XEROX WorkCentre Pro 423/428

Network Print Environment

User Guide

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Table of Contents

1   About this User Guide

Welcome to Xerox WorkCentre Pro 423/428.

This User Guide provides all the necessary information about installing and operating this printer on the network.

Note that this manual is written for users operating the Xerox WorkCentre Pro 423/428 Series with a client computer installed with an English edition operating system. Unless otherwise indicated, this manual is written for use with English edition operating system only.

Please read this manual in detail to ensure full and efficient use of this product on a network and keep it handy for a quick reference should you encounter any difficulties when using the machine.

Background Information

Read this Guide in detail before using this printer. If you are not familiar with the machine to which the printer is to be connected or the basic operations or concepts of the software, read the relevant manuals first.

Machines and software to which the printer is to be connected refer to personal computers, workstations, networks, and the respective operating systems and applications on which these machines run.

Preparation

This Guide is targeted at users who are installing this printer. Read those sections which deal with the type of network environment you run. You may skip sections which do not deal with the system to which you wish to connect.

Before reading on, prepare the following:

➢ Machines and software to which the printer is to be connected.

➢ Items which are required to connect to the printer. You may consult your vendors or relevant catalogues for information.

Organization

The following is a summary of each chapter.

Chapter 1   This chapter.

Chapter 2   **Overview**

This chapter contains information on using the printer as a network printer and how to use the printer with CentreWare.

Chapter 3   **TCP/IP Print Utilities for Windows 95/98/Me**

This chapter describes the installation procedure for using and printing with either of the TCP/IP Print Utilities provided.

Chapter 4 Installing the Printer for NetWare

This chapter describes the status displays which appear when the printer is printing with one of the TCP/IP print utilities and the method to uninstall the software.

Chapter 5 Using Internet Printing Protocol

This chapter describes the setting up process when using Internet Printing Protocol (IPP) to print.

Chapter 6 Setting Up for Windows Network

This chapter describes the setting up process when using Windows Network to print.

Chapter 7 Setting Up for TCP/IP (Windows NT/Windows 2000)

This chapter describes the installation procedure for printing from machines running Windows NT and Windows 2000 using the TCP/IP protocol.

Chapter 8 Installing the Printer for TCP/IP (UNIX)

This chapter describes the installation procedure for printing from UNIX machines using the TCP/IP protocol.

Chapter 9 Installing the Printer for Macintosh

This chapter contains information on the installation procedure and operations of the printer with Macintosh on a network.

Chapter 10 Precautions and Limitations

This chapter describes the precautions and limitations when using TCP/IP, NetWare, and SMB.

Chapter 11 Troubleshooting

This chapter contains information on the problems which may occur when the printer is used as a network printer and the methods to solve them.

Conventions

In this manual, a host device refers to a personal computer or workstation.

Bracket text typeface

The **[Bracket Text]** typeface is used to emphasize the selection of a feature mode or button. For example:

➢ Select [Image Quality].

➢ Select [Save].

Italic typeface

The *Italic* typeface is used to emphasize a word or phrase. In addition, references to other chapters and publications are displayed in *Italic typeface*. For example:

Always follow safety procedures when operating the equipment.

Refer to *"Maintenance" on page 11-1*, for information about cleaning the Document Glass.

For more information about the network options available, refer to the *System Administrator Guide*.

Notes

Notes are statements that provide additional information. For example:

NOTE: If the Xerox WorkCentre Pro 423/428 does not include the Finisher and/or High Capacity Feeder, ignore the first step.

Hints

Hints help users perform a task. For example:

HINT: Select the X / Y display areas to display a pop up keypad which can be used to enter and save the values.

Cautions

Cautions are statements that suggest mechanical damage as a result of an action. For example:

CAUTION: When cleaning the Xerox WorkCentre Pro 423/428, do not use organic solvents or aerosol cleaners.

Warnings

Warnings are statements that alert users to the possibility of personal damage. For example:

WARNING:This equipment must be connected to an earthed mains socket outlet.

2 Overview

The following information can be found in this chapter:

➢ Setting Printer Environments

➢ Setting IP Address

Setting Printer Environments

This printer can be used as a network printer when connected to the network.

The printer supports multiple protocols. As a result, one printer can be shared from different network environments.

This section describes the different network environments that can be set up for the printer.

Windows® Network (for Windows® 95/98/Me/NT® 4.0/2000)

Server Message Block (SMB) is a protocol for sharing files or printers on Windows 95, Windows 98, Windows Me, Windows NT 4.0, and Windows 2000. Print data or settings can be sent directly to the printer on the same network (Ethernet interface) without going through the server when SMB is used.

Activate the SMB port on the printer, select the network printer on each of the operating system (OS) (Windows 95/98/Me, Windows NT 4.0/2000), and you can print by just registering the printer. You can use NetBEUI and TCP/IP as the transport protocol for SMB.

See *Chapter 6 - Setting Up for Windows Network* when using Windows Network.

