SII

DPU-S Series
Printer Driver
Operations Manual

Seiko Instruments Inc.

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Chapter 1 Introduction

1.1 Overview

This document provides the specifications, functions, and operating instructions of software for Microsoft Windows provided by Seiko Instruments Inc. (hereinafter referred to as "SII") for SII thermal printers.

1.2 Operating Description

Operating instructions and screenshots described in this document are explained assuming that the operating system uses standard settings during the installation. The operating instructions and screenshots may be different if the operating system settings have been changed.

1.3 Operating System Abbreviations

Operating systems described in this document use the following abbreviations:

- ❑ Overall Microsoft® Windows® => Windows
- ❑ Microsoft® Windows® 11 => Windows 11
- ❑ Microsoft® Windows® 11 IoT Enterprise => Windows 11
- ❑ Microsoft® Windows® 10 => Windows 10
- ❑ Microsoft® Windows® 10 IoT Enterprise => Windows 10
- ❑ Microsoft® Windows Server® 2025 => Windows Server 2025
- ❑ Microsoft® Windows Server® 2022 => Windows Server 2022
- ❑ Microsoft® Windows Server® 2019 => Windows 10 (Windows Server 2019)
- ❑ Microsoft® Windows Server® 2016 => Windows 10 (Windows Server 2016)

When an individual description is necessary, the description is written in parentheses behind the abbreviation.

1.4 Printer Folder Representation

The printer folder described in this document means the folder displayed for the following operations:
[Control Panel] => [Hardware and Sound] => [Devices and Printers] folder

1.5 Other Representations

The terms below used in this document have the following meanings:

Terms	Description
Printer driver	Printer driver included in the provided software
Communication library	A dynamic library file included in the provided software for communication with the printer from user applications
Product technical reference	DPU-S445-xC SERIES THERMAL PRINTER TECHNICAL REFERENCE DPU-S245-xC SERIES THERMAL PRINTER TECHNICAL REFERENCE
Function settings	Features of [Function Settings] explained in the Product Technical Reference
ASB	Printer status response retrieved by the [Enable/Disable Automatic Status Transmission] command of the printer

1.6 Applicable Product Models and Driver Models

For products (printer) that the printer driver supports, refer to the [Appendix A Driver Model].

Chapter 2 Operating Environment

2.1 System Requirements

System requirements for the printer driver are as follows:

Item	Specifications
Supported Operating Systems	■ Windows 11 (64 bit) ■ Windows 11 IoT Enterprise (64 bit) ■ Windows 10 (32 bit and 64 bit) ■ Windows 10 IoT Enterprise (32 bit and 64 bit) ■ Windows Server 2025 (64 bit) ■ Windows Server 2022 (64 bit) ■ Windows Server 2019 (64 bit) ■ Windows Server 2016 (64 bit) Modern UI is not supported. Windows ARM is not supported.
Communication Methods	■ Bluetooth connection ➢The operating conditions are as follows. • The target printer is not connected with another computer via Bluetooth. • Microsoft standard system driver is used. • Communication is available through virtual serial port generated when installing via Bluetooth connection. ➢For Bluetooth connection, when printer driver or Communication library is not used, the status information of printer information structure (PRINTER_INFO) is not reflected. ➢Bluetooth connection is not supported by Windows Server 2025, 2022, 2019, or 2016. ➢Contact us for the operation test verified Bluetooth devices. ■ Serial Communication (RS-232C) ■ USB Communication

2.2 Function Settings

Conditions of function settings on the printer for using the printer driver are described as follows.

- ❑ For conditions of function settings for using the printer driver,
  refer to the [Appendix D Condition of Function Settings].
- ❑ About how to change the function settings, refer to "5.4 Device Setting Tab".

2.3 Notes

※ The printer driver cannot be used to print the fonts implemented on the printer.
※ Printing features are available with the network connection via shared printers as well.
(The features using communication library is only available with locally connected printers.)
※ The multi user environment using the [Switch user] function by logging off is not supported.
※ A sleep mode of the standard feature of Windows isn't supported.
※ Only for Bluetooth connection, when printing is cancelled while processing, turn the printer off and back on again in order to avoid garbled characters in the next printing.

Chapter 3 Installation

3.1 Overview

This chapter describes the installation of the printer driver.

There are the following installation methods.

- Installation from [Add Printer] in the [Printer folder]
- Installation from the dedicated installer

This chapter only describes the installation from the dedicated installer.

Caution

- ◆ This installation requires logon to the computer with administrator privileges.
- ◆ The [Windows Logo Test] warning may be displayed during installation, but proceed with the installation.
- ◆ When you want to use the Communication library or its .NET API in WOW64 environment, install the printer driver from the dedicated installer.

Reference

- When the printer driver is no longer needed, select [Printer Driver for SII DPU-S Series] from [Programs and Features] in the Control Panel, and then uninstall it.

3.2 New Installation Method

This section describes the new installation method.

Start installation of this product using the setup program.

- For 32-bit OS : SetupPrinter.exe
- For 64-bit OS : SetupPrinter64.exe

Caution

◆ Do not install more than one driver for the same communication port.

3.2.1 Common Installation Procedure

This section describes the procedure of starting installation used for every connection.

1. When the [Installer start] window is displayed, click the [Next>] button.

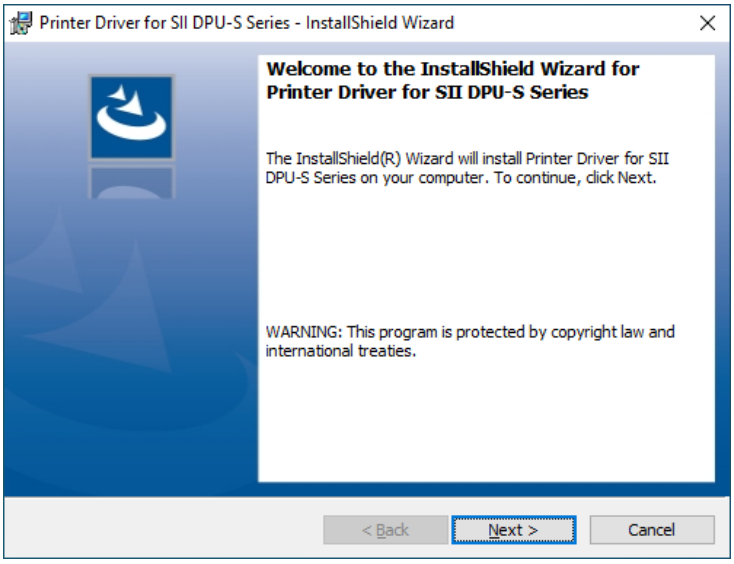


Figure 3-1 [Installer start] window

2. When the [SOFTWARE LICENSE AGREEMENT] is displayed, read it carefully, select "I accept the terms in the license agreement", and then click the [Next>] button.

