

# LinuxPCL6 Driver

## User's Guide

Ver.1.0

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### Prerequisite

- This User's Guide (hereinafter referred to as "this manual") assumes that the installer and the user have practical knowledge about the computer they use when using this software.
- For matters related to OS (operating system), refer to the manual or Help of the OS, as necessary.
- In this manual, explanation of screens and operation procedures are described mainly using Ubuntu. Note that the displayed screen may differ depending on the distribution or version of the OS.

### Note

- The contents of this manual are subject to change without notice for improvement.
- It is prohibited to reprint or copy all or part of the contents of this manual without our permission.

# 1 Scope

This manual describes installation procedure, precautions for use and limitations of LinuxPCL6 Driver. Be sure to read this manual in advance, as it contains important information that you should understand when using LinuxPCL6 driver.

## 2 Basic Information

### Operating Environment

Item	Content
Supported OS	Ubuntu 20.04
	Ubuntu 18.04
	Debian 10.8
	Debian 9.13

## 3 Installation Procedure

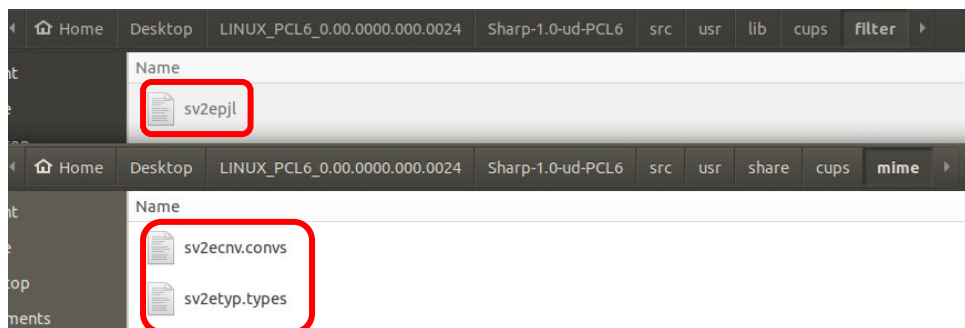
### 3.1 Installation

#### NOTE :

See [“3.2 Installation \(Debian 9\)”](#) for installation procedure for Debian9.

1. Extract “Sharp-xxx-ud-PCL6-64bit.tar.gz” and check the following files.

- ※ Filter file        - sv2epjl                      [Folder of extracted to/filter]
- ※ Mime file        - sv2ecnz.convs                      [Folder of extracted to/mime]
- sv2etyp.types                      [Folder of extracted to/mime]



2. Copy every file into the appropriate folders respectively.

- ※ Drag-and-drop copy is not available. Operation on the terminal is required.

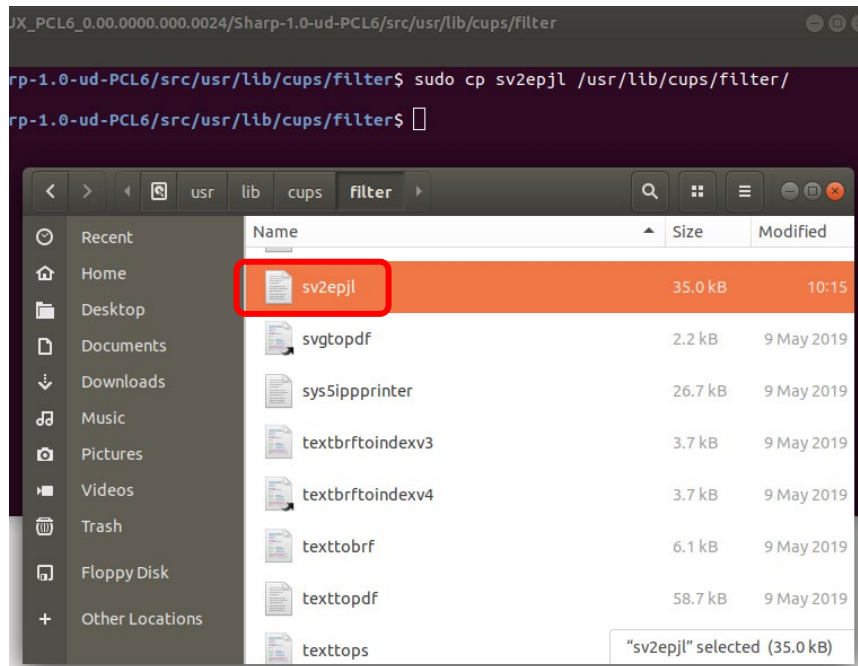
#### (a) Filter file

- ① Start the terminal and move to the directory of [Folder of extracted to/filter].

- ② Execute the following command.

```
sudo cp sv2epjl /usr/lib/cups/filter/
```

- ③ Check to see that “sv2epjl” is copied successfully.