OS:Windows 95 / Windows 98 / Windows Me
Windows NT / Windows 2000

NetBEUI or TCP/IP
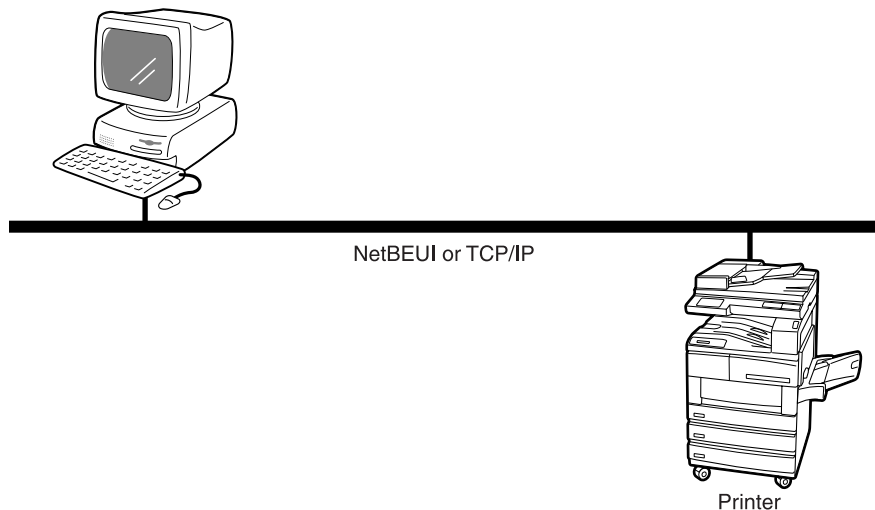
Printer

TCP/IP Print Utilities for Windows 95/98/Me

One of two utilities will be provided to allow print data to be sent directly from a Windows 95,98,Me computer to a printer on the same network (Ethernet interface) without going through the server.

The utilities are called Port Monitor and Direct Print and will be supplied appropriately according to global region in which you live.

As the printer supports TCP/IP (LPD) protocol, the print data can be sent directly and printed from the computer when using the utility software. You will need to set the IP address on the printer and the computer.

See *"Setting the port" on page 3-12.*

OS:Windows 95/Windows 98/Windows Me
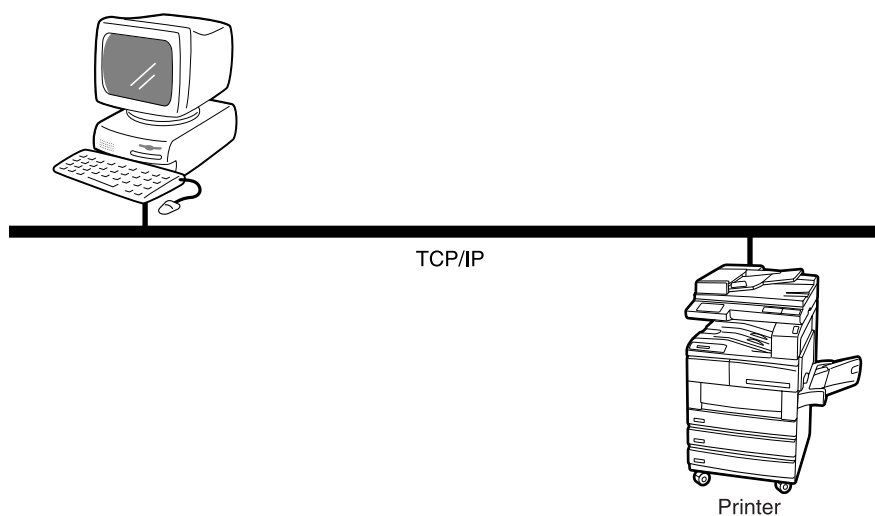
TCP/IP

Printer

TCP/IP (for Windows NT 4.0/2000)

As the printer supports TCP/IP protocol, print data can be sent directly and printed from Windows NT 4.0/2000 computer. You will have to set up the IP address on the printer and the Windows NT 4.0/2000 computer. And once the printer on the Windows NT 4.0/2000 computer is shared, you can also print from other Windows NT 4.0/2000 or Windows 95/98/Me computer on the network.

See *Chapter 7 - Setting Up for TCP/IP (Windows NT/2000)*.

