SmaPri Driver Developer Manual

Driver Settings (Windows)

SATO CORPORATION

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Chapter:4

Driver Settings (Windows)

4-1 Install / Uninstall

-Structure of SmaPri Driver -Newly install -Overwrite install -Uninstall

SmaPri Driver can be installed from installer file (*.msi).

Where to store installer files

- Login to the SmaPri user site and download the installer file of SmaPri Driver (Windows).

Before installation

- Run the installer as an administrator. If the OS is a 32-bit version, run the x86 installer. If the OS is a 64-bit version, run the x64 installer.
- Since SmaPri Driver has initial value of server port number 8080, installation fails if port number 8080 is used by other applications. Please temporarily stop the application or install it by specifying a different port number in "silent installation".

Any parameter settings at the installation

- "SmaPri Driver" setup with any parameter settings by "Configuration file" distributing user device. For the detail, please refer to "Importing the configuration file".

- Structure of SmaPri Driver

"SmaPri Driver for Windows" has the following structure.

1. SmaPri Driver

- It accepts print requests and communicates with the printer.
- It works as a Windows service (Local System account).

2. SmaPri Driver Setting tool

- Check and change the setting of "SmaPri Driver".
- It needs administrator rights to do all settings.

- New install

On Windows devices, the following installation methods are available.

・**Normal installation**

1) Run the SmaPri Driver installer as a dministrator.
2) Add start menu to [All programs]->[SATO]->[SmaPri Driver Configuration Tool]. And add Windows Service (Local) to "SmaPri Driver".

・**Install by specifying server port number**

- You can install by changing the server port number of SmaPri Driver by specifying the "SERVER_PORT" parameter. (Initial value 8080, setting range 1 to 65535)
  Ex. `msiexec /i "D:¥smapri_driver_1.1.0.0_x86_ja.msi" SERVER_PORT=8083`

*The initial value of the server port number is "8080". If another web server is using the 8080 port, the installation will fail (error message "Failed to start service 'SmaPri Driver'. Make sure you have privileges to start system services. .” is displayed). Install by specifying the above "SERVER_PORT", or temporarily stop the server that is using the 8080 port and install, then change the server port number with the SmaPri Driver Setting Tool.

- Overwrite install

In the case of the installation to a device that has SmaPri Driver installed, overwrite installation will be done. In the overwrite installation, the previous setting value is inherited, and if the SmaPri Driver is running, the service will be restarted automatically after overwriting installation.

- Uninstall

When uninstalling SmaPri Driver, all data and settings in the application will be deleted.

1) Select to [Control Panel]->[Programs and Features].
2) Select "SmaPri Driver" from the programs list, and click the uninstall button to uninstall SmaPri Driver.

4-2 Administration screen (status)

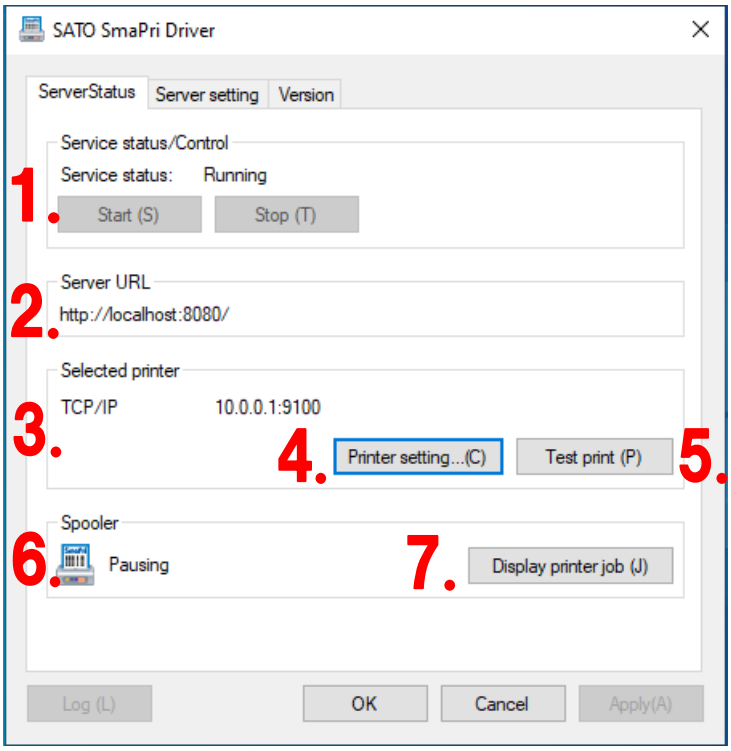
Change settings to start/stop server and connect / disconnect printer.

- How to Start

・Select to [All Programs]->[SATO]->[SmaPri Driver Configuration Tool]

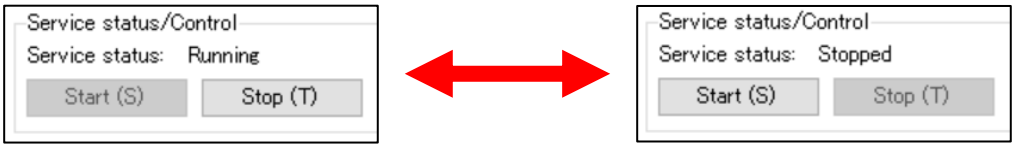
* It needs administrator rights to do all settings.

- Function Description



1) Server status / Control

Starts and stops SmaPri Driver.



2) Server URL

It shows the port number that receives HTTP requests from the client.

To change this setting, see "Administration screen (server settings)".

3) Selected printer name

Shows the printer specified as the connection destination.

For Bluetooth ····· Bluetooth device name and BD address

For LAN····· IP address and TCP port number

For USB····· USB serial ID

For Printer driver ····· Printer name

For Bluetooth, a list of devices will be displayed when you select "Bluetooth device", and you can select "Discover new device" to scan devices available for pairing. For more information, refer to "Bluetooth pairing" section. In case of "the device does not have pairing information" or "the device's Bluetooth is disabled", it is displayed as "unpaired".