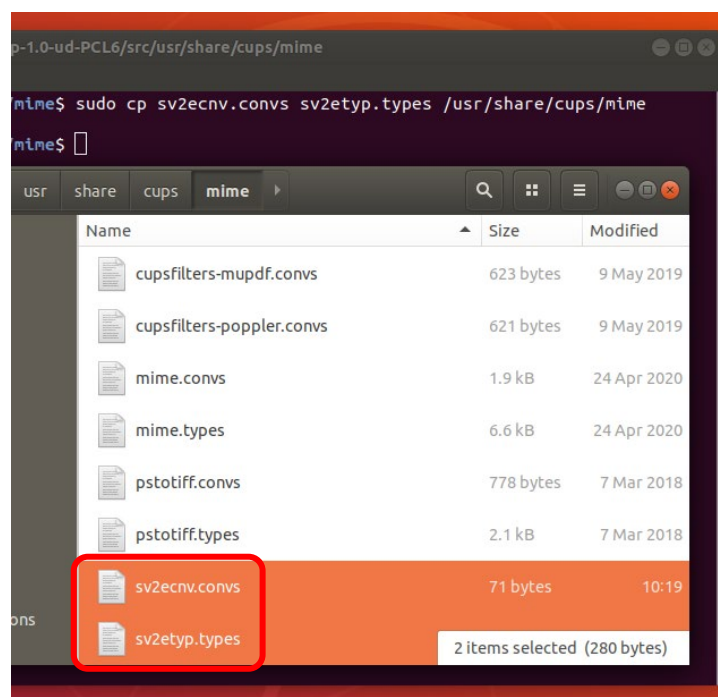


(b) Mime file

- ① Start the terminal and move to the directory of [Folder of extracted to/mine].
- ② Execute the following command.

```
sudo cp sv2ecnv.convs sv2etyp.types /usr/share/cups/mime/
```

- ③ Check to see that “sv2ecnv.convs” and “sv2etyp.types” are copied successfully.



3. Change the permission setting of “Filter” file.

- ① Start the terminal and move to the directory of [/usr/lib/cups/filter/].
- ② Execute “ls -l” command to check the permission setting of “sv2epjl”.

```
root@kali:~# cd /usr/lib/cups/filter/
root@kali:/usr/lib/cups/filter# ls -l
-rwxr-xr-x 1 root root 15964 Feb 11 2018 rastertosag-gdi
-rw-r--r-- 1 root root 34952 Apr  7 10:01 sv2epjl
lrwxrwxrwx 1 root root    11 Mar 24 20:58 svgtopdf -> vectortopdf
-rwxr-xr-x 1 root root 26728 May  9 2010 sv5fontinter
```

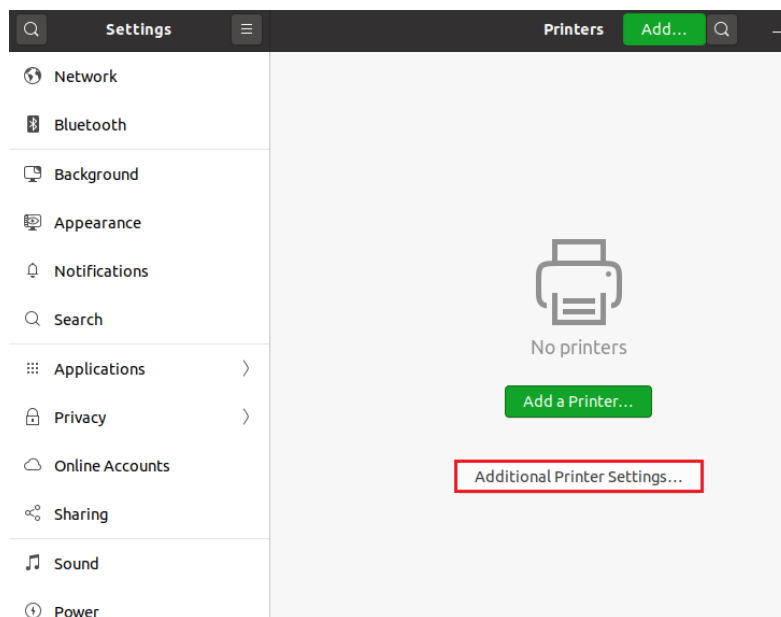
- ③ Execute the following command to change the permission of “sv2epjl”.

```
sudo chmod -R 755 /usr/lib/cups/filter/sv2epjl
```

