



UNIX Supplement

-
- 1 Command Configuration
 - 2 Remote Maintenance Using telnet

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.

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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.

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.

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

Note

This manual covers several different 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

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.

1. Command Configuration

This chapter explains how to set up a network printer and check print status.

1

Before Setup

This section explains the preparation procedures required before you can use commands.

★ Important

- To print from a UNIX workstation, use a file that the printer supports.
- 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.

For details, see p.7 "Using the Installation Shell Script".

2. Start printing.

For details, see p.16 "Printing Method".

Using the rsh/rcp/ftp Commands

★ Important

- Only the standard UNIX rsh and rcp commands are supported.
1. Edit the host file to register the printer host name and the IP address.

For details, see p.11 "After Executing the Installation Shell Script"

2. Start printing.

For details, see p.16 "Printing Method".

↓ Note

- If you cannot edit the host file, use the install shell script to register the host name.

Windows Setup

Follow the procedure below to make network environment settings.

1. **Enable TCP/IP with the control panel, and then set up the printer's network environment about TCP/IP including IP addresses.**

TCP/IP of the printer is set as default.

2. **Install a TCP/IP in Windows to set up the network environment.**

Consult the administrator for the local setting information.

3. **To print under Windows, install "Printing service for UNIX" or "LPD Print Service" as the network application.**

 Note

- For details about setting up IPv4 address, see "Configuration", Hardware Guide.
- For details about setting the IPv4 address of the printer using DHCP, see "Using DHCP", Software Guide.

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

- 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
 - Red Hat 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 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 `admintools` that came with Solaris and HP-UX. For details about setting using the `admintools`, 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 printer to use TCP/IP.
 - Make sure that TCP/IP on the printer is set to active. (Default setting is active.)
 - Assign an IP address to the printer 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 printer.

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.
- The following procedures use the sample IP address: 192.168.15.16; sample host name: `nphost`; and sample printer name: `np`.
- Download the installation shell script from our Web site. Keep the installation shell script as local folders.

1. Move to the directory that has kept 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>:

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 "Printing Method".
- For details about the device option, see "Specifying the Device Option".

Reference

- p.16 "Printing Method"
- p.21 "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/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 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 "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.

Reference

- p.21 "Specifying the Device Option"

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 "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
```

Reference

- p.21 "Specifying the Device Option"

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 "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
```

Reference

- p.21 "Specifying the Device Option"

Printing Method

This section explains how to print documents using commands.

1

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
```

Windows

```
% lpr -S printer's IP address (printer's host_name) -P printer_name [-o l] \path \file_name
```

To print a binary file, include the "-o l" switch (a dash followed by a lowercase O and l) after the printer name.

For example:

If the printer's IP address is 192.168.0.123, the printer name is np, and the file name is file1 (c:\print\file1.txt):

```
% lpr -S 192.168.0.123 -P np c:\print\file1.txt
```

Note

- "printer_name" is the printer name entered when executing the installation shell script with UNIX.
- 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 printer.
- The number of print sessions does not change, whether you increase or reduce the printer'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

- "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.

User:

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:
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:
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 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 details about changing the configured option, see "Executing the Installation Shell Script".
- 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.

 Reference

- p.8 "Executing the Installation Shell Script"

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	Specifies the printer language for printing.
filter	text	Specifies the text printing.
tray	tray1 - tray5, bypass, all	Specifies the input tray.
paper	a4, a5, a6, jisb5, jisb6, legal, letter, halfletter, executive, fgl, foolscap, folio, com10, c5, c6, dl, monarch, k16, custom	Specifies the paper size.

Device option	Value	Function summary.
mediatype	plainorrecycled, plain, recycled, special, special2, special3, thick, thick2, thick3, thick4, thin, transparency, color, letterhead, preprinted, labels, bond, cardstock, middlethick, envelope, glossycoated, thickglossycoated, matcoated, thickmatcoated, waterproof, custom1, custom2, custom3, custom4, custom5, custom6, custom7, custom8, auto	Specifies the paper type.
outbin	upper	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 (300, 600, 1200)	Specifies the resolution for printing.
bitsperdot	1, 2	Specifies the print quality.
billing code	Value of billing code (0x09 (<HT>), 0x20-0xFF (except 0x22))	Specifies the billing code.
usercode	Value of usercode (specifies the user codes using up to eight digits)	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, pc1004, pc8dn, pc8grk, pc8tk, pifont, psmath, pstext, roman8, roman9, ucs2, win30, winarb, winbaltic, wincyr, wingrk, winl1, winl2, winl5	Specify the set of print characters.

Note

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

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

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.

tray=value of input tray

Input tray	Value
Tray 1	tray1
Tray 2	tray2
Tray 3	tray3
Tray 4	tray4
Tray 5	tray5
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
```

↓ Note

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

Paper Size

Select the paper size.

paper=value of paper size

Paper size	Value
A4	a4
A5	a5
A6	a6
B5JIS (Japanese Industrial Standard)	jisb5
B6JIS	jisb6
$8\frac{1}{2} \times 14$	legal
$8\frac{1}{2} \times 11$	letter
$5\frac{1}{2} \times 8\frac{1}{2}$	halfletter
$7\frac{1}{4} \times 10\frac{1}{2}$	executive
8×13	fgl
$8\frac{1}{2} \times 13$	foolscap
$8\frac{1}{4} \times 13$	folio
$4\frac{1}{8} \times 9\frac{1}{2}$	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
7.68×10.5 (195 × 267 mm)	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

 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 printer.

Paper Type

Select the paper type.
mediatype=value of paper type

Paper type	Value
Plain paper/recycled paper	plainorrecycled
Plain paper	plain
Recycled paper	recycled
Special paper	special
	special2
	special3

Paper type	Value
Thick paper	thick
	thick2
	thick3
	thick4
Thin Paper	thin
OHP transparency	transparency
Color paper	color
Letterhead	letterhead
Preprinted paper	preprinted
Labels	labels
Bond paper	bond
Cardstock	cardstock
Middle thick	middlethick
Envelope	envelope
Coated Paper (Glossy)	glossycoated
Coated Paper (Glossy : Thick)	thickglossycoated
Coated Paper (Matted)	matcoated
Coated Paper (Matted : Thick)	thickmatcoated
Waterproof Paper	waterproof

Paper type	Value
Custom Paper	custom1
	custom2
	custom3
	custom4
	custom5
	custom6
	custom7
	custom8
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 printer.

Output Tray

Select the output tray.
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

Duplex Printing

This option enables duplex printing.

★ Important

- The duplex unit is required.

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 printer.

Binding

Select the binding direction for duplex printing.

★ Important

- The duplex unit is required.

binding=value of binding

Binding direction	Value
Longedge	longedge
Shortedge	shortedge

Binding direction	Value
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.

Important

- 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
```

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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

Select the printing resolution.

resolution=value of resolution

Resolution	Value
1200 dpi	1200
600 dpi	600
300 dpi	300

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
Fine	2
Standard	1

The following sample shows how to print with 600 dpi and the 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 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 any number of spaces to be entered. For example, multiple spaces can be inserted between "@PJL" and "SET", or before and 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 usercode 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
ISO 11	iso11
ISO 15	iso15
ISO 17	iso17
ISO 21	iso21
ISO 60	iso60
ISO 69	iso69
ISO Cyrillic	isocyr
ISO Greek	isogrkr
ISO Hebrew	isohebr
ISO L1	isol1
ISO L2	isol2
ISO L5	isol5
ISO L6	isol6

Symbol Set	Value
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
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

Symbol Set	Value
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

2. Remote Maintenance Using telnet

This chapter explains the commands and functions you can use to manage the printer by telnet.

Using telnet

Follow the procedure below to use telnet.

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★ Important

- Remote Maintenance should be password-protected so that access is allowed to administrators only.
- The password is the same as the one of Web Image Monitor administrator. When the password is changed using "mshell", other passwords change also.
- Some commands cannot be used depending on your printer.
- Only one user at a time can log in to perform remote maintenance.
- If you are using Windows Vista/7 or Windows Server 2008/2008 R2 you must enable the telnet server and telnet client beforehand.

1. Use the IP address or the host name of the printer to start telnet.

```
% telnet "IP_address"
```

2. Enter your user name and password.

Contact your administrator for information about the settings.

3. Enter a command.

4. Quit telnet.

```
msh> logout
```

A message asking you to confirm saving the changes appears.

5. Enter "yes" to save the changes, and then press the [RETURN] ([ENTER]) key.

If you do not want to save the changes, enter "no", and then press the [RETURN] ([ENTER]) key. To make further changes, enter "return" at the command line, and then press the [RETURN] ([ENTER]) key.

↓ Note

- If the message "Can not write NVRAM information" appears, the changes are not saved. Repeat the procedure above.
- When the changes are saved, the network interface board is reset automatically with that changes.
- When the network interface board resets, the print job in print process will be printed. However, print jobs in queue will be canceled.

8021x

Use the "8021x" commands to display IEEE 802.1x related information.

View settings

msh> 8021x

Configuration

msh> 8021x "parameter"

Parameter	Value configured
eap {tls ttls leap peap} {chap mschap mschapv2 pap md5 tls}	You can specify the EAP authentication type. tls: EAP-TLS (default) ttls: EAP-TTLS leap: LEAP peap: PEAP chap, mschap, mschapv2, pap, md5, and tls are settings for the phase 2 method, and one of these must be specified if EAP-TTLS or PEAP is selected. Do not make these settings when using other EAP authentication types. If you select EAP-TTLS, you can select chap, mschap, mschapv2, pap, or md5. If you select PEAP, you can select mschapv2 or tls.
username "character string"	You can specify the login user name for the Radius server. Usable characters: ASCII 0x20-0x7e (31 bytes). The default is blank.
username2 "character string"	You can specify the phase 2 username for EAP-TTLS/PEAP phase 2 authentication. Usable characters: ASCII 0x20-0x7e (31 bytes). The default is blank.

Parameter	Value configured
domain "character string"	You can specify the login domain name for the Radius server. The characters you can enter are ASCII 0x20-0x7e (64 bytes), but not "@" or "\". The default is blank.
password "character string"	You can specify the login password for the Radius server. Usable characters: ASCII 0x20-0x7e (128 bytes). The default is blank.
svrcert {on off}	You can set the server certificate. The default is "off".
imca {on off}	You can enable or disable the certificate when the intermediate certificate authority is present. The default is "off".
srvid "character string"	You can set the server ID and sub domain of the certificate server. Usable characters: ASCII 0x20-0x7e (128 bytes). The default is blank.
clear {a each command all}	Returns the selected setting to its default value. If you specify "all", all settings will be restored to their default values. However, IEEE 802.1x Auth. status (enable or disable) for Ethernet and Wireless LAN will not be initialized.

access

Use the "access" command to view and configure access control. You can also specify two or more access ranges.

View settings

```
msh> access
```

IPv4 configuration

```
msh> access [X] range "start-address end-address"
```

- [X] represents a target number between 1 and 5. (Up to five access ranges can be registered and selected.)

Example: to specify accessible IPv4 addresses between 192.168.0.10 and 192.168.0.20:

```
msh> access 1 range6 192.168.0.10 192.168.0.20
```

IPv6 configuration

```
msh> access [X] range6 "start-address end-address"
```

- [X] represents a target number between 1 and 5. (Up to five access ranges can be registered and selected.)

Example: to specify accessible IPv6 addresses between 2001:DB8::100 and 2001:DB8::200.

