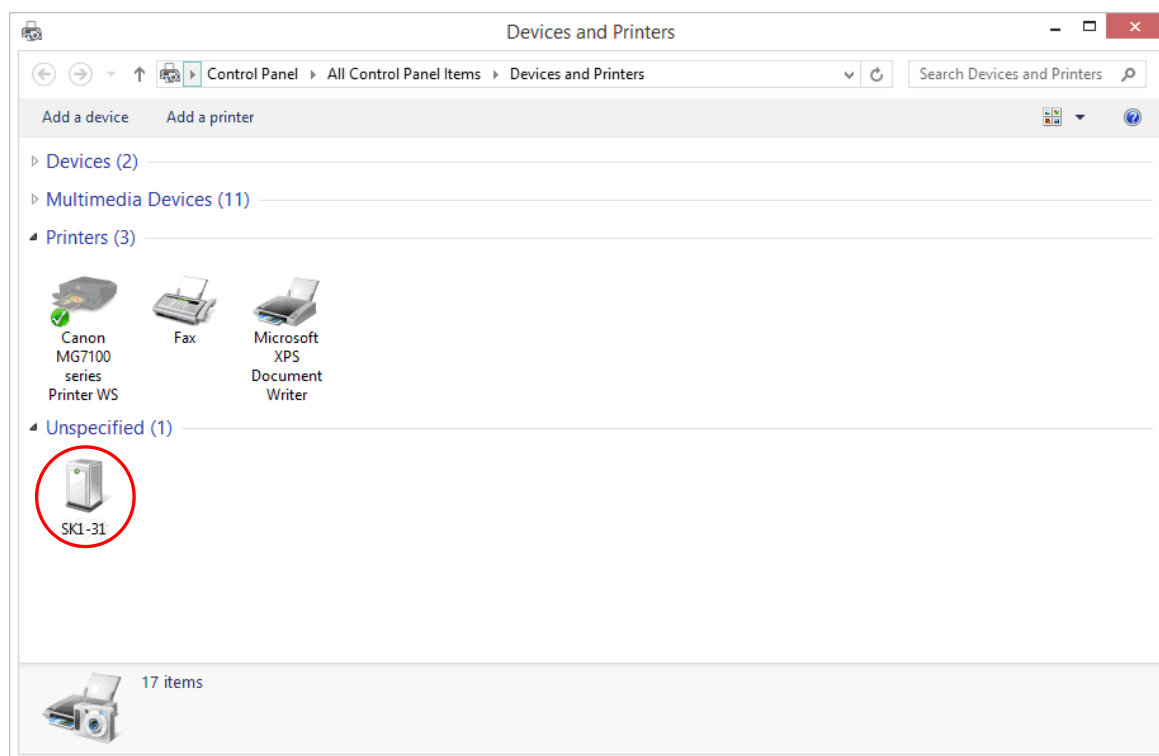
OFFLINE BUSY = OFF, MARK DETECTION = OFF, MARK RE-DETECTION = OFF

USB DEVICE CLASS = PRINTR and COMMAND MODE = A

3-1. Install the driver (USB Interface)

STEP1. Power ON the printer and connect the USB cable to your PC.

“Unspecified” SK1-31 appears on “Devices and printers”.

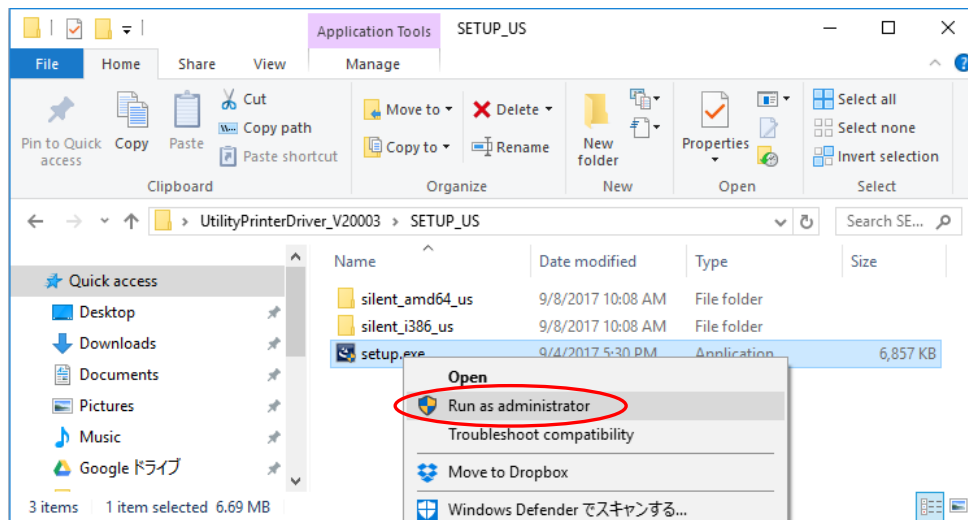


※As shown in the figure below, If a clock mark is displayed on the icon, please wait until the clock mark disappears.

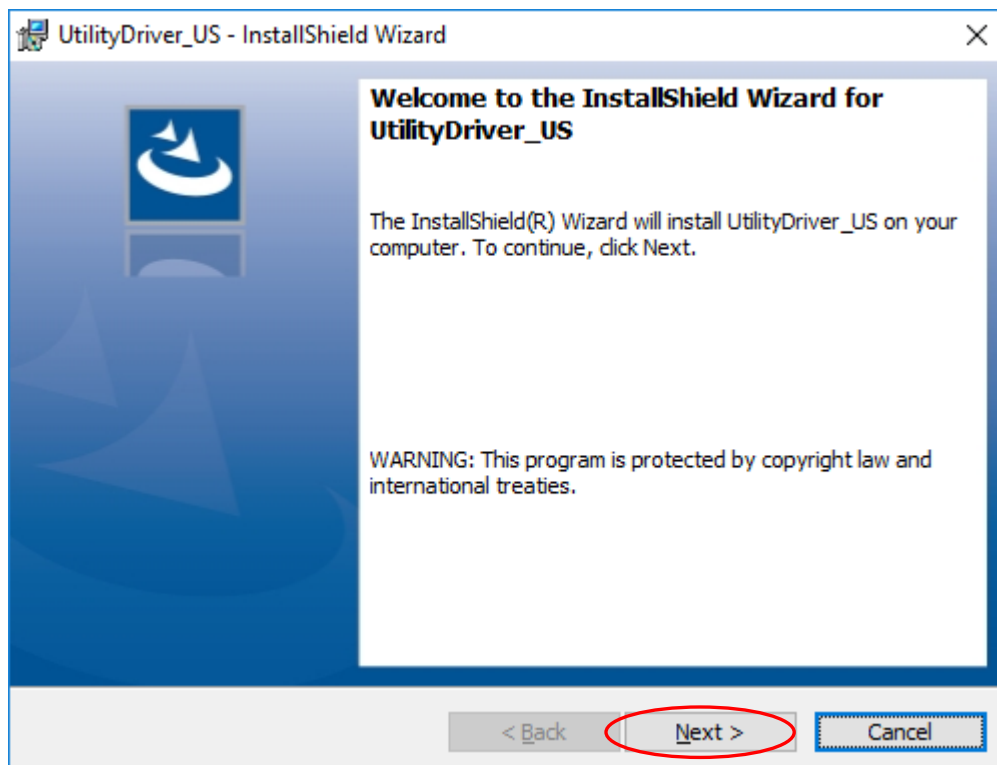


Displaying clock mark

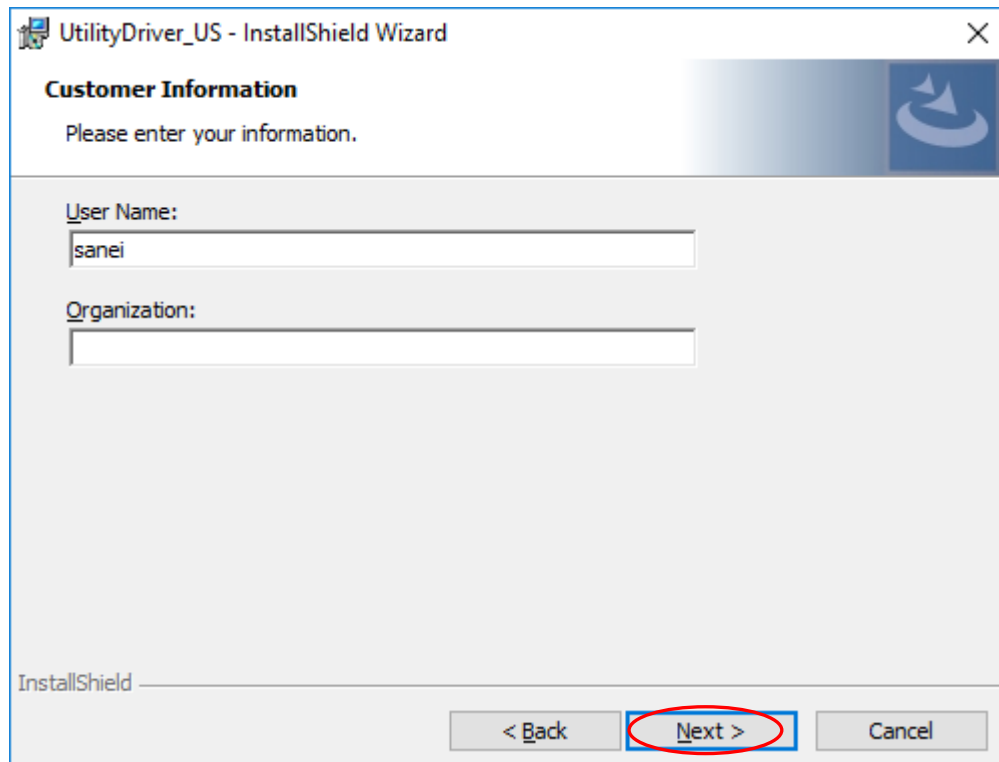
STEP2. Right-click "setup.exe" in the SETUP_US folder and select "Run as administrator".



STEP3. Click "Next".



STEP4. Click "Next" after the user information is filled out.



UtilityDriver_US - InstallShield Wizard

Customer Information

Please enter your information.

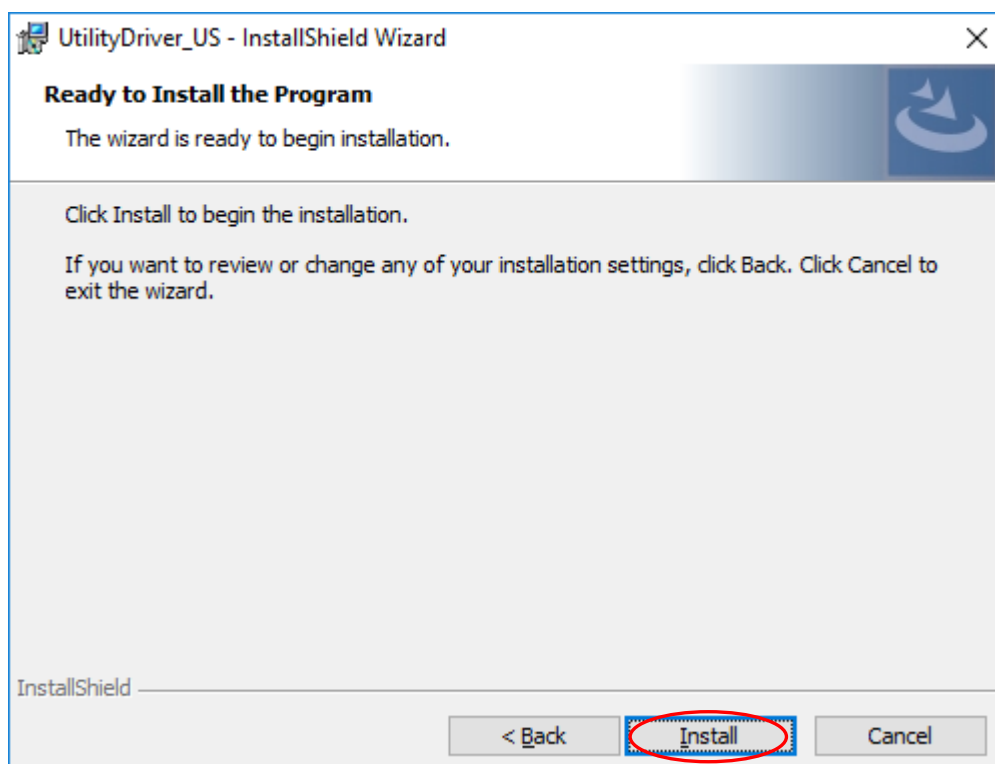
User Name:
sanei

Organization:

InstallShield

< Back Next > Cancel

STEP5. Click "Install".



UtilityDriver_US - InstallShield Wizard

Ready to Install the Program

The wizard is ready to begin installation.

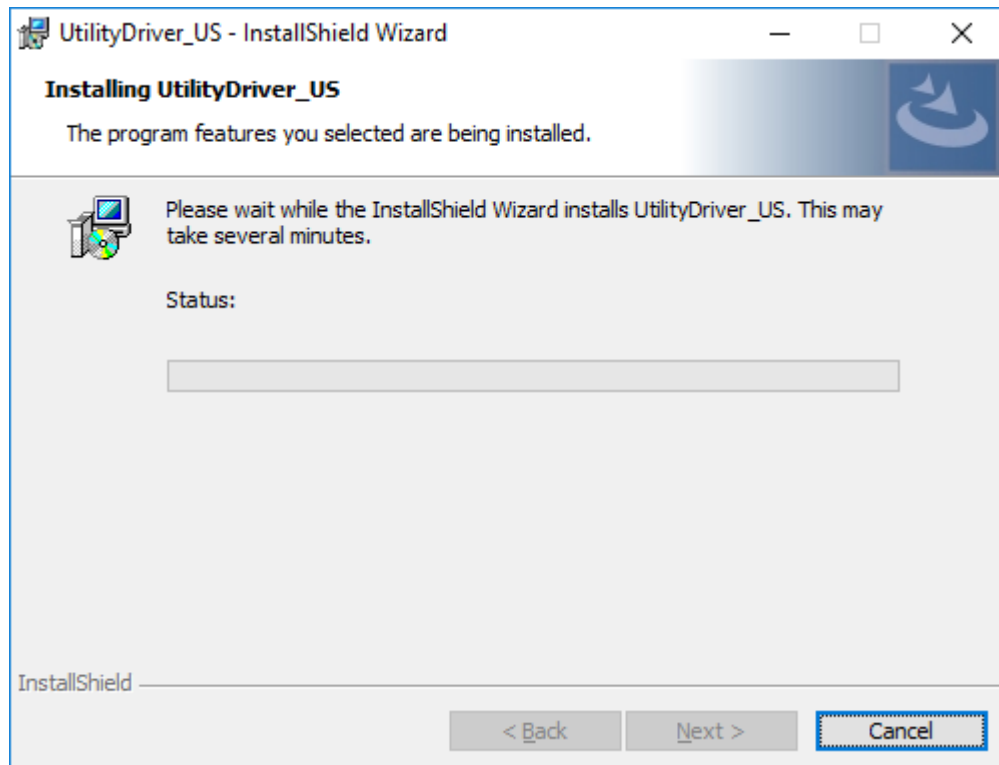
Click Install to begin the installation.

If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.

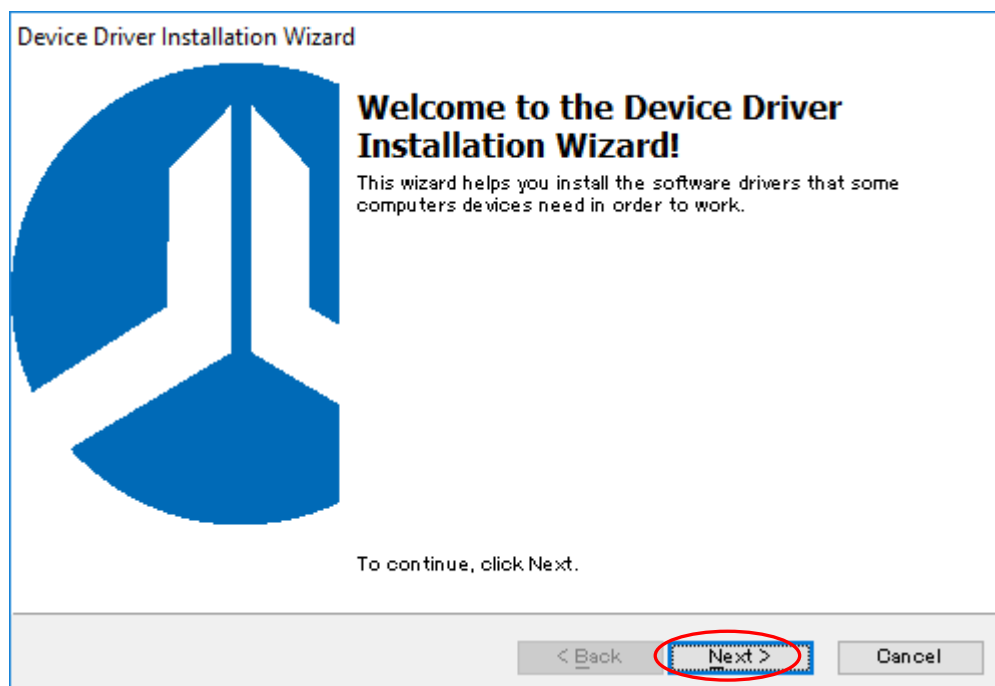
InstallShield

< Back Install Cancel

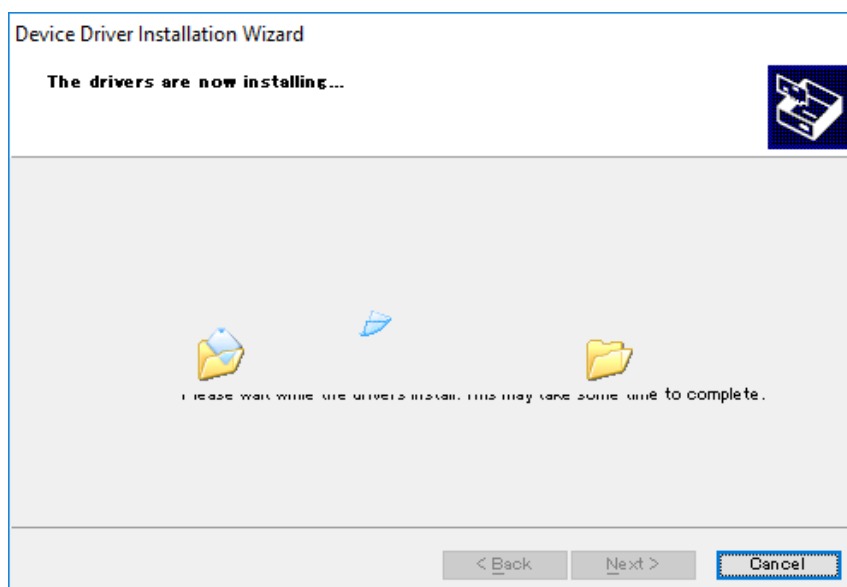
STEP6. Wait for a while as the installation starts.



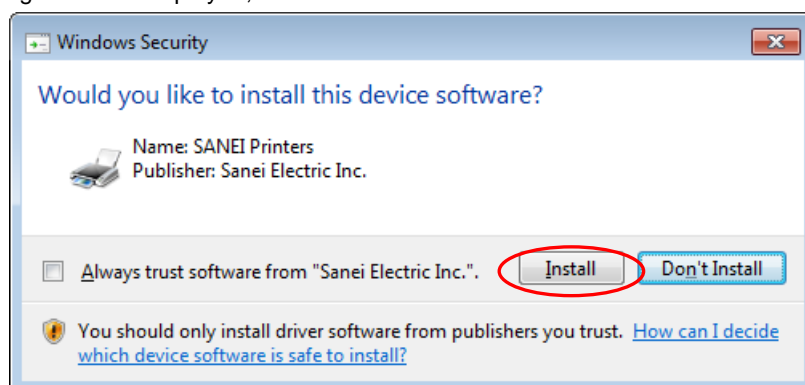
STEP7. Utility Driver Installer is shown up and click "Next".



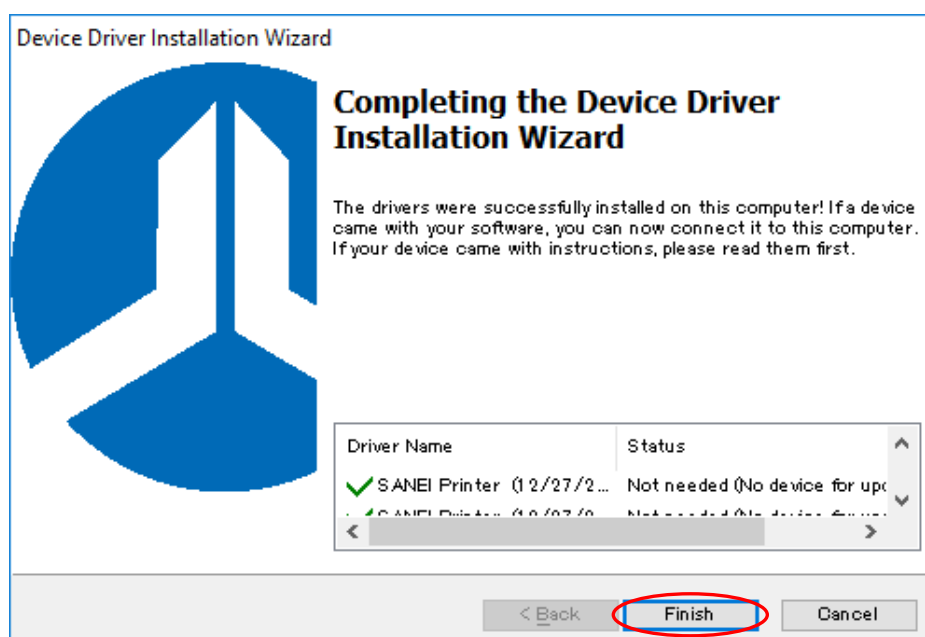
STEP8. Wait for a while.



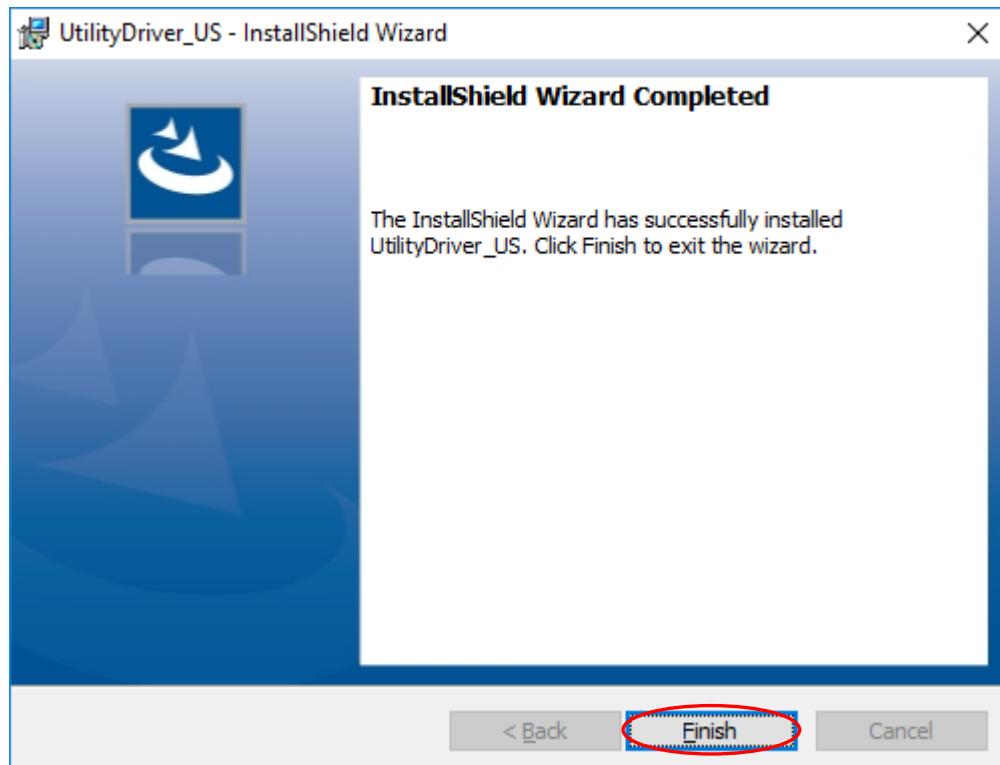
STEP9. If the following screen is displayed, click "Install".



STEP10. Click "Finish" for Utility Driver Installer.



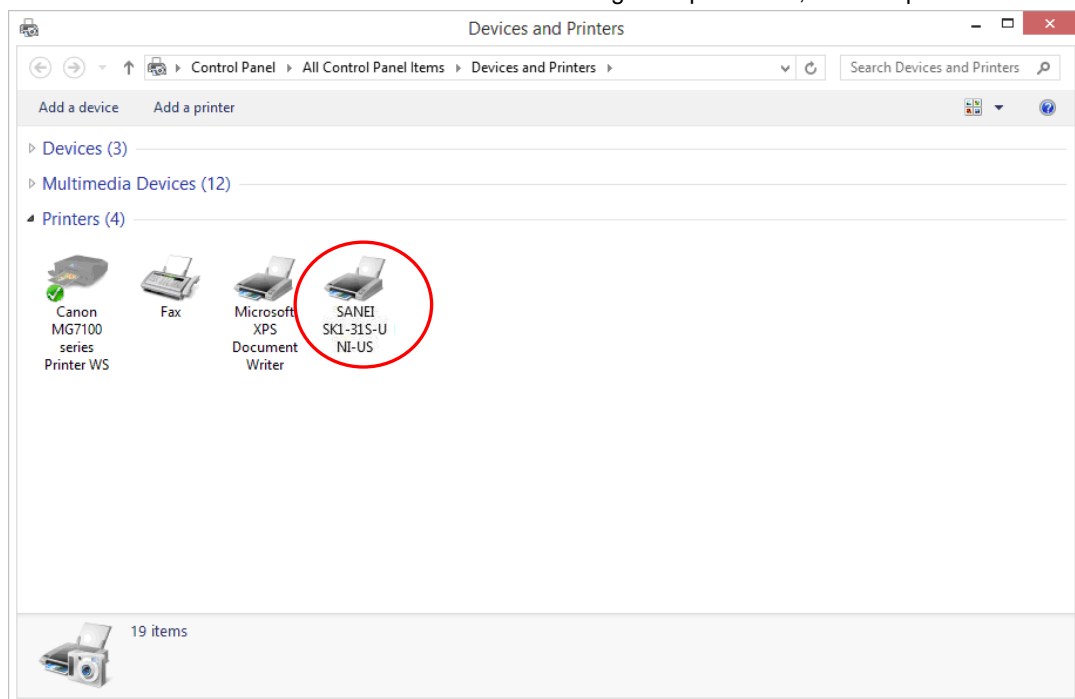
STEP11. Click “Finish” of install Wizard..



STEP12. Close the “**Property**” dialog.

if the installed printer is appeared on “Devices and Printers” – “printers and Faxes”,
installation process is finished.

REMARK: “SANEI SK1-31S-UNI-US” is installed through this procedure, for example.

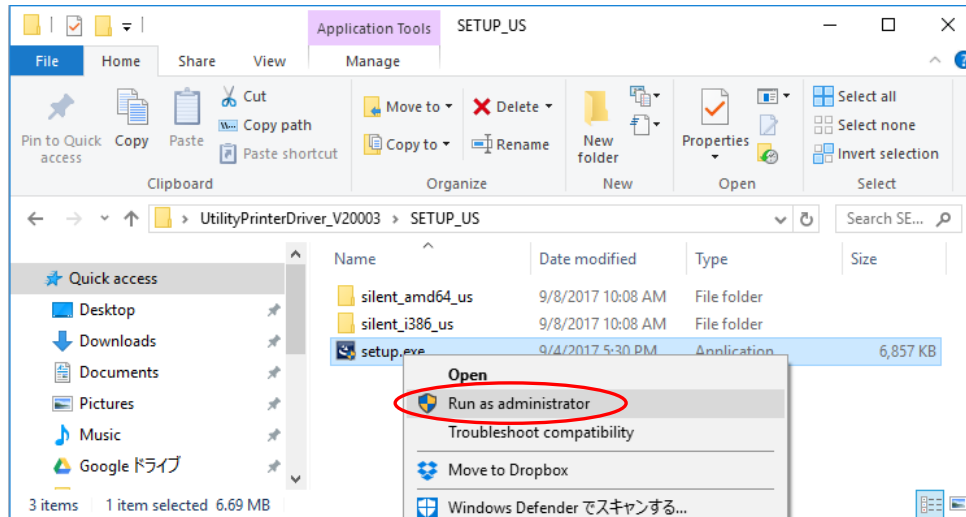


3-2. Install the driver (COM port)

STEP1. Right-click "setup.exe" in the SETUP_US folder and select "Run as administrator".

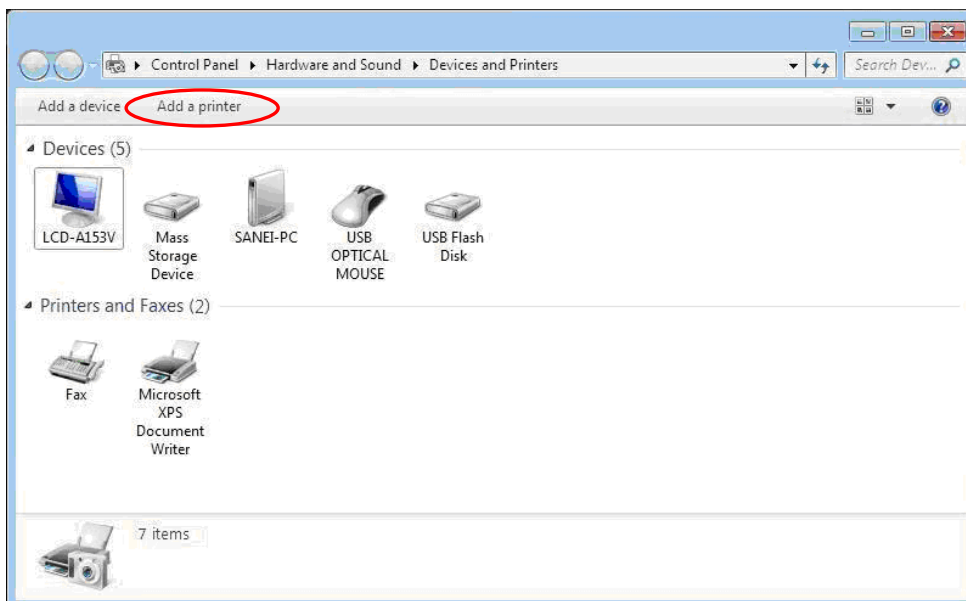
Then follow the instructions of the installer and proceed.

For details, refer to STEP 3 to STEP 11 in "3-1. Install the driver (USB Interface)".

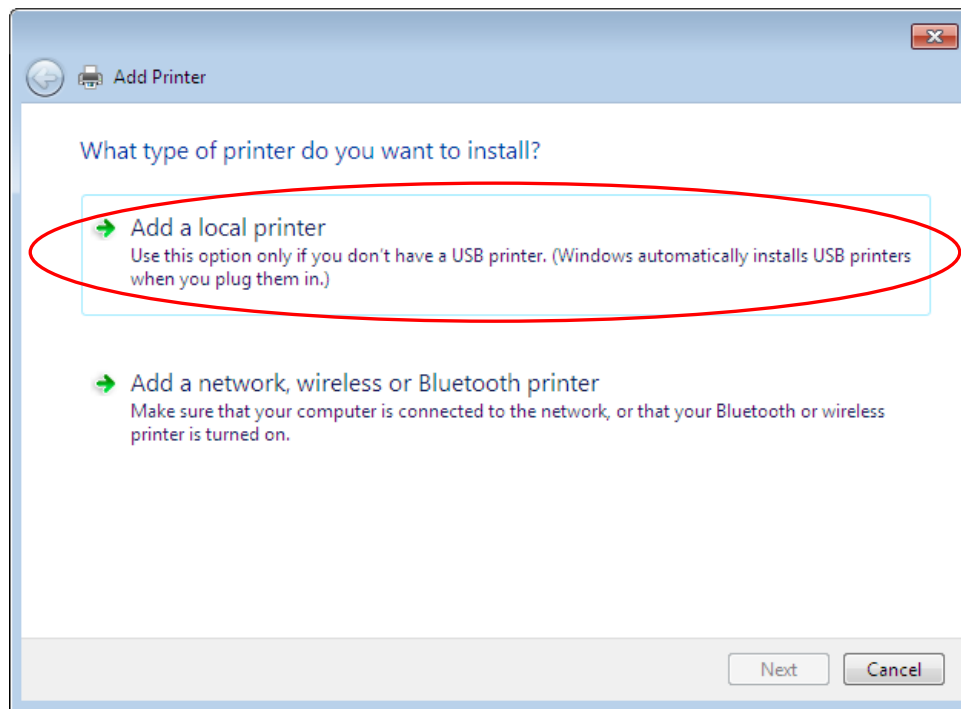


STEP2. Click "Start" menu, and select "Devices and Printers".

