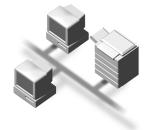# UNIX Supplement

Introduction

This manual describes detailed instructions on the operation and notes about the use of this machine. To get maximum versatility from this machine all operators are requested to read this manual carefully and follow the instructions. Please keep this manual in a handy place near the machine.

Notes

For use with the following machines

- RICOH Aficio AP600N
- SAVIN MLP32
- Gestetner P7132n
- nashuatec P7132n
- Rex-Rotary P7132n
- Lanier LP032

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How to Read This Manual

Symbols

In this manual, the following symbols are used:

△ *WARNING:*

This symbol indicates a potentially hazardous situation which, if instructions are not followed, could result in death or serious injury.

△ *CAUTION:*

This symbol indicates a potentially hazardous situation which, if instructions are not followed, may result in minor or moderate injury or damage to property.

* The statements above are notes for your safety.

❖Important

If this instruction is not followed, paper might be misfeed, originals might be damaged, or data might be lost. Be sure to read this.

📓 Preparation

This symbol indicates the prior knowledge or preparations required before operating.

🖉 Note

This symbol indicates precautions for operation, or actions to take after misoperation.

❢ Limitation

This symbol indicates numerical limits, functions that cannot be used together, or conditions in which a particular function cannot be used.

🔎Reference

This symbol indicates a reference.

【　】

Keys that appear on the machine's panel display.

Keys and buttons that appear on the computer's display.

【　】

Keys built into the machine's control panel.

Keys on the computer's keyboard.

1. UNIX Configuration

This section explains how to set up a network printer and check the print status using UNIX.

🖐 **Limitation**
❐ To print from a UNIX workstation, use the file that the printer supports.

Before Setup

Setting up can vary depending on the printing commands. Please make sure to make the settings accordingly.

Using the lp/lpr commands

A **Use the installation shell script to register the device option, as well as the printer host name and the IP address.**

⇒ p.4 "Using the Installation Shell Script"

B **Start printing.**

⇒ p.14 "Printing Method"

Using the rsh/rcp/ftp commands

A **Edit the host file to register the printer host name and the IP address.**

B **Start printing.**

⇒ p.14 "Printing Method"

🔍 **Reference**
See p.9 "After Executing Installation Shell Script" for host file editing.

✐ **Note**
❐ If you cannot edit the host file, use the install shell script to register the host name.

Using the Installation Shell Script

The installation shell script helps with the setup process. The installation shell script automates some of the tasks in configuring /etc/hosts, /etc/printcap, and in creating the spool directory for BSD UNIX, and in running the lpadmin command for System V UNIX.

📑 **Preparation**

The installation shell script can be used on the following three kinds of workstations. This installation shell script cannot be used with other types of workstations.

- SunOS 4.x.x, SunOS 5.x
- Solaris 2.x, Solaris 7, 8
- HP-UX 8.x, 9.x, 10.x, 11.x
- Redhat Linux 5.2, 6.x, 7.0, 7.1, 7.2
- OpenServer 5.06
- UnixWare 7.1.1

Depending on the security setting when installed, rsh/rcp/% telnet may not be usable with RedHat 7.1 or later. Change the security level to the level that allows use of rsh/rcp/% telnet. For more information about how to change the setting, see the operating instructions for RedHat.

When you use NIS (Network Information Service) or DNS, you should configure the server before running this installation shell script.

For more information about the configuration utility of your OS, see the manual that came with the utility.

Assigning the IP Address

📱 Preparation

Configure the machine to use the TCP/IP protocol.

- Make sure that the TCP/IP protocol on the machine is set to active. (The default is active.)

- Assign an IP address to the machine and configure the other settings required for using the TCP/IP protocol.

🔎 Reference

For more information about how to make the above settings, see the Printer Reference.

Checking the IP address configuration

Follow the procedure below to make sure that the IP address has been configured correctly.

- The following procedure uses the sample IP address: 192.168.15.16.

🖳 Enter the following:

 # ping 192.168.15.16

If the address has been configured correctly, the following message appears.

192.168.15.16 is alive

If the address has been configured incorrectly, the following message appears.

no answer from 192.168.15.16

📝 Note

❒ When you use NIS, the IP address and host name are written to /etc/hosts on the master server. When you use DNS, the information is written to a data file on the name server. After writing the host name and IP address to the file, make sure that the configuration is correct by pinging the host name.