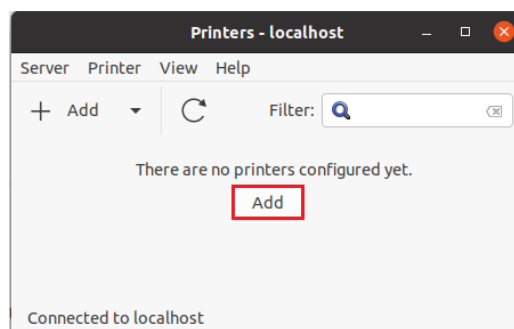
- ④ Execute “ls -l” command again to check that the execute authority (x) is added to “sv2epjl”.

```
root@kali:~# cd /usr/lib/cups/filter/
root@kali:/usr/lib/cups/filter# ls -l
-rwxr-xr-x 1 root root 15964 Feb 11 2018 rastertosag-gdi
-rwxr-xr-x 1 root root 34952 Apr  7 10:15 sv2epjl
lrwxrwxrwx 1 root root    11 Mar 24 20:58 svgtopdf -> vectortopdf
-rwxr-xr-x 1 root root 26728 May  9 2010 sv5fontinter
```

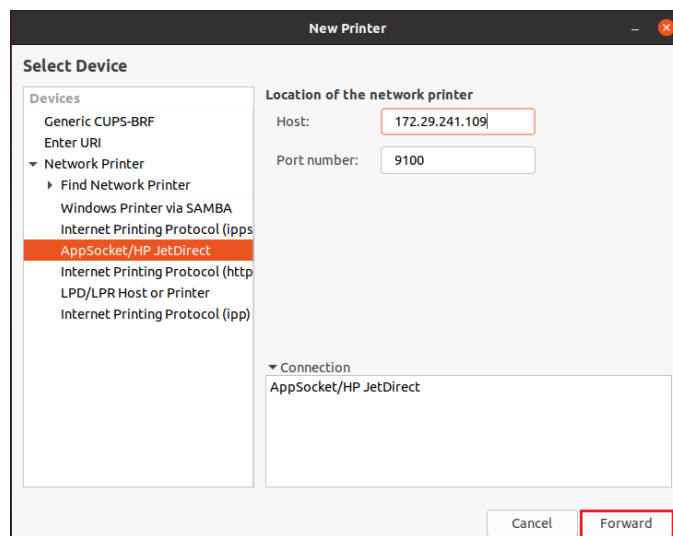
4. Proceed “Settings” > “Devices” > “Printers” in Distribution, and click “Additional Printer Settings...”.



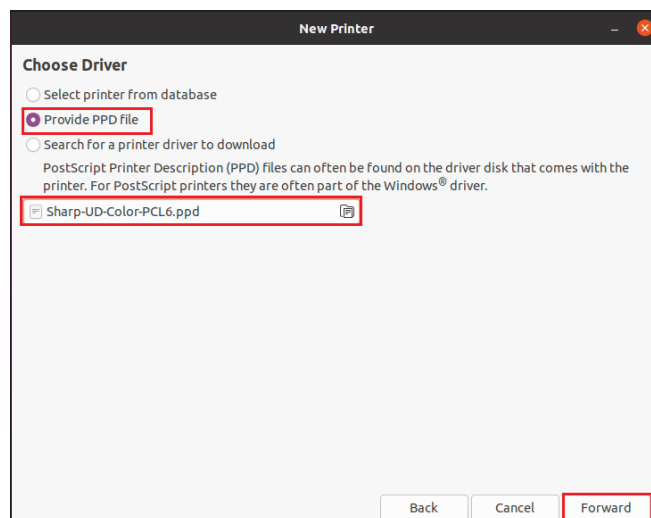
5. Click “Add”.



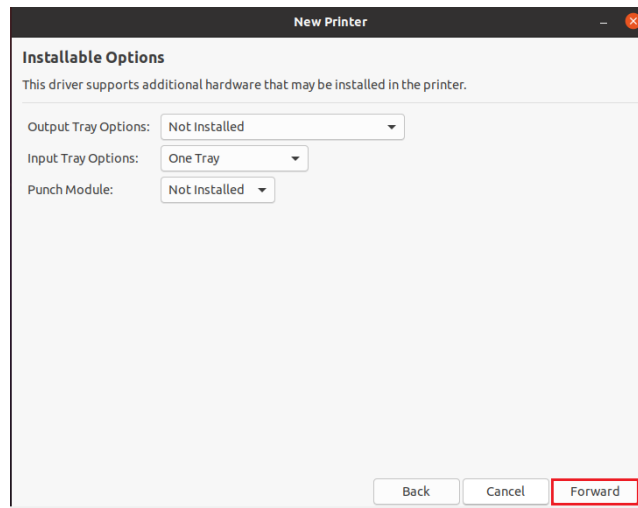
6. Select “AppSocket/HP Jet Direct and Enter IP Address”.
7. Click “Forward” button.