3. When the [Installation confirmation] window is displayed, click [Install] button.

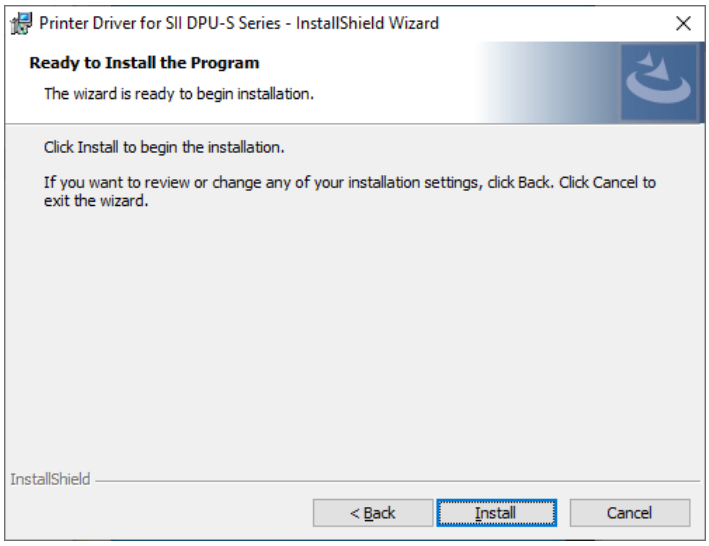


Figure 3-2 [Installation confirmation] window

The subsequent procedure varies depending on the connection method with the printer. For the USB connection, proceed to "3.2.2 Installation with USB Connection". For the serial connection or Bluetooth connection, proceed to "3.2.3 Installation with Serial Connection or Bluetooth Connection". For using shared printer, proceed to "3.2.4 Installation of the Shared Printer".

3.2.2 Installation with USB Connection

This section describes the installation procedure of the USB connection.

Caution

◆ For the USB connection, keep the printer power off until you are instructed to do so in this manual.

4. When the [Installation format selection] window is displayed, select "Plug and play install (Uses USB port)", and then click the [Install] button.

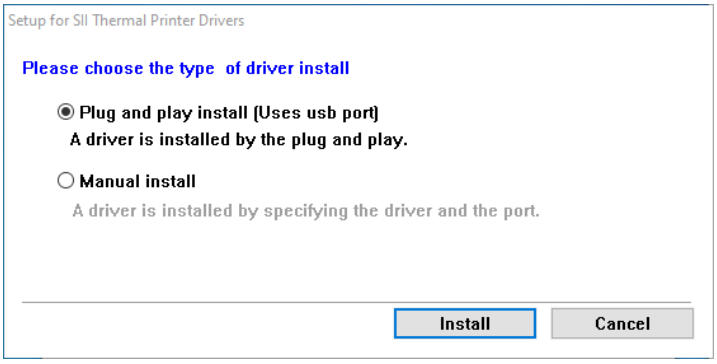


Figure 3-3 [Installation format selection] window (USB connection)

5. When the [Completion] window is displayed, use the USB cable to connect the printer with the computer, and then turn on the printer power.

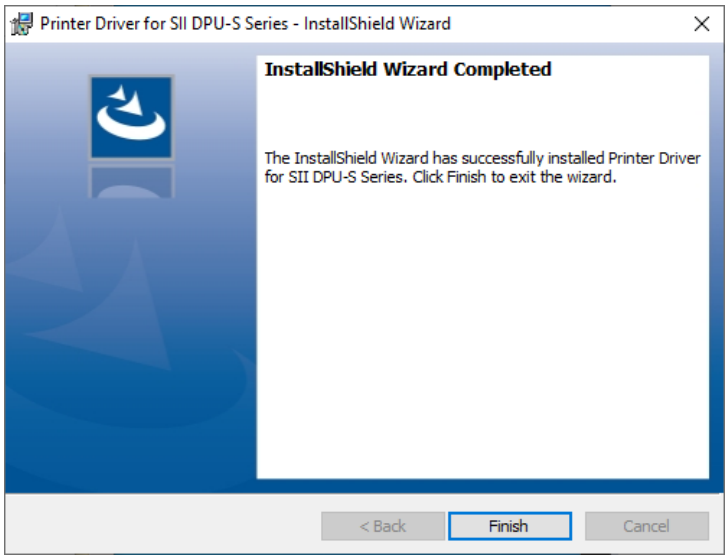


Figure 3-4 [Completion] window (USB connection)

6. After the printer is recognized by the computer, the printer driver is automatically installed by the plug and play.

Caution

◆ When you remove the USB cable after the printer driver was successfully installed, connect it to the same USB port that you used to install the driver when you want to reconnect it. When the printer is connected to a different USB port on the computer, the host recognizes it as another printer, and again prompts for printer driver installation.

3.2.3 Installation with Serial Connection or Bluetooth Connection

Caution

- ◆ When using Bluetooth connection, execute pairing beforehand and assign to generated virtual serial port.
- ◆ When using Bluetooth connection, more than one host cannot be used simultaneously.

This section describes the installation procedure of the serial connection or Bluetooth connection.

4. When the [Installation format selection] window is displayed, select "Manual install". Select the driver to install and the connection port, and then click the [Install] button to start installation.

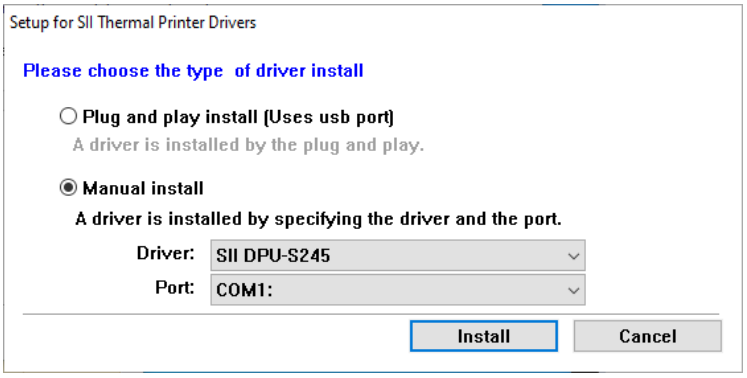


Figure 3-5 [Installation format selection] window (serial connection or Bluetooth connection)

5. When the installation of the printer driver is completed, the [Completion] window is displayed.

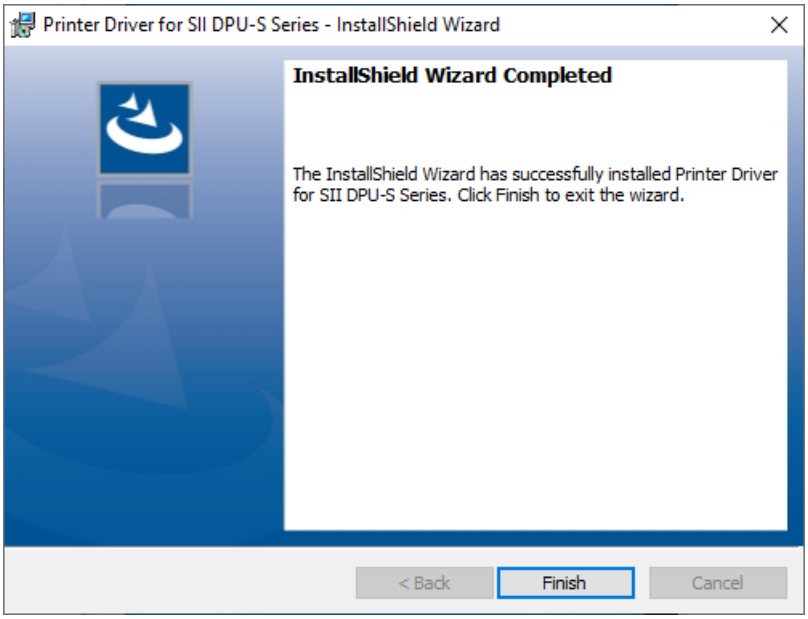


Figure 3-6 [Completion] window (serial connection or Bluetooth connection)

3.2.4 Installation of the Shared Printer

This section describes the installation procedure of the shared printer.