 # ping *host_name*

❒ If the host name is registered with an IP address, the server can access the printer using its host name instead of its IP address.

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Executing the Installation Shell Script

After having configured the printer IP address, follow the procedure below to execute the installation shell script and set up the workstation printing environment.

🗒 Preparation

Before executing the installation shell script, the IP address, the host name and the printer name are required.

Following procedures use sample IP address: 192.168.15.16, sample host name: nphost and sample printer name: np.

🖉 Note

❐ Use ftp to get the installation shell script from the printer.

A **Log on to the workstation as root.**

🖉 Note

❐ If you do not log on as root, the installation shell script will not run.

B **Get the installation shell script from the printer.**

A **Move to the directory you want to copy the installation shell script to.**

B **Use ftp to connect to the printer with the IP address that you just configured.**

```
# ftp 192.168.15.16
Connected to 192.168.15.16
220 printer FTP server ready.
name (192.168.15.16:root:)
```

C **When a user name is requested, leave blank and press the 【RETURN】 key.**

```
331 Password required for root.
On:
```

D **When a password is requested, leave blank and press the 【RETURN】 key.**

```
230 User root logged in.
ftp>
```

E **Type the following to get the installation shell script.**

```
ftp> get install
```

F **Close the ftp session.**

```
ftp> bye
221 Goodbye.
#
```

C **Run the installation shell script.**

```
# sh ./install
```

✐ Note

❒ Insert a period and slash before the current directory.

D **Enter a number to select the workstation OS that you are using.**

```
Network printer install shell
 Copyright RICOH CO.,LTD. 1994-2003
 Select your workstation OS type.
  1. SunOS 4.x.x
  2. Solaris 2.x, Solaris 7-8 (SunOS5.x)
  3. HP-UX 8.x,9.x,10.x,11.x
  4. UnixWare
  5. Linux
  6. OpenServer
  7. Quit
Enter &lt;1-7>:
2
```

✐ Note

❒ SunOS, UnixWare and OpenServer appear on the screen, but they are not supported. Use Solaris, HP-UX or Linux.

❒ If you select "7", the installation shell script exits.

E **Enter the IP address of the printer.**

```
Enter Printer host IP address &lt;xxx.xxx.xxx.xxx> [re-
turn=skip]:
192.168.15.16
```

✐ Note

❒ The IP address will be added to the /etc/hosts file.

❒ If the host name of the printer has already been configured, press the 【RE-TURN】 key. Nothing will be added to the /etc/hosts file.

F **Enter the host name of the printer.**

```
Enter Printer host name : nphost
```

✐ Note

❒ The host name will be added to the /etc/hosts file.

❒ If no IP address was entered in step **E**, nothing is added to the /etc/hosts file.

🗷 Configure the printer name.

```
Enter logical printer name [default nphost_prn]
```

If you want to use the default name, press the 【RETURN】 key. Enter a new name, if you want to use a different one.

✐ Note

❒ The host name entered in step 🗷 followed by "_prn" appears in "default".

🗷 Set the print option.

```
Enter remote printer name [default lp]:
```

- Press the 【RETURN】 key, and print with PCL or PostScript is enabled.

- If you want to set the device option, enter the option parameter.

  ```
  Enter remote printer name [default lp]:tray=tray1
  ```
  For more information about the device option, see p.19 "Specifying the Device Option".

- If you enter "text", text printing is enabled.
  If you enter "text", printing with PCL and PostScript is unavailable.

  ```
  Enter remote printer name [default lp]:text
  ```

💡 Limitation

❒ You can enter up to 14 characters for HP-UX 11.0, 256 for Solaris 8 and Red Hat Linux 7.0, and 51 for Red Hat Linux 6.2.

❒ When printing with the lp command, use (_) instead of (=) and (;) instead of (,) for operating systems that cannot use (=) and (,) such as Solaris 2.5 or later.

After the setup with the installation shell script is complete, and if you enter the IP address in step 🗷, the following message appears.

```
hosts file is modified
```

🗷 Perform a test print to make sure that the settings are correct.

```
# lpr -Pnp file_name
```

```
# lp -d np file_name
```

For more information about lpr and lp, see p.14 "Printing Method".

