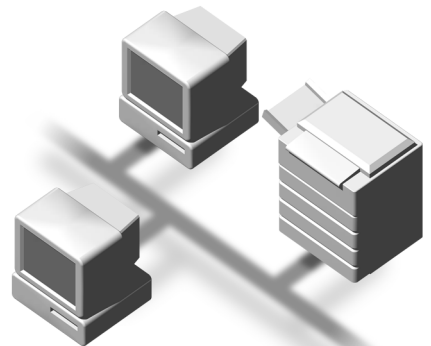# Network Interface Board 185

OPERATING INSTRUCTIONS

Read this manual carefully before you use this product and keep it handy for future reference.
For safety, please follow the instructions in this manual.

Introduction

To get maximum versatility from this machine all operators should carefully read and follow the instructions in this manual. Please keep this manual in a handy place near the machine.

Please read the Safety Information in the "Operating Instructions" before using this machine. It contains important information related to USER SAFETY and PREVENTING EQUIPMENT PROBLEMS.

Important

Parts 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.

Note

The names of the applications do not appear in the following pages. Confirm which applications you will be using before reading this manual.

Descriptions in this manual	Application
PRINTER MANAGER FOR ADMINISTRATOR	Aficio Manager for Admin
PRINTER MANAGER FOR CLIENT	Aficio Manager for Client

The names of the port types do not appear in the following pages. Confirm the name you will use before reading this manual.

Descriptions in this manual	Type of port
Multi Direct Print	RICOH Multi Direct Print

Software Versions Conventions Used in this Manual

- NetWare3.x means NetWare 3.11, 3.12 and 3.2.
- NetWare4.x means NetWare 4.1, 4.11 and IntranetWare.

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Note

The proper names of the Windows operating systems are as follows:

- Microsoft Windows 95 operating system
- Microsoft Windows 98 operating system
- Microsoft Windows for Workgroups operating system Version 3.11
- Microsoft Windows NT Server network operating system Version 4.0
- Microsoft Windows NT Workstation operating system Version 4.0

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1. Windows 95/98 Configuration

2. Windows NT 4.0 Configuration

3. NetWare Configuration

4. Macintosh Configuration

5. Appendix

Introduction

This manual contains detailed instructions on configuring your printer for using as a network printer. The actual procedures may differ depending on your network environment. Use the procedures for your network environment.
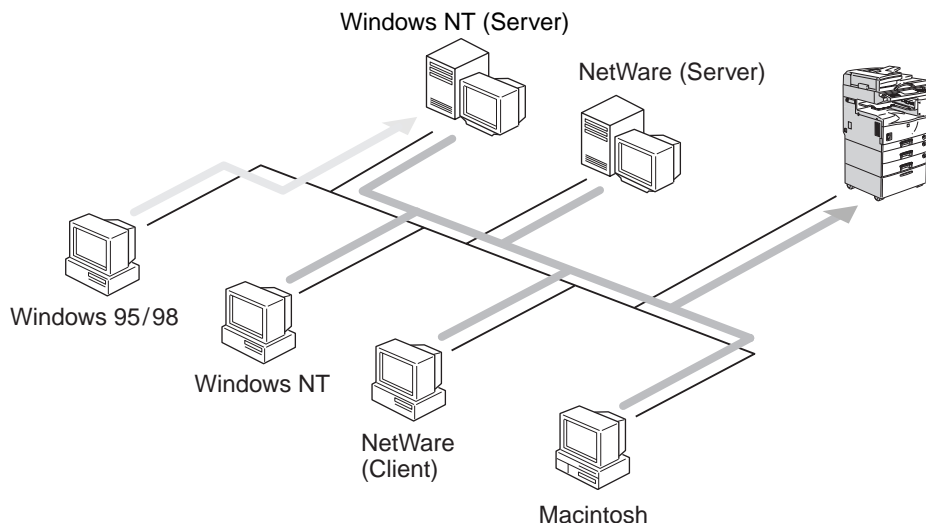
Important

❒ The procedures written in this manual assume that you are a network administrator. If you aren't, be sure to consult your network administrator before configuration.

Reference

For more information on physically installing the Network Interface Board and cabling, see the "Operating Instructions" that comes with the printer.

For more information on configuring the Network Interface Board with the operation panel, see the "Operating Instructions" that comes with the printer.

❖ Features

- Support for 100BASE-TX and 10BASE-T

- The Network Interface Board is compatible with NetWare (IPX/SPX), Windows NT (TCP/IP, NetBEUI), Windows 95/98 (TCP/IP, NetBEUI) , and Macintosh (AppleTalk) protocols. This allows you to use the printer in a network that uses different protocols and operating systems.

- A computer used as dedicated print server is not required, because the Network Interface Board can be configured as a NetWare print server.

- The Network Interface Board can connect the printer to the network without requiring its own power supply because the Network Interface Board is installed inside the printer.

Setting Up the Printer in a Network

Printing without Using a Print Server

You don't have to use a print server. The actual procedure differs depending on your operating system.
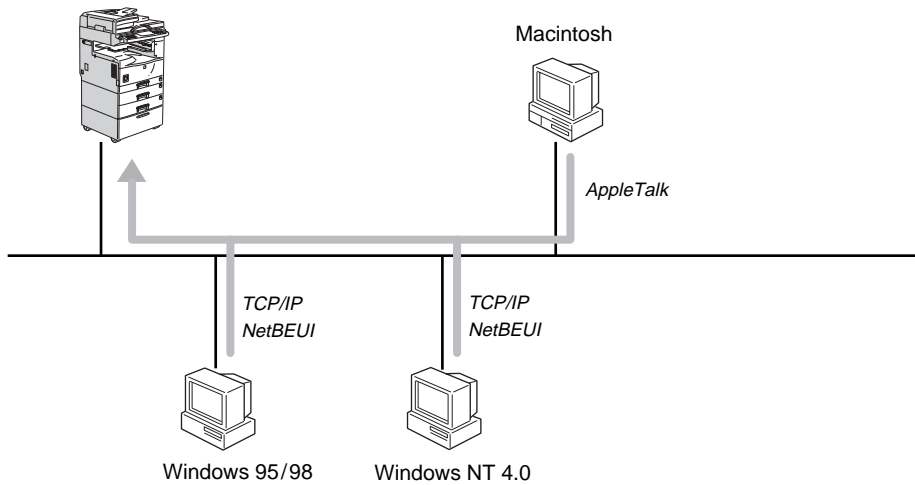
- Windows 95/98 ⇒ P.7
- Windows NT 4.0 ⇒ P.15
- Macintosh ⇒ P.49

Printing with a Windows NT Print Server

When Windows NT Server or Workstation is the operating system being used on the print server, TCP/IP or NetBEUI protocols are used.

Windows NT Server (or Workstation) 4.0
Print Server

TCP/IP
NetBEUI

Windows 95/98   Windows NT 4.0
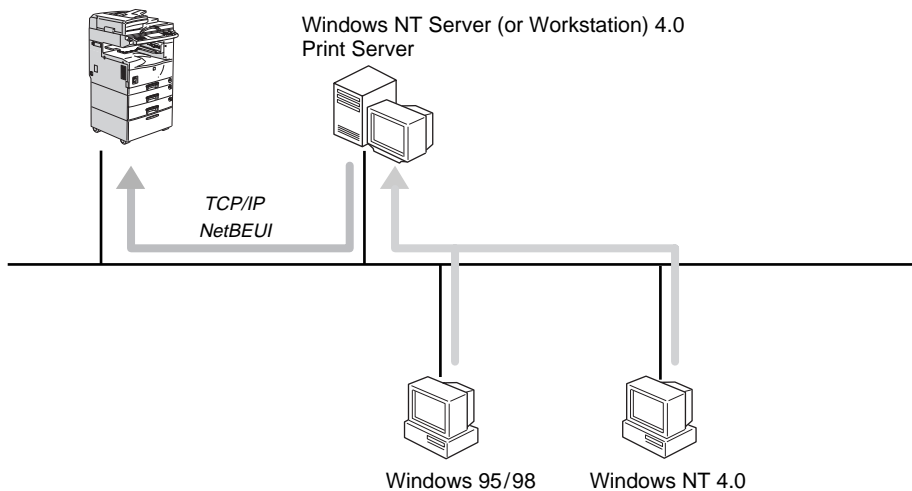
✐ Note

❐ For more information on setting up TCP/IP or NetBEUI in a Windows NT environment, see P.15 *"Preparing for a Network Connection"*.

❐ Client setup instructions are different for each type of Windows OS.

- Windows 95/98 ⇒ P.23
- Windows NT 4.0 ⇒ P.24

Printing as a NetWare Print Server

The Network Interface Board allows you to set up your printer in a NetWare environment as either a print server or a remote printer. A dedicated NetWare print server is not required. If a dedicated print server is being used, your printer should be configured as a remote printer.

❖ **Configure as Print Server**
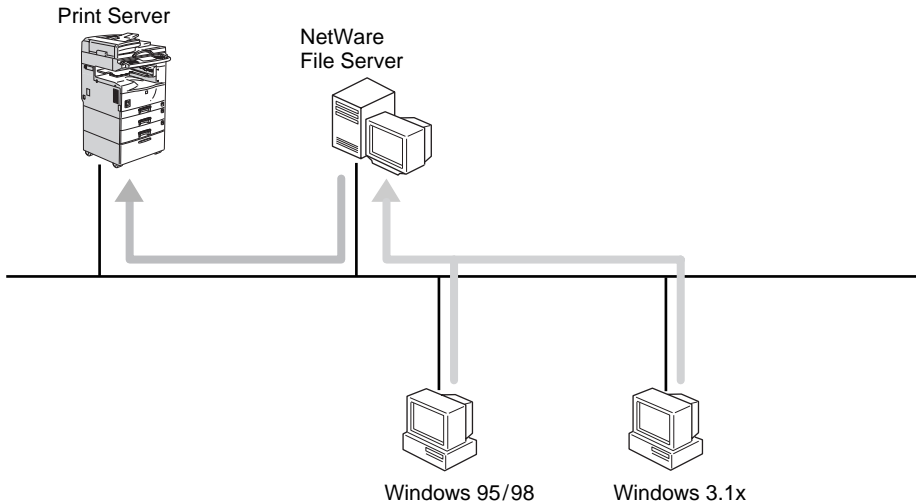
📝 Note

❒ The actual procedures for configuring your printer may differ depending on the version of NetWare.

- NetWare 3.x ⇒ P.32
- NetWare 4.x, 5 ⇒ P.38

❒ The actual procedures for configuring your client computer may differ depending on the operating system.

- Windows 95/98 ⇒ P.45
- Windows 3.1x ⇒ P.46

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❖ **Configure as Remote Printer**
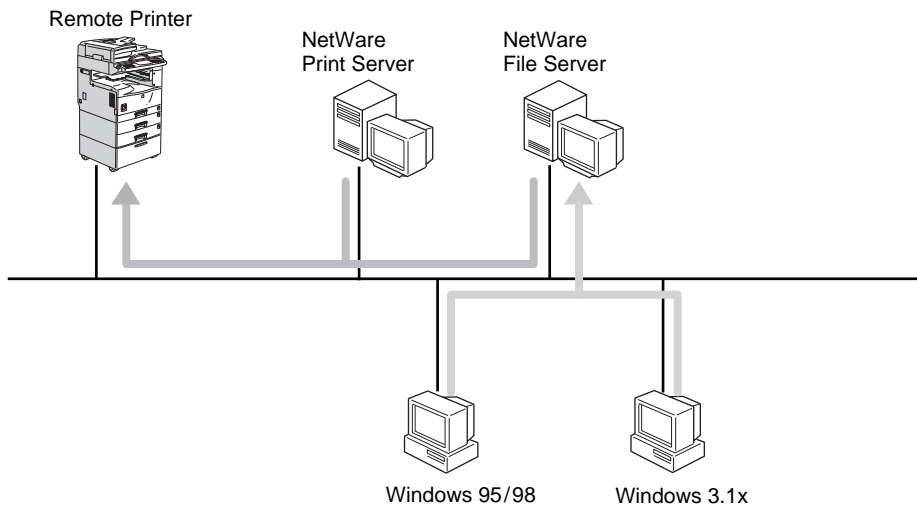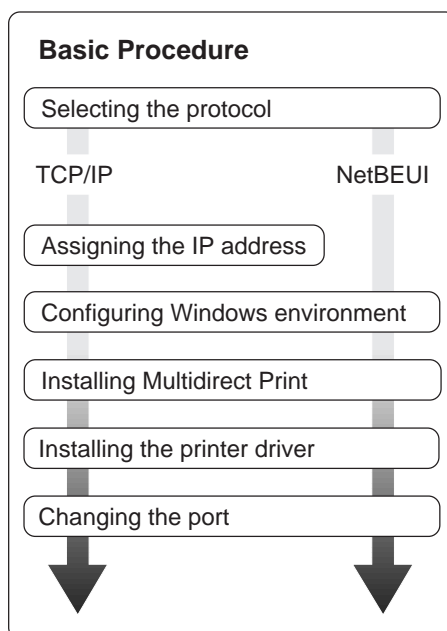
Remote Printer   NetWare Print Server   NetWare File Server

Windows 95/98   Windows 3.1x

🖉 Note

❐ The actual procedures for configuring your printer may differ depending on the version of NetWare.