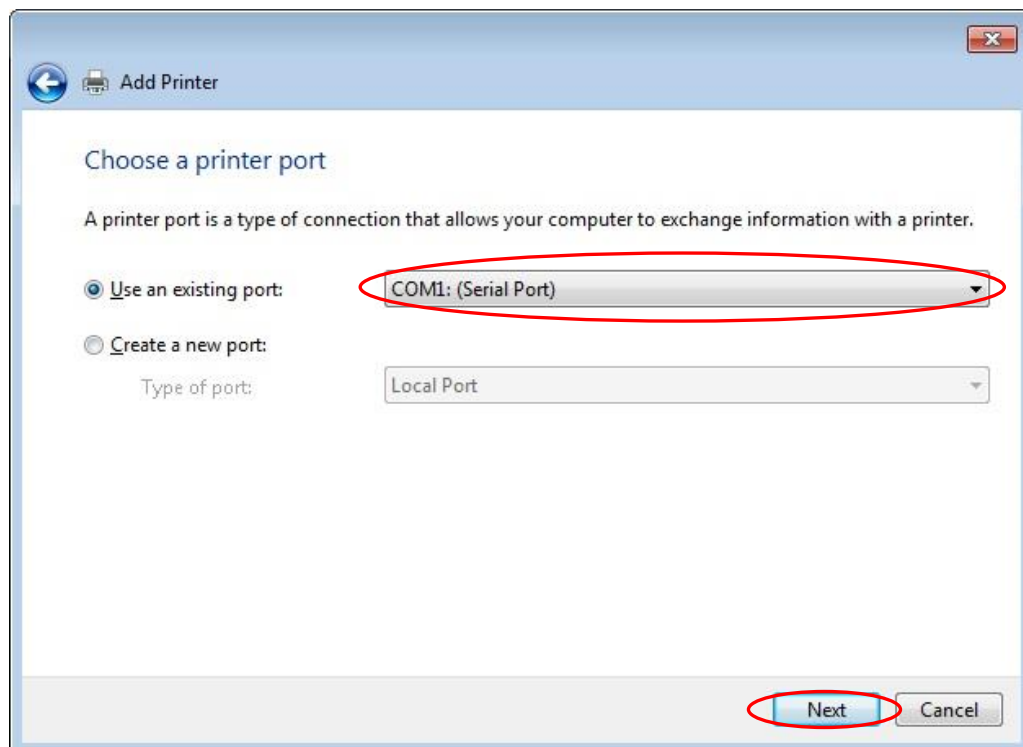
Click "Add a printer".



STEP3. Click "Add a local printer".



STEP4. Select the COM port connected to the printer and click "Next".



STEP5. Select "Have Disk".

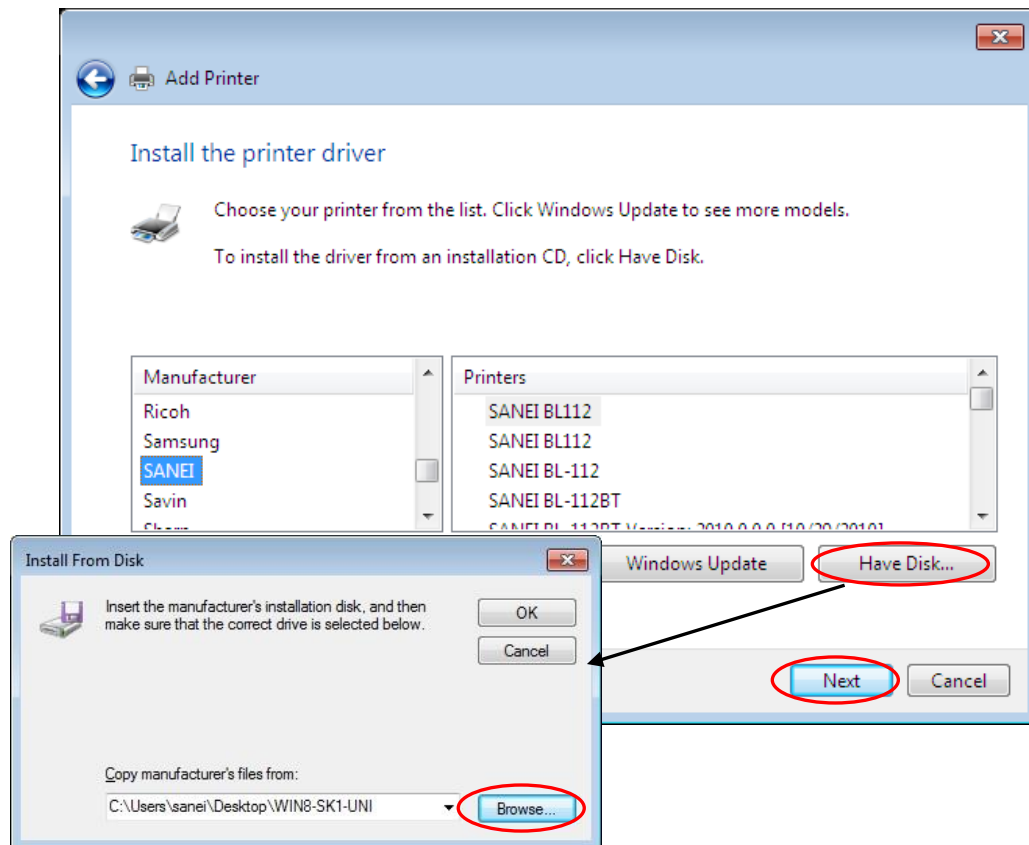
STEP6. Click "Browse" and select a file, then click "OK".

STEP7. Click "Next".

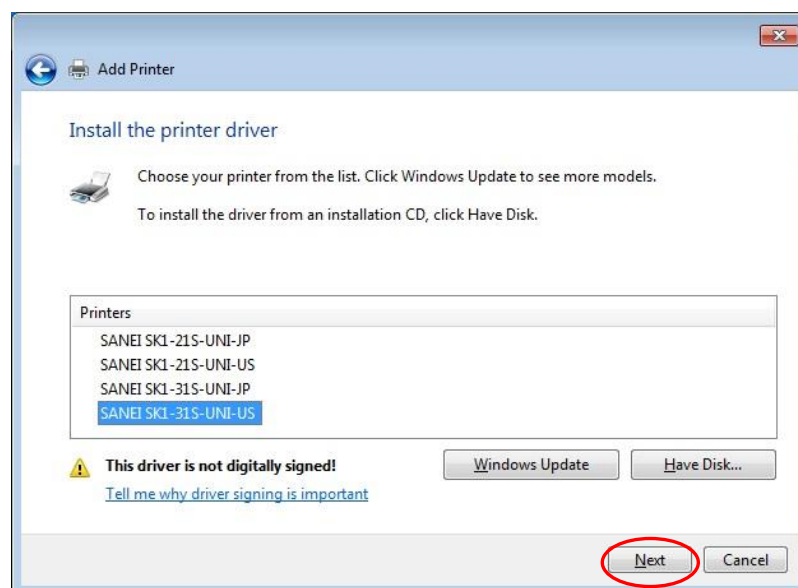
The installation folders are composed of the following files.

64bit OS : "C:\Program Files (x86)\Sanei Elec Inc\driver\printer_driver_us_64"

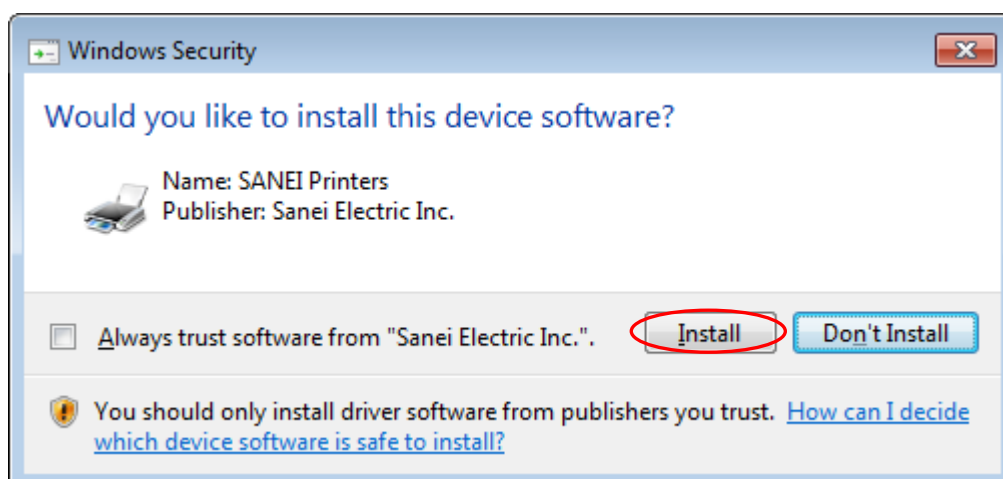
32bit OS : "C:\Program Files\Sanei Elec Inc\driver\printer_driver_us_86"



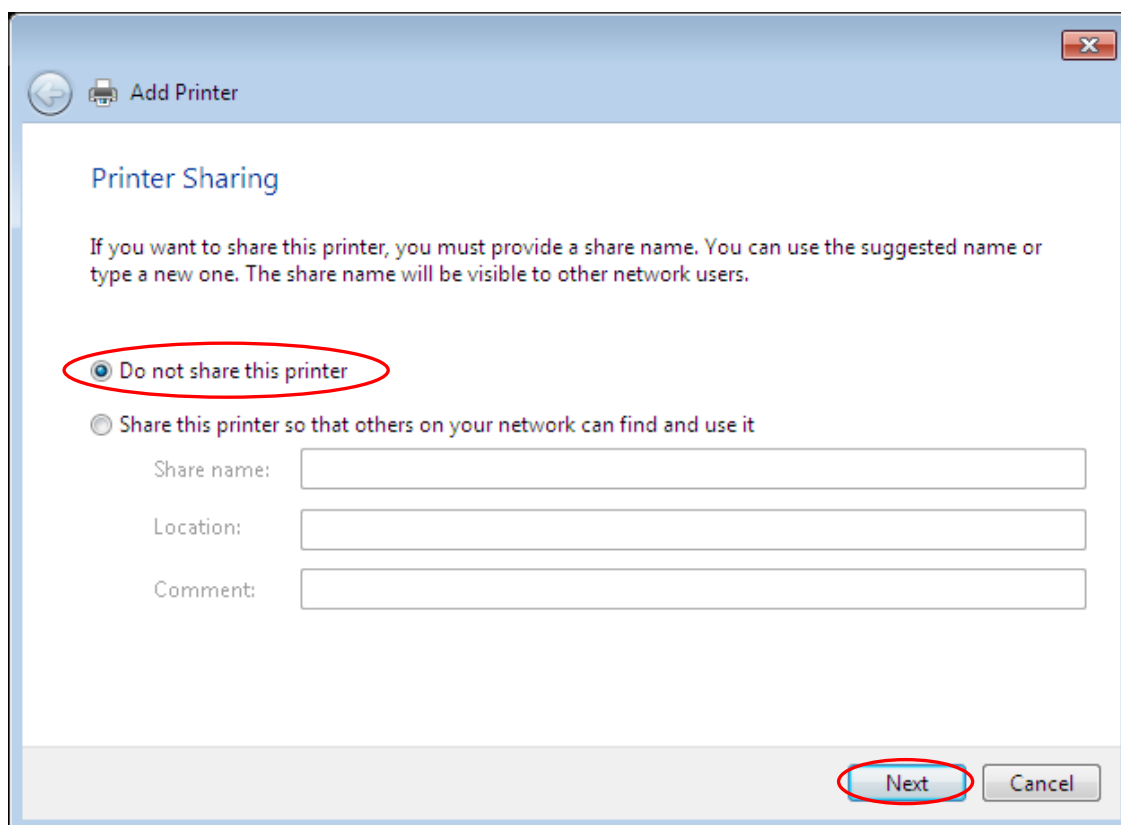
STEP8. Select the driver of the target model and click "Next".



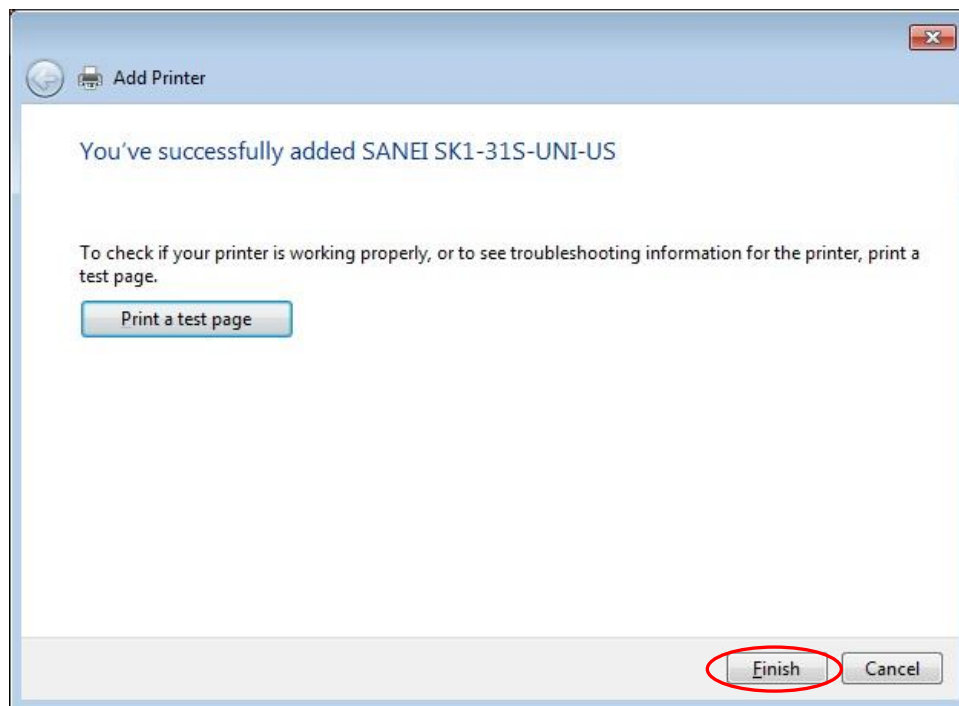
STEP9. Click "Install".



STEP10. Select "Do not share this printer" and click "Next".

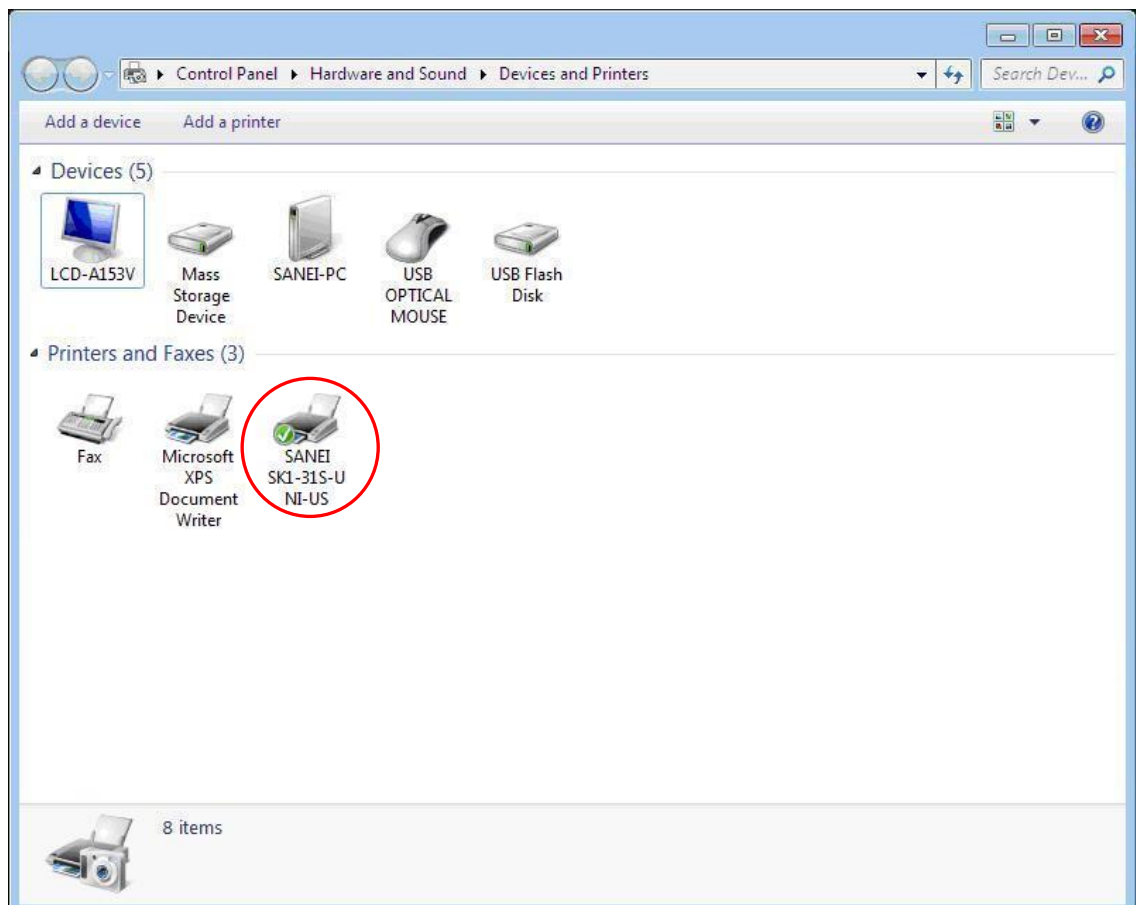


STEP11. Click "Finish".



STEP12. If the installed device is displayed on "Devices and Printers" – "printers and Faxes", the install process is finished.

REMARK: "SANEI SK1-31S-UNI-US" is installed through this procedure, for example.

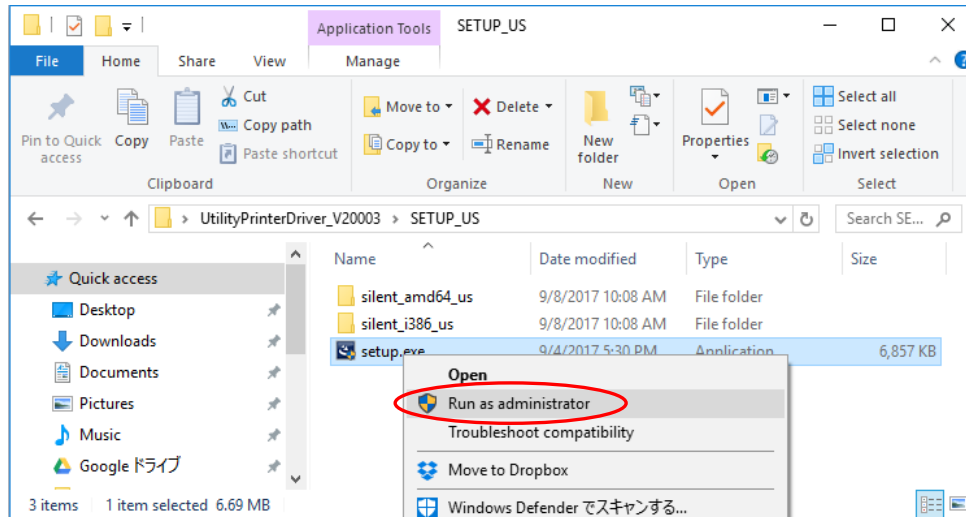


3-3. Install the driver (LAN)

STEP1. Right-click "setup.exe" in the SETUP_US folder and select "Run as administrator".

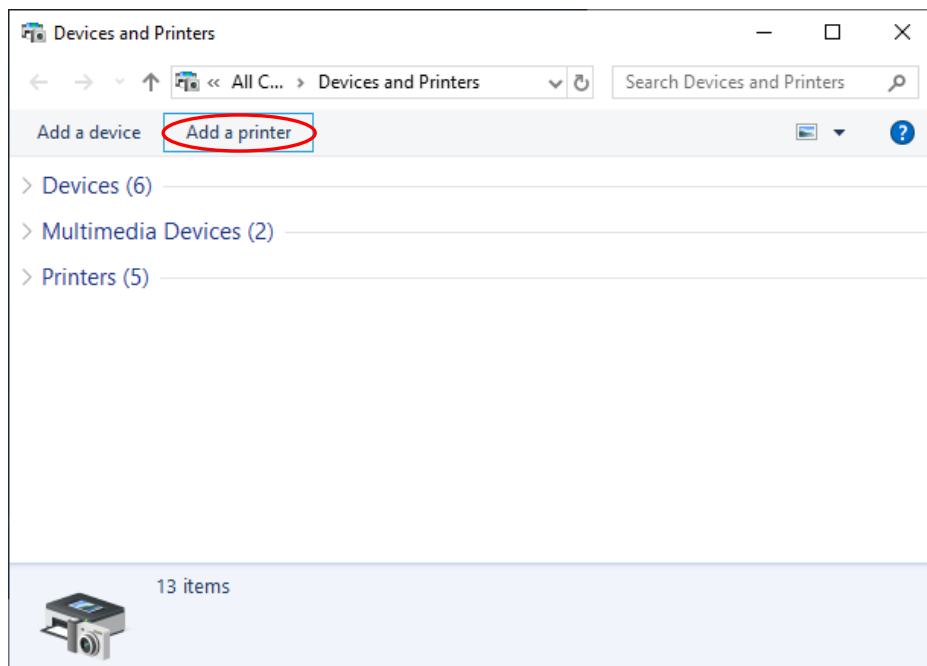
Then follow the instructions of the installer and proceed.

For details, refer to STEP 3 to STEP 11 in "3-1. Install the driver (USB Interface)".

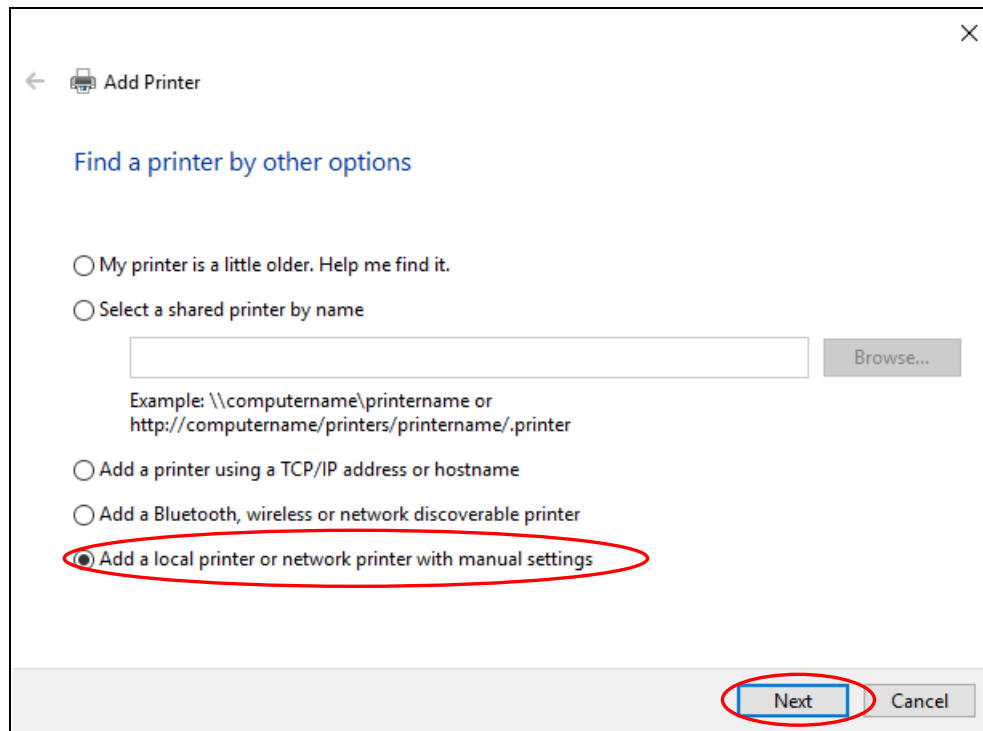


STEP2. Click "Start" menu, and select "Devices and Printers".

Click "Add a printer".



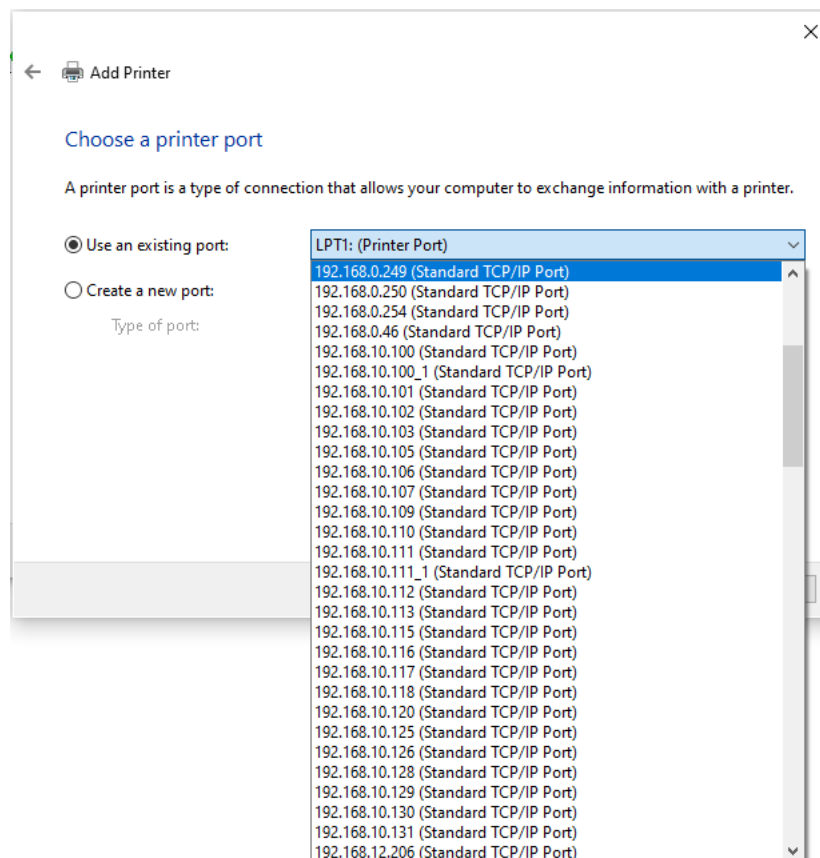
STEP3. Select "Add a local printer or network printer with manual settings" and click "Next".



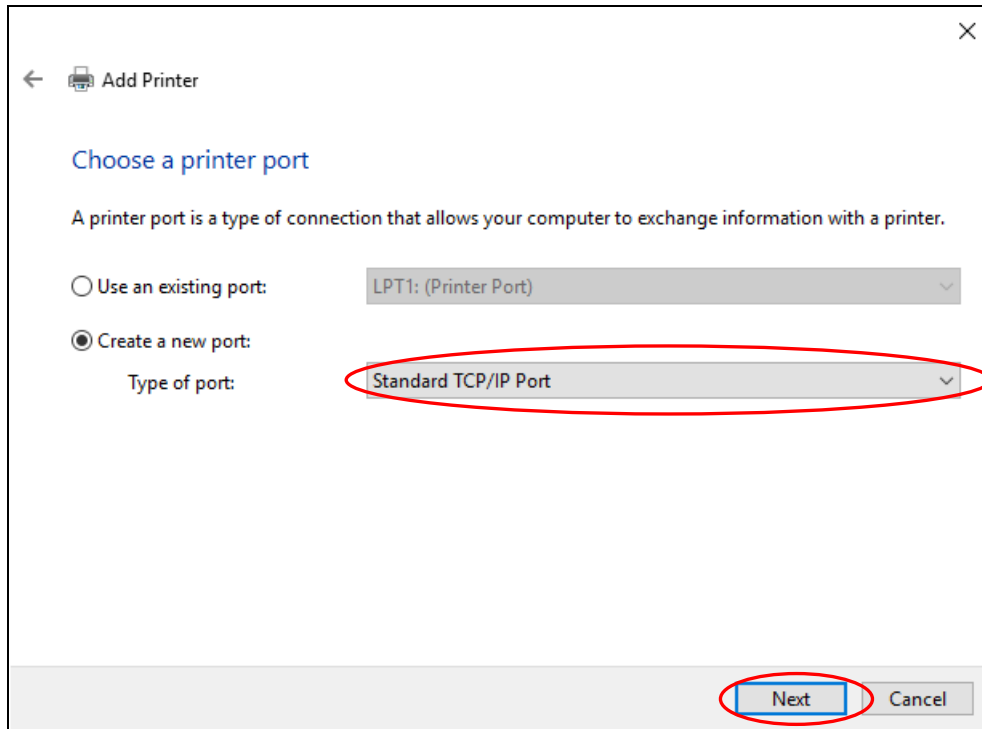
STEP4. Check if an existing port has the printer's IP address.

If so, select that IP address, click Next, and skip to STEP8.

If not, skip to STEP5.

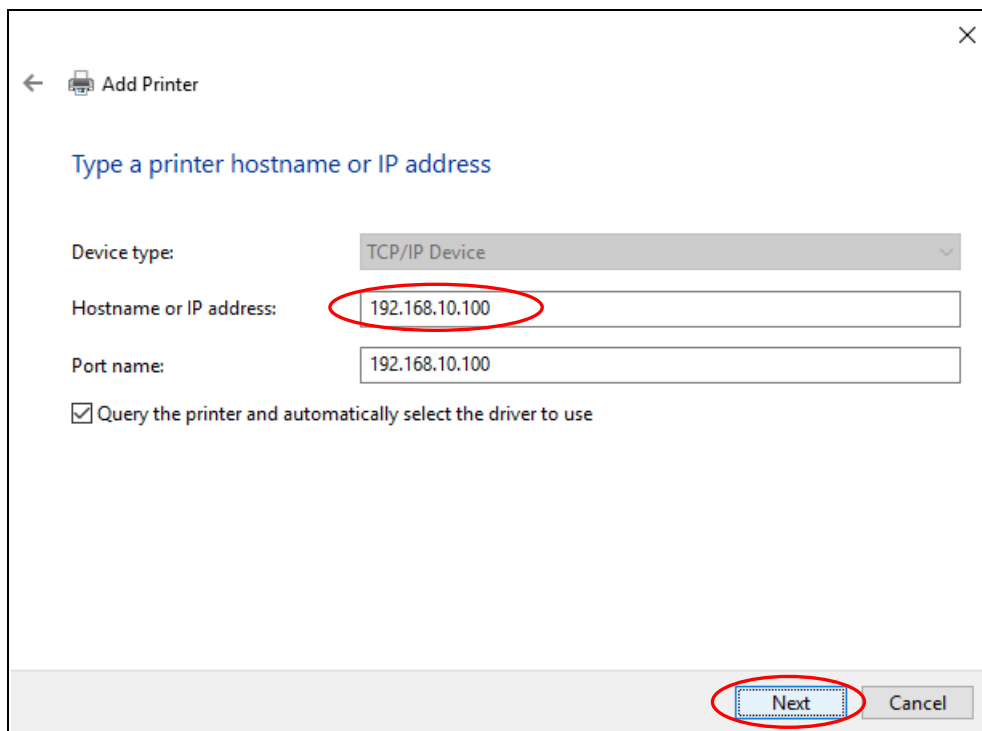


STEP5. Select "Standars TCP / IP Port" and click "Next".



