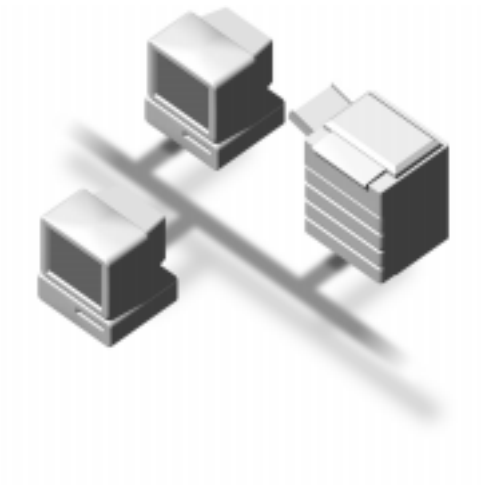
Network Interface Board Type185–E (Option)

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 use from this machine, all operators should carefully read and follow the instructions in this manual.

Please read the Safety Information in the “Copy Reference” that comes with the printer 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

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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SunOS is a trademark of Sun Microsystems, Inc.

Other product names used herein are for identification purposes only and might be trademarks of their respective companies. We disclaim any and all rights in those marks.

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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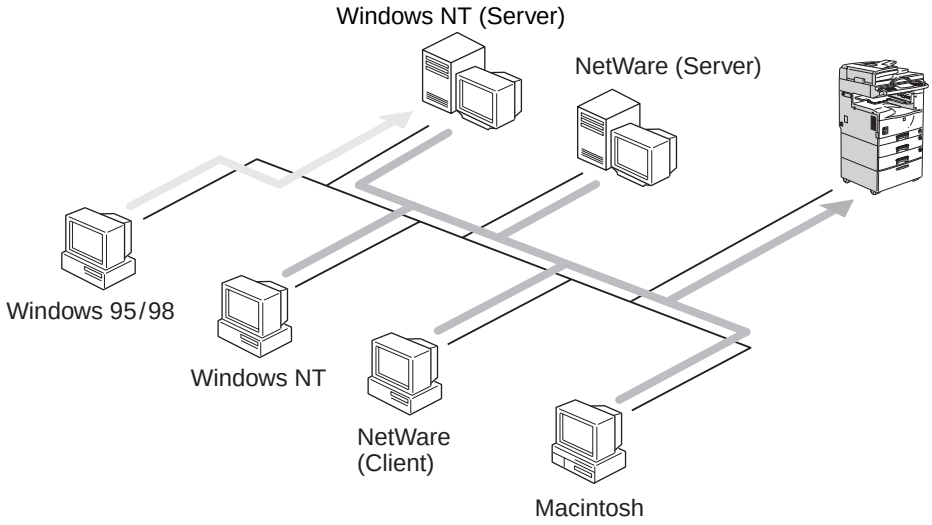
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Introduction

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

Refer to the manual that comes with the printer for information on physically installing the Network Interface Board and cabling.

Refer to the manual that comes with the printer for information on configuring the Network Interface Board with the Operation panel.

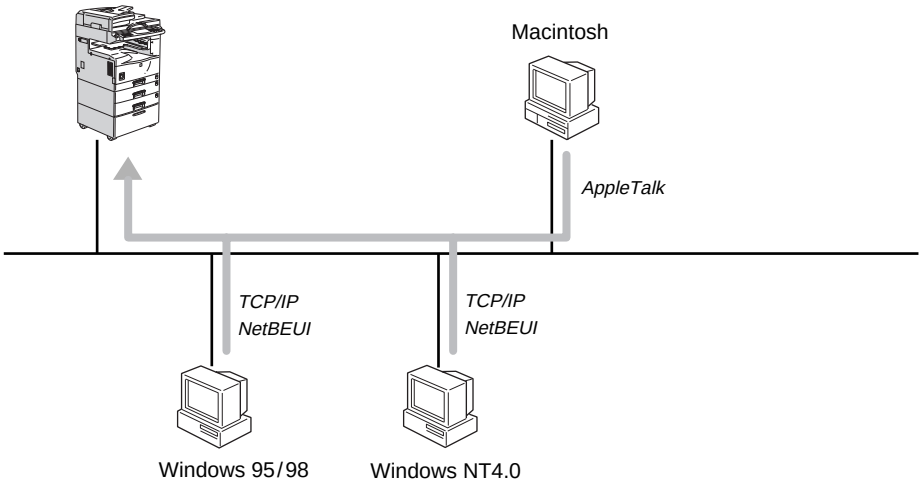
❖ Features

- 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

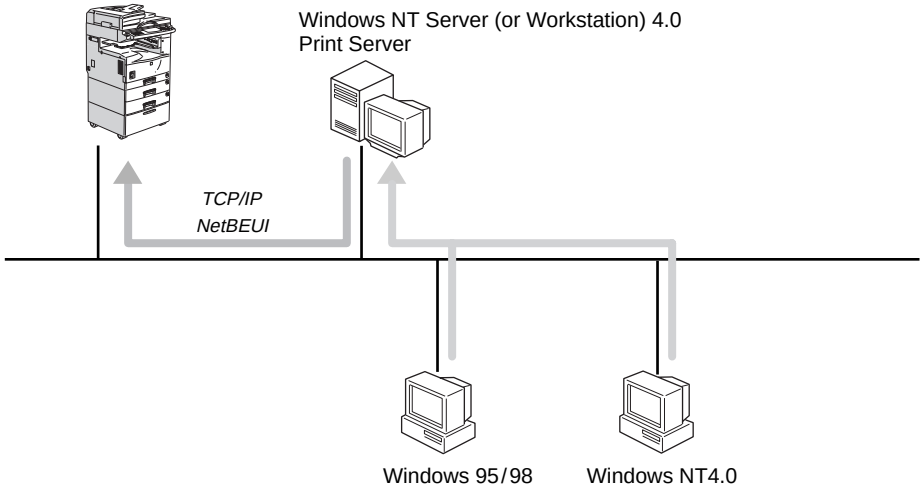
You don't have to use a print server. The actual procedure differs depending on your operating system.