1

Deleting the printer

To print using the lp or lpr command, the option specified when the installation shell script is executed is used. Change the option in accordance with the workstation you are using.

❖ **BSD UNIX workstation, Linux**
Delete the printer entry from /etc/printcap, and then execute the installation shell script again. Select options during the setup process.
Or, search the printer entry from /etc/printcap, and change its rp capability to option setting.

❖ **Solaris, HP-UX**
Delete the printer entry, and then execute the installation shell script again. Select options during the setup process. To delete the printer entry, follow the procedure below.

① Stop the scheduler.

```
# /usr/sbin/lpshut
```

② Delete the printer.

```
# /usr/sbin/lpadmin -x printer_name
```

③ Restart the scheduler.

```
# /usr/lib/lpsched
```

After Executing Installation Shell Script

The printing environment is set up automatically when the installation shell script is executed.

This section describes the set up contents when the installation shell script is executed under Red Hat Linux, Solaris and HP-UX.

Linux

❖ **Adding the IP address and host name to the /etc/hosts file**
The following line is added to the /etc/hosts file. The IP address and printer host name which you previously entered in the installation script will be used.
```
192.168.15.16 nphost # Network Printer
```
- **192.168.15.16** is the IP address, **nphost** is the host name, from # to the end of the line is a comment.

📝 **Note**
❒ The /etc/hosts file contains a list of the IP addresses and host names of all of the hosts communicating on the network. Each entry is delimited with a space or a tab, and each line is separated with a return.
❒ If you do not use NIS or DNS, you must manually enter the IP address and host name of each workstation using the network printer in the /etc/hosts file.

❖ **Adding an entry to the /etc/printcap file**

The following entry is added to the /etc/printcap file, which is the configuration for printing with the lpr command. In order to use the lpr command to print, you need to edit the /etc/hosts file, add an entry for the network printer to the /etc/printcap file and create a spool directory.

```
##PRINTTOOL3## REMOTE
np|Network Printer:\
      :rm=nphost:\
      :rp=option:\
      :sd=/var/spool/lpd/npd:\
      :lf=/var/log/npd-errs:\
      :sh:\
      :mx#0:
```

🖉 **Note**

❒ The /etc/printcap file is used to register the name and attributes of a printer. You must make an entry for the network printer in the /etc/printcap file of all workstations using the network printer.

❒ Each entry is separated with colons into several fields. The syntax is to begin each entry with a colon, followed by the entry, and then end with a colon, a back slash, and then a return.

❒ The first line of the field is the name of the printer. You use this name when logging on to a network printer from a workstation. You can define several different names by separating each name with the "|" character.

❒ The second and following lines contain the printer's attributes. Attributes of the printer are represented by two character names referred to as capabilities. For more information about capabilities, see the following table.

Capability	Explanation	Value Required for the Network Printer.
rm	Host name of the printer	The host name that was registered with the /etc/hosts file.
rp	Optional specification "lp" will be assigned, if the option is not used.	Select options for printing. For more information about available options, see p.19 "Specifying the Device Option".
sd	Path name of the spool directory.	Path name of the spool directory that is to be created.
lf	Path name of the log file.	Path name of the log file. For example /var/log/lpd-errs.
mx	Maximum file size which the directory can copy. When set to 0, the size is unlimited. If nothing is entered, the size is set to 1024 k.	None or something suitable.

❖ **Making the spool directory**
Create a spool directory under /var/spool/lpd. The name of the spool directory should be the name of the printer followed by a "d".

📝 **Note**

❒ The spool directory is used to control the data used for a print job. For example, when a print job is created, a temporary copy of the file data used for printing is created in the spool directory. All workstations accessing the network printer need to have a spool directory for the network printer.

❒ A spool directory should be made for every network printer entry listed in the /etc/printcap file.

❒ The spool directory should normally be made under /var/spool/lpd and the name should match that listed under the sd capability in /etc/printcap. Change the owner and group of the directory to root and lp. The following examples show how to make a /var/spool/lpd/npd spool directory.

```
# cd /var/spool/lpd
# mkdir npd
# chown root npd
# chgrp lp npd
```

❖ **Making the log file**
Error messages are logged to a file created in the /var/log directory. The log file name is the printer name followed by "d-errs".

