Operating Instructions

UNIX Supplement

For safe and correct use, be sure to read the Safety Information in "Read This First" before using the machine.

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Notice

Important

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.

For good output quality, the manufacturer recommends that you use genuine toner from the manufacturer.

The manufacturer shall not be responsible for any damage or expense that might result from the use of parts other than genuine parts from the manufacturer with your office products.

How to Read This Manual

Symbols

This manual uses the following symbols:

Important

Indicates points to pay attention to when using the machine, and explanations of likely causes of paper misfeeds, damage to originals, or loss of data. Be sure to read these explanations.

Note

Indicates supplementary explanations of the machine's functions, and instructions on resolving user errors.

Reference

This symbol is located at the end of sections. It indicates where you can find further relevant information.

[ ]

Indicates the names of keys on the machine's display or control panels.

Notes

Contents of this manual are subject to change without prior notice.

Laws and Regulations

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bank notes, revenue stamps, bonds, stock certificates, bank drafts, checks, passports, driver's licenses.

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1. UNIX Configuration

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

Before Setup

Important

- To print from a UNIX workstation, use a file that the printer supports.
- Setup varies depending on the print command. Make sure to configure 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.**

   For details, see page 8 "Using the Installation Shell Script".

2. **Start printing.**

   For details, see page 17 "Printing Method".

Using the rsh/rcp/ftp Commands

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

   For details, see page 12 "After Executing the Installation Shell Script".

2. **Start printing.**

   For details, see page 17 "Printing Method".

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.

Important

- **Download the installation shell script from our Web site. Keep the installation shell script as local folders.**
- **The installation shell script can be used on the following workstations: (it cannot be used with other types of workstations.)**
  - **SunOS 4.1.4**
  - **Solaris 2.6, 7, 8, 9**
  - **HP-UX 11.x**
  - **Red Hat Linux 6.2, 7.0, 7.1, 7.2, 8**
  - **UnixWare 7.1.1**
  - **OpenServer 5.06**

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 allow use of rsh/rcp/telnet. For details 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.
- When you use Solaris and HP-UX, you can set UNIX configuration with admintool that came with Solaris and HP-UX. For details about configuring using admintool, see the admintool's manual.
- For details about the configuration utility of your operating system, see the manual that came with the utility.

Assigning the IP Address

Important

- **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.**

Note

- For details 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.

Important

- **Before executing the installation shell script, the IP address, host name, and printer name are required.**
- **Download the installation shell script from our Web site. Keep the installation shell script as local folders.**

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

1. **Move to the directory that has the installation shell script.**
2. **Run the installation shell script.**

   ```
   # sh ./install
   ```

Insert a period and slash before the current directory.

3. **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
```

If you select "7", the installation shell script ends.

4. **Enter the printer's IP address.**

```
Enter Printer host IP address <xxx.xxx.xxx.xxx> [return=skip]:
192.168.15.16
```

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.

5. **Enter the printer's host name.**

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

If no IP address was entered in step 4, nothing is added to the /etc/hosts file.

6. **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.

The host name entered in step 5 followed by "_prn" appears in "default".

7. **Set the print option.**

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

- Press the [RETURN] ([ENTER]) key, and printing with PostScript® is enabled.
- If you want to set the device option, enter the option parameter.

  ```
  Enter remote printer name [default lp]:tray=tray1
  ```
- If you enter "text", text printing is enabled.
- If you enter "text", printing with PostScript is disabled.

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

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.

After setup with the installation shell script is complete, and if you entered the IP address in step 4, the following message appears:

```
hosts file is modified
```

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

```
# lpr -Pnp file_name
# lp -d np file_name
```

Note

- SunOS, UnixWare, and OpenServer appear on the screen, but they are not supported. Use Solaris, HP-UX, or Linux.
- The IP address will be added to the /etc/hosts file.
- The host name will be added to the /etc/hosts file.
- 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.
- For details about how to download the installation shell script, contact your sales or service representative.
- For details about lpr and lp, see page 17 "Printing Method".
- For details about the device option, see page 22 "Specifying the Device Option".

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:\
:rm=nphost:\
:rp=option:\
:sd=/var/spool/lpd/npd:\
:lf=/var/log/lpd-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 details 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 details about available options, see page 22 "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 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 details about "option", see page 22 "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

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 -mrmodel
   -ormnphost -orpoption -ob3
   ```
   - "np" is the printer name, "nphost" is the host name.