- 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.



Note

❒ For instructions on setting up TCP/IP or NetBEUI in a Windows NT environment, refer to P.15 *"Preparing for a Network Connection"*.

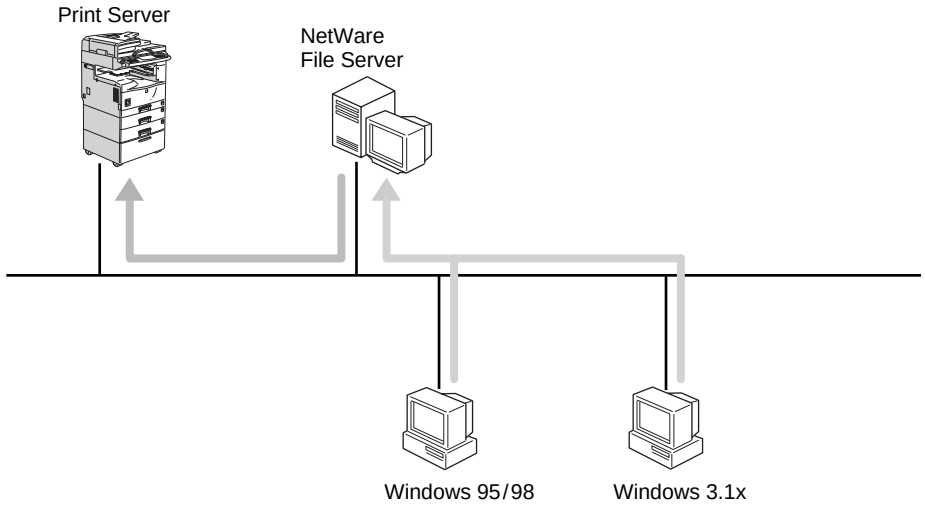
❒ Client setup instructions are different for each type of Windows OS.

- 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

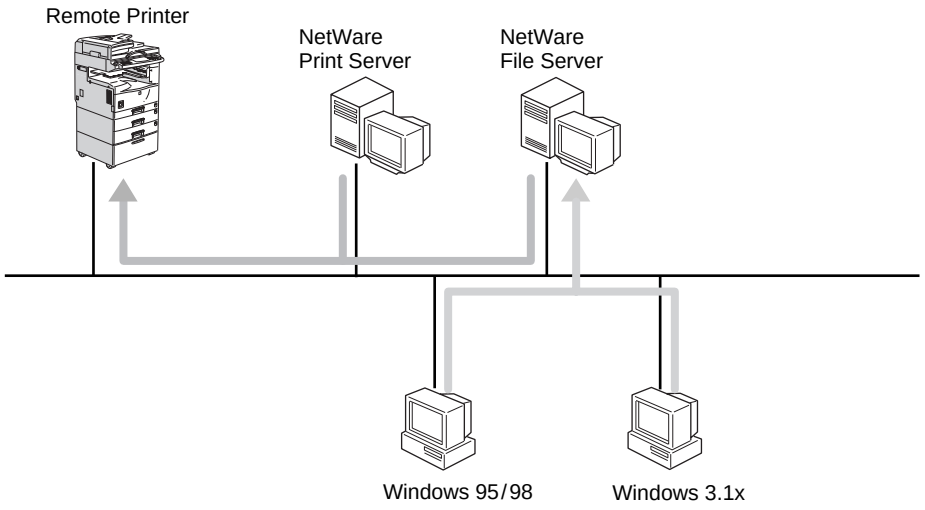
❒ The actual procedures for configuring your printer may differ depending on the version of NetWare.

- 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

❖ Configure as Remote Printer



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

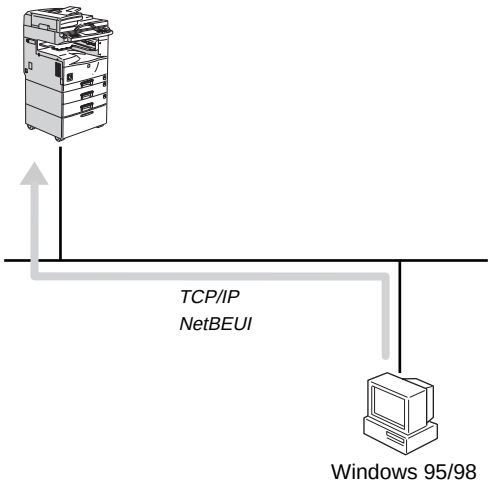
❒ The actual procedures for configuring your client computer may differ depending on the operating system.

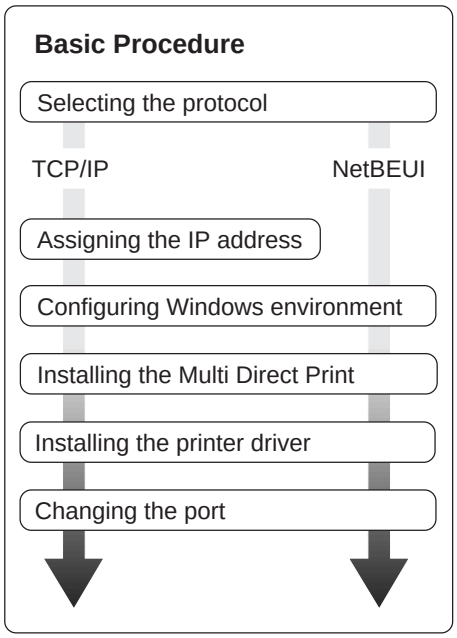
- Windows 95/98⇒ P.45
- Windows 3.1x⇒ P.46

1. Windows 95/98 Configuration

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

Configuring Windows 95/98





Preparation

The Multi Direct Print Application 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.

Reference

For more information on how to make the above settings, refer to the Operating Instructions for your printer.

If DHCP is used to assign IP addresses, refer to P.82 *"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 **[MS-DOS Prompt]**.