4. When the [Installation format selection] window is displayed, select "Manual install" and "Add New Port...".

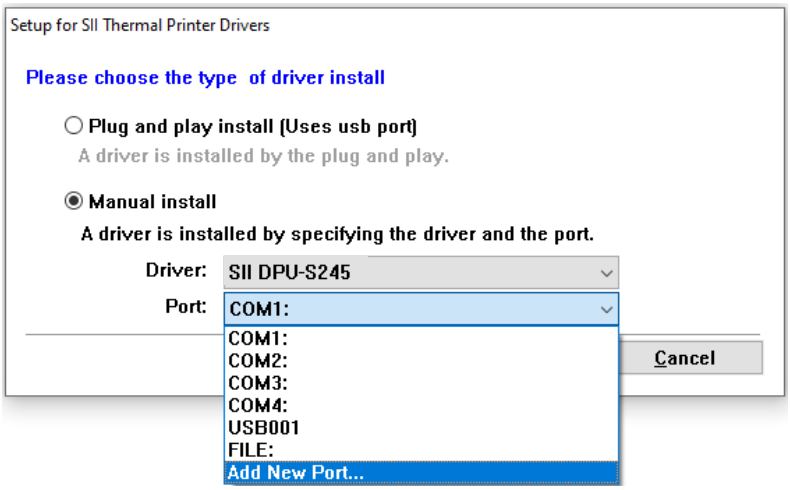


Figure 3-7 [Installation format selection] window (shared printer)

5. When the [New port creation] window is displayed, select "Network Printer Port" and specify [Printer], and then click the [OK] button to add the port to the port list on the installation format selection window.

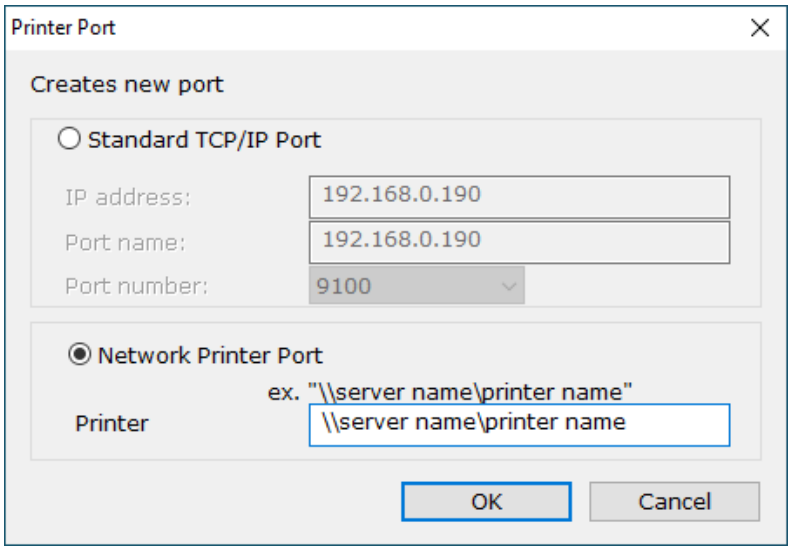


Figure 3-8 [New port creation] window

6. When the [Installation format selection] window is displayed again, select the driver to install and the connection port, and then click the [Install] button to start installation.

7. When the installation of the printer driver is completed, the [Completion] window is displayed.

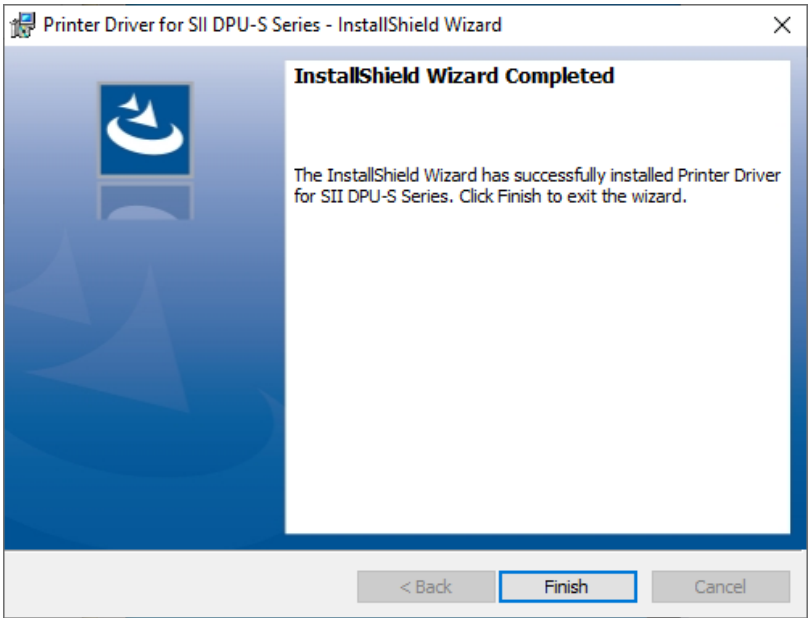


Figure 3-9 [Completion] window (shared printer)

Chapter 4 Printing Preferences

4.1 Overview

Settings for paper size and printing control can be set from the [Printing Preferences] window.
When printing from Modern UI design, only a part of configurable items is displayed in [Printing Preferences] window.

4.2 Printing Preferences Window

To display the [Printing Preferences] window, follow the steps below.

1. Right-click a printer icon in the printer folder to display the sub-menu.
2. Click [Printing Preferences] from the displayed sub-menu.

4.3 Advanced Options

Detailed printing preferences can be changed from the [Advanced Options] window.
To display the [Advanced Options] window, follow the steps below.

1. Display [Printing Preferences] window mentioned in "4.2 Printing Preferences Window".
2. Click [Advanced…] in the lower right of the [Printing Preferences] window to display the [Advanced Options] window.

4.3.1 Paper Size

Select the paper size to use for printing.
For instructions to add a new paper size, refer to "6.5 How to Add Custom Paper Size".

4.3.2 Copy Count

Specify the number of copies to print.

