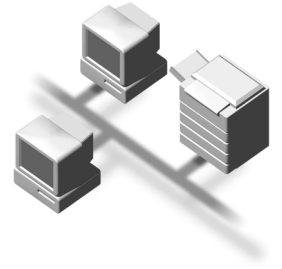




UNIX Supplement



Introduction

This manual contains detailed instructions and notes on the operation and use of this machine. For your safety and benefit, read this manual carefully before using the machine. Keep this manual in a handy place for quick reference.

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

This manual covers all models, and therefore contains functions and settings that may not be available for your model.

Functions and supported operating systems may differ from those of your model.

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How to Read This Manual

Symbols

The following set of symbols is used in this manual.

 **WARNING:**

This symbol indicates a potentially hazardous situation that might result in death or serious injury when you misuse the machine without following the instructions under this symbol. Be sure to read the instructions, all of which are described in the Safety Information section.

 **CAUTION:**

This symbol indicates a potentially hazardous situation that might result in minor or moderate injury or property damage that does not involve personal injury when you misuse the machine without following the instructions under this symbol. Be sure to read the instructions, all of which are described in the Safety Information section.

* 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 information or preparations required prior to operating.

 **Note**

This symbol indicates precautions for operation, or actions to take after abnormal 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 display panel.

[]

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

Setting up varies depending on the printing commands. Make sure to make settings accordingly.

Using the lp / lpr commands

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

See p.4 “Using the Installation Shell Script”.

- 2** Start printing.

See p.13 “Printing Method”.

Using the rsh / rcp / ftp commands

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

- 2** Start printing.

See p.13 “Printing Method”.

Reference

See p.8 “After Executing the 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`; 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
- Solaris 2.x(Sun OS 5.x), Solaris 7, Solaris 8,
- HP-UX
- Redhat Linux
- UnixWare
- OpenServer

Note

- Depending on security settings when installed, `rsh` / `rcp` / `telnet` may not be usable with Red Hat 7.1 or later. 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.
- Installation shell script does not support CUPS. For more information about the settings of CUPS, see the manual that comes with the UNIX workstation , and the CUPS' manual.
- When you use Solaris and HP-UX, you can set UNIX configuration with `admintools` that came with Solaris and HP-UX. For more information about setting using the `admintools`, see the `admintool`'s manual.

Reference

For more information about the configuration utility of your operating system, see the manual that came with the 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. (Default setting 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 the manual that comes with this machine.

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.

1 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.

```
# 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 `ftp` to get the installation shell script from the printer.

1 Log on to the workstation as root.

Note

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

2 Get the installation shell script from the printer.

- ❶ Move to the directory you want to copy the installation shell script to.
- ❷ 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:)
```

- ❸ When a user name is requested, leave the user name field blank and press the **[RETURN]** (**[ENTER]**) key.

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

- ❹ When a password is requested, leave the password field blank and press the **[RETURN]** (**[ENTER]**) key.

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

- ❺ Enter the following to get the installation shell script:

```
ftp> get install
```

- ❻ Close the ftp session.

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

- ❸ Run the installation shell script.

```
# sh ./install
```

Note

- Insert a period and slash before the current directory.

- ❹ Enter a number to select the workstation operating system that you are using.

```
Network printer install shell
Select your workstation OS type
1.SunOS 4.x.x
2.Solaris 2.x, Solaris 7-9 (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> [return=
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 **[RETURN]** (**[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 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.18 “Specifying the Device Option”.

- If you enter “text”, text printing is enabled.
If you enter “text”, printing with PCL and PostScript 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 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.13 “Printing Method”.

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.

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 set up automatically 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 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 the comment.

Note

- The `/etc/hosts` file contains a list of the IP addresses and host 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 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:|np|Network Printer:|np|Network Printer:
er:|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 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 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 <code>/etc/hosts</code> 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.18 “Specifying the Device Option”.
sd	Path name of the spool directory.	Path name of the spool directory that is to be created.

Capability	Explanation	Value required for the network printer.
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 data used for print jobs. 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 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 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 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 host 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 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 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.18 "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 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

1

❖ 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, from # to the end of the line is the comment.

 Note

- The /etc/hosts file contains a list of IP addresses and host 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 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 -Pnp -v/dev/null -mrmode1  
-ormnphost -orpooption -ob3
```

- np is the printer name, nphost is the host name.
For more information about “option”, see p.18 “Specifying the Device Option”.
“lp” will be assigned, if the option is not used.