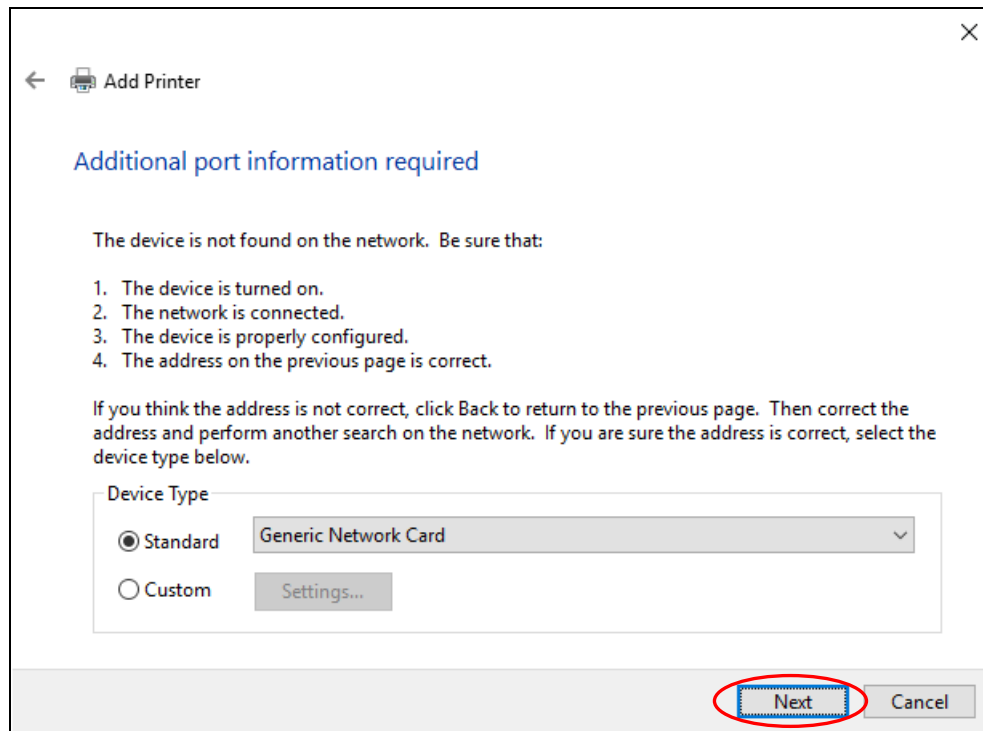
The screenshot shows the 'Add Printer' wizard window. The title bar says 'Add Printer'. The main heading is 'Choose a printer port'. Below it, a descriptive text says: 'A printer port is a type of connection that allows your computer to exchange information with a printer.' There are two radio button options: 'Use an existing port:' (unselected) and 'Create a new port:' (selected). Under 'Create a new port:', there is a 'Type of port:' label and a dropdown menu. The dropdown menu is open, showing 'Standard TCP/IP Port' selected. At the bottom right, there are 'Next' and 'Cancel' buttons. The 'Next' button is highlighted with a red circle.

STEP6. Enter the IP address of the printer and click "Next".



The screenshot shows the 'Add Printer' wizard window. The title bar says 'Add Printer'. The main heading is 'Type a printer hostname or IP address'. Below it, there are three input fields: 'Device type:' (dropdown menu showing 'TCP/IP Device'), 'Hostname or IP address:' (text box containing '192.168.10.100'), and 'Port name:' (text box containing '192.168.10.100'). Below these fields, there is a checkbox labeled 'Query the printer and automatically select the driver to use' which is checked. At the bottom right, there are 'Next' and 'Cancel' buttons. The 'Next' button is highlighted with a red circle.

STEP7. Click "Next".



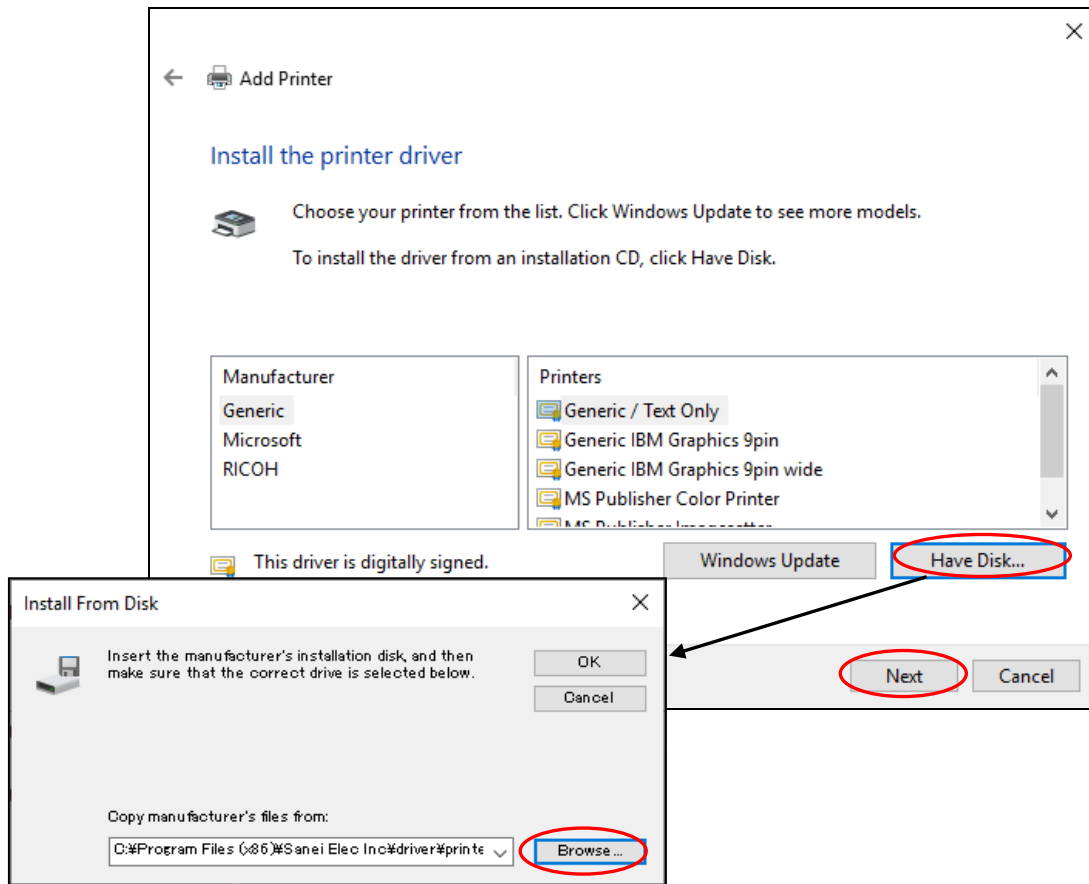
STEP8. Select "Have Disk".

STEP9. Click "Browse" and select a file, then click "OK".

The installation folders are composed of the following files.

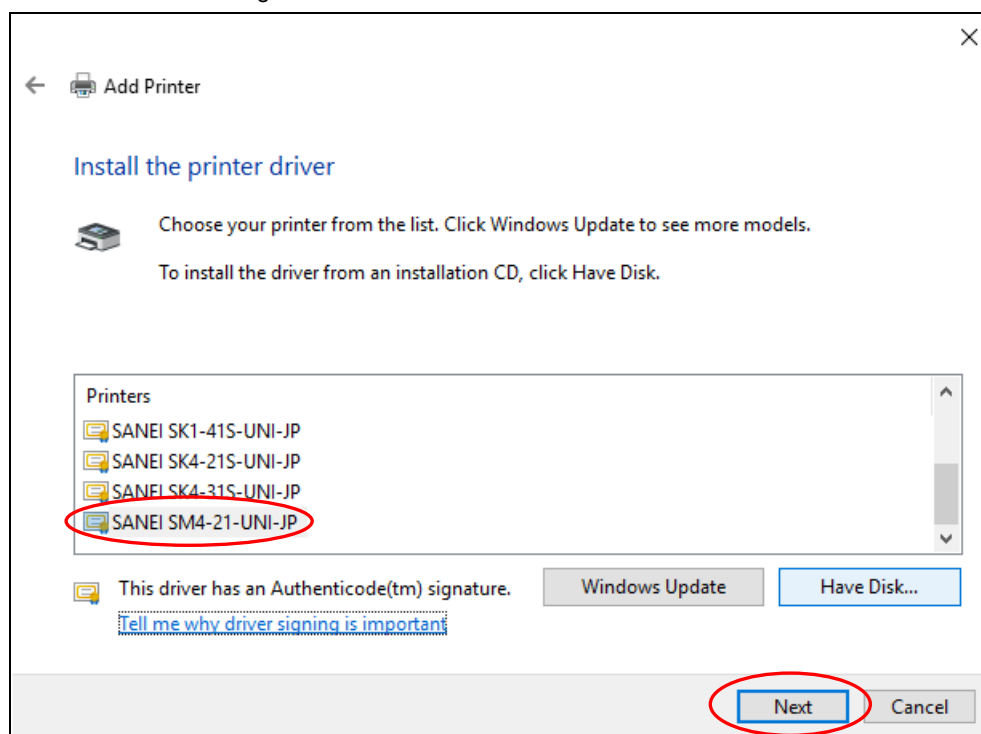
64bit OS : "C:\Program Files (x86)\Sanei Elec Inc\driver\printer_driver_us_64"

32bit OS : "C:\Program Files\Sanei Elec Inc\driver\printer_driver_us_86"

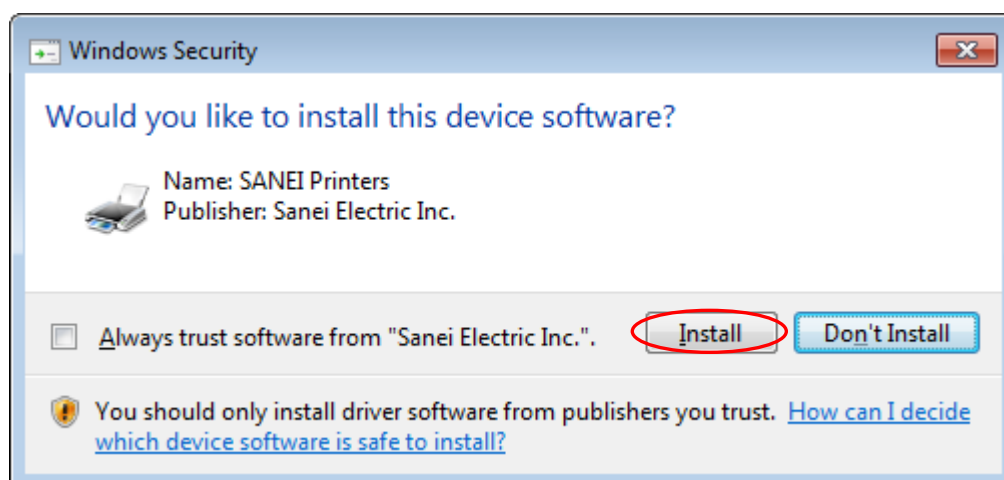


STEP10. Click "Next".

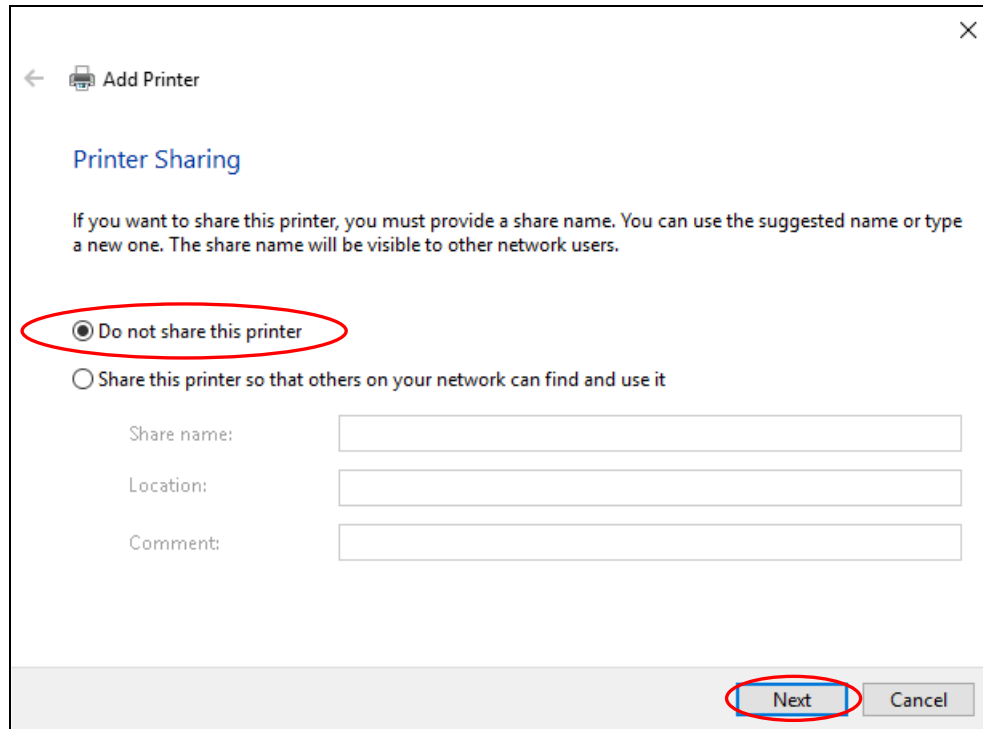
STEP11. Select the driver of the target model and click "Next".



STEP12. Click "Install".



STEP13. Select "Do not share this printer" and click "Next".



← Add Printer

Printer Sharing

If you want to share this printer, you must provide a share name. You can use the suggested name or type a new one. The share name will be visible to other network users.

☒ Do not share this printer

☐ Share this printer so that others on your network can find and use it

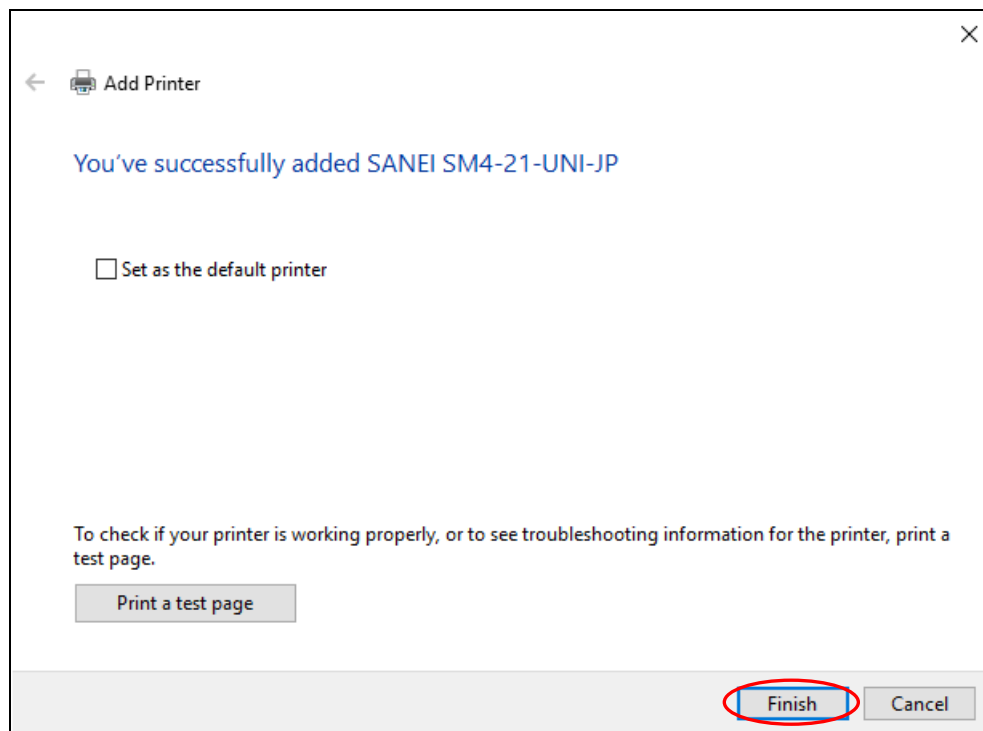
Share name:

Location:

Comment:

Next Cancel

STEP14. Click "Finish".



← Add Printer

You've successfully added SANEI SM4-21-UNI-JP

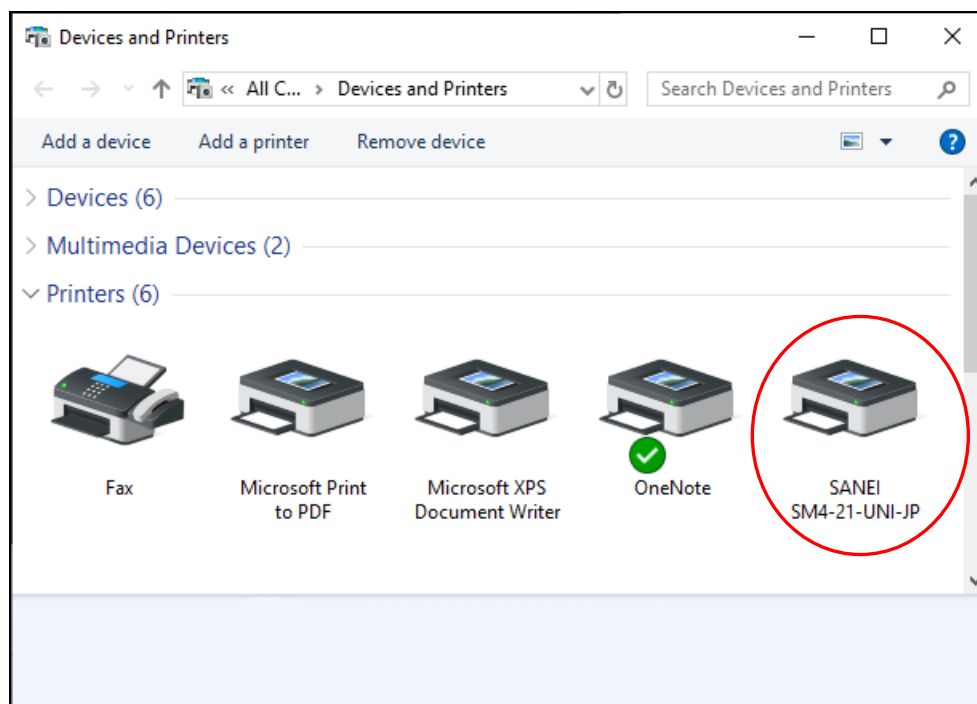
☐ Set as the default printer

To check if your printer is working properly, or to see troubleshooting information for the printer, print a test page.

Print a test page

Finish Cancel

STEP15. If the installed device is displayed on “Devices and Printers” – “Printers” the install process is finished.
REMARK: “SANEI SM4-21-UNI-US” is installed through this procedure, for example.

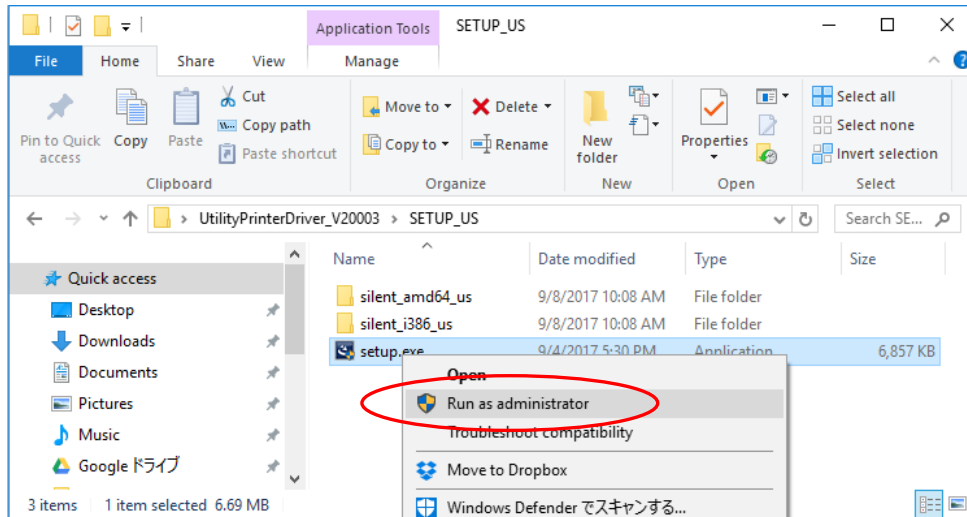


3-4. Install the driver (Bluetooth)

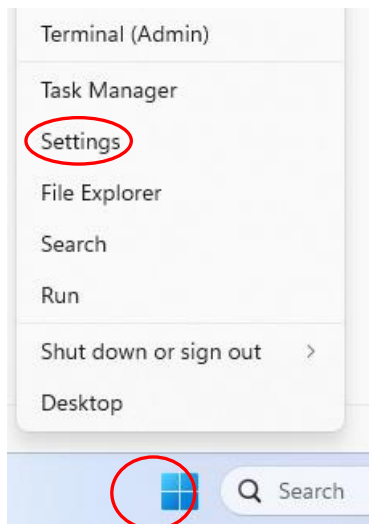
STEP1. Right-click "setup.exe" in the SETUP_US folder and select "Run as administrator".

Then follow the instructions of the installer and proceed.

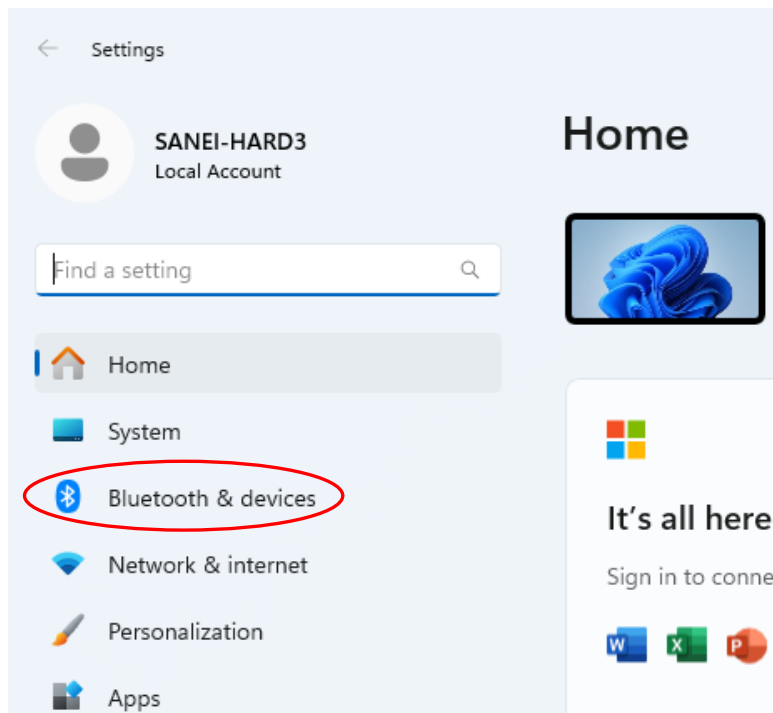
For details, refer to STEP 3 to STEP 11 in "3-1. Install the driver (USB Interface)".



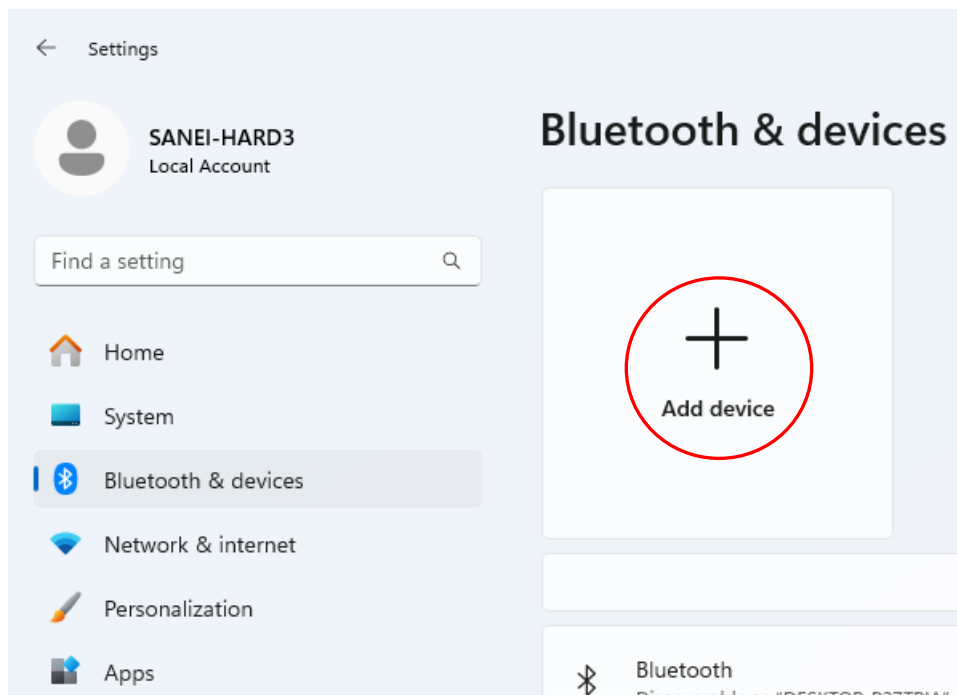
STEP2. Right-click the Windows menu icon and select Settings.



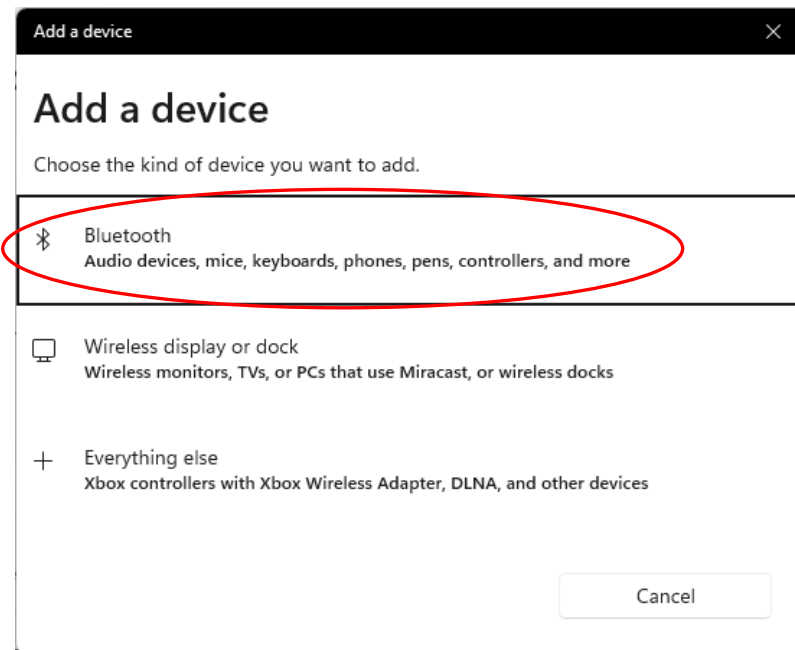
STEP3. Select "Bluetooth & Devices".



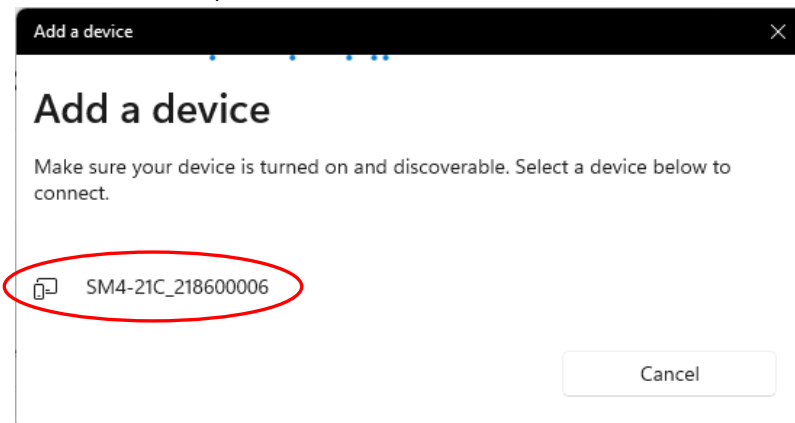
STEP4. Turn on the printer and select "Add device".



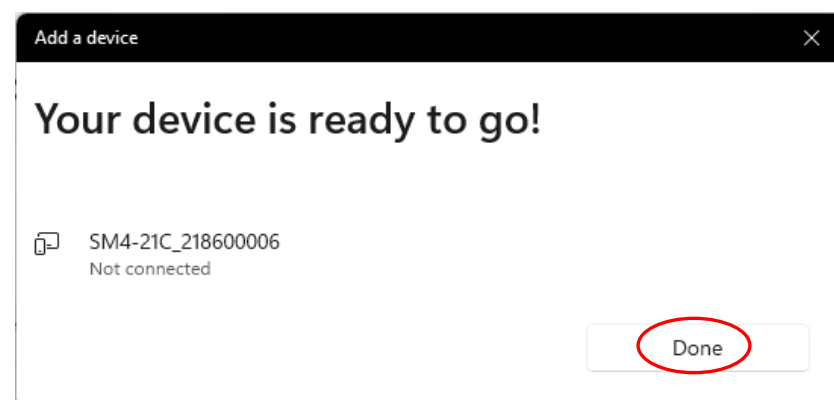
STEP5. Select "Bluetooth".



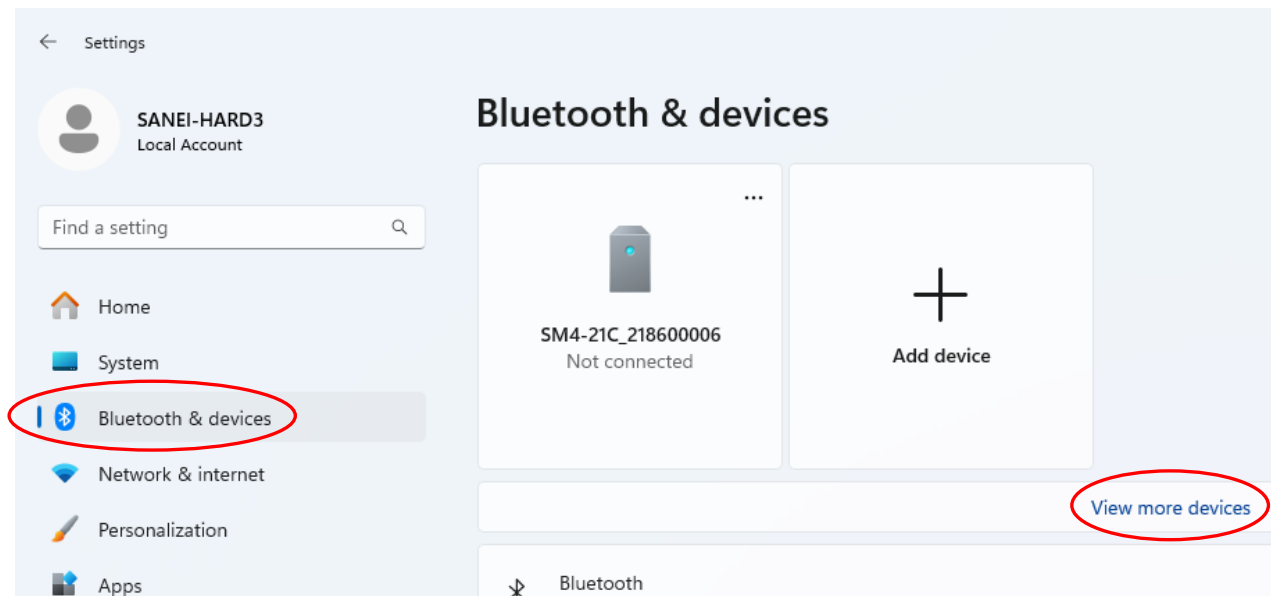
STEP6. Select the printer to add from the device list.