- NetWare 3.x ⇒ P.35
- NetWare 4.x, 5 ⇒ P.41

❐ The actual procedures for configuring your client computer may differ depending on the operating system.

- Windows 95/98 ⇒ P.45
- Windows 3.1x ⇒ P.46

1. Windows 95/98 Configuration

You can use your printer as a network printer with Windows 95/98 using Multidirect Print, and the TCP/IP or NetBEUI protocols. This chapter explains how to configure your printer and Windows.

Configuring Windows 95/98
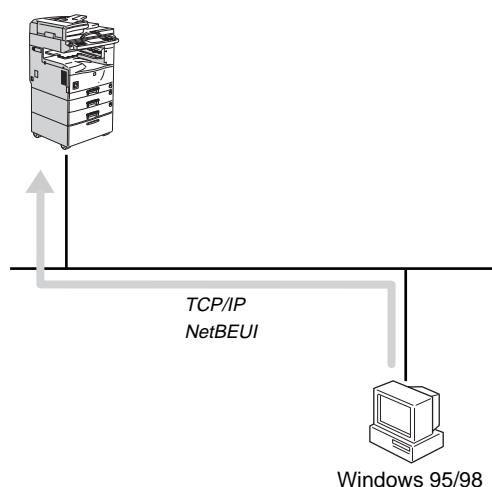
Basic Procedure

- Selecting the protocol
- TCP/IP   NetBEUI
- Assigning the IP address
- Configuring Windows environment
- Installing Multidirect Print
- Installing the printer driver
- Changing the port

TCP/IP
NetBEUI

Windows 95/98

Preparation
Multidirect Print supports the TCP/IP protocol and the NetBEUI protocol. Consult the network administrator before selecting the protocol.

Limitation
❒ When you use the NetBEUI protocol, you cannot print to a printer which is located on the other side of a router.

Note
❒ You can use both TCP/IP and NetBEUI protocols in a computer. To use both protocols you must first install them.

Preparing to Use the TCP/IP Protocol for Printing

To use the TCP/IP protocol to print, the network must be configured as described below.

Configuring the Printer

Configure your printer to use the TCP/IP protocol.

- Confirm that the TCP/IP protocol is set to be active. (The factory default is active.)
- Assign an IP address and make other settings required for using the TCP/IP protocol.

$\mathcal{P}$ Reference

For more information on how to make the above settings, see the "Operating Instructions" that comes with the printer.

If DHCP is used to assign IP addresses, see P.80 *"When Using DHCP"*.

⌀ Note

❒ After setting the IP address, use the PING command to confirm that it has been set correctly.

ⓐ Click **[Start]**, point to **[Programs]**, and then click **[MS-DOS Prompt]**.

ⓑ Type the following. (Example IP address is 192.168.15.16)

C:> ping 192.168.15.16

If the address has been configured correctly, the following message appears.

Reply from 192.168.15.16 : bytes=32 time<10ms TTL=32

If the address has been configured incorrectly, the following message appears.

Request timed out.

Configuring a Windows 95/98 Computer

Follow these steps to configure a Windows 95/98 computer to use the TCP/IP protocol.

A **Double-click the [Network] icon of [Control Panel], and confirm that "TCP/IP" is in the [The following network components are installed] box of the [Configuration] tab.**

⌀ Note

❒ If the TCP/IP protocol is not installed, click **[Add]** of the **[Configuration]** tab, and install it. For more information on installing the TCP/IP protocol, see the Windows 95/98 online help.

B **Configure the TCP/IP protocols with the appropriate IP address, subnet mask and other settings.**

Confirm with the network administrator that the settings are correct.

Preparing to Use the NetBEUI Protocol for Printing

To use the NetBEUI protocol to print, the network must be configured as described below.

Configuring the Printer

Configure your printer to use the NetBEUI protocol.

• Confirm that the NetBEUI protocol is set to be active. (The factory default is active.)

$\mathcal{P}$Reference

For more information on how to make the above settings, see the "Operating Instructions" that comes with the printer.

Configuring a Windows 95/98 Computer

Install the NetBEUI protocol into a Windows 95/98 computer, and configure NetBEUI as the default protocol.

A **Double-click the [Network] icon in [Control Panel], and confirm that "NetBEUI" is in the [The following network components are installed:] box of the [Configuration] tab.**

Note

❒ If the NetBEUI protocol is not installed, click **[Add]** of the **[Configuration]** tab, and install it. For more information on installing the NetBEUI protocol, see the Windows 95/98 online help.

❒ If there is "NetBEUI ->Dial-Up Adaptor" in the **[The following network components are installed:]** box, select it and click **[Remove]** to remove the binding.

B **Configure the NetBEUI protocol as the default protocol. Click the [Configuration] tab, select "NetBEUI" in the [The following network components are installed:] box, and click [Properties].**

C **Click the [Advanced] tab, select [Set this protocol to be the default protocol], and click [OK].**

D **Click [OK] to close the [Network] dialog box.**

E **After confirming the message to restart, click [Yes].**

Installing Multidirect Print

Follow these instructions to install Multidirect Print.

🖥 **Preparation**

You must restart the computer after installing Multidirect Print. Be sure to close all applications before beginning the installation process.

🖉 **Note**

❒ You must install Multidirect Print and the appropriate printer driver in order to print. If you print, using the TCP/IP protocol, to be able to browse the printer via the network, PRINTER MANAGER FOR CLIENT (⇒see the inside of the front cover of this manual) needs to be installed. If the installer starts automatically with the Auto Run program, you can install both of these programs. For more information on how to install these programs, see the "Operating Instructions" that comes with the printer.

A **Close all the applications that are currently running.**

B **Insert the CD-ROM that comes with the machine into your computer's CD-ROM drive.**

🖉 **Note**

❒ If the installer starts automatically, you can use it to install Multidirect Print, and set up the printer driver, and then go to step **I**.

C **Open [Control Panel], and double click the [Add/Remove Programs] icon.**

D **In the [Install/Uninstall] tab, click [Install].**

E **Click [Next >].**

F **Type the name of the CD-ROM drive in the [Command line for installation program] box, followed by ":\NETWORK\MDP\DISK1\SETUP.EXE" (do not include the quotation marks), and then click [Finish].**

🖉 **Note**

❒ An example would be "D:\NETWORK\MDP\DISK1\SETUP.EXE" when the drive letter is "D".

G **From the [Choose Setup Language] list, select the language you use.**

H **After the [Welcome] dialog box appears, click [Next >].**

I **After the [Setup Complete] dialog box appears, click [Yes, I want to restart my computer now.], and click [Finish].**

The computer restarts, and Multidirect Print can now be used. If you select "No", be sure to restart the computer manually before launching Multidirect Print for the first time.

Go to P.11 *"Setting Up the Printer Driver"* after the computer restarts.

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Setting Up the Printer Driver

Using Multidirect Print to print is not possible until the printer driver is installed and the correct port selected.

📖 **Preparation**

The target printer must be turned on before starting the installation process.

A **Install the printer drivers.**

If the printer drivers have already been installed, you can proceed to the next step.

🔍 **Reference**

For more information on installing the printer drivers, see the "Operating Instructions" that comes with the printer.

📝 **Note**

❒ Any port can be selected during the installation, however, LPT1 is recommended.

B **In the [Printers] window, click the icon of the printer you want to use. On the [File] menu, click [Properties].**

C **Click the [Details] tab, and then click [Add Port].**

D **In the [Add Port] box, click [Other], and click [Multi Direct Print], and then click [OK].**

The **[Select Printer]** dialog box appears, and the printers which can print with TCP/IP are displayed.

💡 **Limitation**

❒ If PRINTER MANAGER FOR CLIENT is not installed in your computer, printers which can print with TCP/IP are not displayed.

📝 **Note**

❒ The printers which have replied to a broadcast from the computer are listed here. To print to a printer that is not on this list, or to directly type the port name, click **[New Printer]**, and click **[Next >]**, and then type the port name with step G.

E **To print using the NetBEUI protocol, click [NetBEUI].**

F **Click the printer you want to use, and click [Next >].**

🔍 **Reference**

If you want to know more about a particular item in the dialog box, see P.53 *"Multidirect Print"*.

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⌨ Note

❒ You can identify the "Printer Name" and "Address" on the "configuration page" printed by the printer.

❒ You cannot add the partly same address that was already used. For example, when "192.168.0.2" was already used, "192.168.0.2xx" cannot be used. In same case, when "192.168.0.20" was already used, "192.168.0.2" cannot be used.

G **Confirm that the port name of the printer is correct, and click [Next >].**

If you did not select a printer with step **F**, you must type the port name.

Typing the Port Name for Use with the TCP/IP Protocol

❶ **Type the IP address of the Network Interface Board into the [IP address] box.**

You can type the host name or a domain name instead of an IP address into the **[Host Name]** box.

♟ Limitation

❒ You cannot use a host name that begins with "%%".

❒ You cannot add to type the port name that was already used.

⌨ Note

❒ When you use DHCP to assign IP addresses to Network Interface Boards, you can use a printer name (Current Hostname on the network configuration page) as the host name.

Typing the Port Name for Use with the NetBEUI Protocol

❶ **Print a configuration page, and confirm the Network path name.**

🔎 Reference

For more information on printing a configuration page, see the "Operating Instructions" that comes with the printer.

❷ **Type the printer's network path name in form of "%%Computer name \Share name". Do not type "\\" as head characters but "%%".**

H **Confirm the port name in the [Port Name] box, and click [Finish].**

I **Confirm that the port name is displayed in the [Print to the following port] box, and click [OK].**

Configuration is complete.

When you print, the printing procedure is no different. When you select the printer configured here, the computer automatically uses Multidirect Print.

Uninstalling Multidirect Print

A **Open [Control Panel], and double-click the [Add/Remove Programs] icon.**

B **With the [Install/Uninstall] tab, click [Multi Direct Print], and click [Add/Remove].**

C **After a confirmation message appears, click [Yes].**

UninstallShield removes all of the components of Multidirect Print.

D **When the uninstallation is complete, restart the computer.**

1

2. Windows NT 4.0 Configuration

You can use your printer as a network printer with Windows NT 4.0 using Multidirect Print, and the TCP/IP or NetBEUI protocols. This chapter explains how to configure your printer and Windows NT.

Preparing for a Network Connection

```
Basic Procedure

  Selecting the protocol

  TCP/IP                        NetBEUI

  Assigning the IP address

  Configuring Windows environment

  Installing Multidirect Print

  Installing the printer driver

  Changing the port
```

TCP/IP
NetBEUI

Windows NT 4.0

📖 Preparation

Multidirect Print supports the TCP/IP protocol and the NetBEUI protocol. Consult the network administrator before selecting the protocol.

🔘 Limitation

❒ When you use the NetBEUI protocol, you cannot print to a printer which is located on the other side of a router.

📝 Note

❒ You can use both TCP/IP and NetBEUI protocols in a computer. To use both protocols you must first install them.

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Preparing to Use the TCP/IP Protocol for Printing

Follow these instructions to configure the Network Interface Board and Windows NT to use the TCP/IP protocol.

Configuring the Printer

Configure your printer to use the TCP/IP protocol.

- Confirm that the TCP/IP protocol is set to be active. (The factory default is active.)
- Assign an IP address and make other settings required for using the TCP/IP protocol.

$\mathcal{P}$ Reference

For more information on how to make the above settings, see the "Operating Instructions" that comes with the printer.

If DHCP is used to assign IP addresses, see P.80 *"When Using DHCP"*.

Note

❒ After setting the IP address, use the PING command to confirm that it has been set correctly.

① Click **[Start]**, point to **[Programs]**, and then click **[Command Prompt]**.

② Type the following. (Example IP address is 192.168.15.16)
C:> ping 192.168.15.16
If the address has been configured correctly, the following message appears.
Reply from 192.168.15.16 : bytes=32 time<10ms TTL=32
If the address has been configured incorrectly, the following message appears.
Request timed out.

Configuring a Windows NT Computer

Follow these steps to configure a Windows NT to use the TCP/IP protocol.

A **Double-click the [Network] icon of [Control Panel], and confirm that "TCP/IP Protocol" is in the [Network protocols] box of the [Protocols] tab.**

Note

❒ If the TCP/IP protocol is not installed, click **[Add]** in the **[Protocols]** tab, and install it. For more information on installing the TCP/IP protocol, see the Windows NT online help.

B **Configure the TCP/IP protocols with the appropriate IP address, subnet mask and other settings.**

Confirm with the network administrator that the settings are correct.

C **Click the [Services] tab, and confirm that the "Microsoft TCP/IP Printing" is installed.**

If "Microsoft TCP/IP Printing" is not installed, click **[Add]** in the **[Services]** tab, and install it. For more information on installing and configuring network services, see the Windows NT online help.

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Preparing to Use the NetBEUI Protocol for Printing

Follow these instructions to configure the Network Interface Board and Windows NT to use the NetBEUI protocol.

Configuring the Printer

Configure your printer to use the NetBEUI protocol.

• Confirm that the NetBEUI protocol is set to be active. (The factory default is active.)

$\mathcal{P}$Reference

For more information on how to make the above settings, see the "Operating Instructions" that comes with the printer.

Configuring a Windows NT Computer

Install the NetBEUI protocol into a Windows NT computer, and type the LAN adapter number (Lana Number).