② Input 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.

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

Note

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

2 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.)

Reference

For more information on how to make the above settings, refer to the Operating Instructions for your printer.

Configuring a Windows 95/98 computer

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

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

Note

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

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

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

4 Click [OK], to close the [Network] dialog.

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

Installing the Multi Direct Print Application

Follow these instructions to install Multi Direct Print.

1

Preparation

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

Note

❒ You must install Multi Direct 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 (⇒refer to the inside of the front cover of this manual) needs to be installed. If the installer starts automatically with the AutoRun program, you can install both of these programs. For more information on how to install these programs, refer to the Operating Instructions for your printer.

1 Insert the CD-ROM that comes with the printer into your computer's CD-ROM drive.

Note

❒ If the installer starts automatically, you can use it to install Multi Direct Print, and set up the printer driver, and then go to procedure 6.

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

3 In the [Install/Uninstall] tab, click [Install].

4 Click [Next >].

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

Note

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

6 After the [Welcome] dialog appears, click [Next >].

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

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

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

Setting Up the Printer Driver

Using Multi Direct 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.

1 Install the printer drivers.

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

Reference

For more information, refer to the Operating Instructions for your printer.

Note

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

2 In the [Printers] window, highlight the icon of the printer you want to use by clicking it. On the [File] menu, click [Properties].

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

4 In the [Add Port] box, click [Other], and select [RICOH Multi Direct Print] by clicking it, and then click [OK]

The **[Select Printer]** dialog 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 input the port name, highlight **[New Printer]** by clicking it, and click **[Next >]**, and then input the port name with procedure **7**.

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

6 Select the printer you want to use by clicking it, and click [Next >].

Reference

If you want to know more about a particular item in the dialog, refer to P.53 *"Multi Direct Print"*.

Note

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

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

If you did not select a printer with procedure 6, you must enter the Port name.

Inputting the Port name for use with the TCP/IP protocol

---

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

You can input 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 "%%".

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.

Inputting the port name for use with the NetBEUI protocol

---

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

Reference

For information on printing a configuration page, refer to the Operating Instructions for your printer.

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

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

9 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 Multi Direct Print.

Uninstalling the Multi Direct Print Application

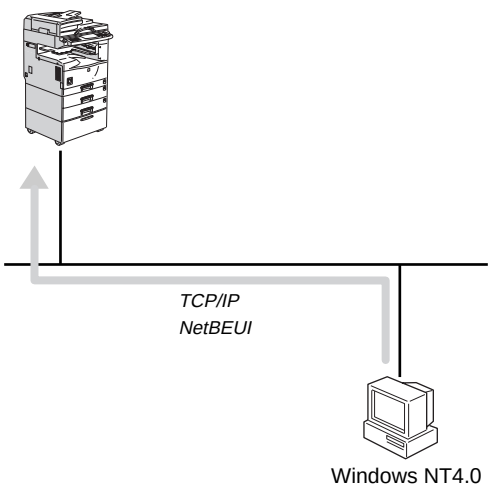
1. **Open [Control Panel], and double click the [Add/Remove Programs] icon.**
2. **With [Install/Uninstall] tab, select [RICOH Multi Direct Print] by clicking it, and click [Add/Remove].**
3. **After a confirmation message appears, click [Yes].**

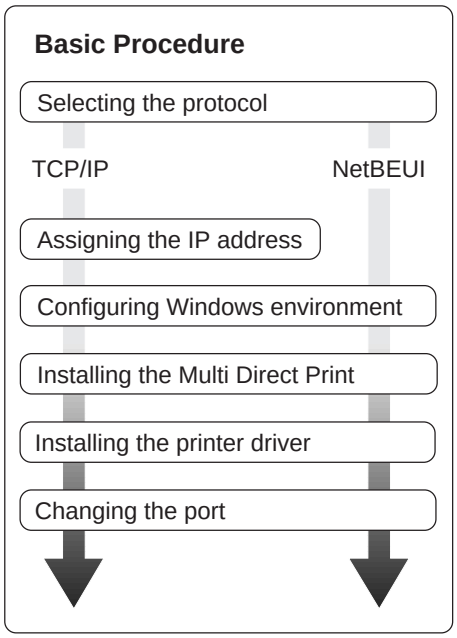
   UninstallShield removes all of the components of the Multi Direct Print application.
4. **When the uninstallation is complete, restart the computer.**

2. Windows NT 4.0 Configuration

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

Preparing for a Network Connection





Preparation

The Multi Direct Print Application 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

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.

Reference

For more information on how to make the above settings, refer to the Operating Instructions for your printer.

If DHCP is used to assign IP addresses, refer to P.82 *"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 Input 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.

1 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, refer to the Windows NT online help.

2 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.

3 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 additional help in installing and configuring network services, refer to the Windows NT online help.

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.)

Reference

For more information on how to make the above settings, refer to the Operating Instructions for your printer.

Configuring a Windows NT Computer

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

1 Double-click the [Network] icon in the [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, refer to the Windows NT online help.

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

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

4 Input "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".

5 Click [OK].

6 Click [close], and close the [Network] dialog.

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

Note

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

Installing the Multi Direct Print Application

Follow these instructions to install Multi Direct Print.

Preparation

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

Note

❒ You must install Multi Direct 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 (⇒refer to the inside of the front cover of this manual) needs to be installed. If the installer starts automatically with the AutoRun program, you can install both of these programs. For more information on how to install these programs, refer to the Operating Instructions for your printer.

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

1 Insert the CD-ROM that comes with the printer into your computer's CD-ROM drive.

Note

❒ If the installer starts automatically, you can use it to install Multi Direct Print, and set up the printer driver, and then go to procedure 6.

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

3 In the [Install/Uninstall] tab, click [Install].

4 Click [Next >].

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

Note

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

6 After the [Welcome] dialog appears, click [Next >].

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

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

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

Setting Up the Printer Driver

Using Multi Direct 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.

1 Install the printer drivers.

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

Reference

For more information, refer to the Operating Instructions for your printer.