📝 **Note**

❒ The log file is used for logging some errors or warning messages by the UNIX workstation.

❒ The log file should be made for every network printer entry listed in the /etc/printcap file.

❒ The log file should normally be made under /var/log directory and the name should match that listed under the lf capability in /etc/printcap. Change the owner and group of the log file to root and lp. The following examples show how to make a /var/log/npd-errs file.

```
# cd /var/log
# touch npd-errs
# chown root npd-errs
# chgrp lp npd-errs
```

Solaris

❖ **Adding the IP address and host name to the /etc/hosts file**
The following line is added to the /etc/hosts file. The IP address and printer host name which you previously entered in the installation script will be used.

192.168.15.16 *nphost* **# Network Printer**

- **192.168.15.16** is the IP address, **nphost** is the host name, from # to the end of the line is a comment.

📝 **Note**

❒ The /etc/hosts file contains a list of the IP addresses and their host names of all of the hosts communicating on the network. Each entry is delimited with a space or a tab, and each line is separated with a return.

❒ If you do not use NIS or DNS, you must manually enter the IP address and host name of each workstation using the network printer in the /etc/hosts file.

❖ **Registering the printer**
The installation shell script registers the printer as a remote printer.

① If your workstation is Solaris 2.5.1, register the print server and print client to the print service.

 # lpsystem -t bsd -R 0 -y ″Network Printer″ nphost

② Register the printer as a remote printer.

 # lpadmin -p *np* **-s** *nphost!"option"* **-T dump -I any**

- **np** is the printer name, **nphost** is the host name. For more information about "option", see p.19 "Specifying the Device Option".
  "lp" will be assigned, if the option is not used.
  When printing with the lp command, use (_) instead of (=) and (;) instead of (,) for operating systems that cannot use (=) and (,) such as Solaris 2.5 or later.

③ If your workstation is Solaris 2.5.1, set the print job to active so that it can be accepted by the print queue.

/usr/lib/accept *np*

④ If your workstation is Solaris 2.5.1, set the print job to active to print.

/usr/lib/enable *np*

HP-UX

❖ **Adding the IP address and host name to the /etc/hosts file**

The following line is added to the /etc/hosts file. The IP address and printer host name which you previously entered in the installation script will be used.

192.168.15.16 *np* # Network Printer

- **192.168.15.16** is the IP address, **np** is the host name, from # to the end of the line is a comment.

🖉 Note

❒ The /etc/hosts file contains a list of the IP addresses and their host names of all of the hosts communicating on the network. Each entry is delimited with a space or a tab, and each line is separated with a return.

❒ If you do not use NIS or DNS, you must manually enter the IP address and host name of each workstation using the network printer in the /etc/hosts file.

❖ **Registering the printer**

The installation shell script registers the printer as a remote printer following the procedure below.

① Stop the scheduler.

/usr/lib/lpshut

② Register the printer.

/usr/lib/lpadmin -P*np* -v/dev/null -mrmodel

 -orm*nphost* -orp*"option"* -ob3

- **np** is the printer name, **nphost** is the host name.
 For more information about "option", see p.19 "Specifying the Device Option".
 "lp" will be assigned, if the option is not used.

③ Set the printer so that the print job is listed in the print queue.

/usr/lib/accept *np*

④ Set the printer to perform the print job.

/usr/lib/enable *np*

⑤ Restart the scheduler.

/usr/lib/lpsched

Printing Method

1

Printing with lpr, lp

Execute one of the following commands according to the type of workstation being used:

❖ **BSD UNIX workstation, Linux**

```
% lpr -Pprinter_name file_name [file_name...]
```
For example:
printer name is np, file names are file1 and file2

```
% lpr -Pnp file1 file2
```

❖ **Solaris, HP-UX**

```
% lp -d printer_name file_name [file_name...]
```
For example:
printer name is np, file names are file1 and file2

```
% lp -d np file1 file2
```

✐ **Note**
❒ "**printer_name**" is the name that was entered when executing the installation shell script.

❒ You can use wild cards (* or ?) for the file name.

❒ The message "print session full" appears when the maximum number of print requests has been reached (max. 5 sessions (Job Spool setting available)). You should try to print again when the number of requests is less than five. You can check the number of print requests using % telnet. For more information about using % telnet, see the Printer Reference.