```
msh> access 1 range6 2001:DB8::100 2001:DB8::200
```

IPv6 access mask configuration

```
msh> access [X] mask6 "base-address prefixlen"
```

- [X] represents a target number between 1 and 5. (Up to five access ranges can be registered and selected.)

Example: to specify accessible IPv6 addresses to 2001:DB8::/32

```
msh> access 1 mask6 2001:DB8:: 32
```

Access control initialization

```
msh> access flush
```

- Use the "flush" command to restore the default settings so that all access ranges become "0.0.0.0" for IPv4, and "::" for IPv6.

Note

- The access range restricts computers from use of the printer by IP address. If you do not need to restrict printing, make the setting "0.0.0.0" for IPv4, and "::" for IPv6.
- Valid ranges must be from lower (start address) to higher (end address).
- If you are running IPv4 or IPv6, up to five access ranges can be registered and selected.
- IPv6 can register and select the range and the mask for each access ranges.
- IPv6 mask ranges between 1 - 128 can be selected.
- Up to five access ranges can be specified. The entry is invalid if the target number is omitted.
- You cannot send print jobs, or access Web Image Monitor and diprint from a restricted IP address.

authfree

Use the "authfree" command to view and configure authfree parameters.

View settings

The following command displays the current authfree settings:

```
msh> authfree
```

- If print job authentication exclusion is not set, authentication exclusion control cannot be displayed.

IPv4 address settings

```
msh> authfree "ID" range_addr1 range_addr2
```

IPv6 address settings

```
msh> authfree "ID" range6_addr1 range6_addr2
```

IPv6 address mask configuration

```
msh> authfree "ID" mask6_addr1 masklen
```

Parallel/USB settings

```
msh> authfree [parallel | usb] [on|off]
```

- To enable authfree, set to on. To disable authfree, set to off. Always specify the interface.

Authentication exclusion control initialization

```
msh> authfree flush
```

autonet

Use the "autonet" command to view and configure AutoNet parameters.

View settings

The following command displays the current AutoNet settings:

```
msh> autonet
```

Configuration

You can configure AutoNet settings.

```
msh> autonet {on|off}
```

- {on} means "active" and {off} means "inactive".

Current interface priority configuration display

```
msh> autonet priority
```

Interface priority configuration

```
msh> autonet priority "interface_name"
```

- You can give interface's AutoNet parameter priority.
- Priority settings are available when multiple interfaces are installed.
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface name	Interface configured
ether	Ethernet interface

Interface name	Interface configured
wlan	Wireless LAN interface

↓ Note

- If an interface is not selected, the current interface connection settings remain in effect.

2

bonjour

Use the "bonjour" command to display bonjour-related settings.

View settings

Bonjour settings are displayed.

```
msh> bonjour
```

Bonjour service name setting

You can specify the bonjour service name.

```
msh> bonjour cname "computer name"
```

- The computer name can be entered using up to 63 alphanumeric characters.

Bonjour Installation location information setting

You can enter information about the location where the printer is installed.

```
msh> bonjour location "location"
```

- Information about the location can be entered using up to 32 alphanumeric characters.

Setting order of priority for each protocol

- diprint

```
msh> bonjour diprint [0-99]
```

- lpr

```
msh> bonjour lpr [0-99]
```

- ipp

```
msh> bonjour ipp [0-99]
```

You can specify the order of priority for "diprint", "lpr", and "ipp". Smaller numbers indicate higher priority.

IP TTL setting

```
msh> bonjour ip ttl {1-255}
```

You can specify the IP TTL (the number of routers a packet can pass through).

↓ Note

- The default is 255.

Resetting the computer name and location information

You can reset the computer name and location information.

```
msh> bonjour clear {cname | location}
```

- cname

Reset the computer name. The default computer name will be displayed when the computer is restarted.

- location

Reset the location information. The previous location information will be deleted.

Interface configuration

```
msh> bonjour linklocal "interface_name"
```

- If many types of interface are installed, configure the interface that communicates with linklocal address.
- If you do not specify an interface, the Ethernet interface is automatically selected.
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface	Interface configured
ether	Ethernet interface
wlan	Wireless LAN interface

Setting IPP-SSL printing

```
msh> bonjour ippport {ipp|ssl}
```

- If IPP-SSL Printing is set to ssl, the IPP port number will appear as 443, and IPP-SSL printing can be performed with higher security.
- If IPP-SSL Printing is set to ipp, the IPP port number will appear as 631. Port 631 is the port for normal IPP printing.

devicename

Use the "devicename" command to display and change the printer name.

View settings

```
msh> devicename
```

Printer name configuration

```
msh> devicename name "string"
```

- Enter a printer name using up to 31 alphanumeric characters.
- Set single names for each printer.

Printer name initialization

```
msh> device name clearname
```

- Reset the printer name to its default.

2

dhcp

Use the "dhcp" command to configure DHCP settings.

View settings

The following command displays the current DHCP settings.

```
msh> dhcp
```

Configuration

You can configure DHCP.

```
msh> dhcp "interface_name" {on|off}
```

- Click {on} to enable DHCP. Click {off} to disable DHCP.
- If the DNS server address and domain name are obtained from DHCP, be sure to click {on}.
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface name	Interface configured
ether	Ethernet interface
wlan	Wireless LAN interface

Current interface priority configuration display

```
msh> dhcp priority
```

Interface priority configuration

```
msh> dhcp priority "interface_name"
```

- You can select which interface has DHCP parameter priority.
- Priority settings are available when multiple interfaces are installed.

DNS server address selection

```
msh> dhcp dnsaddr {dhcp | static}
```

- Specify whether to obtain the DNS server address from the DHCP server or use the address set by a user.
- To obtain the DNS server address from the DHCP server, specify "dhcp". To use the address set by a user, specify "static".

Domain name selection

```
msh> dhcp domainname {dhcp | static}
```

- Specify whether to obtain the domain name from the DNS server or use the domain name set by a user.
- To obtain the domain name from the DHCP server, specify "dhcp". To use the domain name set by a user, specify "static".

dhcp6

Use the "dhcp6" command to display or configure DHCPv6 settings.

View settings

The following command displays the current DHCPv6 settings.

```
msh> dhcp6
```

DHCPv6-lite configuration and display

```
msh> dhcp6 "interface_name" lite {on|off}
```

Viewing and specifying DNS server address selection (obtained from the dhcpv6 server/user specified value)

```
msh> dhcp6 dnsaddr {dhcp|static}
```

DUID(DHCP unique ID) deletion and display

```
msh> dhcp6 duid clear
```

Viewing and specifying the time required to re-obtain the parameter obtained from dhcpv6

```
msh> dhcp6 option lifetime [0-65535]
```

- It can be entered between 0 and 65535 minutes.
- The default is 60 minutes.
- If you specify "0", you cannot re-obtain the value.

diprint

The direct printing port enables direct printing from a network-connected computer.

Use the "diprint" command to change direct printing port settings.

View settings

The following command displays the current direct printing port settings:

```
msh> diprint
```

Example output:

```
port 9100
```

```
timeout=300(sec)
```

```
bidirect on
```

```
conn multi
```

```
apl async
```

- The "port" specifies the port number of the direct printing port.
- The "bidirect" setting indicates whether the direct printing port is bidirectional or not.

Setting timeout

```
msh> diprint timeout [30-65535]
```

- You can specify the timeout interval to use when the printer is expecting data from the network.
- The default is 300 seconds.

Specifying the number of concurrent connections

```
msh> diprint conn {multi|single}
```

- The above command specifies the number of concurrent diprint connections. Specify "multi" for multiple connections or "single" for a single connection.
- The default is "multi".

dns

Use the "dns" command to configure or display DNS (Domain Name System) settings.

View settings

The following command displays the current DNS settings:

```
msh> dns
```

IPv4 DNS server configuration

The following command enables or disables the IPv4 DNS server address:

```
msh> dns "number" server "server address"
```

The following command displays a configuration using the IP address 192.168.15.16 on a DNS 1 server:

```
msh> dns 1 server 192.168.15.16
```

- You can register IPv4 DNS Server address.
- You can register up to three IPv4 DNS server numbers.
- You cannot use "255.255.255.255" as the DNS server address.

IPv6 DNS server configuration

The following command enables or disables the IPv6 DNS server address:

```
msh> dns "number" server6 "server address"
```

- You can register IPv6 DNS Server address.
- You can register up to three IPv6 DNS server numbers.

Dynamic DNS function setting

```
msh> dns "interface_name" ddns {on|off}
```

- You can set the dynamic DNS function "active" or "inactive".
- {on} means "active" and {off} means "inactive".
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface name	Interface configured
ether	Ethernet interface
wlan	Wireless LAN interface

Specifying the record overlap operation

```
msh> dns overlap {update|add}
```

- You can specify operations performed when records overlap.
- update
To delete old records and register new records.
- add
To add new records and store the old records.
- When CNAME overlaps, it is always changed, irrespective of the setting.

CNAME registration

```
msh> dns cname {on|off}
```

- You can specify whether to register CNAME.
- {on} means "active" and {off} means "inactive".
- The CNAME registered is the default name beginning with rnp. CNAME cannot be changed.

A records registration

```
msh> dns arecord {dhcp|own}
```

- {dhcp}
You can specify the method of registering an A record when the dynamic DNS function is enabled and DHCP is used.
- {own}
To register an A record using the printer as the DNS client.
The DNS server address and the domain name already designated are used for the registration.

Record updating interval settings

```
msh> dns interval "time"
```

- You can specify the interval after which records are updated when using the dynamic DNS function.
- The updating interval is specified hourly. It can be entered between 1 and 255 hours.
- The default is 24 hours.

resolv.conf display

```
msh> dns resolv
```

Specifying the protocol when asking names during dual stacking

```
msh> dns resolv protocol {ipv4|ipv6}
```

- Appears during dual stacking only.

domainname

Use the "domainname" command to display or configure the domain name settings.

You can configure the Ethernet interface or Wireless LAN interface.

View settings

The following command displays the current domain name:

```
msh> domainname
```

Interface domain configuration

```
msh> domainname "interface_name"
```

Setting the domain name

```
msh> domainname "interface_name" name "domain name"
```

- A domain name can be entered using up to 63 alphanumeric characters.
- The Ethernet interface and Wireless LAN interface will have the same domain name.
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface	Interface set
ether	Ethernet interface
wlan	Wireless LAN interface

Deleting the domain name