4) Printer setting

Configure the communication settings with the printer.

For details, see "Administration screen (printer settings)".

5) Test print

Do a test print. This function is convenient for testing communication with the printer. SmaPri Driver will check the status by directly connecting to the printer, before sending the test print data. If the printer is turn off will be displaying error message.

If test print failed, refer to "printer settings" at first.

・MB2i series and MB4i series use "Status 3 (MB200i/MB201i,MB400i/MB410i)".

・PW208/PW208NX series use "Status 4" or "Status 3".

・Other models use "Status 4" or "Status 3".

6) Spooler

Display the spooler status.

7) View the print job list

Display and check the status of the print job of the spooler.

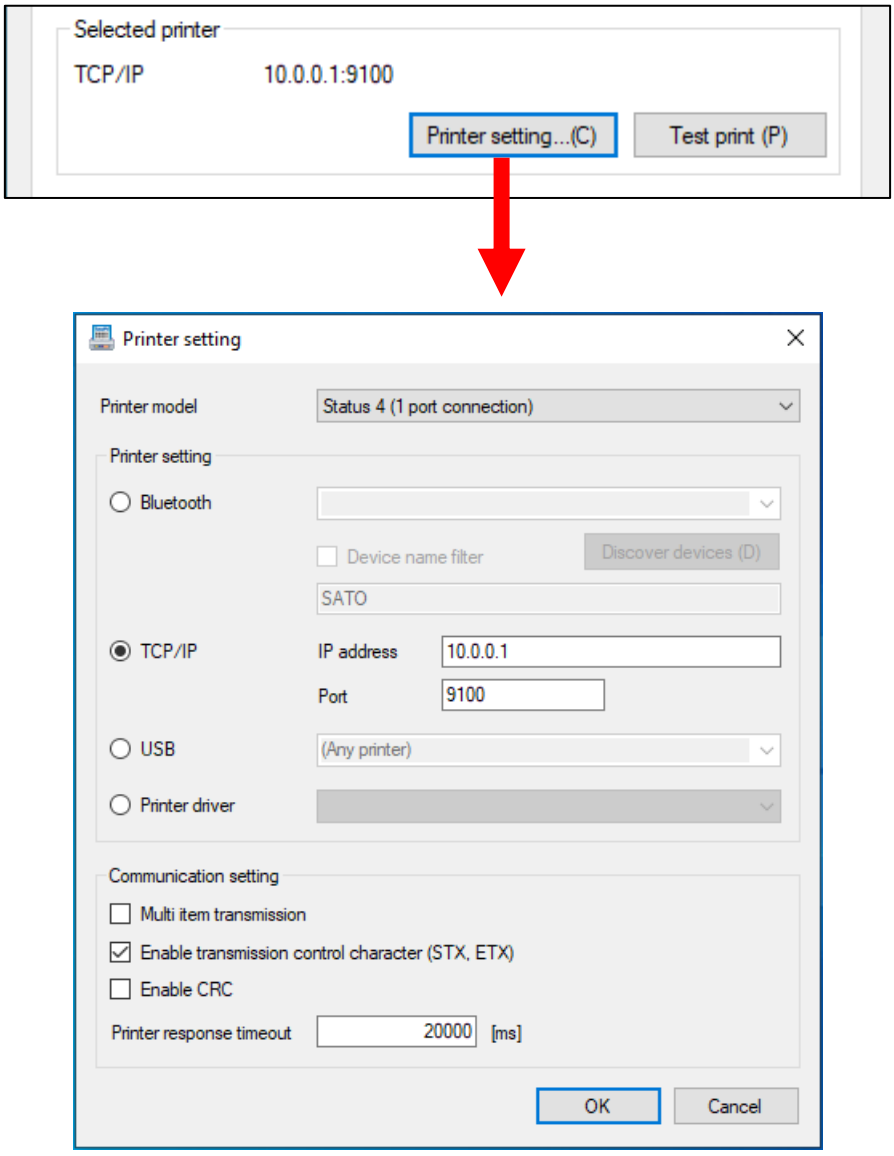
For details, refer to "Administrator screen (Spooler display)".

4-3 Administration screen (printer settings)

Configure settings related to printer connection.

- How to Start

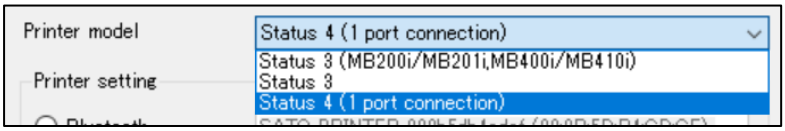
・Select "Printer settings" on the "Administration screen (status)".



- Function Description（Reflect setting change）

The setting change here is reflected by pressing "Apply" or "OK" on the main screen after closing this screen with "OK".

- Function Description (Printer settings)

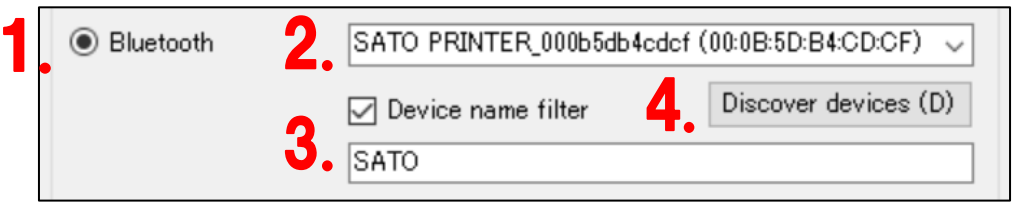


1) Printer model

Select to the printer model. Selection is same to printer setting.

