Linux Manual

45735101EE

CONTENTS

INSTALLING

Setting Up the UNIX/Linux Filters

About UNIX/Linux filters

In the Install Disk, the following filters for UNIX/Linux workstations are included:

net_okicolor (For a Color MFP)
net_okibw (For a Black and White MFP)

This file is a shell script that will be installed in "/usr/lib/lp/model". It contains all the parsing for the printer specific commands and it generates all the output code. Being a shell script, a system administrator can modify it if a site requires any custom options or if other components are installed in non-standard locations.

lpdsend

This is an executable program that is called by net_okicolor/net_okibw to send the print file to the system using the LPD protocol. This program will be installed in "/opt/oki/tap/bin".

lpLinux.sh (For the Linux filter)

This file is a shell script that simulates the command line functions of lp. After processing the command line options, the filter is invoked in the same way as a System V print filter. This file is installed in "/opt/oki/tap/bin". A symbolic link to this file will be installed in the "/usr/local/bin" directory as lptap.

okicolorBackend (For a Color MFP and its AIX filter)
okibwBackend (For a Black and White MFP and its AIX filter)

This is an executable program that is called by the AIX qdaemon. It receives the arguments from the qdaemon, interrogates it for copy information etc. then calls the queues' copy of net_okicolor/net_okibw to run the print. This program will be installed in "/opt/oki/tap/bin".

okicoloradd (For a Color MFP)
okibwadd (For a Black and White MFP)

This file is a shell script that is used to create a printer description. This file will be installed in "/opt/oki/tap/bin". A symbolic link will be installed in the "/bin" directory that will point to the actual location of this file.

okicolorrm (For a Color MFP)
okibwrm (For a Black and White MFP)

This file is a shell script that is used to remove a printer description. This file will be installed in "/opt/oki/tap/bin". A symbolic link will be installed in the "/bin" directory that will point to the actual location of this file.

net_okicolor.1 (For a Color MFP)
net_okibw.1 (For a Black and White MFP)

This is an input file for the man command that supplies online documentation for the printer specific options. This file will be installed in "/opt/oki/tap/man/man1". A symbolic link will be installed in the /usr/man/man1 directory that will point to the actual location of this file.

System requirements

For UNIX/Linux workstation, the following environment is required.

OS:	Sun Solaris v2.6/2.7/7.8/8/9/10 HP-UX ver.10.20/11.x IBM AIX 4.3.3 SCO UnixWare 7 SCO Open UNIX 8 Red Hat Linux 7.x/8.0/9.x Red Hat Linux Enterprise WS2 SuSE Linux ver.7.x/8.x/9.x Mandrake Linux ver.7.x./8.x/9.x Turbolinux 8/10
Protocol:	TCP/IP
Module:	Python must be installed.

Notes!

- *The "Python" module must be installed on your UNIX/Linux workstation to enable printing. The "Python" module is usually installed in the "/usr/bin/" directory. Check this directory whether the "Python" module is installed.*
- *The lpd service must be running on Linux system.*
- *Printing using local port is provided via Samba. Printing via Samba is performed through either IPv4 or IPv6. To perform printing by using a local port that specifies IPv6, IPv6 should be selected on Samba.*

Precautions for using user authentication

The login name is specified as being case sensitive in the UNIX/Linux system, but not in the equipment. Therefore, ABC, Abc, abc are treated as a different login name in the UNIX/Linux system, but as the same login name in the equipment.

Configuring UNIX/Linux printing using UNIX/Linux filters

When you want to configure the UNIX/Linux printing using the UNIX/Linux filters, install the UNIX/Linux filters and configure the LPR queue.

Installing the UNIX/Linux filters

UNIX/Linux Filters are provided as tar files for each Operating System. You can install them by copying the tar file into the root directory and extract the file.

1 **Log on to the root account.**

2 **Uncompress the downloaded file.**

3 **Enter the following command and check the output:**

- For Solaris:
  uname
  Output on screen should be:
  SunOS
- For HP-UX:
  uname
  Output on screen should be:
  HP-UX
- For IBM AIX:
  uname
  Output on screen should be:
  AIX

- For Linux:
  uname
  Output on screen should be:
  Linux
- For Open UNIX:
  uname
  Output on screen should be:
  OpenUNIX

Note!

If the output is not as above, ask your administrator.

4 Copy the tar file onto the root.

A tar file for each operating system is included in following folders:

- Color MFP
  - For Solaris: Color_Unix_Linux/SolarisFilter/Usa/
  - For HP-UX: Color_Unix_Linux/HP-UXFilter/Usa/
  - For AIX: Color_Unix_Linux/AIXFilter/Usa/
  - For Linux: Color_Unix_Linux/LinuxFilter/Usa/
  - For Open UNIX: Color_Unix_Linux/OpenUnixFilter/Usa/
- Black and White MFP
  - For Solaris: BW_Unix_Linux/SolarisFilter/Usa/
  - For HP-UX: BW_Unix_Linux/HP-UXFilter/Usa/
  - For AIX: BW_Unix_Linux/AIXFilter/Usa/
  - For Linux: BW_Unix_Linux/LinuxFilter/Usa/
  - For Open UNIX: BW_Unix_Linux/OpenUnixFilter/Usa/

5 Change to the root (/) directory.

6 Enter the following command:

- For Solaris:
  tar xvf solaris.tar
- For HP-UX:
  tar xvf hpux.tar
  tar xvf hpux64.tar (for 64-bit edition)
- For IBM AIX:
  tar xvf aix.tar
- For Linux:
  tar xvf linux.tar
- For Open UNIX:
  tar xvf openunix.tar

7 The command extracts all the required files and installs them in the correct locations.

Continue the procedure for configuring the print queue.

📖 P.6 "Configuring the print queue"

Configuring the print queue

After you copy UNIX/Linux Filters, you can configure the print queue.
There are two ways to configure the print queue: one is creating a print queue using okicoloradd/okibwadd, and the other is creating a print queue manually without using okicoloradd/okibwadd.

📖 P.6 "Creating a print queue using okicoloradd/okibwadd"
📖 P.6 "Creating a Print Queue Manually"

Creating a print queue using okicoloradd/okibwadd

You can create a print queue using okicoloradd/okibwadd.

1 Log on to the root account.

2 Enter the following command:

Color MFP:

okicoloradd <queue name> <host name or IP address>

Black and White MFP:

okibwadd <queue name> <host name or IP address>

References

- *This command creates a print queue using the system's lpadmin command. It also creates a configuration file that has the destination IP address or host name. Use the configuration file to change print queue parameters.*
- *The lpadmin command saves a printer interface file as the print queue name, and the configuration file is stored in a file named <queue name>.conf. The interface file and configuration file is saved in following directory.*
  - *Solaris: /etc/lp/interfaces*
  - *HP-UX: /etc/lp/interface*
  - *IBM AIX: /opt/oki/tap/filter*
  - *Linux: /opt/oki/tap/interface*
  - *Open UNIX: /usr/spool/lp/admins/lp/interfaces*
- *Under Linux, the printtool (or equivalent) utility must be used to add the printer into the lp printing system after executing the okicoloradd/okibwadd command. For printtool utility, refer to the manual of the OS.*

Creating a Print Queue Manually

You can also configure the print queue by adding a remote printer manually.
The procedure varies depending on the operating systems.

📖 P.6 "Creating a print queue manually on Solaris"
📖 P.7 "Creating a print queue manually on HP-UX"
📖 P.8 "Creating a print queue manually on IBM AIX"
📖 P.9 "Creating a print queue manually on Linux"
📖 P.10 "Creating a print queue manually on Open UNIX"

Note!

Use Bourne Shell(sh) to create a print queue manually.

Creating a print queue manually on Solaris

1 Log on to the root account.

2 Open your UNIX/Linux editor.

3 Create the following file.

/etc/lp/interfaces/<queue name>.conf

4 **Add a line as below in the <queue name>.conf.**

dest=<IP address>

5 **Save the file.**

6 **Enter the following command to change the working directory:**

cd /etc/lp/interfaces/

7 **Enter the following command:**

chmod +x <queue name>.conf

8 **Enter the following command:**

chown lp:lp <queue name>.conf

9 **Enter the following command:**

Color MFP:

lpadmin -p <queue name> -v /dev/null -I any \
-i /usr/lib/lp/model/net_okicolor

Black and White MFP:

lpadmin -p <queue name> -v /dev/null -I any \
-i /usr/lib/lp/model/net_okibw

10 **Enter the following command:**

accept <queue name>

11 **Enter the following command:**

enable <queue name>

Creating a print queue manually on HP-UX

1 **Log on to the root account.**

2 **Open your UNIX/Linux editor.**

3 **Create the following file.**

/etc/lp/interface/<queue name>.conf

4 **Add a line as below in the <queue name>.conf.**

dest=<IP address>

5 **Save the file.**

6 **Enter the following command to change the working directory:**

cd /etc/lp/interfaces/

7 **Enter the following command:**

chmod +x <queue name>.conf

8 **Enter the following command:**

chown lp:lp <queue name>.conf

9 **Enter the following command:**

ps -ef | grep lpsched | grep -iv grep > /dev/null 2>&1

10 **Enter the following command:**

echo $?