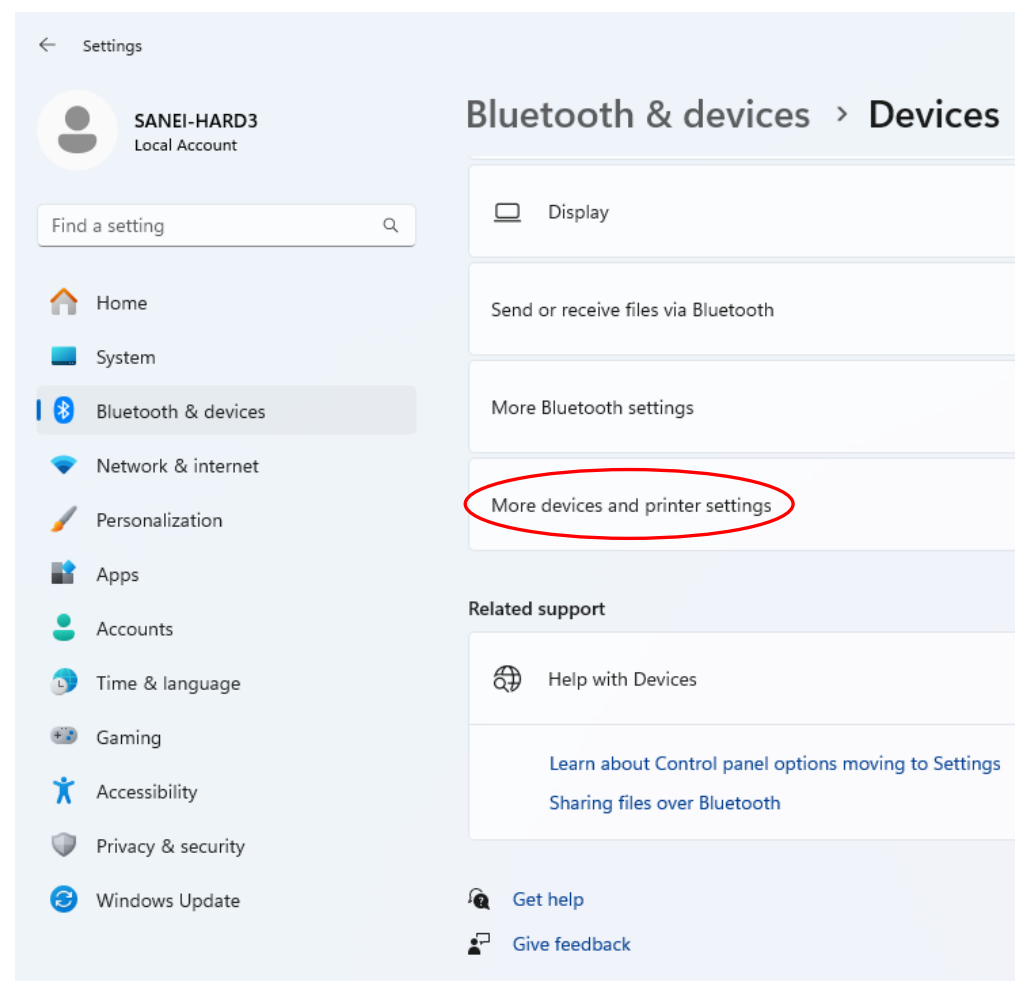
STEP7. Click the "Done".



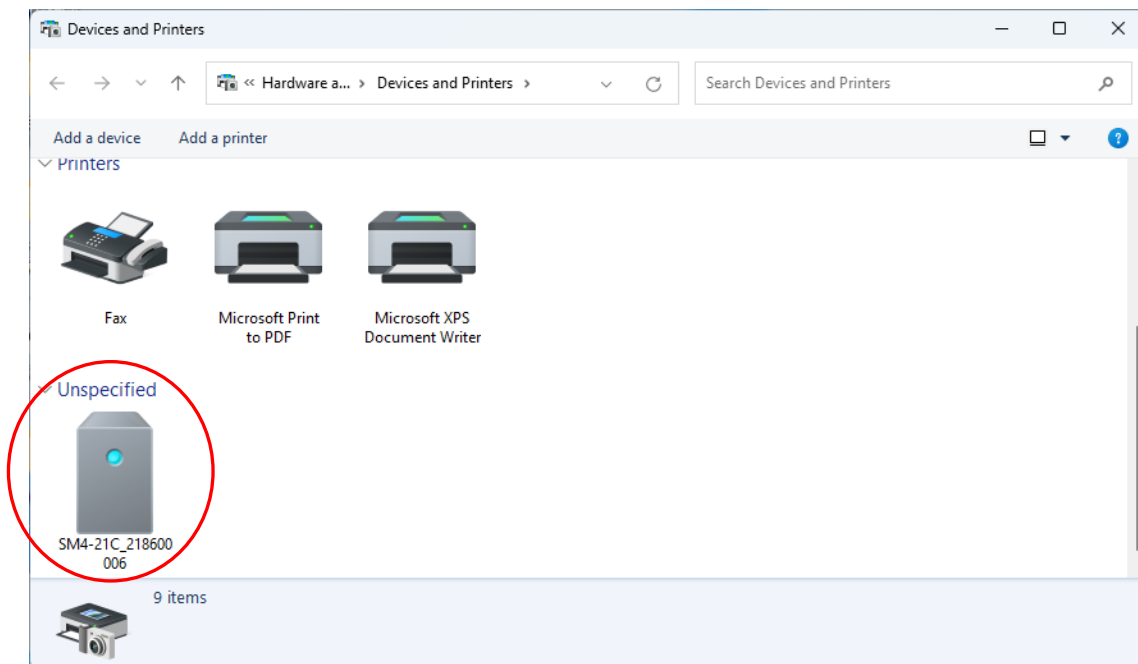
STEP8. Select "Bluetooth & devices" from the Windows settings menu and select "View more devices".



STEP9. Select "More devices and printer settings" to open the device and printer settings screen.



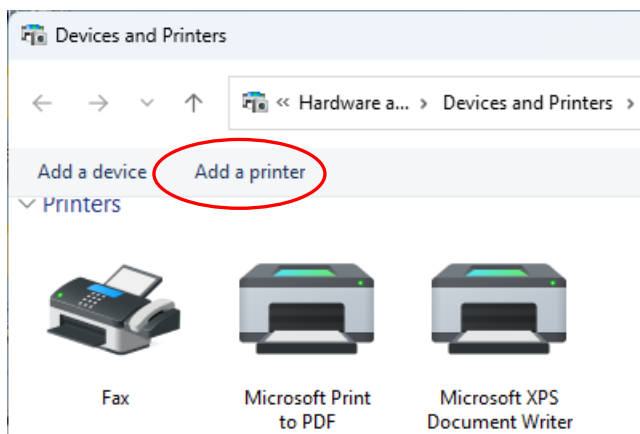
STEP10. The icon of the paired printer will be displayed in the Unspecified area of Devices and Printers.
Right-click the icon and open properties.



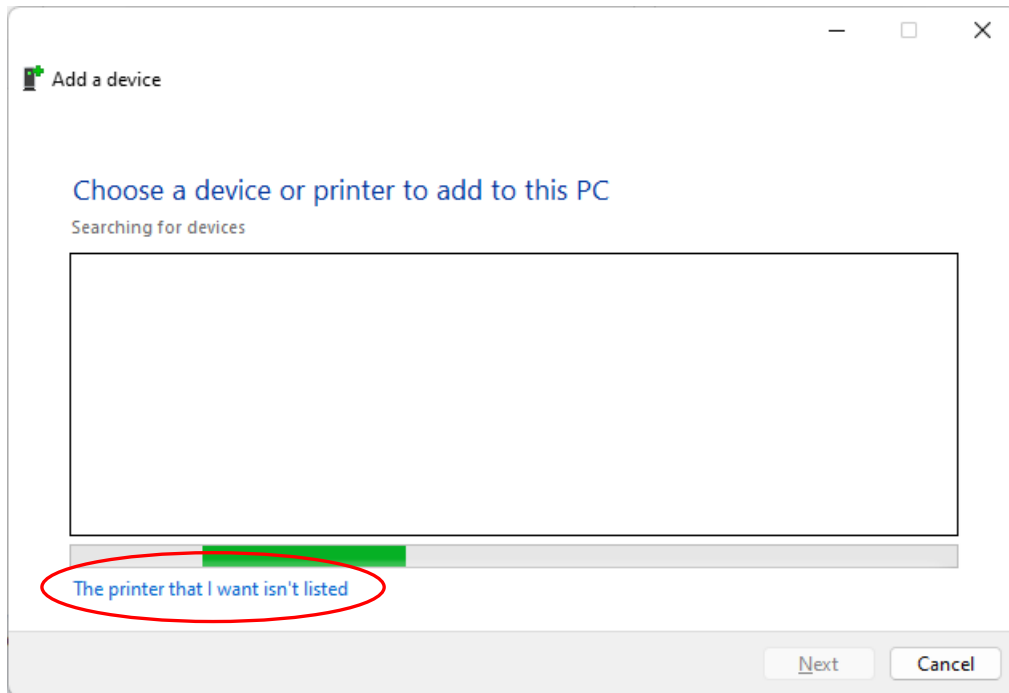
STEP11. Select the "Service" tab in the properties and check the number of the COM port to be used.
The example below uses COM3.



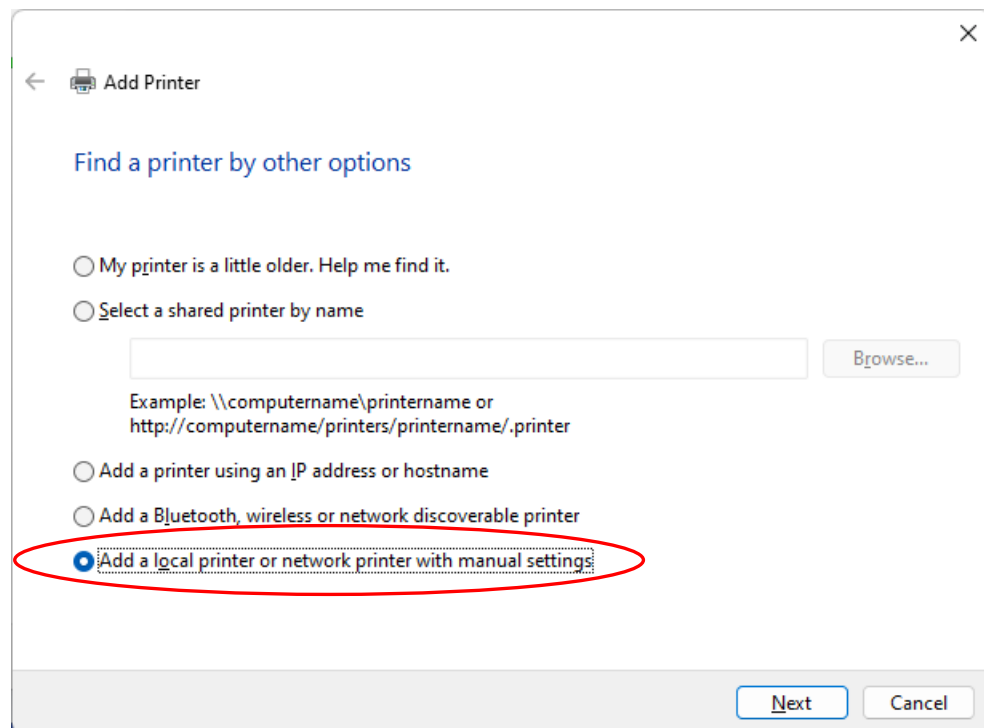
STEP12. Select "Add a printer" from the Devices and Printers menu.



STEP13. Select "The printer that I want isn't listed" and click "Next".



STEP14. Select "Add a local printer or network printer with manual settings" and click "Next".



STEP15. For the subsequent steps, please refer to STEP 4 to STEP 12 in "3-2. Install the driver (COM port)."

3-5. Silent installation of driver

Silent installation provides a function to automatically install from a batch file without announcing the installation of the printer driver.

- ① This is an installer for technical people.
- ② Under condition of your PC not recognizing the printer, it is needed that the PC should be controlled from dedicated batch file, as a premise that PC power supply can be remotely controlled by users.
- ③ If the installation can not be executed normally, change the timeout time.

The modification method is that the batch file is opened with notepad etc. and 「timeout 20」 on line 5 should be edited and saved.

Example: An example to change from 20 seconds to 40 seconds, 「timeout 40」

STEP1. Unzip the file of Utility driver.

STEP2. The unzipped file includes 2 batch files “silent_amd64_us” and “silent_i386_us” for using silent installation.

In accordance with number of bit for utilizing OS, choose the suitable batch file.

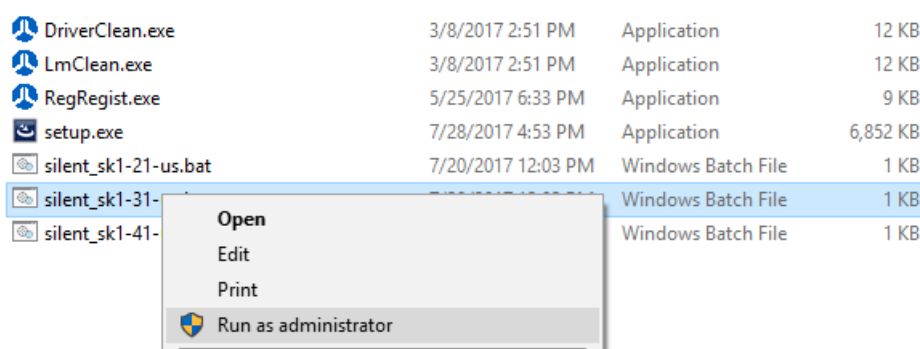
64bit OS → 「silent_amd64_us」

32bit OS → 「silent_i386_us」

The following explanation example is explained on the premise that "64bit OS" and "SK1-31S" are used.

STEP3. Double click of “silent_amd64_us”.

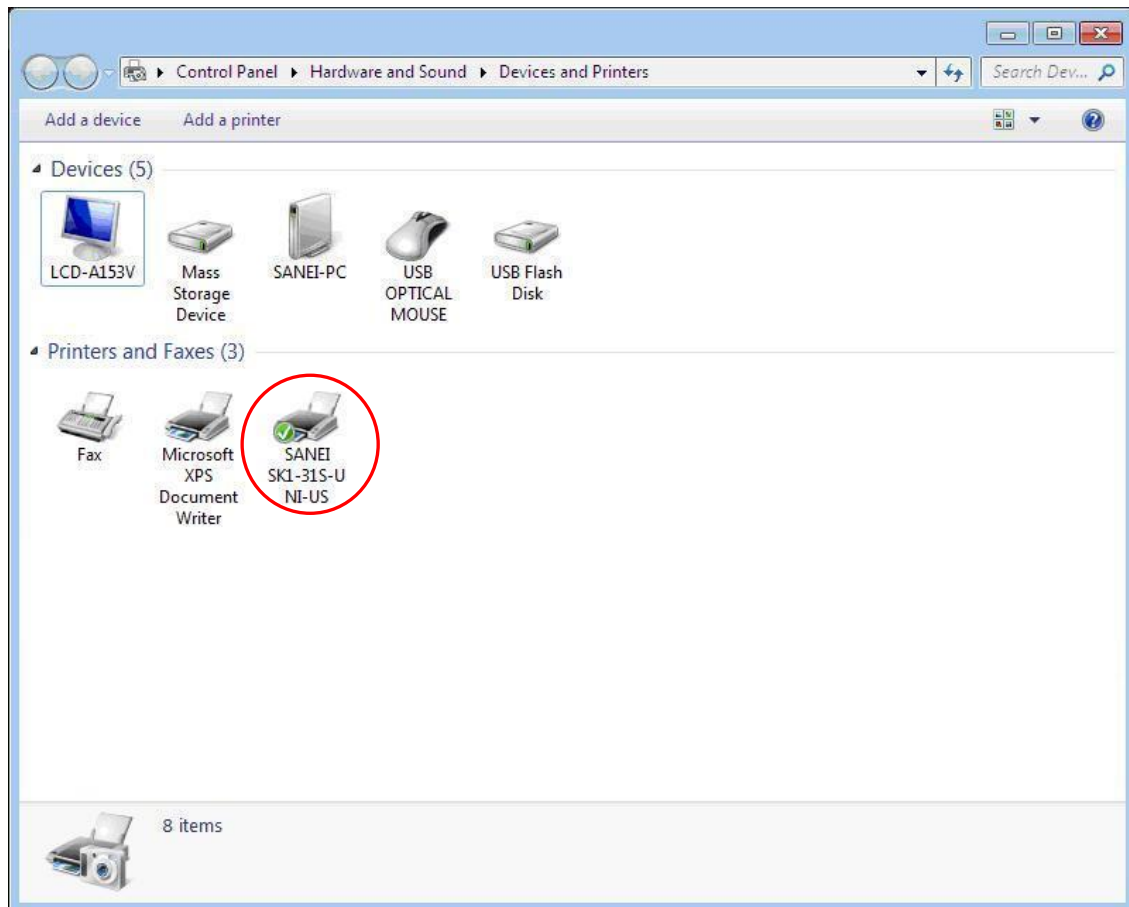
STEP4. Select “silent_sk1-31us.bat” and make right click for activating Run as administrator.



STEP5. The command prompt is appeared and the driver is successfully installed.

STEP6. After disappearing the command prompt, connect the PC to SK1-31S printer through USB cable.

STEP7. Utility driver is automatically installed and icon of "SANEI SK1-31S-UNI-US" is added into "Device and Printer" in the PC.



The folders mentioned below are made when the driver is installed.

In case of "64bit Windows OS", please read "C:\Program Files" as "C:\Program Files (x86)".

- ① "C:\SaneiDriver"
The driver's menu program and the setting file are saved.
- ② "C:\Program Files\Sanei Elec Inc"
SDK with ZIP format is saved
Use after decompress.
- ③ "C:\Program Files\Sanei Elec Inc\driver"
The main body of driver is saved.
- ④ "C:\Program Files\Sanei Elec Inc\REMOTE_TOOL"
The remote tool is saved.

4. Utility functions

4-1. How to start the utility tool

Open the **"Device and Printer"** in your PC.

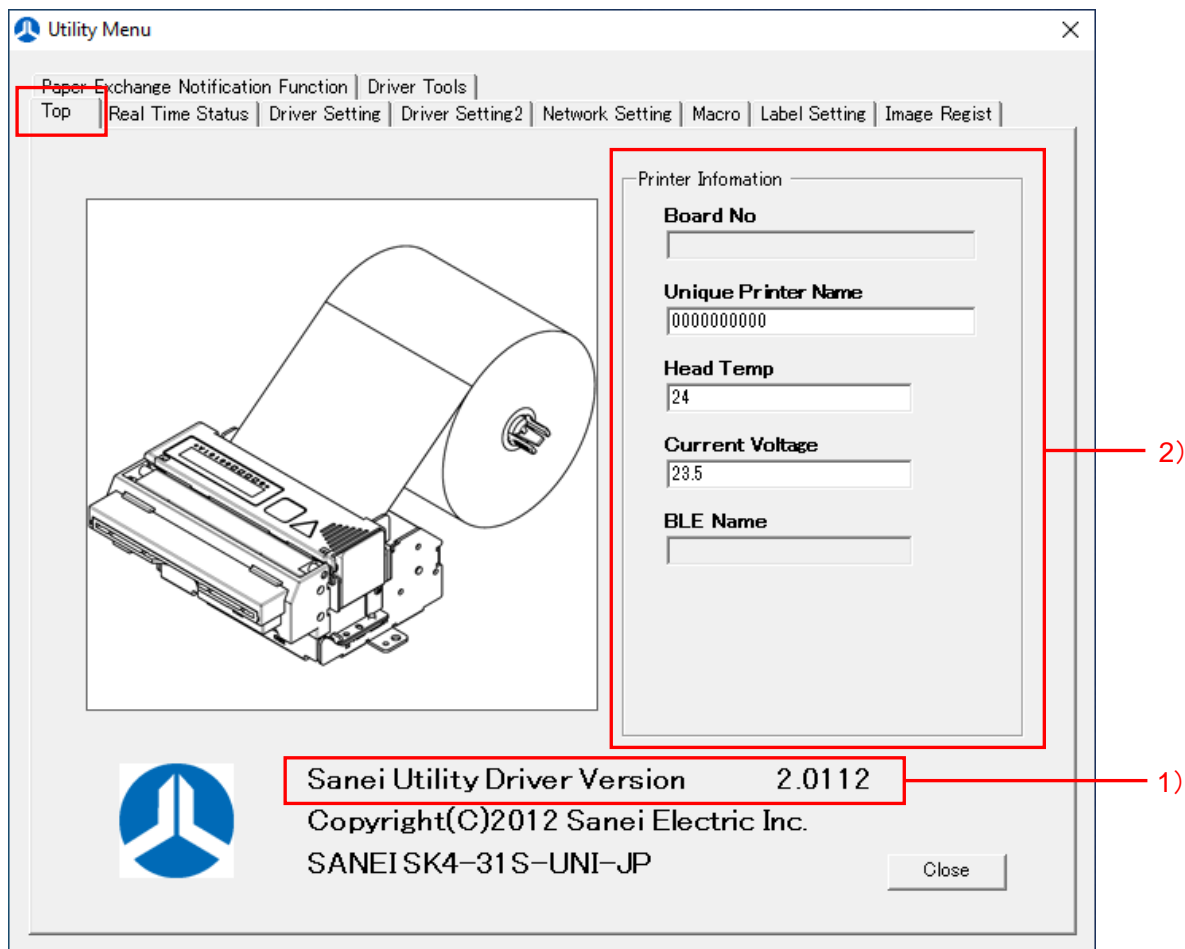
Click the installed printer and click the **"Printer"**.

Click **"Properties"** of the Printer, **"Printer Setting"** tab, and **"Utility Menu"** to activate the Utility tool.



4-2. Top

“Top” tab shows the information of Utility driver version and communicating printer.



1) Utility driver version

The utility driver version is displayed.

2) Printer information

The maintenance data are stored in nonvolatile memory and such data are saved even if the printer power is turned OFF

| | | |
|---------------------|---|--|
| Board No | : | Displays the Serial Number (SM4 series only) |
| Unique Printer Name | : | Displays the unique registered name registered in the printer. |
| Head Temp | : | Current head temperature |
| Current Voltage | : | Current supply voltage |
| BLE Name | : | Displays the BLE name of the printer (SM4 series only) |

About supported versions

*This function can be applied to the Utility driver **version V2.00.02 or more**.

*The applicable printer model and firmware version are as follows.

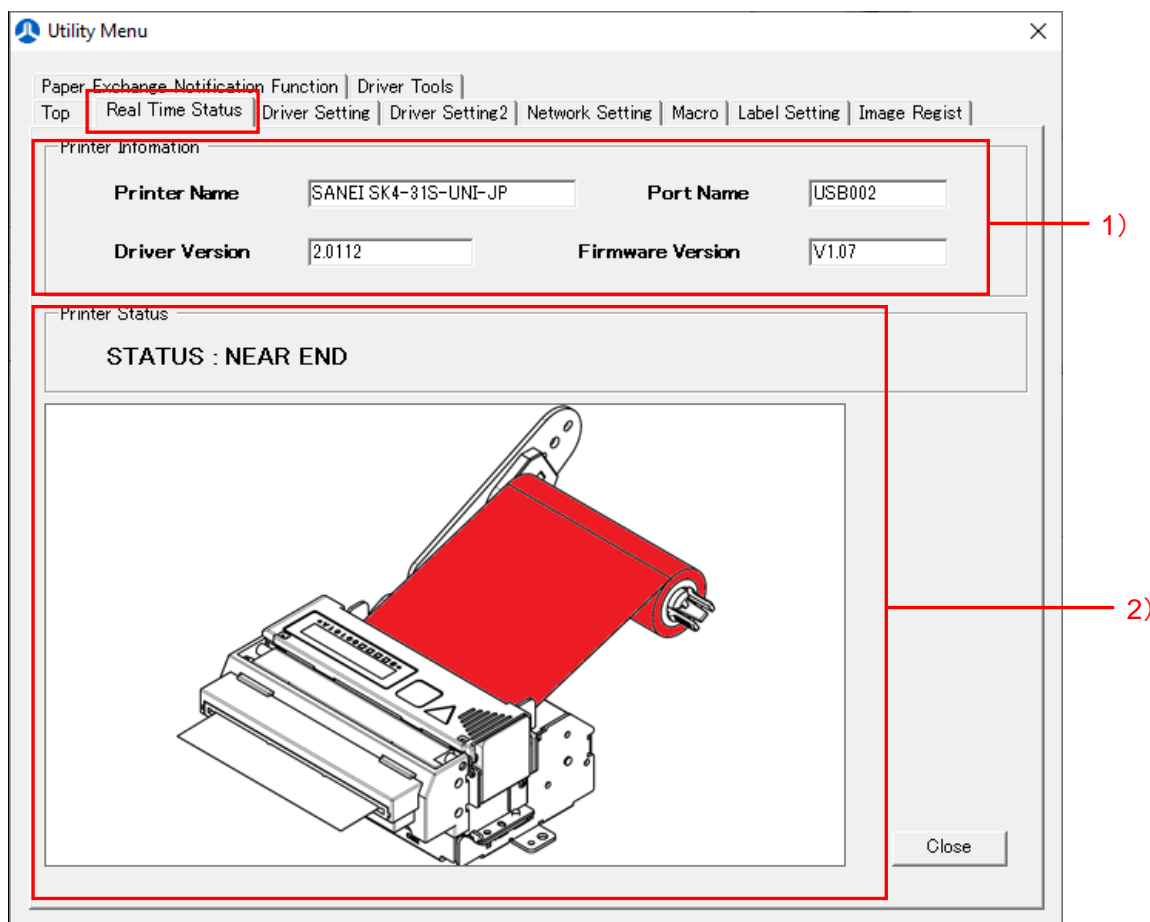
| | | |
|----------------------|---|----------------------|
| SK1-211 / 311 series | : | Ver 2.51.00 or later |
| SD3-21 / 22 series | : | Ver 1.04.03 or later |

- ③ When the printer version is not supported, the grey colour is indicated as shown below.



4-3. Real Time Status

“Real Time Status” tab shows the printer status graphically in real time.



1) Printer information

Printer Name : Name of Utility driver.
Port name : Port name set by Utility driver.
Driver version : Driver version of Utility driver.
Firmware version : Firmware version of printer.

※String of driver version is stored in the following registry.

Registry name

32bit OS

「HKEY_LOCAL_MACHINE\SOFTWARE\SaneiElec\SaneiUtilityPrinterDriver\VERSION」

64bit OS

「HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\SaneiElec\SaneiUtilityPrinterDriver\VERSION」

Type String

Example “2.0100”

2) Printer Status

It is displayed in the string and graphical view at real time.

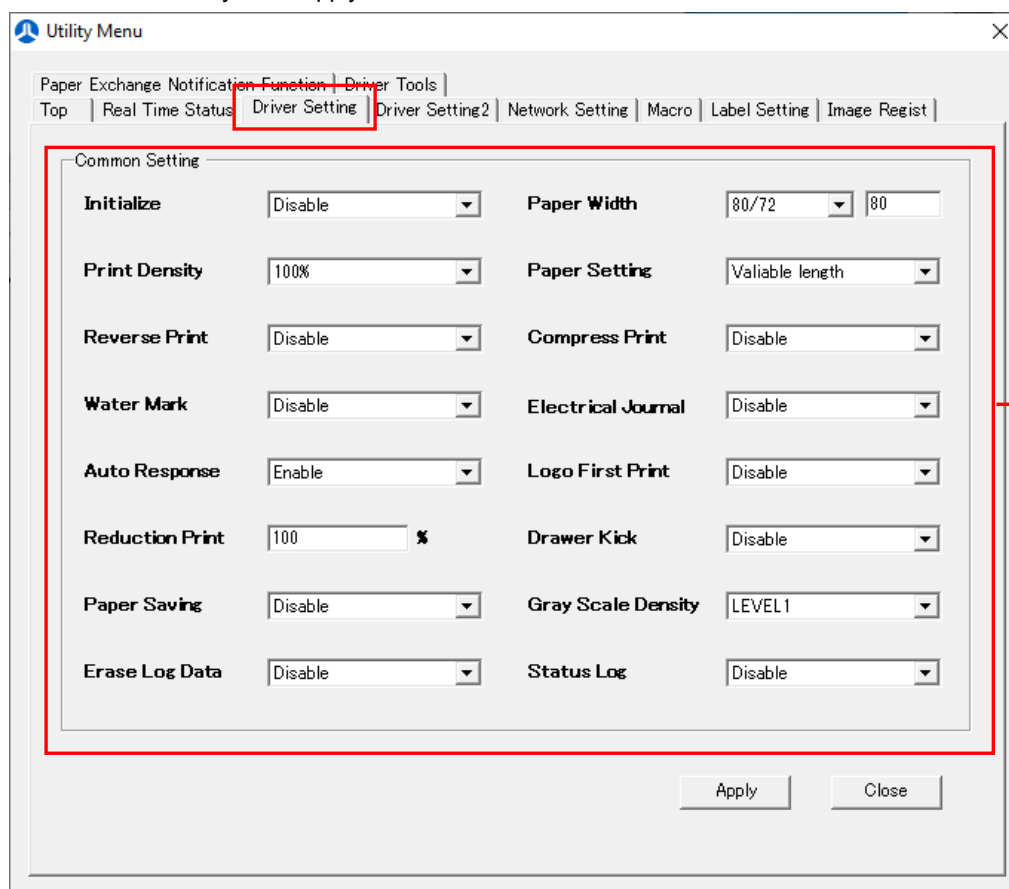
Depending on firmware version, multi status can not be obtained and be sure the latest firmware is installed in the printer.

For the settlement between error status and error, refer to "5-4 Error status and the way to remove the error ".

4-4. Driver Setting

The parameters of Common setting at 'Driver Setting' tab are selectable..

These parameters are saved by click 'Apply' button.



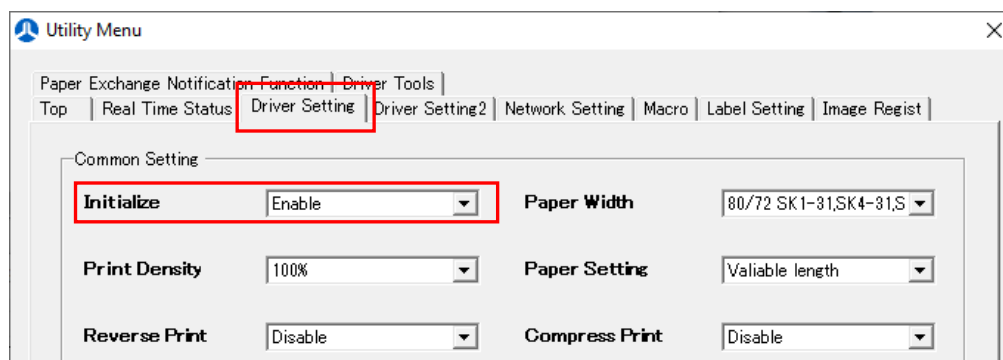
1) Common setting

- | | |
|-----------------|---|
| Initialize | : Send "initialize command" at the forefront of document. In case the file send is specified, when the printer changes to online, the data specified in the initialization file is send to the printer. |
| Print Density | : Select printing density either 60, 80, 100, 120, 140 or 160% |
| Reverse Print | : Reverse print is enabled page by page. Three(3) setting mode, that is Invalid,Valid,Valid(MODE B),are selectable. Invalid: The space is not deleted even in case of variable length. Valid: The upper space is deleted in case of variable length. Valid (MODE B): The lower space is deleted in case of variable length. |
| Water Mark | : Print letters overlaid on registered water mark image. |
| Auto Response | : Auto status response command is enabled. |
| Reduction Print | : The size of printed documents are reduced by a specified magnification. |
| Paper Saving | : The blank lines are automatically reduced in printed documents. Capable to shorten the total printing length and save papers when printing. |
| Erase Log Data | : Set the elapsed period until the journal data saved in the electronic journal is automatically deleted. |

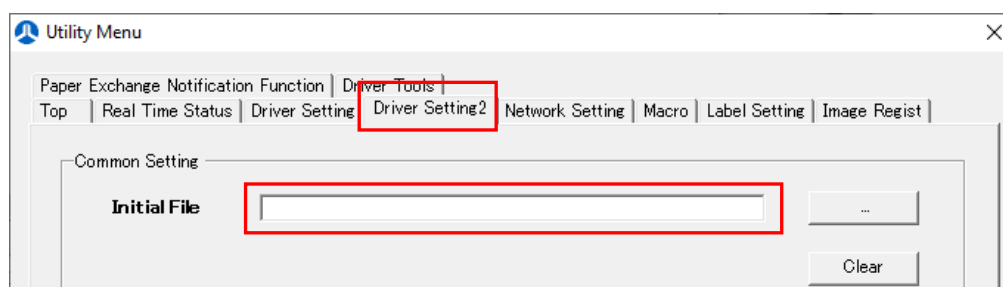
- Paper width : Select paper width of documents.
(It's necessary to set it at the same as "PRINT WIDTH" of memory switch)
If the paper width is custom, use the paper width in the right column.
- Paper Setting : If "Flexible" is selected, delete trailing white space.
When 'Fixed length' is chosen, printer outputs fixed length of media.
- Compress Print : Print compressed monochrome graphic data after conversion.
- Electrical Journal : The print data is output to specified folder as journal data.
- Logo First Print : Print registered image data at first.
- Drawer Kick : When printing is completed, select either valid or invalid of drawer kick control.
- Gray Scale Density : Select gray scale printing density from LEVEL1 to Level7.
- Status Log : Save the printer status as a log file on the PC.
The save destination of the log file is C:\SaneiDriver\Log.

2) How to set the initialization file

STEP1. In the Initialize in the Driver Setting tab, set "File Send".