The default is "Status 4 (1 port connection)" (Ver.1.2.0.0 or later).

- Function Description (Bluetooth settings)



1) Bluetooth connection

Connect to the printer via Bluetooth.

2) Bluetooth device

It shows the device name and BD address of the paired printer.

Select the printer to connect to.

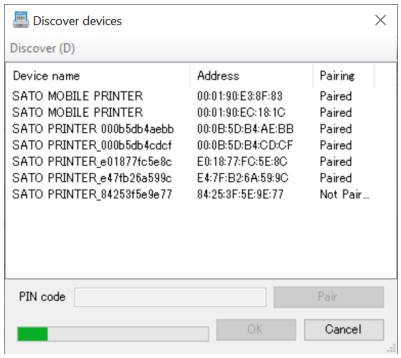
3) Device name filter

It filters the devices of "Bluetooth device" list and "Discover devices" list with specified string.

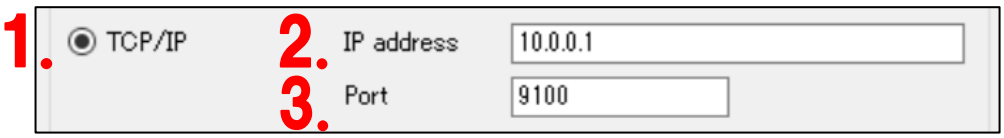
Default setting is “disabled”. Default filter string is "SATO".

4) Discover devices

Discover nearby Bluetooth devices. If a usable Bluetooth device is not connected to the Windows device, an error occurs and the following search screen is not displayed.



- Function Description (LAN settings)



1) LAN connection

Connect to the printer via the LAN (TCP/IP).

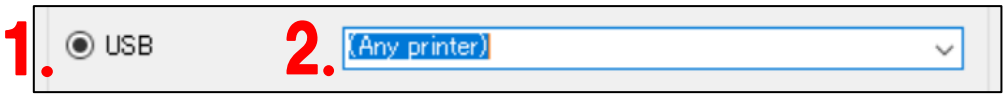
2) IP address

Set the IP address of the printer.

3) TCP port

Set the TCP port number. The default is "9100" (Ver.1.2.0.0 or later).

- Function Description (USB settings)



1) USB connection

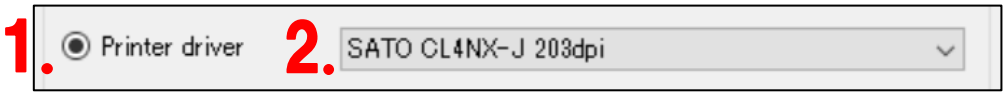
Connect to the printer via USB.

2) USB serial ID

Set the USB serial ID of the printer. The default is "(Any Printer)".

"(Any printer)" automatically connects to the first SATO printer found. If you use only one printer, you can leave it as "(Any printer)". When connecting 2 or more printers, select the USB serial ID. The list shows the USB serial ID of SATO printer connected to your PC.

- Function Description (Printer driver settings)



1) Printer driver connection

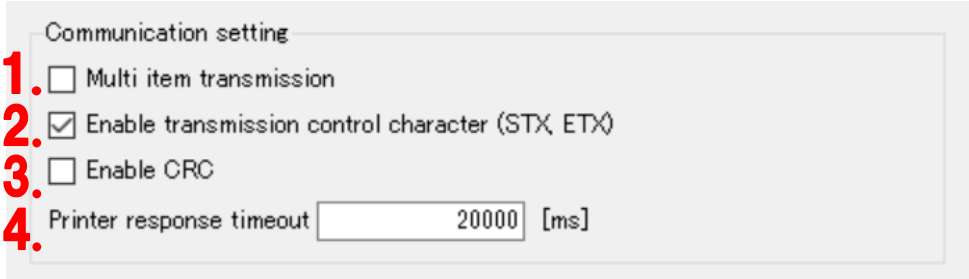
Connect to the printer via printer driver.

When printer driver is selected, the printer driver communicates with the printer and requests such as printer status acquisition can not be used. The spooler function is also invalid.

2) Printer driver name

Select printer driver name in the list.

- Function Description (Communication setting)



1) Multi item transmission

To specify print data transmit condition. The default is "Disabled".

Enable: Sending of next print item without waiting to complete printing current item.

Disabled: Sending of next print item waiting to complete printing current item.

2) Enable transmission control character

To specify whether transmission control character (STX/ETX) are automatically added to the print data. The default is "Enable". Usually specifies "Enable", so it does not need to change. If "Enable CRC" is "Enable", this item is always "Enable".

3) Enable CRC

The default is "Disabled". Normally you do not need to change it.

This setting must be same as the printer. If "Printer: Disabled" and "SmaPri Driver: Enable", will be the cause of the failure, such as print data is canceled.

4) Printer response timeout

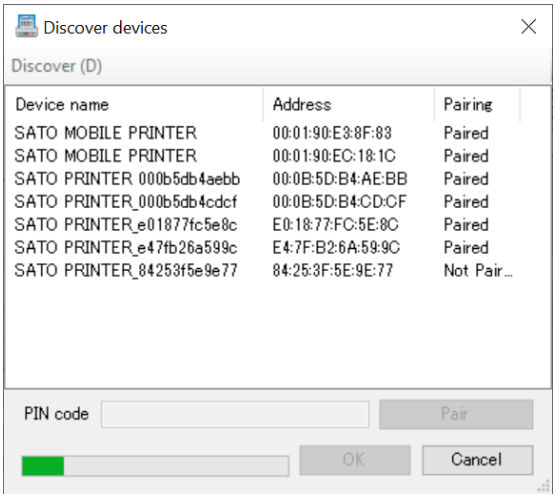
To set the timeout value when communicating with the printer and when sending and receiving data. The default is "20000 milliseconds (20 seconds)".

