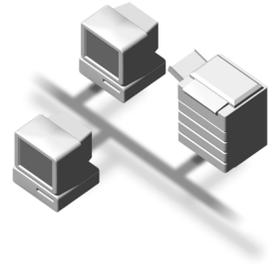# UNIX Supplement

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.

Important

Contents of this manual are subject to change without prior notice. In no event will the company be liable for direct, indirect, special, incidental, or consequential damages as a result of handling or operating the machine.

Notes

For use with the following machine:

- Printer/Scanner Unit Type 2238

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How to Read This Manual

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 misfed, originals might be damaged, or data might be lost. Be sure to read this.

🗐 Preparation

This symbol indicates prior knowledge or preparation required before operation.

📎 Note

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

❢ 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 print status using UNIX.

❣ Limitation
❒ To print from a UNIX workstation, use a file that the printer supports.

Before Setup

Setup varies depending on the printing commands. Be sure to make 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 IP address.**

See p.4 "Using the Installation Shell Script".

B **Start printing.**

See p.14 "Printing Methods".

Using the "rsh"/"rcp"/"ftp" commands

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

B **Start printing.**

See p.14 "Printing Methods".

🔍 Reference

For information about host file editing, see p.9 "After Executing the Installation Shell Script".

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

📓 Preparation

The installation shell script can be used on the following workstations (it cannot be used with other types of workstations):

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

Depending on security settings made at installation, the "rsh"/"rcp"/"telnet" commands may not be usable with Red Hat 7.1 or later versions. Change the security level to allows use of "rsh"/"rcp"/"telnet". For more information about how to change the setting, see the operating instructions for Red Hat.

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

For more information about the configuration utility of your operating system, see the manual that comes with that utility.

Assigning the IP Address

📖 Preparation

Configure the machine to use TCP/IP.

- Make sure that TCP/IP 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 TCP/IP.

🔍 Reference

For more information about how to make the above settings, see *Network Guide*.

Checking the IP address configuration

Follow the procedure below to make sure that the IP address is 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 is configured correctly, the following message appears:

192.168.15.16 is alive

If the address is 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.

 # 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.

Executing the Installation Shell Script

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, host name and printer name, are required.

The following procedures use the sample IP address: 192.168.15.16; sample host name: "nphost"; and sample printer name: "np".

🖉 Note

❒ Use the "ftp" command 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 **Specify the directory you want to copy the installation shell script to.**

B **Use the "ftp" command to connect to the printer with the IP address 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 the user name field blank and press the 【RETURN】(【ENTER】) key.**

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

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

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

E **Enter the following to get the installation shell script:**

```
ftp> get install
```

F **Close the ftp session.**

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

3 Run the installation shell script.

```
# sh ./install
```

Note

❒ Insert a period and slash before the current directory.

4 Enter a number to select the workstation operating system 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
  4.UnixWare
  5.Linux
  6.OpenServer
  7.Quit
Enter <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 ends.

5 Enter the printer's IP address.

```
Enter Printer host IP address <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】(【ENTER】) key. Nothing will be added to the /etc/hosts file.

6 Enter the printer's host name.

```
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 **5**, nothing is added to the /etc/hosts file.

7 **Configure the printer name.**

`Enter logical printer name [default nphost_prn]`

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

Note

❒ The host name entered in step **6** followed by "_prn" appears in "default".

8 **Set the print option.**

`Enter remote printer name [default lp]:`

- Press the 【RETURN】(【ENTER】) key, and printing with PCL or PostScript 3 is enabled.

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

  `Enter remote printer name [default lp]:`*tray=tray1*

  ### Reference

  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 3 is disabled.

  `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 setup with the installation shell script is complete, and if you entered the IP address in step **5**, the following message appears:

`hosts file is modified`

9 **Do a test print to make sure that the settings are correct.**

`# lpr -Pnp `*file_name*

`# lp -dnp `*file_name*

Reference

For more information about the "lpr" and "lp" commands, see p.14 "Printing Methods".

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Deleting the printer

To print using the "lp" or "lpr" commands, 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.

Alternatively, 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 the Installation Shell Script

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

This section describes setup 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 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 the comment.