Note

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

2 In the [Printers] window, highlight the icon of the printer you want to use by clicking it. On the [File] menu, click [Properties].

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

4 In the [Available Printer Ports] box, highlight [RICOH Multi Direct Print] by clicking it, and then click [New Port].

The **[Select Printer]** dialog 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 input the port name, highlight **[New Printer]** by clicking it, and click **[Next >]**, and then input the port name with procedure **7**.

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

6 Select the printer you want to use by clicking it, and click [Next >].

Reference

If you want to know more about a particular item in the dialog, refer to P.53 *"Multi Direct Print"*.

Note

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

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

If you did not select a printer with procedure 6, you must enter the Port name.

Inputting the Port name for use with the TCP/IP protocol

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

You can input 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 "%%".

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.

Inputting the port name for use with the NetBEUI protocol

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

Reference

For information on printing a configuration page, refer to the Operating Instructions for your printer.

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

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

9 In the [Printer Ports] dialog, click [Close].

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

Configuration is complete.

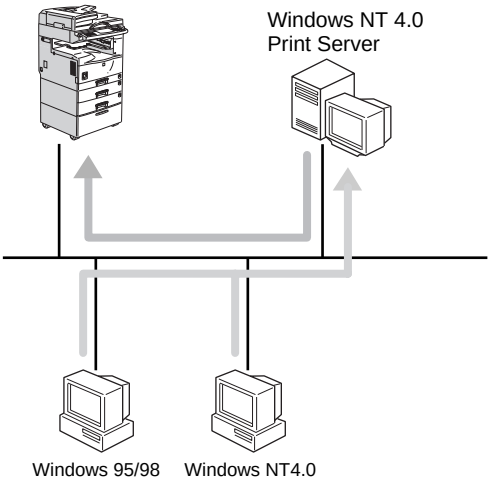
When you print, the printing procedure is no different. When you select the printer configured here, the computer automatically uses Multi Direct Print.

Uninstalling the Multi Direct Print Application

1. **Open [Control Panel], and double click the [Add/Remove Programs] icon.**
2. **In the [Install/Uninstall] tab, select the [RICOH Multi Direct Print] by clicking it, and click [Add/Remove].**
3. **After a confirmation message appears, click [Yes].**
   UninstallShield removes all of the components of the Multi Direct Print application.
4. **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.

1 Install the printer driver as a local printer.

Reference

For more information, refer to the Operating Instructions for your printer.

Note

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

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

3 Select the icon of the printer you want to use by clicking it. On the [File] menu, click [Properties].

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

5. **Click [Network], and click [Browse].**

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

   The printers attached to the network are displayed.

7. **Select the name of the printer you want to use by clicking it, and click [OK].**

8. **Click [OK].**

9. **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.

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

2. **Double-click the [Add Printer] icon.**

   This launches the Add Printer Wizard.

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

4. **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.

5. **Highlight the printer you want to use by clicking it, 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 printer.

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

7. **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. Refer to P.16 *"Preparing to Use the TCP/IP Protocol for Printing"*, for more information.

Note

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

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

2 Select the icon of the printer you want to use by clicking it. On the [File] menu, click [Properties].

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

4 In the [Available Printer Ports] box, select [LPR Port] by clicking it, and then click [New Port].

Note

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

5 Input the IP address of the Network Interface Board into the [Name or address of server providing lpd] box.

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

7 Click [Close].

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

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 information on how to set it, refer to the Operating Instructions for your printer.

Installing the NIB Setup Tool

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

Limitation

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

❒ The 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 it on a file server and execute it via the network, it might not work correctly.

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

1 Insert the CD-ROM that comes with your printer into your computer's CD-ROM drive.

Note

❒ If the installer starts automatically, you can use it to install the PRINTER MANAGER FOR ADMINISTRATOR, and go to procedure 6.

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

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

4 **Click [Next >].**

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

Note

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

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

7 **The Software License Agreement appears.**

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

8 **Select a directory in which it is to be installed, and click [Next >].**

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

The installation program starts.

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

Running the NIB Setup Tool

1 **Click [Start], point to [Programs], and then click [NIB Setup Tool] in the [NIB Setup Tool] program.**

Quick Setup Using the NIB Setup Tool Wizard

Using the NIB Setup Tool, you can easily set up a NetWare printing environment after physically installing the Network Interface Board into the printer,

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.

Limitation

❒ When the Wizard method is used, the Network Interface Board is configured to work as a Print Server. To configure it as a remote printer, use the Property Sheet method. For more information, refer to 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.

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

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

2 Run the NIB Setup Tool.

Reference

"Running the NIB Setup Tool" ⇒ P.28.

3 Click [Wizard] and click [OK].

The Browse dialog of the Network Interface Board appears.

4 Click [IPX protocol].

5 Select the IPX address of the Network Interface Board you are configuring by clicking it, and click [Next >].

If you don't know which Network Interface Board you are configuring, print the Configuration Page using the printer's operation panel, and select the MAC address that is on the page.

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

7 Input the printer name into the [Device Name] box.

The factory default is RNP followed by the last 6 digits of the MAC address. We recommend that you change it to something that is easier to remember or something based on the structure of your network.

8 Input your comments in the [Comment] box, and click [Next >].

The input comments are displayed with the device name when using a utility such as PRINTER MANAGER FOR ADMINISTRATOR.

9 In the dialog for selecting a network environment, place ✓ mark for [NetWare] and remove ✓ mark for the [TCP/IP].

10 Click [Next >].

A dialog for configuring the NetWare environment appears.

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

When you are using NetWare version 4.x, 5, you can select **[NDS Mode]**.

Note

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

12 In the [File Server Name] box, input 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.

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

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

As a context, object names are input from a lower object and divided by a period. For example, if you want to create a file server into NETWORK under DS, input "NETWORK.DS".

14 Click [Next >].

15 Input the name of the print server you are creating on the NetWare environment into the [Print Server Name] box.

The factory default name is already entered. You should change it if necessary.