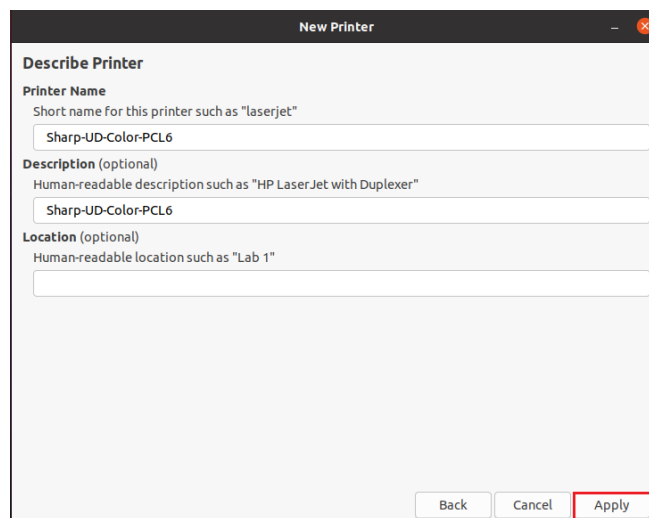
8. Select “Provide PPD File”.
9. Select PPD file in the folder of extracted to of “Sharp-xxx-ud-PCL6-64bit.tar.gz”.
10. Click “Forward” button.



11. Select appropriate installable options and click “Forward” button.



12. Click “Apply” button.



※ Printing may fail depending on the type or version of Linux OS. In that case, execute the following command.

```
sudo service cups restart
```

## 3.2 Installation (Debian 9)

1. Extract “Sharp-xxx-ud-PCL6-64bit.tar.gz” and check the following files.

- |               |                           |   |
|---------------|---------------------------|---|
| ※ Filter file | - sv2epjl                 | [Folder of extracted to/filter]               |
| ※ Mime file   | - sv2ecnv.convs           | [Folder of extracted to/mime]                 |
|               | sv2etyp.types             | [Folder of extracted to/mime]                 |
| ※ PPD file    | - Sharp-UD-Color-PCL6.ppd | [Directly beneath the folder of extracted to] |
|               | Sharp-UD-Mono-PCL6.ppd    | [Directly beneath the folder of extracted to] |

2. Copy every file into the appropriate folders respectively.

※ Drag-and-drop copy is not available. Operation on the terminal is required.

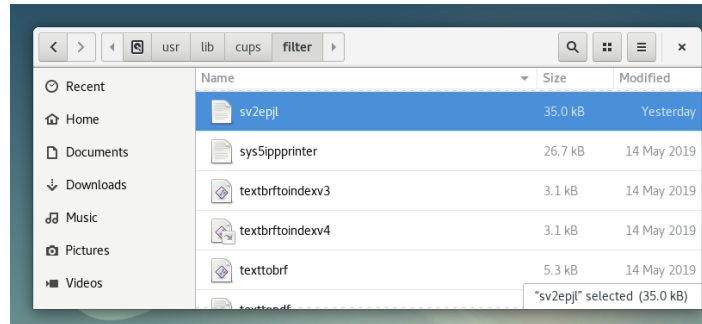
(a) Filter file

- ① Execute “su” command on the terminal.

- ② Move to the directory of [Folder of extracted to/filter].
- ③ Execute the following command.

```
cp sv2epjl /usr/lib/cups/filter/
```

- ④ Check to see that “sv2epjl” is copied successfully.  
※ Permission change of Filter file is also done after “su” promotion.

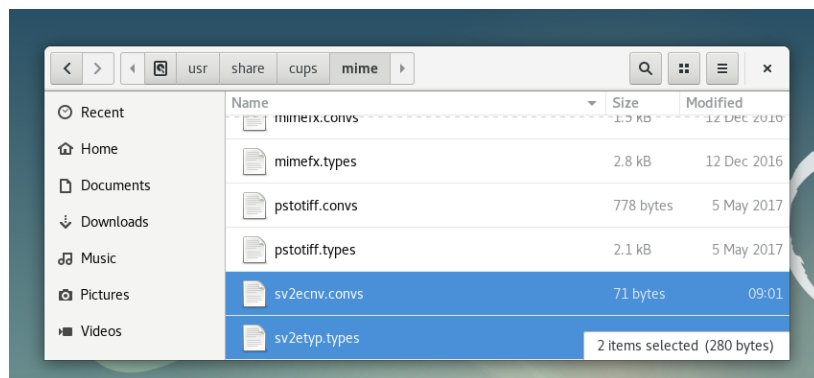


#### (b) Mime file

- ① Execute “su” command on the terminal.
- ② Move to the directory of [Folder of extracted to/mime].
- ③ Execute the following command.

```
cp sv2ecnv.convs sv2etyp.types /usr/share/cups/mime/
```

- ④ Check to see that “sv2ecnv.convs” and “sv2etyp.types” are copied successfully.