📝 **Note**

❏ The /etc/hosts file contains a list of the IP addresses and names of all 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 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.

❒ You must make an entry for each printer option when using the same printer.

❒ Each entry is separated into several fields by colons. Each entry begins with a colon, followed by the entry, and then ends with a colon, a back slash, and finally a return.

❒ The first line of the field is the name of the printer. 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 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 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 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 "d".

📎 **Note**

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

❒ A spool directory should be made for every network printer 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 errors or warning messages by the UNIX workstation.

❒ The log file should be made for every network printer 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
```

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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 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 the comment.

Note
❒ The /etc/hosts file contains a list of IP addresses and names of all 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 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 using the procedure below:

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 it can be put in 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*

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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 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, the comment comes after the #.

🖉 Note

❒ The /etc/hosts file contains a list of IP addresses and names of all 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 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 using 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 the print job is put 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 Methods

Printing with "lpr" and "lp"

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

❖ **BSD UNIX workstation, Linux**

```
% lpr -Pprinter_name file_name [file_name...]
```
For example:
(printer name: "np"; file names: "file1" and "file2")

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

❖ **Solaris, HP-UX**

```
% lp -dprinter_name file_name [file_name...]
```
For example:
(printer name: "np"; file names: "file1" and "file2")

```
% lp -dnp file1 file2
```

🖉 Note

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

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

❐ The "print session full" appears when the maximum number of print requests is reached (max. 5 sessions - Job Spool setting available). Try printing 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 *Network Guide*.

❐ The number of print sessions does not change, even if you increase or reduce the machine's total memory size.

Printing with "rsh", "rcp", and "ftp"

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

📝 Note

❒ Print using a format the printer supports.

❒ Try to print again when the number of requests is zero.

❒ The "print session full" appears when the maximum number of print requests is reached.

❒ The maximum number of print sessions varies depending on the command. When using the "rsh" or "rcp" command, the maximum number of print sessions is five; when using the "ftp" command, the number is three.

rsh

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

(host name: "nphost"; file name: "file1")

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

📝 Note

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

❒ If you are using 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: "nphost"; file names: "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: "nphost"; directory name: "directory")
```
% rcp -r directory1 nphost:
```

📝 Note

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

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

ftp

Use the "put" or "mput" commands depending on the number of files to be printed.

🌶 Limitation

❒ File names cannot contain "=", "," ,"_", or ";".

❒ It is not possible to set options with the "mput" command:

❖ 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 the "ftp" command.

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

```
% ftp IP_address
```

B Enter the user name. Leave the password field blank and press the 【RE-TURN】(【ENTER】) 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 may not be printed correctly.

D Print the file.

📝 Note

❒ For example, to print the file named "file1":