4.3.3 Half toning

Specify the method to binarize.

4.3.4 Print Density

Select the print density level controlled on the printer.

4.3.5 Form Discharge

Select the form discharge operation after printing.

- Enable : Paper is discharged for the paper size.
- Disable : Paper is discharged to the end of image regardless of the paper size.

※ When using marked paper, be sure to select [Disable].

4.3.6 Print Mode

Select the print processing mode.

- Page Mode Priority : A paper size that can print with the page mode is printed with the page mode. In other cases, printed with standard mode.
- Standard Mode : Print operation is conducted only in Standard mode.

※ For the reduce-type model, Page mode is always used. Item of print mode is not displayed

4.3.7 Function Settings

Launch the utilities and set up the printer, then function settings can be displayed or changed.
For an explanation of the function setting utility, refer to the function setting item of "5.4 Device Setting Tab".

Chapter 5 Setting Properties

5.1 Overview

Printer driver settings can be set from the [Properties] window.

5.2 Properties Window

To display the [Properties] window, follow the steps below.

1. Right-click a printer icon in the printer folder to display the sub-menu.
2. Click [Printer properties] from a displayed the sub-menu.

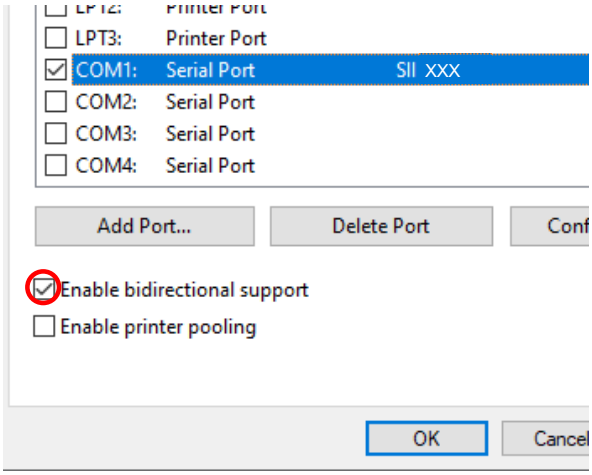
※The test printing conducted by clicking [Print Test Page] on the [General] tab of the [Properties] window will not produce a whole-page printout on the paper whose width is for compact printers. So it is not a defect.

5.3 Ports Tab

Set the port to print. Configure the port settings to be matched with the communication settings of the printer.

※ Be sure to select the [Enable bidirectional support] check box.

[Properties] – Bottom of the [Ports] tab



Settings for Serial Communication

- ❑ Select [COM X: Serial Port] and click [Configure Port ..] and then configure the communication settings with the printer to be matched, on the COM properties dialog.
- ❑ The following are the notes for communication settings.

※ To configure the settings, log on to the computer with administrator privileges.
※ Specify the value of the [Bits per second] (communication speed) to be 115200 bps.
※ When using bidirectional communication library, select [Flow Control] to hardware.
※ Select [Data bits] to "8".
※ For Windows Server 2025, 2022, 2019 or 2016, the communication settings cannot be set by the [Configure Port] button. Set the communication settings from [Ports (COM & LPT)] in the [Device Manager] on the computer.

5.4 Device Setting Tab

Launch the utilities and set up the printer.

Function Settings

- ❑ State of the function settings can be displayed and changed.
  For more details about the function settings, refer to the product technical reference.
- ❑ The current settings displayed can be saved to a file. The saved data can be reloaded using the utilities. Function settings can be changed by transferring the saved data to a printer using other communication method as well.
- ❑ The utility operations for the function settings require administrator privileges.
  When users without administrator privileges operate the utility for the function settings, log on the computer with administrator privileges and follow the procedure as follows.
  1. Open the [Security] tab on the [Properties] window.
  2. Select [Everyone] for [Group or user names].
  3. For [Permissions for Everyone], select the [Allow] checkbox in [Manage This Printer].
- ❑ The following describes an example of the way to change the function settings.
  1. Click [Function Setup] => [Setup…] to display the current function settings.
  2. Double-clicking the displayed item enters the edit mode.
  3. After completing the setting change, click [Apply] to write the settings to the printer.
  4. To save the current settings on the list to a file, click .
  5. To restore the saved data from the file in which the settings were saved, click .
  6. To exit from the edit mode, click the  button or [Close].

  ※ Operations for the function settings are available only when the printer is ready for printing.

5.5 Version Tab

Display version information of the driver.

Chapter 6 Paper Setup

6.1 Overview

The following describes the available paper sizes with the printer driver.
There are two types of usable paper sizes: the default size automatically installed and sizes that users can add.
For method to register a new paper size, refer to "5.4 Device Setting Tab".

6.2 Terms

The following defines the terms regarding paper sizes.

Terms	Description
Standard paper	The driver paper sizes which are automatically registered on installation of the driver.
User defined	The driver paper sizes that users can newly add separately.

6.3 Paper Sizes

Usable paper sizes vary depending on each Driver Model.
About usable paper sizes in each Driver Model, refer to [Appendix B Paper] in[(1) Paper Sizes].

※ Due to the printer mechanism, the actual outputted paper length may be slightly different from the specified paper size.
※ The paper size includes the margin space.
For details about the print margin, refer to [Appendix B Paper] – [(2) Margin Sizes].