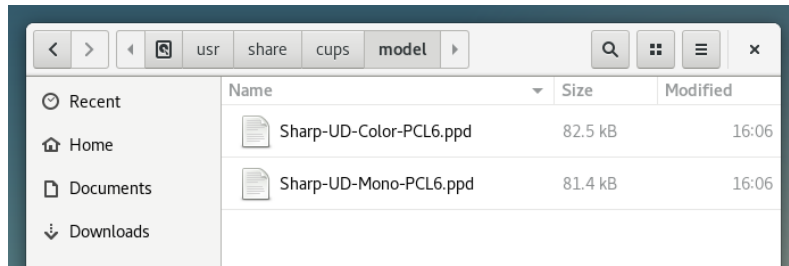
#### (c) PPD file

- ① Execute “su” command on the terminal.
- ② Move to the directory of [Folder of extracted to: usr/share/cups/model].
- ③ Execute the following command.

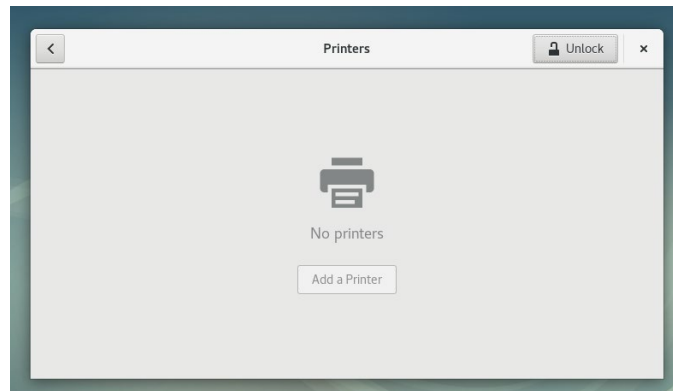
```
cp Sharp-UD-Color-PCL6.ppd Sharp-UD-Mono-PCL6.ppd /usr/share/cups/model/
```

- ④ Check to see that PPD file is copied in the “model” folder successfully.

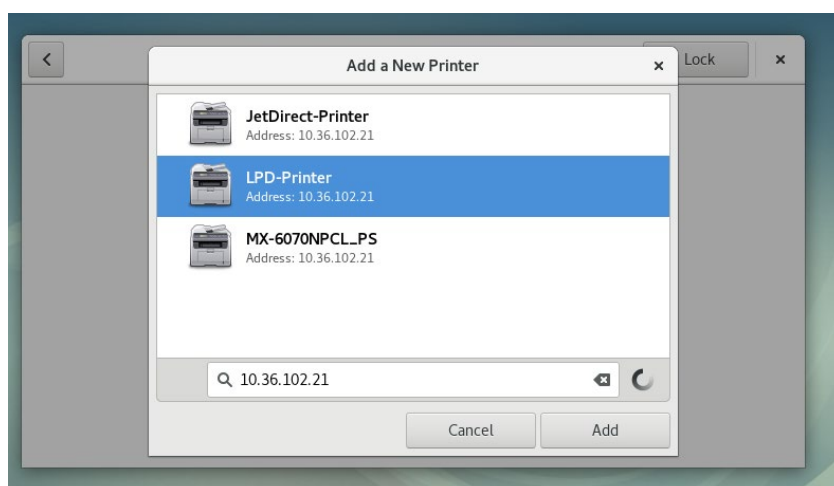
- Sharp-UD-Color-PCL6.ppd
- Sharp-UD-Mono-PCL6.ppd



3. In the same procedure as Step 3 of [3.1 Installation](#), change the permission setting of Filter file.
4. Restart Debian9.
5. Open “All Settings” > “Printers” in Distribution.