- ③ Set the printer so 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

Printing with lpr, 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:

The 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:

The printer name is np, file names are file1 and file2

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

Note

- “printer_name” is the name 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 manual that comes with this machine.
- The number of print sessions does not change, whether you increase or reduce the machine’s total memory size.

Printing with rsh, rcp, ftp

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

Note

- Print using a format the printer supports.
- You should try to print again when the number of requests is zero.
- The message “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, rcp command, the maximum number of print sessions is 5; when using the ftp command, the number is 3.

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 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 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 directory

```
% rcp -r directory1 nphost:
```

 **Note**

- “**histamine**” is the name entered when executing the installation shell script.
- You can use wild cards (* or ?) for 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 “,”.

❖ 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:

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

```
% ftp IP_address
```

2 Enter the user name. Skip the password, and then press the [RETURN] ([ENTER]) key.

Name:

Password:

3 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.

4 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
```

5 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 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 -Pprinter_name
For example: Printer name is np
% lpq -Pnp
```

❖ System V UNIX, Solaris, HP-UX

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

Note

- If you are using 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 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 blank, and then press the **[RETURN]** (**[ENTER]**) key.
- “-” indicates standard output. Display will be displayed on screen if 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 10 jobs printed.
syslog	Record of messages about the network interface board.

1

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 blank, and then press the **[RETURN]** (**[ENTER]**) key.

Specifying the Device Option

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

This manual covers all models, and therefore contains functions and settings that may not be available for your model.

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, 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 the printer can recognize contain a maximum of 512 bytes.
- The number of available characters used as options is limited, depending on operating systems.

Note

- Multiple options must be separated by commas (.). Do not use spaces.
- When the printing file contains the PCL, PJJ, PostScript commands control of the option, the command takes priority.

- ❑ Enter the option using the `lp` or `lpr` command, when the shell script is implemented. 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.8 “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, 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.
<code>filetype</code>	<code>pcl, postscript (ps)</code>	Specifies the printer language for printing.
<code>filter</code>	<code>text</code>	Specifies the text printing.
<code>tray</code>	<code>tray1~tray4, lct, bypass, all</code>	Specifies the input tray.
<code>paper</code>	<code>a3~a6, a3wide, jisb4, jisb5, jisb6, ledger, letter, halfletter, legal, executive, fgl, foolscap, folio, com10, C5, C6, dl, monarch, k8, k16, custom</code>	Specifies the paper size.
<code>papertype</code>	<code>plain, recycled, special, thick, thick2, thin, tabstock, transparency, color, letterhead, preprinted, prepunched, labels, bond, cardstock, plainduplexbackside, thickduplexbackside, translucent, usercolor1, usercolor2, plainorrecycled</code>	Specifies the paper type.
<code>outbin</code>	<code>inner, optionaloutputbin1~10, lower, finishershift, finisherproof, finisherbooklet, upper, lower2, lower3</code>	Specifies the output tray.
<code>copies</code>	Number of copies (1~999)	Specifies the number of copies.
<code>qty</code>	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, left, right, top	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.
staple	booklet, left2land, left2port, lefttop, lefttophorizland, lefttophorizport, lefttopslantland, lefttopslantport, lefttopvertland, lefttopvertport, right2land, right2port, righttop, righttophorizland, righttophorizport, righttopslantland, righttopslantport, righttopvertland, righttopvertport, top2land, top2port, off	Specifies the staple position.
punch	off, leftport, leftland, rightport, rightland, topport, topland	Specifies the punch position.
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

Select a printer language to print.

filetype=printer language

fil=printer language

Printer language	Value
PCL	pcl
PostScript 3	postscript or ps

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

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 installed input trays are available.

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

Select the paper size.