- Bluetooth pairing

1) Click "Discover devices".

2) Automaticaly start to search for Bluetooth devices.

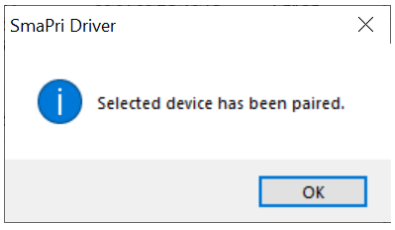
Click "Discover" to scan again if you cannot find the printer you want to connect to.



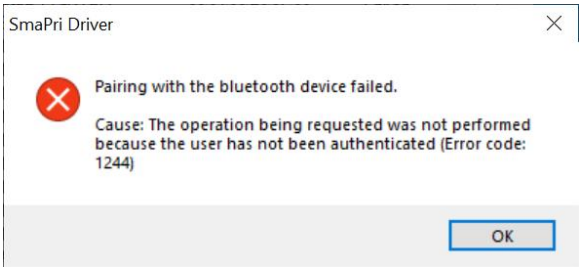
3) Select the printer you want to pair, enter the PIN code, and click "Pair". The PIN code specifies the setting value of the printer.

The default PIN code is following.

- PW208 series, CL4NX/CL6NX series: "0000" (4 seros)
- PT208 series, PT408e/PT412e: "0000000000000000" (16 zeros)
- Other model, please refer to "User Manual" of your printer.



Ex. Pairing success



Ex. Pairing failure

*If the Bluetooth authentication level of the printer is "Level 4," the pairing procedure will be different.

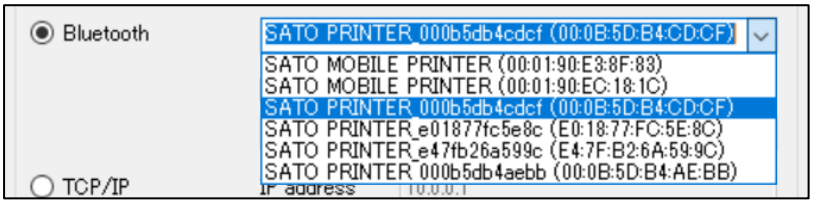
・Click "Pair" without entering the PIN code:

-Click the notification (add device) displayed at the bottom right of the PC screen.

-Confirm that the 6-digit number (random) displayed in the "Do you want to pair the device?" dialog matches the 6-digit number displayed on the printer, and click [Yes].

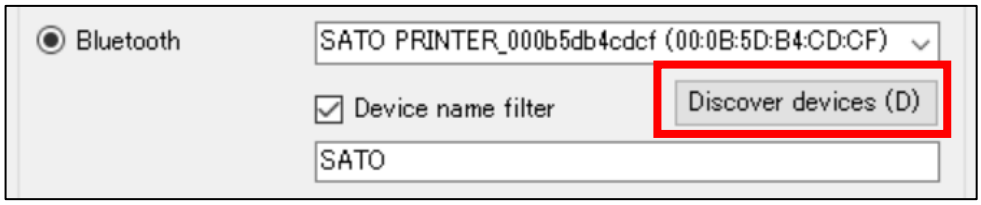
-The printer operates the buttons and touch panel to allow pairing.

4) If the pairing is successful the printer can be selected on the main screen.

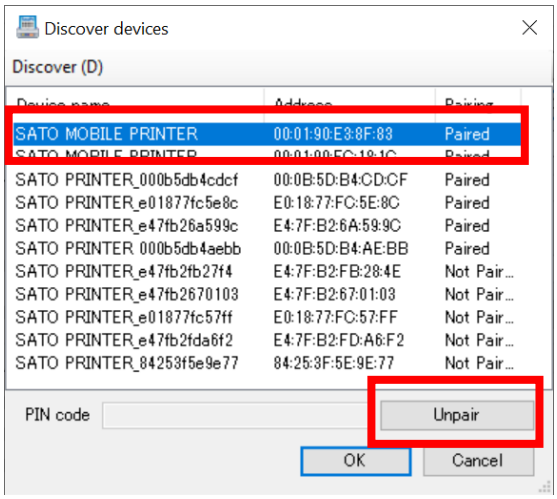


- Bluetooth unpairing

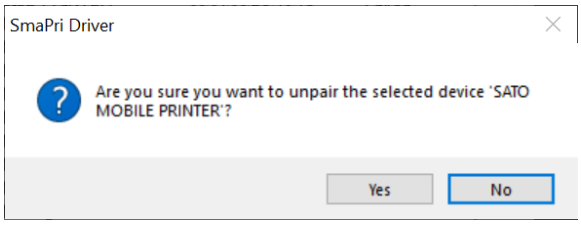
1) Click "Discover devices".



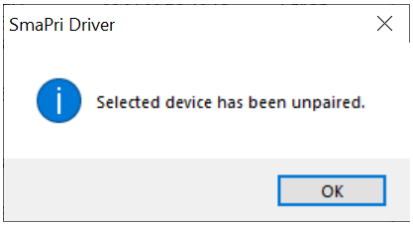
2) Select a printer that is set to "Paired", and click "Unpair".



3) The confirmation screen of unpairing is displayed. If you select "Yes", device is unpaired.