11 If "0" is outputted on the screen, turn the scheduler OFF. Enter the following command:

/usr/sbin/lpshut > /dev/null 2>&1

12 Enter the following command:

Color MFP:

/usr/sbin/lpadmin -p<queue name> -v/dev/null \
-mnet_okicolor -orm<queue name> -orpprint -ob3

Black and White MFP:

/usr/sbin/lpadmin -p <queue name> -v/dev/null \
-mnet_okibw -orm <queue name> -orpprint -ob3

13 Enter the following command:

/usr/sbin/accept <queue name>

14 Enter the following command:

enable <queue name>

15 If you turn OFF the scheduler in step 10, turn the scheduler ON. Enter the following command:

/usr/sbin/lpsched > /dev/null 2>&1

Creating a print queue manually on IBM AIX

1 Enter the following command:

ls /opt/oki/tap/filter

2 If the above directory does not exist, enter the following command:

mkdir /opt/oki/tap/filter

3 Log on to the root account.

4 Open your UNIX/Linux editor.

5 Create the following file.

/opt/oki/tap/filter/<queue name>.conf

6 Add a line as below in the <queue name>.conf.

dest=<IP address>

7 Save the file.

8 Enter the following command:

mkque -q<queue name> \
-a 's_statfilter = /usr/lib/lpd/bsdshort' \
-a 'up = TRUE' -a 'host = <IP address>' -a 'rq = print'

9 Enter the following command:

Color MFP:

mkquedev -q <queue name> -ddev_<queue name> \
-a 'backend = /opt/oki/tap/bin/okicolorBackend'

Black and White MFP:

mkquedev -q <queue name> -ddev_<queue name> \
-a 'backend = /opt/oki/tap/bin/okibwBackend'

10 Enter the following command:

Color MFP:

cp /usr/lib/lpd/pio/predef/net_okicolor \
/opt/oki/tap/filter/<queue name>

Black and White MFP:

cp /usr/lib/lpd/pio/predef/net_okibw \
/opt/oki/tap/filter/<queue name>

Creating a print queue manually on Linux

1 Enter the following command:

ls /opt/oki/tap/interface

2 If the above directory does not exist, enter the following command:

mkdir /opt/oki/tap/interface

3 Log on to the root account.

4 Open your UNIX/Linux editor.

5 Create the following file.

/opt/oki/tap/interface/<queue name>.conf

6 Add a line as below in the <queue name>.conf.

dest=<IP address>

7 Save the file.

8 Enter the following command:

Color MFP:

cp /opt/oki/tap/model/net_okicolor \
/opt/oki/tap/interface/<queue name>

Black and White MFP:

cp /opt/oki/tap/model/net_okibw \
/opt/oki/tap/interface/<queue name>

9 Enter the following command:

/opt/oki/tap/bin/modPrintcap \
-a <queue name> <IP address>

10 Enter the following command:

ls /opt/oki/tap/bin/flag_<queue name>

Reference

The file in step 10 does not exist when the operations from step 1 to 9 are correctly performed. In that case, the operation of step 11 is not required to be performed. Skip to step 12.

11 If the above file exists, enter the following command.

/opt/oki/tap/bin/printconf_import \
-a <queue name> <IP_ADDRESS>
rm /opt/oki/tap/bin/flag_<queue name>

12 Restart your lpd.

Creating a print queue manually on Open UNIX

1 **Log on to the root account.**

2 **Open your UNIX/Linux editor.**

3 **Create the following file.**

/usr/spool/lp/admins/lp/interfaces/<queue name>.conf

4 **Add a line as below in the <queue name>.conf.**

dest=<IP address>

5 **Save the file.**

6 **Enter the following command:**

chmod +x <queue name>.conf

7 **Enter the following command:**

chown lp:lp <queue name>.conf

8 **Enter the following command:**

Color MFP:

```
lpadmin -p <queue name> -v /dev/null -I any \
-i /usr/lib/lp/model/net_okicolor
```

Black and White MFP:

```
lpadmin -p <queue name> -v /dev/null -I any \
-i /usr/lib/lp/model/net_okibw
```

9 **Enter the following command:**

accept <queue name>

10 **Enter the following command:**

enable <queue name>

Changing the default values

You can change the default values of a print queue by the following procedure.

1 Confirm the interface file of which name is same as the print queue.

- This file contains all of the default settings and values that can be set. These values are case sensitive and must conform to the /bin/sh variable format. The interface file is saved in the following directory.
  - Solaris: /etc/lp/interfaces
  - HP-UX: /etc/lp/interface
  - IBM AIX: /opt/oki/tap/filter
  - Linux: /opt/oki/tap/interface
  - Open UNIX: /usr/spool/lp/admins/lp/interfaces

2 To edit the configuration file manually, add a line that include parameters and value.

- The configuration file is saved in following directory.
  - Solaris: /etc/lp/interfaces
  - HP-UX: /etc/lp/interface
  - IBM AIX: /opt/oki/tap/filter
  - Linux: /opt/oki/tap/interface
  - Open UNIX: /usr/spool/lp/admins/lp/interfaces
- For example, to change the default orientation to Landscape, add the following line:
  orient= “LANDSCAPE”

Deleting the print queue

There are two ways to delete the print queue: one is deleting a print queue using okicolorrm/okibwrm, and the other is deleting a print queue manually without using okicolorrm/okibwrm.

📖 P.12 "Deleting a print queue using okicolorrm/okibwrm"
📖 P.12 "Deleting a Print Queue Manually"

Deleting a print queue using okicolorrm/okibwrm

When you want to delete the queue using okicolorrm/okibwrm, perform the following procedure.

1 **Log on to the root account.**

2 **Enter the following command:**

Color MFP:

okicolorrm <queue name>

Black and White MFP:

okibwrm <queue name>

References

- *This command uses the system's lpadmin command to delete the print queue and configuration file.*
- *Restart the lpd under Linux.*

Deleting a Print Queue Manually

You can also configure the print queue by deleting a print queue manually.
The procedure varies depending on the operating systems.

📖 P.12 "Deleting a print queue manually on Solaris"
📖 P.12 "Deleting a print queue manually on HP-UX"
📖 P.13 "Deleting a print queue manually on IBM AIX"
📖 P.13 "Deleting a print queue manually on Linux"
📖 P.13 "Deleting a print queue manually on Open UNIX"

Deleting a print queue manually on Solaris

1 **Log on to the root account.**

2 **Enter the following command:**

lpadmin -x <queue name>

3 **Enter the following command:**

rm /etc/lp/interfaces/<queue name>.conf

Deleting a print queue manually on HP-UX

1 **Log on to the root account.**

2 **Enter the following command:**

ps -ef | grep lpsched | grep -iv grep > /dev/null 2>&1

3 **Enter the following command:**

echo $?

4 **If "0" outputted on the screen, turn the scheduler OFF. Enter the following command:**

/usr/sbin/lpshut > /dev/null 2>&1

5 **Enter the following command:**

/usr/sbin/lpadmin -x<queue name>

6 **Enter the following command:**

rm /etc/lp/interface/<queue name>.conf

7 **If "0" was outputted on the screen in step 3, turn the scheduler ON. Enter the following command:**

/usr/sbin/lpsched > /dev/null 2>&1

Deleting a print queue manually on IBM AIX

1 **Log on to the root account.**

2 **Enter the following command:**

rm /opt/oki/tap/filter/<queue name>

3 **Enter the following command:**

rm /opt/oki/tap/filter/<queue name>.conf

4 **Enter the following command:**

rmquedev -q<queue name> -ddev_<queue name>

5 **Enter the following command:**

rmque -q<queue name>

Deleting a print queue manually on Linux

1 **Log on to the root account.**

2 **Enter the following command:**

rm /opt/oki/tap/interface/<queue name>

3 **Enter the following command:**

rm /opt/oki/tap/interface/<queue name>.conf

4 **Enter the following command:**

/opt/oki/tap/bin/modPrintcap -d <queue name>

5 **Enter the following command:**

ls /opt/oki/tap/bin/flag_<queue name>

6 **If the above file exists, enter the following command:**

/opt/oki/tap/bin/printconf_import \
-d <queue name>
rm /opt/oki/tap/bin/flag_<queue name>

7 **Restart your lpd.**

Deleting a print queue manually on Open UNIX

1 **Log on to the root account.**

2 **Enter the following command:**

lpadmin -x <queue name>

3 **Enter the following command:**

rm /usr/spool/lp/admins/lp/interfaces/<queue name>.conf

Setting Up the CUPS

When you want to configure UNIX/Linux printing using CUPS, you can use LPR printing or IPP printing.

Note!

When printing using CUPS, the output paper size cannot be specified. If you want to specify the output paper size, use the UNIX/Linux filter.

