

VI. Using in UNIX Environment

This section explains how to set up Print Server Card in UNIX environment and LPD, FTP printing.



TIP

* When printing by UNIX, change the code in UNIX to suit with your printer.

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Configuring hosts File

Add IP address and host name to hosts File.



NOTE

* When editing hosts file, contact your network administrator. If you use DNS for IP management, you may not need to edit hosts file.

1. Login as root.

login root

2. Add the IP address and host name of Print Server Card to /etc/hosts file.

To edit hosts file use editor such as "vi".

Ex. IP address is "192.168.10.100" and the host name is "pbox".

192.168.10.98	venus	#UNIX-A
192.168.10.99	mars	#UNIX-B
192.168.10.100	pbox	#Print-Server

3. Using the ping command, confirm connection to network.

ping pbox



TIP

* If there is no response, or error is indicated, there may be problem with the IP address setup, hosts file editing, or the network. Contact the network administrator.

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Printing with LPD

This section explains setup and method for printing using LPD with TCP/IP. Please refer to your workstation manual for details on "lpr" and "lp" command.

About LPD

LPD (Line Printer Daemon) is a protocol for printing documents on a printer within the network.

Logic Printer

The logic printer for Print Server Card is "lp".

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Using in Solaris2.6 Environment

Printing from SUN Solaris2.x. The instruction below on commands and paths may differ according to the OS version. Please refer to the manual of your workstation.



* Remote Printer cannot be configured from OpenWindows using Admintool. Set up according to the method below.

1. Create Printer Queue

1-1. Login as root.

```
# login root
```

1-2. Add print server name.

EX. If you are adding printer queue name as "pboxlp"

```
# lpadmin-p pboxlp -m netstandard -o protocol=bsd
               (print queue name)
               -o dest=pbox:lp -v /dev/null
                           (Host Name) (Logic Printer Name)
```

1-3. Enable printer queue.

```
#!/usr/sbin/accept pboxlp
```

```
#!/usr/bin/enable pboxlp
```

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2. Printing

- 2-1. This section explains about how to print using "lp" command. For details, please refer to the Solaris manual.

```
# lp -d pboxlp <file name>
```

If you print this way, the banner page will be added automatically. If you do not need the banner page, add "-0 nobanner"

```
# lp -d pboxlp -0 nobanner <file name>
```

OR

```
# lpadmin -p pboxlp -o nobanner
```

You can delete banner page by editing filter file of /etc/lp/interfaces.

Ex. Open the file below using editor such as vi and edit "nobanner=no" to "nobanner=yes".

```
# vi /etc/lp/interfaces/pboxlp
```

```
nobanner=no --> nobanner=yes
```

3. Cancel Printing Job

- 3-1. Printing can be cancelled by using "cancel" command.

```
# cancel pboxlp-<job number>
```



TIP

* Cancel command may not work properly depending on Solaris and the cancel timing.

4. Check Printer Status

- 4-1. Using "lpstat" command will allow you to check on printer status.

```
# lpstat -p pboxlp
```



TIP

* This may not work properly depending on UNIX version.

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Using in Solaris 2.3x - 2.5x Environment

This section explains how to print in Solaris2.5x or earlier version environment. The instruction below is an example for SUN Solaris2.4. Commands and paths may differ according to the OS version. Please refer to the manual of your workstation.



TIP

- * Though Remote Printer can be configured from OpenWindows with Admintool, it is not available for Print Server Card because the destination and queue name input here can not be distinguished. We recommend to setup by command according to the method below.

1. Create Print Queue

- 1-1. Login as root.

```
# login root
```

- 1-2. Stop print scheduler.

```
# /usr/sbin/lpshut
```

- 1-3. Add print server.

Ex. Add host name "pbox".

```
# /usr/sbin/lpsystem -RO -t bsd pbox
```

- 1-4. Setup print queue .

Ex. Add print queue name "pboxlp"

```
# /usr/sbin/lpadmin -p pboxlp -s pbox!lp  
                        (Print Queue Name) (Host Name) (Logic Printer Name)
```



NOTE

- * If you use csh, use "\!" instead of "!" .