     For details about "option", see page 22 "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

This section explains how to print documents using commands.

Printing with lpr, lp

Execute one of the following commands according to the 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 printer 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 details 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 or 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

- "host_name" 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 command depending on the number of files to be printed.

Important

- File names cannot contain "=", ",", or ";".
- You can use wild cards (* or ?) for the file name with the mput command.

To print one file

```
ftp> put file_name [Option]
```

To print several files

```
ftp> mput file_name [file_name...] [Option]
```

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

   For details about the user name and password, consult your administrator.

   ```
   Name:
   Password:
   ```

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

   ```
   ftp> bin
   ```

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

4. **Print the file.**

   For example, to print the file named file1:

   ```
   ftp> put \path\file1
   ```

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

   ```
   ftp> mput \path\file1 \path\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.

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

- rsh

```
% rsh host_name parameter
```

- ftp

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

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.

Note

- For details about the user name and password, consult your administrator.
- "-" indicates standard output. Display will be displayed on screen if standard output has not been specified.

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.

Important

- **The same parameters are used as those above.**
  - **rcp**

    ```
    % rcp host_name:parameter file_name
    ```
  - **ftp**

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

Note

- For details about the user name and password, consult your administrator.

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

Important

- **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.**

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 details 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
  ```

Note

- Multiple options must be separated by commas (,). Do not use spaces.
- When the printing file contains the PostScript commands that control the options, 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 details about changing the configured option, see page 11 "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
filetype	postscript (rps), pdf	Specifies the printer language for printing.
filter	text	Specifies the text printing.
tray	tray1, tray2, bypass, all	Specifies the input tray.
paper	a0, a1, a2, a3, a3wide, a4, jisb1, jisb2, jisb3, jisb4, ansic, ledger, letter, legal, inch 9x12, inch 18x24, inch 21x30, inch 22x34, inch 24x36, inch 30x42, inch 34x44, inch 36x48, custom	Specifies the paper size.
mediatype	plainorrecycled, plain, recycled, special, thin, translucent, coated, cadcoated, inkjetplain, matfilm, auto	Specifies the paper type.
outbin	upper	Specifies the output tray.

Device option	Value	Function summary
copies	Number of copies (1-999)	Specifies the number of copies to print.
qty	Number of collated sets (1-999)	Specifies the number to collate.
orientation	portrait, landscape	Specifies the feed direction of the paper.
image direction	normal, reverse	Specifies the print image rotation.
resolution	600	Specifies the resolution for printing.
bitsperdot	8	Specifies the print quality.
billing code	Value of billing code (0x09 (<HT>), 0x20-0xFF (except 0x22))	Specifies the billing code.
usercode	Value of user code (0x21 to 0x7e, except 0x22)	Specifies the usercode.

Printer Language

Select a printer language to be used.

```
filetype=printer language
fil=printer language
```

Printer language	Value
PostScript 3	postscript or rps
PDF	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 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.

Important

- **Only installed input trays are available.**

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

Input tray	Value
Tray 1	tray1
Tray 2	tray2
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.