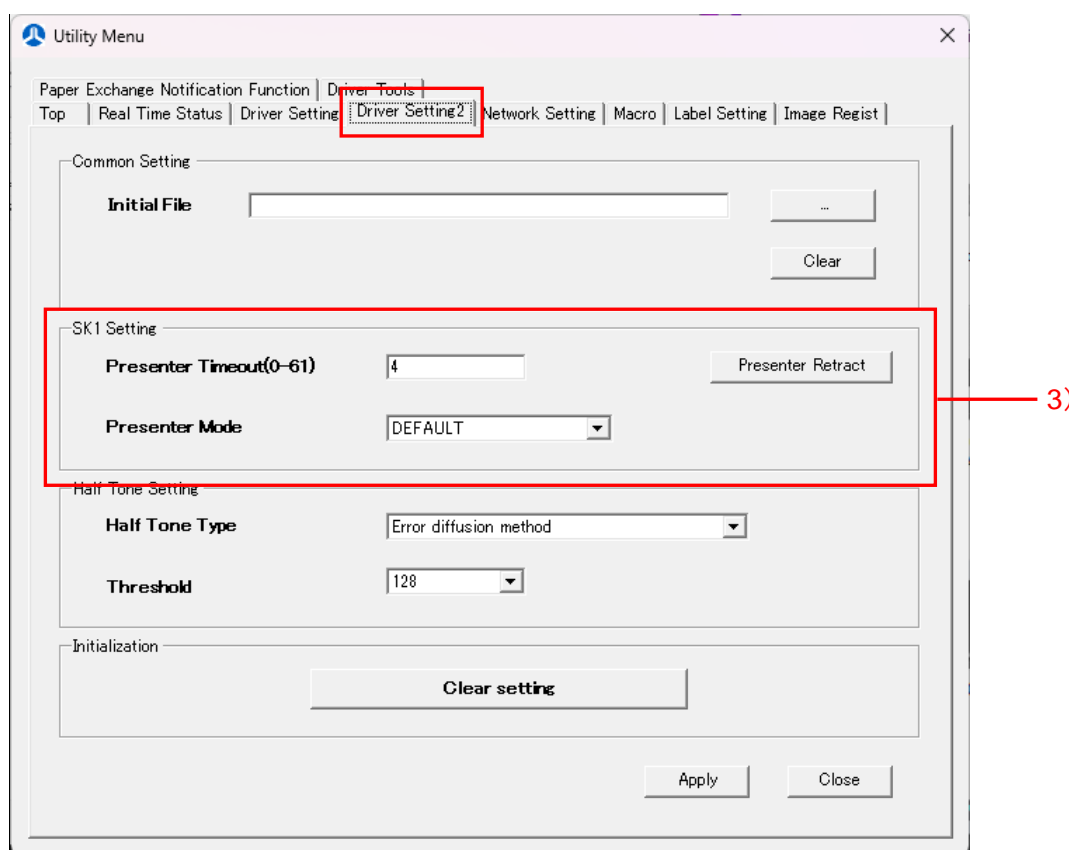


STEP2. In the Initial File in the Driver Setting 2 tab, specify the binary file to send.



It is completed with the above setting.

3) SK1 Settings (SK1 series with presenter)



Presenter Timeout : Set timeout for collecting paper of presenter.
(If set as "0", no timeout is set.)

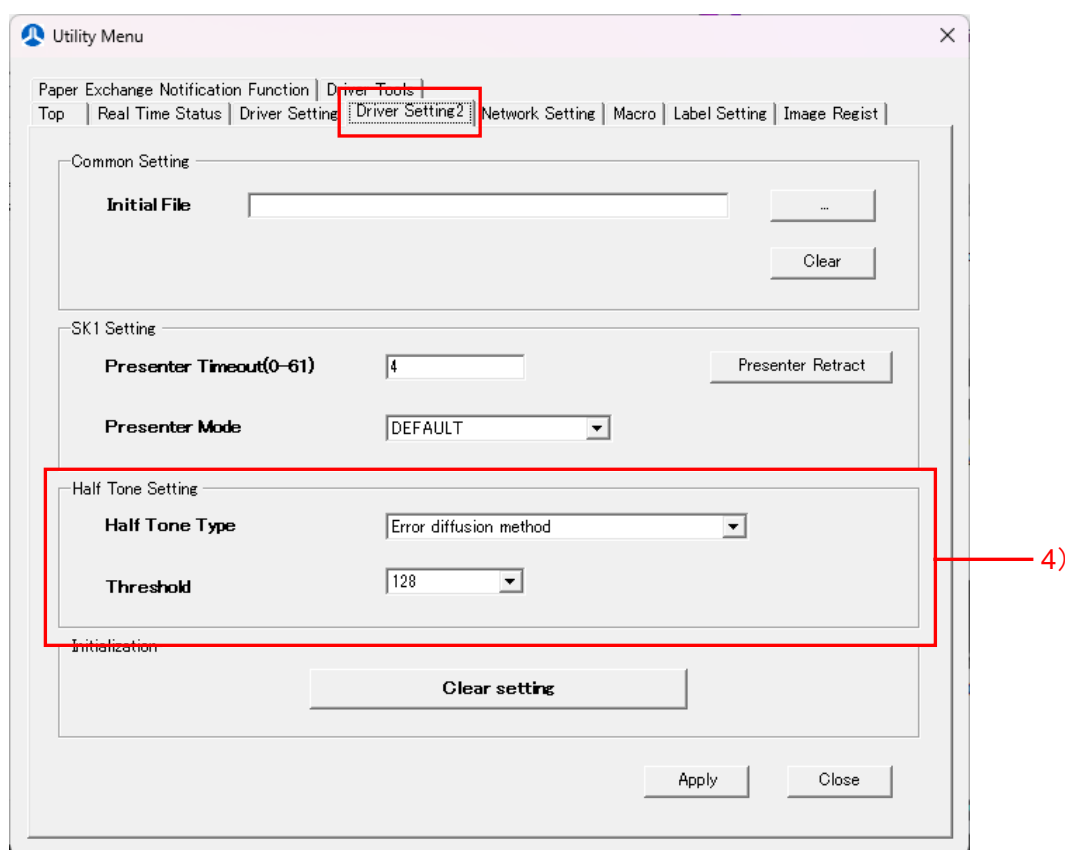
Presenter Mode : Select presenter operation mode.

| | |
|---------------|---------------------------------------|
| DEFAULT | Depends on memory setting of printer. |
| CLAMP/RETRACT | Backward collecting operation |
| CLAMP/EJECT | Forward collecting operation |
| CLAMP ONLY | Ejecting operation |
| CONTINUOUS | Continuous ejecting operation |

Presenter/Retractor: Select collecting, ejecting and clamping of paper at presenter

| | |
|---------------|------------------------------|
| DEFAULT | Not collect papers |
| CLAMP/RETRACT | Collect papers from backward |
| CLAMP/EJECT | Collect papers from forward |
| CLAMP ONLY | Not collect papers |
| CONTINUOUS | Not collect papers |

4) Half tone Settings



* This function can be applied to the Utility driver **version V2.00.03 or more**.

Types of halftone : Capable to select types of halftone or gray scale printing.

| | |
|------------------------|--|
| Error diffusion method | Binarianization processing suitable for expression of image |
| Dither pattern | General binarianization processing |
| Simple conversion | Process of simply dividing into white and black with threshold as boundary |
| Gray scale printing | 8 levels gray scale printing |

*Gray scale printing is available only for SK1-211, SK1-311 and SK4 series.

Gray scale printing requires the following firmware version on printer side.

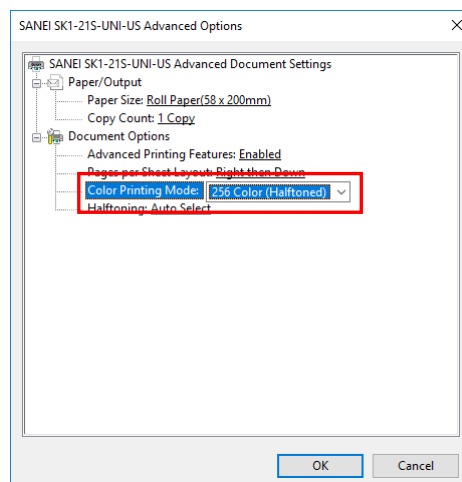
SK1-211/311 V.2.52 or higher

SK4-31 V1.01 or higher

Threshold :

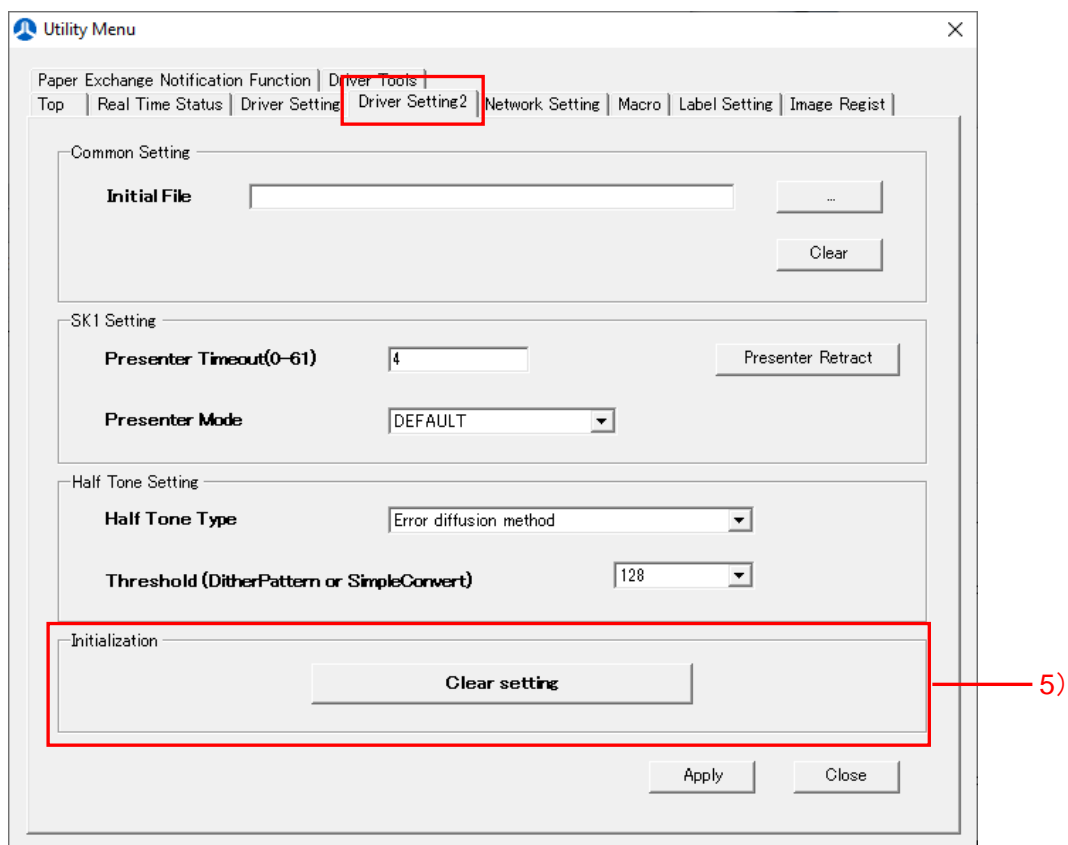
If you use halftones for error diffusion, dither patterns, or simple conversions, you must set a threshold.

To operate with halftone or gray scale printing, set the color print mode to 256 colors.
When monochrome is selected, this setting is invalid.



* Select "Basic setting → Detailed setting" from the property top screen.

5) Initialize settings



Format is initialized when clicking 'It returns to initialize settings' as follows.

| | |
|--------------------|---|
| Initialize | : Enable |
| Print Density | : 100 % |
| Reverse print | : Disable |
| Water mark | : Disable |
| Auto Response | : Enable |
| Reduction print | : 100 % |
| Paper Saving | : Disable |
| Erase Log Data | : Disable |
| Paper width | : Follow the printer paper width (factory settings) |
| Paper setting | : Variable length |
| CompressPrint | : Disable |
| Electrical Journal | : Disable |
| Logo First Print | : Disable |
| Drawer kick | : Disable |
| Status Log | : Disable |
| Presenter Timeout | : 4 seconds |
| Presenter Mode | : DEFAULT |
| Half tone | : Error diffusion method |
| Threshold | : 128 |

4-5. Network setting

On the network setting tab, make setting related to the remote function and mail sending function.

1) Remote Setting

In the remote setting, it is set for remote access from the outside to the PC on which the utility driver is installed.

Utility Menu

Paper Exchange Notification Function | Driver Tools | **Network Setting** | Macro | Label Setting | Image Regist

Top | Real Time Status | Driver Setting | Driver Setting2

Remote Setting

Remote Command Port: 50001 Apply

Timeout(ms): 10

E-mail Setting

Incidents to notify

☐ No paper ☐ Paper low ☐ Paper Jam ☐ Open print head

☐ Paper is not picked ☐ Hardware error ☐ Offline ☐ Online

☐ Normal

SMTP Server: Apply

Port: 25

From:

To:

User ID:

Password:

Close

Remote Command Port : Input port number to remote command port.

Timeout (ms) : Input timeout of remote network.

2) E-mail Setting

Notification is sent to e-mail address, when printer status is changed.

Transmission Conditions : Check error conditions to send mail.

Port : Input a port number to send e-mail.

From : Input e-mail address of sender.

To : Input e-mail address of receiver.

User ID : Input the authentication User ID of the destination.

Password : Input the authentication Password of the destination.

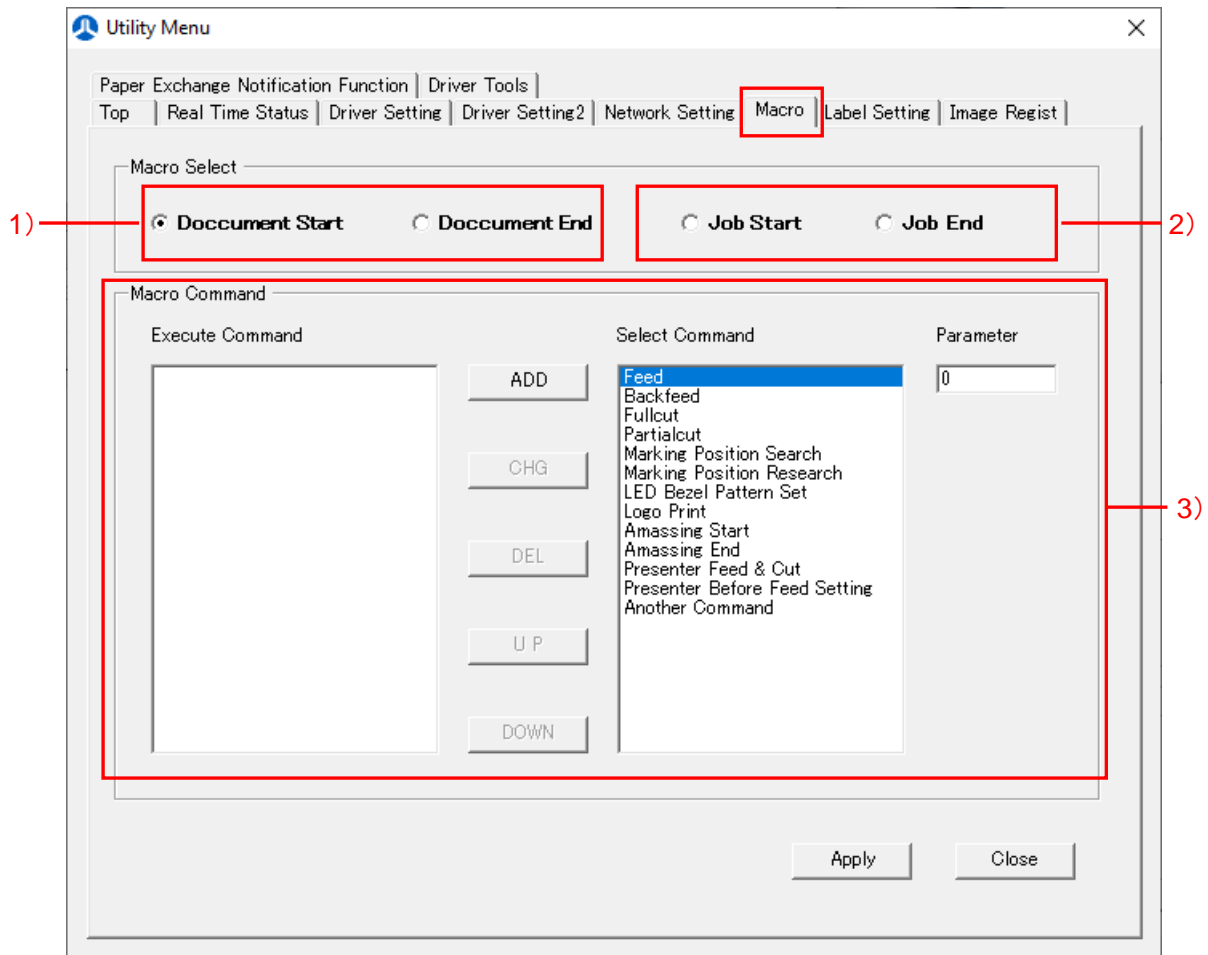
* The "Normal" status is not sent by plugging/unplugging the USB cable.

If you want to send it, enable Multi Status from the Printer Status Menu.

4-6. Macro

A macro command is registered in a macro tab.

The registered command is transmitted to the printer before and after the receipt printing (event).



1) Document Macro

The selected execution command is added to the printing data at the beginning and end of printing documents.

2) Job Macro

The selected execution command is added to the printing data at the beginning and end of printing job.

3) Macro Command

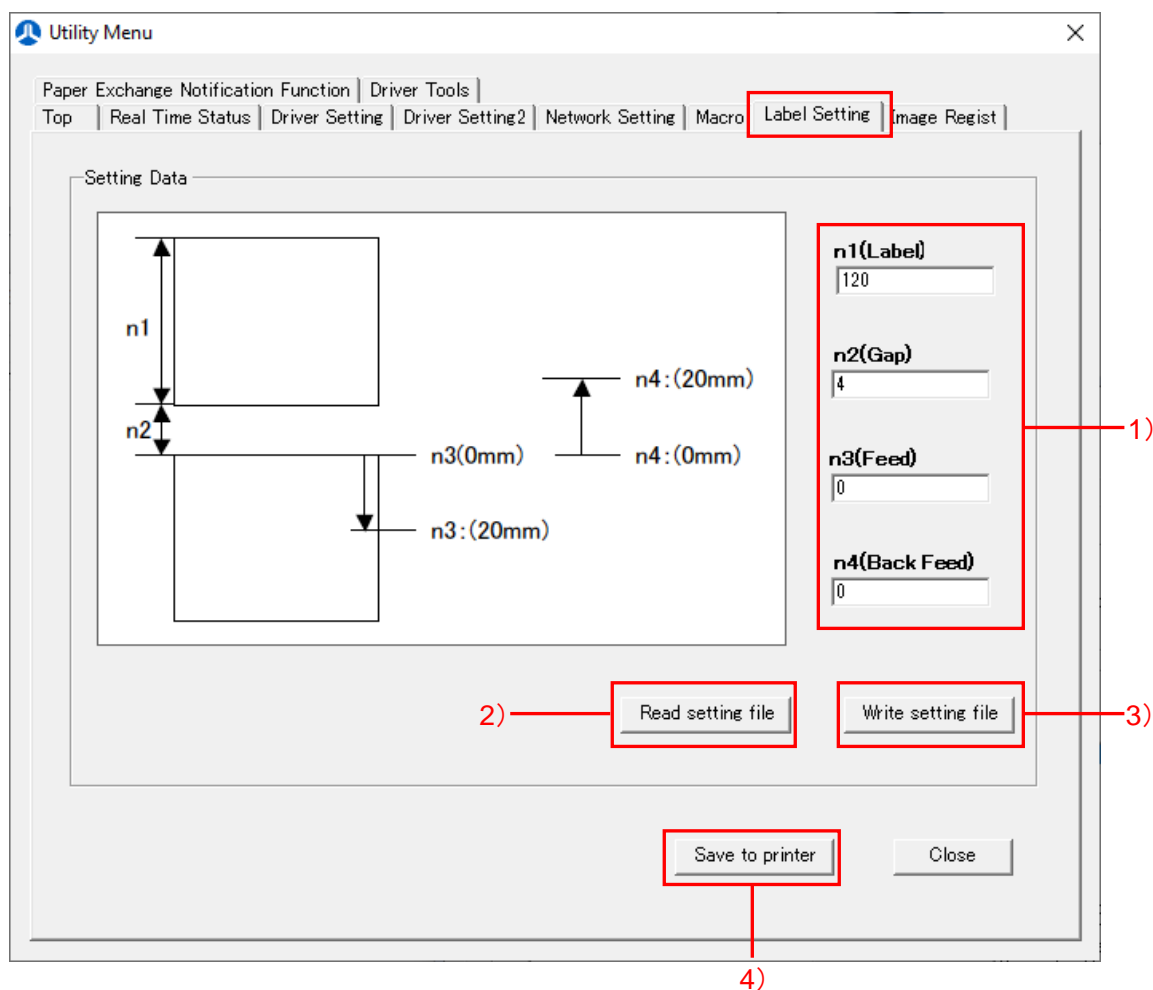
Select the execution command from selection command and then edited and decided.

4) Function of macro command.

| Macro command | Parameter 'n' range | Function |
|----------------------------|------------------------|---|
| 0 - Feed | 0 to 255 | Feed "n" dots length. |
| 1 - Back feed | 0 to 255 | Back feed "n" dots length. |
| 2 - Full cut | 0 | Execute full cut |
| 3 - Partial cut | 0 | Execute partial cut |
| 4 - Mark detection | 0 | Detect mark in next page. |
| 5 - Mark redetection | 0 | Redetect mark in temporary page. |
| 6 - Pattern of LED Bezel | 0 to 3 | Set illumination pattern of LED. |
| 7 - Logo Printing | 1 to 8 | Print registered image pattern as a logo. |
| 8 - Amassing start | 0 | Amassing print starting. |
| 9 - Amassing end | 0 | Amassing print end. |
| 10 - Presenter feed cut | 0 to 255 | Presenter feed "n" dots length & cut. |
| 11 - Presenter before feed | 0 to 255 | Presenter before feed "n" dots length. |
| 12 - Another command | 0 to 255 | Another printer command. |

4-7. Label Setting

Set the paper parameter such as marking paper and fan hold paper and then save and load.



1) Setting Data

- n1 : Length of label paper
- n2 : Length of gap
- n3 : Length of paper forward feed after detecting mark.
- n4 : Length of paper reverse feed before start printing.

2) Read setting file

Read a file which has label parameters(*.lbl).

3) Write setting file

Save label parameters to a file (*.lbl).

4) Save to printer

Register label parameters to flash memory for printer.

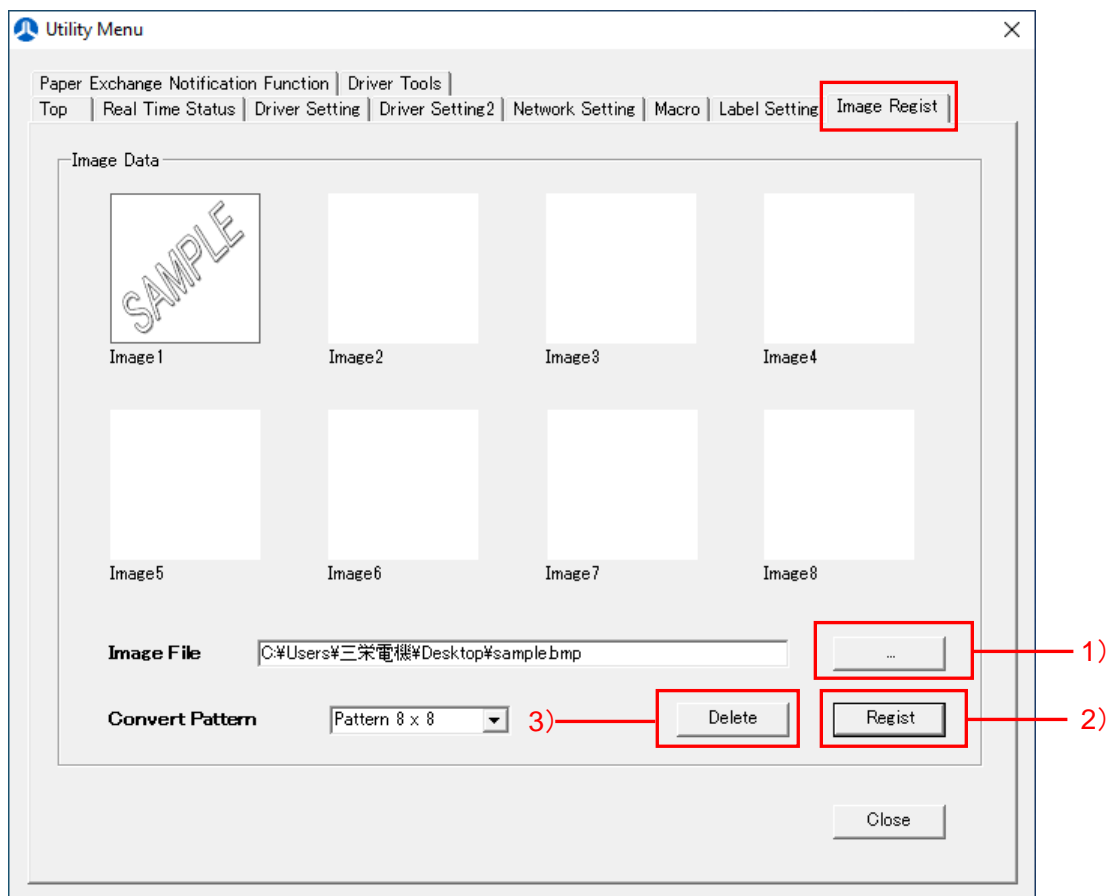
The registered parameters are activated promptly after "Save to printer" button is clicked.

4-8. Image Regist

Image data such as logo and water mark can be registered into flash memory.

The image file must be created by **monochrome data**.

In case of color image, change the format to the monochrome image by using a paint tool.



1) Reference

Choose image files to be registered.

Thumbnails are displayed on preview window.

2) Regist

Save selected image file in the driver folder as registered image.

The maximum size of the image file is 640x1600 dots matrix.

For color image data, make halftone according to the conversion pattern and register.

In case of monochrome data, images are registered without converting halftone.

3) Delete

Delete image files.

4) Convert Pattern

Specify the conversion pattern to be used for making halftone the specified image file.

4-9. Function of logo at first

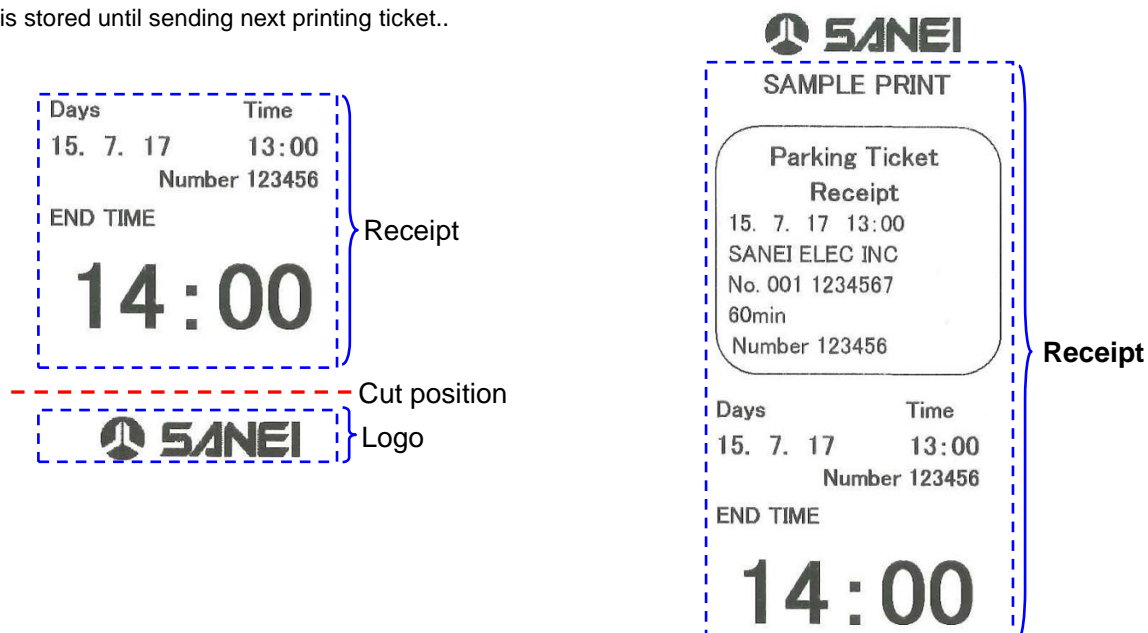
The margin can be decreased by this function. Logo is pre-printed after printing each ticket.

To enable this function, it is necessary to register an image data (logo) at 'Register Image' and choose the number of logo registered at 'Setting format'.

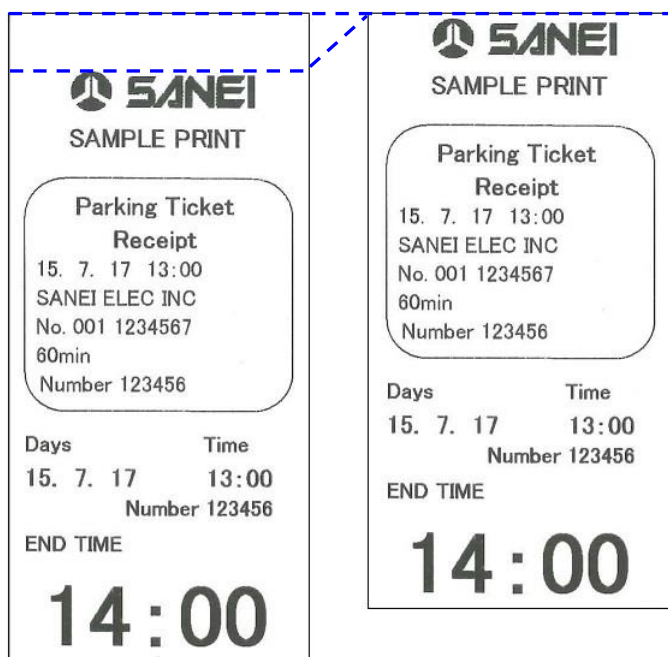
<How to print logo at the top of ticket>

(1) After printing a receipt, print the logo and cut the media at the position shown in the picture. The logo is stored until sending next printing ticket..

(2) Next ticket is printed after logo.



(3) Upper side of page margin can be decreased about 9mm.



4-10. Paper exchange notification function

The paper replacement notification function is a function that notifies you of paper replacement by printing. By making good use of this function, you can guide the URL (QR code) from which you purchased the paper.

The screenshot shows a software window titled 'Utility Menu' with a tabbed interface. The 'Paper Exchange Notification Function' tab is selected and highlighted with a red box. The dialog contains several settings, each with a red box and a numbered label (1) through (7):

- Function Enabled:** A dropdown menu set to 'No' (1).
- Distance from near end(0-200):** A text input field containing '20' (2).
- Notification count:** A text input field containing '10' (3).
- Print Message:** A text area containing the message: 'We will run out of paper soon. Please purchase the paper from the following URL.' (4).
- Print URL:** A text input field containing the URL: 'https://www.sanei-elec.co.jp/en/' (5).
- Cut operation:** A dropdown menu set to 'Full cut' (6).
- Buttons:** 'Apply' (7) and 'Close' buttons are located at the bottom right.

1) Enable the function

Select whether to enable or disable this function. (Default is disabled)

2) Printing distance from near end

Set the print distance (unit: cm) from detecting the near end to notifying the notification.

3) Number of notifications

Set the number of notifications until paper replacement.

Notifications after the set number of times will not be automatically turned off.

4) Print message

Register the print message (print content) to be notified.

Multiple lines of print content can be registered.

5) Print URL

Set the URL to print.

The specified URL prints the QR code and character string.

6) Cut operation

Set the cut operation for printing notifications.

The cut operation can be selected from no cut (Non), partial cut (Partial Cut), and full cut (Full Cut).

7) Apply

After selecting the settings from 1) to 6), the settings will be reflected by this "Apply".