A **Double-click the [Network] icon of [Control Panel], and confirm that "NetBEUI Protocol" is in the [Network protocols] box of the [Protocols] tab.**

Note

❒ If the NetBEUI protocol is not installed, click **[Add]** in the **[Protocols]** tab, and install it. For more information on installing the NetBEUI protocol, see the Windows NT online help.

B **Change the Lana Number. Click the [Services] tab, select the [NetBIOS interface] of the [Network Services] box , and click [Properties].**

C **Select the Lana Number corresponding [Nbf protocol] of the [Network route] headline, and click [Edit].**

D **Type "0" as the Lana Number.**

Note

❒ If the other protocol's Lana Number is configured with "0", you must change the Lana Number a number other than "0".

E **Click [OK].**

F **Click [close], and close the [Network] dialog box.**

G **After confirming the message for restart, click [Yes].**

Note

❒ When you change the Lana Number, You must restart.

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Installing Multidirect Print

Follow these instructions to install Multidirect Print.

📖 **Preparation**

You must restart the computer after installing Multidirect Print. Be sure to close all applications before beginning the installation process.

📝 **Note**

❒ You must install Multidirect Print and the appropriate printer driver in order to print. If you print, using the TCP/IP protocol, to be able to browse the printer via the network, PRINTER MANAGER FOR CLIENT (⇒see the inside of the front cover of this manual) needs to be installed. If the installer starts automatically with the Auto Run program, you can install both of these programs. For more information on how to install these programs, see the "Operating Instructions" that comes with the printer.

❒ To install this software you must be logged on as a member of the Administrators group.

A **Close all the applications that are currently running.**

B **Insert the CD-ROM that comes with the machine into your computer's CD-ROM drive.**

📝 **Note**

❒ If the installer starts automatically, you can use it to install Multidirect Print, and set up the printer driver, and then go to step F.

C **Open [Control Panel], and double-click the [Add/Remove Programs] icon.**

D **In the [Install/Uninstall] tab, click [Install].**

E **Click [Next >].**

F **Type the name of the CD-ROM drive in the [Command line for installation program] box, followed by ":\NETWORK\MDP\DISK1\SETUP.EXE" (do not include the quotation marks), and then click [Finish].**

📝 **Note**

❒ An example would be "D:\NETWORK\MDP\DISK1\SETUP.EXE" when the drive letter is "D".

G **From the [Choose Setup Language] list, select the language you use.**

H **After the [Welcome] dialog box appears, click [Next >].**

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I **After the [Setup Complete] dialog box appears, click [Yes, I want to restart my computer now.], and click [Finish].**

The computer restarts, and Multidirect Print can now be used. If you select "No", be sure to restart the computer manually before launching Multidirect Print for the first time.

Go to P.20 *"Setting Up the Printer Driver"* after the computer restarts.

Setting Up the Printer Driver

Using Multidirect Print to print is not possible until the printer driver is installed and the correct port is selected.

📋 Preparation

The target printer must be turned on before starting the installation process.

A Install the printer drivers.

If the printer drivers have already been installed, you can proceed to the next step.

🔎 Reference

For more information on installing the printer drivers, see the "Operating Instructions" that comes with the printer.

📝 Note

❒ Any port can be selected during the installation, however, LPT1 is recommended.

B In the [Printers] window, click the icon of the printer you want to use. On the [File] menu, click [Properties].

C Click the [Ports] tab, and click [Add Port].

D In the [Available Printer Ports] box, click [Multi Direct Print] , and then click [New Port].

The **[Select Printer]** dialog box appears, and the printers which can print with TCP/IP are displayed.

🔋 Limitation

❒ If PRINTER MANAGER FOR CLIENT is not installed in your computer, printers which can print with TCP/IP are not displayed.

❒ You cannot add to type the port name that was already used.

📝 Note

❒ The printers which have replied to a broadcast from the computer are listed here. To print to a printer that is not on this list, or to directly type the port name, click **[New Printer]**, and click **[Next >]**, and then type the port name with step **G**.

E To print using the NetBEUI protocol, click [NetBEUI].

F Click the printer you want to use, and click [Next >].

🔎 Reference

If you want to know more about a particular item in the dialog box, see P.53 *"Multidirect Print"*.

Note

❐ You can identify the "Printer Name" and "Address" on the "configuration page" printed by the printer.

G Confirm that the port name of the printer is correct, and click [Next >].

If you did not select a printer with step **F**, you must type the port name.

Typing the Port Name for Use with the TCP/IP Protocol

A **Type the IP address of the Network Interface Board into the [IP address] box.**

You can type the host name or a domain name instead of an IP address into the **[Host Name]** box.

Limitation

❐ You cannot use a host name that begins with "%%".

❐ You cannot add to type the port name that was already used.

Note

❐ When you use DHCP to assign IP addresses to Network Interface Boards, you can use a printer name (Current Hostname on the network configuration page) as the host name.

Typing the Port Name for Use with the NetBEUI Protocol

A **Print a configuration page, and confirm the Network path name.**

Reference

For more information on printing a configuration page, see the "Operating Instructions" that comes with the printer.

B **Type the printer's network path name in form of "%%Computer name \Share name". Do not type "\\" as head characters but "%%".**

H Confirm the port name in the [Port Name] box, and click [Finish].

I In the [Printer Ports] dialog box, click [Close].

J Confirm that the port name is displayed in the [Print to the following port(s)] box and the check mark is inside the check box. And then click [OK].

Configuration is complete.

When you print, the printing procedure is no different. When you select the printer configured here, the computer automatically uses Multidirect Print.

Uninstalling Multidirect Print

A **Open [Control Panel], and double-click the [Add/Remove Programs] icon.**

B **In the [Install/Uninstall] tab, click [Multi Direct Print], and click [Add/Remove].**

C **After a confirmation message appears, click [Yes].**

UninstallShield removes all of the components of Multidirect Print.

D **When the uninstallation is complete, restart the computer.**

Setting up a Client Computer

This section describes the procedures for setting up a client in a network that uses Windows NT Server or Windows NT Workstation as a print server.
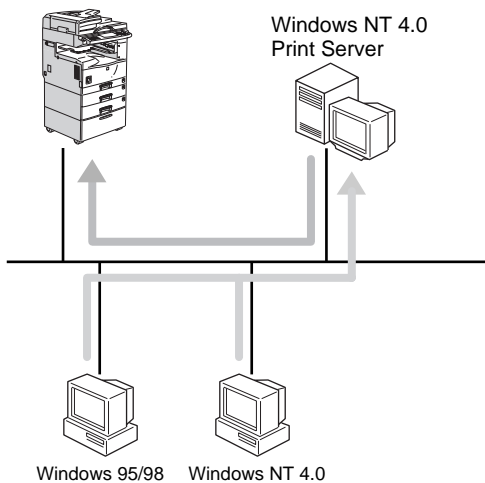
Note

❒ Explanation of this section assumes that the client has already been configured to communicate with a Windows NT print server. Do not proceed with the following instructions until the client has been set up and configured correctly.

Windows 95/98

To print from Windows 95/98, you must install the printer driver and change the printer port to the print server.

A **Install the printer driver as a local printer.**

$\mathcal{P}$ Reference

For more information on installing the printer driver, see the "Operating Instructions" that comes with the printer.

Note

❒ Any port can be selected during the installation, however, LPT1 is recommended.

B **Click [Start], point to [Settings], and then click [Printers].**

C **Click the icon of the printer you want to use. On the [File] menu, click [Properties].**

D **Click the [Details] tab, and click [Add Port].**

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E Click [Network], and click [Browse].

F On the network tree, double-click the name of the computer used as the print server.

The printers attached to the network are displayed.

G Click the name of the printer you want to use, and click [OK].

H Click [OK].

I Confirm that the port name is displayed in the [Print to the following port] box, and click [OK].

Windows NT 4.0

Use the **[Printers]** window to set up the printer.

A Click [Start], point to [Settings], and then click [Printers].

B Double-click the [Add Printer] icon.

This launches the Add Printer Wizard.

C Click [Network printer server], and click [Next >].

D In the [Shared Printers] box, double-click the name of the computer used as a print server.

The printers attached to the network are displayed.

E Click the printer you want to use, and click [OK].

Note
❒ If the printer driver is not installed in the print server, a message appears. If a driver has been installed on the client, click **[OK]**, and follow the instructions on the screen.

❒ There is a Windows NT printer driver in the CD-ROM that comes with the machine.

F Select whether you use this printer as the default printer, and click [Next >].

G After installation is complete, click [Finish].

The icon of the newly installed printer appears in the **[Printers]** window.

Configuring LPR Port Printing

This section explains the procedure for printing to a LPR port from Windows NT.

🛠 Preparation

The TCP/IP protocols must be installed and configured correctly. ⇒ P.16 *"Preparing to Use the TCP/IP Protocol for Printing"*

🖉 Note

❐ The following instructions assume that the printer drivers have already been installed. This is a procedure to change the printer port to LPR.

A **Click [Start], point to [Settings], and then click [Printers].**

B **Click the icon of the printer you want to use. On the [File] menu, click [Properties].**

C **Click the [Ports] tab, and then click [Add Port].**

D **In the [Available Printer Ports] box, click [LPR Port], and then click [New Port].**

🖉 Note

❐ If "LPR Port" does not appear, "Microsoft TCP/IP Printing" has not been installed.

E **Type the IP address of the Network Interface Board into the [Name or address of server providing lpd] box.**

F **Type "lp" into the [Name of printer or print queue on that server] box, and click [OK].**

G **Click [Close].**

H **Confirm that the port name is displayed in the [print to the following port(s)] box and the check mark is inside the check box. And then click [OK].**

2

3. NetWare Configuration

This chapter describes how to configure your printer to use as a print server or a remote printer in a NetWare environment.

🖉 Note
❒ NetWare must be set to active using the operation panel of your printer. For more information on how to set it, see the "Operating Instructions" that comes with the printer.

Installing NIB Setup Tool

A utility called NIB Setup Tool is provided to configure your printer to work in a NetWare environment. Installing the PRINTER MANAGER FOR ADMINISTRATOR (⇒see the inside of the front cover of this manual) installs NIB Setup Tool on your computer. This section describes how to install the PRINTER MANAGER FOR ADMINISTRATOR, and how to run NIB Setup Tool.

💡 Limitation
❒ NetWare 3.x, 4.x or 5 must be functional to run NIB Setup Tool.

❒ NIB Setup Tool is supported to work with the following operation systems.
- Microsoft Windows 95/98
- Microsoft Windows NT 4.0

Installing the PRINTER MANAGER FOR ADMINISTRATOR

Follow these steps to install the PRINTER MANAGER FOR ADMINISTRATOR.

📕 Preparation

You should install the PRINTER MANAGER FOR ADMINISTRATOR on your computer. If you install the PRINTER MANAGER FOR ADMINISTRATOR from a file server or run it via the network, the PRINTER MANAGER FOR ADMINISTRATOR might not work correctly.

Be sure to close all applications before starting the installation procedure.

A **Close all the applications that are currently running.**

B **Insert the CD-ROM that comes with the machine into your computer's CD-ROM drive.**

If the setup menu starts automatically, follow the instructions on the screen.

Otherwise, continue to step **C**.

C **Open [Control Panel], and double-click the [Add/Remove Programs] icon.**

D **In the [Install/Uninstall] tab, click [Install].**

E **Click [Next >].**

F **In the [command line for installation program] box, type the name of the CD-ROM drive followed by ":\NETWORK\PRINTMAN\ADMIN\DISK1\SETUP.EXE" (do not include the quotation marks) and then click [Finish].**

🖉 Note

❒ An example would be "D:\NETWORK\PRINTMAN\ADMIN\DISK1 \SETUP.EXE" when the CD-ROM drive name is "D".

G **From the [Choose Setup Language] list, select the language you use.**

H **In the [Welcome] dialog box, click [Next >].**

I **The Software License Agreement appears.**

After reading through all of the contents by clicking **[PageDown]**, click **[Yes]** to agree with the License Agreement.

J **Select a folder to install it in, and then click [Next >].**

If you would like to change the displayed folder, click **[Browse]** to select another one.

The installation program starts.

After a confirmation dialog box appears, the installation program is complete.

Running NIB Setup Tool

A **Click [Start], point to [Programs], and then click [NIB Setup Tool] in the [PRINTER MANAGER FOR ADMINISTRATOR] program folder.**

Quick Setup Using the NIB Setup Tool Wizard

Using NIB Setup Tool, you can easily set up a NetWare printing environment.

⌕Reference

For more information on setting up NIB Setup Tool, see P.27 *"Installing NIB Setup Tool"*.

You can select **[Wizard]** or **[Property Sheet]** as an installation method.

When you configure the Network Interface Board for the first time, use the Wizard method.

If you want to use the Property Sheet method, see P.32 *"NetWare 3.x - Advanced Settings"* and P.38 *"NetWare 4.x, 5 - Advanced Settings"*.

✎Note

❒ This section assumes that NetWare is functional and that the necessary environment for the NetWare Print Services is available.

❒ If you configure the Network Interface Board in a NetWare environment using NIB Setup Tool, you should install the client software released from Novell in the following cases.