! Limitation

Only the loaded paper sizes are available.

paper=value of paper size

Paper size	Value
A3	a3
12 × 18	a3wide
A4	a4
A5	a5
A6	a6
B4JIS (Japanese Industrial Standard)	jisb4
B5JIS	jisb5
B6JIS	jisb6
11 × 17	ledger
8 ¹ / ₂ × 11	letter
5 ¹ / ₂ × 8 ¹ / ₂	halfletter
8 ¹ / ₂ × 14	legal
7 ¹ / ₄ × 10 ¹ / ₂	executive
8 × 13	fgl
8 ¹ / ₂ × 13	foolscap
8 ¹ / ₄ × 13	folio
4 1 ¹ / ₈ " × 9 1 ¹ / ₂ "	com10
6.38" × 9.02"	C5
4.49" × 6.38"	C6
4.33" × 8.66"	dl
3 7 ⁷ / ₈ " × 7 1 ¹ / ₂ "	monarch
10 1 ¹ / ₂ " × 15.35"	k8
7.68" × 10 1 ¹ / ₂ "	k16
Custom size	custom

The following sample shows how to print using A4 size 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/recycled paper	plainorrecycled
Plain paper	plain
Plain Paper (Duplex Backside)	plainduplexbackside
Preprinted paper	preprinted
Prepunched paper	prepunched
Letterhead	letterhead
Recycled paper	recycled
Color paper	color, usercolor1, usercolor2
Special paper	special
Thick paper	thick, thick2
Thick Paper (Duplex Backside)	thickduplexbackside
Thin paper	thin
OHP transparency	transparency
Translucent	translucent
Tab stock	tabstock
Labels	labels
Bond paper	bond
Cardstock	cardstock

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 installed output trays are available.

Value
upper, inner, lower, finisherproof, finishershift, finisherbooklet, optionaloutbin1~10, lower2, lower3

🔍 Reference

For more information about available output tray, see the manual that comes with this machine.

The following sample shows how to print to the standard tray (standard tray: upper, 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
```

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” specifies the number of collated sets.

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)

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

- The duplex unit is required.

Note

- Before selecting duplex, the binding 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 the manual that comes with this machine.

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
```

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Binding

Select the binding direction for duplex printing.

 **Limitation**

- The duplex unit is required.

 **Note**

- Before selecting 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
Left	left
Right	right
Top	top

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

Select the paper feed orientation.

 **Limitation**

- This function is only for PCL.

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.

resolution=value of resolution

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

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

Select the staple position for the output.

Limitation

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

Note

- Available staple positions vary depending on type of installed output tray. For more information about staple, see the manual that comes with this machine.

staple=value of staple position

Position	Value
Off	off
Left top	lefttop
Right top	righttop

Position	Value
Left top horiz	lefttophorizland, lefttophorizport
Left top slant	lefttopslantland, lefttopslantlport
Left top vert	lefttopvertland, lefttopvertport
Right top horiz	righttophorizland, righttophorizport
Right top slant	righttopslantland, righttopslantport
Right top vert	righttopvertland, righttopvertport
Left 2	left2land, left2port
Right 2	right2land, right2port
Top 2	top2land, top2port
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, finisher shift tray: finisherproof):

- rsh


```
% rsh nphost print staple=lefttop,outbin=finisherproof < file1
```
- rcp


```
% rcp file1 nphost:staple=lefttop,outbin=finisherproof
```
- ftp


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

Punch, Punchhole

Select the punch position for the output and the number of punch holes.

🚫 Limitation

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

📝 Note

- Available punch positions may vary depending the type of installed output tray. For more information about punch, see the manual that comes with this machine.
- When “punchhole” is not specified, the machine executes the punch function by the default number of punch holes.
- When “punchhole” is not specified correctly, the machine does not execute the function.

punch=value of punch position

Position	Value
Off	off

Position	Value
Left	leftport leftland
Right	rightport rightland
Top	topport topland

punchhole=value of punchhole

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

Number of punch holes	Value
2	jp2, us2
3	us3
4	eu4, neu4

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

- rsh


```
% rsh nphost print punch=leftport,punchhole=eu4,outbin=finisherproof < file1
```
- rcp


```
% rcp file1 nphost:punch=leftport,punchhole=eu4,outbin=finisherproof
```
- ftp


```
ftp > put file1 punch=leftport,punchhole=eu4,outbin=finisherproof
```

Symbol Set

Select the set of print characters for the chosen font.

! Limitation

- This function is only for PCL.

symset=value of font

Font	Value
Desktop	desktop
ISO 4	iso4
ISO 6	iso6
ISO 11	iso11
ISO 15	iso15

Font	Value
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	msspubl
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
Win L1	winl1
Win L2	winl2
Win L5	winl5

The following sample shows how to print 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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