16 Input 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 should change them if necessary.

⓱ If you selected [NDS Mode], input the volume of the print queue into the [Queue Volume] box.

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

⓲ Click [Next >].

A dialog to confirm the printing environment appears.

⓳ After confirming the environment, click [Next >].

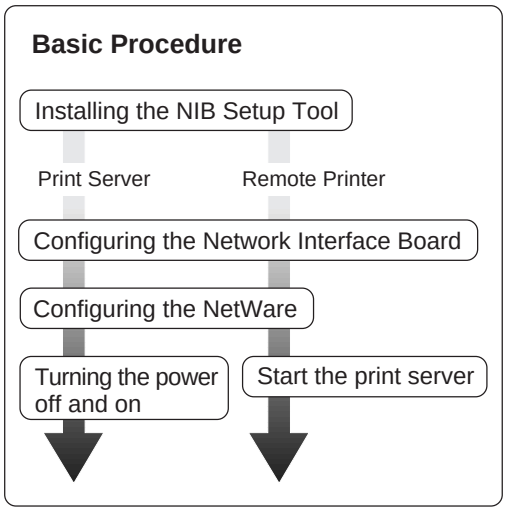
If you want to change the settings, click **[< Back]** and make the settings again.

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

⓴ After the confirmation dialog appears, select [Quit] and click [Finish] to exit the NIB Setup Tool.

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.



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 after physically installing it, we recommend you use the Wizard method. For more information, refer to 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

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

2 Run the NIB Setup Tool.

Reference

"Running the NIB Setup Tool" ⇒ P.28.

3 Click [Property Sheet] and click [OK].

The Browse dialog of the Network Interface Board appears.

4 Click [IPX protocol].

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

Note

❒ If you don't know which Network Interface Board you are configuring, print the Configuration Page using the printer's operation panel, and select the MAC address that is on the page.

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

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

7 Click [Configure].

The property sheet appears.

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

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

❷ **In the [File Server Name] box, input 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.

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

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

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

9 In the [NIB] menu, click [Exit] to exit the NIB Setup Tool.

10 Input "PCONSOLE" from the command prompt.

```
F:> PCONSOLE
```

11 Create a print queue as follows.

Note

❒ If you use a currently defined print queue, proceed to the step 12.

❶ **In the [Available Options] menu, select [Print Queue Information].**

❷ **Press 【Insert】 and input a print queue name.**

❸ **Press 【Esc】 to return to the [Available Options] menu.**

⓬ Create a printer as follows.

❶ In the [Available Options] menu, select [Print Server Information].

❷ To create a new print server, press【Insert】and input 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 the NIB Setup Tool. (Step ⓭-❶).

❸ In the [Print Server Information] menu, select [Print Server Configuration].

❹ In the [Print Server Configuration menu], select [Printer Configuration].

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

❻ If you change the name of the printer, input a new name.

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

❼ As Type, select [Remote Parallel, LPT1].

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

❽ Press【Esc】, and click [Yes] in the confirmation dialog.

❾ Press【Esc】to return to the [Print Server Configuration Menu].

⓭ Assign print queues to the created printer as follows.

❶ In the [Print Server Configuration Menu], select [Queues Serviced By Printer].

❷ Select the printer created in the Step ⓬.

❸ Press【Insert】to select a queue serviced by the printer.

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, make sure that the queues are assigned.

⓮ Press【Esc】until "Exit?" appears, and select [Yes] to exit PCONSOLE.

⓯ Turn the printer power off and on.

Note

❒ To confirm if the printer is configured correctly, enter 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

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

2 Run the NIB Setup Tool.

Reference

"Running the NIB Setup Tool" ⇒ P.28.

3 Click [Property Sheet] and click [OK].

The Browse dialog of the Network Interface Board appears.

4 Click [IPX protocol].

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

Note

❒ If you don't know which Network Interface Board you are configuring, print the Configuration Page using the printer's operation panel, and select the MAC address that is on the page.

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

[NIB Setup Tool] window appears.

7 Click [Configure].

The property sheet appears.

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

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

❷ In the [File Server Name] box, input 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.

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

❹ In the [Remote Printer No.] box, input 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 appears, click [OK].

9 In the [NIB] menu, click [Exit] to exit the NIB Setup Tool.

⑩ Input "PCONSOLE" from the command prompt.

```
F:> PCONSOLE
```

⑪ Create a print queue as follows.

Note

❒ If you use a currently defined print queue, proceed to the step ⑫.

❶ In the [Available Options] menu, select [Print Queue Information].

❷ Press【Insert】and input a print queue name.

❸ Press【Esc】to return to the [Available Options] menu.

⑫ Create a printer as follows.

❶ In the [Available Options] menu, select [Print Server Information].

❷ To create a new print server, press【Insert】and input 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 the NIB Setup Tool. (Step ⑧-❶).

❸ In the [Print Server Information] menu, select [Print Server Configuration].

❹ In the [Print Server Configuration menu], select [Printer Configuration].

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

Important

❒ Use the same number as that specified as Remote Printer No. using the NIB Setup Tool. (Step ⑧-❹).

❻ If you change the name of the printer, input a new name.

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

❼ As Type, select [Remote Parallel, LPT1].

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

❽ Press【Esc】, and click [Yes] in the confirmation dialog.

❾ Press【Esc】to return to the [Print Server Configuration Menu].

⓭ Assign print queues to the created printer as follows.

❶ In the [Print Server Configuration Menu], select [Queues Serviced By Printer].

❷ Select the printer created in the Step ⓬.

❸ Press【Insert】to select a queue serviced by the printer.

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, make sure that the queues are assigned.

⓮ Press【Esc】until "Exit?" appears, and Select [Yes] to exit PCONSOLE.