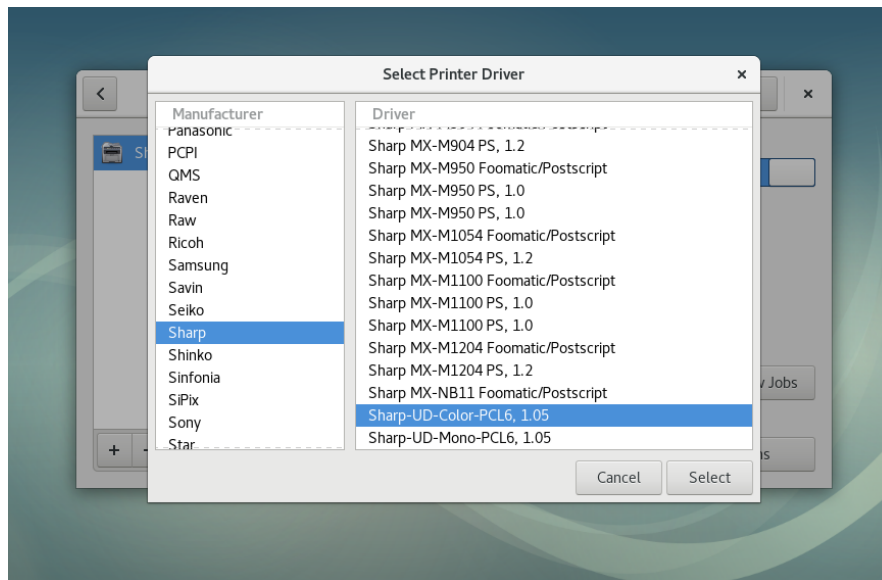


6. Press “Unlock” button at the upper right of the window and enter password of the administrator.
7. Press “Add Printer” or “+” button at the lower left of the window.
8. Enter an arbitrary IP address on the “Add a New Printer” window, and select “LPD-Printer” then press “Add”.



9. Select “Sharp” from “Manufacturer” on the left.
10. “Sharp-UD” is shown at the bottom of the right-side list. Select either “Color” or “Mono”.





※ Printing may fail depending on the environments. In that case, execute the following command after promoting to the root authority by “su”.

```
service cups restart
```

## 4 Limitations

LinuxPCL6 Driver has limitations in some functions depending on model. See the appropriate page for details.

○ : Operation confirmed / △ : Some limitations / × : Not supported for the model

Function	Model Group (See "5. Model Group".)						Limitations/Appropriate Page
	BW-1	BW-2	CL-1	CL-2	B/W unit other than BW-1, BW-2	Color unit other than CL-1, CL-2	
Original Size	○	○	○	○	○	○	
2-sided Printing	○	○	○	○	○	○	
Orientation	△	△	△	△	△	△	<a href="#">4.1 Limitation on Landscape + Binding</a>
Binding Edge	△	△	△	△	△	△	<a href="#">4.1 Limitation on Landscape + Binding</a>
Staple	×	×	×	×	△	△	<a href="#">4.1 Limitation on Landscape + Binding</a> , <a href="#">4.2 Limitation on Collate/Uncollate</a>
Punch	×	×	×	×	△	△	<a href="#">4.2 Limitation on Collate/Uncollate</a>
Rip Style	×	×	△	△	×	△	<a href="#">4.3 Limitation on gray output of partial color data</a>
Color Mode	×	×	○	○	×	○	
Media source	△	△	△	△	△	△	Tray 4 cannot be specified.
Media Type	○	○	○	○	○	○	
Offset	×	×	×	△	△	△	<a href="#">4.2 Limitation on Collate/Uncollate</a>
Booklet	×	×	×	○	○	○	
Margin Shift	×	△	△	△	△	△	<a href="#">4.1 Limitation on Landscape + Binding</a>
Document Filing	×	△	△	△	△	△	<a href="#">4.2 Limitation on Collate/Uncollate</a>
PIN Code	×	△	△	△	△	△	Printing may not work from the print setting screen of the application. If setting is done on the standard setting screen of CUPS, printing will work even form the application.
Stored to	×	×	×	△	△	△	
Login Name	×	×	×	△	△	△	
Password	×	×	×	△	△	△	
User Number	×	×	×	△	△	△	
User Name	×	△	△	△	△	△	
Job Name	×	△	△	△	△	△	
Minimum Line Width	×	×	×	○	○	○	
Input Resolution	○	○	○	○	○	○	

### Other Limitations :

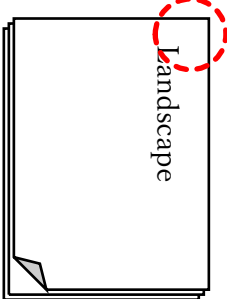
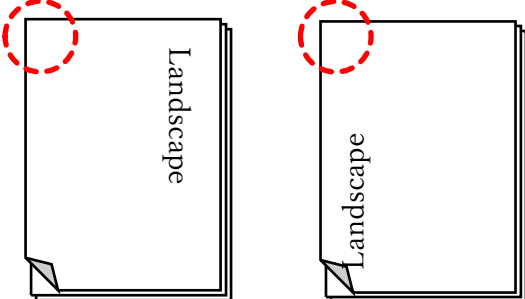
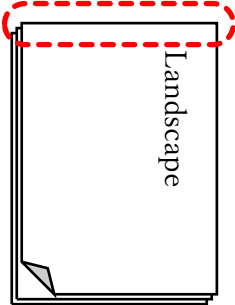
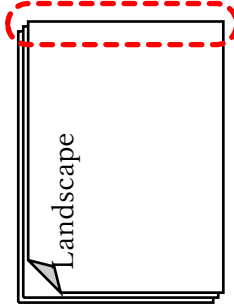
- Test Page Print from the standard setting screen of CUPS cannot activate some functions. (Binding Edge, Password, User Name, Job Name, Minimum Line Width)
- Storage Destination of Document Filing and the character length of Login Name should be up to 214 characters. It is due to the matter of CUPS. It is because the setting screen cannot be displayed if a character string exceeding 214 characters is entered in a function that allows character input on the standard setting screen of CUPS.
- If "/" (slash) is included in the entered character strings on the standard setting screen of CUPS, the characters following the slash mark are not recognized/displayed. It is a problem on the CUPS side.
- The above BW-1 group models don't support printing via IPP communication. It is because the IPP on the CUPS side is V2.0, whereas these models support V1.0 only.