About CUPS

This section describes the behavior, options, and installation method of the CUPS printer driver for the equipment. The behavior of the printer driver presented in this specification is consistent with CUPS v1.1.15. The driver may appear and/ or operate slightly differently in different versions.

In the CUPS environment, use a PostScript Printer Description (PPD) file, not a printer driver to configure the printing. The PPD file is included in this package.

Development Environment

The provided CUPS printer driver is supported on the following UNIX/Linux workstation.

- Red Hat 8.0 CUPS 1.1.18

Implementation Method

This driver consists of a PPD file that works in conjunction with an interface like XPP, KPrinter, etc. It can also be used on OSX in the same way that it is used on Linux, but this is not recommended.

Configuring UNIX/Linux printing using CUPS

You can configure the CUPS for LPR printing or IPP printing.

Installing the CUPS for LPR printing

The PPD must first be copied onto the local machine, the printer installed, and then the PPD configured. The printer is then installed and configured using CUPS via the browser. The PPD can be copied to the root directory and extracted.

After extracting the PPD file, restart the CUPS daemon.

The PPD is placed in the "/usr/share/cups/model/Oki" directory (which will require root privileges and the Oki directory may need to be created). The PPD can be simply copied to the appropriate directory and the CUPS daemon re-started.

1 **Log on to the root account.**

2 **Uncompress the downloaded file.**

3 **Copy the tar file into the root directory by entering the following command:**

Color MFP:

cp OKI_xMFP_CUPS.tar

Black and White MFP:

cp OKI_MonoMFP_CUPS.tar

A tar file is included in the following folders:

- Color MFP
  - "Color_Unix_Linux/CUPS/Usa/2-sided_default"
    This PPD file enables to set 2-sided printing by default.
  - "Color_Unix_Linux/CUPS/Usa/normal"
    This PPD file enables to set 1-sided printing by default.
- Black and White MFP
  - "BW_Unix_Linux/CUPS/Usa/2-sided_default"
    This PPD file enables to set 2-sided printing by default.
  - "BW_Unix_Linux/CUPS/Usa/normal"
    This PPD file enables to set 1-sided printing by default.

Reference

When this equipment is used in Europe, install the PPD file enabling 2-sided printing by default.

4 Enter the following command:

cd /

5 Extract the tar file by entering the following command:

Color MFP:

tar xvf OKI_xMFP_CUPS.tar

Black and White MFP:

tar xvf OKI_MonoMFP_CUPS.tar

When you execute this command, the PPD file and filter file will be automatically installed in the correct directory.

- When you use other than Linux, or you do not use the CUPS system as the standard installation, proceed to the next step.
- When you use Linux and also use the CUPS system as the standard installation, proceed to step 11.

6 Copy the PPD file and filter file to the correct directory by entering the following command.:

Color MFP:

cd /usr/share/cups/model/Oki
mv OKI_xMFP_CUPS.gz

The target directory to which the PPD file is copied

cd /usr/lib/cups/filter/Oki
mv MPSESMCXXXX_Authentication

The target directory to which the filter file is copied

* "XXXX" is the model name of the Oki MFP.

Black and White MFP:

cd /usr/share/cups/model/Oki
mv Oki_MonoMFP_CUPS.gz

The target directory to which the PPD file is copied

cd /usr/lib/cups/filter/Oki
mv MPSESMBXXXX_Authentication

The target directory to which the filter file is copied

* "XXXX" is the model name of the Oki MFP.

7 Enter the following command:

cd the target directory to which the PPD file is copied

8 Enter the following command for extracting the PPD file:

Color MFP:

gunzip OKI_xMFP_CUPS.gz

Black and White MFP:

gunzip OKI_MonoMFP_CUPS.gz

9 Change the following underlined description in the OKI_xMFP_CUPS / OKI_ MonoMFP_CUPS file (involved in the 60th line) to the correct directory.

* cupsFilter:"application/vnd.cups-postscript 0/usr/lib/cups/filter/Oki/XXXX_ Authentication"
  * "XXXX" is the model name of the Oki MFP.

10 Enter the following command for compressing the PPD file:

Color MFP:

gzip OKI_xMFP_CUPS

Black and White MFP:

gzip OKI_MonoMFP_CUPS

11 Enter the following command:

service lpd stop

When using the Red Hat Linux, proceed to the next step. When using other than the Red Hat Linux, proceed to step 17.

12 When using the Red Hat Linux, enter the following command:

/usr/bin/redhat-switch-printer

The [redhat-switch-printer] dialog box appears.

13 Select [CUPS] and click [OK].

The [information] dialog box appears.

14 Click [OK].

15 Enter the following command:

service cups start

Note!

If the CUPS has already been started, stop the CUPS service once by entering "service cups stop" command, and then enter the above command to restart the CUPS service.

16 Enter the following command:

/usr/bin/cupsconfig

The Common UNIX Printing System page appears. Skip to step 18.

17 Open the browser and locate CUPS by typing "http://localhost:631/" in the address box.

The Common UNIX Printing System page appears.

18 Click the [Manage Printers] link.

The Printer page is displayed.

19 Click [Add Printer].

The Admin page is displayed.

20 Enter the printer name, location, and description of the printer in each box and click [Continue].

Note!

If a new printer name is a duplicate of a name already in the printer list, the new printer will replace the original printer.

21 **Select [LPD/LPR Host or Printer] in the [Device] box and click [Continue].**

22 **Enter "lpd://<IP address>/Print" in the [Device URI] box and click [Continue].**

Note!

Make sure to capitalize the "P" in "Print" for the device URI.

23 **Select [Oki] in the [Make] box and click [Continue].**

Note!

If you do not see [Oki] in the [Make] list, restart CUPS.

24 **Select the PPD in the [Model] list and click [Continue].**

25 **Confirm that the message notifying that the new printer has been properly added appears.**

26 **Go to the following page for configuring the print options:**

📖 P.22 "Configuring print options"

Installing the CUPS for IPP printing

When you want to set up an IPP print queue in the Linux OS, follow the procedures here.

When IPP SSL is enabled on the equipment

When the IPP SSL is enabled on the equipment, you require the following settings on Linux OS.

- OpenSSL should be installed
- CUPS should be configured with "--enable-ssl" option
- HTTPS symbol should be created in the "/usr/lib/cups/backend" directory.
  1. Open the console and login with root privileges.
     - Use "su" or "sudo -s" to login with root privileges.
  2. Enter the following command:
     cd /usr/lib/cups/backend
  3. Enter the following command:
     ln -s ipp https
  4. Restart the CUPS Service in Linux.
- IPP/SSL certificates in the "/etc/cups" directory should be created.
  1. Enter the following command:
     cd /etc/cups
     mkdir ssl
  2. Enter the following command:
     openssl req -new -x509
     -keyout /etc/cups/ssl/server.key
     -out /etc/cups/ssl/server.crt -days 365 -nodes

Notes!

- *The above command must be entered as one continuous command with no carriage returns.*
- *The user will be prompted to enter country/state/province/locality/organization/ organizational unit/common name and e-mail address.*

  3. Enter the following command:
     chmod 600 /etc/cups/ssl/server.*

* The "-nodes" option prevents the certificate and key from being encrypted. The cupsd process runs in the background, detached from any input source; if you encrypt these files then cupsd will not be able to load them.

  4. Add the following lines in the cupsd.conf file in /etc/cups path.
     SSLPort 443
     ServerCertificate /etc/cups/ssl/server.crt
     ServerKey /etc/cups/ssl/server.key
  5. Run the following command on the shell to restart the CUPS Server.
     Service cups restart

1 Log on to the root account.

2 Uncompress the downloaded file.

3 Copy the tar file into the root directory by entering the following command:

Color MFP:
cp OKI_xMFP_CUPS.tar

Black and White MFP:
cp OKI_MonoMFP_CUPS.tar

A tar file is included in the following folder in the Install Disk:

- Color MFP
  - "Color_Unix_Linux/CUPS/Usa/2-sided_default"
    This PPD file enables to set 2-sided printing by default.
  - "Color_Unix_Linux/CUPS/Usa/normal"
    This PPD file enables to set 1-sided printing by default.
- Black and White MFP
  - "BW_Unix_Linux/CUPS/Usa/2-sided_default"
    This PPD file enables to set 2-sided printing by default.
  - "BW_Unix_Linux/CUPS/Usa/normal"
    This PPD file enables to set 1-sided printing by default.

Reference

When this equipment is used in Europe, install the PPD file enabling 2-sided printing by default.

4 Enter the following command:

cd /

5 Extract the tar file by entering the following command:

Color MFP:

tar xvf OKI_xMFP_CUPS.tar

Black and White MFP:

tar xvf OKI_MonoMFP_CUPS.tar

When you execute this command, the PPD file and filter file will be automatically installed in the correct directory.

- When you use other than Linux, or you do not use the CUPS system as the standard installation, proceed to the next step.
- When you use Linux and also use the CUPS system as the standard installation, proceed to step 11.