⓯ Start the print server by inputting 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

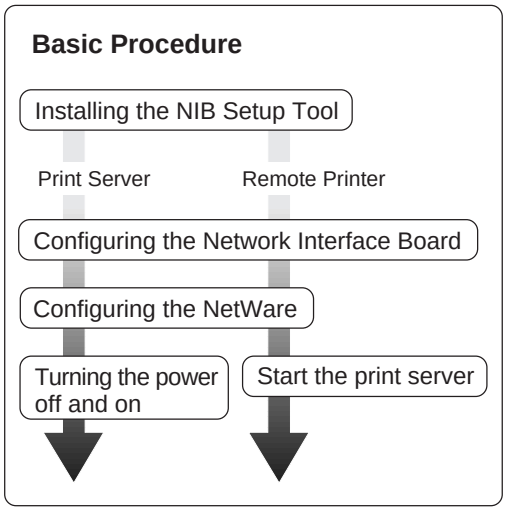
❒ If the printer works as configured, "Waiting for job" appears.

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.



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 after physically installing it, we recommend you use the Wizard method. For more information, refer toP.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 the NWAdmin.

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 Bind-

ery mode, use the NIB Setup Tool Wizard. ⇒ P.29 *"Quick Setup Using the NIB Setup Tool Wizard"*

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

2 Run the NIB Setup Tool.

Reference

"Running the NIB Setup Tool" ⇒ P.28.

3 Click [Property Sheet] and click [OK].

The Browse dialog of the Network Interface Board appears.

4 Click [IPX protocol].

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

Note

❒ If you don't know which Network Interface Board you are configuring, print the Configuration Page using the printer's operation panel, and select the MAC address that is on the page.

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

[NIB Setup Tool] window appears.

7 Click [Configure].

The property sheet appears.

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

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

❷ In the [File Server Name] box, input 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.

❸ In the [NDS Context] box, input 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.

Note

❒ Object names must be input from a lower level and divided by a period. For example, if you want to create a file server into NETWORK under DS, input "NETWORK. DS".

❹ In the [Print Server Operation Mode] group, click [As Print Server].

❺ Click [OK] to close the property sheet.

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

9 In the [NIB] menu, click [Exit] to exit the NIB Setup Tool.

10 From Windows, run NWAdmin.

Note

❒ The actual NWAdmin programs differ depending on the version of it and that of the operating system. Run the NWADMIN.EXE except the following cases. When you are using the NetWare 4.11 or higher on Windows 3.1x, run the NWADMN3X.EXE. When you are using the IntranetWare on Windows95/98, run the NWADMN95.EXE. When you are using the NetWare 5, run the NWADMN32.EXE.

❒ The NWAdmin programs are located in the PUBLIC directory in the SYS volume. The NWADMN95.EXE is located in the PUBLIC\WIN95 directory. The NWADMN32.EXE is located in the PUBLIC\WIN32 directory.

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

11 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] in 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, input the name of the print queue.

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

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

Important

❒ Select the volume on the file server specified in the NIB Setup Tool. (Step 8-❷).

❻ After confirming the settings, click [Create].

12 Create a printer as follows.

❶ Select the container object the printer is located in, and click [Create] in 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, input the name of the printer.

❹ Click [Define additional properties] to place ✓ mark, and click [Create].

13 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 the step 11 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].**

14 **Create a print server as follows.**

❶ **Select the context specified using the NIB Setup Tool (Step 8-❸), and in 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 Sever (Non NDPS)".**

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

Important

❒ Use the same name as that specified using the NIB Setup Tool. (Step 8-❶).

❹ **Click [Define additional properties] to place ✓ mark, and click [Create].**

15 **Assign the printer to the created print server as follows.**

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

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

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

16 **Turn the printer power off and on.**

Note

❒ To confirm if the printer is configured correctly, enter as follows from the command prompt.

```
F:> NLIST USER /A/B
```

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

Setting Up as Remote Printer

1 **Log in to the file server as Admin.**

2 **Run the NIB Setup Tool.**

Reference

"Running the NIB Setup Tool" ⇒ P.28.

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

The Browse dialog of the Network Interface Board appears.

4 **Click [IPX protocol].**

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

Note

❒ If you don't know which Network Interface Board you are configuring, print the Configuration Page using the printer's operation panel, and select the MAC address that is on the page.

6 **Confirm that the MAC and IPX addresses are correct, and click [Finish].**

[NIB Setup Tool] window appears.

7 **Click [Configure].**

The property sheet appears.

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

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

❷ **In the [File Server Name] box, input 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.

❸ **In the [NDS Context] box, input 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.

Note

❒ Object names must be input from a lower level and divided by a period. For example, if you want to create a file server into NETWORK under DS, input "NETWORK. DS".

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

❺ **In the [Remote Printer No.] box, input the number of the printer.**

Important

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

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

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

9 **In the [NIB] menu, click [Exit] to exit the NIB Setup Tool.**

10 From Windows, run NWAdmin.

Note

- The actual NWAdmin programs differ depending on the version of it and that of the operating system. Run the NWADMIN.EXE except the following cases. When you are using the NetWare 4.11 or higher on Windows 3.1x, run the NWADMN3X.EXE. When you are using the IntranetWare on Windows95/98, run the NWADMN95.EXE. When you are using the NetWare 5, run the NWADMN32.EXE.
- The NWAdmin programs are located in the PUBLIC directory in the SYS volume. The NWADMN95.EXE is located in the PUBLIC\WIN95 directory. The NWADMN32.EXE is located in the PUBLIC\WIN32 directory.
- For more information on NWAdmin, see the documentation that comes with the NetWare.