- 1-5. Start print scheduler.

```
# /usr/bin/sh /etc/init.d/lp start
```

- 1-6. Enable print queue.

```
# /usr/sbin/accept pboxlp
```

```
# /usr/bin/enable pboxlp
```

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2. Print

2-1. Print using "lp" command.

```
# lp -d pboxlp <file name>
```

3. Cancel Printing Job

3-1. Cancel printing job using "cancel" command.

```
# cancel pboxlp-<job number>
```

4. Check Printer Status

4-1. Using "lpstat" command will allow to check on printer status.

```
# lpstat -p pboxlp
```

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Using in HP-UX 9.x and 10.x Environment

This section explains how to print in Hewlett Packard HP-UX. The instruction below is an example for HP-UX9.03. Commands and path may differ according to the OS version. Please refer to the manual of your workstation.

1. Setup Remote Spooler

If the HP-UX machine you are using does not support remote spooler, first execute the setup below.

1-1. Login as root.

```
# login root
```

1-2. Disable printer spooler

```
# /usr/lib/lpshut
```

1-3. Add the following line to the /etc/inetd.conf.

```
printer stream tcp nowait root /usr/lib/rlpdaemon-i
```

1-4. Restart inetd

```
# /etc/inetd-c
```

2. Create Print Queue

2-1. Login as root.

```
# login root
```

2-2. Create print queue.

Ex. Create print queue "pboxlp"

```
# /usr/lib/lpadmin -ppboxlp -mrmodel -ormpbox  
                        (Printer Queue Name)           (Host Name)
```

```
-orplp -ocmrmodel -osmrsmodel -ob3 -v/dev/null  
      (Logic Printer Name)
```

2-3. Enable print queue.

```
# /usr/lib/accept pboxlp
```

```
# /usr/bin/enable pboxlp
```

2-4. Start print scheduler.

```
# /usr/lib/lpsched
```


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3. Print

3-1. Print using "lp" command.

```
# lp -d pboxlp <file name>
```

4. Cancel Printing Job

4-1. Cancel printing job using "cancel" command.

```
# cancel pboxlp-<job number>
```

5. Check Printer Status

5-1. Using "lpstat" command will allow to check on printer status.

```
# lpstat -p pboxlp
```

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Using in AIX 4.x.x Environment

This section explains how to print in IBM AIX. The instruction below is an example for AIX4.1.5. Commands and path may differ according to the OS version. Please refer to the manual of your workstation.

1. Create Print Queue

1-1. Login as root.

```
# login root
```

1-2. Add print server.

Ex. Add host name "pbox".

```
# ruser -a -p pbox
```

1-3. Start remote printer daemon.

```
# startsrc -s lpd
```

```
# mkitab 'lpd:2:once:startsrc -s lpd'
```

1-4. Add print queue with "smit " command.

1-4-1. Execute smit. Move to "Add Print Queues"

```
# smit mkrque
```

1-4-2. From the list, select "remote" (printer connected to remote host).

1-4-3. Select "Standard processing" from the list.

1-4-4. Setup the following items at "Add a Standard Remote Print Queue" .

(For items other than the ones below, change according to your environment)

Ex. Add print queue "pboxlp"

Name of QUEUE to add	[pboxlp]
HOSTNAME of remote server	[pbox]
Name of QUEUE on remote server	[lp]
TYPE of print spooler on remote server	[BSD]
DESCRIPTION of printer on remote server	[comments]

The "lp" on "Name of QUEUE to add" is the queue printer name for logic printer.

2. Print

2-1. Print using "lp" command.

```
# lp -d pboxlp <filename>
```

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3. Cancel Printing Job

3-1. Cancel printing job using "cancel" command.

```
# cancel pboxlp-<job number>
```

4. Check Printer Status

4-1. Using "lpstat" command will allow to check on printer status.

```
# lpstat -p pboxlp
```

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Using in BSD UNIX Environment

This section explains about how to print in BSD UNIX. The instructions below are example for SunOS4.1.3. The commands and paths may differ according to the OS version. Please refer to the manual of your workstation.

1. Create Printer queue.

1-1. Log in to UNIX machine using root.

```
# login root
```

1-2. Register Print Server Card to /etc/printcap.

Registering printer queue port as "pboxlp".

```
Pboxlp:\                ---- (1)
      :lp=:rm=pbox:rp=lp:\    ---- (2)
      :sd=/usr/spool/pboxlp:\  ---- (3)
      :lf=/usr/spool/pboxlp/pboxlp_errs:  ---- (4)
```

<Meaning for each parameter>

(1) Printer name

(2) lp :device file name for connecting to printer
You do not need to specify this when using a network.

rm :remote printer host name
Input hostname added in /etc/hosts file.

rp :printer name of remote printer
Add "lp" for Print Server Card logic printer name.