6 Copy the PPD file and filter file to the correct directory by entering the following command.:

Color MFP:

cd /usr/share/cups/model/Oki
mv OKI_xMFP_CUPS.gz

The target directory to which the PPD file is copied

cd /usr/lib/cups/filter/
mv MPSESMCXXXX_Authentication

The target directory to which the filter file is copied

* "XXXX" is the model name of the Oki MFP.

Black and White MFP:

cd /usr/share/cups/model/Oki
mv OKI_MonoMFP_CUPS.gz

The target directory to which the PPD file is copied

cd /usr/lib/cups/filter/
mv MPSESMBXXXX_Authentication

The target directory to which the filter file is copied

* "XXXX" is the model name of the Oki MFP.

7 Enter the following command:

cd the target directory to which the PPD file is copied

8 Enter the following command for extracting the PPD file:

Color MFP:

gunzip OKI_xMFP_CUPS.gz

Black and White MFP:

gunzip OKI_MonoMFP_CUPS.gz

9 Change the following underlined description in the OKI_xMFP_CUPS / OKI MonoMFP_CUPS file (involved in the 60th line) to the correct directory.

* cupsFilter:"application/vnd.cups-postscript 0/usr/lib/cups/filter/Oki/XXXX_ Authentication"
  * "XXXX" is the model name of the Oki MFP.

10 Enter the following command for compressing the PPD file:

Color MFP:

gzip OKI_xMFP_CUPS

Black and White MFP:

gzip OKI_MonoMFP_CUPS

11 Enter the following command:

service lpd stop

Notes!

If lpd is already stopped, "Failed" will be displayed.

- When using the Red Hat Linux, continue to the next step.
- When using other than the Red Hat Linux, skip to step 15.

12 When using the Red Hat Linux, enter the following command:

/usr/bin/redhat-switch-printer

The [redhat-switch-printer] dialog box appears.

13 Select [CUPS] and click [OK].

The [information] dialog box appears.

14 Click [OK].

15 Enter the following command:

service cups start

Note!

If the CUPS has already been started, stop the CUPS service once by entering "service cups stop" command, and then enter the above command to restart the CUPS service.

16 Enter the following command:

/usr/bin/cupsconfig

The Common UNIX Printing System page appears.

17 Open the browser and locate CUPS by typing "http://localhost:631/" in the address box.

The Common UNIX Printing System page appears.

Note!

When IPP/SSL is enabled, specify "https://local host:443/" in the address field to access the Common UNIX Printing System.

18 Click the [Manage Printers] link.

The Printer page appears.

19 Add a new https printer by clicking [Add Printer].

Configure the parameters as:
Name: <Any Name>
Location: <Optional>
Description: <Optional>
Device: Internet Printing Protocol (http)
Device URI: http://<IP address>:631/Print
Model/Driver: Oki

Note!

When IPP/SSL is enabled, specify as follows:
- Device: Internet Printing Protocol (https)
- Device URI: https://<IP address>:443/Print

Reference

Using CUPS Client (print commands lp, lpr, etc.) with -e option, the connection can be encrypted and printing can be done in the above configured printer.

20 Confirm that the message notifying that the new printer has been properly added appears.

21 Go to the following page for configuring the print options:

📖 P.22 "Configuring print options"

Configuring print options

You can set the print options that are applied to the print jobs using CUPS.

1 Click the [Manage Printers] link on the startup page.
The Printer page is displayed.

2 Select this equipment and then click [Configure Printer].

3 Configure the print options on the displayed page.
The underscored items are set by default.

Booklet

Option Value	Alternative Value	Description
Booklet Center Margin	0 to 36 (in unit of 3 points)	Select the center margin.
Booklet Outer Margin	0 to 72 (in unit of 6 points)	Select the outer margin.
Booklet Paper Size	None (Off) Letter A4 Legal Statement Ledger Folio A3 A5 B4 B5 Computer 13" LG 8.5" SQ 8K 16K Executive 13.5” LG	Select a paper size for the booklet. Each two pages are printed on both sides of a sheet which is then folded. The booklet size will be the half size of the paper size that you specify.
Left to Right Page Layout	Right to Left Left to Right	Select whether the booklet can be read from right to left or left to right.
[Continue] button	Determines the selected items.	

Color Settings 1 (For Color MFPs)

Option Value	Alternative Value	Description
Color Type	Auto Color Mono Black and Red Black and Green Black and Blue Black and Cyan Black and Magenta Black and Yellow Black and White	Select whether a print job is printed in color, mono, or twin color.
Distinguish Thin Lines	Off, On	Select whether to distinguish thin lines or not.
Halftone	Auto Detail Smooth	Select the appropriate processing on halftone images among "Auto", "Detail (high density)" and "Smooth (smooth tone reproduction)".
Resolution	600dpi 1200dpi 600 x 1200dpi	Select a print resolution. ***Notes!*** • "Resolution" can be selected only for the MC780 Series, MB770 Series. • "1200dpi" can be selected only for the MB770 Series. • "600 x 1200dpi" can be selected only for the MC780 Series.
[Continue] button	Determines the selected items.	

Color Settings 2 (For Color MFPs)

Option Value	Alternative Value	Description
Black Overprint	Off, Text Text and Graphics	Select whether printing background content that has black text overlayed on it.
Image Type	General Photo Presentation Line Art	Select how colors are printed. The printer driver automatically applies proper image quality for selected job type.
PostScript Overprint	Off, On	Select whether to overprint an object that has been set so on an application. ***Note!*** This option is selectable only when [Color] or [Auto] is selected in the [Color Type] box in the Color Settings 1 menu.
Pure Black and Gray	Off Black -Auto Black -Text Black -Text and Graphic Black -Text, Graphic and Image Black and Gray -Auto Black and Gray -Text Black and Gray -Text and Graphic Black and Gray -Text, Graphic and Image	Select whether printing the black and gray scale contents in a document using the black toner.
[Continue] button	Determines the selected items.	

Color Settings 3 (For Color MFPs)

Option Value	Alternative Value	Description
Color Balance - Black	-4, -3, -2, -1, 0, 1, 2, 3, 4	Select the density for black toner.
Color Balance - Cyan	-4, -3, -2, -1, 0, 1, 2, 3, 4	Select the density for cyan toner.
Color Balance - Magenta	-4, -3, -2, -1, 0, 1, 2, 3, 4	Select the density for magenta toner.
Color Balance - Yellow	-4, -3, -2, -1, 0, 1, 2, 3, 4	Select the density for yellow toner.
[Continue] button	Determines the selected items.	

Color Settings 4 (For Color MFPs)

Option Value	Alternative Value	Description
Background Adjustment	-4, -3, -2, -1, 0, 1, 2, 3, 4	Select the density level of the background.
Brightness	-4, -3, -2, -1, 0, 1, 2, 3, 4	Select the brightness.
Contrast	-4, -3, -2, -1, 0, 1, 2, 3, 4	Select the contrast.
Saturation	-4, -3, -2, -1, 0, 1, 2, 3, 4	Select the saturation.
Sharpness	-4, -3, -2, -1, 0, 1, 2, 3, 4	Select the sharpness.
Use Sharpness Filter	Off, On	Selecting this option allows you to adjust the sharpness for printing.
[Continue] button	Determines the selected items.	

Finishing

Option Value	Alternative Value	Description
Destination	Printer's Default Stacker Finisher Finisher (Lower) Stacker (Upper) Side Stacker Job Separator Upper Job Separator Lower	Select a destination. ***Note!*** The destinations that you can choose vary depending on the model and the installed options.
Folding	Off, On	Select whether the Folding feature is enabled or not.
Hole Punch	Off Long Edge Punch without rotation Short Edge Punch without rotation Long Edge Punch with 180 degree rotation Short Edge Punch with 180 degree rotation	Select the hole punch option.
Stapling	Off Upper Left (Portrait)/Upper Right (Landscape) Middle Left (Portrait)/Middle Top (Landscape) Lower Left (Portrait)/Upper Left (Landscape) Upper Right (Portrait)/Lower Right (Landscape) Middle Right (Portrait)/Middle Bottom (Landscape) Lower Right (Portrait)/Lower Left (Landscape) Middle Top (Portrait)/Middle Right (Landscape) Middle Bottom (Portrait)/Middle Left (Landscape) Saddle Stitch (Portrait)/Saddle Stitch (Landscape)	Select whether a print job is stapled or its locations. ***Note!*** "Saddle Stitch (Portrait)/Saddle Stitch (Landscape)" can be selected only when the Saddle Stitch Finisher is installed.
[Continue] button	Determines the selected items.	