```
msh> domainname "interface_name" clear "name"
```

etherauth

Use the "etherauth" command to display or modify the authentication related parameters for Ethernet.

View settings

```
msh> etherauth
```

802.1x configuration

```
msh> etherauth 8021x {on|off}
```

- {on} means "active" and {off} means "inactive".

etherconfig

Use the "etherconfig" command to view and configure the Ethernet parameters.

View settings

```
msh> etherconfig
```

Specify Ethernet Speed

```
msh> etherconfig speed {auto|10f|10h|100f|100h}
```

- auto = Auto Select
- 10f = 10 Mbps Full Duplex
- 10h = 10 Mbps Half Duplex
- 100f = 100 Mbps Full Duplex
- 100h = 100 Mbps Half Duplex

The default is "auto".

help

Use the "help" command to display the available command list and the procedures for using those commands.

Command list display

```
msh> help
```

Display of procedure for using commands

```
msh> help "command_name"
```

hostname

Use the "hostname" command to change the printer name.

View settings

```
msh> hostname
```

IPv4 Configuration

```
msh> hostname "interface_name" "printer_name"
```

- Enter the printer name using up to 63 alphanumeric characters.
- You cannot use a printer name starting with "RNP" or "rnp".
- The Ethernet interface and Wireless LAN interface will have the same printer name.
- wlan can be specified only when the Wireless LAN interface unit is installed.
- If you do not specify an interface, the Ethernet interface is selected automatically.

Interface name	Interface configured
ether	Ethernet interface
wlan	Wireless LAN interface

Initializing the printer name for each interface

```
msh>hostname "interface_name" clear "name"
```

ifconfig

Use the "ifconfig" command to view and configure TCP/IP (IP address, subnet mask, broadcast address, default gateway address) for the printer.

View settings

```
msh> ifconfig
```

IPv4 configuration

```
msh> ifconfig "interface_name" "parameter" "address"
```

- If you did not enter an interface name, it is automatically set to the Ethernet interface.
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface name	Interface configured
ether	Ethernet Interface
wlan	Wireless LAN Interface

The following explains how to configure an IPv4 address 192.168.15.16 on the Ethernet interface.

```
msh> ifconfig ether 192.168.15.16
```

IPv6 configuration

```
msh> ifconfig ether inet6 "interface_name" "prefixlen"
```

The following explains how to configure an IPv6 address to 2001:DB8::100 with prefix length 64 on the Ethernet interface.

```
msh> ifconfig ether inet6 2001:DB8::100 64
```

Netmask configuration

```
msh> ifconfig "interface_name" netmask "address"
```

The following explains how to configure a subnet mask 255.255.255.0 on the Ethernet interface.

```
msh> ifconfig ether netmask 255.255.255.0
```

Broadcast address configuration

```
msh> ifconfig "interface_name" broadcast "address"
```

Changing the interface

```
msh> ifconfig "interface" up
```

You can specify either the Ethernet interface or Wireless LAN interface when using the optional Wireless LAN interface unit is installed.

Note

- To get the above addresses, contact your administrator.
- Use the default configuration if you cannot obtain setting addresses.
- The IP address, subnet mask and broadcast address are the same as that for the Ethernet interface and Wireless LAN interface.
- TCP/IP configuration is the same for both the Ethernet and Wireless LAN interface. If interfaces are changed, the new interface inherits the configuration.
- Use "0x" as the initial two letters of a hexadecimal address.

info

Use the "info" command to display the printer information such as paper tray, output tray, and printer language.

Printer information display

```
msh> info
```

Note

- For details about displayed contents, see "Getting Printer Information over the Network".

Reference

- p.79 "Getting Printer Information over the Network"

ipds

Use the "ipds" command to view and configure the ipds settings.

Viewing settings

The following command displays the current ipds settings:

```
msh> ipds
```

Changing ipds port number

```
msh> ipds port [1024-65535]
```

- The default is 5001.

Note

- Cannot use the port number of the 2501, 2601, and 9100.

Setting timeout

```
msh> ipds timeout [30-65535]
```

- The timeout function is disabled by default.

ipsec

Use the "ipsec" command to view and configure the IPsec settings.

Viewing settings

The following command displays the current IPsec settings:

```
msh> ipsec
```

ipp

Use the "ipp" command to view and configure the IPP settings.

Viewing settings

The following command displays the current IPP settings:

```
msh> ipp
```

IPP timeout configuration

Specify how many seconds the computer waits before canceling an interrupted print job. The time can be entered between 30 to 65535 seconds.

```
msh> ipp timeout [30 - 65535]
```

IPP user authorization configuration

Use IPP user authorization to restrict users to print with IPP. The default is "off".


```
msh> ipp auth {basic|digest|off}
```

- User authorization settings are "basic" and "digest".
- Use "off" to remove a user's authorization.
- If user authorization is specified, register a user name. You can register up to 10 users.

IPP user configuration

Configure IPP users according to the following messages:

```
msh> ipp user
```

The following message appears:

```
msh> Input user number (1 to 10):
```

Enter the number, user name, and password.

```
msh> IPP user name:user1
```

```
msh> IPP password:*****
```

After configuring the settings, the following message appears:

User configuration changed.

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ipv6

Use the "ipv6" command to display and configure the IPv6 settings.

View setting

```
msh> ipv6
```

IPv6 stateless address

```
msh> ipv6 stateless {on|off}
```

If "on" is selected, IPv6 requests information required for maintaining stateful connection to the router for as long as the printer power is turned on. This setting allows information from the router to be obtained constantly, and periodically refreshes the effective period of the stateless address.

logout

Use the "logout" command to save the changes and quit telnet.

Quit telnet

```
msh> logout
```

A confirmation message appears.

```
{yes|no|return}
```

Enter [yes], [no] or [return] by typing the word, and then press the [Enter] key.

To save the changes and quit telnet, enter [yes].

To discard the changes and quit telnet, enter [no].

To continue making changes, enter [return]

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lpr

Use the "lpr" command to view and configure the LPR settings.

View setting

```
msh> lpr
```

Checking host name when deleting the job

```
msh> lpr chkhost {on|off}
```

If "on" is selected, you can delete print jobs only from the IP address of the host that sent the print job.

If LPR is disabled, you can also delete print jobs sent from IP addresses other than that of the host.

Printer Error Detection Function

```
lpr prnerrchk {on|off}
```

If you set this to "on", the printer stops receiving data and will wait until the error is resolved before continuing processing a job.

netware

Use the "netware" command to configure the NetWare settings such as the print server name or file server name.

NetWare printer server names

```
msh> netware pname "character string"
```

- Enter the NetWare print server name using up to 47 characters.

NetWare file server names

```
msh> netware fname
```

- Enter the NetWare file server name using up to 47 characters.

Encap type

```
msh> netware encap {802.3|802.2|snap|ethernet2|auto}
```

Remote printer number

```
msh> netware rnum {0-254}
```

Timeout

```
msh> netware timeout {3-255}
```

Printer server mode

```
msh> netware mode pserver
```

```
msh> netware mode ps
```

Remote printer mode

```
msh> netware mode rprinter
```

```
msh> netware mode rp
```

NDS context name

```
msh> netware context "character string"
```

SAP interval

```
msh> netware "sap_interval"
```

Setting login mode for file server

```
msh> netware login server
```

Setting login mode for NDS tree

```
msh> netware login tree
```

Setting login mode for NDS tree name

```
msh> netware tree "NDS name"
```

File transfer protocol

```
msh> netware trans {ipv4pri|ipxpri|ipv4|ipx}
```

If you do not specify the protocol, the current setting is displayed.

Protocol	Set Protocol
ipv4pri	IPv4+IPX(IPv4)
ipxpri	IPv4+IPX(IPX)
ipv4	IPv4
ipx	IPX

passwd

Use the "passwd" command to change the remote maintenance password.

Changing the password

```
msh> passwd
```

- Enter the current password.
- Enter the new password.

- Re-enter the new password to confirm it.

Changing the password of the administrators using the supervisor

```
msh> passwd {Administrator ID}
```

- Enter the new password.
- Re-enter the new password to confirm it.

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↓ Note

- Be sure not to forget or lose the password.
- The password can be entered using up to 32 alphanumeric characters. Characters are case-sensitive. For example, "R" is not the same as "r".

pathmtu

Use the "pathmtu" command to display and configure the PathMTU Discovery service function.

View settings

```
msh> pathmtu
```

Configuration

```
msh> pathmtu {on|off}
```

- The default is "on".
- If the MTU size of the sent data is larger than the router's MTU, the router will declare it impassable, and communication will fail. If this happens, setting "pathmtu" to "off" optimizes the MTU size and prevents data output failure.
- Depending on the environment, information might not be obtained from the router, and communication will fail. If this happens, set "pathmtu" to "off".

prnlog

Use the "prnlog" command to obtain printer log information.

Print logs display

```
msh> prnlog
```

- Displays 16 previous print jobs.

```
msh> prnlog "ID Number"
```

- Specify the ID number of the displayed print log information to display additional details about a print job.

↓ Note

- For details about displayed contents, see "Getting Printer Information over the Network".

Reference

- p.79 "Getting Printer Information over the Network"

rhpp

Use the "rhpp" command to view and configure RHPP settings.

View settings

```
msh> rhpp
```

Changing rhpp port number

```
msh> rhpp [1024-65535]
```

- The default is 59100.

Setting timeout

```
msh> rhpp timeout [30-65535]
```

- The default is 300 seconds.

Note

- "RHPP" is an abbreviation of "Reliable Host Printing Protocol", which is a manufacturer-original printing protocol.

route

Use the "route" command to view and control the routing table.

All route information display

```
msh> route get "destination"
```

- Specify the IPv4 address to destination.

"0.0.0.0" cannot be specified as the destination address.

Enabling/disabling specified IPv4 destination

```
msh> route active {host|net} "destination" {on | off}
```

- When the {host | net} parameter is abbreviated, "host" is used by default.

Adding IPv4 routing table

```
msh> route add {host|net} "destination" "gateway"
```

- Adds a host or network route to "destination", and a gateway address to "gateway" in the table.
- Specify the IPv4 address to destination and gateway.
- When the {host|net} parameter is abbreviated, "host" is used by default.

Setting default IPv4 gateway

```
msh> route add default gateway
```

Deleting specified IPv4 destination from routing table

```
msh> route delete {host|net} "destination"
```

- Host becomes the default setting.
- IPv4 address of destination can be specified.

Setting IPv6 default gateway

```
msh> route add6 default gateway
```

Adding a specified IPv6 destination to routing table

```
msh> route add6 "destination" "prefixlen[1-128]" "gateway"
```

- Specify the IPv6 address to destination and gateway.
- If the prefix of the address is between 1 and 127, the network is selected. If the prefix of the address is 128, the host is selected.
- You cannot register a record that has the same destination and prefix as a registered record.
- You cannot register a record that uses "0000:0000:0000:0000:0000:0000:0000:0000" as its destination.

Deleting a specified IPv6 destination from routing table

```
msh> route delete6 "destination" "prefixlen"
```

- Specify the IPv6 address to destination and gateway.

Display information about a specified IPv6 route information

```
msh> route get6 "destination"
```

- Specify the IPv6 address to destination and gateway.

Enabling/disabling a specified IPv6 destination

```
msh> route active6 "destination" "prefixlen" {on | off}
```

Route initialization

```
msh> route flush
```

**Note**

- The maximum number of IPv4 routing tables is 16.
- The maximum number of IPv6 routing tables is 2.
- Set a gateway address when communicating with devices on an external network.
- The same gateway address is shared by all interfaces.
- "Prefixlen" is a number between 1 and 128.

set

Use the "set" command to set the protocol information display "up" or "down".

View settings

The following command displays the protocol information (up/down).