Print image

Precautions for the paper change notification function

- Notification printing is automatically added from the printer driver after normal receipt printing.
- Since the print distance from the near end is counted by the memory on the printer side, the counter is cleared if the power of the printer is turned off during counting.
- The firmware version of the printer to which this function can be applied is as follows.
SK4-21 / 31 version 1.04.02 or later

4-11. Driver Tools

The extending functions are executed in 'Driver Tools' tab.

- ①File Send ②Unique Registered Name Setting ③BLE Setting ④Re-Printing ⑤Memory SW Setting
⑥Journal Manager ⑦Font Editor ⑧Test Print ⑨Soft Reset ⑩Service Menu ⑪WLAN Setting

The screenshot shows the 'Utility Menu' window with the 'Driver Tools' tab selected. The window has a title bar with a close button (X) and a menu bar with the following items: Top, Real Time Status, Driver Setting, Driver Setting2, Network Setting, Macro, Label Setting, Image Regist, Paper Exchange Notification Function, and Driver Tools (which is highlighted with a red rectangle). The main content area is divided into several sections:

- File Send:** Contains a 'File to transfer' text field, a browse button (...), and a 'Send' button.
- Unique printer name registration:** Contains a 'Unique Printer Name' text field with the value '0000000000' and a 'Save to printer' button.
- BLE Setting:** Contains a 'BLE Name' text field with the value 'SM4-21_000000001' and a 'Save to printer' button.
- Re-Print:** Contains a 'Print' button.
- MemorySW Setting:** Contains an 'Exec' button.
- Electrical Journal:** Contains an 'Exec' button.
- Font Editor:** Contains an 'Exec' button.
- Test Print:** Contains a 'Print' button.
- Soft Reset:** Contains a 'Reset' button.
- Service Menu:** Contains an 'Exec' button.
- WLAN Setting:** Contains an 'Exec' button.

A 'Close' button is located at the bottom right of the window.

4-11-1. File Send

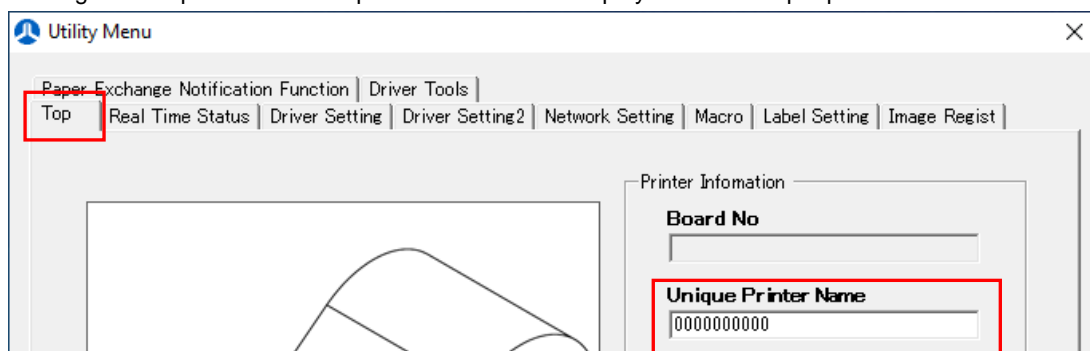
The binary data can be sent to the printer by this tool. The data are sent directly to the printer regardless of driver setting. To send the data file, select "OPEN", and then click "Send"

OPEN : Select data file. The binary file type is specified in either .bin or .prn.

Send : Send the selected data to the printer.

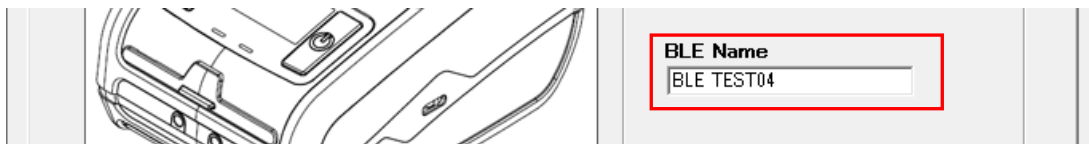
4-11-2. Unique Printer Name Setting

Capable to register the printer data of top tab and the name displayed in the unique printer name.



4-11-3. BLE Setting

Capable to register the printer data of top tab and the name displayed in the BLE name.



4-11-4. Re-print

Reprint the contents which are printed last time.

Saved print data is "C:\SaneiDriver\<Printer name>temp\print.bin", (overwrite saved data per printing.)

4-11-5. Test Print

Execute test printing of printer.

4-11-6. Soft Reset

Execute soft reset of printer.

4-11-7. Memory SW Setting

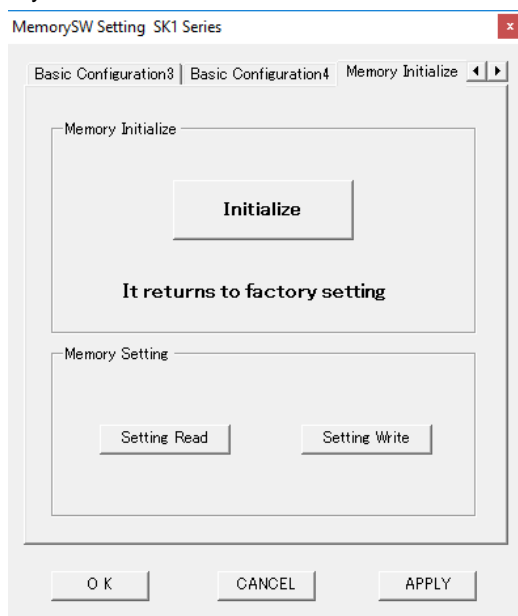
The built-in memory switch of printer can be set and changed.

The items of memory switch is different depending on supporting models and versions.

The grey color shows items of which setting changes are not available.

The content of memory SW varies with each printer model. For details, refer to the separate "Technical Manual".

① Memory Initialize

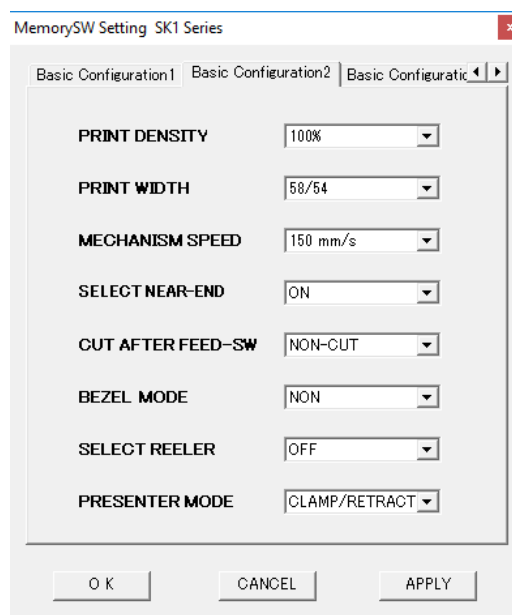
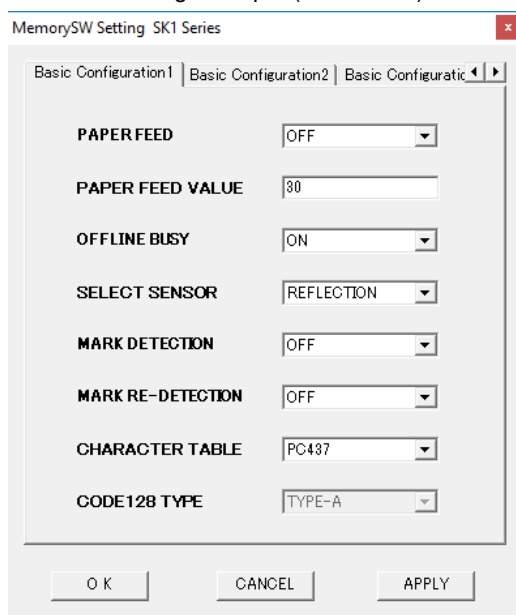


Initialize : Reset memory switch as factory default.

Setting Read : Read setting of memory switch from file.

Setting Write : Write setting of memory switch into file.

② Basic setting example (SK1 series)



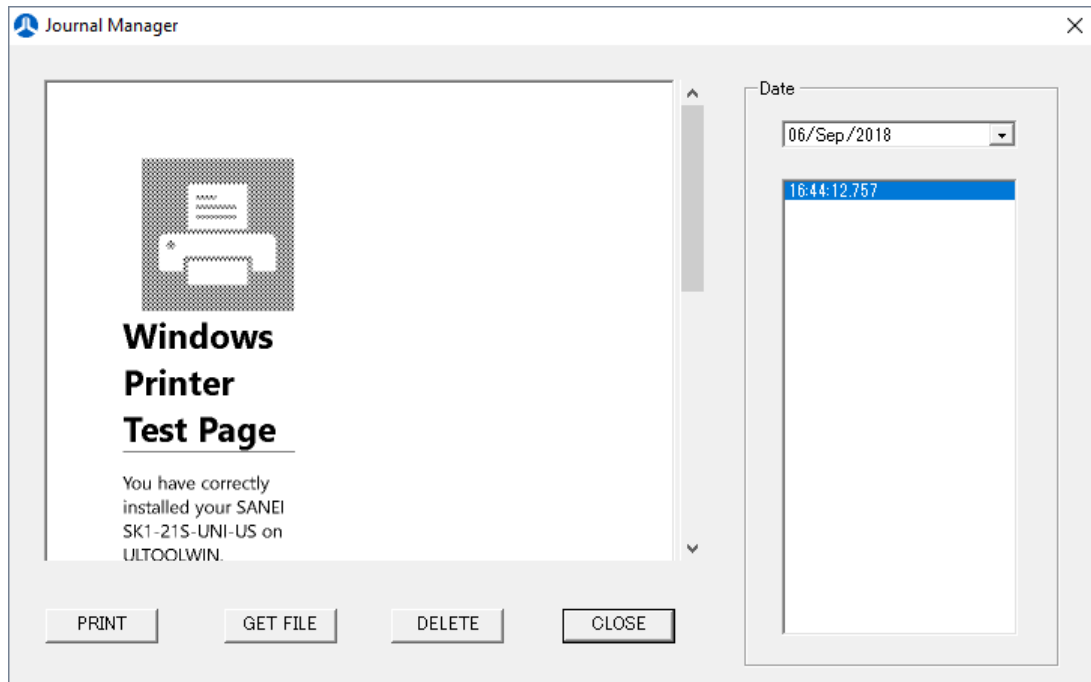
4-11-8. Electronic Journal (Journal Manager)

The file of journal data is managed.

When electrical journal is active, journal data for each print document is saved in the destination folder.

By specifying the date, the reserved journal data can be taken out and the display of printing documents can be done.

To use the journal manager, enable "Journal Manager" on the format tab.



Preview window

Display the journal data with nominated date in the preview.

The preview display can be done up to 2 pages.

However, in case the printing documents are not in accordance with the paper width, not displayed in the preview.

PRINT

Print the journal data of specified date.

GET FILE

Copy the journal data of the specified date to the specified folder.

DELETE

Delete the journal data of specified date.

4-11-9. Font Editor

The font editor supports graphical editing of user registration characters (Font A and Font B).

Font data can easily create a binary file converted into a printer command and be registered into the printer.

Also, it is possible to register externally designed character data using 「BMP file」 capture function.

1) Regarding user registration characters

User registration characters are expanded and saved in flash memory stored in printer.

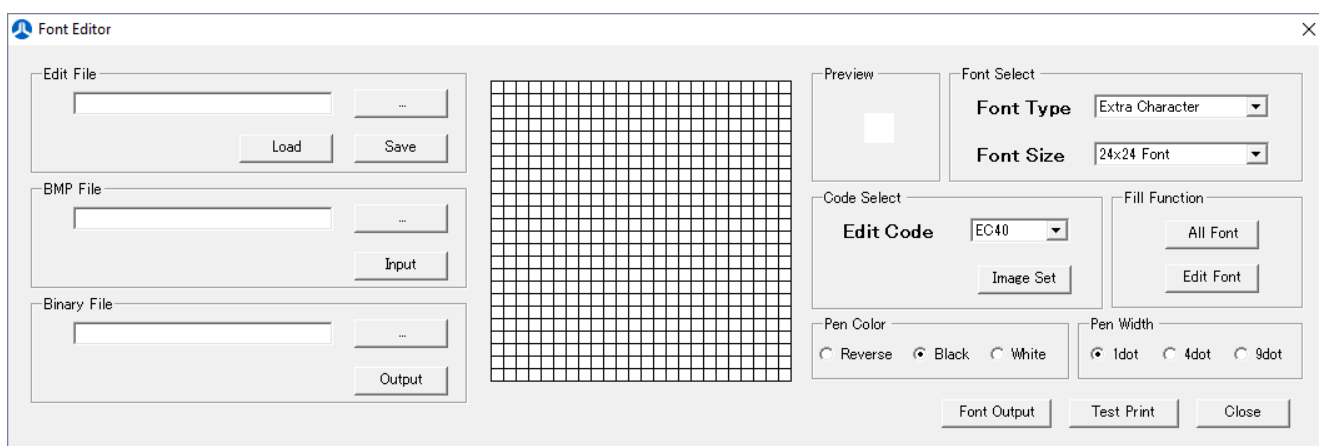
Registration data is retained even if the power is turned off.

For details of user registration characters, refer to the separate "Command Reference".

2) Operating Procedure

When the font editor starts up, the following edit screen is displayed.

Capable to edit and register font data according to the following operating procedure.



STEP1. Setting Font

Set 「Font Type」of 「Font Select」to 「Register Character」.

Set 「Font Size」of 「Font Select」to the size required to create.

STEP2. Setting Edit Code

Select the character code required to edit 「Edit Code」of 「Code Select」.

STEP3. Setting Pen

Select the 「Pen Color」 and 「Pen Width」.

STEP4. Editing Font

Write with a mouse against the screen in the center square.

When the design is confirmed, click 「Image Select」of 「Code Select」.

STEP5. Writing and Reading Edit File

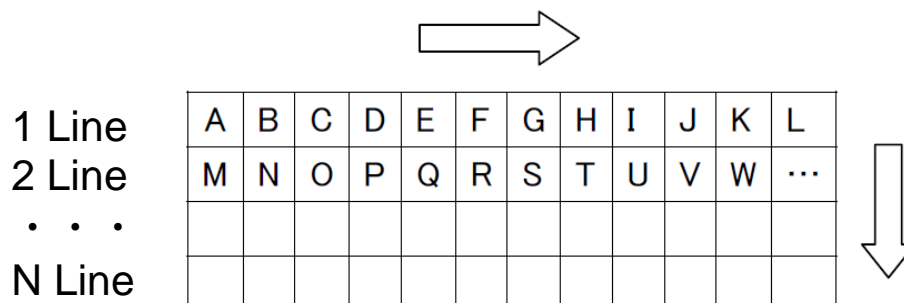
In case of saving the created font data on the PC, click 「...」button in 「Edit File」 and save 「Save」button, entering the font data.

The saved data can be called with 「Load」button.

STEP6. Reading BMP File

Select the file with 「...」button of 「BMP File」.BMP file is displayed in the center square following reading it with 「Input」button.

According to the specified font size, BMP data is expanded from left to right and up to down.



STEP7. Writing Binary File

Select the file with 「...」button of 「Binary File」.

Save the font data created with 「Output」button in the form of the binary file on the PC.

The created binary file is composed of the printer code, sending this file to the printer, registering the font.

STEP8. About Filling

For the code specified by 「Fill Function」or all character codes, the font data can be filled.

The filling color is following the pen color setting.

STEP9. Save to Printer

Click 「Font Output」to save the font data to the printer.

To check the saved font data can be done using 「Test Print」button.

4-11-10. Status Menu

See Status acquisition function in Chapter 5 for details.

4-11-11. WLAN Setting Tool (SM4 Series)

The WLAN Setting Tool is a support tool for setting the SSID and password of the connected router and setting the IP address of the SM4 Series WLAN models.

The screenshot shows the 'WLAN Setting Tool' window. It is divided into two main sections: 'IP Address Setting' on the left and 'Connection Setting' on the right. The 'IP Address Setting' section includes a 'DHCP Setting' dropdown menu (labeled 1) with 'Enable' selected, an 'IP Address' section with four input fields (labeled 2) containing '192', '168', '123', and '123', a 'Subnet Mask' section with four input fields (labeled 3) containing '255', '255', '255', and '0', a 'Gateway' section with four input fields (labeled 4) containing '192', '168', '123', and '1', and a 'Port(1-9999)' input field (labeled 5) containing '9100'. The 'Connection Setting' section includes a 'Connection Mode' dropdown menu (labeled 6) with 'ROUTER mode' selected, an 'SSID' input field (labeled 7) containing 'www', a 'WLAN Direct channel' dropdown menu (labeled 8) with '3' selected, and a 'Security Setting' section with a 'Password' input field (labeled 9) containing 'abc'. At the bottom right, there are 'Apply' (labeled 10) and 'Close' (labeled 11) buttons.

- 1) DHCP Setting
Specify "Enable" when using DHCP to set the IP address.
Disable when using a fixed IP address or when using WLAN Direct mode.
- 2) IP Address
Specify the IP address.
- 3) Subnet Mask
Specify the subnet mask.
- 4) Gateway
Specify the gateway.
- 5) Port
Specify the TCP / IP port number.

- 6) Connection Mode
Specify the connection method between PC and printer.
ROUTER mode: This mode connect the PC to the printer via a router.
WLAN Direct mode: Direct connection between PC and printer.
- 7) SSID
Specify the WLAN SSID name.
- 8) WLAN Direct channel
Specify the channel to use in WLAN Direct mode.
- 9) Password
Specify the WLAN password.
- 10) Apply
Write the WLAN settings to the printer.
- 11) Close
Exit the configuration tool.

* WLAN Direct mode of SM4-21 is valid in FW V1.03 or later.

4-11-12. LAN Setting Tool (SK5 Series)

The LAN setting tool is a setting support tool for setting the IP address on the printer side for the SK5 series model equipped with the LAN option.

LAN Setting Tool

MAC ADDRESS: FF:FF:FF:FF:FF:FF

LAN Setting

IP Address: 192 168 4 100

Subnet Mask: 255 255 255 0

Gateway: 192 168 4 1

Port(1-9999): 9100

DHCP Setting: Enable

Apply Close

- 1) MAC Address
Displays the Ethernet MAC address.
- 2) IP Address
Specify the IP address.
- 3) Subnet Mask
Specify the subnet mask.
- 4) Gateway
Specify the gateway.
- 5) Port
Specify the TCP / IP port number.
- 6) DHCP Setting
Specify "Enable" when using DHCP to set the IP address.
Disable when using a fixed IP address.
- 7) Apply
Write the LAN settings to the printer.
- 8) Close
Exit the configuration tool.

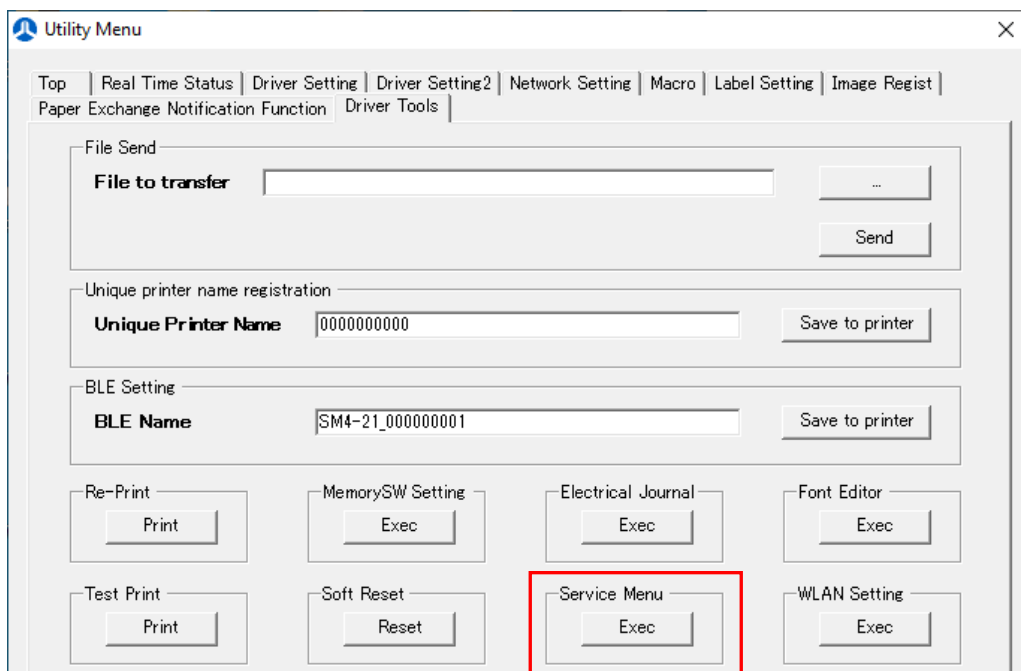
5. Status acquisition function

The status of printer can be obtained by registering the printer driver to the status acquisition service.

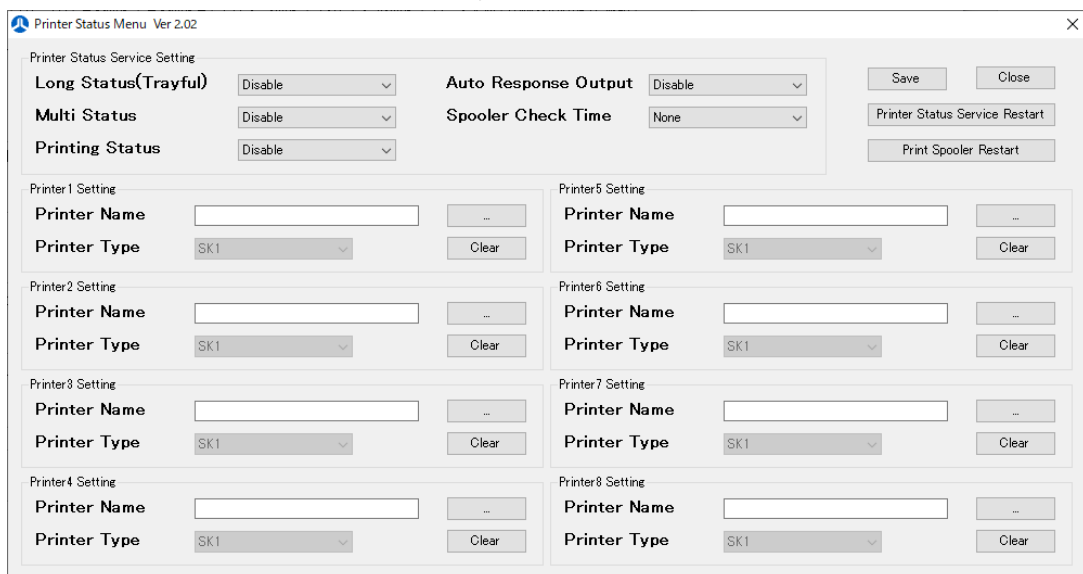
The following explanation is for how to register the printer driver to the status acquisition service and the function of application of service setting.

5-1. How to register the printer driver

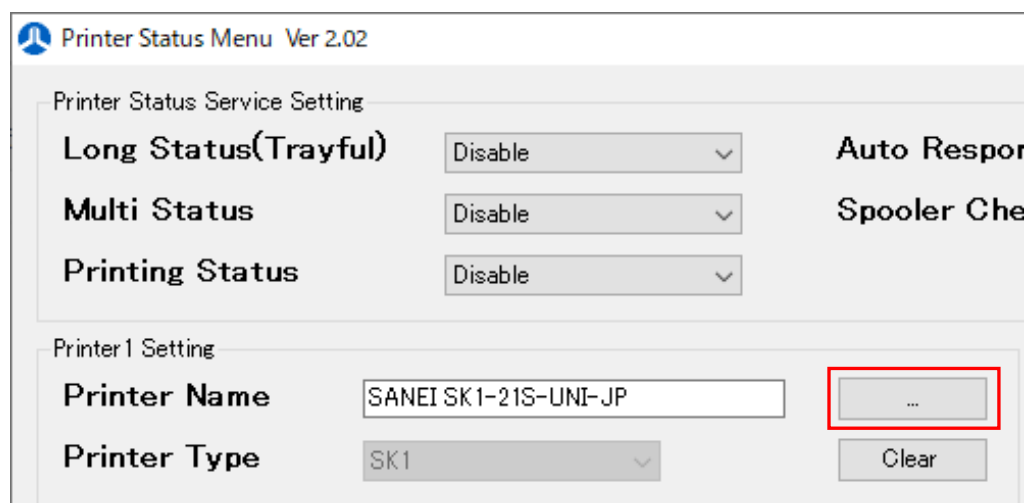
STEP1. Execute "Service Menu" in the tool Tab.



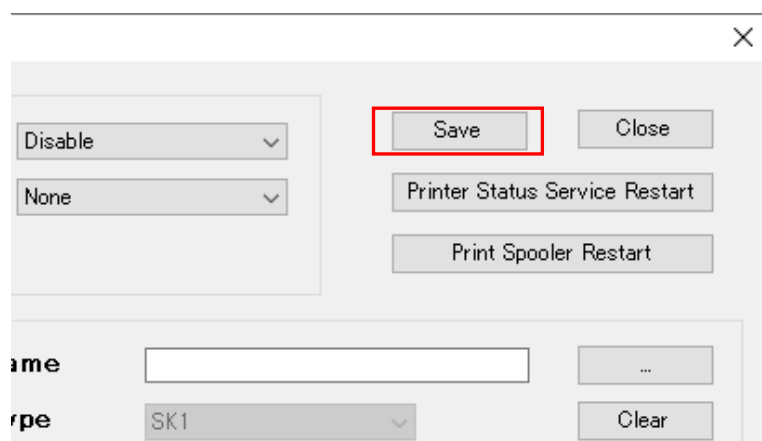
STEP2. "Printer Status Menu" screen will be displayed.



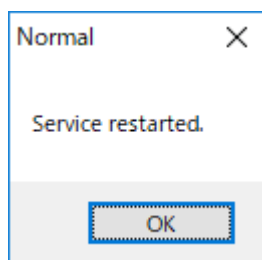
STEP3. Click the "..." button next to the Printer Name to specify the printer driver.
In the following example, register the printer driver "SANEI SK1-21S-UNI-US".



STEP4. Click 「Save」 button.



STEP5. When "Save" is completed, the following dialog will be displayed.



The registration is completed.

5-2. Setting items of Printer Status Service

In the Printer Status Menu, enable to set the function for the status acquisition of printer.

| Printer Status Service Setting | |
|--------------------------------|---------|
| Long Status(Trayful) | Disable |
| Multi Status | Disable |
| Printing Status | Disable |
| Auto Response Output | Disable |
| Spooler Check Time | None |

Save Close

Printer Status Service Restart

Print Spooler Restart

① Long Status (Trayful)

This is a function to keep the paper extraction waiting condition from the bezel or presenter for 1 second.

When the setting is enabled, even if the paper is quickly pulled out from the bezel and presenter unit, the status of waiting for extraction is held for 1 second.

So, the change in the paper status in the unit can be surely and easily detected on the customer application.

Enable : Enable the function .

Disable : Disable the function.

② Multi Status

This is a function to enable multiple status display of printer.

Enable : Display all the multiple error status.

Disable : Display only one error status with the highest priority.

③ Auto Response Output

Periodically transmit the printer status command to the printer.

When the setting is enabled, the printer status command is periodically transmitted to ensure surely printer status update.

Enable : Enable the function .

Disable : Disable the function.

④ Spooler Check Time

If the print spooler does not start up even after the set time elapses, it exits without starting up the Printer Status Service.

⑤ Printing Status

Enable the printing status.

Compatible printers are the SK4 and SK5 series.

⑥ Save

This is a function to keep the setting contents of the current Printer Status Menu.

⑦ Close

This is a function to close the indication of dialog of the Printer Status Menu.

⑧ Printer Status Service Restart

This is a function to re-start up the Printer Status Service.

⑨ Print Spooler Restart

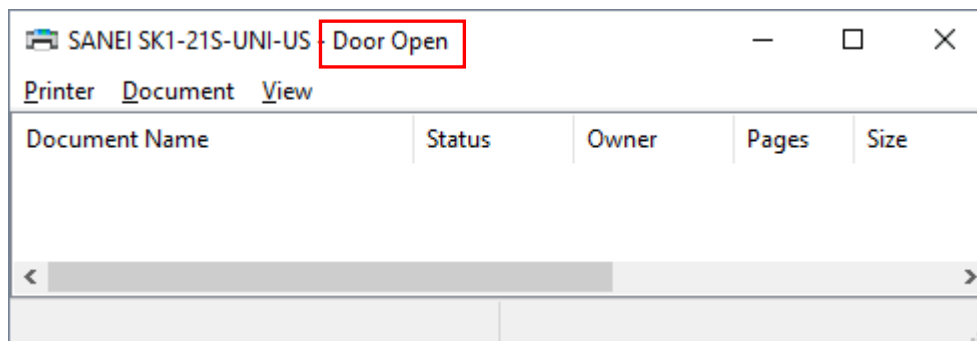
This is a function to re-start up the Print Spooler.

5-3. Status Acquisition Function

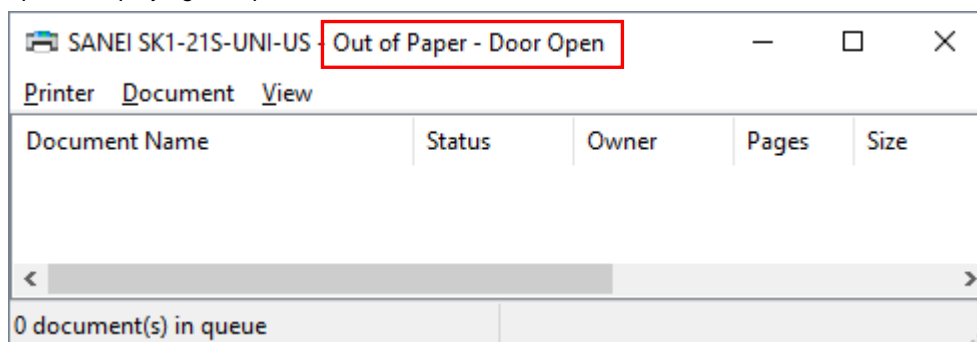
The status of printer can be confirmed on the screen of printing job of driver.

The contents of error status to be displayed are different depending on printer models.

Error status display example



Example of displaying multiple error statuses



The contents of status to be displayed are as follows.

| Error status | Display (message) |
|--|--|
| No error | No display |
| Printing | Printing |
| Power OFF, No cable is connect | Use Printer Offline |
| Paper end | Out of paper |
| Open print head | Door Open |
| Near end | Paper Problem |
| Paper is not picked up | Output bin full |
| Paper course out | Paper Jam |
| Voltage error, thermal error, Cutter error | User Intervention Required *1 or Attention Required *2 |

*1 For Windows7,8

*2 For Windows10

5-4. Error status and the way to remove the error

Status of printer error and the method for removing the errors are described as follows.

| Error status | Display (message) | How to remove the errors |
|-----------------------------------|--|--|
| No error | No display | Non. |
| Printing | Printing | Wait for printing to finish. |
| Power OFF, No cable is connect | Use Printer Offline | Turn ON power of printer and connect cable to it. |
| Paper end | Out of paper | Change the roll paper. |
| Open print head | Door Open | Close the printer head cover. |
| Near end | Paper Problem | Change the roll paper. |
| Paper is not picked up | Output bin full | Remove the paper released from the presenter, or recover from the error by collecting the paper automatically after a few seconds. |
| Paper Jam | Paper Jam | Remove the jammed paper. |
| Temperature Error | User Intervention Required *1 Attention Required *2 | Wait for becoming cool naturally. |
| Voltage Error | User Intervention Required *1 Attention Required *2 | Automatically recover from the error by recovering voltage of power supply. |
| Cutter Error | User Intervention Required *1 Attention Required *2 | Open the printer head cover and remove some dusts or rubbish which cause a trouble of cutter working, and then close the cover. |

*1 For Windows7,8

*2 For Windows10

5-5. Notes on getting status

Close the "Utility Menu" to get the printer status.

If "Utility Menu" is running, status update will stop and normal detection will not be possible.

This is because "Utility Menu" has two-way communication with the printer, so it is necessary to stop other communication.

5-6. Status API

The printer status is obtained by using "GetPrinter" function of Win32API.

For further information, please refer to the below URL.