Unparing confirmation screen



Notification of unpairing

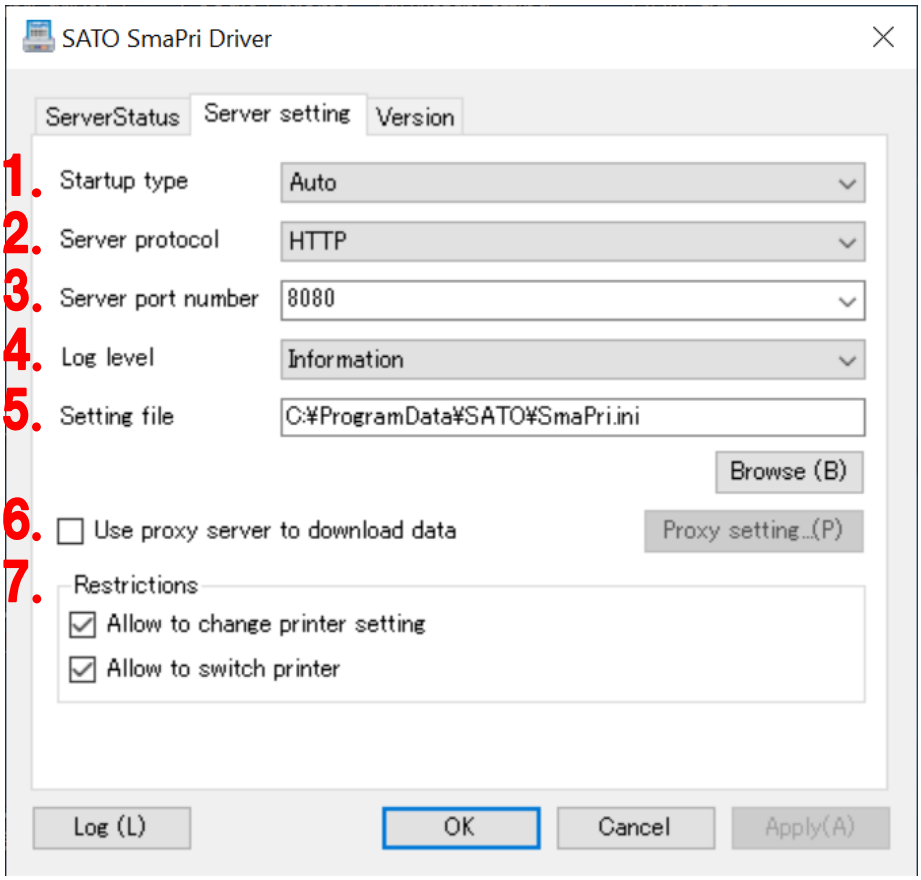
4-4 Administration screen (server settings)

Configure server settings including server port number and log level.

- How to Start

・Select "Server setting".

* It needs administrator rights to do all settings.



- Function Description

The setting change here is reflected by pressing "Apply" or "OK" on the main screen after closing this screen with "OK".

1) Startup type

The initial value is "Auto". SmaPri Driver is started automatically when the Windows starts up.

2) Server protocol

Select for server protocol (HTTP/HTTPS). The default is "HTTP". Usually specifies "HTTP", so it does not need to be changed. For more information, please refer to "Use HTTPS".

3) Server port

To set the port number that receives HTTP requests from the client. The default is "8080".

In order to apply the settings, restart the SmaPri Driver.

4) Log level

To set the operation log output level.

The default is "Information" (Ver.1.2.0.0 or later). All Entries are output to the log.

To check the contents of the log, see "Administration screen (Log)".

Every HTTP requests will be saved into log when selects “information” log level. This may cause storing user name and password for basic authentication, GET request parameters and data as plain text in the log. Do not set to “information” if security is concerned. Recommend to enable “restrictions” to avoid unexpected log level change by user.

Content	Log level			
	OFF	Error	War-ning	Infor-mation
- Server start and stop - HTTP communication error - Communication error with printer - Other serious errors	No	Yes	Yes	Yes
- Errors for HTTP requests and parameters (error content) - Errors when modifying settings with the administration screen	No	No	Yes	Yes
- HTTP communication connection and disconnection - Content of requests by HTTP communication and that result - Modifying setting with the administration screen	No	No	No	Yes

5) Configuration file

Input the full path of the configuration file. The configuration file will be imported during the SmaPri Driver startup. The default file path is "C:¥ProgramData¥SATO¥SmaPri.ini".

For more information, refer to "Importing the configuration file".

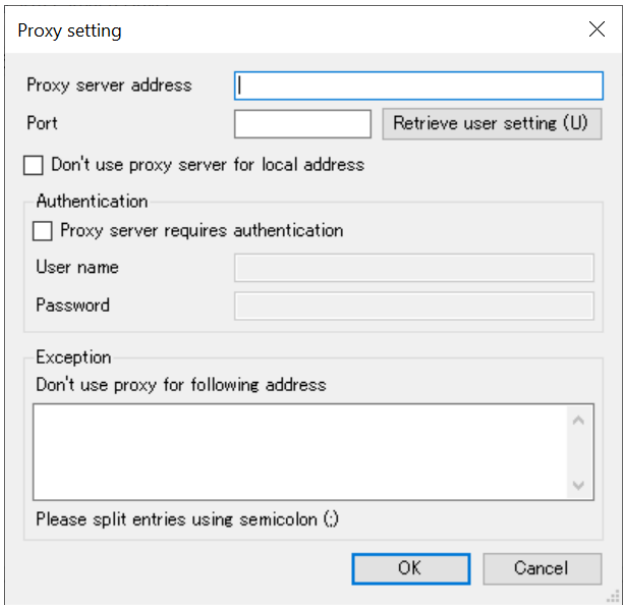
6) Proxy settings

Specify whether to use a proxy server. The default is "Disabled". When enabled, the proxy settings are applied to the URL specified by the following parameters.

- "__format_archive_url"
- "__command_url"
- When URL is specified for graphic variable

Proxy settings are made on the screen below.

In "Retrieve user settings", you can retrieve the setting (proxy server address and port) of the currently logged on account.



7) Restrictions

Limit to SmaPri Driver configuration changing.

For more information, refer to the "Administration screen (Restrictions)".

4-5 Administration screen (restrictions)

Restricts the operation of settings.