Windows NT4.0/Windows 2000
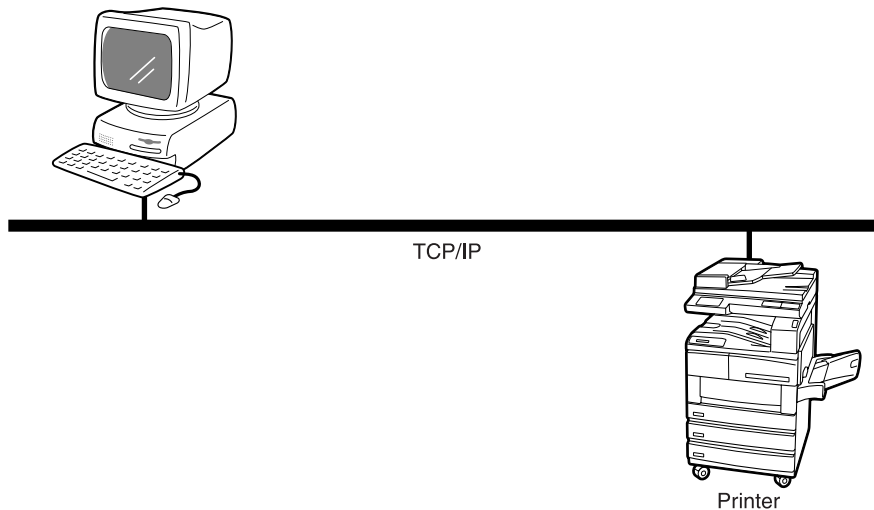
TCP/IP

Printer

TCP/IP (for UNIX)

As the printer supports TCP/IP protocol, you can print directly from a UNIX computer.

You will need to set up the IP address on the printer and the UNIX computer.

See *Chapter 8 - Installing the Printer for TCP/IP (UNIX)*.

UNIX

TCP/IP
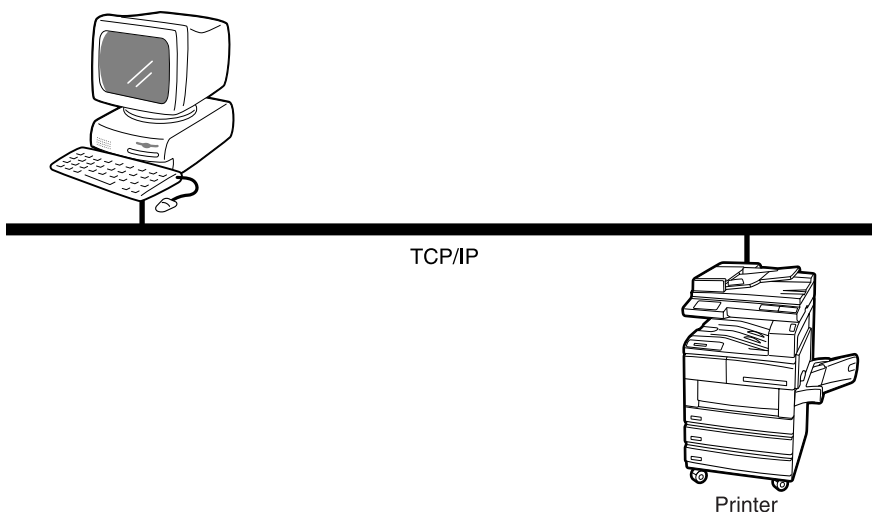
Printer

AppleTalk (for Macintosh)

As the printer supports AppleTalk protocol, you can print from Macintosh using EtherTalk.

See See *"Setting up the printer for EtherTalk" on page 9-3.*

Macintosh

EtherTalk
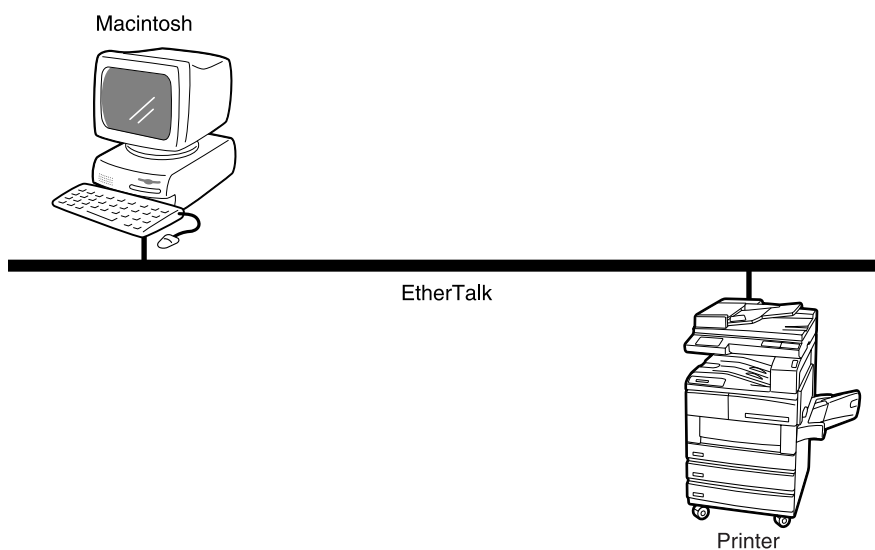
Printer

NetWare®

The printer can be used in an environment using Novell NetWare as a network OS.