```
msh> set ipv4
```

```
msh> set ipv6
```

```
msh> set ipsec
```

```
msh> set appletalk
```

```
msh> set netware
```

```
msh> set smb
```

```
msh> set protocol
```

- When protocol is specified, information about IPv4, IPv6, IPsec, AppleTalk, NetWare, and SMB appears.

```
msh> set parallel
```

```
msh> set usb
```

```
msh> set lpr
```

```
msh> set lpr6
```

```
msh> set ftp
```

```
msh> set ftp6
```

```
msh> set rsh
```

```
msh> set rsh6
```

```
msh> set diprint
```

```
msh> set diprint6
```

```
msh> set web
```

```
msh> set snmp
```

```
msh> set ipp
```

```
msh> set ipp6
```

```
msh> set http
```

```
msh> set http6
```

```
msh> set bonjour
```

```
msh> set bonjour6
```

```
msh> set ssl
```

```
msh> set ssl6
```

```
msh> set nrs
msh> set rfu
msh> set rfu6
msh> set nbt
msh> set ssdp
msh> set ssh
msh> set sftp
msh> set sftp6
msh> set wsdev
msh> set wsdev6
msh> set wsprn
msh> set ipds
msh> set rhpp
msh> set rhpp6
msh> set lltd
```

Configuration

- Enter "up" to enable the protocol, and enter "down" to disable the protocol.
You can set the protocol to "active" or "inactive".

```
msh> set ipv4 {up | down}
```
- If you disable IPv4, you cannot use remote access after logging off. If you did this by mistake, you can use the control panel to enable remote access via IPv4.
- Disabling IPv4 also disables lpr, ftp, rsh, diprint, web, snmp, ssl, ipp, http, bonjour, and sftp.

```
msh> set ipv6 {up | down}
```

- If you disable IPv6, you cannot use remote access after logging off. If you did this by mistake, you can use the control panel to enable remote access via IPv6.
- Disabling IPv6 also disables lpr6, ftp6, rsh6, diprint6, ssl6, ipp6, http6, and sftp6.

```
msh> set appletalk {up | down}
```

```
msh> set netware {up | down}
```

```
msh> set smb {up | down}
```

```
msh> set lpr {up | down}
```

```
msh> set lpr6 {up | down}
```

```
msh> set ftp {up | down}
```

```
msh> set ftp6 {up | down}
```

```
msh> set rsh {up | down}
```



```
msh> set rsh6 {up | down}
msh> set diprint {up | down}
msh> set diprint6 {up | down}
msh> set web {up | down}
msh> set snmp {up | down}
msh> set ipp {up | down}
msh> set ipp6 {up | down}
msh> set http {up | down}
msh> set http6 {up | down}
msh> set bonjour {up | down}
msh> set bonjour6 {up | down}
msh> set ssl {up | down}
msh> set ssl6 {up | down}
```

- If Secured Sockets Layer (SSL, an encryption protocol) function is not available for the printer, you cannot use the function by enabling it.

```
msh> set nrs {up | down}
msh> set rfu {up | down}
msh> set rfu6 {up | down}
msh> set ssh {up | down}
msh> set ssdp {up | down}
msh> set nbt {up | down}
msh> set sftp {up | down}
msh> set sftp6 {up | down}
msh> set wsdev {up | down}
msh> set wsdev6 {up | down}
```

- If "wsdev" and "wsdev6" are enabled simultaneously, both appear as "up" on the protocol information display, but both use IPv4 for WS-Device and WS-Printer.

```
msh> set wsprn {up | down}
msh> set ipds {up | down}
msh> set rhpp {up | down}
msh> set rhpp6 {up | down}
msh> set lltd {up | down}
```

show

Use the "show" command to display the network interface board configuration settings.

View settings

```
msh> show
```

- If "-p" is added, you can view settings one by one.

↓ Note

- For details about the information displayed, see "Understanding the Displayed Information".

📖 Reference

- p.85 "Understanding the Displayed Information"

slp

Use the "slp" command to view and configure the SLP settings.

```
msh> slp ttl "ttl_val"
```

- You can search the NetWare server using SLP in the PureIP environment of NetWare 5/5.1 and Netware 6/6.5. Using the "slp" command, you can configure the value of TTL which can be used by SLP multicast packet.
- The default value of TTL is 1. A search is executed only within a local segment. If the router does not support multicast, the settings are not available even if the TTL value is increased.
- The acceptable TTL value is between 1 and 255.
- This command is available only when the NetWare is installed.

smb

Use the "smb" command to configure or delete a computer or workgroup name for SMB.

Computer Name settings

```
msh> smb comp "computer name"
```

- Set computer name using up to 15 characters. Names beginning with "RNP" or "rnp" cannot be entered.

Working Group Name settings

```
msh> smb group "work group name"
```

- Set workgroup name using up to 15 characters.

Comment settings

```
msh> smb comment "comment"
```

- Set comment using up to 31 characters.

Notify print job completion

```
msh> smb notif {on | off}
```

- To notify print job completion, specify "on". Otherwise, specify "off".

Deleting Computer Name

```
msh> smb clear comp
```

Deleting Group Name

```
msh> smb clear group
```

Deleting Comment

```
msh> smb clear comment
```

View Protocol

```
msh> smb protocol
```

snmp

Use the "snmp" command to display and edit the SNMP configuration settings such as the community name.

View settings

```
msh> snmp
```

- Default access settings 1 is as follows:
Community name:public
IPv4 address:0.0.0.0
IPv6 address::
IPX address:00000000:000000000000
Access type:read-only
Effective Protocol:IPv4/IPv6/IPX
- Default access settings 2 is as follows:
Community name:admin
IPv4 address:0.0.0.0
IPv6 address::
IPX address:00000000:000000000000
Access type:read-write
Effective Protocol:IPv4/IPv6/IPX
- If "-p" is added, you can view settings one by one.
- To display the current community, specify its registration number.

Display

```
msh> snmp ?
```

Community name configuration

```
msh> snmp "number" name "community_name"
```

- You can configure ten SNMP access settings numbered 1-10.
- The printer cannot be accessed from SmartDeviceMonitor for Admin or SmartDeviceMonitor for Client if "public" is not registered in numbers 1-10. When changing the community name, use SmartDeviceMonitor for Admin and SNMP Setup Tool to correspond with printer settings.
- The community name can be entered using up to 15 characters.

Deleting community name

```
msh> snmp "number" clear name
```

Access type configuration

```
msh> snmp "number" type "access_type"
```

Access type	Type of access permission
no	not accessible
read	read only
write	read and write
trap	user is notified of trapmessages

Protocol configuration

Use the following command to set protocols "active" or "inactive". If you set a protocol "inactive", all access settings for that protocol are disabled.

```
msh> snmp {ipv4|ipv6|ipx} {on|off}
```

- Specify "ipv4" for IPv4, "ipv6" for IPv6, or "ipx" for IPX/SPX.
- {on} means "active" and {off} means "inactive".
- All protocols cannot be turned off concurrently.

Configuration of protocol for each registration number

To change the protocol of access settings, use the following command. However, if you have disabled a protocol with the above command, activating it here has no effect.

```
msh> snmp "number" active {ipv4|ipv6|ipx} {on|off}
```

Access configuration

```
msh> snmp "number" {ipv4|ipv6|ipx} "address"
```

- You can configure a host address according to the protocol used.

- The network interface board accepts requests only from hosts that have IPv4, IPv6, and IPX addresses with access types of "read-only" or "read-write". Enter "0" to have the network interface board accept requests from any host without requiring a specific type of access.
- Enter a host address to deliver "trap" access type information to.
- To specify IPv4 or IPv6, enter "ipv4" or "ipv6" followed by a space, and then the IPv4 or IPv6 address.
- To specify IPX/SPX, enter "ipx" followed by a space, the IPX address followed by a decimal, and then the MAC address of the network interface board.

sysLocation configuration

```
msh> snmp location
```

Deleting sysLocation

```
msh> snmp clear location
```

sysContact setting

```
msh> snmp contact
```

Deleting sysContact

```
msh> snmp clear contact
```

SNMP v1v2 function configuration

```
msh> snmp v1v2 {on|off}
```

- Specify "on" to enable, and "off" to disable.

SNMP v3 function configuration

```
msh> snmp v3 {on|off}
```

- Specify "on" to enable, and "off" to disable.

SNMP TRAP configuration

```
msh> snmp trap {v1|v2|v3} {on|off}
```

- Specify "on" to enable, and "off" to disable.

Remote configuration authorization configuration

```
msh> snmp remote {on|off}
```

- Specify "on" to enable, and "off" to disable the SNMP v1v2 setting.

SNMP v3 TRAP configuration display

```
msh> snmp v3trap
```

```
msh> snmp v3trap {1-5}
```

If a number from 1-5 is entered, settings are displayed for that number only.

Configuring a sending address for SNMP v3 TRAP

```
msh> snmp v3trap {1-5} {ipv4|ipv6|ipx} "address"
```

Configuring a sending protocol for SNMP v3 TRAP

```
msh> snmp v3trap {1-5} active {ipv4|ipv6|ipx} {on|off}
```

Configuring a user account for SNMP v3 TRAP

```
msh> snmp v3trap {1-5} account "account_name"
```

Enter an account name using up to 32 alphanumeric characters.

Deleting an SNMP v3 TRAP user account

```
msh> snmp v3trap {1-5} clear account
```

Configuring an SNMP v3 encryption algorithm

```
msh> snmp v3auth {md5|sha1}
```

Configuring SNMP v3 encryption

```
msh> snmp v3priv {auto|on}
```

Set "auto" for automatic encryption configuration.

Set "on" for mandatory encryption configuration.

sntp

The printer clock can be synchronized with a NTP server clock using Simple Network Time Protocol (SNTP). Use the "sntp" command to change the SNTP settings.

View settings

```
msh> sntp
```

NTP server address configuration

You can specify the IP address of the NTP server.