URL: <http://msdn.microsoft.com/en-us/library/windows/desktop/dd144911%28v=vs.85%29.aspx>

BOOL GetPrinter

(HANDLE hPrinter, DWORD Level, LPBYTE pPrinter, DWORD cbBuf, LPDWORD pcbNeeded)

[parameter]

| | |
|--------------------|--|
| HANDLE hPrinter: | Printer handle |
| DWORD Level: | A structure stored to a buffer, which pointed by pPrinter. |
| LPBYTE pPrinter: | A pointer to buffer which receive information about printer. |
| DWORD cbBuf: | Set a size of buffer pointed by pPrinter per "byte". |
| LPDWORD pcbNeeded: | A pointer to a variable receiving a size of printer's information. |

[printer status]

The information of printer status received by pPrinter is as follows:

| | |
|----------------------------------|--|
| PRINTER_STATUS_PAPER_OUT | : Out of paper |
| PRINTER_STATUS_DOOR_OPEN | : Open print head |
| PRINTER_STATUS_PAPER_PROBLEM | : Near end |
| PRINTER_STATUS_USER_INTERVENTION | : Voltage error, thermal error, Cutter error. |
| PRINTER_STATUS_OUTPUT_BIN_FULL | : Paper is not picked up |
| PRINTER_STATUS_PAPER_JAM | : Paper course out/JAM (presenter or bezel unit) |
| PRINTER_STATUS_PRINTING | : Printing |
| Other values | : Online(No error) |

[Return]

"0": if function is failed. "other digit" means success.

5-7. Printer error list and response priorities

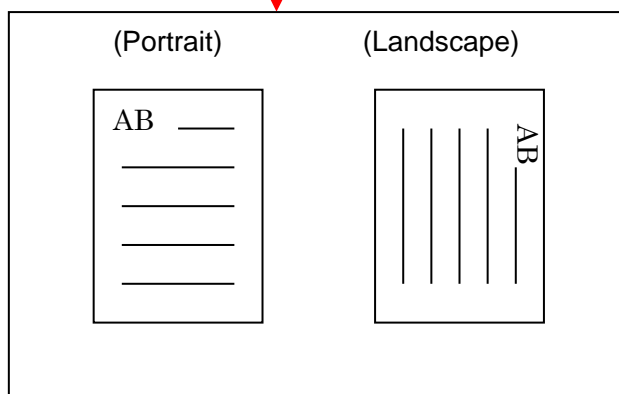
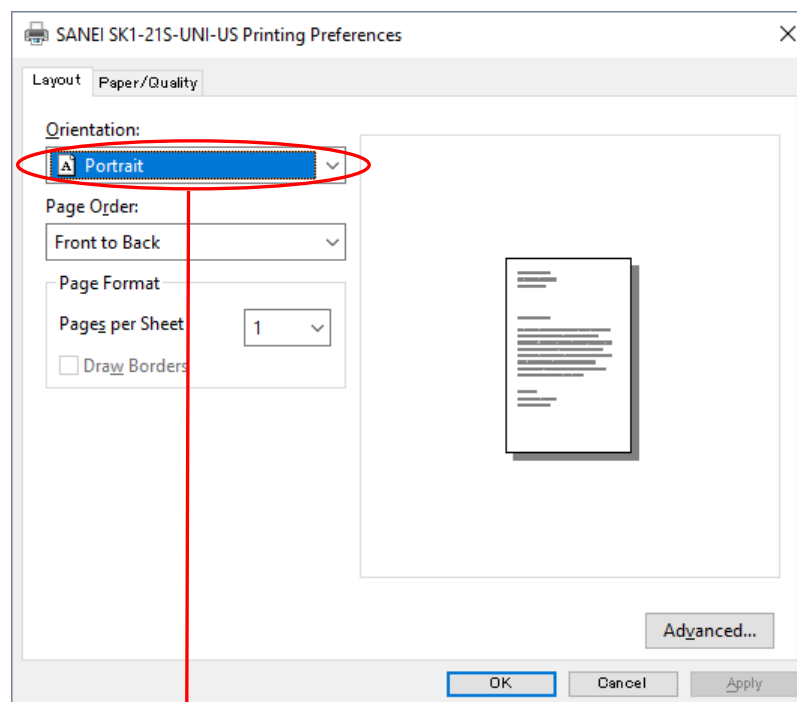
As the default, if the printer error has multiple occurrences, responds to only upper level of error in accordance with the following order of precedence.

| Priority | Printer errors | code |
|----------|--|--------|
| 1 | Printing | 400 |
| 2 | Voltage error, Cutter error. | 100000 |
| 3 | Paper course out/JAM (presenter or bezel unit) | 8 |
| 4 | Open print head | 400000 |
| 5 | Out of paper | 10 |
| 6 | Paper is not picked up | 800 |
| 7 | Near end | 40 |
| 8 | Thermal error, | 100000 |
| 9 | No error | 0 |

6. Print direction

The print direction of each page can be changed. Setting the print direction is supportable by selecting the Orientation item in layout tab as shown in the figure.

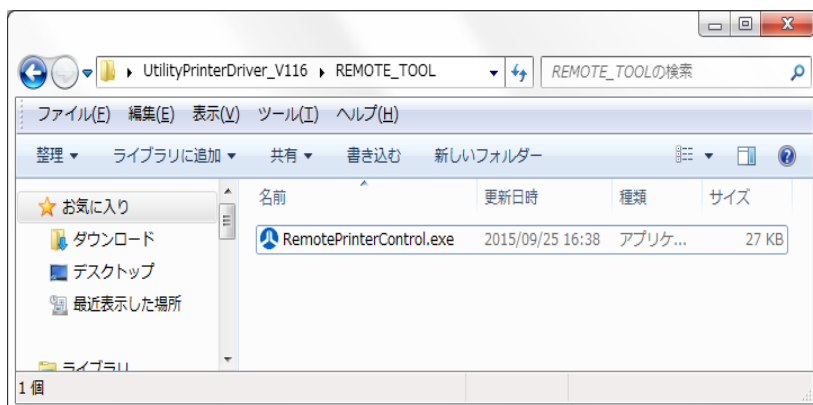
This function can be applied to the Utility driver **version V1.09 or more**.



7. RemoteTool [RemotePrinterControl]

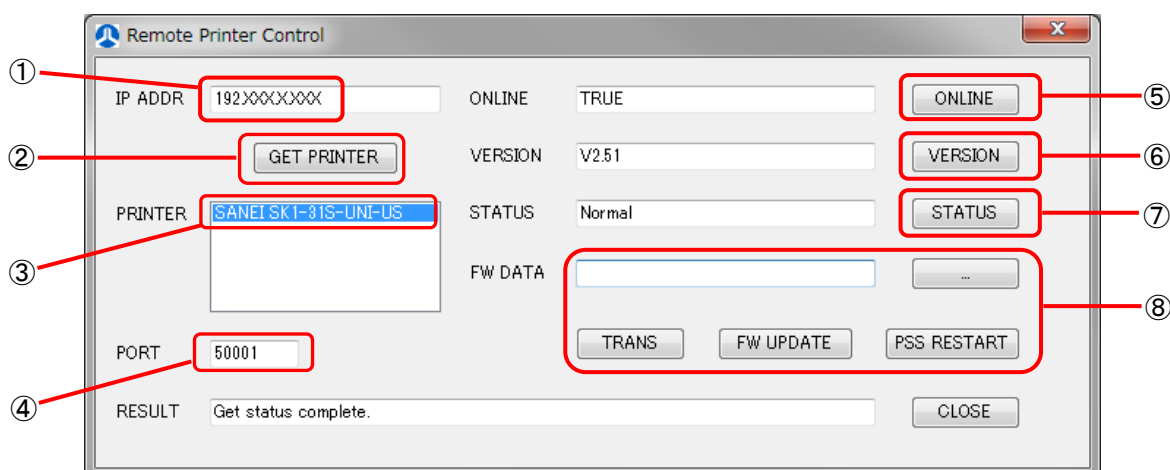
7-1. Outline

Condition of printer can be monitored and retrieved from the other PC by using the 'RemotePrinterControl.exe', which is bundled in printer driver, by coordinating with status service.



Remote Tool monitor is displayed, when double clicking the icon of 'RemotePrinterControl.exe', which bundled in printer driver.

Remote Tool Monitor



- ① Input IP address to PC which is required remote control.
- ② Retrieve printer name which the driver is installed in the PC specified IP address.
- ③ Display printer name retrieved at ②.
- ④ Input port number that specified in 'Remote Setting'. (Default: 50001)
- ⑤ Return condition of printer by remote control.
- ⑥ Return version information of printer by remote control.
- ⑦ Return status information of printer by remote control.
- ⑧ Update firmware of printer by remote control.

※Please contact our sale reps to ask updating firmware.

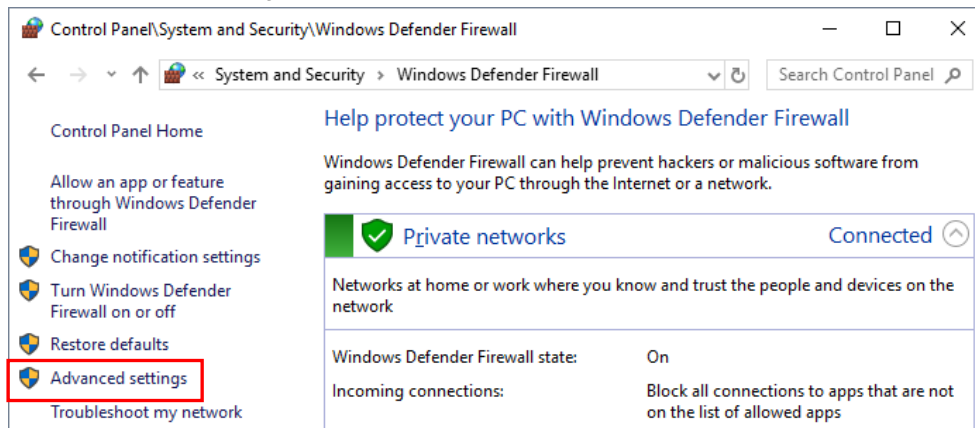
※For remote access, open the port referring to 「7-2.Procedure for opening ports to be used with remote tool」 on the next page.

7-2. Procedure for releasing the port used by the remote tool

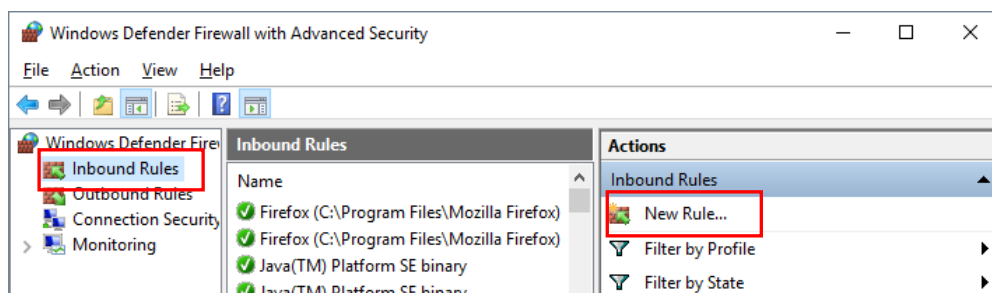
To connect from an external PC with remote tool, release the port as follows.

STEP1. Open the Windows Firewall setting screen from the control panel.

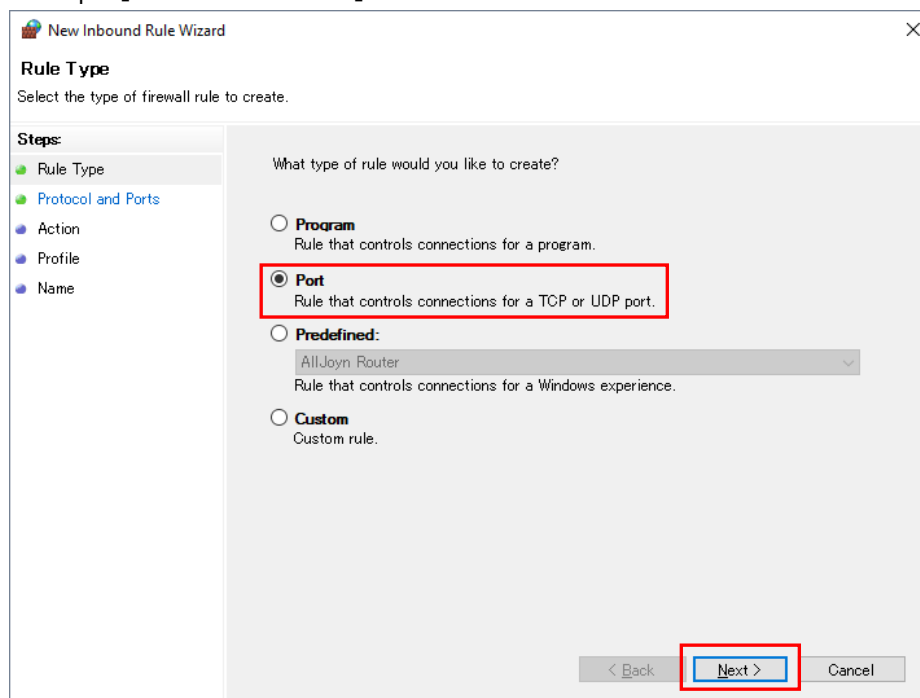
STEP2. Click the 「Advanced settings」.



STEP3. Select the 「Inbound Rules」 and click the 「New Rule」.



STEP4. Select the 「port」 and click the 「Next」.



STEP5. Select the 「TCP」, 「Specific local port」 and Input "50001" in the port field.
Click the 「Next」.

New Inbound Rule Wizard

Protocol and Ports
Specify the protocols and ports to which this rule applies.

Steps:

- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

Does this rule apply to TCP or UDP?

☒ TCP

☐ UDP

Does this rule apply to all local ports or specific local ports?

☐ All local ports

☒ Specific local ports: 50001

Example: 80, 443, 5000-5010

< Back Next > Cancel

STEP6. Select the 「Allow the connection」 and click the 「Next」.

New Inbound Rule Wizard

Action
Specify the action to be taken when a connection matches the conditions specified in the rule.

Steps:

- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

What action should be taken when a connection matches the specified conditions?

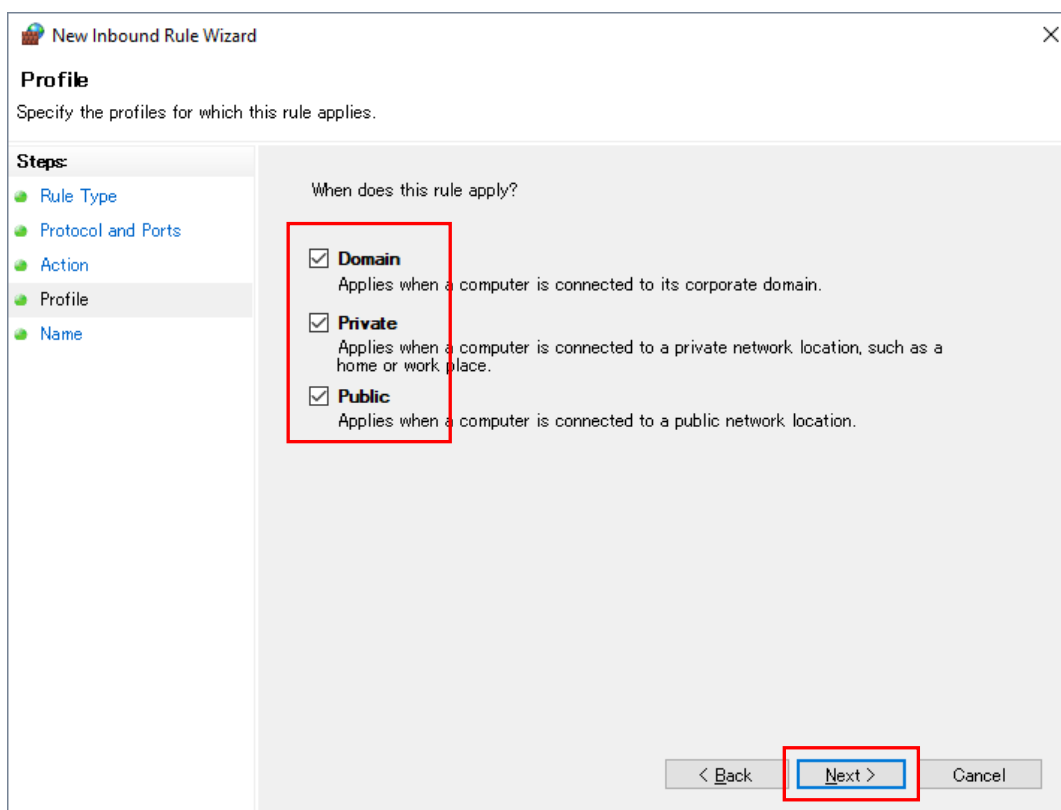
☒ Allow the connection
This includes connections that are protected with IPsec as well as those are not.

☐ Allow the connection if it is secure
This includes only connections that have been authenticated by using IPsec. Connections will be secured using the settings in IPsec properties and rules in the Connection Security Rule node.
Customize...

☐ Block the connection

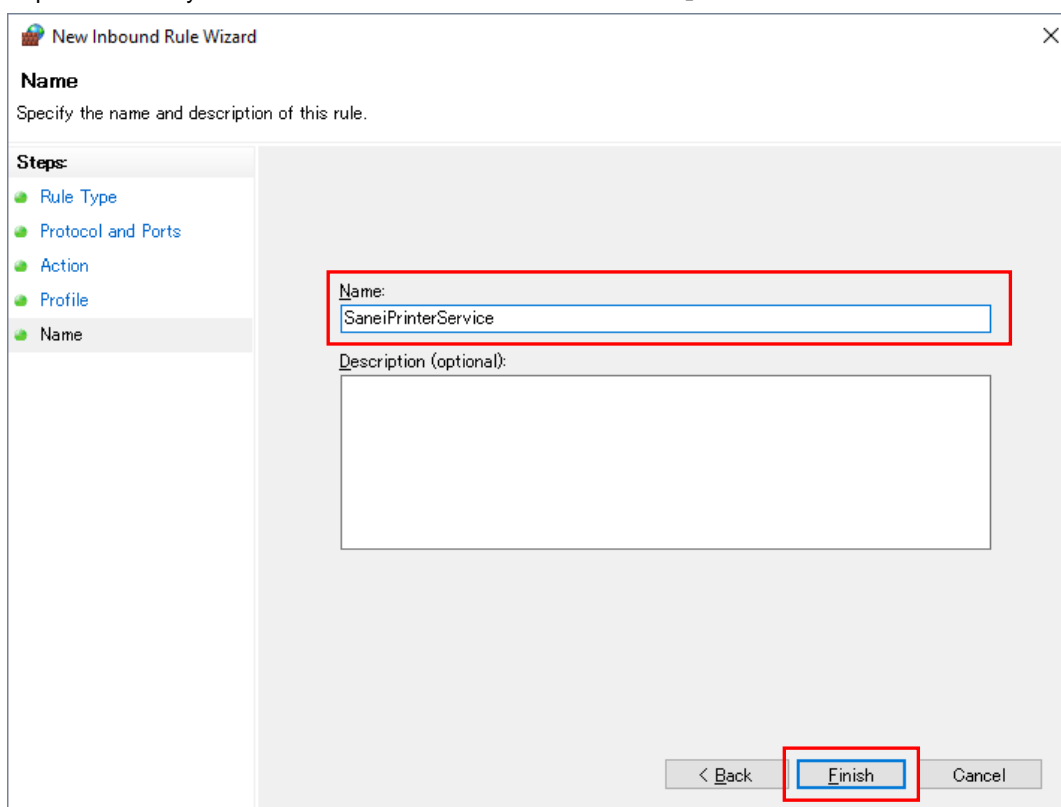
< Back Next > Cancel

STEP7. Check all of the red frames and click the 「Next」.



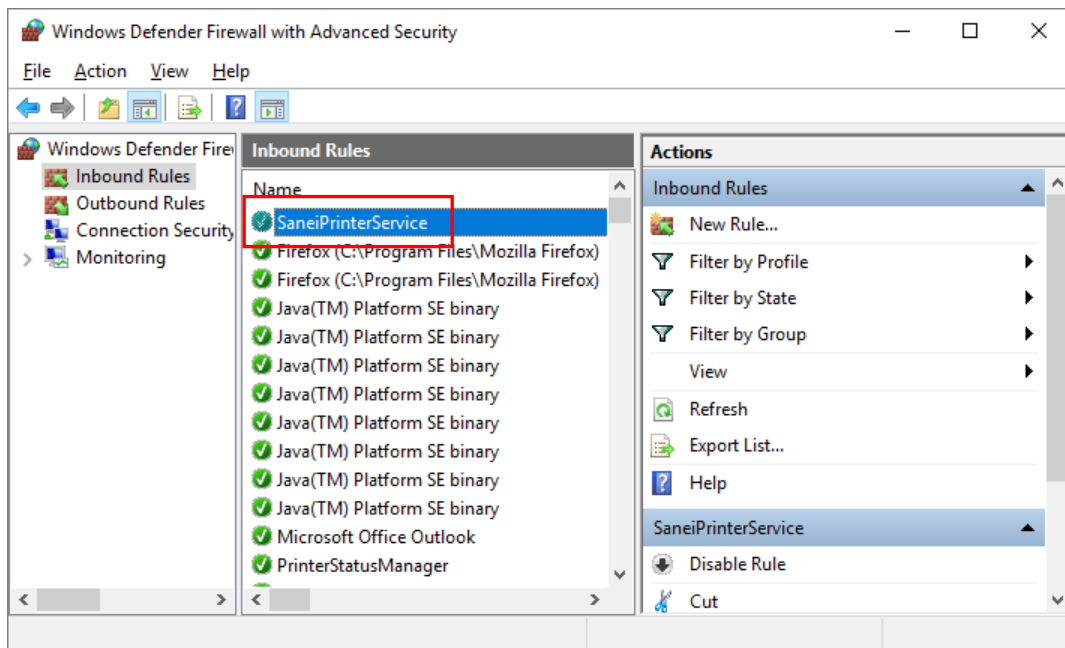
The screenshot shows the 'New Inbound Rule Wizard' window at the 'Profile' step. The title bar reads 'New Inbound Rule Wizard' with a close button. The main heading is 'Profile' with the instruction 'Specify the profiles for which this rule applies.' On the left, a 'Steps' pane lists 'Rule Type', 'Protocol and Ports', 'Action', 'Profile' (highlighted), and 'Name'. The main area is titled 'When does this rule apply?' and contains three checked options: 'Domain' (Applies when a computer is connected to its corporate domain.), 'Private' (Applies when a computer is connected to a private network location, such as a home or work place.), and 'Public' (Applies when a computer is connected to a public network location.). At the bottom right, there are three buttons: '< Back', 'Next >' (highlighted with a red box), and 'Cancel'.

STEP8. Input an arbitrary name in the Name field and click the 「Finish」.



The screenshot shows the 'New Inbound Rule Wizard' window at the 'Name' step. The title bar reads 'New Inbound Rule Wizard' with a close button. The main heading is 'Name' with the instruction 'Specify the name and description of this rule.' On the left, a 'Steps' pane lists 'Rule Type', 'Protocol and Ports', 'Action', 'Profile', and 'Name' (highlighted). The main area has a 'Name:' label above a text box containing 'SaneiPrinterService' (the entire box is highlighted with a red rectangle). Below it is a 'Description (optional):' label above a larger empty text box. At the bottom right, there are three buttons: '< Back', 'Finish' (highlighted with a red box), and 'Cancel'.

STEP9. The display in the list of registered rule should be confirmed and the procedure of release of port is completed.



7-3. When a remote tool doesn't work

The reason that the remote system doesn't work is considered as follows.

- ①Setting port number is already used or cannot be used in your network environment.
- ②The time-out error is occurred by taking a lot of response time of TCP/IP on your network.

How to solve the problem

- ①Change an available port number on your network.
If the port number is changed, the release is made released again for changed port.
- ②Extend the time-out time.

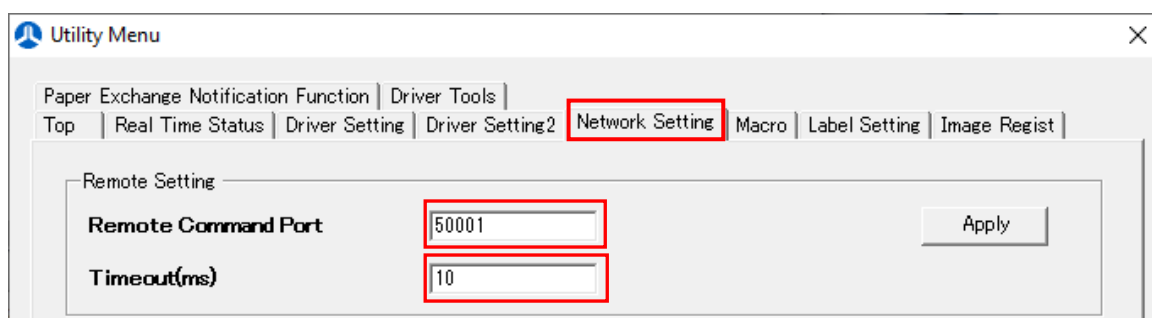
How to set for it is shown to the as example

STEP1. Change the port number and the time of time-out.

After changing parameters, close the menu and re-start your PC.

Default port number : 50001

Default time-out : 10ms

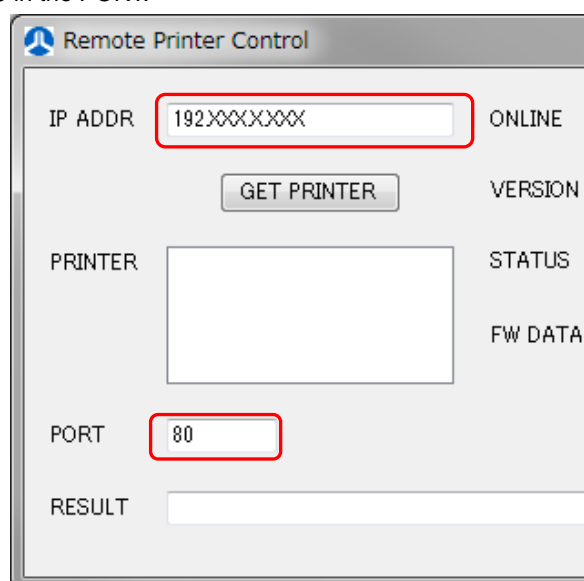


Example of changing: Port number = 80, Time out = 100ms

STEP2. After re-start your PC, execute the "**RemotePrinterControl.exe**".

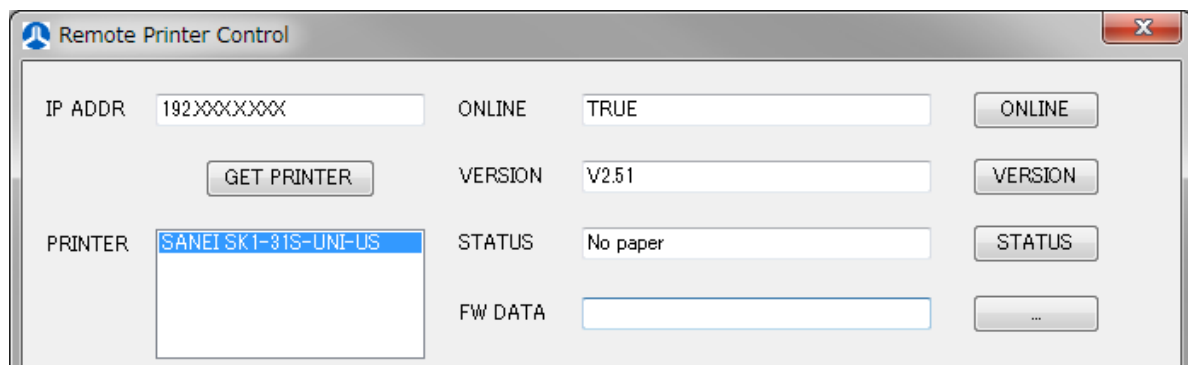
Display the dialog window, set the IP-address of your PC.

Specify the number 80 in the PORT.



STEP3. Click the “**GET PRINTER**” on PRINTER window, driver name is displayed

STEP4. Click each status button to obtain the information of printer.



The screenshot shows a window titled "Remote Printer Control" with a close button in the top right corner. The window contains several input fields and buttons:

- IP ADDR:** A text field containing "192.XXXXXXXX".
- GET PRINTER:** A button located below the IP ADDR field.
- PRINTER:** A list box showing "SANEI SK1-31S-UNI-US" as the selected item.
- ONLINE:** A text field containing "TRUE", with an **ONLINE** button to its right.
- VERSION:** A text field containing "V2.51", with a **VERSION** button to its right.
- STATUS:** A text field containing "No paper", with a **STATUS** button to its right.
- FW DATA:** An empty text field, with a button containing "..." to its right.

8. Application note

This chapter is supplementary information that summarizes various setting methods etc. when using utility driver and attached SDK.

8-1. Status acquisition method

In advance, register the printer driver according to 「5-1.How to register the printer driver」.

①How to get status on SDK

After installing the printer driver, unzip SDK.zip located in the following location.

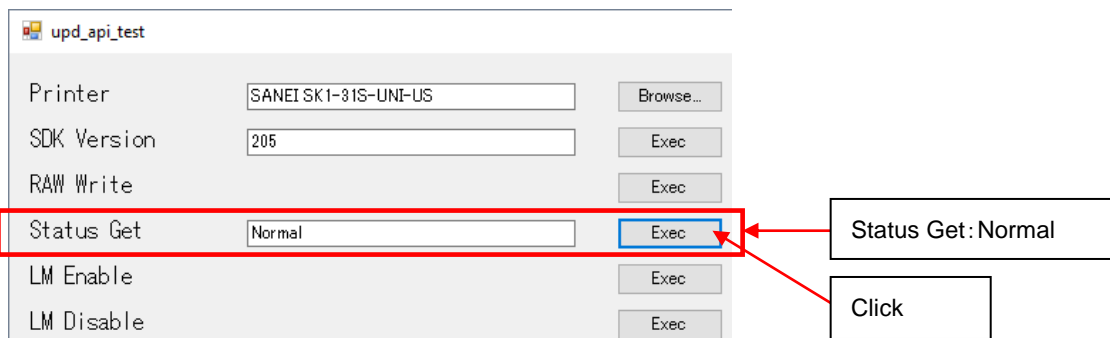
C:\Program Files (x86)\Sanei Elec Inc\SDK.zip

C# sample program is stored in the following location.