See *Chapter 4 - Installing the Printer for NetWare.*

NetWare client

NetWare   NetWare

NetWare server
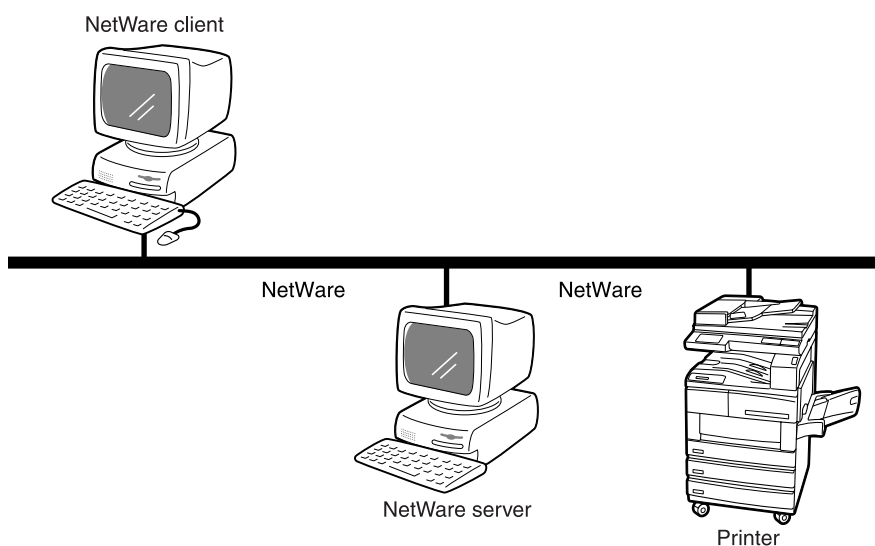
Printer

Internet printing

The printer supports Internet Printing Protocol (IPP). As Windows 2000 is installed with the client software needed to output to IPP printer, you can specify the printer to support IPP using Add Printer Wizard. With IPP, you can print to a remote printer through the internet or intranet.

See *Chapter 5 - Using Internet Printing Protocol.*
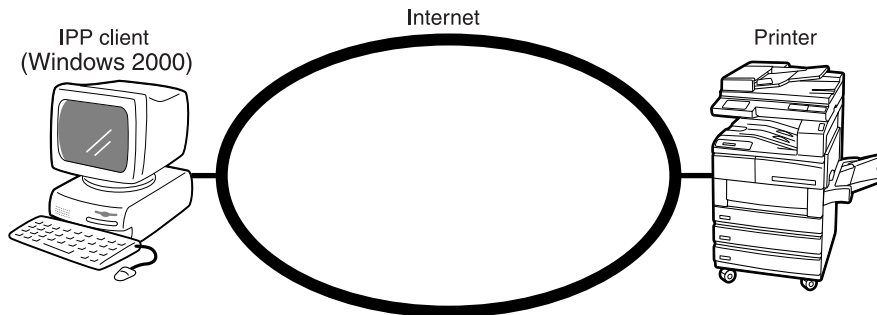
Setting IP Address

This section explains how to set the IP address.

Depending on the network environment, you may need to set the *subnet mask* and *gateway address*. If your network has a DHCP, BOOTP or RARP environment, the printer can obtain these items automatically from each of the server.

Using the factory setting, these items are obtained automatically from the DHCP server.

➢ Use the DHCP server together with the Windows Internet Name Service (WINS) server at the same time. When using the WINS server, make the settings if necessary, by selecting **Network/Port**, followed by **WINS Server** on the printer control panel and then select the various items.

➢ When using the BOOTP or RARP server, select the following on the printer control panel:
Network/Port, followed by **TCP/IP Settings**, **Get IP Address**, and then **BOOTP** or **RARP**.
Check with your system administrator if you have any queries on the BOOTP or RARP environment.

See *"Common Menu Items"* in the *"User Guide (Printer)"* for details on each of these items and the way to set them.

Setup sequence

When the IP address is obtained automatically from the DHCP, BOOTP or RARP server, you do not need to follow the procedure in this section to set the IP address.
Refer to *"Setting IP Address" on page 2-9* when you need to set the IP address manually using the printer control panel.

When you are unsure whether you have a DHCP server, follow the procedure below to check.

If you do not have a DHCP server, set the IP address. See *"Setting IP Address" on page 2-9.*

Checking DHCP server

Start

Do you have DHCP server and WINS server?

| No | Yes but not in use | Yes | Not sure |

| Setting IP Address | Setting IP Address | Output Printer Settings List | Output Printer Settings List |