## 4.1 Limitation on Landscape + Binding

When Staple/Punch/Margin Shift is specified for a Landscape original, expected printout may not be obtained depending on the combination of the setting contents of Staple/Punch/Margin Shift and the binding position. This limitation is due to the specification of Linux application and CUPS.

The examples of the setting involving limitation and its printout are shown below.

Example) Specify Staple/Punch/Margin Shift for a Landscape original and print it out.

Original Orientation	Setting	Expected Printout	Actual Printout
Landscape	• 1-Staple	Stapling is applied on the upper left of a Landscape original. 	Stapling is applied on the lower left or upper right of a Landscape original. 
	• 2-Staples • Punch • Margin Shift	Staple/Punch/Margin Shift is applied on the left shorter length of a Landscape original. 	Staple/Punch/Margin Shift is applied on the right shorter length of a Landscape original.  <div><p>In this case, if [Original Orientation] is specified as [Horizontal (rotate 180 degrees)], it may be printed out correctly as shown in the left.</p></div>

## 4.2 Limitation on Collate/Uncollate

LinuxPCL6 Driver has the following limitation in the combination of some function and Collate/Uncollate.

Note that the Collate operation works differently between by the standard setting and the setting enabling [Create Job One by One at Print per Unit] by the print setting of the application.

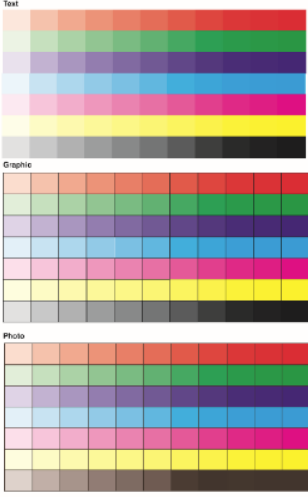
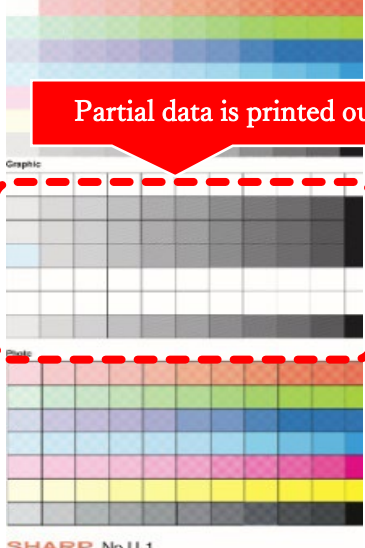



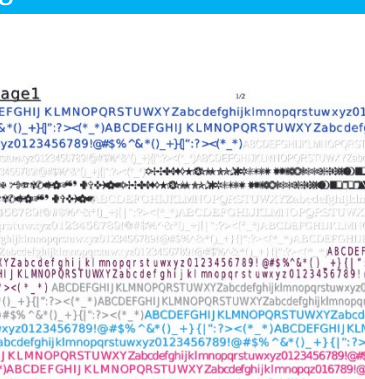
Function		Collate		Uncollate
		Standard Setting	[Create Job One by One at Print per Unit] setting is enabled.*1	
Document Filing	Normal Use	The number of copy you specified is registered collectively as “Copies=1” at the print data registering. Therefore, after registration, even if one Copies is printed, the data for the number of copy specified at the registration are printed out.	The data for the number of copy you specified is registered. If plural number of copy is specified at the registration, the specified number of copies of the same data are registered.	The number of copy you specified is registered collectively as “Copies=1” at the print data registering. Therefore, after registration, even if one Copies is printed, the data for the number of copy specified at the registration are printed out.
	Copies is changed after filing.	The data for the calculated number of copies, which is obtained by multiplying the Copies at the print data registration by the changed Copies, are printed out.	Print out correctly according to the changed Copies.	The data for the calculated number of copies, which is obtained by multiplying the Copies at the print data registration by the changed Copies, are printed out.
	Sample Print	The data for the specified number of copy are printed out and registered as the data of “Copies=1” at the time of printing. The data for the specified number of copy at the registration are printed out at the time of re-printing.	The data for the specified number of copy are printed out at the time of printing, and the data for the same number of copy are registered.	The data for the specified number of copy are printed out and registered as the data of “Copies=1” at the time of printing. The data for the specified number of copy at the registration are printed out at the time of re-printing.
Staple		Regardless of the specified number of copy, staple is made all collectively as one copy.	Operate correctly.	Regardless of the specified number of copy, staple is made all collectively as one copy.
Shift Output		Not operate.	Operate correctly.	Not operate.
Duplex Print		Operate Correctly.	Operate correctly.	Not operate.