```
msh> sntp server "IP_address"
```

Interval configuration

```
msh> sntp interval "polling_time"
```

- You can specify the interval at which the printer synchronizes with the operator-specified NTP server. The default is 60 minutes.
- The interval can be entered from 0, or between 15 and 10,080 minutes.
- If you set 0, the printer synchronizes with the NTP server only when you turn the printer on. After that, the printer does not synchronize with the NTP server.

Time-zone configuration

```
msh> sntp timezone "+/-hour_time"
```

- You can specify the time difference between the printer clock and NTP server clock. The values are between -12:00 and +13:00.

spoolsw

Use the "spoolsw" command to view and configure the Job Spool settings.

You can only specify diprint, lpr, ipp, ftp, smb, sftp, and wsprn protocol.

- The "spoolsw" command for configuring Job Spool settings is available only when the hard disk is installed.

View settings

The Job Spool setting appears.

```
msh> spoolsw
```

Job Spool setting

```
msh> spoolsw spool {on | off}
```

- Specify "on" to enable Job Spool, or "off" to disable it.

Resetting Job Spool setting

```
msh> spoolsw clearjob {on | off}
```

- When the printer power is cut during job spooling, this determines whether to reprint the spooled job.

Protocol configuration

```
msh> spoolsw diprint {on | off}
```

```
msh> spoolsw lpr {on | off}
```

```
msh> spoolsw ipp {on | off}
```

```
msh> spoolsw smb {on | off}
```

```
msh> spoolsw ftp {on | off}
```

```
msh> spoolsw sftp {on | off}
```

```
msh> spoolsw wsprn {on | off}
```

ssdp

Use the "ssdp" command to view and configure the SSDP settings.

View settings

```
msh> ssdp
```

Setting effective time

```
msh> ssdp profile {1801-86400}
```

The default is 10800 seconds.

Advertise packet TTL settings

```
msh> ssdp ttl {1-255}
```

The default is 4.

ssh

2

Use the "ssh" command to view and configure the SSH settings.

View settings

```
msh> ssh
```

Data compression communication settings

```
msh> ssh compression {on|off}
```

The default is "on".

SSH/SFTP communication port setting

```
msh> ssh port {22, 1024-65535}
```

The default is 22.

SSH/SFTP communication timeout setting

```
msh> ssh timeout {0-65535}
```

The default is 300.

SSH/SFTP communication login timeout setting

```
msh> ssh logintimeout {0-65535}
```

The default is 300.

Setting an open key for SSH/SFTP

```
msh> ssh genkey {512|768|1024} "character string"
```

Create an open key for SSH/SFTP communication.

Usable characters are ASCII 0x20-0x7e (32 bytes) other than "0".

The default key length is 1024, and the character string is blank.

If you do not specify this parameter, an open key with the default value will be created.

Deleting open key for ssh/sftp communication

```
msh> ssh delkey
```

↓ Note

- If you do not specify a character string, current setting is displayed.

status

Use the "status" command to display the printer status.

Messages

```
msh> status
```

↓ Note

- For details, see "Getting Printer Information over the Network".

📖 Reference

- p.79 "Getting Printer Information over the Network"

syslog

Use the "syslog" command to display the information stored in the printer's system log.

View message

```
msh> syslog
```

↓ Note

- For details about the information displayed, see "Message List".

📖 Reference

- p.97 "Message List"

upnp

Use the "upnp" command to display and configure the universal plug and play.

Public URL display

```
msh> upnp url
```

Public URL configuration

```
Msh< upnp url "string"
```

- Enter the URL string in the character string.

web

Use the "web" command to display and configure parameters on Web Image Monitor.

View settings

```
msh> web
```

URL configuration

You can set URLs linked by clicking URL on Web Image Monitor.

Specify "1" or "2" for x as the number corresponding to the URL. Up to two URLs can be registered and specified.

```
msh> web url http://"The URL or IP address you want to register"/
```

Deleting URLs registered as link destinations

```
msh> web x clear url
```

Specify "1" or "2" for x as the corresponding number to the URL.

Link name configuration

You can enter the name for URL that appears on Web Image Monitor.

Specify "1" or "2" for x as the corresponding number to the link name.

```
msh> web name "Name you want to display"
```

Resetting URL names registered as link destinations

```
msh> web x clear name
```

Specify "1" or "2" for x as the number corresponding to the link name.

Help URL configuration

You can set URLs linked by clicking [Help] or [?] on Web Image Monitor.

```
msh> web help http://"Help URL or IP address"/help/
```

Deleting Help URL

```
msh> web clear help
```

wiconfig

Use the "wiconfig" command to make settings for Wireless LAN.

View settings

```
msh> wiconfig
```

View Wireless LAN information

```
msh> wiconfig cardinfo
```

- If Wireless LAN is disabled or unavailable, information about it will not appear.

Configuration

```
msh> wiconfig "parameter"
```

Parameter	Value configured
mode {ap 802.11ad ad hoc}	You can set infrastructure mode (ap), or 802.11 ad hoc mode (802.11ad ad hoc). The default is infrastructure mode.
ssid "ID value"	You can make settings for the SSID in the infrastructure mode. Usable characters are ASCII 0x20-0x7e (32 bytes). An SSID value is set automatically to the nearest access point if no setting is made. If no setting is made for the ad hoc mode, the same value as for the infrastructure mode or an ASSID value is automatically set. The default is blank.
channel "channel no."	You can enable or disable the WEP function. To enable the WEP function, specify [on]; to disable it, specify [off]. To start the WEP function, enter the correct WEP key. The default is "1 1".
key "key value" val {1 2 3 4}	You can specify the WEP key by entering in hexadecimal. With a 64-bit WEP, you can use 10 digit hexadecimals. With a 128-bit WEP, you can use 26 digit hexadecimals. Up to four WEP keys can be registered. Specify the number to be registered with "val". When a WEP is specified by key, the WEP specified by key phrase is overwritten. To use this function, set the same key number and WEP key for all ports that transmit data to each other. Put "0x" on the front of WEP key. You can omit the numbers with "val". The key number is set to 1 when making these omissions. The default is blank.

Parameter	Value configured
keyphrase "phrase" val {1 2 3 4}	You can specify the WEP key by entering in ASCII. With a 64-bit WEP, you can use 10 digit hexadecimal. With a 128-bit WEP, you can use 26 digit hexadecimal. Up to four WEP keys can be registered. Specify the number to be registered with "val". When a WEP is specified by key phrase, the WEP specified by key is overwritten. To use this function, set the same key number and WEP key for all ports that transmit data to each other. You can omit the numbers with "val". The key number is set to 1 when making these omissions.
encval {1 2 3 4}	You can specify which of the four WEP keys is used for packet encoding. "1" is set if a number is not specified.
wepauth [open shared]	You can set an authorization mode when using WEP. The specified value and authorized mode are as follows: open: open system authorization (default) shared: shared key authorization
security {none wep wpa}	You can specify the security mode. none: No encryption (default) wep: WEP encryption wpa: WPA encryption
wpaenc {tkip ccmp}	You can specify WPA encryption key when using WPA encryption. tkip: TKIP (default) ccmp: CCMP (AES)

Parameter	Value configured
wpaauth {wpapsk wpa wpa2psk wpa2 }	You can specify the WPA authentication mode when using WPA encryption. wpapsk: WPA-PSK authentication (default) wpa: WPA (802.1X) authentication wpa2psk: WPA2-PSK authentication wpa2: WPA2 authentication
psk "character string"	You can specify the Pre-Shared key. Usable characters: ASCII 0x20-0x7e (8 to 63 bytes). The default is blank.
eap {tls ttls leap peap} {chap mschap mschapv2 pap md5 tls}	You can specify the EAP authentication type. tls: EAP-TLS (default) ttls: EAP-TTLS leap: LEAP peap: PEAP chap, mschap, mschapv2, pap, md5, and tls are settings for the phase 2 method, and one of these must be specified if EAP-TTLS or PEAP is selected. Do not make these settings when using other EAP authentication types. If you select EAP-TTLS, you can select chap, mschap, mschapv2, pap, or md5. If you select PEAP, you can select mschapv2 or tls.
username "character string"	You can specify the login user name for the Radius server. Usable characters: ASCII 0x20-0x7e (31 bytes) other than "@". The default is blank.
username2 "character string"	You can specify the phase 2 username for EAP-TTLS/PEAP phase 2 authentication. Usable characters: ASCII 0x20-0x7e (31 bytes) other than "@". The default is blank.

Parameter	Value configured
domain "character string"	You can specify the login domain name for the Radius server. Usable characters: ASCII 0x20-0x7e (31 bytes) other than "@". The default is blank.
password "character string"	You can specify the login password for the Radius server. Usable characters: ASCII 0x20-0x7e (128 bytes). The default is blank.
svrcert {on off}	You can set the server certificate. The default is "off".
imca {on off}	You can enable or disable the certificate when the intermediate certificate authority is present. The default is "off".
srvid "character string"	You can set the server ID and sub domain of the certificate server.
connectinfo	Obtains connection information.
clear {a each command all}	Returns the selected setting to its default value. If you specify "all", all settings will be restored to their default values.
miccheck {on off}	You can enable or disable the MIC check function. The default setting is "On" (enabled). If you specify "Off", you cannot perform MIC checks. We recommend you specify "On" for the MIC check function when using this printer.

↓ Note

- You can use this command only when the Wireless LAN interface unit is installed.

wins

Use the "wins" command to configure the WINS server settings.

Viewing settings

```
msh> wins
```

- If the IPv4 address obtained from DHCP differs from the WINS IPv4 address, the DHCP address is the valid address.

Configuration

```
msh> wins "interface_name" {on | off}
```

- {on} means "active" and {off} means "inactive".
- Be sure to specify the interface.
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface name	Interface configured
ether	Ethernet interface
wlan	Wireless LAN interface

Address configuration

Use the following command to configure the WINS server IP address:

```
msh> wins "interface_name" {primary|secondary} "IP address"
```

- Use the "primary" command to configure the primary WINS server IPv4 address.
- Use the "secondary" command to configure the secondary WINS server IPv4 address.
- Do not use "255.255.255.255" as the IPv4 address.

NBT (NetBIOS over TCP/IP) scope ID selection

You can specify the NBT scope ID.