Printing with rsh, rcp, ftp

You can also print using the rsh, rcp and ftp commands.

Note

❐ Print using the format that the printer can support.

❐ The message "print session full" appears when the maximum number of print requests has been reached. [*1]

> [*1] The maximum number of print session differs depending on printer's total memory size. When the printer has standard memory (32 MB), one print session is available. When the printer has optional memory (total 96 MB), the maximum number of print sessions available is five (ftp:three).

rsh

```
% rsh host_name print < file_name
```
For example:

host name is nphost, file name is file1

```
% rsh nphost print < file1
```

Note

❐ "**host_name**" is the name entered when executing the installation shell script.

❐ If you use a HP-UX, use the remsh command instead of rsh.

rcp

❖ **To specify and print the file**

```
% rcp file_name [file_name...] host_name:
```
For example:
host name is nphost, file names are file1 and file2
```
% rcp file1 file2 nphost:
```

❖ **To print all of the files in a directory**

```
% rcp -r directory_name host_name:
```
For example:
host name is nphost, directory name is directory1
```
% rcp -r directory1 nphost:
```

Note

❐ "**host_name**" is the name entered when executing the installation shell script.

❐ You can use wild cards (* or ?) for the file name.

ftp

Depending on the number of files to be printed, use the put or mput commands.

❣ Limitation

❐ File names cannot contain "=" or ",".

❖ To print one file

ftp> put *file_name*

❖ To print several files

ftp> mput *file_name* [*file_name...*]

✎ Note

❐ You can use wild cards (* or ?) for the file name with the mput command.

The following procedure shows an example of how to print a file using ftp.

It is not possible to set options with the mput command.

A **Start ftp using the IP address or host name of the printer.**

% ftp *IP_address*

B **Enter the user name. Skip the password, and then press the 【RETURN】 key.**

Name:
Password:

C **Set the file transfer mode to binary.**

ftp> bin

✎ Note

❐ If the file transfer mode is not set to binary, the image might not be printed correctly.

D **Print the file.**

✎ Note

❐ For example, to print one file named file1:

ftp> put file1

❐ For example, to print two files named file1 and file2:

ftp> mput file1 file2

E **Exit ftp.**

ftp> bye

Printer Status

You can use the following commands to have information and the printer status displayed or copied to a file.

Use the lpq or lpstat command to display the status of the printer or information about print jobs.

Use the rsh, rcp or ftp commands to get more detailed information from the printer.

Viewing the Print Job Status with lpq and lpstat

❖ **BSD UNIX workstation, Linux**

> **% lpq -P*printer_name***
> For example: Printer name is np

> **% lpq -P*np***

❖ **System V UNIX, Solaris, HP-UX**

> **% lpstat -o *printer_name***
> For example: Printer name is np

> **% lpstat -o *np***

> 📝 **Note**
> ❒ In case of HP-UX, do not put a space between "-o" and "printer name".

Viewing the Printer Status with rsh and ftp

Use the rsh or ftp command to display the status of the printer or information about print jobs using specified parameters.

You can use these commands for BSD and System V UNIX.

📝 **Note**
❒ If your workstation is HP-UX, use the remsh command instead of the rsh.

% rsh *host_name parameter*

% ftp host_name
User *user_name*
password:
ftp> get *parameter* -

Note

❒ Leave the user name and password blank, and then press the 【RETURN】 key.

❒ "-" indicates the standard output. It will be displayed on screen if the standard output has not been specified.

Parameters that can be used with rsh, rcp and ftp:

Parameter	Information returned
stat	Status of the printer. Information about print jobs.
info	Information about the paper tray, output tray and printer language.
prnlog	Record of the last 16 jobs printed.
syslog	Record of messages about the Network Interface Board.

Copying Information to a File

Use the rcp or ftp command to copy information about the specified parameters to a file.

You can use these commands for BSD and System V UNIX.

Note

❒ The same parameters are used as those above.

```
% rcp host_name:parameter file_name
```

```
% ftp host_name
User: user_name
password:
ftp> get parameter file_name
```

Note

❒ Leave the user name and password blank, and then press the 【RETURN】 key.

Specifying the Device Option

With the following options, you can print with specific printer functions.

Configuring the Device Option

The configuration of the print option can vary depending on the printing commands.