(3) sd :spool directory. Need to be specified with pass.

(4) lf :error log file. Need to be specified with pass.

1-3. Create error log file and spool directory specified in /etc/printcap file.

Ex. Creating spool directory "pboxlp" and error log file "pboxlp_errs".

```
# mkdir /usr/spool/pboxlp          <-- create spool directory
# touch /usr/spool/pboxlp/pboxlp_errs  <-- create error log file
# chown -R daemon /usr/spool/pboxlp    <-- changes owner to daemon
# chgrp -R daemon /usr/spool/pboxlp    <-- changes group to daemon
```

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- 1-4. Check lpd (printer demon) function.

```
# ps aux | grep lpd
```

If lpd is not functioning, use the command below with superuser account.

```
# /usr/lib/lpd&
```

- 1-5. Validate created printer queue.

```
# lpc restart pboxlp
```

2. Print

- 2-1. Print using "lpr" command

```
# lpr -P pboxlp <file name>
```

3. Delete print command.

- 3-1. Delete print job using "lprm" command.

```
# lprm -Ppboxlp <job number>
```

4. See printer status.

- 4-1. Check printer status using "lpq" command.



* The lpq short format is UNIX compatible. However, the long format created by Print Server Card displays printer status.

Ex. Short format

```
# lpq -P pboxlp
```

Ex. Long format

```
# lpq -l -P pboxlp
```

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Printing Using FTP

This section explains about printing documents using FTP protocol of TCP/IP (ftp command). For details regarding commands, please refer to the manual of your workstation.

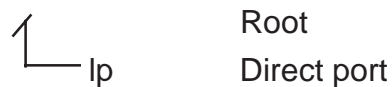
About FTP

FTP (File Transfer Protocol) is a protocol used in transferring files. A printer will print by transferring print data to the directory of Print Server Card.

Logic Directory

The Print Server Card has layered logic directories. For printing a file must be sent to the “lp” logic directory.

<Structure of the Print Server Card Remote Print Directory>



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Print

1. Log into Print Server Card.



TIP

* "User" and "password" can be anything when printing with "ftp" command.

Ex. Login host name as "pbox" (or, login Print Server Card with IP address "192.168.30.161")

```
#ftp pbox (or ftp 192.168.30.161 )
Connected to pbox
220 Sharp AR-NC5J Ver 01.00.00 FTP Server.
User(pbox:root): root
331 Password required.
Password:
230 User Logged in.
ftp>
```

Ex. Change to "lp" directory and display current status.

```
ftp>cd /lp
250 Command Ok.
ftp>pwd
257 "/lp" is current directory.
ftp>
```



TIP

* Print Server Card's transfer directory is structural architecture. Because data output for root directory is "lp", there is no need to move to the output directory.

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2. Change transfer mode.

Transfer mode has two types. The "ASCII mode" which changes LF code to CR+LF code, and "BINARY mode" which outputs the file contents as it is. To print a binary file which has been changed to a printer driver, you are required to set the print mode to "BINARY mode" (If you do not specify, the output mode will automatically be "ASCII mode").

Ex. Change transfer mode to BINARY mode and display current mode

```
ftp>type binary
200 Type set to I.
ftp>type
Using binary mode to transfer files.
ftp>
```

3. Use **put** command to print data to the Print Server Card.

There are two types to transfer the print data with "put" command.

Ex. Transfer print data "test.prn"

```
ftp>put test.prn
```

Ex. Transfer print data to specific directory "/user/test/test.prn"

```
ftp>put/users/test/test.prn/lp
```

4. Log out from the Print Server Card with "quit" command.

```
ftp>quit
```

Ex. Printer status (directory name: lp).

```
ftp>quote stat /lp
211-FTP directory status:
Ready
211 End of status.
ftp>
```


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Display Status

IP address, login user name and transfer mode can be displayed by using "stat" of "quote" command.
Also, by specifying directory (lp) after "stat" will inquire printer condition.

Ex. Display Ethernet board status

```
ftp>quote stat
211-FTP server status:
Connected to: 192,168,30,161,128,30
User logged in: guest
Transfer type: BINARY
Data connection:Closed.
211 End of status.
ftp>
```