```
ftp> put file1
```

❒ For example, to print the 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 printer status displayed or copied to a file.

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

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

Viewing Print Job Status with "lpq" and "lpstat"

❖ **BSD UNIX workstation, Linux**

`% lpq -Pprinter_name`
For example:
(printer name: "np")

`% lpq -Pnp`

❖ **System V UNIX, Solaris, HP-UX**

`% lpstat -o printer_name`
For example:
(printer name: "np")

`% lpstat -o np`

📝 Note
❒ If you are using HP-UX, do not put a space between "-o" and "printer name".

Viewing Printer Status with "rsh" and "ftp"

Use the "rsh" or "ftp" command to display printer status 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 "rsh".

`% rsh host_name parameter`

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

✐ Note

❒ Leave the user name and password field blank and press the **【RETURN】** (**【EN-TER】**) key.

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

Parameters that can be used with "rsh", "rcp", and "ftp" are as follows:

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 20 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 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 field blank and press the **【RETURN】** (**【EN-TER】**) key.

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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 varies, depending on 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 in the form of "option=value". For more information about 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 3, use paper from paper tray 1, set the number of copies 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,cop-ies=3,resolution=600 < file1`

- rcp
  `% rcp file1 nphost:filetype=postscript,tray=tray1,cop-ies=3,resolution=600`

- ftp
  `ftp> put file1 filetype=postscript,tray=tray1,cop-ies=3,resolution=600`

✎ Note

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

❒ When the printing file contains the PCL, PJL, PostScript 3 commands control of the option, the command takes priority.

❒ Enter the option using the "lp" or "lpr" command when the shell script is executed. The option settings made here are configured as default. You must create another printer if you want to change 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.

✿ **Limitation**

❒ The optional character strings the printer can recognize contain a maximum of 512 bytes.

❒ The number of available characters used as options is limited, depending on operating systems.

⚡Using the "cd" command with ftp

For printing with ftp, if the option is specified using the "cd" command, it becomes 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)	Specifies the printer language for printing.
filter	text	Specifies the text printing.
tray	tray1~tray4, lct, bypass, all	Specifies the input tray.
paper	a3wide, a3~a6, jisb4, jisb5, ledger, letter, halfletter, legal, executive, fgl, foolscap, folio, com10, monarch, c6, c5, dl, k8, k6, custom	Specifies the paper size.
mediatype	plain, letterhead, transparency, recycled, color, special, thick, preprinted, plainduplexbacks, thickduplexbacks, plainorrecycled	Specifies the paper type.
outbin	upper, lower, lower2, lower3, finisherproof, finishershift, finisherbooklet	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 of sets to collate.
duplex	on, off	Specifies whether to use duplex printing.
binding	longedge, shortedge	Specifies the binding side for duplex printing.

Device option	Value	Function summary
orientation	portrait, landscape	Specifies the paper feed direction.
resolution	300, 600, 1200	Specifies the print resolution.
staple	off, lefttop, righttop, lefttopslantport, lefttopslantland, righttopslantport, righttopslantland, lefttopvertport, lefttopvertland, righttopvertport, righttopvertland, lefttophorizport, lefttophorizland, left2port, left2land, right2port, right2land, top2port, top2land, booklet	Specifies the staple position.
punch	off, leftport, leftland, rightport, rightland, topport, topland	Specifies the punch position.
punchhole	jp2, us2, us3, eu4, neu4	Specifies the punch hole.
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, vnintl, vnmath, vnus, win30, winl1, winl2, winl5	Specify the set of print characters.

Printer Language

Specify a printer language to print in.

filetype=*printer language*

fil=*printer language*

Printer language	Value
PCL 5c	pcl
PostScript 3	postscript or rps

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 printing text files directly.

`filter=text`

`flt=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

Specify a default input tray.

🌡 Limitation

❐ Only installed input trays are available.

❐ Before printing a PostScript 3 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
Tray 4	tray4
Large Capacity Tray (LCT)	lct
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

Specify the paper size.

❣ Limitation

❒ Only the loaded paper sizes are available.

paper=*value of paper size*

Paper size	Value
A3 wide	a3wide
A3	a3
A4	a4
A5	a5
A6	a6
B4JIS (Japanese Industrial Standard)	jisb4
B5JIS	jisb5
11×17	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
Com10	com10
Monarch	monarch
C6 Env	c6
C5 Env	c5
DL Env	dl
K8	k8
K16	k16
Custom size	custom

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

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Paper Type

Specify the paper type.

⚡ Limitation

❒ This function is only for PostScript 3.

❒ Only the loaded paper types are available.

mediatype=*value of paper type*

Paper type	Value
Plain paper	plain
Letterhead	letterhead
OHP transparency	transparency
Recycled paper	recycled
Color paper	color
Special paper	special
Thick paper	thick
Preprinted paper	preprinted
Plain duplex paper (back)	plainduplexbacks
Thick duplex paper (back)	thickduplexbacks
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