- rsh

  % rsh *host_name* print *option1=value1,…* < *file_name*

- rcp

  % rcp *file_name host_name:option1=value1,…*

- ftp

  ftp> put *file_name option1=value1,…*

Host_name is the printer host name. *File_name* is the file name you want to print. The device option is specified with the form of "*option=value*". For more information about the types of device options and values, see the following explanations.

For example, the following settings are for printing with rsh, rcp, and ftp: switch to PostScript, feed paper from paper feed tray 1, set the printing amount to 3 sets, and print with the resolution set to 600 dpi (host_name : nphost, file_name : file1).

- rsh

  % rsh nphost print filetype=postscript,tray=tray1,copies=3,resolution=600 < file1

- rcp

  % rcp file1 nphost:filetype=postscript,tray=tray1,copies=3,resolution=600

- ftp

  ftp> put file1 filetype=postscript,tray=tray1,copies=3,resolution=600

❣ Limitation

❏ The optional character strings that the printer can recognize are maximum 512 bytes.

❏ The number of available characters used as options are limited, depending on their operating systems.

🖉 Note

❏ Multiple options must be separated by commas (,). Do not use spaces.

❏ When the printing file contains the PCL, PJL, PostScript commands to control the option, the command takes priority.

❒ Enter the option using the lp or lpr command, when the shell script is implemented. The option settings you made here have been configured as a default setting. You must create the other printer if you want to change the printer option settings. For more information about changing the configured option, see p.9 "Deleting the printer".

❒ When printing with the lp command, use (_) instead of (=) and (;) instead of (,) for operating systems that cannot use (=) and (,) such as Solaris 2.5 or later.

- -

💡Using the cd command with ftp

For printing with ftp, if the option is specified using the cd command, the option is available whenever the put or mput command is used.

```
ftp> cd option
```

📝 Note

❒ The pwd command shows the current option settings.

```
ftp> pwd
```

- -

List of the device options

Device Option	Value	Function Summary
filetype	PCL, postscript (rps), pdf	Specifies the printer language for printing
filter	text	Specifies the text printing
tray	tray1~tray3, bypass, all	Specifies the input tray
paper	a3~a6, jisb4, jisb5, dl, ledger, letter, halfletter, legal, executive, fgl, foolscap, folio, c5, c6, monarch, com10, k8, k16, custom	Specifies the paper size
mediatype	plain, recycled, special, thick, transparency, color, letterhead, preprinted, plainorrecycled	Specifies the paper type
outbin	upper, inner, optionaloutputbin1~5, sequentialstack	Specifies the output tray
copies	Number of copies (1-999)	Specifies the number of copies
qty	Number of collated sets (1-999)	Specifies the number to collate

Device Option	Value	Function Summary
duplex	on, off	Specifies whether duplex printing is on or off
binding	longedge, shortedge	Specifies the binding direction for duplex printing
orientation	portrait, landscape	Specifies the feed direction of the paper
resolution	value of resolution (200, 300, 400, 600, 1200)	Specifies the resolution for printing
symbol set	desktop, iso4, iso6, iso11, iso15, iso17, iso21, iso60, iso69, isol1, isol2, isol5, legal, math8, mspubl, pc8, pc850, pc852, pc8dn, pc8tk, pifont, psmath, pstext, roman8, vn-intl, vnmath, vnus, win30, winl1, winl2, winl5	Specify the set of print characters

Printer Language

Select a printer language to print in.

filetype=*printer language*

fil=*printer language*

Printer Language	Value
PCL5e	PCL
PostScript 3	postscript or rps
PDF Direct Print	pdf

The following sample shows how to print with PostScript 3 (host name: nphost, file name: file1).

- rsh

  % rsh nphost print filetype=postscript < file1

- rcp

  % rcp file1 nphost:filetype=postscript

- ftp

  ftp> put file1 filetype=postscript

Text Printing

Set this function when directly printing text files.

☞ Limitation

❒ Possible only when PDF is not selected as the printer language.

```
filter=text
```

```
fil=text
```

The following sample shows how to print text files directly.

- rsh

  ```
  % rsh nphost print filter=text < file1
  ```

- rcp

  ```
  % rcp file1 nphost:filter=text
  ```

- ftp

  ```
  ftp> put file1 filter=text
  ```

Input Tray

Select a default input tray.