11 Create a print queue as follows.

1. **Select the container object the print queue is located in among those in the directory tree, and click [Create] in the [Object] menu.**
2. **In the [Class of new object] box, click "Print Queue" to highlight it, and click [OK].**
3. **In the [Print Queue name] box, input the name of the print queue.**
4. **In the [Print Queue Volume] box, click Browse button.**
5. **In the [Available objects] box, click the volume in which the print queue is created to highlight it, and click [OK].**
6. **After confirming the settings, click [Create].**

12 Create a printer as follows.

1. **Select the container object the printer is located in, and click [Create] in the [Object] menu.**
2. **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)".**
3. **In the [Printer name] box, input the name of the printer.**
4. **Click [Define additional properties] to place ✓ mark, and click [Create].**

13 Assign print queues to the created printer as follows.

1. **Click [Assignments], and click [Add] in the [Assignments] group.**
2. **In the [Available objects] box, click the queue created in the step 11 to highlight it, and click [OK].**
3. **Click [Configuration], and in the [Printer type] box, select [Parallel] using the dropdown menu, and then click [Communication].**
4. **Click [Manual load] in the [Communication type] group, and click [OK].**
5. **After confirming the settings, click [OK].**

14 Create a print server as follows.

❶ Select the context specified using the NIB Setup Tool (Step 8-❸), and in 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 Sever (Non NDPS)".

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

Important

❒ Use the same name as that specified using the NIB Setup Tool. (Step 8-❶).

❹ Click [Define additional properties] to place ✓ mark, and click [Create].

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

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

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

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

❹ Input the printer number and click [OK].

Important

❒ Use the same number as that specified as Remote Printer No. using the NIB Setup Tool. (Step 8-❺).

❺ After confirming the settings, click [OK].

16 Start the print server by inputting 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
```

Setting Up a Client Computer

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

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.

Windows95/98

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

Preparation

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

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

Reference

For more information on installing the printer driver, refer to the Operating Instructions for your printer.

Note

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

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

3 In the [Printers] window, select the icon of the printer you want to use by clicking it.

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

5 Click [Details] tab, and click [Add Port].

6 Click [Network] and click [Browse].

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

The names of the printers attached to the network are displayed.

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

9 Click [OK].

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

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

11 **Click the [Printer Settings] tab.**

12 **Remove the ✓ marks from the [Form feed] and the [Enable banner] check boxes.**

Note

❒ You should not check these boxes, since 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

❶ **Click the [PostScript] tab.**

❷ **Click [Advanced].**

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

13 **Click [OK] to close the property.**

Windows 3.1x

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

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

Reference

For more information on installing the printer driver, refer to the Operating Instructions for your printer.

2 **Double-click the [Printers] icon of [Control Panel].**

3 **In the [Installed Printers] box, select the printer driver you want to use by clicking it, and then, click [Connect].**

4 **In the [Ports] box, click [LPT1] to highlight it, and click [Network].**

The Network driver dialog appears.

5 **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 print server in order to see the print queues.

6 **Click [Capture].**

The specified queue is captured to the LPT1.

7 **Click [LPT Settings].**

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

8 **Remove the × marks from the [Form feed] and the [Enable banner] check boxes.**

Note

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

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

10 **Close the Network driver.**

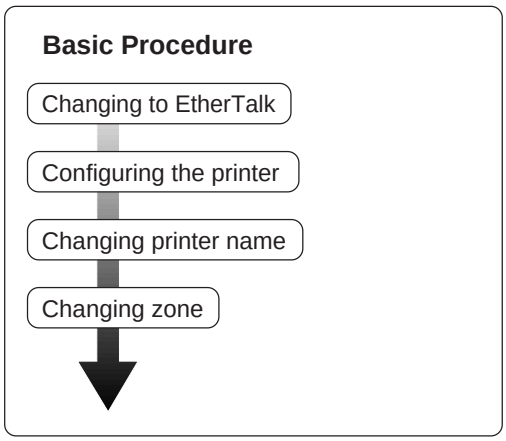
11 **Click [OK] to close the [Connect] dialog.**

12 **Click [Close] to close the [Printers] dialog.**

4. Macintosh Configuration

Configuring Macintosh

This chapter explains how to configure a network printer in a Macintosh EtherTalk 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, refer to the manual that comes with your version of the Mac OS for more information.



Limitation

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

Changing to EtherTalk

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

Reference

For information on installing the software required for EtherTalk, refer to the Macintosh manuals.

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

2 Select "Ethernet" from the [Connect via] pop-up menu.

3 If you change zones, select a name from the [zone] pop-up menu.

4 Close the [AppleTalk] control panels.

5 Restart the Macintosh.

Configuring the Printer

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

Reference

For information on configuration, refer to the Operating Instructions for your 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.

① Insert the CD-ROM that comes with the printer into your computer's CD-ROM drive.

② Copy the "Zone Name.ps" file in the "Zone Name" folder to the hard disk.

③ Open the copied "Zone Name ps" file using a text editor, and change the "NewZone" , 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
```

④ Save the "Zone Name.ps".

⑤ Run the Apple Printer Utility, and select the printer for which the new zone name is to be used.

⑥ Select the **[Send PostScript File]** in the **[Utilities]** menu, and send the "Zone Name.ps" to the printer.

Multi Direct Print

Multi Direct 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.

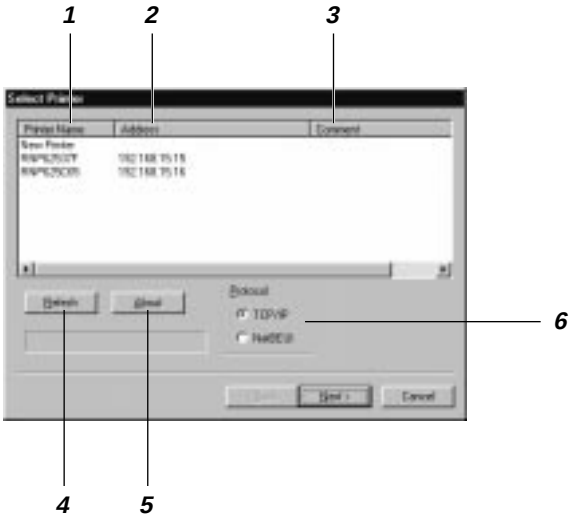
OS	Protocol stack
Microsoft Windows 95/98	The Microsoft version of TCP/IP that comes with Windows.
Microsoft Windows NT 4.0	The Microsoft version of NetBEUI that comes with Windows.

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 NT4.0.

[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 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 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, the Port name is input automatically. These examples are for the English version.