General

Option Value	Alternative Value	Description
Collate	Yes, No	Select whether to collate exited paper.
Duplex	1-Sided	1-sided printing
	2-Sided, No Tumble (Long-Edge Binding)	2-sided printing (Long-edge binding)
	2-Sided, Tumble (Short-Edge Binding)	2-sided printing (Short-edge binding)
Media Size	A3, A4, A5, A6, B4, B5, Ledger, Legal, Letter, Statement, Folio, Computer, 13" LG, 8.5" SQ, 12 x 18", 305 x 457 mm, 8K, 16K, 320 x 450 mm, 320 x 460 mm, 13x 19", 13.5" LG, Executive, IndexCard	Select the paper size. ***Notes!*** • Paper size that can be selected differ depending on the model. • 13.5" LG, Executive, IndexCard can be selected only for the MC780 Series / MB770 Series.
Media Source	Tray 1 Tray 2 Tray 3 Tray 4 MPT Plain Plain (Thin) Thick 1 Thick 1 (Back) Thick 2 Thick 2 (Back) Thick 3 Thick 3 (Back) Thick 4 Thick 4 (Back) Transparency Recycled Special 1 Special 2 Thin Label 1 Label 2 Glossy 1 Glossy 2 Glossy 3 Thick 5	Select the paper source. ***Notes!*** • "Thick 1 (Back), Thick 2 (Back), Recycled, Special 1, Special 2" can be selected only for the CX4545 MFP/ CX3535 MFP, ES9470 MFP/ES9460 MFP. • "Thick 3, Thick 4" can be selected only for the MC780 Series, MB770 Series, CX4545 MFP/CX3535 MFP, ES9470 MFP/ ES9460 MFP. • "Thick 3 (Back), Thick 4 (Back)" can be selected only for the CX4545 MFP/ CX3535 MFP, ES9470 MFP/ES9460 MFP. • "Thin" can be selected only for the ES9170 MFP/ES9160 MFP. • "Plain (Thin), Label 1, Label 2, Glossy 1, Glossy 2, Glossy 3, Thick 5" can be selected only for the MC780 Series.
[Continue] button	Determines the selected items.	

Options Installed

Option Value	Alternative Value	Description
Model Selection	Support model are listed.	
Drawers	Tray 1 Tray 1 & LCF Tray 1 & Tray 3 Tray 1 & Tray 3, 4 Tray 1 & Tray 2 Tray 1, 2 & LCF Tray 1, 2 & Tray 3 Tray 1, 2 & Tray 3, 4	Select an optional drawer.
Finisher	CX4545 MFP/CX3535 MFP ES9470 MFP/ES9460 MFP Not Installed Hanging Finisher Saddle Stitch Finisher Saddle Stitch Finisher and Hole Punch ES9170 MFP/ES9160 MFP Not Installed Saddle Stitch Finisher Saddle Stitch Finisher and Hole Punch Job Separator Offset Tray MC780 Series, MB770 Series Not Installed Inner Finisher (1 Tray)	Select the finishing option.
[Continue] button	Determines the selected items.	

Printing Modes

Option Value	Alternative Value	Description
Department Code	Disabled Enabled	Select whether or not to use the department codes for printing. When this equipment is managed under the department codes, this option should be enabled.
Do not Print Blank Pages	Off, On	Select whether or not a blank page is printed.
Print Mode	Normal Proof Private -Password Hold	Select a print mode.
Toner Save	Off, On	Select whether to print in the toner save mode.
[Continue] button	Determines the selected items.	

Printing Modes DC

Option Value	Alternative Value	Description
Department Code (DC) - Digit 1 to Digit 5	0 to 9	Specify the 5-digit department code when "Department Code" of "Printing Modes" is enabled. For the appropriate department code, ask your system administrator.
[Continue] button	Determines the selected items.	

Private Document Password

Option Value	Alternative Value	Description
Password - Digit 1 to Digit 5	0 to 9	Specify the 5-digit document password when "Private -Password" is selected for "Print Modes".
[Continue] button	Determines the selected items.	

Banners

Option Value	Alternative Value	Description
Starting Banner	none	Select whether to print banner pages before printing documents. If you want to print them, select a banner type.
	classified	Classified information
	confidential	Confidential information
	secret	Secret information
	standard	Standard information
	topsecret	Top secret
	unclassified	Unclassified information
Ending Banner	none	Select whether to print banner pages after printing documents. If you want to print them, select a banner type.
	classified	Classified information
	confidential	Confidential information
	secret	Secret information
	standard	Standard information
	topsecret	Top secret
	unclassified	Unclassified information
[Continue] button	Determines the selected items.	

PS Binary Protocol

Option Value	Alternative Value	Description
PS Binary Protocol	None, TBCP	Select whether to process print data in a binary format using PostScript and using TBCP protocol.
[Continue] button	Determines the selected items.	

Modifying printer

You can modify a printer that you have created.

1 Click the [Manage Printers] link on the startup page.
The Printer page is displayed.

2 Click [Modify Printer].

3 Modify the location and description in each box and click [Continue].

Uninstalling printer

To uninstall a printer that you have created, carry out the following procedure.

1 Click the [Manage Printers] link on the startup page.
The Printer page is displayed.

2 Click [Delete Printer].
- When a message appears asking to remove the printer, click [Continue].
- The printer is deleted.

3 Delete the PPD file "OKI_xMFP_CUPS.gz" from the "/usr/share/cups/model/Oki" directory.

PRINTING

Printing From Application

This section describes how to print from a UNIX/Linux workstation.

Notes!

- *When the User Management setting is enabled, a print job sent from UNIX/Linux workstations is processed as an invalid job according to the User Authentication Enforcement setting. For more information about the User Authentication Enforcement setting, refer to the TopAccess Guide.*
- *Before attempting to print from a UNIX/Linux workstation, make sure all the UNIX/Linux Filters are installed in your workstation.*

Reference

For instructions on how to install or set CUPS, refer to the Software Installation Guide.

Considerations and limitations

- This equipment acts only as a filter and not as a complete driver. The size and order of the printed pages cannot be modified.
- The UNIX/Linux filters do not support the following engine-supplied features:
  - Enlarge/Reduce printing
  - Rotate Sort
  - N-up printing
  - Watermarks
  - Cover Sheets
  - Sheet Insertion
  - Scheduled Print
  - Print to Overlay File
  - Store to e-Filing
  - Use Overlay Image
- Linux uses the lptap command to send a file to this equipment.
  Since lp is not supported in all versions of Linux, the lptap command should be used instead.
- AIX supports printing using the qdaemon. This can be invoked by the user with the commands lp, lpr or qprt. In order to use the filter, either lp or qprt should be used.

Printing using lp command

Use the lp command (lptap in Linux) to send a file to this equipment for printing. This command specifies various printer-specific options using the -o option parameter on the command line. The lp command also sets other print options using various other parameters. Use the "man net_okicolor" command to display the online document that describes the various options and parameters that can be set to configure printed output. All the options are sent to this equipment at the start of a print job so, if the print file contains its own commands, they may override the lp options.

Generic “lp” and “lptap” options

How to print files

Enter the following “lp” command to print files with the specified printer:
lp -d <queuename> <filename>

Copies

The number of copies of a print job is specified using the “-n <value>” parameter with the “lp” command. The default value is determined by the “lp” command and it is always 1. The copies are always collated.

Title

The title that is printed on the banner page can be specified using the “-t <title>” parameter with the “lp” command. The default value is determined by the “lp” command and it is often the name of the print file. If multiple files are printed using the same “lp” command the default title is set to the name of the first file by the “lp” command.

General options

The options below are applied to all print jobs that this equipment handles.

Notes!

- *Option commands differ from model to model depending on the options and paper sizes available.*
- *Option commands are case sensitive and must be entered exactly as shown.*
- *Some printing functions may be disabled depending on the combinations of option commands because priority is given to the specifications of this equipment over option commands.*

Print Language

The “net_okicolor” program needs to know what printer language is used in each of the files that it is printing so that it can issue the correct commands to select various options. The following options are valid for the print languages.

Option Value	Alternative Value	Description
auto		Each file to be printed is examined to see if it starts with the “%!” sequence. If it does, then it is assumed that it is a PostScript file, otherwise it assumes that it is a plain text or a PCL6 file.
pcl		The print file is always treated as a plain text or a PCL6 file.
postscript	ps	The file is always treated as a PostScript file.
raw		The file is treated as a fully formatted file that already contains all the necessary commands. The file is sent to the printer without any modifications. In this mode no other options are valid and a banner page is not printed.

All PCL5e jobs automatically send the “<esc>&k2G” command to convert the line-feed character into a carriage-return - line-feed sequence. If the PCL5e job contains some of its own escape sequences it may override this setting.

The default print language is “auto”.

Example: The command to specify that a file is PostScript is “lp -o ps <*filename*>”.

Stapling

This sets whether a print job is printed with staples. When the optional Finisher is installed it can be activated using the following option.