- How to Start

・Select "Server setting".

＊ It needs administrator rights to do all settings.

- Function Description

The setting change here is reflected by pressing "Apply" or "OK" on the main screen after closing this screen with "OK".

The settings that can be restricted with this setting are "SmaPri Driver Configuration Tool" setting change. Setting change by request is always effective.

1) Allow to change printer setting

Allow standard user to change printer settings. The default is "check ON = permitted".

2) Allow ro switch printer

Allow switching of printers by standard users. The initial value is "check ON = permitted".

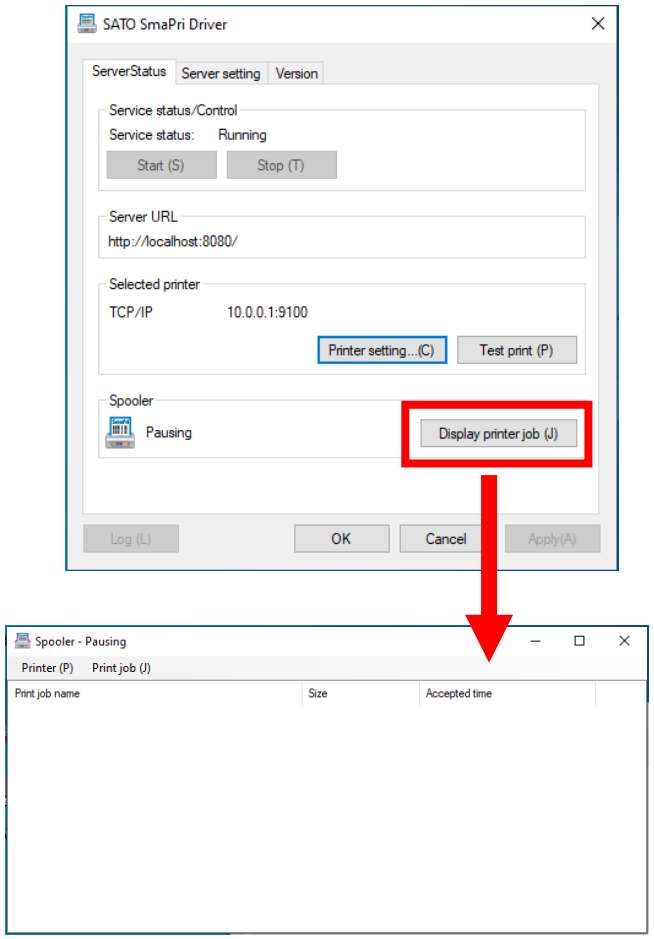
Even if this setting is set to "check off", printer setting can be switched from "Administration screen (Printer setting)" if "Allow changing printer setting" is "Check ON = Allowed".

4-6 Administration screen (spooler display)

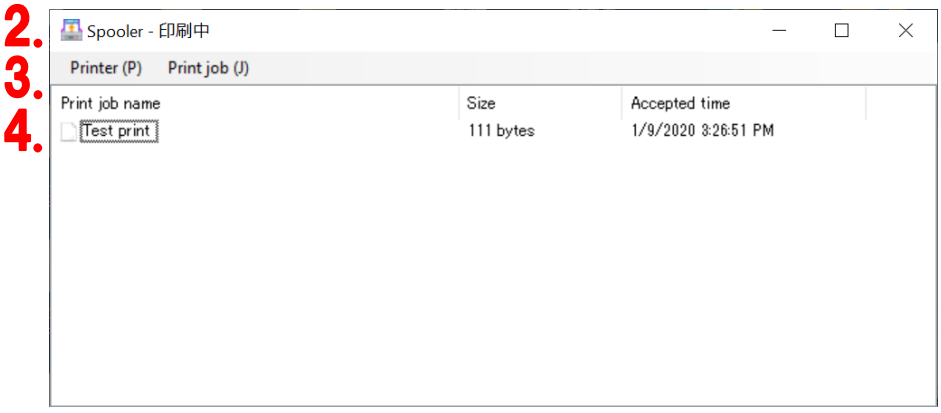
Set / get job name.

- How to Start

・Select "Display printer job" on the "Administration screen (ServerStatus)".



- Function Description



1) Spooler status display

To show the status of the spooler as messages and colors.

The spooler status is also displayed as an icon on the status bar at the top of the screen.

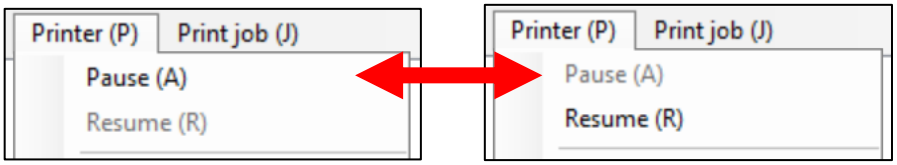
Spooler status	Color	Icon	Description
Standby	Blue		There is no data in the spooler. Regardless of the printer status, the spooler is always this status when there is no data in it.
Printing	Blue		Sending data to the printer or the printer is printing.
Offline	Yellow		The printer is offline. The printer status (no error, buffer near full, battery near end) is also displayed.
Paused			The spooler is paused.
Connection error	Red		The spooler cannot connect to the printer.
Printer error			The printer is in the error state. The error details are also displayed.