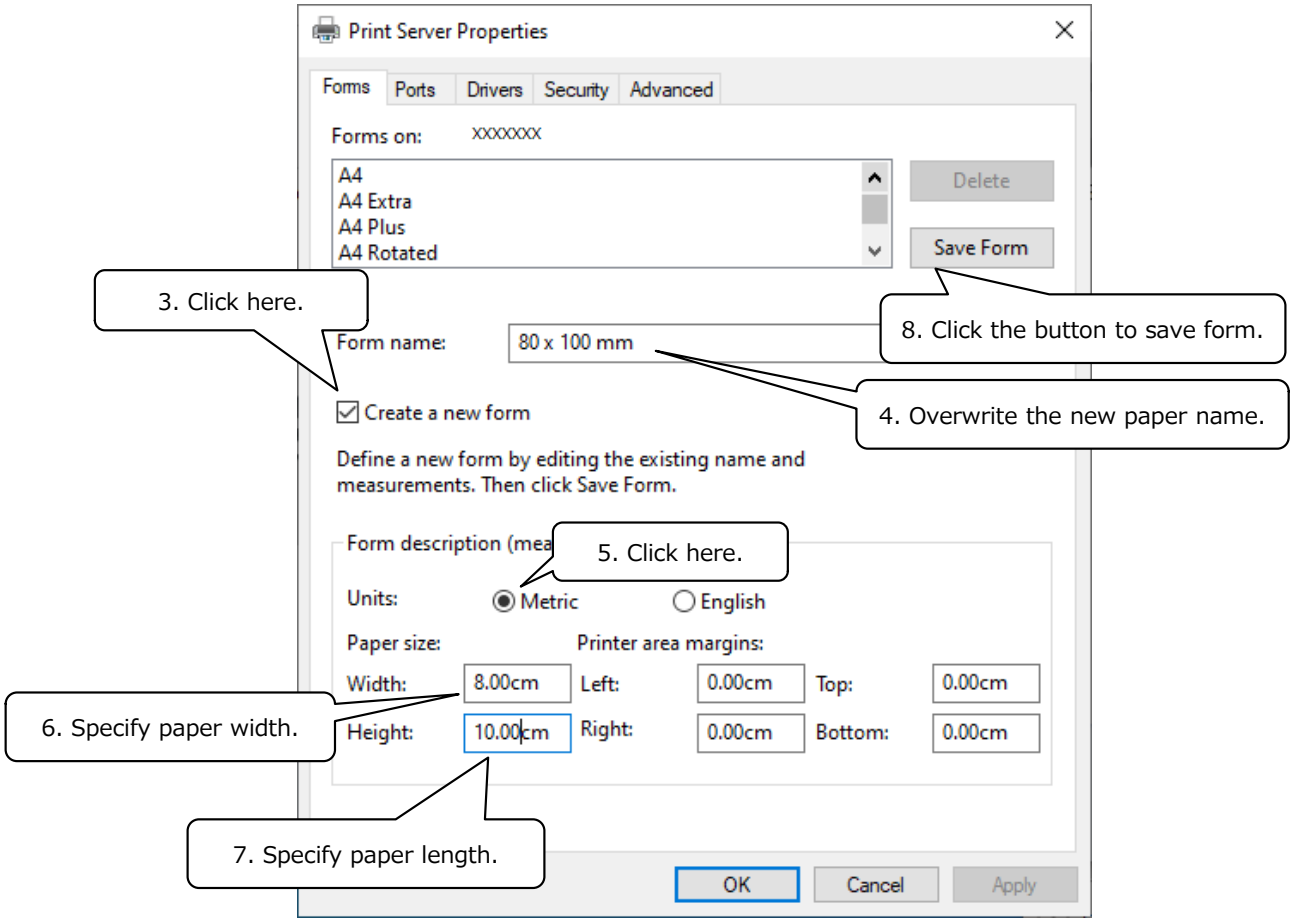
6.4 Margin

The print margin is set for the paper when printing.
Margin sizes may be different between the computer screen and the paper.
For details about the print margin, refer to [Appendix B Paper] – [(2) Margin Sizes]

6.5 How to Add a New Paper Size

The following explains the procedure for adding a custom paper size.

1. Display the [Forms] tab in the [Print Server Properties] window.
2. Click the [Create a new form] check box.
3. Overwrite the paper size name in the [Form name] field.
4. Select the [Metric] radio button.
5. Type the width for the user defined paper size in the [Width] field of the [Form description (measurements)].
6. Type the length for the user defined paper size in the [Height] field of the [Form description (measurements)].
7. Finally, click [Save Form] to complete the procedure.



- Add a new size in consideration of [Appendix B Paper] – [(1) Paper Sizes].
- The printable area is different from the paper size.
- If the paper size is set with margins of "0" the fixed margin size is used.
- To add a user defined paper size, log on to the computer with administrator privileges.
- Of the paper sizes listed in the [Forms] tab, those that correspond to the sizes specified in the [Appendix B Paper] – [(1) Paper Sizes] will be available for the printer driver.
- To display the [Server Properties] window, follow the steps below.
  1. Click the intended printer icon in the printer folder.
  2. Click [Print server properties] displayed to toolbar in the printer folder upper part.

Chapter 7 Communication Library

The (#) mark is added to the following description if any specification is changed from the previous released version (less than Ver.2.20).

For using Communication Library, some setting condition of the function setting must be set to the specified values. Refer to the [Appendix D Condition of Function Settings].

7.1 Overview

The printer driver has a communication library for developers to control the printer directly.
Communication library is installed together with the printer driver and works via the printer driver.
Communication library allows to control the printer directly on the application software development not depending on port type.
For the specific usage of communication library, refer to the attached sample program.
(Microsoft Visual C++ version 2005).

7.2 Functions

Communication library provides the following functions for application software to be developed.

- Transmitting arbitrary binary data to the printer
- Receiving incoming data from the printer
- Retrieving status data of the printer
- Reset the printer

7.3 Library File

Communication library file name is as follows:

SII_DPUS_API.DLL

The Communication library file is stored in the Windows system folder.
Use the Communication library without moving it from the folder. In this case, you do not have to set a path to the folder containing the Communication library.
If the Communication library file is moved to another location, the Communication library could not be updated properly during version up of the printer driver.

7.4 Functions

List of Communication Library Functions

The following explains the functions of the communication library files.
For more details, refer to the attached sample program.

Function Name	Function Overview
OpenSiiPrinterA **OpenSiiPrinterW**	Create a printer object and retrieve the session ID
CloseSiiPrinter	Close the printer object and disable the session ID
GetSiiPrinterAutoStatus	Retrieve latest ASB
SetSiiPrinterCallbackStatus	Register the callback function which will be called when ASB changed
SetSiiPrinterData	Send arbitrary binary data to the printer
SetSiiPrinterTimeout (#)	Set timeout for **SetSiiPrinterData**
GetSiiPrinterDataA **GetSiiPrinterDataW**	Retrieve the specified response data from the printer
SetSiiPrinterReset	Reset the printer

Name of Functions with Arguments Include Letter Strings

A suffix of "W" or "A" for some function names means that the function name needed to be called varies depending on whether to use MBCS (MultiByte Character Set) or Unicode as argument to be set with letter strings.
For example, to call **OpenSiiPrinter** function, use **OpenSiiPrinterA** for MBCS, and **OpenSiiPrinterW** for Unicode.
Please note that a suffix of "W" or "A" is omitted in the following function explanations.

7.5 Details of Communication Library Functions

The following is detailed specification of each function.

Common Specifications of All Functions

Return value

Returns an error code (≠0) for any failure of the function, and 0 for success.

Description

- ❑ For the error code, refer to "7.7 Return Values (Error Codes)".
- ❑ Communication library are not applicable for the network connection via the shared printer feature.
- ❑ Printer information retrieved by Windows features, such as the Status member of PRINTER_INFO_X structure defined by the Windows Platform SDK, is not supported.
- ❑ When using serial communication settings, set the flow control to [Hardware].
  For setting instructions, refer to "5.3 Ports Tab".
- ❑ Outputting data including a command to disable ASB by any method may interfere with proper retrieval of the subsequent ASB.
- ❑ All communication library functions are only available when the bidirectional support function is enabled.
  For setting instructions, refer to "5.3 Ports Tab".
- ❑ If the device becomes impossible to analyze the command correctly by interrupting the data output, then the hardware reset of the printer.
  (or **SetSiiPrinterReset** function call) is needed to recover for using driver's functions.
- ❑ When the printer is offline, the function which gets the response data length of printer command can return only the fixed response-size.

OpenSiiPrinter

Creates a printer object and retrieves the session ID.