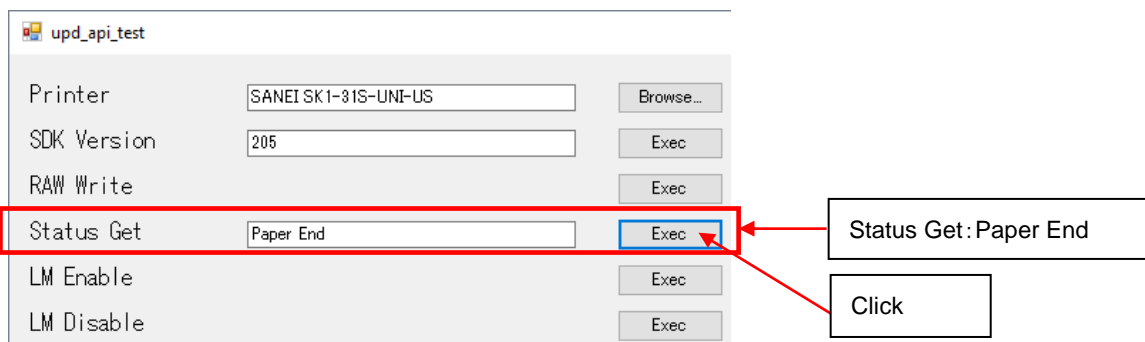
SDK\C#_sample\upd_api_test

Below are example status acquisition. (Status: Normal → Paper empty → After paper set)

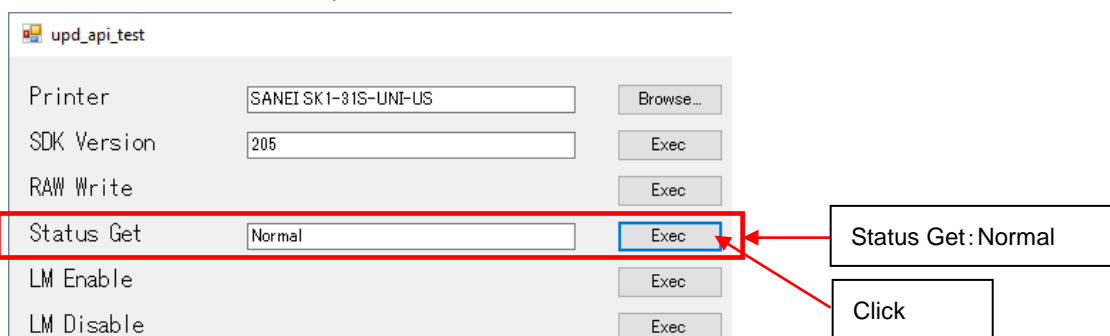
1) Normal



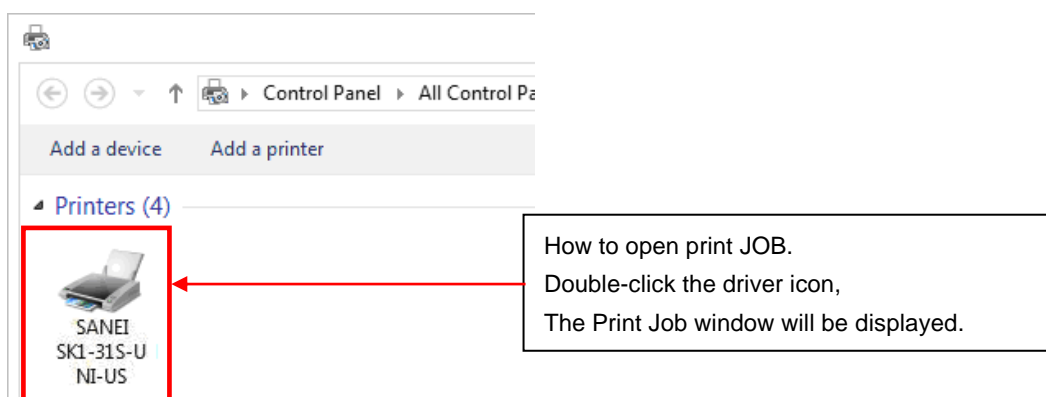
2) Paper empty



3) After paper set

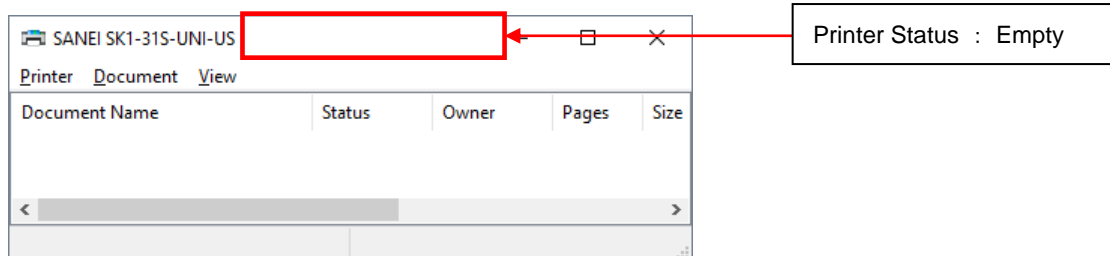


②How to get status on print JOB screen

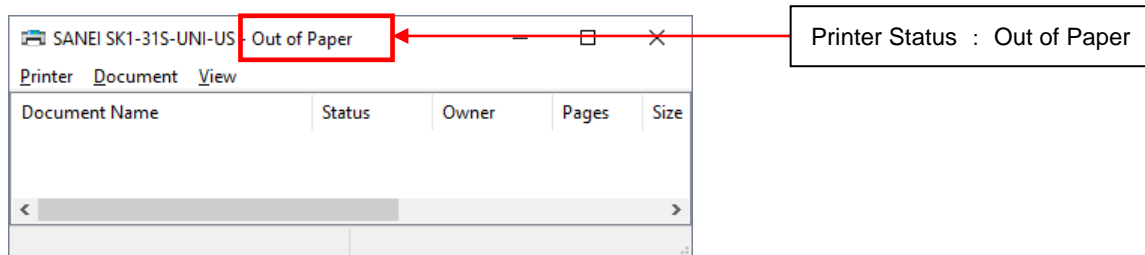


The display screen when the status changes is as follows.

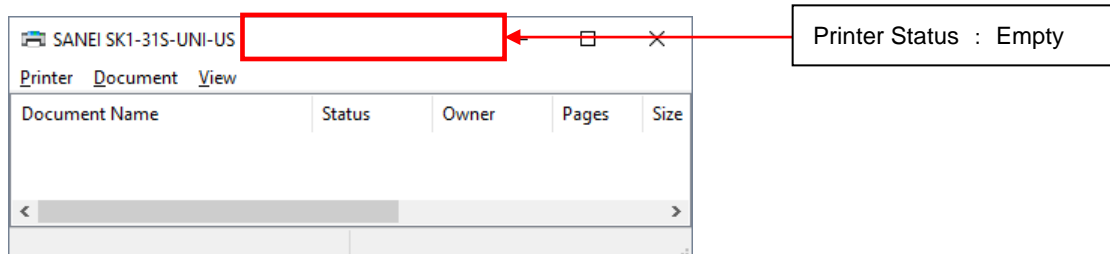
1) Normal



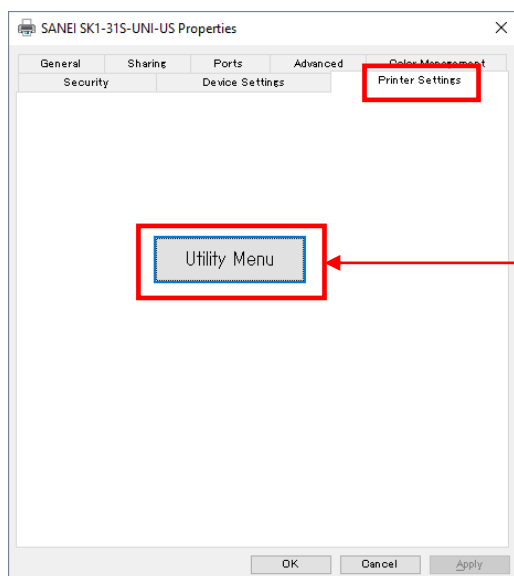
2) Paper empty



3) After paper set



③How to get status on UtilityMenu.

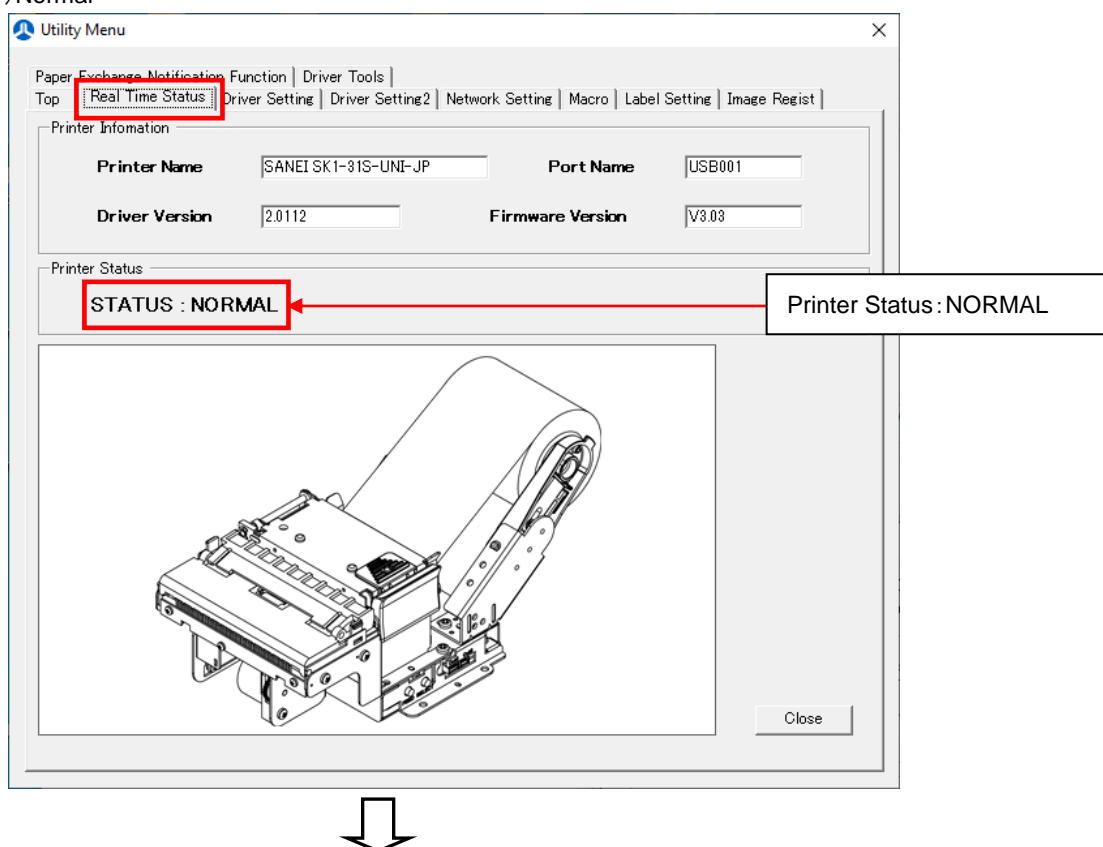


How to open the Utility Menu

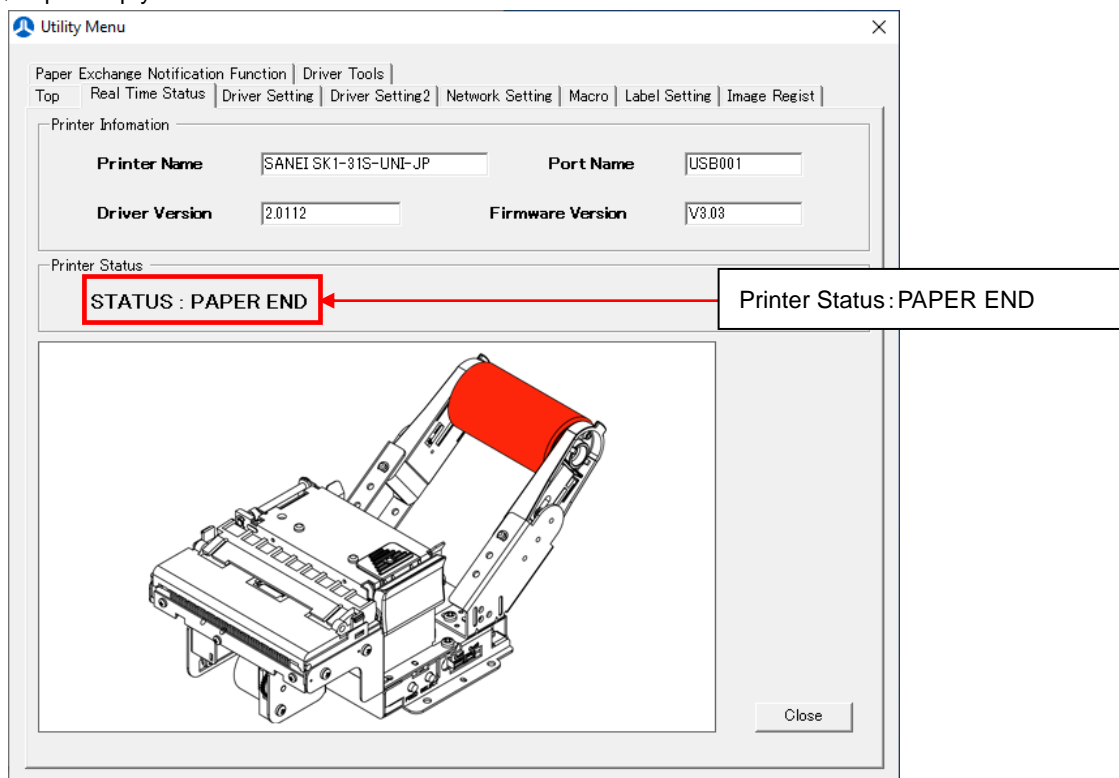
STEP1. Open the "Device and Printer" in your PC.
STEP2. Click the installed printer and click the "Printer".
STEP3. Click "Printer Properties" of the Printer,
"Printer Setting" tab, and "Utility Menu" to activate
the Utility tool.

The display screen when the status changes is as follows.

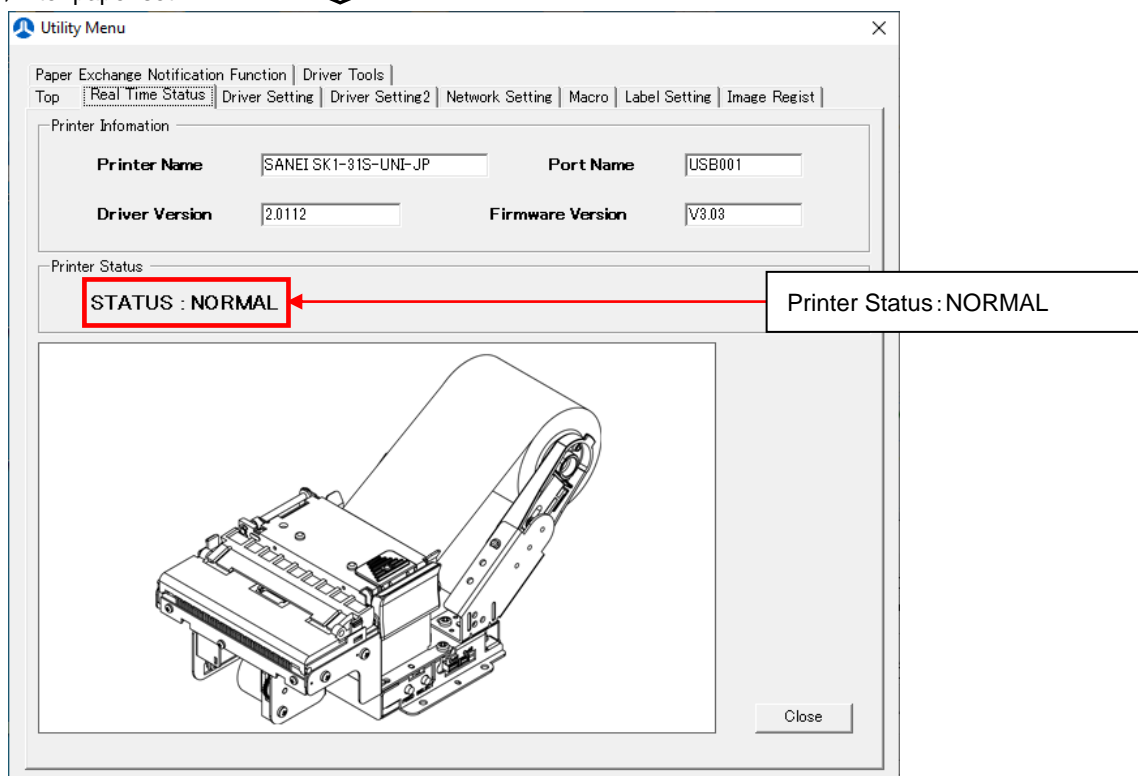
1) Normal



2) Paper empty



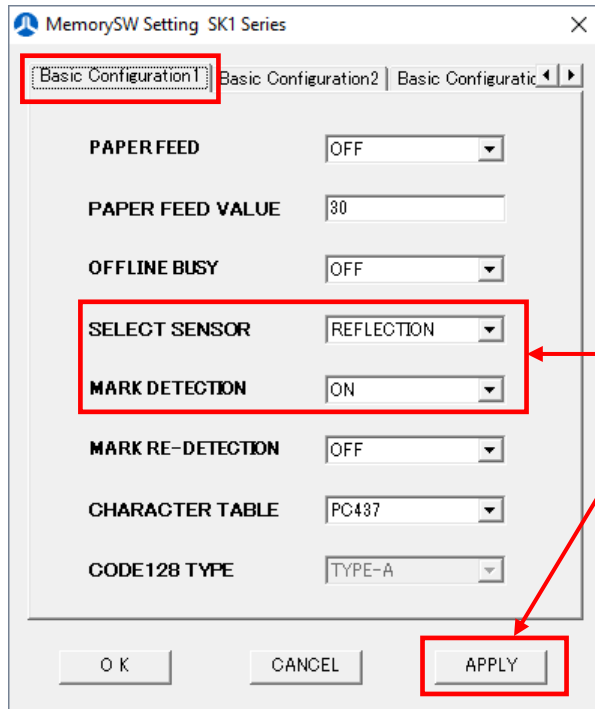
3) After paper set



8-2. Black mark detection function

To enable black mark detection, set the following three settings.

①Printer memory switch setting

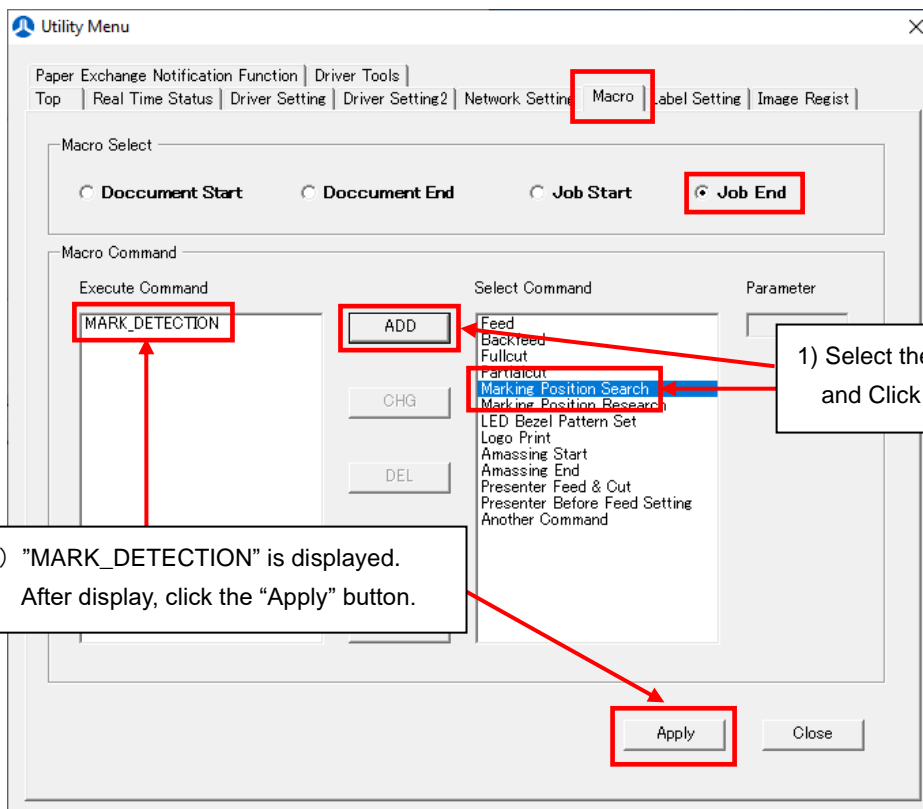


Set to the following parameters.

SELECT SENSOR = REFLECTION

MARK DETECTION = ON

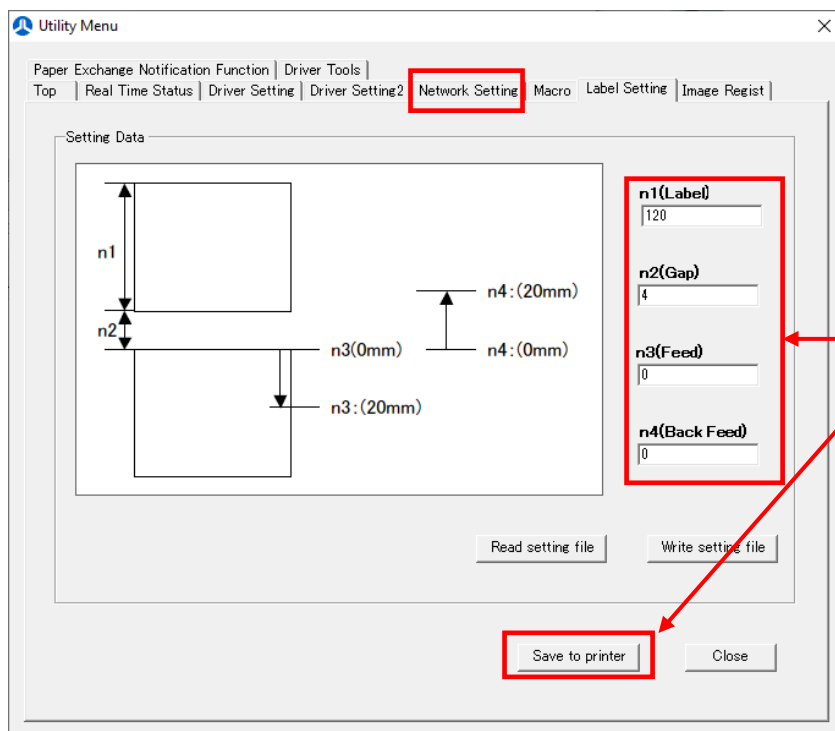
②Macro settings



1) Select the "Marking Position Search" and Click the "ADD" Button.

2) "MARK_DETECTION" is displayed.
After display, click the "Apply" button.

③Label parameter settings



Set the label parameters of the paper to be used, and Click the Apply button.

*N1 parameter is distance between black marks.

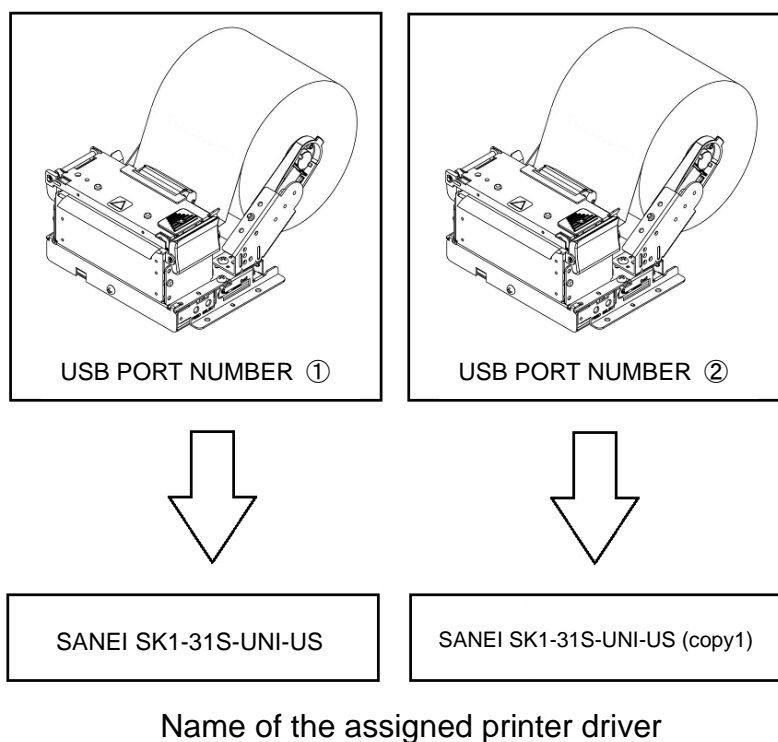
8-3. About plural USB control

There are two methods to control multiple printers of same model on the same PC.

Method① Set a unique number of USB.

To assign a unique USB number (Identification Number) to each printer and A method to link with the driver with the image as shown below.

※In the example, mention based on SK1-31 printer



The specific setup procedure is as follows.

STEP1. Run the function setting mode of the printer. (Please refer to Technical Manual for the details.)

STEP2. Set 「USB PORT NUMBER」to any value from 1 to 9.

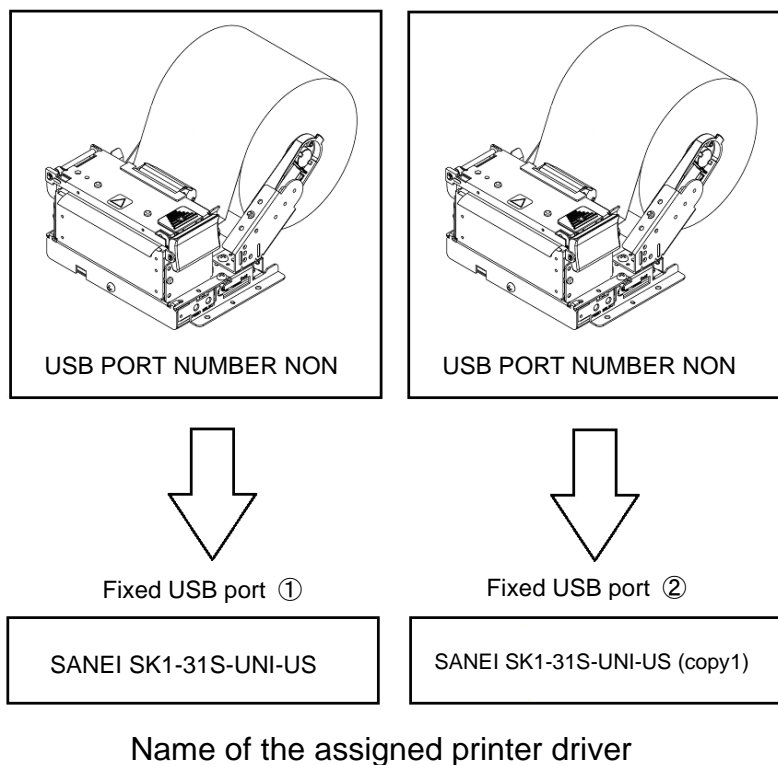
STEP3. To complete, the PC should be connected with USB and the utility driver should be installed.

Once setup is done, if the same identification number printer is connected to USB, the automatically installed utility driver is assigned and automatically returns online.

Note: When replacing the printer, set to the same USB identification number as the printer before replacement and be connected.

Method ② Always connect to the same USB port without assigning USB unique number.

A method of exercising by always connecting the USB port to be connected on the PC to the same port without assigning a unique USB number (identification number) for each printer.



The specific setup procedure is as follows.

STEP1. Run the function setting mode of the printer. (Please refer to Technical Manual for the details.)

STEP2. Set to 「USB PORT NUMBER = NON」.

STEP3. To complete, the PC should be connected with USB and the utility driver should be installed.

Once setup is done, if you connect the printer to the same USB port, the installed utility driver is automatically assigned and automatically returns to online.

Note: When replacing the printer, connect it to the same USB port as the printer before replacement.

9. Revision records

| Rev No. | Date of revision | Details |
|---------|------------------|--|
| 1.00 | Apr/2012 | New creation |
| 1.01 | Apr/2012 | Reprint function was added. Initialize settings was added. Flexible size was selectable in the paper settings. Displaying version information was added. |
| 1.02 | May/2012 | Windows 7 was supported newly. Installation procedure for Windows 7 was added in documents. English revision was supported newly. |
| 1.03 | Aug/2012 | Memory switch setting was added. Printer type "SK1-21" was supported newly. |
| 1.04 | Sep/2012 | F/W update function was detected. |
| 1.05 | Oct/2012 | Language monitor was modified. LMReset function was added. |
| 1.06 | Mar/2013 | Get Printer API was updated |
| 1.07 | Apr/2013 | Windows 8 was supported newly. Installation procedure for Windows8 was added in documents. |
| 1.08 | May/2013 | Printer type "SK1-41" was supported newly. |
| 1.09 | Apr/2014 | Number of the printers to monitor was increased to 4 printers. Presenter function in Printer Settings was added. Print direction in Printing Preferences was added. |
| 1.10 | Apr/2014 | Paper type of paper length 30m was deleted. Paper type of the paper length 300mm was added. SDK was supported newly. |
| 1.11 | May/2014 | Paper type of the paper length 3276mm was added. Memory switch tool was modified. |
| 1.12 | Jun/2014 | Status monitor was modified. |
| 1.13 | Oct/2014 | Spool process function was added. Journal manager function was added. |
| 1.14 | Mar/2015 | Setting ON/OFF for status monitor was added. Print function was modified to be correct printing by plural pages. |
| 1.15 | Apr/2015 | PrinterStatusManager was modified. |
| 1.16 | Sep/2015 | Function of logo image data at first was added. Real Time Status Monitor was added. Function of Remote Printer Control was added. Windows8 and Windows7 was integrated. |
| 1.17 | Mar/2016 | Printer type "SD3-21/22" was supported newly. Reduction Print was added Windows 10 was supported newly. PrinterStatusManager was modified. |

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| 1.18 | Jul/2016 | PrinterStatusManager was modified. |
| 1.19 | Aug/2016 | Document Macro was modified. Memory Switch Setting Tool was supported newly. Soft Reset Button was added. |
| 1.1903 | Oct/2016 | PrinterStatusManager was modified. |
| 2.0000 | Feb/2017 | Installer was supported newly. Printer type "SK1-21H/31H" was supported newly. |
| 2.0001 | Mar/2017 | Document Macro function was updated to add some items. |
| 2.0002 | May/2017 | Printer type "SK1-211/311" was supported newly. Maintenance data to top tab was added. |
| 2.0003 | Sep/2017 | Dithering print was added. Silent installation of driver was supported newly. Multi status function was detected Reverse print in print mode was added. Setup.exe was separated to Japan and English revision. Uninstaller was modified to delete some files when uninstalling. |
| 2.0004 | Mar/2018 | Label length was increased to 450mm from 350mm. PrinterStatusManager was modified. |
| 2.0005 | Jun/2018 | PrinterStatusManager was updated to Ver1.12. Memory Switch Setting was updated. |
| 2.0100 | Sep/2018 | Number of the printers to monitor was increased to 8 printers from 4 printers. Font editor tool was incorporated. Reduced print function was enhanced. Paper saving function was added. Halftone for color images was added. Status log function was added. Initializing file transmission function was added. Error status can be selectable for e-mail notification. Hint display for each menu was added. |
| 2.0101 | Dec/2018 | Gray scale printing function was added. "Quality print mode" for SK4-31 series was added. Note : Grayscale printing is available for the following printer firmware versions or higher. SK1-211/311 Series V2.52.00 or higher SK4-31 Series V1.01.00 or higher Some menus on English version were updated. |
| 2.0102 | Jul/2019 | Memory switch setting was modified. Maintenance mode for "SK1-21H/31H" was supported. |
| 2.0103 | Nov/2019 | Printer type "SM4-21" was supported newly. WLAN setting tool was added. Made SDK compatible with 64bit OS. Added support for WLAN printing. |
| 2.0104 | Jun/2020 | Added support for board number display function. Added logging function to SDK. PrinterStatusService was modified. |
| 2.0105 | Jul/2020 | Status mail sending function was modified. |

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| 2.0106 | Sep/2020 | Printer type "SK1-41S" V3.00 was supported. Printer Status Menu was modified. |
| 2.0107 | Dec/2020 | Printer type "SM4-31" was supported newly. Added bitmap printing function with offset to SDK. Fixed so that even standard users can open the utility menu. |
| 2.0108 | Feb/2021 | Added paper exchange notification function. WLAN Direct mode was supported newly. |
| 2.0109 | Mar/2021 | Memory switch setting was modified. WLAN setting tool was modified. |
| 2.0110 | Apr/2021 | Printer type "SK1-24S" V3.00 was supported. |
| 2.0111 | Sep/2021 | It was revised the symptoms that garbled characters on the way when printing the long receipt from WLAN. |
| 2.0112 | Dec/2021 | Printer type "SK1-3x1S-R" was supported newly. Changed the tab display of the utility menu to multiple lines. |
| 2.0113 | Mar/2022 | WLAN setting tool was added in the Printer type SD3 series. The paper exchange notification function was supported newly in the Printer type SK1-xx1 Series. |
| 2.0114 | Jul/2022 | Printer type "SD3-22" V2.01 was supported. Memory switch setting was modified. |
| 2.0115 | Jan/2023 | Printer type "SK5-31" was supported newly. LAN setting tool was added. Added support for custom paper widths in the Printer type SK5-31 Series. Added support for setting the number of copies. Changed to set timeout even when presenter mode is default. Solved the problem of jobs being canceled when printing to multiple printers at the same time. Added support for bezel mode timeout setting. |
| 2.0116 | Apl/2023 | Memory switch setting was modified. |
| 2.0117 | Apl/2023 | Microsoft signed the printer driver. |
| 2.0118 | Aug/2023 | Memory switch setting was modified. Added printing status. |
| 2.0119 | Dec/2023 | PrinterStatusService was modified. |
| 2.0120 | Apl/2024 | Memory switch setting was modified. |
| 2.0120 | May/2024 | Added explanation of how to install Bluetooth. Added explanation of macro function. |
| 2.0121 | Sep/2024 | We have changed the communication method when using wired LAN. Added printing status to SDK. Memory switch setting was modified. |
| 2.0122 | Feb/2025 | The threshold can now be used in the error diffusion method. |
| 2.0123 | Oct/2025 | Fixed a bug that caused PrinterStatusService to stop on LAN. Added Printer Status Service Error status to SDK. Memory switch setting was modified. |