Option Value	Alternative Value	Description
staple=0		Stapling is turned off.
staple=1		Staple in the top left corner of a portrait page and the upper right corner of a landscape page.
staple=2		Put two staples on the left side of a portrait page or the top side of a landscape page printed on long-edge-feed paper. This command has no effect when the paper is fed from the short-edge side.
staple=3		Staple in the bottom left corner of a portrait page and the upper left corner of a landscape page.
staple=4		Staple in the top right corner of a portrait page and the bottom right corner of a landscape page.
staple=5		Put 2 staples on the right side of a portrait page or the bottom side of a landscape page printed on long-edge-feed paper. This command has no effect when the paper is fed from the short-edge side.
staple=6		Staple in the bottom right corner of a portrait page and the lower left corner of a landscape page.
staple=7		Put 2 staples on the top side of a portrait page or the right side of a landscape page printed on short-edge-feed large format (A3/Ledger) paper. This command has no effect when the paper is fed from the long-edge side or small paper size.
staple=8		Put 2 staples on the bottom side of a portrait page or the left side of a landscape page printed on short-edge-feed large format (A3/Ledger) paper. This command has no effect when the paper is fed from the long-edge side or small paper size.
staple=9		Put 2 staples in the middle of a landscape page and fold the paper in half vertically along the staple line (saddle stitching). This command works in conjunction with booklet printing. This command has no effect when the paper is fed from the long-edge side.

If this option is not specified, the printer's default value will be used.

Example: The command to staple in the upper left corner of a long edge feed portrait page is "lp -o staple=1 <*filename*>".

The value for the stapling position depends on the paper size, the paper feed direction, and the print direction. This function is not available for all paper sizes and the users should refer to the *Copying Guide* or *User's Manual Basic Guide* for a list of compatible paper sizes. In particular, A5, A6 and statement paper sizes will not work with this function.

Note!

Select [Finisher] for stapling with the Finisher or the Saddle Stitch Finisher.

Folding

This sets whether the Folding feature is enabled or not using the following options:

Option Value	Alternative Value	Description
folding=off	OFF	Folding is disabled.
folding=on	ON	Folding is enabled.

If the Saddle Stitch Finisher is not installed or it is not specified, the default value of "folding=off" is used.

Example: The command to enable the Folding feature is "lp -o folding=on <*filename*>".

Note!

The "Folding" option is available only when the Saddle Stitch Finisher is installed in any of the following:

- *CX4545 MFP/CX3535 MFP*
- *ES9470 MFP/ES9460 MFP*
- *ES9170 MFP/ES9160 MFP*

Output Bin

The output bin can be specified using the following options.

Option Value	Alternative Value	Description
inner		Select the Stacker.
bin1		Select the upper output bin of the Finisher.
bin2		Select the lower output bin of the Finisher.

If the Finisher is not installed in the equipment, the default output bin will be used (inner). If the Finisher is installed in the equipment, the default output bin will be used (bin2).

Example: The command to specify output bin 1 is "lp -o bin1 <*filename*>".

Hole Punching

This sets whether a print job is printed with hole punches. When the hole punch option is installed it can be activated using the following option.

Option Value	Alternative Value	Description
punch=0	nopunch	Hole punching is turned off.
punch=1		Hole punch on long edge without rotation.
punch=2		Hole punch on short edge without rotation.
punch=3		Hole punch on long edge with 180 degree rotation.
punch=4		Hole punch on short edge with 180 degree rotation.

If this option is not specified, the default value of "nopunch" will be used.

This function is not available for all paper sizes and the users should refer to the *Copying Guide* for a list of compatible paper sizes. In particular, A5, A6 and statement paper sizes will not work with this function.

Example: The command to hole punch the long edge feed portrait page is "lp -o punch=1 <*filename*>".

Media Type

The paper source can also be selected using the media type using the following option.

Option Value	Alternative Value	Description
mtype=Plain		A paper source that contains Plain paper is requested.
mtype= Transparency		A paper source that contains transparency slides is requested.
mtype=Thick1		A paper source that contains Thick1 paper is requested.
mtype=Thick2		A paper source that contains Thick2 paper is requested.
mtype=Thick3		A paper source that contains Thick3 paper is requested.

In PostScript Deferred Media Selection is always turned on so the paper size has priority over the media type and the paper source.

In PCL5e the paper size always has priority over the media type and the paper source.

If this option is not specified, the default value will be used.

Example: The command to specify Thick1 media type is "lp -o mtype=Thick1 <*filename*>".

Paper Source

The paper source can be selected using the following options.

Option Value	Alternative Value	Description
auto-source		Select auto paper tray selection.
manual		Select MPT.
drawer1	upper cas1	Select the 1st tray.
drawer2	lower cas2	Select the 2nd tray.
drawer3	pedupper cas3	Select the 3rd tray.
drawer4	pedlower cas4	Select the 4th tray.
LCF	lcf	Select the Large Capacity Feeder. The Large Capacity Feeder is not available for some countries or regions.
external		Select the External Large Capacity Feeder.

In PostScript Deferred Media Selection is always turned on so the paper size has priority over the paper source. In PCL5e the paper size always has priority over the paper source.

If this option is not specified the command will not be sent so the printer's default value will be used.

Example: The command to specify the Large Capacity Feeder paper source is "lp -o lcf <*filename*>".

Note!

This function is available only when the paper source selectable in this equipment is specified.

Duplexing

The current duplex mode can be specified using the following options.

Option Value	Alternative Value	Description
simplex		Turn duplexing off.
duplex	lduplex duplex_long duplex=long hduplex	Turn duplexing on with long edge binding.
sduplex	duplex_short duplex=short vduplex	Turn duplexing on with short edge binding.

If this option is not specified, the default value “simplex” will be used.

It is not necessary to specify duplexing for Booklet Mode (sduplex). Setting duplexing separately can override the booklet mode setting for duplexing.

Example: The command to specify long edge duplexing is “lp -o duplex <*filename*>”.

Note!

This function is available only when an Automatic Duplexing Unit is installed in the equipment.

Paper Size

The current paper size can be specified using the following options.

Option Value	Alternative Value	Description
letter	lt LT	Select Letter size paper.
A4	a4	Select A4 size paper.
legal	lg LG	Select Legal size paper.
statement	st ST	Select Statement size paper.
ledger	ld LD	Select Ledger size paper.
ledgerwide	ldwide LDWIDE	Select Ledger wide size paper.
folio	folio-japan	Select Folio size paper.
A3	a3	Select A3 size paper.
A3WIDE	a3wide	Select A3-Wide size paper.
A5	a5	Select A5 size paper.
A6	a6	Select A6 size paper.
B4	b4 b4-jis B4-JIS	Select JIS B4 size paper.
B5	b5 b5-jis B5-JIS	Select JIS B5 size paper.
computer	co CO	Select Computer size paper.
legal13	lg13 LG13	Select LG13inch size paper.
sq85	letter-square	Select SQ8.5inch size paper.
postcard		Select Postcard size paper.
8K	8k	Select 8K size paper.
16K	16k	Select 16K size paper.
13.5” Legal	lg13.5 lg135 LG135	Select LG13.5inch size paper.
Executive	exec EXEC executive EXECUTIVE	Select Executive size paper.
IndexCard		Select IndexCard size paper.

If this option is not specified, the printer’s default value will be used.

Example: The command to specify the A4 paper size is “lp -o a4 *<filename>*”.

Printing Modes

The printing mode can be selected using the following options.

Option Value	Alternative Value	Description
normal		Process as a normal print job.
hold		Process as a hold print job.
proof		Process as a proof print job.
private=din		Process as a private print job. The din is up to a 63-digit (between 1 to 63) password.

If this option is not specified, the printer's default value will be used.

A private printing job requires the user to enter a maximum number of 63 character long string.

Character lengths longer than 63 will be clipped to 63.

The following characters are invalid, but no type checking is carried out.

" & ' ( ) ; < > ^ ` | ~ @ # % * !

Department Code

The department code can be set using the following option.

Option Value	Alternative Value	Description
dept=code		Set the department code. A department code within 63 characters comes in [code].

A department code is specified within 63 characters.

If the entered department code is longer than 63 characters, it is clipped to 63 characters when a job is sent.

The following characters are invalid for department codes:

" & ' ( ) ; < > ^ ` | ~ @ # % * !

Note!

Enter the 5-digit department code for the models below.

- *CX4545 MFP/CX3535 MFP*
- *ES9470 MFP/ES9460 MFP*

References

- *How the equipment performs printing for an invalid department code print job, for which an invalid department code is specified, varies depending on the Invalid Department Code Print Job setting that can be set in the TopAccess Administrator mode and whether SNMP communication is enabled or not.*
  - *When SNMP communication is enabled and Invalid Department Code Print Job is set to [Store to invalid job list], an error message will be displayed when an invalid department code is entered.*
  - *When SNMP communication is disabled and Invalid Department Code Print Job is set to [Store to invalid job list], the invalid department code print job will be stored in the invalid department code print job list without printing.*
  - *When the Invalid Department Code Print Job is set to [Print], the invalid department code print job will be printed.*
  - *When the Invalid Department Code Print Job is set to [Delete], the invalid department code print job will be deleted.*
- *For the appropriate department code, ask your system administrator.*

Smoothing

This sets whether to print text and graphics smoothly. This mode can be set using the following option.

Option Value	Alternative Value	Description
smoothing=on	ON	Set the smoothing mode.
smoothing=off	OFF	Cancel the smoothing mode.