☞ Limitation

❒ Only the installed input trays are available.

❒ Before printing a PostScript file, the Input tray option must be set to on.

```
tray=value of input tray
```

Input tray	Value
Tray 1	tray1
Tray 2	tray2
Tray 3	tray3
Bypass Tray	bypass
Auto Tray Select	all

The following sample shows how to print from tray 2 (host name: nphost, file name: file1).

- rsh

  ```
  % rsh nphost print tray=tray2 < file1
  ```

- rcp

  ```
  % rcp file1 nphost:tray=tray2
  ```

- ftp

  ```
  ftp> put file1 tray=tray2
  ```

Paper Size

Select the paper size.

❦ Limitation

❒ Possible only when PDF is not selected as the printer language.

❒ Only the loaded paper sizes are available.

paper=*value of paper size*

Paper Size	Value
A3	a3
A4	a4
A5	a5
A6	a6
B4	jisb4
B5	jisb5
$8^1/_2 \times 14$	ledger
$8^1/_2 \times 11$	letter
$5^1/_2 \times 8^1/_2$	halfletter
$8^1/_2 \times 14$	legal
$7^1/_4 \times 10^1/_2$	executive
8×13	fgl
$8^1/_2 \times 13$	foolscap
$8^1/_4 \times 13$	folio
$4\ ^1/_8" \times 9^1/_2"$	com10
6.38" × 9.02"	C5
4.49" × 6.38"	C6
4.33" × 8.66"	dl
$3^7/_8" \times 7^1/_2"$	monarch
$10^1/_2" \times 15.35"$	8k
$7.68" \times 10^1/_2"$	16k

The following sample shows how to print using A4 paper (host name: nphost, file name: file1).

- rsh

  ```
  % rsh nphost print paper=a4 < file1
  ```

- rcp

  ```
  % rcp file1 nphost:paper=a4
  ```

- ftp

  ```
  ftp> put file1 paper=a4
  ```

Paper Type

Select the paper type.

❖ **Limitation**

❒ Only the loaded paper types are available.

mediatype=*value of paper type*

Paper Type	Value
Plain paper	plain
Preprinted paper	preprinted
Letterhead	letterhead
Recycled paper	recycled
Color paper	color
Special paper	special
Thick paper	thick
Transparency	transparency
Plain paper or Recycled paper	plainorrecycled

The following sample shows how to print using recycled paper (host name: nphost, file name: file1).

- rsh

  ```
  % rsh nphost print mediatype=recycled < file1
  ```

- rcp

  ```
  % rcp file1 nphost:mediatype=recycled
  ```

- ftp

  ```
  % ftp> put file1 mediatype=recycled
  ```

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Output Tray

Select the output tray.

outbin=*value of output tray*

♥ Limitation

❒ Only the installed output trays are available.

✐ Note

❒ The output tray value corresponds to the ID number of the output tray which is obtained from the printer information (e.g. info command in ftp, info command in % telnet. For more information about % telnet, see the Printer Reference).

❒ You can select an output tray using alphabet letters instead of the ID number of the output tray. For more printer information, see the Printer Reference.

Output Tray	Value
Standard Tray	upper/optionaloutputbin1
1-bin Shift Sort Tray	inner
CS380 (Mailbox)	optionaloutputbin2~5 [1]
All Output Trays	sequentialstack

[1] CS380 (Mailbox) has four output bin. The value of "optionaloutputbin2~52"corresponds to the lowest output bin. Selecting the bigger value, you can select the upper output bin.

The following sample shows how to print using standard tray (host name: nphost, file name: file1).

- rsh

  % rsh nphost print outbin=upper < file1

- rcp

  % rcp file1 nphost:outbin=upper

- ftp

  ftp> put file1 outbin=upper

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Copies

Specify the number of copies.

`copies=number of copies (1 to 999)`

💡 Limitation

❏ Do not specify "copies" and "qty [1]" commands at the same time.

[1] "qty" is the function of collation.

The following sample shows how to print 10 copies (host name: nphost, file name: file1).

- rsh

  `% rsh nphost print copies=10 < file1`

- rcp

  `% rcp file1 nphost:copies=10`

- ftp

  `ftp> put file1 copies=10`

Collating

Specify the number of collated sets.