```
msh> wins "interface_name" scope "ScopeID"
```

- The scope ID can be entered using up to 31 alphanumeric characters.
- Be sure to specify the interface.
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface name	Interface configured
ether	Ethernet interface
wlan	Wireless LAN interface

wsmfp

Use the "wsmfp" command to view and configure the WSD (Device) and WSD (Printer) settings.

View settings

```
msh> wsmfp
```

Comment settings

```
msh> wsmfp comments "comment"
```

- If you do not specify a comment, current setting is displayed.

Location configuration

```
msh> wsmfp location "location"
```

- If you do not specify a comment, current setting is displayed.

Presentation URL configuration

```
msh> wsmfp url "URL"
```

- Enter the URL string in the "URL".

WSD (Device) TCP port configuration

```
msh> wsmfp devport [1024-65535]
```

- The Default is 53000.

WSD (Printer) TCP port configuration

```
msh> wsmfp prnport [1024-65535]
```

- The Default is 53001.

WSD (Printer) timeout configuration

```
msh> wsmfp prntimeout [30-65535]
```

- The default is 900 seconds.

Comment initialization

```
msh> wsmfp clear comments
```

Location initialization

```
msh> wsmfp clear location
```

Presentation URL initialization

```
msh> wsmfp clear url
```


Getting Printer Information over the Network

This section explains details of each item displayed in the printer status and information.

Current Printer Status

2

The printer status can be checked using the following commands:

- UNIX: Use the "stat" parameter and the "rsh", "rcp", "ftp", and "sftp" commands.
- mshell: Use the "status" command.

★ Important

- Depending on the printer you are using, some of these messages might not appear.

Messages	Description
Adjusting...	The printer is initializing or calibrating.
Call Service Center	There is a malfunction in the printer.
Color Registration Failed	Adjustment of color registration has failed.
Cover Open: Front Cover	The front or top cover is open.
Cover Open: Left Cover	The left cover is open.
Cover Open: Rear Cover	The rear cover is open.
Cover Open: Top Cover	The top cover is open.
Current Job Suspended	Current jobs are suspended.
Empty: Black Toner	The black toner cartridge is almost empty.
Empty: Cyan Toner	The cyan toner cartridge is almost empty.
Empty: Magenta Toner	The magenta toner cartridge is almost empty.
Empty: Yellow Toner	The yellow toner cartridge is almost empty.
Energy Saver Mode	The printer is in Energy Saver Mode.
Error: Ethernet Board	An Ethernet board error has occurred.
Error: HDD Board	A hard disk board error has occurred.
Error: Optional Font	An error has occurred in the font file of the printer.

Messages	Description
Error: Optional RAM	An error has occurred in the SDRAM module.
Error: Parallel I/F Board	An error has occurred in the parallel interface.
Error: PDL	An error has occurred in the page description language.
Error: Rem. Certificate Renewal	An error has occurred in the remote certificate renewal.
Error: USB Interface	An error has occurred in the USB interface.
Error: Wireless Card	Wireless LAN card is not inserted during start up, or the IEEE 802.11 interface unit or the Wireless LAN card is taken out after start up.
Full: Standard Tray	Stacker tray is full.
Full: Waste Toner	The waste toner is full.
Hex Dump Mode	It is a hex dump mode.
Independent-supplier Toner	Toner that is not recommended is set.
Jobs Suspended	All jobs are suspended.
Loading Toner...	Toner is being supplied.
Low: Black Toner	The black toner cartridge is not set correctly, or toner is almost running out.
Low: Cyan Toner	The cyan toner cartridge is not set correctly, or toner is almost running out.
Low: Magenta Toner	The magenta toner cartridge is not set correctly, or toner is almost running out.
Low: Yellow Toner	The yellow toner cartridge is not set correctly, or toner is almost running out.
Malfunction: Tray 1	There is a problem with tray 1.
Malfunction: Tray 2	There is a problem with tray 2.
Malfunction: Tray 3	There is a problem with tray 3.
Malfunction: Tray 4	There is a problem with tray 4.

Messages	Description
Mismatch: Paper Size	The identified paper tray does not contain paper of the selected size.
Mismatch: Paper Size and Type	The identified paper tray does not contain paper of the selected size and type.
Mismatch: Paper Size/Image Size	The identified paper tray does not contain paper that matches the image size.
Mismatch: Paper Type	The identified paper tray does not contain paper of the selected type.
Near Replacing: Black PCU	Prepare a new Black drum unit.
Near Replacing: Color PCU	Prepare a new Color drum unit.
Near Replacing: Fusing Unit	Prepare a new fusing unit.
Near Replacing: Int. Transfer	Prepare a new Transfer Roller.
Near Replacing: Maintenance Kit	Prepare a new Maintenance Kit.
Near Replacing: Print Cartridge	Prepare a new print cartridge.
Nearly Full: Waste Toner	Waste toner bottle is nearly full.
No Paper: Selected Tray	There is no paper in the specified tray.
No Paper: Tray 1	There is no paper in tray 1.
No Paper: Tray 2	There is no paper in tray 2.
No Paper: Tray 3	There is no paper in tray 3.
No Paper: Tray 4	There is no paper in tray 4.
No Paper: Tray 5	There is no paper in tray 5.
Not Detected: Black Toner	Black toner is not correctly set.
Not Detected: Cyan Toner	Cyan toner is not correctly set.
Not Detected: Fusing Unit	The fusing unit is not correctly set.
Not Detected: Input Tray	The paper feed tray is not correctly set.
Not Detected: Magenta Toner	Magenta toner is not correctly set.

Messages	Description
Not Detected: PCU (C)	The drum unit (cyan) is not correctly set.
Not Detected: PCU (K)	The drum unit (black) is not correctly set.
Not Detected: PCU (M)	The drum unit (magenta) is not correctly set.
Not Detected: PCU (Y)	The drum unit (yellow) is not correctly set.
Not Detected: Print Cartridge	The paper print cartridge is not correctly set.
Not Detected: Tray 1	Tray 1 is not correctly set.
Not Detected: Tray 2	Tray 2 is not correctly set.
Not Detected: Tray 3	Tray 3 is not correctly set.
Not Detected: Tray 4	Tray 4 is not correctly set.
Not Detected: Tray 5	Tray 5 is not correctly set.
Not Detected: Yellow Toner	Yellow toner is not correctly set.
Not Detected: Int. Transfer Unit	The transfer unit is not correctly set.
Not Detected: WasteToner Bottle	Waste toner bottle is not correctly set.
Offline	The printer is offline.
Panel Off Mode	The printer is in Panel-Off mode.
Paper in Duplex Unit	The paper remains in the duplex unit.
Paper Misfeed: Duplex Unit	The paper has jammed in the duplex unit.
Paper Misfeed: Input Tray	The paper has jammed in the input tray.
Paper Misfeed: Internal/Output	The paper has jammed inside the printer.
Paper Misfeed: Optional Tray 1	The paper has jammed in the optional tray 1.
Paper Misfeed: Optional Tray 2	The paper has jammed in the optional tray 2.
Paper Misfeed: Optional Tray 3	The paper has jammed in the optional tray 3.
Paper Misfeed: Optional Tray 4	The paper has jammed in the optional tray 4.
Printing...	Printing is in progress.
Proxy User/Password Incorrect	Proxy user name or Password is incorrect.

Messages	Description
RC Gate Connection Error	Connection with the RC Gate failed.
Ready	The printer is ready to print.
Replace Black PCU	It is time to replace the black drum unit.
Replace Fusing Unit	It is time to replace the fusing unit.
Replace Int. Transfer Unit	It is time to replace the transfer unit.
Replace Maintenance Kit	It is time to replace the maintenance kit.
Replace PCU (Color)	It is time to replace the color drum unit.
Replace Print Cartridge	It is time to replace the print cartridge.
Reset IPDS fonts	The IPDS fonts are being reset.
SD Card Authentication failed	SD card authentication failed.
Supplies Order Call failed	The supply order call has failed.
Tray Error: Duplex Printing	Selected paper tray cannot be used for duplex printing.
Warming Up...	The printer is warming up.
W.T.Bttl.notDetected/L.Cvr.Open	The left cover is open, or the waste toner bottle is not set.

↓ Note

- Check the error contents that may be printed in the configuration page. For details about printing a configuration page, see "List/Test Print Menu", Software Guide.

Printer Configuration

You can check the printer configuration using telnet.

This section explains the checking procedure for input/output tray and printer language.

- UNIX: Use the "info" parameter and the "rsh", "rcp", "ftp", and "sftp" commands.
- mshell: Use the "info" command.

Input Tray

Item	Description
No.	ID number of the paper tray

Item	Description
Name	Name of the paper tray
PaperSize	Size of paper loaded in the paper tray
status	Current status of the paper tray • Normal: Normal • NoInputTray: No tray • PaperEnd: No paper

Output Tray

Item	Description
No.	ID number of the output tray
Name	Name of the output tray
status	Current status of the output tray • Normal: Normal • PaperExist: Paper exist • OverFlow: Paper is full • Error: Other errors

Printer Language

Item	Description
No.	ID number of the printer language used by the printer
Name	Name of the printer language used in the printer
Version	Version of the printer language

↓ Note

- For details about mshell "info" commands, see "Using telnet".

📖 Reference

- p.39 "Using telnet"

Understanding the Displayed Information

This section explains how to read status information returned by the network interface board.

Print Job Information

2

Use the following command to display print job information:

- UNIX: Use the "info" parameter and the "rsh", "rcp", "ftp", and "sftp" commands.
- mshell: Use the "info" command.

Item	Description
Rank	Print job status • Active • Printing or preparing for printing • 1st, 2nd, 3rd, 4th... • Waiting to be transferred to the printer
Owner	Print request user name
Job	Print request number
Files	The name of the document
Total Size	The size of the data (spooled) The default is 0 bytes

Note

- For details about mshell "info" commands, see "Using telnet".

Reference

- p.39 "Using telnet"

Print Log Information

This is a record of the most recent 16 jobs printed.

Use the following command to display print log information:

- UNIX: Use the "prnlog" parameter and the "rsh", "rcp", "ftp", and "sftp" commands.
- mshell: Use the "prnlog" command. See "Using telnet".

Item	Description
ID	Print request ID.
User	Print request user name.
Page	Number of pages printed
Result	Print Request Result Communication Result • OK Print was completed normally. However, the print result may not be as required due to printer problems. • NG Printing was not completed normally. • Canceled An "rcp", "rsh", or "lpr" command print request was canceled, possibly due to the printing application. Not applicable to the "ftp" or "rprinter" command.
Time	Time the print requested was received. Time of print request reception
User ID	Printer driver-configured User ID. Appears when the print request ID is specified.
JobName	Name of the document for printing Appears when the print request ID is specified.

↓ Note

- For details about mshell "info" commands, see "Using telnet".

📖 Reference

- p.39 "Using telnet"

Configuring the Network Interface Board

Use the following command to display network interface board settings:

- mshell: Use the "show" command.

Item		Description
Common		
	Mode	
	Protocol Up/Down	Protocol Settings
	AppleTalk	
	IPv4	
	IPv6	
	IPsec	
	NetWare	
	SMB	
	Device Up/Down	Device Settings
	Parallel	
	USB	
	Ethernet interface	
	Syslog priority	
	NVRAM version	
	Device name	
	Comment	
	Location	
	Contact	
	Soft switch	
	AppleTalk	AppleTalk settings
	Mode	
	Net	
	Object	

Item		Description
	Type	
	Zone	
TCP/IP		TCP/IP settings
	Mode(IPv4)	
	Mode(IPv6)	
	ftp	
	lpr	
	rsh	
	diprint	
	web	
	http	
	ftpc	
	snmp	
	ipp	
	autonet	
	Bonjour	
	ssl	
	nrs	
	rfu	
	nbt	
	ssdp	
	ssh	
	sftp	
	WSD (Device)	
	WSD (Printer)	

Item			Description
		ipds	
		rhpp	
	IPv4		
		DHCP	
		Address	
		Netmask	
		Broadcast	
		Gateway	
	IPv6		
		Stateless	
		Manual	
		Gateway	
		DHCPv6-lite	
		DUID	
		DHCPv6 option lifetime	
	IPsec		
		Manual Mode	
		Excluded Protocol	
		https	
		dns	
		dhcp	
		wins	
	EncapType		
	Host name		