  • Windows 95/98 in NDS mode configuration
  • Windows NT 4.0 in NDS mode configuration
  • Windows NT 4.0 in Bindary mode configuration

A **Log in to the Netware file server or the NDS tree as an Admin or Admin equivalent.**

B **Run NIB Setup Tool.**

⌕Reference

⇒ P.28 *"Running NIB Setup Tool"*

C **Click [Wizard] and click [OK].**

The **[Network board list]** dialog box of the Network Interface Board appears.

D **Click [IPX protocol].**

E **Click the IPX address of the Network Interface Board you are configuring, and click [Next >].**

✎Note

❒ If you do not know which Network Interface Board you are configuring, see a network configuration page to confirm the MAC address (Network address).

Confirm that the MAC address and IPX address are correct, and click [Finish].

Type the print server name into the [Device Name] box, and click [Next >].

The factory default is RDP_ followed by the 6 digit serial number. We recommend that you change it to something that is easier to remember or something based on the structure of your network.

In a dialog box for selecting a network environment, check a box for [NetWare] and remove the check mark for [TCP/IP].

Click [Next >].

A dialog box for configuring the NetWare environment appears.

Select [Bindery] when printing under the Bindery mode, or select [NDS] when printing under the NDS mode.

When you are using NetWare version 4.x, you should select **[NDS]**.

Note

❒ In case of configuring NDS mode, if the **[NDS]** is unable to select, you need to check the version of the client software released from Novell. Recommended to install the latest version of the client software released from Novell.

If you selected [Bindery], type into the [File Server Name:] box the name of the file server in which a print server is to be created.

Clicking **[Browse]**, you can select a file server among those listed in the **[Browse]** dialog box.

If you selected [NDS], type into the [Tree:] box the name of the NDS tree in which the print server is created, and type the context into the [Context:] box.

Clicking **[Browse]**, you can select a NDS tree and a NDS context among those listed in the **[Browse]** dialog boxes.

As a context, object names are typed from a lower object and divided by a period. For example, if you want to create a print server into NET under DS, type "NET.DS".

Click [Next >].

14 **Type the name of the printer into the [Printer Name] box, and the name of the print queue into the [Print Queue Name] box.**

The factory default for Printer Name is "Print Server Name" followed by "_1" and that for Print Queue Name is "Print Server Name" followed by "_Q" (quotation marks are not included). You can change them if necessary.

15 **If you have selected the NDS mode, type the volume of the print queue into the [Queue Volume] box.**

Clicking **[Browse]**, you can select one of those shown in the **[Browse]** dialog box.

16 **Click [Next >].**

A dialog box to confirm the printing environment appears.

17 **After confirming the environment, click [Next >].**

If you want to change the settings, click **[< Back]** and make the settings again.

Clicking **[Next >]**, NIB Setup Tool automatically creates the Print Server, the Printer, and the Print Queue in the NetWare network.

18 **After a confirmation dialog box appears, select [Quit] and click [Finish] to exit NIB Setup Tool.**

3

NetWare 3.x - Advanced Settings

The actual procedures for configuring your printer differ depending on whether the Network Interface Board is configured as a print server or as a remote printer. This section describes how to configure it in the NetWare 3.x environment.
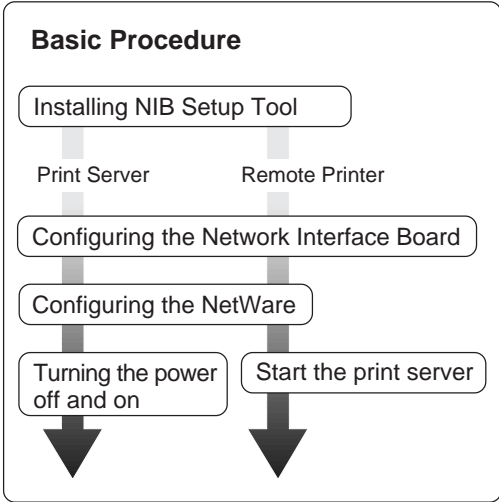
Basic Procedure

Installing NIB Setup Tool

Print Server   Remote Printer

Configuring the Network Interface Board

Configuring the NetWare

Turning the power off and on   Start the print server

📗 Preparation

The following procedures use the Property Sheet method in configuring the Network Interface Board. If you configure the Network Interface Board as a NetWare print server for the first time, we recommend you use the Wizard method. ⇒ P.29 *"Quick Setup Using the NIB Setup Tool Wizard"*

📝 Note

❒ This section assumes NetWare is functional and that the necessary environment for the NetWare Print Service is available.

Setting Up as Print Server

A **Log in to the file server as a Supervisor or a Supervisor equivalent.**

B **Run NIB Setup Tool.**

🔍 Reference

⇒ P.28 *"Running NIB Setup Tool"*

C **Click [Property Sheet] and click [OK].**

The **[Browse]** dialog box of the Network Interface Board appears.

D **Click [IPX protocol].**

E **Click the IPX address of the Network Interface Board which is to be configured, and then click [Next >].**

✎ **Note**

❒ If you do not know which Network Interface Board you are configuring, see a network configuration page to confirm the MAC address (Network Address).

F **Confirm that the MAC address and IPX address are correct, and click [Finish].**

The **[NIB Setup Tool]** window appears.

G **Click [Configure].**

The property sheet appears.

H **Click the [General] tab, and type the name of the print server into the [Device Name] box.**

I **Click the [NetWare] tab, and make the following settings.**

A **Select [Bindery].**

B **In the [File Server Name:] box, type the name of the file server in which a print server is to be created.**

Click **[Browse]** to select a file server among those listed in the **[Browse]** dialog box.

C **Click [OK] to close the property sheet.**

D **After a confirmation dialog box appears, click [OK].**

J **On the [NIB] menu, click [Exit] to exit NIB Setup Tool.**

K **Type "PCONSOLE" from the command prompt.**

```
F:> PCONSOLE
```

L **Create a print queue as follows.**

✎ **Note**

❒ If you use a currently defined print queue, proceed to step **M**.

A **From the [Available Options] menu, select [Print Queue Information] and press the 【ENTER】 key.**

B **Press the 【INSERT】 key and type a print queue name.**

C **Press the 【ESC】 key to return to the [Available Options] menu.**

M **Create a printer as follows.**

A **From the [Available Options] menu, select [Print Server Information] and press the 【ENTER】 key.**

33

B To create a new print server, press the 【INSERT】 key and type a print server name.

If you use an currently defined print server, select one of the print servers shown in the **[Print Server]** list.

🟥**Important**

❒ Use the same name as that specified in NIB Setup Tool. (Step **C**).

C From the [Print Server Information] menu, select the [Print Server Configuration].

D From the [Print Server Configuration] menu, select [Printer Configuration].

E Select the printer which is indicated as "Not Installed".

F If you change the name of the printer, type a new name.

A name "Printer x" is assigned to the printer. "x" stands for the number of the selected printer.

G As Type, select [Remote Other/Unkown].

The IRQ, Buffer size, Starting form, and Queue service mode are automatically configured.

H Press the 【ESC】 key, and click [Yes] in the confirmation dialog box.

I Press the 【ESC】 key to return to the [Print Server Configuration] menu.

N Assign print queues to the created printer as follows.

A From the [Print Server Configuration] menu, select [Queues Serviced By Printer].

B Select the printer created in step N.

C Press the 【INSERT】 key to select a queue serviced by the printer.

✏️**Note**

❒ You can select more than one queue at a time.

D Follow the instructions on the screen to make other necessary settings.

When you have finished the previous steps, confirm that the queues are assigned.

O Press the 【ESC】 key until "Exit?" appears, and select [Yes] to exit PCONSOLE.

P Turn the printer power off and on.

✏️**Note**

❒ To confirm that the printer is configured correctly, type as follows from the command prompt.

F:> USERLIST

❒ If the printer works as configured, the name of the print server appears as an attached user.

Setting Up as Remote Printer

A **Log in to the file server as a Supervisor or a Supervisor equivalent.**

B **Run NIB Setup Tool.**

   🔎 **Reference**
      ⇒ P.28 *"Running NIB Setup Tool"*

C **Click [Property Sheet] and click [OK].**

The **[Browse]** dialog box of the Network Interface Board appears.

D **Click [IPX protocol].**

E **Click the IPX address of the Network Interface Board which is to be configured, and click [Next >].**

   📝 **Note**
      ❒ If you do not know which Network Interface Board you are configuring, see a network configuration page to confirm the MAC address (Network Address).

F **Confirm that the MAC address and IPX address are correct, and click [Finish].**

The **[NIB Setup Tool]** window appears.

G **Click [Configure].**

The property sheet appears.

H **Click the [General] tab, and type the name of the print server into the [Device Name] box.**

I **Click the [NetWare] tab, and make the following settings.**

   ❶ **In the [Print Server Name] box, type the name of the print server.**

   ❷ **In the [File Server Name] box, type the name of the file server in which a print server is to be created.**

      Clicking **[Browse]**, you can select a file server among those listed in the **[Browse]** dialog box.

   ❸ **In the [Print Server Operation Mode] group, click [As Remote Printer].**

   ❹ **In the [Remote Printer No.] box, type the printer number.**

      ⚠️ **Important**
         ❒ Use the same printer number as that to be created in the printer server.

   ❺ **Click [OK] to close the property sheet.**

   ❻ **After a confirmation dialog box appears, click [OK].**

J **On the [NIB] menu, click [Exit] to exit NIB Setup Tool.**

⓫ Type "PCONSOLE" from the command prompt.

`F:> PCONSOLE`

⓬ Create a print queue as follows.

✎ **Note**

❒ If you use a currently defined print queue, proceed to step ⓬.

A **From the [Available Options] menu, select [Print Queue Information] and press the【ENTER】key.**

B **Press the【INSERT】key and type a print queue name.**

C **Press the【ESC】key to return to the [Available Options] menu.**

⓭ Create a printer as follows.

A **From the [Available Options] menu, select [Print Server Information] and press the【ENTER】key.**

B **To create a new print server, press the【INSERT】key and type a print server name.**

If you use an currently defined print server, select one of the print servers shown in the **[Print Server]** list.

⚠️**Important**

❒ Use the same name as that specified in NIB Setup Tool. (Step ❽).

C **From the [Print Server Information] menu, select [Print Server Configuration].**

D **From the [Print Server Configuration] menu, select [Printer Configuration].**

E **Select the printer which is indicated as "Not Installed".**

⚠️**Important**

❒ Use the same number as that specified as Remote Printer No. using NIB Setup Tool. (Step ❾-D).

F **If you change the name of the printer, type a new name.**

A name "Printer x" is assigned to the printer. x stands for the number of the selected printer.

G **As type, select [Remote Parallel, LPT1].**

The IRQ, Buffer size, Starting form, and Queue service mode are automatically configured.

H **Press the【ESC】key, and click [Yes] in the confirmation dialog box.**

I **Press the【ESC】key to return to [Print Server Configuration Menu].**

⓮ Assign print queues to the created printer as follows.

A **From [Print Server Configuration Menu], select [Queues Serviced By Printer].**

B **Select the printer created in step ⓬.**

C **Press the【INSERT】key to select a queue serviced by the printer.**

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Note

❒ You can select more than one queue at a time.

❹ **Follow the instructions on the screen to make other necessary settings.**

When you have finished the above steps, confirm that the queues are assigned.

⓯ **Press the 【ESC】 key until "Exit?" appears, and select [Yes] to exit PCON-SOLE.**

⓰ **Start the print server by typing as follows from the console of the NetWare Server.**

If it is running, restart it after exiting it.

❖ **To exit**

CAREE: unload pserver

❖ **To start**

CAREE: load pserver *print_server_name*

Note

❒ If the printer works as configured, "Waiting for job" appears.

NetWare 4.x, 5 - Advanced Settings

The actual procedures for configuring your printer differ depending on whether the Network Interface Board is configured as a print server or as a remote printer. This section describes how to configure it in the NetWare 4.x, 5 environment.

❖ **To use NetWare 5**

- Load the IPX protocol into the file server in advance.
- You cannot use the NDPS (Novell Distributed Print Services) mode.

3
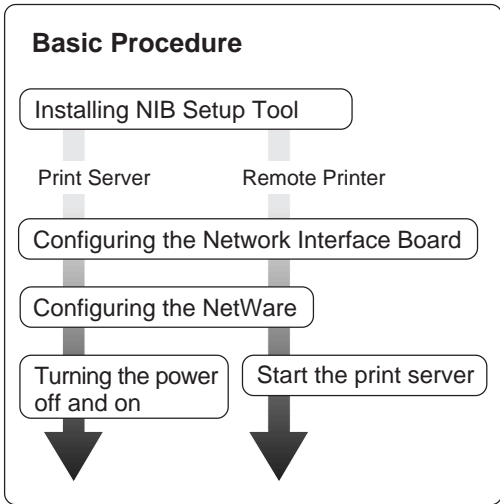
Basic Procedure

Installing NIB Setup Tool

Print Server   Remote Printer

Configuring the Network Interface Board

Configuring the NetWare

| Turning the power off and on | Start the print server |

📖 **Preparation**

The following procedures use the Property Sheet method in configuring the Network Interface Board. If you configure the Network Interface Board as a NetWare print server for the first time, we recommend you use the Wizard method. ⇒ P.29 *"Quick Setup Using the NIB Setup Tool Wizard"*

🖉 **Note**

❐ This section assumes NetWare is functional and that the necessary environment for the NetWare Print Service is available.