Check Printer Settings List

| IP address/WINS: 0.0.0.0 | WINS: 0.0.0.0 | Both IP address and WINS are set |

| Setting IP Address | | Check Printer Settings List |
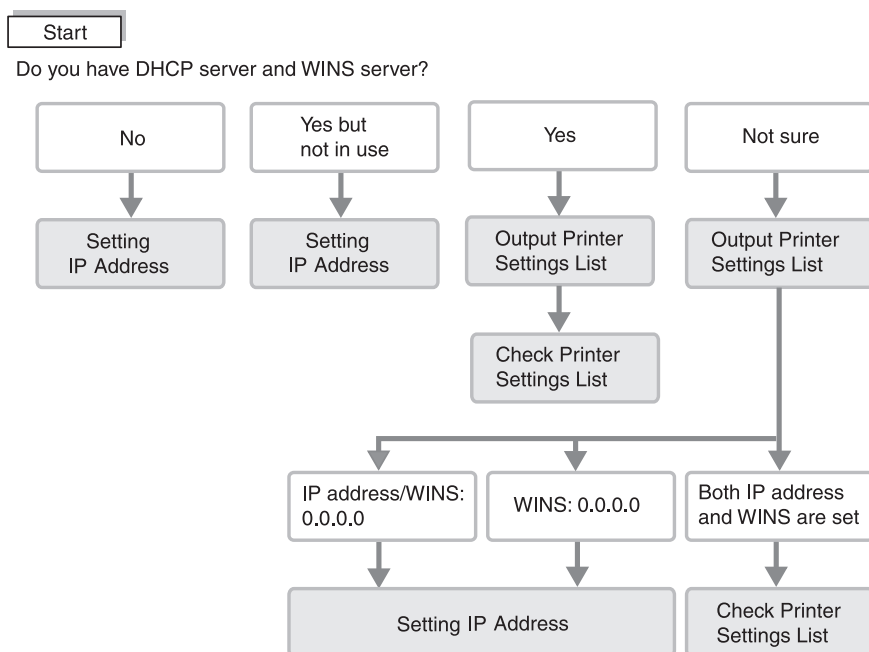
NOTE: Check with your system administrator if you have any queries on DHCP environment.

Outputting Printer Settings List

1. Print out the Printer Settings List by referring to *"Outputting Reports/Lists"* in the *"User Guide (Printer)"*.

1. Check the following items under Communication Settings on the Printer Settings list:

   • TCP/IP: IP Address

   • TCP/IP: Subnet Mask

   • TCP/IP: Gateway Address

   • WINS Server: Primary Server IP Address

   • WINS Server: Secondary Server IP Address

Refer to the following section on how to check the Printer Settings List.

Checking Printer Settings List

➢ **When the addresses in TCP/IP and WINS are not obtained:**

There is no DHCP server and WINS server.

Set the IP address by referring to See *"Setting IP Address" on page 2-9.*".

➢ **When the address in TCP/IP is obtained but not in WINS:**

There is no WINS server. Do not use the DHCP environment as the printer may not be usable due to a change in the IP address allocated to the machine.

Set the IP address manually by referring to See *"Setting IP Address" on page 2-9.*".

➢ **When the addresses in both TCP/IP and WINS are obtained:**

The DHCP server and WINS server are in operation. It is recommended to use the DHCP environment. When the DHCP environment is used, the printer IP address is set by the DHCP server. The name, "XC-xxxxxx" listed in Host Name of SMB under Communication Settings in the Printer Settings List is registered in the WINS server.

Setting IP Address

The following procedure explains how to set the IP address from the printer control panel. Depending on the network used, you may need to set the subnet mask and gateway address. Consult your system administrator before setting these items. Take note that the initial display of the IP address setting might be different. If the message initially displayed is "Unable to get IP Address", proceed from Step 2 after pressing [Menu] .

1. With "Ready to print or fax" displayed, press the ^Menu button.

[▼] to move down a column.	[◄] [►] to move between columns.	[Eject/Set] to select an item (* shows beside item).	
Quick Setup			
Report List			
System Setting			
Network/Port	Parallel		
	LPD		
	Netware		
	SMB		
	IPP		
	USB		
	Port 9100		
	EtherTalk		
	Salutation		
	FTP Client		
	SNMP		
	Internet Service		
	TCP/IP Settings	**Get IP Address**	DHCP
			BOOTP
			RARP
			Manually
		IP Address	**000.000.000.000**

2. Set "Get IP Address" to Manually.

3. Enter the IP Address.

   Use the left an right arrows to move between the numbers.

   Use up and down arrows to increment or decrement the value. If you keep your finger on a button, the number will change automatically.

4. Press the ^Menu button to accept the changes and re-initialize the printer.

Setting Subnet Mask and Gateway Address

1. With "Ready to print or fax" displayed, press the ^Menu^ button.

▼ to move down a column.	◀ ▶ to move between columns.	Eject/Set to select an item (* shows beside item).	
Quick Setup			
Report List			
System Setting			
Network/Port	Parallel		
	LPD		
	Netware		
	SMB		
	IPP		
	USB		
	Port 9100		
	EtherTalk		
	Salutation		
	FTP Client		
	SNMP		
	Internet Service		
	TCP/IP Settings	Get IP Address	
		IP Address	
		Subnet Mask	**000.000.000.000**
		Gateway Address	**000.000.000.000**

2. Enter the Subnet Mask.

   Use the left an right arrows to move between the numbers.

   Use up and down arrows to increment or decrement the value. If you keep your finger on a button, the number will change automatically.

3. Enter the Gateway Address.

   Use the left an right arrows to move between the numbers.

   Use up and down arrows to increment or decrement the value. If you keep your finger on a button, the number will change automatically.