DWORD OpenSiiPrinter(
LPCTSTR *pszName,*
LPDWORD *pdwSessionId*)

Parameters

pszName
Pointer to a null terminated letter string that specifies the name of the printer.

pdwSessionId
Pointer to a variable that receives the session ID of the printer object..

Description

- The printer friendly name that should be input into *pszName* is the printer name displayed in the printer folder.
- When the session ID acquired by this function becomes unnecessary, be sure to disable the ID by the **CloseSiiPrinter** function.
- The function will succeed regardless of the connection between the printer and the computer
- If an unsupported port is assigned to the printer driver, this function will return an error code.
- Up to eight objects can be simultaneously opened.
- If the printer is in the state that cannot be printed, it may take longer to respond to this function.

CloseSiiPrinter

Abandons a printer object and disables the session ID.

DWORD CloseSiiPrinter(
DWORD *dwSessionId*)

Parameters

dwSessionId
The session ID retrieved with the **OpenSiiPrinter** function.

Description

- Specifies the session ID to be disabled.
- Stops ASB monitoring by the **GetSiiPrinterAutoStaus** function.
- The response of this function will be returned after all processes of the other functions are completed.

GetSiiPrinterAutoStatus

Retrieves the latest ASB.

DWORD GetSiiPrinterAutoStatus(
DWORD *dwSessionId ,*
LPDWORD *pdwStatus*)

Parameters

dwSessionId
The session ID acquired by the **OpenSiiPrinter** function.

pdwStatus
Pointer to a variable to receives ASB.

Description

- Retrieves the latest ASB.
- When disconnection from the printer is detected, the ASB value is returned as 0.
- For details about ASB response, refer to the product technical reference.
- For notes on retrieving ASB, refer to "7.6 Notes on ASB Response".
- When a callback function is registered by the **SetSiiPrinterCallbackStatus** function, calling this function disables current registration of the callback function.

SetSiiPrinterCallbackStatus

Registers the callback function that will be called when ASB changes.

DWORD SetSiiPrinterCallbackStatus(
DWORD *dwSessionId,*
INT (*CALLBACK EXPORT *lpfnCallBackStatus*)(*DWORD dwStatus*))

Parameters

dwSessionId
The session ID acquired by the **OpenSiiPrinter** function.

lpfnCallBackStatus
Function pointer of the callback function.

dwStatus
A variable to receive ASB with the callback function.

Description

- Registers the callback function to be called when ASB change is detected.
- When a callback function is registered by this function, the callback function with current ASB is called only once immediately after registration.
- For details about ASB response, refer to the product technical reference.
- For notes on retrieving ASB, refer to "7.6 Notes on ASB Response".
- If ASB has not changed from the immediately preceding ASB, the callback function is not called even when ASB is received from the printer.
- The callback function is called when the connection state with the printer is changed.
- When disconnection from the printer is detected, the ASB value is returned as 0.
- When reconnection with the printer is detected, the latest received value of ASB will be returned.
- Synchronism between timings of ASB reception and calling the callback function is not guaranteed.
- When a callback function is already registered and this function is called again, the registered function becomes invalid and a new callback function will be registered.
- If specifying null to *lpfnCallBackStatus*, the registered function becomes invalid.
- It is possible to disable the registered callback function by calling the **CloseSiiPrinter** function or the **GetSiiPrinterAutoStatus** function so that to stop the ASB monitoring.
- The return value of the callback function is ignored.
  Even when calling this function by specifying the valid callback function again, the callback function with current ASB response will be called once again. **(#)**
- The function of the communication library cannot be called from the registered inside of the callback function. **(#)**

SetSiiPrinterData

Writes data to the printer.

DWORD SetSiiPrinterData(
DWORD *dwSessionId,*
LPBYTE *pCmd,*
DWORD *cbCmd,*
LPDWORD *pcWritten*)

Parameters

dwSessionId
The session ID acquired by the **OpenSiiPrinter** function.

pCmd
Pointer to an array of bytes that contains the data that should be written to the printer.

cbCmd
The size, in bytes, of the buffer pointed to by *pCmd*.

pcWritten
Pointer to a variable that receives the number of bytes of data that were written to the printer. If it is not necessary, null can be specified.

Description

- ❑ Arbitrary binary data can be transmitted to the printer.
- ❑ The control of the function is not returned until data transmission ends or it exceeds the timeout period.
- ❑ If print job for this printer driver exist, this function will fail and return an error code.
- ❑ If a print job occurs when outputting the data for a document by plural calling, the print job may interrupt the output data.
- ❑ Data transmission processed by this function is not included in the jobs of the printer driver.
- ❑ The timeout setting can be specified by the **SetSiiPrinterTimeout** function.
  For details about the timeout setting, refer to "**SetSiiPrinterTimeout**"
- ❑ If the binary data to be output includes a command to disable ASB, the subsequent ASB may not be acquired properly.
- ❑ If this function is divided and sent separately when multiple processes use the communication library, unexpected output from other processes may interrupt before completion of transmission.
  When outputting such commands and data that do not allow interrupting of other data,
  especially for image data, be sure to output all data in one call.
- ❑ When the actually output data size is less than the size of *cbCmd*, the operation will be as follows:
  - If null is specified for *pcWritten*, this function will fail and an error code will be returned.
  - If any value except null is specified for *pcWritten*, this function will succeed by storing the number of sent data into the variable indicated by *pcWritten*.
- ❑ This function can be cancelled by **SetSiiPrinterReset**. **(#)**
- ❑ For Bluetooth connection, when printer command "Hardware Reset" is sent, reconnection to Bluetooth will take about 20 to 30 seconds.

SetSiiPrinterTimeout (#)

Specifies valid timeout setting by the **SetSiiPrinterData** function.

DWORD SetSiiPrinterTimeout(
DWORD *dwSessionId,*
DWORD *dwTimeout*)

Parameters

dwSessionId
The session ID acquired by the **OpenSiiPrinter** function.

dwTimeout
Variable to receive the specified timeout for output in millisecond.

Description

- ❑ Only effects on the timeout setting for the **SetSiiPrinterData** function.
- ❑ The configurable value of timeout is 3 to 90 seconds. When setting a value out of the range, this function will fail.
- ❑ The actual time-out period may be longer than the set value.
- ❑ The value set by *dwTimeout* sets again or is effective until **CloseSiiPrinter** is called.
- ❑ If timeout setting is not assigned by this function, the system (LPT port) timeout setting is applied. The system (LPT port) timeout setting can be set by either of the following.

Edit in the Property Tab

1. Select any of [Printer Port (LPT x)] in the Ports tab on the [Properties] window.
2. Click the [Configure Port] button to display the value of timeout. Enter an arbitrary value of timeout in second.

※ For details of the [Properties] window, refer to "Chapter 5 Setting Properties".
※ When changing the value of timeout, pay attention not to change the output port of the printer driver.