❐ You should install the client software released from Novell on the Windows before running NIB Setup Tool for configuring in NDS mode or using Windows NT 4.0.

Setting Up as Print Server

🔨**Important**

❐ You can set up the print server using the NDS or Bindery mode in NetWare 4.x, 5. The following procedure is for setting up the print server using the NDS mode in NetWare 4.1. When you set up the print server using the Bindery mode, use the NIB Setup Tool Wizard. ⇒ P.29 *"Quick Setup Using the NIB Setup Tool Wizard"*.

A **Log in to the file server as an Admin or an Admin equivalent.**

B **Run NIB Setup Tool.**

🔎 **Reference**

⇒ P.28 *"Running NIB Setup Tool"*

C **Click [Property Sheet] and click [OK].**

The **[Browse]** dialog box of the Network Interface Board appears.

D **Click [IPX protocol].**

E **Select the IPX address of the Network Interface Board which is to be configured by clicking it, and click [Next >].**

📝 **Note**

❒ If you do not know which Network Interface Board you are configuring, see a network configuration page to confirm the MAC address (Network Address).

F **Confirm that the MAC address and IPX address are correct, and click [Finish].**

The **[NIB Setup Tool]** window appears.

G **Click [Configure].**

The property sheet appears.

H **Click the [General] tab, and type the name of the print server into the [Device Name] box.**

I **Click the [NetWare] tab, and make the following settings.**

❶ **Select [NDS].**

❷ **Type into the [Tree:] box the name of the NDS tree in which the print server is created, and type the context into the [Context:] box.**

Clicking **[Browse]**, you can select a NDS tree and a NDS context among those listed in the **[Browse]** dialog box.

As a context, object names are typed from a lower object and divided by a period. For example, if you want to create a print server into NET under DS, type "NET.DS"

❸ **Click [OK] to close the property sheet.**

❹ **After a confirmation dialog box appears, click [OK].**

10 On the **[NIB]** menu, click **[Exit]** to exit NIB Setup Tool.

11 From Windows, run NWAdmin.

$\mathcal{P}$**Reference**

For more information on NWAdmin, see the documentation that comes with the NetWare.

12 Create a print queue as follows.

❶ Select the container object the print queue is located in among those in the directory tree, and click **[Create]** on the **[Object]** menu.

❷ In the **[Class of new object]** box, click "Print Queue" to highlight it, and click **[OK]**.

❸ In the **[Print Queue name]** box, type the name of the print queue.

❹ In the **[Print Queue Volume]** box, click the **[Browse]** button.

❺ In the **[Available objects]** box, click the volume in which the print queue is created to highlight it, and click **[OK]**.

❻ After confirming the settings, click **[Create]**.

13 Create a printer as follows.

❶ Select the container object the printer is located in, and click **[Create]** on the **[Object]** menu.

❷ In the **[Class of new object]** box, click "Printer" to highlight it, and click **[OK]**. When you are using the NetWare 5, click "Printer (Non NDPS)".

❸ In the **[Printer name]** box, type the name of the printer.

❹ Click **[Define additional properties]** to check a box, and click **[Create]**.

14 Assign print queues to the created printer as follows.

❶ Click **[Assignments]**, and click **[Add]** in the **[Assignments]** group.

❷ In the **[Available objects]** box, click the queue created in step **12** to highlight it, and click **[OK]**.

❸ Click **[Configuration]**, and in the **[Printer type]** box, select **[Parallel]** using the dropdown menu, and then click **[Communication]**.

❹ Click **[Manual load]** in the **[Communication type]** group, and click **[OK]**.

❺ After confirming the settings, click **[OK]**.

15 Create a print server as follows.

❶ Select the context specified using NIB Setup Tool (step **9**-❶), and on the **[Object]** menu, click **[Create]**.

❷ In the **[Class of new object]** box, click "Print Server" to highlight it, and click **[OK]**. When you are using the NetWare 5, click "Print Server (Non NDPS)".

❸ In the **[Print Server name]** box, type the name of the print server.

Important

❒ Use the same name as that specified using NIB Setup Tool. (Step C)

D Click **[Define additional properties]** to check a box, and click **[Create].**

P Assign the printer to the created print server as follows.

A Click **[Assignments],** and click **[Add]** in the **[Assignments]** group.

B In the **[Available objects]** box, click the printer created in step M to highlight it, and click **[OK].**

C After confirming the settings, click **[OK].**

Q Turn the printer power off and on.

Note

❒ If the printer works as configured, the name of the print server appears as an attached user.

Setting Up as Remote Printer

A Log in to the file server as Admin or an Admin equivalent.

B Run NIB Setup Tool.

Reference

⇒ P.28 *"Running NIB Setup Tool"*

C Click **[Property Sheet]** and click **[OK].**

The **[Browse]** dialog box of the Network Interface Board appears.

D Click **[IPX protocol].**

E Select the IPX address of the Network Interface Board which is to be configured by clicking it, and click **[Next >].**

Note

❒ If you do not know which Network Interface Board you are configuring, see a network configuration page to confirm the MAC address (Network Address).

F Confirm that the MAC address and IPX address are correct, and click **[Finish].**

The **[NIB Setup Tool]** window appears.

G Click **[Configure].**

The property sheet appears.

H Click the **[General]** tab, and type the name of the print server into the **[Device Name]** box.

9 **Click the [NetWare] tab, and make the following settings.**

A **In the [Print Server Name] box, type the name of the print server.**

B **In the [File Server Name] box, type the name of the file server in which a print server is to be created.**

Clicking **[Browse]**, you can select a file server among those listed in the **[Browse]** dialog box.

C **In the [NDS Context] box, type the context in which the print server is to be created.**

Clicking **[Browse]**, you can select a context among those listed in the **[Browse]** dialog box.

As an context, object names are typed from a lower level object and divided by a period. For example, if you want to create a print server into NET under DS, type "NET.DS".

D **In the [Print Server Operation Mode] group, click [As Remote Printer].**

E **In the [Remote Printer No.] box, type the number of the printer.**

Important

❒ Use the same number as that of the printer to be created in the print server.

F **Click [OK] to close the property sheet.**

G **After a confirmation dialog box appears, click [OK].**

10 **On the [NIB] menu, click [Exit] to exit NIB Setup Tool.**

11 **From Windows, run NW Admin.**

Reference

For more information on NWAdmin, see the documentation that comes with the NetWare.

12 **Create a print queue as follows.**

A **Select the container object the print queue is located in among those in the directory tree, and click [Create] on the [Object] menu.**

B **In the [Class of new object] box, click "Print Queue" to highlight it, and click [OK].**

C **In the [Print Queue name] box, type the name of the print queue.**

D **In the [Print Queue Volume] box, click Browse button.**

E In the [Available objects] box, click the volume in which the print queue is created to highlight it, and click [OK].

F After confirming the settings, click [Create].

🇲 Create a printer as follows.

A Select the container object the printer is located in, and click [Create] in the [Object] menu.

B In the [Class of new object] box, click "Printer" to highlight it, and click [OK]. When you are using the NetWare 5, click "Printer (Non NDPS)".

C In the [Printer name] box, type the name of the printer.

D Click [Define additional properties] to check a box, and click [Create].

🇳 Assign print queues to the created printer as follows.

A Click [Assignments], and click [Add] in the [Assignments] group.

B In the [Available objects] box, click the queue created in the step 🇲 to highlight it, and click [OK].

C Click [Configuration], and in the [Printer type] box, select [Parallel] using the dropdown menu, and then click [Communication].

D Click [Manual load] in the [Communication type] group, and click [OK].

E After confirming the settings, click [OK].

🇴 Create a print server as follows.

A Select the context specified using NIB Setup Tool (Step 🇩), and on the [Object] menu, click [Create].

B In the [Class of new object] box, click "Print Server" to highlight it, and click [OK]. When you are using the NetWare 5, click "Print Sever (Non NDPS)".

C In the [Print Server name] box, type the name of the print server.

⚠️Important

❒ Use the same name as that specified using NIB Setup Tool. (Step 🇩).

D Click [Define additional properties] to check a box, and click [Create].

🇵 Assign the printer to the created print server as follows.

A Click [Assignments], and click [Add] in the [Assignments] group.

B In the [Available objects] box, click the queue created in the step 🇲 to highlight it, and click [OK].

C In the [Printers] group, click the printer assigned in the step B to highlight it, and click [Printer Number].

D Type the printer number and click [OK].

⚠️Important

❒ Use the same number as that specified as Remote Printer No. using NIB Setup Tool. (Step 🇮-E).

E After confirming the settings, click [OK].

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⓱ Start the print server by typing as follows from the console of the NetWare Server.

If it is running, restart it after exiting it.

❖ **To exit**
   `CAREE: unload pserver`

❖ **To start**
   `CAREE: load pserver print_server_name`

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Setting Up a Client Computer

This section describes how to set up a client computer when you use a NetWare print server.

𝒜 Note

❒ This section assumes that the client has NetWare client applications installed and is correctly configured to communicate with a NetWare print server. If not, install necessary applications before starting the setting up procedure.

Windows 95/98

Follow these steps to set up a Windows 95/98 client.

📖 Preparation

Log in to the NetWare file server before starting the following procedure.

A Install the printer driver of the printer you want to use as "Local printer".

🔎 Reference

For more information on installing the printer driver, see the "Operating Instructions" that comes with the printer.

𝒜 Note

❒ Any port is selected during the installation, however, LPT1 is recommended.

B Click [Start], point to [Settings], and then click [Printers].

C In the [Printers] window, click the icon of the printer you want to use.

D On the [File] menu, click [Properties].

E Click the [Details] tab, and click [Add Port].

F Click [Network] and click [Browse].

G On the network tree, double-click the name of the file server.

The queues are displayed.

H Click the queue you want to print to highlight it, and click [OK].

I Click [OK].

In the **[Print to the following port]** box, a network path to the printer appears.

J Click [OK] to close the printer's property, and again, open it.

K Click the [Printer Settings] tab.

⓬ Remove the check marks from the [Form feed] and the [Enable banner] check boxes.

✐ **Note**

❒ You should not check these boxes, because they should be specified using the printer driver. If they are checked, the printer might not print correctly.

When Using the PostScript Printer Driver

Follow these steps to set up for the PostScript printer driver.

A Click the [PostScript] tab.

B Click [Advanced].

C Remove the check marks from the [Send CTRL+D before job] and the [Send CTRL+D after job] check boxes.

⓭ Click [OK] to close the property.

Windows 3.1x

Follow these steps to set up a Windows 3.1x client.

✐ **Note**

❒ This section assumes that the client software released from Novell is installed on the client computer.

A Install the printer driver of the printer you want to use as "Local printer".

⌕ **Reference**

For more information on installing the printer driver, see the "Operating Instructions" that comes with the printer.

B Double-click the [Printers] icon on [Control Panel].

C In the [Installed Printers] box, click the printer driver you want to use, and then click [Connect].

D In the [Ports] box, click "LPT1" to highlight it, and click [Network].

The **[NetWare Printer Connections]** dialog box appears.

E In the [Ports] box, click "LPT1" to highlight it, and in the [Resources] box, click the queue you want to print to highlight it.

✐ **Note**

❒ You should log in to the file server in order to see the print queues.

F Click [Capture].

The specified queue is captured to the LPT1.

G **Click [LPT Settings].**

The **[NetWare Settings]** dialog box appears.

H **Remove the check marks from the [Form Feed] check box and the [Enable Banner] check box.**

✐ **Note**

❒ You should not check these boxes, because they should be specified using the printer driver. If they are checked, the printer might not print correctly.

I **Click [OK] to close the [NetWare Settings] dialog box.**

J **Close the [Network driver] dialog box.**

K **Click [OK] to close the [Connect] dialog box.**

L **Click [Close] to close the [Printers] dialog box.**

Windows NT 4.0

Follow these steps to set up a Windows NT 4.0 client.

▤ **Preparation**

Log in to the NetWare file server before starting the following procedure.

A **Double-click the [Network Neighborhood] icon on the desktop and navigate to the queue you want to use, and then double-click it.**

The **[Printers]** dialog box appears.

B **Click [No].**

C **Close all the applications that are currently running.**

D **Insert the CD-ROM that comes with the machine in the CD-ROM drive.**

If the setup menu starts automatically, you can proceed to the next step. If not, see the "Operating Instructions" that comes with the printer.

E **The [Printer Installation] dialog box appears.**

F **From the [Port] list, select the queue you selected in step A, and click [Next >].**

G **Follow the instructions on the screen to finish the installation of the printer driver.**

3

4. Macintosh Configuration

Configuring Macintosh

This chapter explains how to configure a network printer in a Macintosh Ether-Talk environment. The actual procedures to configure a network printer are slightly different depending on the version of the Mac OS. This chapter describes how to configure your printer for Mac OS 8. If you are using a different version, see the manual that comes with your version of the Mac OS for more information.

```
Basic Procedure

  [ Changing to EtherTalk ]

  [ Configuring the printer ]

  [ Changing printer name ]

  [ Changing zone ]
```
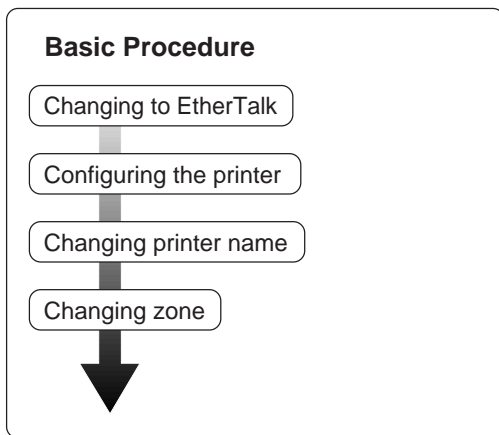
❣ **Limitation**

❒ To print from a Macintosh, the PostScript 3 is required.