4. Press the ^Menu^ button to accept the changes and re-initialize the printer.

3 TCP/IP Print Utilities for Windows 95/98/Me

The following information can be found in this chapter:

➢ Using the Utility

➢ Setting Up the Printer

➢ Setting the TCP/IP protocol on the PC

➢ Installing Xerox Port Monitor

➢ Installing Direct Print Utility

Using the Utility

One of two utilities will be provided to allow print data to be sent directly from a Windows 95,98,Me computer to a printer on the same network (Ethernet interface) without going through the server.

The utilities are called Port Monitor and Direct Print and will be supplied appropriately according to global region in which you live.

As the printer supports TCP/IP (LPD) protocol, the print data can be sent directly and printed from the computer when using the utility software. You will need to set the IP address on the printer and the computer.

This section explains the operations environment when using the Utility and the setup sequence.

System configuration

To use the Utility, install the software on Windows 95,98,Me, set up the port and connect the printer to an Ethernet network.

PC
(Windows 95/Windows 98/Windows Me)

Printer

Ethernet or Token Ring
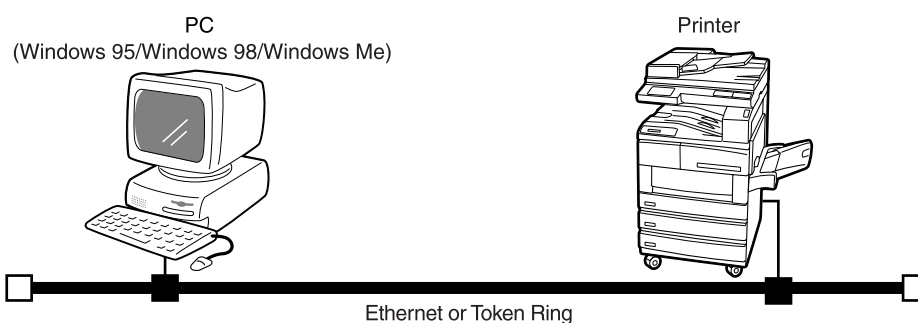
Target computers (Windows 95/98/Me)

The target computers must meet all the following requirements:

➢ Installed with the English version of Windows 95/98/Me

➢ IBM PC-AT compatible computer

➢ Equipped with Intel CPU (x86 compatible)

➢ Using TCP/IP protocol on a network environment

➢ Installed with a printer driver compatible with the printer

➢ Computer name set up by ASCII characters

NOTE: Use only single-byte uppercase/lowercase letters, numbers, hyphen (-) and underscore (_) for ASCII character.
If non-ASCII characters are used in a computer name, the printer may not print normally. If non-ASCII characters are used, change the computer name at Control Panel>Network>Identification.

Setup sequence

1. Defining the IP address.

   See See *"Setting IP Address" on page 2-9.*

2. Setting up the printer

   Set the LPD port to Enable (default: Enable).

   See *"Setting Up the Printer" on page 3-4.*

3. Installing the Utility

   See *"Installing the Xerox TCP/IP port monitor" on page 3-7.*

   or

   See *"Installing Direct Print Utility" on page 3-10.*

4. Printing

   Print from the application that is being used (e.g. Word, Excel). As the printing method differs according to application, refer to the respective manual for information on how to print. Check the selected printer in the application before printing.

Setting Up the Printer

To use the Utility, check that the LPD port is set to Enable (default: Enable) from the control panel of the printer.

➢ Before activating the LPD port, set up the IP address in the printer. Refer to *"Setting IP Address" on page 2-6* for information on defining the IP address.

➢ If setting the port to Enable leads to insufficient memory, a message to that effect will be displayed on the control panel and the port status may be set to Disable automatically. If this happens, set the ports which are not in use to Disable, change the memory size or add more memory.

Activating the LPD port

The LPD port is Enable by default. However, if the LPD port is set to Disable, activate the LPD port from the printer control panel based on the following procedure.

Ready to print

Press [Menu]

Menu
    Quick Setup

Press [▲] or [▼] a few times until the following appears

Menu
    Network/Port

Press [▶]

Network/Port
    Parallel

Press [▲] or [▼] a few times until the following appears

Network/Port
    LPD

Press [▶]

LPD
    Port Status

Press [▶]

Port Status
    Disable *

Press [▼]

... from next page

To next page ...

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To previous page ...   *... from previous page*

Port Status

Enable

Press [Eject/Set]

Port Status

Press [Menu]   Enable *

(When "Ready to print" appears, the printer is ready to receive data.)
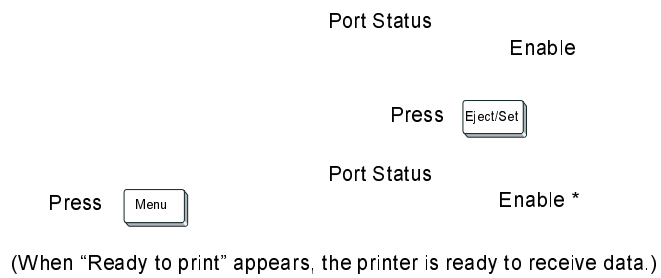
Other settings

When required, adjust the following settings on the printer control panel. For normal use, the default values of these settings need not be changed.