Direct Edit of Registry

1. When using the registry editor (regedit.exe) to set the value of timeout, enter an arbitrary value of timeout in second for "TransmissionRetryTimeout" in the following folder: HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\WindowsNT\CurrentVersion\Windows

※ Pay attention to the operation as a mistake made in registry setting may prevent the PC from starting.

- ❑ The system (LPT port) timeout cannot be set for less than 3 seconds.
- ❑ To validate the system (LPT port) timeout setting must reload of the communication library.

GetSiiPrinterData

Retrieves response data from the printer.

DWORD GetSiiPrinterData(
DWORD *dwSessionId,*
LPTSTR *pValueName,*
LPBYTE *pData,*
DWORD *cbData,*
LPDWORD *pcbNeeded*)

Parameters

dwSessionId
ID retrieved with the **OpenSiiPrinter** function.

pValueName
Response command string that identifies data to be retrieved.

pData
Pointer to a variable that stores response data.

cbData
Number of data bytes that indicates the array size.

pcbNeeded
Pointer to a variable that receives a necessary buffer size or the number of actually received bytes.

Description

- An arbitrary printer response can be retrieved by specifying the corresponding command strings listed in [Appendix C Response Command String] for *pValueName*.
- For details about each printer command and the response, refer to the product technical reference.
- To retrieve the response data size, call this function by setting "0" to *cbData* so that the function returns an error code of ERROR_INSUFFICIENT_BUFFER, and the size shall be stored in the variable indicated by *pcbNeeded*.
  If there is no data to be returned, "0" will be stored.
- The reception history keeps the response data specified by *pValueName* kept up 256 bytes each.
- The reception history records raw data (unconverted data) received after calling of the **OpenSiiPrinter** function.
- The reception history includes the response data replied by the operation of the other process. The same operation and/or calling of the function may not result in the same response.
- If the printer is reconnected, the accumulated data by the printer will be received in a lump.
- When "*GET_RAW_DATA_AUTO_STATUS*" is specified for *pValueName*, the ASB receiving history is retrieved.
  Note that if the received values of ASB are the same as the latest, the response will be abandoned.
  When all ASB data for one response are "0", it means that a disconnection is detected.
- When "*GET_RAW_DATA_EXEC_RESP*" is specified for *pValueName*, the receiving history of [Execution Response] is retrieved.
  For details about [Execution Response], refer to the product technical reference.
- When "*GET_RAW_DATA_CMD_RESP*" is specified for *pValueName* the retrieving history of general command response **(**Excluding ASB and [Execution Response]).
- Command strings listed in the [Appendix C Response Command String] cannot be used for the **GetPrinterData** function, which is a system standard function (Win32API).
- If the function fails (the return value is not "0"), values of all parameters are undefined.
- The function may fail depending on the command set to *pValueName*.
- For Bluetooth connection, response data cannot be obtained while the printer is disconnected.

SetSiiPrinterReset

Hardware resets the printer.

DWORD SetSiiPrinterReset(
DWORD *dwSessionId*)

Parameters

dwSessionId
ID retrieved with the **OpenSiiPrinter** function.

Description

- ❑ Resets the printer using the communication protocol (without using printer commands). However, hardware reset does not work for Bluetooth connection. **(#)**
- ❑ A constant waiting time may occur when hardware-reset succeed. **(#)**
- ❑ When this function is called during execution of **SetSiiPrinterData**, **SetSiiPrinterData** will be cancelled. **(#)**

※ It is required that the reset function using the communication protocol is enabled by the function settings of the printer.
For the function settings of the printer, refer to the product technical reference.

※ When using this function, wait 1 or 2 seconds until the printer reset is executed, and then execute other process such as data output or etc.
Note that if data output is executed without waiting for the period, it will result in data omission.
Moreover, when printer reset cannot be executed immediately due to other process execution such as Flash memory rewriting or etc., waiting time will be longer.

7.6 Notes on ASB Response

- ASB can also be retrieved with the **GetSiiPrinterAutoStatus** function, **SetSiiPrinterCallbackStatus** function and **GetSiiPrinterData** function. For more details, refer to each function's section.
- The content of ASB is included up to the identifier bits stored from lowest byte (0-7 bit) of variable.
- A disconnection of the printer is expressed in ASB whose all bits are set as 0 including identifier.
- If a command that disables the ASB function is output with the **SetSiiPrinterData** function, it may result in failure to retrieve ASB properly.
- A communication failure or an error with the printer may assume ASB as the disconnection state.
- When the flow control of the serial connection is set to hardware, the way of operation fixing the DSR terminal to the MARK level is not supported.
- To detect the connection status of the serial cable, at least TxD, RxD, DTR and DSR terminals should be connected on the computer and the printer. Otherwise, the printer may not work properly.
- Change of ASB during disconnecting may not be retrieved.
- If the DSR terminal and DTR terminal work together in the case of serial connection, cable disconnection is detected as the "disconnect state" but printer power-off is not.
- The received latest ASB of that time is returned when the reconnection was detected. Therefore, the received ASB is not necessarily the guaranteed current status after connection.
- The callback function doesn't detect the change of ASB that is not returned automatically by the change of itself.
- For details of the ASB, refer to the [Automatic Status Response] command described in the product technical reference.

7.7 Return Values (Error Codes)

If the function succeeds, the return value is 0 (ERROR_SUCCESS). If the function fails, the return value is an error code (≠0). The error code is based on the Windows system error code.

For Windows error codes, refer to Microsoft documents (such as SDK System Error Codes).

The error content may be vague or unclear because of using the common codes (Windows error codes). To complement this, the following indicates error names (error codes) and probable causes.

Principal Windows System Error Codes and Possible Causes

Error Name (Error Code)	Possible Causes
ERROR_INVALID_HANDLE(6)	The input the session ID is illegal.
ERROR_READ_FAULT(30) ERROR_TIMEOUT(1460)	❑ Selected printer information does not exist. ❑ Response cannot be received due to illegal parameters. ❑ Response cannot be received because the printer is busy or in abnormal condition. ❑ Other data exists in the printer buffer.
ERROR_BUSY(170)	The printer is in busy state (during printing).
ERROR_DEVICE_NOT_CONNECTED (1167)	❑ The cable is disconnected. ❑ The printer is powered off.
ERROR_UNKNOWN_PORT(1796)	An unsupported port name such as FILE is specified.
ERROR_UNKNOWN_PRINTER_DRIVER (1797)	An unsupported printer name is specified.
ERROR_INVALID_PRINTER_STATE(1906)	Bidirectional communication support is set to [Disable].
ERROR_DEVICE_NOT_AVAILABLE(4319)	Communication has failed.
ERROR_WRITE_FAULT(29)	Data cannot be written.
ERROR_PRINTER_HAS_JOBS_QUEUED (3009)	The print waiting job exists in the printer.
ERROR_ACTIVE_CONNECTIONS(2402)	Communication library is being used in another thread or another process.
ERROR_CONNECTION_COUNT_LIMIT (1238)	The number of objects exceeded the max.
ERROR_BAD_ENVIRONMENT(10) ERROR_ACCESS_DENIED(5) ERROR_INVALID_ACCESS(12) ERROR_UNEXP_NET_ERR(59) ERROR_DEV_NOT_EXIST(55)	The bidirectional module cannot start or error occurs.