Changing to EtherTalk

Follow these steps to configure a Macintosh computer to use EtherTalk.

ℒReference

For more information on installing the software required for EtherTalk, see the Macintosh manuals.

❶ **Open [Control Panels], and double-click the [AppleTalk] icon.**

❷ **From the [Connect via:] menu, select "Ethernet".**

❸ **If you change zones, select a name from the [zone] menu.**

❹ **Close the [AppleTalk] control panels.**

❺ **Restart the Macintosh.**

Configuring the Printer

Use the operation panel to activate the EtherTalk protocol (factory default is active).

ℒReference

For more information on configuration, see the "Operating Instructions" that comes with the printer.

Changing Printer Name

If the network has several same model printers, the names will be the same. Printers that have the same name will have their names changed slightly in the Chooser. For example, three printers named "printer" will appear in the chooser as "printer0", "printer1" and "printer2".

Use applications such as **Apple Printer Utility** or **LaserWriter Utility** to change printer names in the Macintosh EtherTalk environment. These utilities are distributed by Apple Computer, Inc.

Changing Zone

It may be necessary to change the zone configuration.

Use applications such as **Apple Printer Utility** or **LaserWriter Utility** to change the zone configuration in the Macintosh EtherTalk environment. These utilities are distributed by Apple Computer, Inc.

Note

❒ If your Macintosh is configured to use TCP/IP, you can change the zone configuration with a Web browser. ⇒ P.56 *"Configuring the Network Interface Board with a Web Browser"*

Follow these steps to use the Apple Printer Utility.

A Insert the CD-ROM that comes with the machine into your computer's CD-ROM drive.

B Copy the "Zone Name.ps" file in the "Zone Name" folder to the hard disk.

C Open the copied "Zone Name ps" file using a text editor, and change "New-Zone" , which is in the second line from the bottom, to the name of the new zone.
%!PS-Adobe2.0 %%
Title: Changing Zone (EtherNet only)
%%CreationDate: Tue Dec 16 1997
%%EndComments
true 0 startjob not {ERROR}if
(%EtherTalk%) << /EtherTalkZone (**NewZone**) >> setdevparams
%%EOF

D Save "Zone Name.ps".

E Run the Apple Printer Utility, and select the printer for which the new zone name is to be used.

F Select **[Send PostScript File]** in the **[Utilities]** menu, and send "Zone Name.ps" to the printer.

4

5. Appendix

Multidirect Print

Multidirect Print is a Windows program that allows you to print on a Peer-to-Peer network. This program allows you to print directly to a network printer, even if there is no print server.

OS	Protocol stack
Microsoft Windows 95/98	The Microsoft version of TCP/IP that comes with Windows.
Microsoft Windows NT 4.0	The Microsoft version of NetBEUI that comes with Windows.

🖉 Note

❒ If your printer is in the middle of warming up or printing, an error message might appear a certain time after you request a print job. You can change how long the printer should wait to display the message by clicking **[Port Settings]** in the **[Details]** tab on Windows 95/98, and **[Configure Port]** in the **[Ports]** tab on Windows NT 4.0.

[Select Printer]

A list of available printers appears on this screen. This example is for the English version.
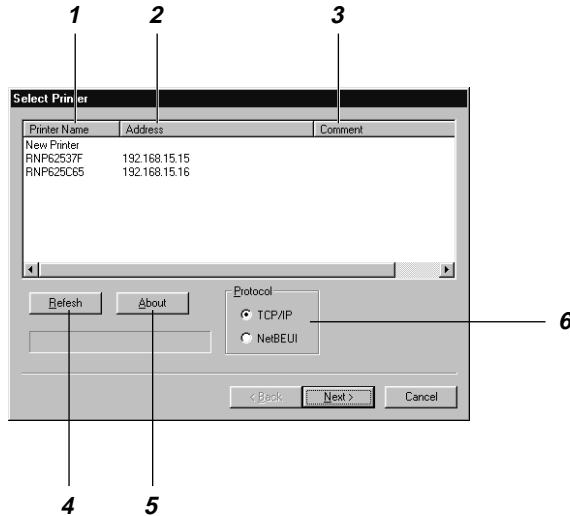
1. Printer Name

The contents of this list are different for the TCP/IP and NetBEUI protocols.

If you selected **[TCP/IP]**, the printer name of the Network Interface Board appeared. If you selected **[NetBEUI]**, the computer name of the Network Interface Board appeared.

🖉 Note

❒ The printer name can be found on the printer configuration page.

❒ The printer name is set to "RNP" and the last 6 digits of the MAC address of the Network Interface Board. For example, a board with a MAC address of 00:00:74:62:5C:65, would be named RNP625C65. You can change this name to something more convenient.

2. Address

The contents of this list are different for the TCP/IP and NetBEUI protocols.

If you selected **[TCP/IP]**, the printer name of the Network Interface Board appeared. If you selected **[NetBEUI]**, the computer name of the Network Interface Board appeared.

🖉 Note

❒ The form of the Network path name is "%% computer name \ name of printer type".

3. Comment

Comments that are registered on the Network Interface Board.

4. [Refresh]

Click to refresh the contents of the display. When refreshing, the name of this button changes to **[Stop]**. Click on it to stop the refresh.

5. [About]

Version and copyright information.

6. Protocol

Select to display the printers which can print using the selected protocol.

[Network]

When you select a printer with the **[Select Printer]** dialog box, the port name is input automatically. These examples are for the English version.

❖ **TCP/IP**

	Network
	Please enter a TCP/IP host name or a IP address.
1 ——	○ Host name [ ]
2 ——	◉ IP address [162] [168] [15] [16]
	< Back Next > Cancel

❖ **NetBEUI**

	Network
	Please enter a NetBEUI printer name
3 ——	Printer name [ ]
	< Back Next > Cancel

1. **Host name**

If you print, using the TCP/IP protocol, to select a printer using a host name or a domain name, type the name here. Type the IP address into the **[IP address]** box when selecting a printer by IP address.

☝ **Limitation**

❒ You cannot use a host name that begins with "%%".

✎ **Note**

❒ When you use DHCP to assign IP addresses to Network Interface Boards, you can use a printer name (Current Hostname on the network configuration page) as the host name.

2. **IP address**

If you print, using the TCP/IP protocol. Type the IP address of the printer.

3. **Printer name**

Type the printer's Network path name in form of "%%Computer name \Share name". Do not type "\\" as head characters but "%%".

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Configuring the Network Interface Board with a Web Browser

The Network Interface Board functions as a Web server in addition to allowing a printer to function as a network printer. You can use a Web browser to view the printer status and configure the Network Interface Board.

❖ **Configuring the Printer**
This facility requires the TCP/IP protocol to be installed. After the printer has been configured to use the TCP/IP protocol, it will be possible to adjust the settings using a web browser.

🔎**Reference**
For more information on configuring the printer to use the TCP/IP protocol, see the "Operating Instructions" that comes with the printer.

❖ **Operating System Browser Requirements**

OS	Browser
Microsoft Windows 95/98	Microsoft Internet Explorer 3.02/4.0 Netscape Navigator 3.0/4.0
Microsoft Windows NT 3.51/4.0	
Mac OS 7.6.1 ~ 8.1	
Solaris 2.5 ~ 2.6	

💡 **Limitation**
❒ Using Windows NT 3.51 with Internet Explorer 3.02 may cause problems.

❒ Sometimes after clicking **[Back]** , the previous page may not appear. In this case, click **[Refresh]** or **[Reload]** .

❒ The text on the screen may disappear or be aligned incorrectly if the font size settings of the browser are set to be too large. It is recommended that you use a font size equal to or smaller than "10 point" with Netscape Navigator, and "Medium" or smaller with Internet Explorer.

Going to the Top Page

After launching your Web browser, type the IP address of the printer. See the example below. This example is for the English version.

http://192.168.15.16/

(In this example, the IP address of the Network Interface Board is 192.168.15.16.)

✐ Note

❒ If a DNS server is used in the network, you can type the host name as an URL. For example, http://webmonitor.netprinter.com/. In order to do this, you must the register the IP address and host name of the Network Interface Board with the DNS server. Consult the network administrator for information on how to do this.

❒ If the network uses proxy servers, the browser may run slowly.
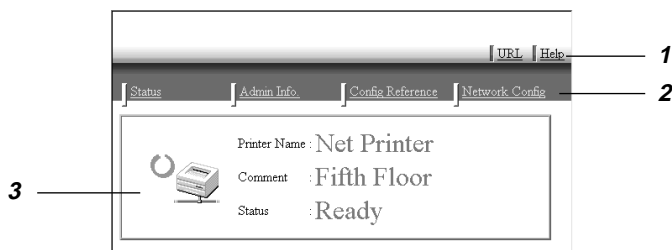
1. **Header Button**

You can register favorite URLs with **[URL]**. To view the help section, click **[Help]**.

*❈*Important

❒ It costs to use the browser to access a website.

✐ Note

❒ The help file is stored on the CD-ROM in HTML format.

2. **Menu Button**

Buttons to configure the Network Interface Board and confirm the status of the printer.

✐ Note

❒ When you click **[Network Config]**, a dialog box appears requesting the user name and password. Type only the password in this dialog box. The factory default password is "password".

❒ The password is the same as that used in the remote maintenance (mshell) and that used in NIB Setup Tool. If you change a password on the Web browser, the other passwords are also changed.

3. **Representation Area**

Displays the name and comments of the Network Interface Board, and the status of the printer.

- -

❈Linking the address (URL) to the [Help] button

You can link the address (URL) of the **[Help]** button to the help files on your computer or on a Web server.

① Copy the help file on the CD-ROM to the desired location. The help files are located in folders labeled with abbreviated language names. For example, English help files are in the **[EN]** folder. Be sure to copy the entire **[EN]** folder to the new location.

② Using a web browser, navigate to the Top Page and click **[Network config]**.

③ Type your password, (it is not necessary to type a user name) and click **[OK]**.

④ Type the path to the help file in the **[Help URL]** box.
If you copied the help file to "C:\HELP\EN" then type "file://C:/HELP/". For example if you copied the file to a web server and the address (URL) that will be linked to the help files is "http://a.b.c.d/HELP/EN/index.html", type "http://a.b.c.d/HELP/".

⑤ Click **[Apply]**.
When a warning message appears, select to continue configuring this procedure.

- -

Assigning IP Address with ARP+PING

Using TCP/IP, you can assign the IP address using ARP and PING. The following example is for a BSD UNIX workstation (SunOS 4.x).

📋 **Preparation**

ARP+PING should be set to active in the network boot configuration before assigning the IP address using ARP+PING. For more information on setting it to active, see the "Operating Instructions" that comes with the printer.

A Log in to the workstation as root.

B Use the arp command to assign the IP address to the MAC address of the Network Interface Board.

```
# arp -s 192.168.15.16 00:00:74:62:5C:65
```

📝 **Note**

❒ 192.168.15.16 is the IP address, 00:00:74:62:5C:65 is the MAC address.

C Assign the IP address using the PING command.

```
# ping 192.168.15.16
```

D Use the PING command again, to confirm the address.

```
# 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
```

- -

💡**How to Confirm the MAC Address**

The MAC address (Ethernet address) of the Network Interface Board is required in order to use ARP and PING to assign the IP address.

The MAC address can be seen on the printer configuration page.

🔎 **Reference**

For more information on printing a configuration page, see the "Operating Instructions" that comes with the printer.

- -

Remote Maintenance by Telnet (mshell)

You can view the printer status and configure the network interface board using telnet.

✐ Note

❒ You should specify a password so that only the network administrator, or a person having network administrator privileges, can use remote maintenance (mshell).

Operation Flow

The following is a sample procedure in using Telnet.

❖ Limitation

❒ Only one person at a time can be logged on to do remote maintenance.

A Using the IP address or host name of the printer, start telnet.

```
% telnet IP_address
```

✐ Note

❒ In order to use the host name instead of the IP address, you must write it to the /etc/hosts file.

B Type the password.

✐ Note

❒ The factory default is "password".

C Type a command.

♫ Reference

For more information on telnet commands, see P.61 *"Command List"*.

D Finish telnet.

```
msh> logout
```

When the configuration is revised, a confirmation message requests whether or not the changes should be saved.

E Type "yes" to save the changes, and press the 【ENTER】 key.

If you do not want to save the changes, type "no"and press the 【ENTER】 key. If you want to make additional changes, type "return" at the command line, and press the 【ENTER】 key.

✐ Note

❒ If the "Can not write NVRAM information" message appears, the changes are not saved. Repeat the steps above.

❒ The Network Interface Board is reset automatically when the settings are changed.