- ➢ Print Mode   (default: Auto)
- ➢ PJL   (default: Enable)
- ➢ Connect Time-Out   (default: 16 Secs)
- ➢ TBCP Filter   (default: Disable) (PostScript kit is installed)
- ➢ IP Filter   (default: Off)
- ➢ Buffer Size   (default: LPD Spool Off: 256KB)

NOTE: You can also use CentreWare Internet Services for the settings.

Setting the TCP/IP protocol on the PC

The protocol needed to set up the Utility port is the TCP/IP protocol.

If you try to install the Utility without installing the necessary protocol first, the following corresponding dialog box will be displayed:
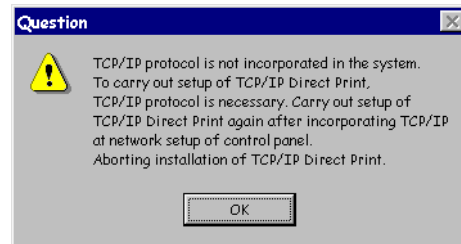
Follow the procedure below to install the TCP/IP protocol:

Refer to the manuals that come with Windows 95/98/Me for details on how to install the TCP/IP protocol.

1. Start Windows 95,98,Me.

    Click **[Start]** and select **[Settings]**, followed by **[Control Panel]**. Double-click the "Network" icon to display its dialog box.

2. Click **[Add]** on the "Configuration" tab dialog.

    The "Select Network Component Type" dialog box appears.

3. Click **[Protocol]** in the "Select Network Component Type" dialog box. Then, click **[Add]**.

    The "Select Network Protocol" dialog box appears.

4. Click **[Microsoft]** in the "Manufacturers" box in the "Select Network Protocol" dialog box.

    A list of protocols appears in the "Network Protocols" box.

5. Click **[TCP/IP]** then click **[OK]**.

6. Click **[OK]** on the "Network" dialog box.

7. Restart the system.

Installing the Xerox TCP/IP port monitor

1. Insert the WorkCentre Pro 423/428 Printer Driver CD. The Welcome screen for the driver installation is displayed.

2. Click Driver Installation.
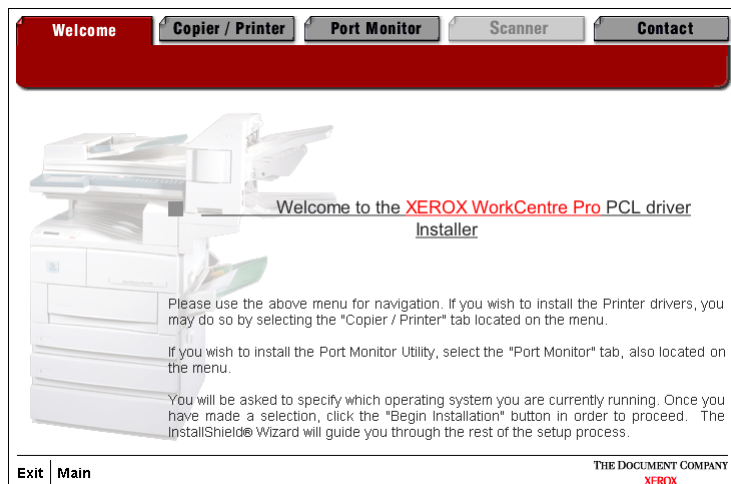
3. Click the Port Monitor tab..

4. Click Begin Installation. The Xerox TCP/IP Port Monitor Setup dialog is displayed.
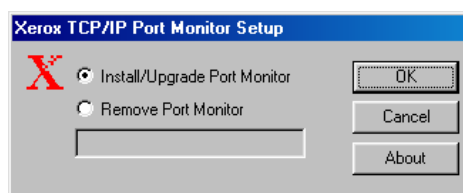
5. Ensure that the Install/Upgrade Port Monitor option is selected and click OK.