❖ **TCP/IP**



❖ **NetBEUI**



1. Host name

If you print, using the TCP/IP protocol, to select a printer using a host name or a domain name, input the name here. Input 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. Input the IP address of the printer.

3. Printer name

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

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 TCP/IP 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 information on configuring the printer to use TCP/IP, refer to the Operating Instructions for your 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, enter 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 enter 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 appears requesting the user name and password. Input only the password in this dialog. The factory default password is "password".

❒ The password is the same as that used in the remote maintenance (mshell) and that used in the 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 Input your password, (it is not necessary to enter a user name) and click **[OK]**.

④ Input the path to the help file in the **[Help URL]** box.
If you copied the help file to "C:\HELP\EN" then enter "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", enter "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 how to set it to active, refer to the Operating Instructions for your printer.

1 Log in to the workstation as root.

2 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.

3 Assign the IP address using the PING command.

```
# ping 192.168.15.16
```

4 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, refer to the Operating Instructions for your 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.

1 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.

2 Input the password.

Note

❒ The factory default is “password”.

3 Input a command.

Reference

For information on telnet commands, refer to P.61 *“Command List”*.

4 Finish telnet.

```
msh> logout
```

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

5 Input “yes” to save the changes, and press【Enter】.

If you do not want to save the changes, input “no”and press【Enter】. If you want to make additional changes, input “return” at the command line, and press【Enter】.

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

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

```
msh> help
```

❒ Input "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 input an address using hexadecimal, add "0x" to the first command.

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

Access Control Mask	IP addresses that can access the printer
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 tcpip netware netbeui lpr ftp rsh diprint web	"Up" means active and "Down" means inactive.

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, refer toP.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, refer to 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, refer to 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.

5

❖ **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". Input "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, input ip followed by a space and then the IP address.

❒ When using the IPX/SPX protocol, input 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”.

1 Input “passwd”.

msh> passwd

2 Input the current password.

Old password:

3 Input 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 the NIB Setup Tool. If you change a password on the mshell, the other passwords are also changed.

4 Input 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.

Reference

For more information on configuring the community name, refer to 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.

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	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.

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.

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.
File server name	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.84 *"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.

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.
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. Refer to the Operating Instructions, for information on printing a configuration page.
- ❒ See the instructions below for information on configuring the printer if the router cannot be configured.

Correspondence Method by Configuration of Printer (When Use NetWare)

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

2 Set the frame type for a NetWare environment.

Reference

For more information on selecting a frame type, refer to the Operating Instructions for your printer.

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

1 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, refer to Operating Instructions for your printer.

When Printing PostScript from Windows

When print PostScript from Windows, refer to the Operating Instructions that comes with the optional 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 **[Network Settings]** dialog.
- In case of Windows95/98, you remove a check of **[Form feed]** with **[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 **[Network Settings]** dialog.
- In case of Windows95/98, you remove a check of **[Enable banner]** with **[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.

Give the printer a static address

Configure the DHCP server to so that the printer has a static address.

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 provide the printer with a static IP address.

1 Start the DHCP manager.

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

3 Enter the IP address into [IP Address].

4 Enter the MAC address of the Network Interface Board into [Unique Identifier].

Note

❒ Do not use hyphens to separate the numbers.

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

5 Input a name and comment into the [Client Name] and [Client Comment] boxes.

Note

❒ For additional information about client names, please refer to P.83 *"The Others"*.

6 Click [Add].

An IP address is reserved.

7 Click [Close], to close dialog.

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 appears the name that was input into with **[Add Reserved Clients]** dialog. 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.84 *"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 the 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.

Network Configuration Page

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

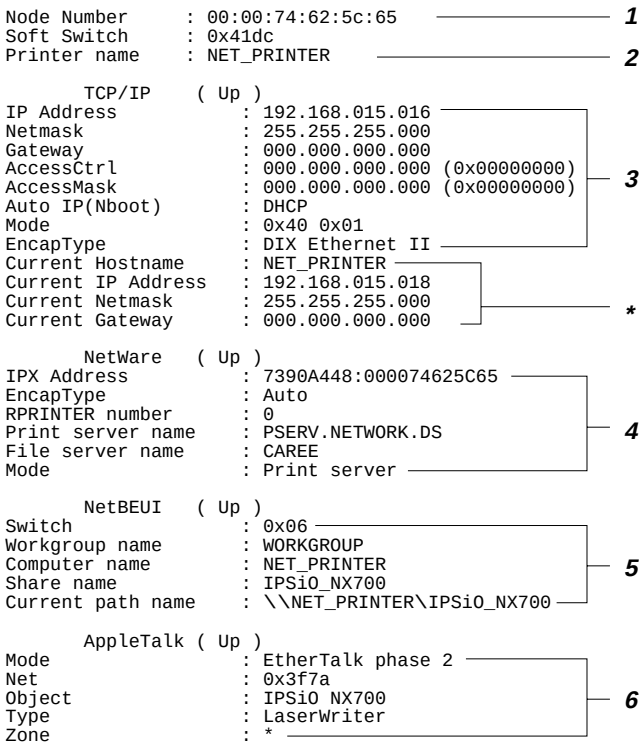
1. **Confirm that the printer is online.**

2. **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 , refer to P.75 *"System Log Information"*.



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	• IPX/SPX NetWare 3.11, 3.12, 3.2, 4.1, 4.11, 5, IntranetWare • TCP/IP Windows 95 Windows 98 Windows NT 4.0 • 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 States of America

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 IEEE1284 or 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.

Caution (in case of 100BASE-TX environment):
AC adapter with ferrite core must be used for RF interference suppression.

Declaration of Conformity
Product Name: Network Interface Board
Model Number: Type185–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.

CE

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.
In accordance with IEC 60417, this machine uses the following symbols for the main power switch:

| means POWER ON.
O means POWER OFF.

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Network Interface Board Type185-E (Option)
OPERATING INSTRUCTIONS

B307-8617
UE USA
EE GB