Specify the output tray.

`outbin=value of output tray`

♣ Limitation

❒ Only installed output trays are available.

🖉 Note

❒ The output tray value corresponds to the ID number of the output tray obtained from the printer information (for example: "info" command in ftp, "info" command in telnet. For more information about telnet, see *Network Guide*.).

❒ You can select an output tray using alphabetical letters instead of the output tray's ID number. For more printer information, see *Printer Reference 2*.

Output tray	Value
Internal tray 1	upper
External tray	lower
Left tray 1	lower2
Left tray 2	lower3
Finisher upper tray	finisherproof
Finisher shift tray	finishershift
Finisher booklet tray	finisherbooklet

The following sample shows how to print from internal tray 1 (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 a collate function.

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

❒ This function is only for PostScript 3.

❒ 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

Specify whether to use duplex printing.

📝 **Note**

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

❒ Data and paper volume 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 *General Settings Guide*.

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`

Binding

Specify the binding side for duplex printing.

✎ Note

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

❒ Data and paper volume affect 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 long-edge 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

Specify the paper orientation.

✦ Limitation

❒ Only the selected PCL 5c from the printer language option is available.

`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

Specify the printing resolution.

`resolution=value of resolution`

Resolution	Value
300 dpi	300
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`

Staple

Specify the staple position.

❗ Limitation

❐ Before executing the "staple" command, make sure the number of collated sets and the output tray is specified.

❐ When using this option, the optional finisher unit is required.

❐ When printing with this option, be sure to specify the optional finisher using "finisherproof" or "finishershift" as the value, for example "outbin=finisherproof". For more information about the optional finisher unit, see p.25 "Output Tray".

📝 Note

❐ Available staple positions vary depending on the type of output tray you have installed. For more information about stapling, see *Printer Reference 2* (PDF file) on the CD-ROM labeled "Operating Instructions for Printer / Scanner".

`staple=value of staple position`

Position	Value
Off	off
Upper left	lefttop
Upper right	righttop
Upper left slant	lefttopslantport lefttopslantland
Upper left vertical	lefttopvertport lefttopvertland
Left 2	left2port left2land
Right 2	right2port right2land
Upper right vertical	righttopvertport righttopvertland
Upper right slant	righttopslantport righttopslantland
Upper 2	top2port top2land
Upper left horizontal	lefttophorizport lefttophorizland
Booklet	booklet

The following sample shows how to print with the staple on the upper left using finisher shift tray (host name: "nphost"; file name: "file1"):

- rsh

  `% rsh nphost print staple=lefttop,outbin=finishershift < file1`

- rcp

  `% rcp file1 nphost:staple=lefttop,outbin=finishershift`

- ftp

  `ftp> put file1 staple=lefttop,outbin=finishershift`

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Punch, Punchhole

Specify the punch position and the number of punch holes.

❖ Limitation

❒ Before executing the "punch" command, make sure the number of collated sets, the output tray, and number of punch holes is specified.

❒ When using this option, the optional finisher unit is required.

❒ When printing with this option, be sure to specify the optional finisher using "finisherproof" or "finishershift" as the value, for example "outbin=finisher-proof". For more information about the optional finisher unit, see p.25 "Output Tray".

✐ Note

❒ Available punch positions may vary depending on the type of output tray you have installed. For more information about punching, see *Printer Reference 2* (PDF file) on the CD-ROM labeled "Operating Instructions for Printer / Scanner".

❒ When "punchhole" is not specified, the machine executes the punch function using the default number of punch holes. The default number of punch holes is marked with "*" in the table below.

❒ If "punchhole" is not specified correctly, the machine does not execute the function.

`punch=value of punch position`

Position	Value
Off	off
Left	leftport leftland
Right	rightport rightland
Top	topport topland

`punchhole=value of punchhole`

Available numbers of punch holes may vary depending on the type of Punch Kit you have installed. Specify an appropriate value referring to the table below.

Number of punch holes	Name of punch kit	Value
2	Punch Kit Type 1045 EU	jp2
	Punch Kit Type 1045 NA	us2
3		us3
4	Punch Kit Type 1045 EU	eu4
	Punch Kit Type 1045 SC	neu4

The following sample shows how to print with four punch holes on the left using tray finisher 1 (host name: "nphost"; file name: "file1").

- rsh

```
% rsh nphost print punch=leftport,punchhole=eu4,out-
bin=finisherproof < file1
```

- rcp

```
% rcp file1 nphost:punch=leftport,punchhole=eu4,out-
bin=finisherproof
```

- ftp

```
ftp > put file1 punch=leftport,punchhole=eu4,outbin=fin-
isherproof
```

Symbol Set

Specify the set of print characters for the chosen font.

Limitation

❒ Only the selected PCL 5c 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

Font	Value
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
Win L1	winl1
Win L2	winl2
Win L5	winl5

The following sample shows how to print using the ISO 4 character set (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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