Example: The command to set the smoothing mode is "lp -o smoothing=on <*filename*>".

Notes!

- *This option is available only when your equipment is a multifunctional digital system (Black and White MFP).*
- *When [Resolution] is set to [1200 dpi] on some models, [Smoothing] cannot be set.*

Distinguish Thin Lines

This sets whether to distinguish thin lines or not. This mode can be set using the following option.

Option Value	Alternative Value	Description
thinlinelimit=on	ON	Set the thin line limit mode.
thinlinelimit=off	OFF	Cancel the thin line limit mode.

Example: The command to set the thin line limit mode is "lp -o thinlinelimit=on <*filename*>".

Do Not Print Blank Pages

This sets whether or not a blank page is printed. This mode can be selected using the following option.

Option Value	Alternative Value	Description
blankpage=0		Set the blank page mode (disable Do not Print Blank Pages).
blankpage=1		Cancel the blank page mode (enable Do not Print Blank Pages).

Example: The command to set the blank page mode is "lp -o blankpage=0 <*filename*>".

Toner Save

The toner save mode can be set using the following option.

Option Value	Alternative Value	Description
tonersave=on	ON	Set the toner save mode.
tonersave=off	OFF	Cancel the toner save mode.

Example: The command to set the toner save mode is "lp -o tonersave=on <*filename*>".

Booklet Modes

The booklet mode can be selected using the following options.

Note!

The booklet mode applies only for the PostScript data. Performing the booklet printing using the PCL data is invalid.

Option Value	Alternative Value	Description
booklet=letter	lt LT	Select Letter size paper for the booklet printing mode.
booklet=A4	a4	Select A4 size paper for the booklet printing mode.
booklet=legal	lg LG	Select Legal size paper for the booklet printing mode.
booklet= statement	st ST	Select Statement size paper for the booklet printing mode.
booklet=ledger	ld LD	Select Ledger size paper for the booklet printing mode.
booklet=folio	folio-japan	Select Folio size paper for the booklet printing mode.
booklet=A3	a3	Select A3 size paper for the booklet printing mode.
booklet=A5	a5	Select A5 size paper for the booklet printing mode.
booklet=B4	b4 B4-JIS b4-jis	Select JIS B4 size paper for the booklet printing mode.
booklet=B5	b5 B5-JIS b5-jis	Select JIS B5 size paper for the booklet printing mode.
booklet= computer	co CO	Select Computer size paper for the booklet printing mode.
booklet=legal13	lg13 LG13	Select Legal-13 size paper for the booklet printing mode.
booklet=SQ85	sq85 letter-square	Select 8.5 inch square size paper for the booklet printing mode.
booklet=8K	8k	Select 8K size paper for the booklet printing mode.
booklet=16K	16k	Select 16K size paper for the booklet printing mode.

In a job, if this value is LT, and in PDL too the data are for LT paper size, this will result in a scaled booklet on Letter paper.

In a job, if this value is A4, and in PDL the data are for A5 paper size, this will result in a tiled booklet on A4 paper.

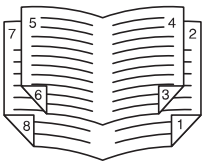
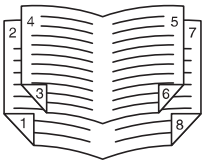
When the Booklet Mode options is selected, the paper size is automatically set to the same size as for Booklet Mode. This function is only available for A4 and Letter paper sizes.

If the booklet mode is selected, then duplexing is also selected automatically (sduplex). Setting duplexing separately can override the booklet mode setting for duplexing.

Example: The command to select Letter size paper for the booklet printing mode is "lp -o booklet=letter <*filename*>".

Page Layout

The booklet mode page layout can be selected using the following options.

Option Value	Alternative Value	Description
left2right=off	OFF	Select right to left page layout for the booklet printing mode. This value decides the layout of the pages in the booklet. If this value is OFF then the layout of pages is Right to Left as shown in the figure below. 
left2right=on	ON	Select left to right page layout for the booklet printing mode. This is the default setting. If the value is ON then the layout of the pages is from Left to Right as shown in the figure below. 

If left2right=off then long edge binding is selected, otherwise if left2right=on then short edge binding is used.

Example: The command to select left to right page layout for the booklet printing mode is "lp -o left2right=on <*filename*>".

Center Margin

The booklet mode center margin can be selected using the following options.

Option Value	Alternative Value	Description
centermargin =value		Select the center margin value for the booklet printing mode. This value specifies in pixels the Center Margin or the "Gutter". This is in addition to the center margin already specified by the application. The valid range for value is 0 - 300. Default is 0.

Example: The command to select the center margin value for the booklet printing mode is "lp -o centermargin=value <*filename*>".

Outer Margin

The booklet mode outer margin can be selected using the following options.

Option Value	Alternative Value	Description
outermargin =value		Select the outer margin value for the booklet printing mode. This value specifies in pixels the Outer Margin or the "Creep" per page, which should take place while printing a booklet. The valid range for value is 0 - 600. Default is 0.

Example: The command to select the outer margin value for the booklet printing mode is "lp -o outermargin=value <*filename*>".

Collate

The collate option can be selected using the following options.

Option Value	Alternative Value	Description
collate=off	OFF	Cancel the collate printing mode.
collate=on	ON	Set the collate printing mode.

If this option is not specified, the default value of "collate=on" will be used.

Example: The command to select collate off is "lp -o collate=off <*filename*>".

Orientation

The following orientation options are available.

Option Value	Alternative Value	Description
portrait		Print the document in portrait orientation.
landscape		Print the document in landscape orientation.

If this option is not specified the command will not be sent so the printer's default value will be used.

Example: The command to specify landscape orientation is "lp -o landscape <*filename*>".

Font Pitch

If the pitch is specified the net_okicolor program will always select the Courier font; otherwise the default font is used. The following options are used to select the font pitch.

Option Value	Alternative Value	Description
c	pitch=16.67	Set the character pitch to 16.67 characters per inch.
10	pitch=10	Set the character pitch to 10 characters per inch.
12	pitch=12	Set the character pitch to 12 characters per inch.
pitch=value		Set the character pitch to value characters per inch.

In all the cases shown above the Courier font will also be selected. When the pitch is changed, the font size will automatically be scaled to the appropriate size.

If this option is not specified, the default pitch and font will be used.

Example: The command to specify 8 characters per inch is "lp -o pitch=8 <*filename*>".

Page Length

The number of lines to print on a page can be specified with the following option.

Option Value	Alternative Value	Description
pl=value		Set the lines per page to value.

As this equipment is a page printer we cannot change the physical length of a piece of paper so the actual effect of this command is to after the value for lines per inch so that the requested number of lines is printed on the page. The actual page length may differ from this value if the top margin or the text length option is used.

If this option is not specified the PJL command will not be sent so the printer's default value will be used. The minimum page length allowable is 5. If value is less than 5, the page length is set to 5.

The command to specify 66 lines per page is "lp -o pl=66 <*filename*>".

Color Mode

This sets whether a print job is printed in color, mono, or twin color. The color mode for printing mode can be selected using the following options.

Option Value	Alternative Value	Description
colormode=COLOR	color	Set color mode printing for the print mode.
colormode=GRAYSCALE	grayscale	Set grayscale mode printing for the print mode.
colormode=AUTO	auto	Set auto color mode printing for the print mode.
colormode=2KR	2kr	Set twin color mode (Black and Red) printing for the print mode.
colormode=2KG	2kg	Set twin color mode (Black and Green) printing for the print mode.
colormode=2KB	2kb	Set twin color mode (Black and Blue) printing for the print mode.
colormode=2KC	2kc	Set twin color mode (Black and Cyan) printing for the print mode.
colormode=2KM	2km	Set twin color mode (Black and Magenta) printing for the print mode.
colormode=2KY	2ky	Set twin color mode (Black and Yellow) printing for the print mode.
colormode=2KW	2kw	Set twin color mode (Black and White) printing for the print mode.

Example: The command to set the color mode for the print job is "lp -o colormode=COLOR *<filename>*"

Note!

This function is enabled only when your equipment is a multifunctional digital color system (color MFP).

Pure Black and Pure Gray

This sets whether printing the black and gray scale contents in a document using the black toner. This mode can be selected using the following options.

Option Value	Alternative Value	Description
pureblackgray=0		Disable the black toner printing of the black and gray scale contents.
pureblackgray=1		Enable the black toner printing of the black contents.
pureblackgray=2		Enable the black toner printing of the black and gray scale contents.

Example: The command to set the pure black and pure gray mode for the print job is "lp -o pureblackgray=1 *<filename>*"

Note!

This function is enabled only when your equipment is a multifunctional digital color system (color MFP).

Image Quality Type

The Image Quality Type can be selected using the following options.

Option Value	Alternative Value	Description
iqnormal		Set the proper image quality for printing a general color document.
iqphoto		Set the proper image quality for printing photos.
iqpresen		Set the proper image quality for printing a vivid document.
iqlineart		Set the proper image quality for printing a document containing a lot of characters or line art.

