



# Operating Instructions UNIX Supplement







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# Notice

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## Important

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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.



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# How to Read This Manual

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## Symbols

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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.

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## Notes

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



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# Laws and Regulations

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## Legal Prohibition

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Do not copy or print any item for which reproduction is prohibited by law.

Copying or printing the following items is generally prohibited by local law:

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

The preceding list is meant as a guide only and is not inclusive. We assume no responsibility for its completeness or accuracy. If you have any questions concerning the legality of copying or printing certain items, consult with your legal advisor.

This machine is equipped with a function that prevents making counterfeit bank bills. Due to this function the original images similar to bank bills may not be copied properly.







# 1. UNIX Configuration

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

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## 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 p.8 "Using the Installation Shell Script".

2. Start printing.

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

2. Start printing.

For details, see p.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.

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## Assigning the IP Address

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### ★ 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 p.17 "Printing Method".
- For details about the device option, see p.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
```

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## 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:

```
##PRINTER00L3## 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 <code>/etc/hosts</code> file.
rp	Optional specification. "lp" will be assigned, if the option is not used.	Select options for printing. For details about available options, see p.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 <code>/var/log/lpd-errs</code> .
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 p.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 -oroption -ob3
```

- "np" is the printer name, "nphost" is the host name.

For details about "option", see p.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 p. 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      | pcl, postscript (rps), pdf, pictbridge                                                                                                                             | Specifies the printer language for printing. |
| filter        | text                                                                                                                                                               | Specifies the text printing.                 |
| tray          | tray1 - tray3, bypass, all                                                                                                                                         | Specifies the input tray.                    |
| paper         | a4, a5, a6, jisb5, jisb6, letter, halfletter, legal, executive, fgl, foolscap, folio, com10, c5, c6, dl, monarch, k16, governmentlg, engquatro, inch8d5x12, custom | Specifies the paper size.                    |



| Device option   | Value                                                                                                                                                                                                                   | Function summary                                     |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| mediatype       | plain, recycled, special, special2, special3, thick, thick2, thick3, transparency, letterhead, preprinted, labels, bond, cardstock, color, middlethick, prepunched, plainorrecycled, envelope, coated, waterproof, auto | Specifies the paper type.                            |
| outbin          | upper, inner                                                                                                                                                                                                            | Specifies the output tray.                           |
| 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.                     |
| 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.           |
| image direction | normal, reverse                                                                                                                                                                                                         | Specifies the print image rotation.                  |
| resolution      | value of resolution (200, 300, 400, 600, 1200)                                                                                                                                                                          | Specifies the resolution for printing.               |
| bitsperdot      | 1, 2, 4                                                                                                                                                                                                                 | 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.                              |



| Device option | Value                                                                                                                                                                                                                                                                                                                                                                                                    | Function summary                       |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| symbol set    | arabic8, desktop, greek8, hebrew7, hebrew8, iso4, iso6, iso11, iso15, iso17, iso21, iso60, iso69, isocyr, isogr, isoheb, isol1, isol2, isol5, isol6, isol9, legal, math8, mctext, mspubl, pc8, pc775, pc850, pc851, pc852, pc858, pc862, pc864, pc866, pc866u, pc8dn, pc8grk, pc8tk, pc1004, pifont, psmath, pstext, roman8, roman9, ucs2, winbaltic, win30, winarb, wincyr, wingrk, winl1, winl2, winl5 | Specifies the set of print characters. |

## Printer Language

Select a printer language to be used.

filetype=printer language

fil=printer language

| Printer language | Value             |
|------------------|-------------------|
| PCL 5c or PCL 5e | pcl               |
| PostScript 3     | postscript or rps |
| PDF              | pdf               |
| PictBridge       | pictbridge        |

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



**Note**

- The value or actions that can be selected differ depending on the model you are using. For details about available printer languages, see the manual that comes with this machine.

1

## 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  |
| Tray 3           | tray3  |
| Bypass tray      | bypass |
| Auto Tray Select | all    |

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

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



- rcp  
    % rcp file1 nphost:tray=tray2
- ftp  
    ftp> put file1 tray=tray2

Paper Size

Select the paper size.

★ Important

- Only the loaded paper sizes are available.

paper=value of paper size

| Paper size                                                     | Value      |
|----------------------------------------------------------------|------------|
| A4                                                             | a4         |
| A5                                                             | a5         |
| A6                                                             | a6         |
| B5JIS (Japanese Industrial Standard)                           | jisb5      |
| B6JIS                                                          | jisb6      |
| 8 <sup>1</sup> / <sub>2</sub> × 14                             | legal      |
| 8 <sup>1</sup> / <sub>2</sub> × 11                             | letter     |
| 5 <sup>1</sup> / <sub>2</sub> × 8 <sup>1</sup> / <sub>2</sub>  | halfletter |
| 7 <sup>1</sup> / <sub>4</sub> × 10 <sup>1</sup> / <sub>2</sub> | executive  |
| 8 × 13                                                         | fgl        |
| 8 <sup>1</sup> / <sub>2</sub> × 13                             | foolscap   |
| 8 <sup>1</sup> / <sub>4</sub> × 13                             | folio      |
| 4 <sup>1</sup> / <sub>8</sub> × 9 <sup>1</sup> / <sub>2</sub>  | com10      |
| 6.38 × 9.02 (162 × 229 mm)                                     | c5         |
| 4.49 × 6.38 (114 × 162 mm)                                     | c6         |
| 4.33 × 8.66 (110 × 220 mm)                                     | dl         |



| Paper size                         | Value        |
|------------------------------------|--------------|
| $3\frac{7}{8} \times 7\frac{1}{2}$ | monarch      |
| $7.68 \times 10.5$ (195 × 267 mm)  | k16          |
| $8.25 \times 14$                   | governmentlg |
| $8 \times 10$                      | engquatro    |
| $8.5 \times 12$                    | inch8d5x12   |
| 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

↓ **Note**

- The value or actions that can be selected differ depending on the model you are using. For details about available paper size, see the manual that comes with this machine.

**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        |



| Paper type        | Value        |
|-------------------|--------------|
| Special paper     | special      |
|                   | special2     |
|                   | special3     |
| Thick paper       | thick        |
|                   | thick2       |
|                   | thick3       |
| OHP transparency  | transparency |
| Letterhead        | letterhead   |
| Preprinted paper  | preprinted   |
| Labels            | labels       |
| Bond paper        | bond         |
| Cardstock         | cardstock    |
| Middle thick      | middlethick  |
| Envelope          | envelope     |
| Color Paper       | color        |
| Prepunched paper  | prepunched   |
| Coated Paper      | coated       |
| Waterproof Paper  | waterproof   |
| 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



**Note**

- The value or actions that can be selected differ depending on the model you are using. For details about available paper type, see the manual that comes with this machine.

# Output Tray

Select the output tray.

**Important**

- Only installed output trays are available.

outbin=value of output tray

| Value        |
|--------------|
| upper, inner |

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

**Note**

- The value or actions that can be selected differ depending on the model you are using. For details about available output tray, see the manual that comes with this machine.

# 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
```