❒ When the Network Interface Board is reset, the active print job which has already been sent to the printer, will finish printing. However, jobs that haven't been sent yet will be cancelled.

Command List

This is a list of commands that can be used via remote maintenance.

🖉 Note

❒ Type "help" to see a list of commands that can be used.

msh> help

❒ Type "help command_name" to display information on the syntax of that command.

msh> help *command_name*

TCP/IP Address

Use the ifconfig command to configure TCP/IP (IP address, subnet mask, broadcast address, default gateway address).

❖ **Reference**

msh> ifconfig

❖ **Configuration**

msh> ifconfig le0 *parameter address*

Parameter	Configuration Item
(no parameter)	IP address
netmask	subnet mask
gateway	default gateway address

The following is an example for configuring an IP address of 192.168.15.16.

msh> ifconfig le0 192.168.15.16

The following is an example for configuring a subnet mask of 255.255.255.0.

msh> ifconfig le0 netmask 255.255.255.0

🖉 Note

❒ This affects the configuration of the Network Board of the IP address that is used.

❒ To type an address using hexadecimal, add "0x" to the first command.

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☼Address

❖ Subnet Mask
A number used to mathematically "mask" or hide the IP address on the network by eliminating those parts of the address that are alike for all the machines on the network.

❖ Default Gateway Address
A gateway is a connection or interchange point that connects two networks. A gateway address is for the router or host computer used as a gateway.

📝 Note
❒ To get the above addresses, contact your network administrator.

Access Control

Use the access command to view and configure access control.

❖ Reference
`msh> access`

❖ Configuration
`msh> access parameter address`

Parameter	Configuration Method
control	Access Control Address
mask	Access Control Mask

📝 Note
❒ The Access Control Address and the Access Control Mask are used to limit access to the computer used for printing by denying access to users based on their IP address. If it is not necessary to limit access, set the Access Control Mask to "0.0.0.0".

❒ When the Access Control Address matches masked result of the IP address computer attempting to print, print jobs from that IP address can be accepted by the Network Interface Board.

❒ For example, if you assign 192.168.15.16 as the Access Control Address to the Network Interface Board, the combination of the Access Control Mask and the IP addresses that can print are as follows. The XXX is a variable that means any number from 1 to 255 is acceptable.

Access Control Mask	IP addresses that can access the printer
`  0.  0.  0.  0`	`XXX.XXX.XXX.XXX`
`255.  0.  0.  0`	`192.XXX.XXX.XXX`
`255.255.  0.  0`	`192.168.XXX.XXX`
`255.255.255.  0`	`192.168. 15.XXX`
`255.255.255.255`	`192.168. 15. 16`

Network Boot

Use the set command to configure a network boot.

`msh> set parameter {on | off}`

"On" means active and "Off" means inactive.

Parameter	Configuration Method
ping	ARP+PING
tftp	RARP+TFTP
bootp	BOOTP
dhcp	DHCP

Note

❒ When you use RARP+TFTP, BOOTP, DHCP, the server also needs to be configured.

❒ DHCP takes precedence over all other settings.

Protocol

Use the set command to allow/prevent remote access for each protocol.

msh> set *protocol* {up | down}

Protocol	
appletalk	"Up" means active and "Down" means inactive.
tcpip	
netware	
netbeui	
lpr	
ftp	
rsh	
diprint	
web	

🖉 **Note**

❒ If you prohibit remote access using TCP/IP and then logout, you cannot use remote access. If this was a mistake, you can use the printer operation panel to allow access by TCP/IP.

❒ When you prevent access via TCP/IP, you are also prevented from using lpr, ftp, rsh, diprint, and web.

Status of Printer

The following commands can be used to get information about the current status of the printer.

msh> *command*

Command	Information that is displayed
status	Status of printer.
	Information about the print job.
info	Information about the paper tray, output tray, emulation and program of printer.
prnlog [ID]	Lists the last 10 print jobs.
netstat	Information on the Network Interface Board.

🖉 **Note**

❒ More information on the print job is displayed when the ID number is added after the prnlog command.

🔎 **Reference**

For more information on the meaning of the data returned with these commands, see P.72 *"Configuring the Network Interface Board"*.

Information about the Network Interface Board Configuration Settings

Use the show command to display the Network Interface Board configuration settings.

msh> show [-p]

📎 Note
❒ Add "-p" to the show command to have the information displayed one screen at a time.

🔎 Reference
For more information on the meaning of the data returned with this command, see P.72 *"Configuring the Network Interface Board"*.

System Log Information

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

msh> syslog

🔎 Reference
For more information on the displayed information, see P.75 *"System Log Information"*.

SNMP

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

📎 Note
❒ You can configure from No. 1 to 10 SNMP settings.

❒ The factory default settings for No. 1 and 2 are as follows.

Number	1	2
community name	public	admin
IP address	0.0.0.0	0.0.0.0
access type	read-only trap off	read-write trap off

❖ Display
Shows the SNMP information and available protocols.

msh> snmp ?
msh> snmp [-p] [*registered_number*]

Note

❒ If the -p option is added, you can view the displays one by one.

❒ If the registered number is not added, you can view the status of all the registered numbers.

❖ **Community name configuration**
You can set the community name of the Network Interface Board.

msh> snmp *number* name *community_name*

Note

❒ The community name must consist of 15 characters or less.

❖ **Access type configuration**
You can select the access type from those listed below.
msh> snmp *number* type *access_type*

Access Type	Type of access which is permitted
read	Read only access is permitted.
write	Read and write access is permitted.
trap	User is notified of trap messages.
no	All access is denied.

❖ **Protocol configuration**
You should use the following command to set the protocols to active or inactive. If you set a protocol to inactive, you cannot use all the registered numbers for it.

msh> snmp {ip | ipx} {on | off}

• "On" means active and "Off" means inactive

If you want to change the protocol settings for each registered number, use the following command. Make sure that the protocol set to inactive using the above command, cannot set to be active using this command.

msh> snmp *number* active {ip | ipx} {on | off}

❖ **Access Configuration**
You can configure an address of a host depending on the protocols used.
The Network Interface Board accepts requests only from hosts having addresses with access types of "read-only" or "read-write". Type "0" to have the Network Interface Board accept requests from any host without requiring a specific type of access.

The following example shows how set the protocol for an address.
msh> snmp *number* {ip | ipx} *address*

✐ Note

❒ When using the TCP/IP protocol, type ip followed by a space and then the IP address.

❒ When using the IPX/SPX protocol, type ipx followed by a space and then the IPX address followed by a decimal and then the MAC address of the Network Interface Board.

The following is an example of how to configure registration number 3 with the IP address 192.168.15.16.

msh> snmp 3 ip 192.168.15.16

The following is an example of how to configure registration number 3 with the IPX address 7390A448, and the MAC address 00:00:74:62:5C:65.

msh> snmp 3 ipx 7390A448.000074625C65

Changing the Password

Use the passwd command to change the remote maintenance password.

⚠Important

❒ Be sure not to forget or lose the password.

✐ Note

❒ The default factory password is "password".

❶ Type "passwd".

msh> passwd

❷ Type the current password.

Old password:

❸ Type the new password.

New password:

✐ Note

❒ The password must consist of 3 to 8 alphanumeric characters and symbols. Upper and lower case characters are considered unique. For example, R is different from r.

❒ The password is the same as that used in the configuration of the Network Interface Board using a Web browser and that used in NIB Setup Tool. If you change a password on the mshell, the other passwords are also changed.

❹ Type the new password once again.

Retype new password:

SNMP

The Network Interface Board functions as a SNMP (Simple Network Management Protocol) agent using the UDP and IPX protocols. Using the SNMP manager you can get information about the printer.

The factory default community names are "public" and "admin". You can get MIB information using these community names.

$\mathcal{P}$Reference

For more information on configuring the community name, see P.65 *"SNMP"* in "Remote Maintenance by Telnet (mshell)".

♥ Limitation

❒ The kinds of supported MIBs differ depending on your printer.

❖ Supported MIBs

- MIB-II
- PrinterMIB
- HostResourceMIB
- RicohPrivateMIB

Understanding the Displayed Information

This section describes how to read the displayed information on the status of the Network Interface Board.

Print Job Information

The status of the print job can be viewed using the following commands.

- mshell : Use the status command. ⇒ P.64 *"Status of Printer"*

Item Name	Meaning
ID	Number of the print request.
Source	The name of the host requesting the print job.
Process	The type of print command.

Status	Status of print job.
	
	• Active
	  Printing or being prepared for printing.
	
	• Waiting
	  Waiting to be transferred to the printer.

Time	The time when the print request was received.

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Print Log Information

This is a record of jobs that have been printed up to now. The most recent ten records are displayed.

This record can be displayed with the following commands.

- mshell : Use the prnlog command. ⇒ P.64 *"Status of Printer"*

Item Name	Meaning
ID	Printing request number.
Source	The user name, workstation name or address of the host that sent the print job.
Process	The type of print command used.
Bytes	The size of the file in bytes.
Result	Communication result. • OK Indicates that the print job was completed correctly. • NG Indicates that the print job was not completed normally. • Canceled rcp, rsh or lpr print commands were stopped. A problem occurred with the printing application. This message doesn't appear when ftp or RPRINTER is used.
Time	The time when the print request was received.
User Code	The user name, workstation name or address of the host that sent the print job.
Address	IP address.
Process	The type of print command used.
Print Start Time	The time the print process was started.
Print End Time	The time the print process was completed.
Open Count	The number of print processes that the application made.
Eof Count	The reception number of file unit.
Data Size	The number of bytes of received data.

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Network Statistical Information

This section is about the information provided about the Network Interface Board.

Detailed information about the words used to describe the status of the Network Interface Board are described below.

- mshell : Use info command. ⇒ P.64 *"Status of Printer"*

Item Name	Meaning
System elapsed time	The time that passed since the network interface board started.
Total printing time	The total time spent in processing the print data.
Total open count	The total open (printing process) count that application required.
Current connection count	The number of job connecting with the Network Interface Board currently.
Total connection count	The total number of print jobs sent to the Network Interface Board.
Print error count	The number of times the printing process sent an error message.
Access error count	The number of times the connection was refused because of the value of the access control.
Print request full count	The number of times a connection was refused because the number of print requests exceeded the number of allowed sessions.

Configuring the Network Interface Board

Network Interface Board settings can be displayed and confirmed using the commands below.

- mshell : Use show command. ⇒ P.65 *"Information about the Network Interface Board Configuration Settings"*

Item Name	Meaning
Common	
Mode	
Protocol Up/Down	Up means active, Down means inactive.
AppleTalk	
TCP/IP	
NetWare	
NetBEUI	
NVRAM version	Internal version number.
Device name	
Comment	
Location	
Contact	
Soft switch	
AppleTalk	
Mode	AppleTalk protocol in selection.
Net	Network number.
Object	Macintosh printer name.
Type	The type of printer.
Zone	Name of the zone that the printer belongs to.

Item Name	Meaning
TCP/IP	
Mode	Up means active, Down means inactive.
ftp	
lpr	
rsh	
diprint	
web	
telnet	
download	
EncapType	Frame type.
Network boot	Network boot.
Filter	Internal parameter.
Max DSTs	
Address	IP address.
Netmask	Subnet mask.
Broadcast	Broadcast address.
Gateway	Default gateway address.
AccessCtrl	Access control address.
AccessMask	Access control mask.
Time server	
Home page URL	URL of homepage.
Home page link name	URL name of homepage.
Help page URL	URL of help page.
SNMP protocol	Protocol used with SNMP.

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Item Name	Meaning
NetWare	
Mode	(this value is fixed)
EncapType	Frame type.
RPRINTER number	Remote printer number.
RPRINTER name	Remote printer name.
Print server name	Print server name.
Fileservername	Name of the connect file server.
Context name	Context of print server.
Switch	
Mode	Active mode.
NDS/Bindery	(this value is fixed)
Packet negotiation	
Print job timeout	Time of the job timeout.
NetBEUI	
Mode	(this value is fixed)
Switch	
Mode	(this value is fixed)
Direct print	(this value is fixed)
Notification	Notices of finishing to print.
Workgroup name	Name of the workgroup.
Computer name	Name of the computer.
Comment	Comment.
Share name[1]	Share name. (name of the printer type)
Shell mode	Mode of remote maintenance tool.

Message List

This is a list of messages recorded to the printer's system log. The system log can be viewed using the syslog command.

System Log Information

You can use the following methods to view the system log.

- mshell : Use the syslog command. ⇒ P.65 *"System Log Information"*
- Network Configuration Page : Configure PCL for the Printer Language, and push the switch on the Network Interface Board while five seconds. ⇒ P.83 *"Network Configuration Page"*

Message When the Network Interface Board Starts or Restarts

RICOH Network Interface Board Ver.x.x.x	The version number of the Network Interface Board.
PRINTER SYSTEM "system name" Ver.x.x.x	The system name and version of the printer.
Attach FileServer="file server name"	The printer is attached to "file server name" as the nearest server.
Current Interface Speed:xxxMbps	The speed of the network (10 Mbps or 100 Mbps).
Current IPX address	The current IPX address.
Frametype="frame type name"	The "frame type name" is configured to be used on NetWare.
NetBEUI Computer Name="computer name"	The NetBEUI Computer Name is defined as "computer name".
Start httpd	The Web server has been started.
Start npmpd for IPX	The npmpd for IPX protocol has been started.
Start npmpd for TCP/IP	The npmpd for TCP/IP protocol has been started.
Start smbd direct print mode(NetBEUI)	You can print from a client on the Windows network via the print server.
Start snmpd Ver.2.0	The SNMP agent of the displayed version has been started.
Vendor= , Country= , Lang=	The vendor, the country code, and the language.