\*1 [Create Job One by One at Print per Unit] may not be specified depending on application.

### 4.3 Limitation on gray output of partial color data

All or a part of print data of specific color originals may be printed out in gray color.

This symptom may be improved by specifying [CMYK] at the [Rip Style] of [Printer Options]. ([CMYK] is specified as default.)

Print Data	Actual Printout
<p>Example 1: Partial gray output</p>  <p>SHARP No.U-1</p>	<p>Partial data is printed out in gray</p>  <p>SHARP No.U-1</p>
<p>Example 2: Whole gray output</p>  <p>SHARP No.U-1</p>	<p>Whole data are printed out in gray.</p>  <p>SHARP No.U-1</p>
<p>Example 3: Specifying [CMYK] at [Rip Style] setting</p>  <p>SHARP No.U-1</p>	<p>Example of printout when specifying [CMYK] at [Rip Style] setting.</p>  <p>SHARP No.U-1</p>

## 5 Model Group

The breakdown of the models for every Model Group are shown below.

Model Group	Model Name	Color/Monochrome
BW-1	AR-2048D, AR-2048DV, AR-2048N, AR-2048NV, AR-2048S, AR-2048SV, AR-2221R, AR-2348D, AR-2348DV, AR-2348N, AR-2348NV, AR-2348S, AR-2348SV, AR-2421D, AR-2421R, AR-2421X, AR-2648N, AR-2648NV, AR-2821R, AR-3121R, AR-3148N, AR-3148NV, AR-5826N, AR-5831N, AR-6020, AR-6020D, AR-6020DR, AR-6020DV, AR-6020DV E, AR-6020N, AR-6020NR, AR-6020NV, AR-6020NV E, AR-6020R, AR-6020V, AR-6020V E, AR-6023, AR-6023D, AR-6023DR, AR-6023DV, AR-6023DV E, AR-6023N, AR-6023N A, AR-6023NR, AR-6023NV, AR-6023NV E, AR-6023R, AR-6023V, AR-6026N, AR-6026NR, AR-6026NV, AR-6026NV E, AR-6031N, AR-6031N A, AR-6031NR, AR-6031NV, AR-6031NV E, AR-6120N, AR-6120NV, AR-6123N, AR-6131N, AR-6131NV, AR-7024, AR-7024D, AR-G200, AR-G200V, AR-X201, AR-X201D, AR-X201N, AR-X202, AR-X231, AR-X231D, AR-X231N, AR-X311N, SF-S201N, SF-S201NV, SF-S201S, SF-S201SV, SF-S233N, SF-S233R, SF-S261N, SF-S261NV, SF-S303R	Monochrome
BW-2	BP-20M22, BP-20M22T, BP-20M24, BP-20M24T, BP-20M28, BP-20M28T, BP-20M31, BP-20M31T, BP-21M22, BP-M2322R, BP-M2522R, BP-M2822R, BP-M3122R, SF-S245R, SF-S305R	Monochrome
CL-1	BP-10C20, BP-10C20T, BP-10C20Y, BP-10C20Z, BP-20C20, BP-20C20T, BP-20C20Y, BP-20C20Z, BP-20C25, BP-20C25T, BP-20C25Y, BP-20C25Z, BP-21C20, BP-C2021R, BP-C2021X, BP-C2521R, DX-20C20, SF-S211RC, SF-S211XC, SF-S261RC	Color
CL-2	BP-30C25, BP-30C25T, BP-30C25Y, BP-30C25Z, BP-C2522R, SF-S265RC	Color

## 6 License Information

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### Information on the Software License for LinuxPCL6 Driver

#### SOFTWARE COMPOSITION

The software included in LinuxPCL6 Driver (hereinafter as referred to as “this driver”) is comprised of various components whose individual copyrights are held by SHARP or by third parties.

#### SOFTWARE DEVELOPED BY SHARP AND OPEN SOURCE SOFTWARE

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See the following links, for GPL/LGPL.

- [GPL \(GNU General Public License\) Ver.2.0](#)
- [GPL \(GNU General Public License\) Ver.3.0](#)
- [LGPL \(GNU Lesser General Public License\) Ver.2.1](#)

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We are unable to answer any questions about the source code for the open source software. The source code for the software components whose copyrights are held by SHARP is not distributed.