2) Menu bar

・[Printer]-[Pause]-[Resume]

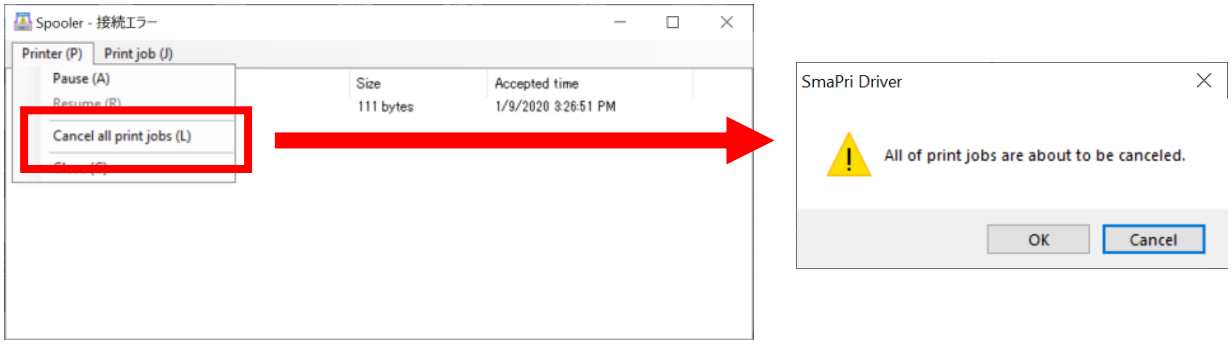
You can pause and resume the spooler.

If the spooler is paused while sending data, the spool is paused after it finishes sending print data.



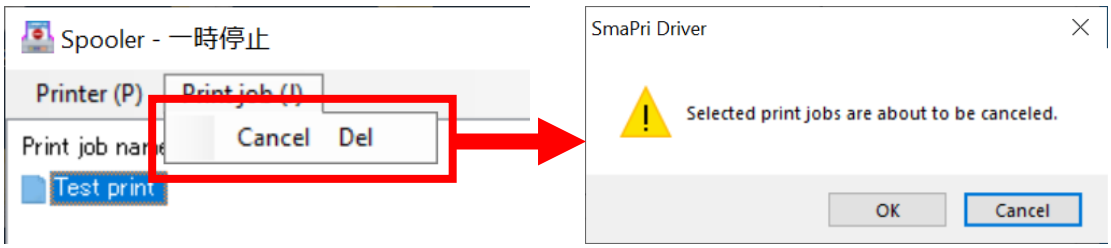
・[Printer]-[Cancel all print jobs]

To cancel all spool print jobs.



・**[Print job]-[Cancel]**

Cancels the selected print job. When multiple print jobs are selected, all selected print jobs are canceled. Cancellation is also possible from the right click menu.



3) Print job list

"Print job Name", "Accepted time" and "Size" will be displayed.

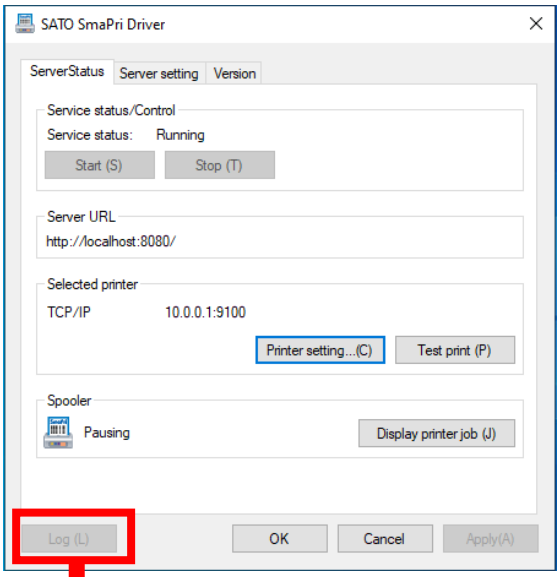
Print jobs are printed in order from the top of the list, and new print jobs are added to the bottom.

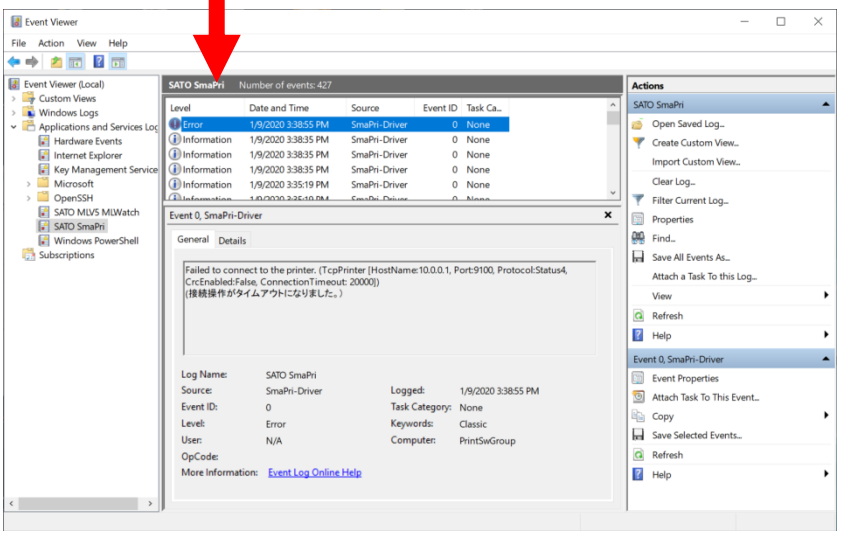
4-7 Administration screen (log)

Display log.

- How to Start

・Select "Log" on the "Administration screen (ServerStatus)".





- Function Description

Log list display

Displays the event log of SmaPri Driver output to Event Viewer.

[event log Output] Log name : SATO SmaPri

Source name : SmaPri-Driver

* "SATO SmaPri" event log is created in "Application and service log"

* The default value of "Maximum log size" follows the OS default (1028 KB in Windows 11/10/8.1)

Save

When saving the log, click "Save All Events As...".

4-8 Importing the configuration file

Import administration settings from the configuration file.