## Duplex Printing

This option enables duplex printing.

duplex=value of duplex printing

Duplex printing	Value
enable	on
disable	off

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
```

**Note**

- Before selecting duplex, the binding option must be set to on.
- Data and paper volume affect the completion of the print job.
- For details about available paper size for duplex printing, see the manual that comes with this machine.

## Binding

Select the binding direction for duplex printing.

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

**Note**

- Before selecting the binding option, the duplex option must be set to on.
- Data and paper volume affect completion of the print job.



## 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

1

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

### Note

- The value or actions that can be selected differ depending on the model you are using. For details about available resolution, see the manual that comes with this printer.

## Gradation Quality

Select this option to improve print quality.

### ★ Important

- Before you can select the **bitsperdot** option, the printer language must be set to PostScript 3 and the resolution must be set to 600 dpi.

bitsperdot=value of gradation quality

Gradation quality	Value
Super Fine	4



Gradation quality	Value
Fine	2
Standard	1

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

- rsh  
% rsh nphost print filetype=postscript,resolution=600,bitsperdot=2 < file1
- rcp  
% rcp file1 nphost: filetype=postscript,resolution=600,bitsperdot=2
- ftp  
ftp> put file1 filetype=postscript,resolution=600,bitsperdot=2

**Note**

- The value or actions that can be selected differ depending on the model you are using. For details about available gradation quality, see the manual that comes with this printer.

**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 PJI command line on GW-PJI source) - 27 bytes (number of characters for @PJI 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 PJI syntax allows unlimited spaces (for example, more than one space can be placed between "@PJI" 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.

## Symbol Set

Select the set of print characters for the chosen font.

### Important

- This function is only for PCL.

symset=value of font

Symbol Set	Value
Arabic-8	arabic8
Desktop	desktop
Greek-8	greek8
Hebrew-7	hebrew7
Hebrew-8	hebrew8
ISO 4	iso4
ISO 6	iso6



Symbol Set	Value
ISO 11	iso11
ISO 15	iso15
ISO 17	iso17
ISO 21	iso21
ISO 60	iso60
ISO 69	iso69
ISO Cyrillic	isocyr
ISO Greek	isogrck
ISO Hebrew	isoheb
ISO L1	isol1
ISO L2	isol2
ISO L5	isol5
ISO L6	isol6
ISO L9	isol9
Legal	legal
Math-8	math8
MC Text	mctext
MS Publ	mspubl
PC-8	pc8
PC-775	pc775
PC-850	pc850
PC-851	pc851
PC-852	pc852
PC-858	pc858
PC-862	pc862



Symbol Set	Value
PC-864	pc864
PC-866	pc866
PC-866U	pc866u
PC-1004	pc1004
PC-8 D/N	pc8dn
PC-8 Greek	pc8grk
PC8-TK	pc8tk
Pifont	pifont
PS Math	psmath
PS Text	pstext
Roman-8	roman8
Roman-9	roman9
UCS-2	ucs2
Win 3.0	win30
Win Arabic	winarb
Win Baltic	winbaltic
Win Cyrillic	wincyr
Win Greek	wingrk
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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