	DNS Domain		

Item		Description
	Access Control	Access Control settings
	IPv4	
	Access Entry[X]	X can be set between 1 and 5.
	IPv6	
	Access Entry[X]	X can be set between 1 and 5.
	SNTP Server	Time settings
	Time Zone	
	SNTP Server polling time	
	SYSLOG server	Websys settings
	Home page URL1	
	Home page link name1	
	Home page URL2	
	Home page link name2	
	Help page URL	
	IPDS Port	
	IPDS timeout	
	RHPP Port	
	RHPP timeout	
	NetWare	
	EncapType	
	RPRINTER number	
	Print server name	
	File server name	
	Context name	
	Switch	

Item		Description
	Mode	
	NDS/Bindery	
	Packet negotiation	
	Login Mode	
	Print job timeout	
	Protocol	
	SAP interval time	
	NDS Tree Name	
	Transfer Protocol	
SMB		SMB settings
	Switch	
	Mode	
	Direct print	
	Notification	
	Workgroup name	
	Computer name	
	Comment	
	Share name[1]	
	Protocol	
Wireless LAN		Wireless LAN settings
	Host name	
	Communication Mode	
	SSID	
	Channel	
	Security	

Item		Description
	WEP Authentication	
	WEP Encryption key number	
	WEP Encryption keys[X]	X can be set between 1 and 4.
	WPA Encryption	
	WPA Authentication	
	Pre-Shared Key	
	User name	
	Domain name	
	EAP Type	
	Password	
	Phase 2 user name	
	Phase 2 Method TTLS	
	Phase 2 Method PEAP	
	Server cert.	
	Intermediate CA	
	Server ID	
	Sub domain	
	Mic check	
Ethernet		
	802.1X Authentication	
DNS		DNS settings
	IPv4	
	Server[X]	X can be set between 1 and 3.
	Selected IPv4 DNS Server	
	IPv6	

Item			Description
		Server[X]	X can be set between 1 and 3.
		Selected IPv6 DNS Server	
		Resolver Protocol	
Domain name			
		ether	
		wlan	
DDNS			
		ether	
		wlan	
WINS			WINS settings
		ether	
		Primary WINS	
		Secondary WINS	
		wlan	
		Primary WINS	
		Secondary WINS	
SSDP			SSDP settings
		UUID	
		Profile	
		TTL	
UPnP			UPnP settings
		URL	
Bonjour			Bonjour (Rendezvous) settings
		Computer Name (cname)	
		Local Hostname (ether)	

Item		Description
	Local Hostname (wlan)	
	Location	
	Priority (diprint)	
	Priority (lpr)	
	Priority (ipp)	
	IP TTL	
	LinkLocal Route for Multi I/F	
	IPP Port	
SNMP		SNMP settings
	SNMPv1v2	
	SNMPv3	
	Protocol	
	v1Trap	
	v2Trap	
	v3Trap	
	SNMPv1v2 Remote Setting	
	SNMPv3 Privacy	
ssh		ssh settings
	Compression	
	Port	
	TimeOut	
	LoginTimeOut	
AuthFree		Authfree settings
	IPv4	
	AuthFreeEntry[X]	X can be set between 1 and 5.

Item		Description
	IPv6	
	AuthFreeEntry[X]	X can be set between 1 and 5
	Parallel	
	USB	
LPR		
	lprm check host	
	lpr prnerrchk	
Certificate		
	Verification	
WS-MFP		
	Network Device Name	
	Comments	
	Location	
	Presentation URL	
	WSD (Device) TCP Port	
	WSD (Printer) TCP Port	
	WSD (Printer) Job Timeout	
	MetadataVersion	
	UUID	
IEEE 802.1X		IEEE 802.1X settings
	User name	
	Domain name	
	EAP Type	
	Password	
	Phase 2 user name	

Item		Description
	Phase 2 Method TTLS	
	Phase 2 Method PEAP	
	Server cert	
	Intermediate CA	
	Server ID	
	Sub domain	
Shell mode		Remote maintenance tool mode

Message List

This is a list of messages that appear in the printer's system log. The system log can be viewed using the "syslog" command.

System Log Information

2

Use the following command to display the system log information:

- UNIX: Use the "syslog" parameter and the "rsh", "rcp", "ftp", and "sftp" commands.
- mshell: Use the "syslog" command.

★ Important

- Depending on the printer you are using, some of these messages might not appear.

Access to NetWare server <file server name> denied. Either there is no account for this print server on the NetWare server or the password was incorrect.

Login to the file server failed when the print server was online. Make sure the print server is registered in <file server name>. If a password is specified for the print server, delete the password.

account is unavailable: same account name be used.

User account is disabled. This could be because it uses the same account name as the administrator account.

account is unavailable: The authentication password is not set up.

User account is disabled. This could be because the authentication password is not set, and only the encryption account is set.

account is unavailable: encryption is impossible.

Encryption is not possible and account is disabled. This could be because:

- Security option is not installed.
- Encryption password has not been specified.

add_sess_IPv4:bad trap addr :<IPv4 address>, community:<community name>

The IPv4 address (0.0.0.0.) is unavailable when the community access type is TRAP. Specify the host IPv4 address for the TRAP destination.

add_sess_IPv6:bad trap addr :<IPv6 address>, community:<community name>

The IPv6 address [::] is unavailable when the community access type is TRAP. Specify the host IPv6 address for the TRAP destination.

add_sess_IPv4: community <community name> already defined.

The same community name already exists. Use another community name.

add_sess_IPv6: community <community name> already defined.

The same community name already exists. Use another community name.

add_sess_IPX: bad trap addr :<IPX address>, community:<community name>

The IPX address (00:00:00:00:00:00) is unavailable when the community access type is TRAP. Specify the host IPX address for the TRAP destination.

add_sess_IPX: community <community name> already defined.

The same community name already exists. Use another community name.

adjust time server <NTP server> offset:xx sec.

ncsd tells you the timing of the NTP server and whether or not the time system clock is set.

- NTP Server: NTP server name
- offset: number of seconds of delay (minus number if a time in advance is specified)

Attach FileServer =<file server>

Connection to the file server as the nearest server has been established.

Attach to print queue <print queue name>

The system connects to the print queue when the print server goes online.

authenticating

The supplicant is authenticating with the access point (EAP or WPA).

authentication mode mismatch

The authentication mode of the access point is different from the authentication mode of the supplicant.

Use the same authentication mode between the access point and the supplicant.

authenticated

The supplicant has been authenticated.

The authentication was successful. If authentication is successful, this message always appears at the end of the process.

centrod is disabled.

Parallel communication could not be established. Enable "centrod" in the security mode setting.

child process exec error! (process name)

The network service failed to start. Turn the printer off and then on. If this does not work, contact your service or sales representative.

cipher suite mismatch

The uni-cast / multi-cast suite (TKIP/AES/WEP) of the access point is different from the suite used by the supplicant.

client EAP method rejected

The authentication mode of the access point is different with the authentication mode of the supplicant. Use the same authentication mode between the access point and the supplicant.

client password rejected

The client's password was rejected. Check the client password.

client TLS certificate rejected

The client's TLS certificate was rejected. Check the certificate.

Connected DHCP Server (<DHCP server address>)

The IP address was successfully received from the DHCP server.

connecting

The supplicant is establishing the Wireless LAN connection with the access point.

Connected DHCPv6 server <IPv6 address>

The IP address was successfully received from the DHCPv6 server.

Could not attach to FileServer <error number>

Connection to the file server could not be established when the remote printer went online. The file server refused the connection for unknown reason. Check the file server's configuration.

Could not attach to PServer <print server name>

Connection to the print server has not been established when the remote printer is turned on. The print server has refused the connection. Check the print server configuration.

connection from <IP address>

A user logged in from the host <IP address>.

Current Interface Speed : <Ethernet I/F speed>

Speed of the network (10Mbps, 100 Mbps, or 1 Gbps).

Current IP address (<current IP address>).

The <current IP address> was acquired from DHCP server.

Current IPX address <IPX address>

The current IP address is <IPX address>.

DHCP lease time expired.

DHCP lease time has expired. Carry out the DHCP Discover. The IP address you have used is no longer available.

DHCP server not found.

The DHCP server was not found. Make sure that the DHCP is on the network.

DHCPv6 server not found.

The DHCPv6 server was not found. Make sure that the DHCPv6 is on the network.

disconnected

The supplicant has no connection.

dpsd is disabled.

Communication via PictBridge is unavailable because PictBridge is disabled in the security mode.
Enable PictBridge in the security mode.

Duplicate IP=<IP address>(from <MAC address>).

A conflicting IPv4 or IPv6 address was used. Each IPv4 or IPv6 address must be unique.
Check the device address in [MAC address].

Established SPX Connection with PServer,(RPSocket=<socket number>, connID=<connection ID>)

Connection to the print server was established when the remote printer went online.

exiting

The LPD service was completed and the process is exiting.

Exit pserver

(In the print server mode) The print server function is disabled because the necessary print server settings have not been made.

Frametype =<frametype name>

The specified frame type name <frame type name> is for NetWare use.

httpd start.

The httpd has started.

IEEE 802.11 Card does NOT support WPA.

A Wireless LAN card that does not support WPA is installed. Install a Wireless LAN card that supports WPA.

IEEE 802.11 Card Firmware REV.<version>

Displays the version number of the 802.11 card's firmware.

IEEE 802.11 current channel <channel number>

Displays the current channel number of the active Wireless LAN card (in ad hoc and infrastructure mode).

IEEE 802.11 MAC Address = <MAC address>

Displays the MAC address of the Wireless LAN interface.

IEEE 802.11 SSID <ssid> (AP MAC Address <MAC address>)

The MAC address and SSID of the access point are connected in infrastructure mode.

IEEE 802.11 <communication mode> mode

Displays the IEEE 802.11 communication mode.

(IKE phase-1) mismatched authentication type : local=<authentication type 1> remote=<authentication type 2>

This printer's <authentication type 1> in IKE phase 1 does not match the communicating host's <authentication type 2>. Make sure this printer's ISAKMP SA authentication type matches that of the communicating host.

(IKE phase-1) mismatched encryption type : local=<encryption algorithm 1> remote=<encryption algorithm 2>

This printer's ISAKMP SA Oakley group <encryption algorithm 1> in IKE phase 1 does not match the communicating host's ISAKMP SA Oakley group < encryption algorithm 2>. Make sure this printer's ISAKMP SA Oakley group matches that of the communicating host.

(IKE phase-1) mismatched DH group: local=<DH group number 1> remote=<DH group number 2>

This printer's ISAKMP SA Oakley group <DH group number 1> in IKE phase 1 does not match the communicating host's ISAKMP SA Oakley group <DH group number 2>. Make sure this printer's ISAKMP SA Oakley group matches that of the communicating host.

(IKE phase-1) mismatched hash type: local=<Hash Algorithm 1> remote=<Hash Algorithm 2>

This printer's ISAKMP SA <Hash Algorithm 1> in IKE phase 1 does not match the communicating host's ISAKMP SA <Hash Algorithm 2>. Make sure this printer's ISAKMP SA Hash Algorithm matches that of the communicating host.

IKE[%s] is disable, set PSK text.

The specified IKE entry is invalid. Enter the PSK text.

inetd start.

The inetd service has started.

Interface(interface name):Duplicate IP Address (<IP address>).

The same IP (IPv4 or IPv6) address was used. Each IP address must be unique. Check the address of the device indicated in [IP address].

<interface name> card removed

The interface managed by the supplicant has been removed.

<interface name> interface down

The interface managed by the supplicant is disabled, or cannot connect to the access point.

<interface name> interface up