Important

- **Only the loaded paper sizes are available.**

```
paper=value of paper size
```

Paper size	Value
A0	a0
A1	a1
A2	a2
A3	a3
12 × 18	a3wide
A4	a4
B1JIS (Japanese Industrial Standard)	jisb1
B2JIS	jisb2
B3JIS	jisb3
B4JIS	jisb4
17 × 22	ansic
11 × 17	ledger
$8^1/_2$ × 11	letter
$8^1/_2$ × 14	legal
9 × 12	inch9x12
18 × 24	inch18x24
21 × 30	inch21x30
22 × 34	inch22x34

Paper size	Value
24 × 36	inch24x36
30 × 42	inch30x42
34 × 44	inch34x44
36 × 48	inch36x48
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.

Important

- **Only the loaded paper types are available.**

```
mediatype=value of paper type
```

Paper type	Value
Plain paper / recycled paper	plainorrecycled
Plain paper	plain
Recycled paper	recycled
Special paper	special
Thin Paper	thin
Translucent	translucent
Coated Paper	coated

Paper type	Value
Coated (CAD)	cadcoated
Inkjet Plain	inkjetplain
Film (Matted)	matfilm
Auto Paper Select	auto

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
  ```

Output Tray

Select the output tray.

Important

- **Only installed output trays are available.**

```
outbin=value of output tray
```

Value
upper

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)
```

Important

- **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
  ```

Orientation

Select the paper feed orientation.

```
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
  ```

Image Direction

Select the print image rotation.

```
imagedirection=value of print image rotation
```

Rotation	Value
0 degree	normal
180 degrees	reverse

The following sample shows how to print the 180 degrees rotation using the imagedirection function (host name : nphost, file name : file1):

- rsh

  ```
  % rsh nphost print imagedirection = reverse < file1
  ```

- rcp

  ```
  % rcp file1 nphost: imagedirection = reverse
  ```

- ftp

  ```
  ftp> put file1 imagedirection = reverse
  ```

Resolution

Specify the printing resolution.

resolution=600

- rsh

  ```
  % rsh nphost print resolution=600 < file1
  ```

- rcp

  ```
  % rcp file1 nphost:resolution=600
  ```

- ftp

  ```
  ftp> put file1 resolution=600
  ```

Gradation Quality

Specify the printing quality.

bitsperdot=8

- rsh

  ```
  % rsh nphost print filetype=postscript,resolution=600,bitsperdot=8 < file1
  ```

- rcp

  ```
  % rcp file1 nphost:filetype=postscript,resolution=600,bitsperdot=8
  ```

- ftp

  ```
  ftp> put file1 filetype=postscript,resolution=600,bitsperdot=8
  ```

Billing Code

Specify the billing code.

billingcode=Value of billingcode (0x09(<HT>), 0x20-0xFF (except 0x22)) *1

*1 MAX 228 bytes = 255byte (Max number of characters allowed for each PJL command line on GW-PJL source) - 27 bytes (number of characters for @PJL SET BILLINGCODE = ""<CR><LF>)

- rsh

  ```
  % rsh nphost print billingcode=0x09 < file1
  ```

- rcp

  ```
  % rcp file1 nphost: billingcode=0x09
  ```

- ftp

  ```
  ftp> put file1 billingcode=0x09
  ```

Note

- Note that PJL syntax allows unlimited spaces (for example, more than one space can be placed between "@PJL" and "SET," or before/after the "=" sign).

- Therefore, a password can be less than the maximum value (228 bytes).
- This also implies the maximum value (228 bytes) is secured as long as the normal syntax is used.

Usercode

Specify the usercode.

```
Usercode=\"value of usercode\"
```

The usercode must be specified using up to eight digits.

The usercode must be inside double quotation marks (" ").

Some operating systems cannot forward the user code if it is inside double quotation marks. If this is the case, include escape characters such as back slashes (\) (0x5c) in place of double quotation marks.

- rsh

  ```
  % rsh nphost print usercode=\"12345\" < file1
  ```

- rcp

  ```
  % rcp file1 nphost: usercode=\"12345\"
  ```

- ftp

  ```
  ftp> put file1 USERCODE=\"12345\"
  ```

Note

- If you are printing with the ftp command, enter the usercode in uppercase letters.

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