`qty=number of collated sets (1 to 999)`

💡 Limitation

❏ Do not specify "qty" and "copies" commands at the same time.

The following sample shows how to print 10 copies using the collate function (host name: nphost, file name: file1).

- rsh

  `% rsh nphost print qty=10 < file1`

- rcp

  `% rcp file1 nphost:qty=10`

- ftp

  `ftp> put file1 qty=10`

Duplex Printing

This option enables duplex printing.

☝ Limitation

❒ AD410 (duplex unit) is required.

✐ Note

❒ Before selecting the duplex option, the binding option must be set to on.

❒ The print data and paper size affect the completion of the print job.

```
duplex=value of duplex printing
```

Duplex Printing	Value
Enable	on
Disable	off

✐ Reference

For more information about available paper size for duplex printing, see the Printer Reference.

The following sample shows how to set duplex printing (host name: nphost, file name: file1).

- rsh

  ```
  % rsh nphost print duplex=on,binding=longedge < file1
  ```

- rcp

  ```
  % rcp file1 nphost:duplex=on,binding=longedge
  ```

- ftp

  ```
  ftp> put file1 duplex=on,binding=longedge
  ```

✐ Reference

For more information about available paper size for duplex printing, see the Printer Reference.

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Binding

Select the binding direction of duplex printing.

✐ Note

❒ Before selecting the binding option, the duplex option must be set to on.

❒ The print data and paper size affect the completion of the print job.

binding=*value of binding*

Binding Direction	Value
Longedge	longedge
Shortedge	shortedge

The following sample shows how to set duplex printing and longedge binding (host name: nphost, file name: file1).

- rsh

  % rsh nphost print duplex=on,binding=longedge < file1

- rcp

  % rcp file1 nphost:duplex=on,binding=longedge

- ftp

  ftp> put file1 duplex=on,binding=longedge

Orientation

Select the feed direction of the paper.

❗ Limitation

❒ Possible only when PCL5e or PDF is not selected as the printer language.

orientation=*feed direction (portrait or landscape)*

Orientation	value
Portrait	portrait
Landscape	landscape

The following sample shows how to print the paper vertically using the orientation function (host name : nphost, file name : file1).

- rsh

  % rsh nphost print orientation=portrait < file1

- rcp

  % rcp file1 nphost:orientation=portrait

- ftp

  ftp> put file1 orientation=portrait

Resolution

Select the printing resolution.

♥ Limitation

❒ If you want to select the 300 dpi option, only the selected PCL5e from the printer language option is available.

❒ 300, 600, or 1200 dpi can be set when PDF is selected as the printer language.

`resolution=value of resolution`

Resolution	Value
200 dpi	200
300 dpi	300
400 dpi	400
600 dpi	600
1200 dpi	1200

The following sample shows how to print with 600 dpi and better quality. (host name: nphost, file name: file1).

- rsh

  `% rsh nphost print resolution=600 < file1`

- rcp

  `% rcp file1 nphost:resolution=600`

- ftp

  `ftp> put file1 resolution=600`

Symbol Set

Select the set of print characters for the selected font.

✿ Limitation

❒ Only the selected PCL5e from the printer language option is available.

`symset=value of font`

Font	Value
Desktop	desktop
ISO 4	iso4
ISO 6	iso6
ISO 11	iso11
ISO 15	iso15
ISO 17	iso17
ISO 21	iso21
ISO 60	iso60
ISO 69	iso69
ISO L1	isol1
ISO L2	isol2
ISO L5	isol5
Legal	legal
Math-8	math8
MS Publ	mspubl
PC-8	pc8
PC-850	pc850
PC-852	pc852
PC-8 D/N	pc8dn
PC8-TK	pc8tk
Pifont	pifont
PS Math	psmath
PS Text	pstext
Roman-8	roman8
VN Intl	vnintl
VN Math	vnmath
VN US	vnus
Win 3.0	win30

Font	Value
Win L1	winl1
Win L2	winl2
Win L5	winl5

The following sample shows how to print a set of ISO 4 (host name : nphost, file name : file1).

- rsh

  % rsh nphost print symset=iso4 < file1

- rcp

  % rcp file1 nphost:symset=iso4

- ftp

  ftp > put file1 symset=iso4

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