The interface managed by the supplicant is enabled, or is connected to the access point.

<Interface> started with IP : <IP address>

IP address (IPv4 or IPv6 address) has been set for the interface and is operating.

<Interface>: Subnet overlap.

The same IP address (IPv4, or IPv6 address) and the subnet mask is used with other device.

IPP cancel-job: permission denied.

User name authentication failed when the spooled job was being canceled.

IPP job canceled. jobid=%d.

The spooled job was canceled due to error or user request.

job canceled. jobid=<job ID>.

The spooled job was canceled due to error or user request.

LeaseTime=<lease time>(sec), RenewTime=<renew time>(sec).

The resource lease time received from the DHCP server is displayed in [lease time] in seconds. The renewal time is displayed in [renew time] in seconds.

LEAP challenge to access point failed

The LEAP challenge to the access point has failed.

Login to fileserver <file server name> (<IPX | IP>,<NDS | BINDERY>)

When the print server was online, the system logged in to <file server> in NDS or BINDERY mode. The transfer protocol in use is also displayed.

Manual[%s] is disable, set authentication key.

The specified manual SA entry is invalid. Set the authentication key.

Manual[%s] is disable, set encryption key.

The specified manual SA entry is invalid. Set the authentication key.

Memory allocate error.

Data cannot be obtained.

Disconnect the USB cable, and then connect it.

MIC failure TKIP counter measures started

The supplicant using TKIP has detected two instances of tampering within 60 seconds and has started counter measures.

MIC failure TKIP counter measures stopped

Counter measures have stopped after 60 seconds (since the supplicant using TKIP started counter measures against tampering).

Name registration failed. name=<NetBIOS name>

Name registration of <NetBIOS Name> failed. Change to a different NetBIOS name.

Name registration success in Broadcast name=<NetBIOS name>

Name registration by <NetBIOS Name> broadcast was successful.

Name registration success. WINS Server =<WINS server address> NetBIOS Name=<NetBIOS name>

Name registration of <NetBIOS Name> to <WINS server address> was successful.

nbttd start.

The nbttd (NetBIOS over TCP/IP Daemon) has started.

no RADIUS/authentication server

The supplicant has received a message reporting that a usable RADIUS server cannot be found.

no smart card detected on device

PEAP/GTC (Generic Token Card) is selected, but a smart card using GTC authentication cannot be found.

no SSID in scan result

A network with the SSID you specified was not found.

The specified SSID might not be available, or the signal from the access point/multi-channel might be weak.

no WPA information element in probe response, rescanning

There is no WPA information on the response from the SSID probe of the access point you want to use.

The supplicant is rescanning.

npriter start. (NetWare)

(In the remote printer mode) The NetWare service has started.

nwstart start. (NetWare)

The NetWare protocol stack setup server has started.

Open log file <file name>

The specified log file was opened when the print server was online.

papd start. (AppleTalk)

The papd (Printer Access Protocol Daemon) has started.

permission denied.

The permission was denied after checking the user name and host address at the job cancel (except for the root permission).

pserver start. (NetWare)

NetWare service has started in print server mode at the print server operation.

Printer <printer name> has no queue

The print queue is not assigned to the printer when the print server was online. Assign the print queue to the printer using NetWare administrator account, and then restart the printer.

Print queue <print queue name> cannot be serviced by printer 0, <print server name>

The print queue cannot be established when the print server is online. Make sure that the print queue exists on the specified file server.

Print server <print server name> has no printer

The printer was not assigned to the print server when the print server was online. Use the NetWare administrator account to assign the printer, and then restart the printer.

print sessions full

No more print jobs can be accepted. Wait a while before sending any more print jobs.

Required file server(<file server name>) not found

The required file server <file server name> could not be found.

restarted.

The LPD has started.

sap enable, sapttype=<SAP type>, sapname=<SAP name>

The SAP function was started. The SAP packet is issued to advertise the service in the SAP table on the NetWare server.

server certificate invalid

The server ID is disabled. Check the server authentication.

server identity invalid

The server ID is disabled. Check the server name authentication.

server not trusted

The RADIUS server cannot be trusted.

Session_IPv4 <community name> not defined.

The requested community name is not defined.

Session_IPv6 <community name> not defined.

The requested community name is not defined.

session_IPX <community name> not defined.

The requested community name is not defined.

Set context to <NDS context name>

The NDS context name <NDS context name> has been set.

shutdown signal received. network service rebooting...

The network reboot process is starting.

smbd start. (NetBIOS)

SMBD (Server Message Block Daemon) has been started.

Snmpd Start.

The snmpd has started. This message is displayed only when the power is turned ON.

SMTPC: failed to get smtp server ip-address.

The SMTP server IP address could not be obtained. This could be because:

- The specified DNS server could not be found.
- No connection to the network has been established.
- The specified DNS server could not be found.
- An incorrect DNS server is specified.
- The specified SMTP server IP address could not be found in the DNS server.

SMTPC: failed to connect smtp server. timeout.

Connection to the SMTP server failed due to timeout. This could be because the specified SMTP server name is incorrect, or no connection to the network has been established, or the network configuration is incorrect, so there is no response from the SMTP server. Check the SMTP server name, or the network connection and configuration.

SMTPC: refused connect by smtp server.

Connection to the SMTP server is denied. This could be because server other than the SMTP server has been specified, or the specified SMTP server port number is incorrect. Check the SMTP server name, port number, or the SMTP server port number.

SMTPC: no smtp server. connection close.

Connection to the SMTP server failed due to no response from SMTP. This could be because a server other than the SMTP server has been specified, or the specified SMTP server port number is incorrect. Check the SMTP server name, port number, or the SMTP server port number.

SMTPC: failed to connect smtp server.

Connection to the SMTP server failed. This could be because no connection to the network has been established, or the network configuration is incorrect, so there is no response from the SMTP server, or the specified SMTP server name is incorrect, or the specified SMTP server IP address could not be found in the DNS server, or a server other than the SMTP server has been specified, or the specified SMTP server port number is incorrect. Check the DNS Server's IP address and SMTP server's IP address, or the SMTP server name and SMTP port number, or the SMTP server's SMTP port number, or the network connection and configuration.

SMTPC: username or password wasn't correct. [response code] (information)

Connection to the SMTP server failed, because the specified SMTP user name is incorrect, or the specified SMTP password is incorrect. Check the SMTP user name and password.

Snmp over IPv4 is ready.

Communication over IPv4 with snmp is available.

Snmp over IPv6 is ready.

Communication over IPv6 with snmp is available.

Snmp over IPX is ready.

Communication over IPX with snmp is available.

started.

The direct printing service has started.

started.

The IKE service has started.

Started.

The bonjour (rendezvous) function has started.

stopped

The supplicant has just stopped.

success key received

The supplicant received the EAP-Success key.

success but invalid key

The supplicant received a message reporting that EAP authentication was successful, but the EAPOL key was invalid.

supplicant unbound

The supplicant is not connected to the unbound access point.

supplicant started

The supplicant has just started.

terminated.

IKE service has stopped because any configurations for the manual SA and IKE does not exist.

Terminated.

The bonjour (rendezvous) function is disabled.

There is problem in dhcp server operation.

There is a problem with the DHCP server.

If multiple DHCP servers are active on the network, check that they are assigning unique IP addresses to each printer.

The print server received error <error number> during attempt to log in to the network. Access to the network was denied. Verify that the print server name and password are correct.

Login to the file server failed when the print server was online. The print server is not registered or a password is specified. Register the print server without specifying a password.

too many pictures.

PictBridge printing failed because too many images are sent during one print transaction. Reduce the number of images at one print transaction.

trap account is unavailable.

v3Trap cannot be sent. This could be because the Trap destination account is different from the account specified by the printer.

unauthenticated

The authentication failed. The supplicant was denied access to the access point, or was not authenticated.

Updated (option name) (value) via DHCPv6 Server

The parameter obtained from the DHCP server has been updated.

usbd is disabled.

Plug and Play is unavailable because the printer is in security mode. Enable USB D in Security Mode.

waiting for keys

The supplicant is waiting for the session key.

WINS name registration: No response to server (WINS server address)

There was no response from the WINS server. Check that the correct WINS server address is entered. Also, check that the WINS server is functioning properly.

WINS wrong scopeID=<scope ID>

The scope ID is invalid. Use a valid scope ID.

write error occurred.(diskfull)

A "diskfull" error occurred while the printer was writing to the spool file. Wait for the current print job to finish. When it finishes, more HDD space will be available. Only pages that were spooled when the error occurred will be printed.

write error occurred.(fatal)

A "diskfull" error occurred while the printer was writing to the spool file. Wait for the current print job to finish. When it finishes, more HDD space will be available. Only pages that were spooled when the error occurred will be printed.

WSD (Device) started.

WSD (Device) has started.

WSD (Printer) started.

WSD (Printer) has started.

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MEMO

MEMO

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 - Microsoft® Windows® 2000 Server
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 - Microsoft® Windows® 2000 Datacenter Server
- * The product names of Windows XP are as follows:
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 - Microsoft® Windows Server® 2008 Standard
 - Microsoft® Windows Server® 2008 Enterprise
 - Microsoft® Windows Server® 2008 Datacenter
 - Microsoft® Windows Server® 2008 for Itanium-based Systems
 - Microsoft® Windows® Web Server 2008
 - Microsoft® Windows® HPC Server 2008
 - Microsoft® Windows Server® 2008 Standard without Hyper-V™
 - Microsoft® Windows Server® 2008 Enterprise without Hyper-V™
 - Microsoft® Windows Server® 2008 Datacenter without Hyper-V™
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 - Microsoft® Windows Server® 2008 R2 Enterprise
 - Microsoft® Windows Server® 2008 R2 Datacenter
 - Microsoft® Windows Server® 2008 R2 for Itanium-based Systems
 - Microsoft® Windows® Web Server R2 2008
 - Microsoft® Windows® HPC Server R2 2008