7.8 Sample Program

A sample program using communication library (Microsoft Visual C++ version 2005) is attached.

※ SII does not guarantee neither the operation of the sample program nor provide technical support for the sample program and the Microsoft Visual C++ version 2005.

※ The sample program may change without notice.

Chapter 8 Disclaimer

SII has carefully designed this product to ensure that it is problem-free.
However, SII is not liable for any damage or loss caused by or related to the use of this software.

Appendix A Driver Model

Driver models supporting the product are listed below.

Select a printer driver according to applications as installation.

List of Driver Models

Product Name	Driver Model	Description
DPU-S245-00*-E DPU-S245-01*-E	SII DPU-S245	• When the reduction print is not used, please choose this driver model. • Usable paper size that registered newly（greatest paper length about 3 meters).
DPU-S445-00*-E DPU-S445-01*-E	SII DPU-S445	
DPU-S445-00*-E DPU-S445-01*-E	SII DPU-S445 Reduce	• Reduce to the size of the printer and print paper size of A4/Letter/A5 Rotated/Cut sheet. • Print the paper at about 58% reduction ratio. Usable only fixed form (A4/Letter/A5 Rotated/Cut sheet).

- Specifications other than above are common regardless of driver models.

Appendix B Paper

(1) Paper Sizes

Usable paper sizes in each driver model are as follows:

List of Paper Sizes

Driver Model	Paper type	Sizes (Limits)	
SII DPU-S245	Standard paper size	58 × 158 mm 58 × 297 mm A4, A6, Letter	
	User defined paper size	Width	26 to 58 mm
		Length	30 to 3276 mm
SII DPU-S445	Standard paper size	112 × 158 mm 112 × 297 mm A4, A6, Letter Cut sheet (112 × 158 mm)	
	User defined paper size	Width	26 to 112 mm
		Length	30 to 3276 mm
SII DPU-S445 Reduce	Standard paper size	A4 Letter A5 Rotated Cut sheet (191.2 × 269.8 mm)	

- ［Standard paper size］means the paper automatically registered when the printer driver is installed.
- ［User defined paper size］ means the paper (a size range) that user can be registered newly.
- When using driver model in the case of ［DPU-S445 Reduce］, can use only [Custom paper size].
- When using driver model in the case of ［DPU-Sx45］,If selecting a larger paper width than the actual paper size available for printers such as [A4] and [Letter], large margins are shown to the right of the paper on the computer (screen).

(2) Margin Sizes

Print margin sizes on the computer or the printer are as follows:

List of Margin Sizes (unit: mm)

Driver Model	Paper Size	Margin Position	Margin Size	
			Computer Side	Printer Side
SII DPU-S245	All paper	Top Margin	12.5 mm	←
		Bottom Margin	0 mm	←
		Right/Left Margins Total	※1.Paper Width - 48 mm	←
SII DPU-S445	All paper (Except Cut sheet)	Top Margin	12.5 mm	←
		Bottom Margin	0 mm	←
		Right/Left Margins Total	※2.Paper Width - 104 mm	←
	Cut sheet	Top Margin	6 mm	←
		Bottom Margin	15 mm	←
		Right/Left Margins Total	8 mm	←
SII DPU-S445 Reduce	A4 A5 Rotated	Top Margin	21.3 mm	12.5 mm
		Bottom Margin	0 mm	←
		Right/Left Margins Total	32 mm	8 mm
	Letter	Top Margin	21.3 mm	12.5 mm
		Bottom Margin	0 mm	←
		Right/Left Margins Total	38 mm	8 mm
	Cut sheet	Top Margin	10.2 mm	6 mm
		Bottom Margin	25.6 mm	15 mm
		Right/Left Margins Total	13.7 mm	8 mm

※1. The size of the margin at the minimum becomes 5mm.

※2. The size of the margin at the minimum becomes 4mm.

- If the paper size on the computer and the actual size are different, the margin size on the computer is also different from the actual margin size to be output.
- [Computer Side] in [Margin Size] means a margin size for selected paper recognized on the computer.
- [Printer Side] in [Margin Size] means a margin size for paper actually output from the printer.

Appendix C Response Command String

Command strings (*pValueName*) specified as the second parameter of **GetSiiPrinterData** function in communication library are listed below.

For [Printer Command] names, refer to Printer Technical Reference.

List of Command Strings

Supported Command String (*pValueName*)	Printer Command
GET_RAW_DATA_AUTO_STATUS	[ASB] receiving history
GET_RAW_DATA_EXEC_RESP	[Execution Response] receiving history
GET_RAW_DATA_CMD_RESP	History data excluding [ASB] and [Execution Response]
AUTO_STATUS_BACK	[ASB]
FUNCTION_SET_RESP	Function Setting Response
REMAIN_MEMORY_CAP	Remaining Memory Response
EXT_RAM_CHECKSUM	External RAM Checksum Response
SEND_VP_VOLTAGE	Vp Voltage Response
MAINT_CONT_TRANS_FEED	Maintenance Counter Transmission (Line number of paper feed)
MAINT_CONT_TRANS_HEAD	Maintenance Counter Transmission (Head activation time)
MAINT_CONT_TRANS_DRIVE	Maintenance Counter Transmission (Product drive time)
MAINT_CONT_TRANS_FEED_INTEGR	Maintenance Counter Transmission (Line number of paper feed, integrated value)
MAINT_CONT_TRANS_HEAD_INTEGR	Maintenance Counter Transmission (Head activation time, integrated value)
MAINT_CONT_TRANS_DRIVE_INTEGR	Maintenance Counter Transmission (Product drive time, integrated value)
REMAIN_NV_MEMORY_CAP	Remaining User Area Response
INIT_TEST_PRINT_HEADER	Set default / Set test print header (Reading test print header)
BLUETOOTH_DEVICE_NAME	Set default / Set test print header (Reading Bluetooth device name)
READ_DEFAULT	Set default / Set test print header (Reading default value)

Appendix D Condition of Function Settings

For using the printer driver, the some items of the function setting stored in the memory of the printer needs to be the following settings.

The function setting can be also changed by printer driver to the settings that are unsupported condition by the printer driver. But the unsupported settings may cause a state that the printer driver does not work.

Item Name	Setting Condition
SWDIP1 – bit8 (Data Control)	1 : Busy
SWDIP1 – bit4 (Bit Length)	1 : 8 bits
SWDIP2 – bit8 (Auto Status Output)	0 : Enable
SWDIP4 – bit2 (CTS Control)	0 : Enable
SWDIP4 – bit6 (Error)	0 : Unbusy

Reference

- When the setting conditions SWDIP2 - bit1 and bit2 (Data Input Mode) of the function setting for DPU-S*45-0*C-E is set to "IrDA/USB" or "BHT-Ir/USB", the printer is performed by "Serial/USB".