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NetWare (When the Network Interface Board is Started)

❖ When working as a print server

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.	Cannot log in to the file server. Confirm that the print server is registered on the file server. If a password is specified for the print server, delete it.
Attach to print queue "print queue name"	Attached to the print queue.
File server is empty	The file server is not registered. Register your file server using the utility.
Login to fileserver "file server name" ("NDS | BINDERY")	Logged in to the file server with NDS or BINDERY mode.
Open log file "file name"	The specified log file has been opened.
Printer "printer name" has no queue	The print queue is not assigned to the printer. Using NWAdmin, assign the print queue to the printer, and then restart it.
Print queue "print queue name" cannot be serviced by printer 0, "print server name"	Print services are not available for the print queue. Confirm that the volume of the print queue exists on the specified file server.
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.	Cannot log in to the file server. The print server is not registered or the password is specified. Register the print server without specifying a password.

❖ When working as a remote printer

Cannot create service connection	Cannot establish a connection with the file server. Your request may exceed the maximum number of connections that the file server can deal with at a time.
Cannot find rprinter ("print server name"/"printer number")	The printer having the number displayed on the print server does not exist. Confirm the number of the printer registered to the print server.
Establish a connection with the print server, "print server name"	A connection with the print server has been established.
No local target for "print server name"	Cannot get routing information on the file server. If a different frame type is configured from that used on the network, you should select "Auto Select" as a frame type.

Required file server ("file server name") not found	Cannot find the required file server.
Required print server ("print server name") not found	Cannot find the print server. Confirm the name of the print server.
Unable to attach to print server ("print server name")	Cannot connect to the print server. The print server refuses a connection for some reason. Confirm the configuration of the print server.

NetBEUI (When the Network Interface Board is Started)

Back to default name (<Computer name>)	The same Computer name is detected on the network. As unable to add computer name to the suffix, Computer name back to default name. Configure a new computer name that is unique one.
Print session full	Cannot accept the print session.
Required computer name (<Computer name>) is duplicated name	The same Computer name is detected on the network. The start job determines the computer name by adding the computer name to the suffix (0,1....). Configure a new computer name that is unique one.

TCP/IP

❖ When the address is configured

Invalid gateway address	The Gateway address is not correct for the specified IP address.

❖ When using lpr

filter data error	Some data cannot be handled by the filter option. Confirm the file code and the settings of the filter option.
lost connection	The connection was cut by a counterpart. Check the printer to which you requested to print.
print requests full	Cannot accept the print request (max. 5 sessions). Confirm the status of the printer with mshell, and print it again after the print request becomes less than 5 sessions.
printer permission denied	Cannot get a permission to use the printer. Confirm the access rights with the access control address and the access control mask.

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printer refuse	Something is wrong with your printer. Confirm the status of the printer.

At the beginning of the message, the IP address of the client is displayed within parentheses.

❖ **When using SNMP**

Exit snmpd	The agent is complete. Reset the printer or turn the printer off and on.
recvfrom:packet discarded,length(Reception packet length)> (Packet size),from addr <Address of partner point>	The received packet was ignored since the length of the packet exceeds the limit. Confirm whether the administration station sent a packet whose length is longer than 1025 bytes.
session <Community name appointed> not defined	The community name of the received packet is not defined. Confirm that the community name of the administration station is the same as that specified to the printer.
snmpin:Bad use of session <community Name> from <Address>	The community name of the received packet is not the same as that of the administration station. Confirm the community name specified to the printer.
snmpin:error in snmpdecipher,code (<Error No.>)	An error occurred on the received packet. Check if the number of the objects sent from the administration station is more than 31 and if there are wrong MIB requests.
snmpin:error in snmpservsend,code (<Error No.>)	Cannot send a response packet. Normally, this message is followed by the messages below *1 *2.
snmpin:pkt too large,code (<Error number>)[*1]	The response packet to the request is too big to send. Reduce the number of the objects per request.
snmpin:error in sending too large request back,code (<Error number>),giving up[*2]	The packet notifying the error is too big to send. Reduce the number of the objects per request.
snmpin:received bad version	The version of the received packet is invalid. Confirm that the version of the administration station is version-1(0).

Error numbers in the messages are codes for internal use.

Precautions

Please pay attention to the following when using a network interface board. When configuration is necessary, give a messenger after configuring justly.

Connecting a dial up router to a Network

When the file server of NetWare exists in the network of remote side, the router continues being connected by a packet sent from printer, there may be a thing asked great communication charges. Because this is a thing by specification of NetWare, you need to cope by network administration shown in the following in order to evade this problem. Please cope with configuration of printer when you cannot cope in network administration.

Correspondence Method on Network Administration

Filter the packets so that they do not pass over the dial up router.

✐ **Note**
❒ The MAC address of the printer doing the filtering is printed on the printer configuration page. For more information on printing a configuration page, see the "Operating Instructions" that comes with the printer.
❒ For more information on configuring the printer if the router cannot be configured, see the instructions below.

Correspondence Method by Configuration of Printer (When Use NetWare)

A **Following the setup method in this manual, configure the file server.**

B **Set the frame type for a NetWare environment.**

🔎 **Reference**

For more information on selecting a frame type, see the "Operating Instructions" that comes with the printer.

Correspondence Method by Configuration of Printer (When do not Use NetWare)

A **While not printing, the Network Interface Board sends packets on the network. Set the NetWare to inactive.**

🔎 **Reference**

For more information on selecting a protocol, see the "Operating Instructions" that comes with the printer.

When Printing PostScript from Windows

When print PostScript from Windows, see the "Operating Instructions" that comes with the PostScript 3, and configure to use the Network Interface Board with your printer driver.

When print it with NetWare

Configuration of Form Feed

You should not configure of form feed on NetWare. You do not need to configure on NetWare in order to control newpage with printer driver of Windows. There is the case that cannot print it justly when you configure.

If you want to do not do form feed, configure according to OS using it as follows.

- In case of Windows 3.1x, remove a check of **[Form feed]** in the **[Network Settings]** dialog box.
- In case of Windows95/98, you remove a check of **[Form feed]** with the **[Printer Settings]** tab of property of printer.

Configuration of Banner Page

Please do not configure of banner page on NetWare.

If you want to do not add banner page, configure according to OS using it as follows.

- In case of Windows 3.1x, remove a check of **[Enable banner]** in the **[Network Settings]** dialog box.
- In case of Windows95/98, you remove a check of **[Enable banner]** with the **[Printer Settings]** tab of property of printer.

Printing after Resetting the Printer

After resetting the remote printer, it will be cut off from the print server for about 30-40 seconds before connecting again. Due to the NetWare specification, print jobs may be accepted, but they will not be printed during this interval.

When using the printer as a remote printer, wait about 2 minutes after resetting the printer before attempting to print.

When Using DHCP

The following points are important when using DHCP (Dynamic Host Configuration Protocol).

Supported Systems

Windows NT Server 4.0 can be configured as a DHCP server.

Configure the Printer with a Reserved IP Address

For always assign the same IP address, configure a reserved IP address using the DHCP server.

Note

❒ When multiple DHCP servers exist, turn an equal reservation into all DHCP server. A Network Interface Board works by information from DHCP server replied to in the first place.

Follow these steps to configure the printer with a reserved IP address.

A **Start the DHCP manager.**

B **Select the scope that will be used, and on the [Scope] menu, click [Reservation].**

C **Type the IP address into [IP Address].**

D **Type the MAC address of the Network Interface Board into [Unique Identifier].**

Note

❒ Do not use hyphens to separate the numbers.

❒ If you do not know the MAC address, it can be found on the "configuration page" printed by the printer.

E **Type a name and comment into the [Client Name] box and the [Client Comment] box.**

Note

❒ For more information on client names, see P.81 *"The Others"*.

F **Click [Add].**

An IP address is reserved.

G **Click [Close] to close dialog box.**

The Others

- When you click **[Active Lease]** on the **[Scope]** menu of DHCP manager, a list of client leases appears. When the reserved IP address is not assigned to a Network Interface Board, a client name of this dialog box appears the name that was typed into with **[Add Reserved Clients]** dialog box. When the reserved IP address is assigned to a Network Interface Board and comes to use it, an appearing client name changes in a printer name configured by Network Interface Board. However, only 13 characters appear here from the beginning of printer name.

- When IP address is not assigned by the DHCP server, the Network Interface Board uses 11.22.33.44 as temporary IP address. You can confirm the printer's IP address on the network configuration page. ⇒ P.83 "*Network Configuration Page*"

- Because 11.22.33.44 is a special IP address, you cannot print using this address.

- When used DHCP relay agent with the environment that dial up router was connected to a network, router is connected whenever packet can leave outgoing from Network Interface Board, and there may be the thing that great communication charges suffer.

When using NIB Setup Tool

If the Network Interface Board is not browsed using the TCP/IP protocol, check if the TCP/IP environment is correctly configured in your computer.

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Network Configuration Page

You can confirm the network information on the network configuration page.

A **Confirm that the printer is online.**

B **Push the switch on the Network Interface Board for two seconds, and release it.**

The network configuration page is printed.

✎ Note

❒ If you push the switch for five seconds, the system log information is printed. For more information on the meaning of the data printed, see P.75 "*System Log Information*".

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```
Node Number    : 00:00:74:62:5c:65    ──────────────  1
Soft Switch    : 0x41dc
Printer name   : NET_PRINTER          ───────────────  2

        TCP/IP     ( Up )
IP Address           : 192.168.015.016 ─┐
Netmask              : 255.255.255.000  │
Gateway              : 000.000.000.000  │
AccessCtrl           : 000.000.000.000 (0x00000000) │
AccessMask           : 000.000.000.000 (0x00000000) ├─  3
Auto IP(Nboot)       : DHCP             │
Mode                 : 0x40 0x01        │
EncapType            : DIX Ethernet II ─┘
Current Hostname     : NET_PRINTER ─┐
Current IP Address   : 192.168.015.018 │
Current Netmask      : 255.255.255.000 ├─  *
Current Gateway      : 000.000.000.000 ─┘

        NetWare    ( Up )
IPX Address          : 7390A448:000074625C65 ─┐
EncapType            : Auto             │
RPRINTER number      : 0                │
Print server name    : PSERV.NETWORK.DS ├─  4
File server name     : CAREE            │
Mode                 : Print server ────┘

        NetBEUI    ( Up )
Switch               : 0x06 ───┐
Workgroup name       : WORKGROUP │
Computer name        : NET_PRINTER ├─  5
Share name           : (printer name) │
Current path name    : \\NET_PRINTER\(printer name) ─┘

        AppleTalk ( Up )
Mode                 : EtherTalk phase 2 ─┐
Net                  : 0x3f7a            │
Object               : (printer name)    ├─  6
Type                 : LaserWriter       │
Zone                 : * ────────────────┘
```

1. MAC address

2. Printer name

3. TCP/IP
IP address
Subnet mask
Default gateway address
Access control address
Access control mask
Network boot
(Command boot)
Frame type
* : The current configuration is displayed in DHCP active.

4. NetWare
IPX address
Frame type
Remote printer number
Print server name
Name of the connect file server
Active mode

5. NetBEUI
(this value is fixed)
Workgroup name
Computer name
Share name
Network path name

6. AppleTalk
Network number
Macintosh printer name
The type of printer
Name of the zone that printer belong to

Specifications

LAN interface	100BASE-TX, 10BASE-T
Frame type	EthernetII, IEEE802.2, IEEE802.3, SNAP
Protocol	• TCP/IP Windows 95 Windows 98 Windows NT 4.0 • IPX/SPX NetWare 3.11, 3.12, 3.2, 4.1, 4.11, 5, IntranetWare • NetBEUI Windows 95 Windows 98 Windows NT 4.0 • AppleTalk Mac OS 7.1 or later
SNMP	MIB-II, PrinterMIB, HostResourceMIB, RicohPrivateMIB

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Note to users in the United Statmerica

Notice:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Warning

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Caution (in case of 100BASE-TX environment):

Properly shielded and grounded cables (STP) and connectors must be used for connections to host computer (and/or peripheral) in order to meet FCC emission limits.

STP with ferrite core must be used for RF interference suppression.

Declaration of Conformity

Product Name: Network Interface Board

Model Number: 185–E

Responsible party: Ricoh Corporation

Address: 5 Dedrick Place, West Caldwell, NJ 07006

Telephone number: 973-882-2000

This device complies with part 15 of FCC Rules.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and

2. this device must accept any interference received,

including interference that may cause undesired operation.

Note to users in Canada

Note:

This Class B digital apparatus complies with Canadian ICES-003.

Remarque concernant les utilisateurs au Canada

Avertissement:

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

C E

Declaration of Conformity

"The Product complies with the requirements of the EMC Directive 89/336/EEC and the Low Voltage Directive 73/23/EEC."

Warning

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Network Interface Board 185
OPERATING INSTRUCTIONS