The configuration file will be imported during the SmaPri Driver startup if the full path of a valid configuration file has been specified at the server settings screen.
ASCII, UTF-8 (with BOM) and UTF-16 (with BOM) can be used to encode the configuration file.
A notification will be displayed in the status bar during import.
When importing the setting file, a notification is output to the event log.
(Example:Settings are importing from 'C:¥ProgramData¥SATO¥SmaPri.ini'...)

- Configuration file structure

1) Parameter

Specify one parameter per line using the following format.

Parameter Name = Value

2) File encoding

ASCII, UTF-8 (with BOM) and UTF-16 (with BOM) can be used.

UTF-8 and UTF-16 files will be identified by their byte order marks.

3) Special characters

Character type	説明
Newline characters	CR, LF, CR+LF
Whitespace characters	Spaces before and after parameter names and values are ignored.
Upper-case, Lower-case	Parameter names and enumeration values are not case sensitive.
Double quotes	Can be used to quote values, and function as the escape character for a double quote used in values; Cannot be used in parameter names.
Semicolons	Lines starting with the semicolon are treated as comments and ignored.
Blank lines	Lines with only spaces or a line break are ignored.

- Configuration parameters

You can only import settings whose parameters are included in the configuration file.

Values marked with the asterisk (*) are default settings for SmaPri Driver.

Parameter name	Values	Description
Server protocol		
server_protocol	http	HTTP
	https	HTTPS
Server port number		
server_port	1～65535	Default: 8080
Log level		
log_level	error	Error
	warning	Warning
	information	Information (*)
	off	OFF
Log file path (autosave)		
log_file_path	Full path name starting with "/" Default: "" (void)	
Configuration file (for importing settings)		
import_settings_file_location	File path Default: /mnt/sdcard/SATO/SmaPri.ini	
Communication protocol between SmaPri and printer		
printer_type	mobile	Status 3 (MB200i/MB201i, MB400i/MB410i)
	status3	Status 3
	status4_1port	Status 4 (1 port connection) (*)
	standard	Old compatibility (Status 3)
Printer I/F type		
printer_interface_type	bluetooth	Bluetooth connection (*)
	lan	LAN connection
Bluetooth address		
bluetooth_device_address	BD address Example: 00:01:90:E3:84:77	
Bluetooth device name filter		
bluetooth_device_filter_enabled	false	Disable (*)
	true	Enable

Bluetooth device name filter character string		
bluetooth_device_filter_string	Default: SATO	
IP address (LAN connection)		
lan_printer_ip_address	IP address Example: 192.168.1.1	
TCP port (LAN connection)		
lan_printer_tcp_port	1～65535 (default: 9100)	
USB Serial Number		
usb_serial_number	USB serial number. Example:"tmqe0027" * If it is not set (empty character), it automatically distinguishes one connected USB printer. Please do not connect two or more USB printers at the same time when using unset.	
Multi item transmission		
multi_item_sending	false	Single item (*)
	true	Multi item
Enable transmission control character		
tc_character_enabled	false	Disable
	true	Enable (*)
Enable CRC		
crc_enabled	false	Disable (*)
	true	Enable
Printer reply timeout		
receive_timeout	1～2147483647 [ms] Default: 20000 [ms]	
Enable Proxy		
proxy_enabled	false	Disable (*)
	true	Enable
Proxy server address		
proxy_address	IP Address Example:192.168.1.1	
Proxy server port number		
server_port	1～65535	Default: 8080
Do not use proxy for local address		
proxy_bypass_on_local	false	Enable proxy(*)
	true	Disable proxy

Proxy authentication		
proxy_authentication	false	Disable (*)
	true	Enable
Proxy authentication user name		
proxy_user_name	User name(Text)	
Proxy authentication password		
proxy_password	Password(Text)	
Proxy exception address		
proxy_ bypass_list	Address(Text) Example: "192.168*;10.*;www.sato.co.jp;”	
Delete configuration file after import		
delete_me	false	Keep the file (*)
	true	Delete the file

- Configuration file example

```
printer_type = status4_1port                ; Set communication protocol to "status 4".
printer_interface_type = bluetooth          ; Set communication interface to "Bluetooth".
bluetooth_device_address = 00:01:90:E3:84:77 ; Set BD address.
delete_me = true                            ; Delete configuration file after import.
```

4-9 Use HTTPS

You can use HTTPS on SmaPri Driver.

It is no longer necessary to set the SmaPri Driver to HTTPS when sending requests to the SmaPri Driver from a web application running on an HTTPS server.
According to the specifications of Google Chrome version 94 or later, requests to SmaPri Driver can be used as "http://localhost:8080/" if the upper web application is SSL enabled.

For more information, refer to "Support SSL on web app".

4-10 Support SSL on web app

Due to the specifications of Google Chrome version 94 or later, when using the SmaPri Driver from a web application, please support SSL on your web app.

If the URL of the web application is http (http://example.com/), the request to SmaPri Driver (http://localhost:8080/) will be blocked by the browser and will result in a transmission error. See the Chrome developer site below for details.
https://developer.chrome.com/blog/private-network-access-update/

Note

- It is not necessary to set the server protocol of SmaPri Driver to HTTPS.
- Please check the operation of the browser for the web application in the intranet environment. Please support SSL on your web app if the request is blocked by your browser.

Example

1) When the URL of the web application is "http://license.sato.co.jp/"
Sending requests to SmaPri Driver (http://localhost:8080/) fails.
As an example, when using XMLHttpRequest in JavaScript, HTTP status code 0 is returned. The browser's developer mode log will show an error stating that the request was blocked, such as:

```
[Log (sample)]
Access to XMLHttpRequest at 'http://localhost:8080/Format/Print…' from origin
'http://license.sato.co.jp' has been blocked by CORS policy: The request client is not a secure
context and the resource is in more-private address space `local`.
```

2) When the URL of the web application is "https://license.sato.co.jp/"
Requests to the SmaPri Driver (http://localhost:8080/) are successfully sent.