Example: The command to set the normal quality type for the print job is "lp -o iqnormal *<filename>*"

Note!

This function is enabled only when your equipment is a multifunctional digital color system (color MFP).

Halftone

This sets the appropriate processing on halftone images. The halftone can be selected using the following options.

Option Value	Alternative Value	Description
halftone=AUTO		Set the proper halftone depending on the contents in the document automatically.
halftone= DETAIL		Set the halftone in detail.
halftone= SMOOTH		Set the halftone smoothly.

Example: The command to set the auto halftone for the print job is "lp -o halftone=AUTO *<filename>*"

Black Overprint

This sets whether to print background content that has black text overlaid on it. If this is enabled, the gap between the text and the background is minimized and color deviation is prevented. This mode can be selected using the following options.

Option Value	Alternative Value	Description
blackoverprint=0		Disable the black over print mode.
blackoverprint=1		Enable the black over print mode.

Example: The command to set the black overprint mode for the print job is "lp -o blackoverprint=1 *<filename>*"

Note!

This function is enabled only when your equipment is a multifunctional digital color system (color MFP).

Color Balance

The Color Balance can be selected using the following options.

Option Value	Alternative Value	Description
CBC=value		Specify the color density of cyan toner. You can specify the following values: -4, -3, -2, -1, 0, 1, 2, 3, 4
CBM=value		Specify the color density of magenta toner. You can specify the following values: -4, -3, -2, -1, 0, 1, 2, 3, 4
CBY=value		Specify the color density of yellow toner. You can specify the following values: -4, -3, -2, -1, 0, 1, 2, 3, 4
CBK=value		Specify the color density of black toner. You can specify the following values: -4, -3, -2, -1, 0, 1, 2, 3, 4

Example: The command to set "1" to the color balance for black toner for the print job is "lp -o CBK=1 <*filename*>"

Note!

This function is enabled only when your equipment is a multifunctional digital color system (color MFP).

Image Attributes

The Image Attributes can be selected using the following options.

Option Value	Alternative Value	Description
brightness= value		Specify the brightness. You can specify the following values: -4, -3, -2, -1, 0, 1, 2, 3, 4
contrast= value		Specify the contrast. You can specify the following values: -4, -3, -2, -1, 0, 1, 2, 3, 4
saturation= value		Specify the saturation. You can specify the following values: -4, -3, -2, -1, 0, 1, 2, 3, 4
sharpness= value		Specify the sharpness. You can specify the following values: -4, -3, -2, -1, 0, 1, 2, 3, 4
backgroundadjus tment=value		Specify the background adjustment. You can specify the following values: -4, -3, -2, -1, 0, 1, 2, 3, 4

Example: The command to set "1" to the brightness for the print job is "lp -o brightness=1 <*filename*>"

Note!

This function is enabled only when your equipment is a multifunctional digital color system (color MFP).

PCL5e specific options

Some of the options only apply to plain text or PCL5e files.

Text Wrapping

The following options control text wrapping when it reaches the right margin.

Option Value	Alternative Value	Description
wrap		Enable automatic text wrapping.
nowrap		Disable automatic text wrapping.

If this option is not specified, the command will not be sent so the printer's default value will be used.

Example: The command to specify wrapping is "lp -o wrap <*filename*>".

Left Margin

The left margin position can be specified with the following option.

Option Value	Alternative Value	Description
lm=value		Set the left margin to value columns.

If the left margin is set to the right of the right margin it will be ignored.

If this option is not specified, the command will not be sent so the printer's default value will be used.

Example: The command to set the left margin to five columns is "lp -o lm=5 <*filename*>".

Right Margin

The right margin position can be specified with the following option.

Option Value	Alternative Value	Description
rm=value		Set the right margin to value columns.

If the right margin is set to the left of the left margin, or if it is set to a position wider than the logical page, it will be ignored.

The right margin is specified in columns from the left margin. A negative value will be ignored.

If this option is not specified, the command will not be sent so the printer's default value will be used.

Example: The command to set the right margin to fifty columns is "lp -o rm=50 <*filename*>".

Top Margin

The top margin position can be specified with the following option.

Option Value	Alternative Value	Description
tm=value		Set the top margin to value lines.

If the top margin is set too high or too low, part of the text may not appear due to the printer's unprintable region. The top margin will be ignored if it is set to a value greater than the printer's logical page length. Setting this value may affect the number of lines specified using the page length option.

If this option is not specified, the command will not be sent so the printer's default value will be used.

Example: The command to set the top margin to ten lines is "lp -o tm=10 <*filename*>".

Text Length

The text length can be specified using the following options.

Option Value	Alternative Value	Description
tl=value		Set the length to value lines.

If the text length is set too high, part of the text may not appear due to the printer's unprintable area. The text length will be ignored if it is set to a value greater than the printer's logical page length minus the top margin. The text length is specified in rows from the top margin. Setting this value may affect the number of lines specified using the page length option.

If this option is not specified, the command will not be sent so the printer's default value will be used.

Example: The command to set the text length to 40 lines is "lp -o tl=40 <*filename*>".

Banner Page

A banner page is automatically generated for each file in each job. The banner page is always sent as a PCL5e job, including the following items.

- Name of the user who performed printing
- Job ID number and workstation name from which the job was sent
- Job title (This can be specified using the "-t" option. The same title controlled by the "lp" command is normally applied to each job.)
- Option specified when printing was performed
- Number of printed sheets
- Name of the printer and its IP address
- Date and time

Only one copy of the banner page is printed for each file, even if a number of copies of the job are requested. The banner page is sent to the equipment as a separate sub-job so that it is never stapled to the document.

The banner page is printed with the following settings.

- Copies = 1.
- Stapling off.
- Hole punching off.
- Orientation = portrait.
- Duplex off.
- Paper size as requested by the "-o" parameter or the printer's default value.
- The paper source and the media type for the banner page can be set to different values than the job's paper source and media type.
- Auto paper source selection or the requested banner page source or media type.
- Output bin as requested by the "-o" parameter or the printer default value.
- 6 lines per inch
- Auto-wrap on.
- Automatic carriage-return when a line-feed is sent.

Notes!

- *The banner page is designed to fit the paper bigger than Statement / A5.*
  The banner page uses the default paper size if paper is set to:
  - *Statement*
  - *A5*
  - *A6*
  - *B5*
  - *J Post Card*
  - *J Double Post Card*

- *The default is that the banner page is printed before the job so that it is in the correct stacking order.*
- *When the language is set to "raw" the banner is always disabled.*
- *The paper source and the media type for the banner page can be set to values different than the job's paper source and media type. If a banner paper source is not specified then the auto source command is sent. If a banner media type is not specified, then no banner media type command is sent, so the printer's default value will be used.*
- *If the file being printed specifies the paper destination or the paper size internally, the banner page may printed to the wrong output or on an incorrect paper size.*
- *Hole punching cannot be applied to banner pages.*

Banner Options

The banner page can be printed using the following options.

Option Value	Alternative Value	Description
banner=last		Print the banner page after the job so that it will be physically on top of the job in the output tray.
banner=first	banner	Print the banner page before the job so that it will be physically under the job in the output tray.
nobanner	nb	Do not print a banner. The ability to specify the "nobanner" option can be disabled by the system administrator to force all jobs to print with a banner.

The default value for this option is that the banner page is printed first.

Example: The command to printing the banner page after the job is "lp -o banner=last <*filename*>".

Banner Paper Source

The banner paper source can be specified using the following option.

Option Value	Alternative Value	Description
bauto-source		Select the auto paper tray selection.
bdrawer1	bupper bcas1	Select the 1st drawer.
bdrawer2	blower bcas2	Select the 2nd drawer.
bdrawer3	bpedupper bcas3	Select the 3rd drawer.
bdrawer4	bpedlower bcas4	Select the 4th drawer.
blcf	BLCF	Select the Large Capacity Feeder. The Large Capacity Feeder is not available for some countries or regions.

If the banner paper source is not specified the PCL5e auto paper source command "<esc>&l7H" will be sent. The banner page source cannot be set to manual feed. The paper size always has priority over the paper source.

Example: The command to specify that the banner page paper source is the Large Capacity Feeder is "lp -o blcf <*filename*>".

Banner Media Type

The banner page paper source can also be selected using the media type using the following option.

Option Value	Alternative Value	Description
bmtype=Plain		A paper source that contains Plain paper is requested.
bmtype= Transparency		A paper source that contains transparency slides is requested.
bmtype=Thick1		A paper source that contains Thick1 paper is requested.
bmtype=Thick2		A paper source that contains Thick2 paper is requested.
bmtype=Thick3		A paper source that contains Thick3 paper is requested.

The paper size always has priority over the media type and the paper source.

If this option is not specified, the command will not be sent so the printer's default value will be used to print the banner page.

The command to specify that the banner page should be printed on a media type is "lp -o bmtype=Plain1 <*filename*>".