6. Click OK once the software is successfully installed.

Configuring the printer port for Windows 95/98/ME

1. Choose **Settings>Printers** from the Start menu.

2. Click on the WorkCentre Pro 423/428 printer icon and choose Properties from the right mouse button menu.

3. Click the Details tab.
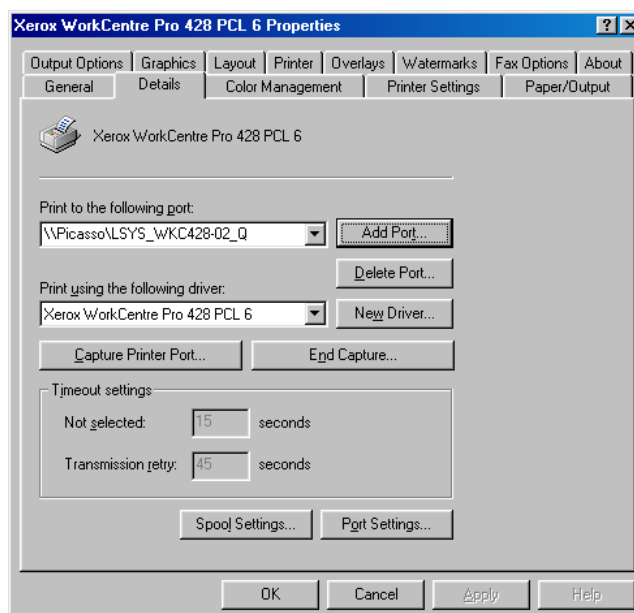
4. Click [Add Port]. The Add Port dialog is displayed.
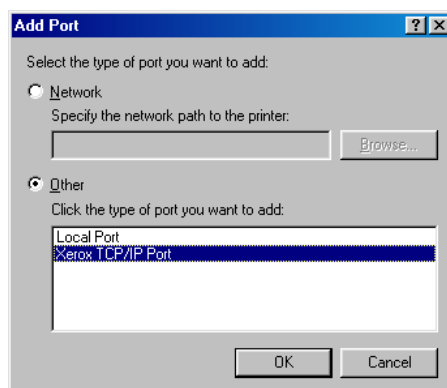
5. Make sure Other option is selected and highlight Xerox TCP/IP Port.

6. Click OK.

The TCP/IP Printer Port Wizard screen is displayed.

7.   Click the [Next] button.
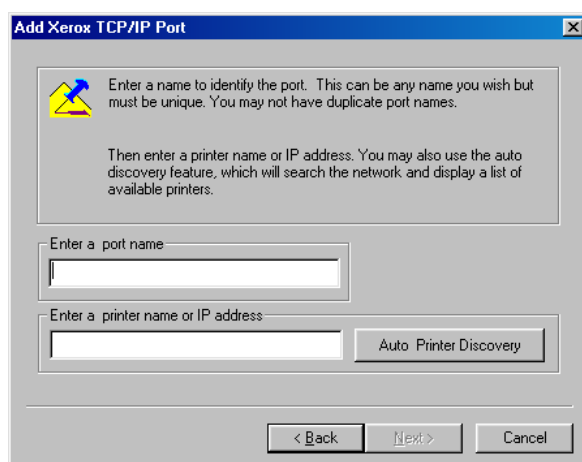
8.   Enter the name by which you want to identify the port.

9.   If you know the printer name or TCP/IP address of the WorkCentre Pro 423/428, enter it. Otherwise, click the [Auto Printer Discovery] button to display a list of available printers on the network and double click the required printer from the list. The Printer Type dialog is displayed.
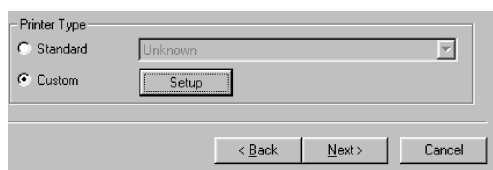
10. Select the Custom option and click the [Setup] button. The Port Configuration screen is displayed.
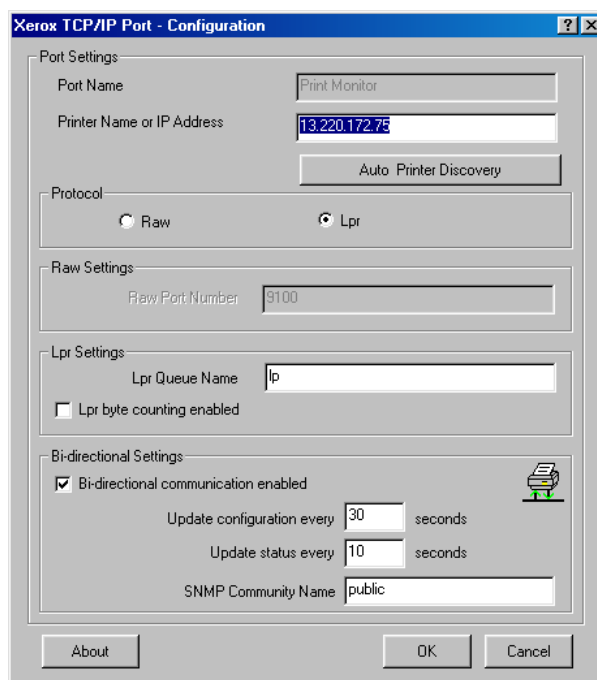
11. Check the Select Bi-directional communication enabled box.

12. Click OK to complete the Xerox TCP/IP Port installation.

Installing Direct Print Utility

This section describes the installation method for Windows 95,98,Me.

Installation procedure

1. Start Windows 95, Windows 98, Windows Me, Windows NT 4.0 or Windows 2000.

NOTE: In this procedure, Windows 98 has been used. Screens will vary according to the operating system used.

2. Insert the CD in the CD-ROM drive.

   The Install program should run automatically.

3. Click Driver Installation.

   The Welcome screen for the driver installation is displayed.

4. Click the Port Monitor tab.
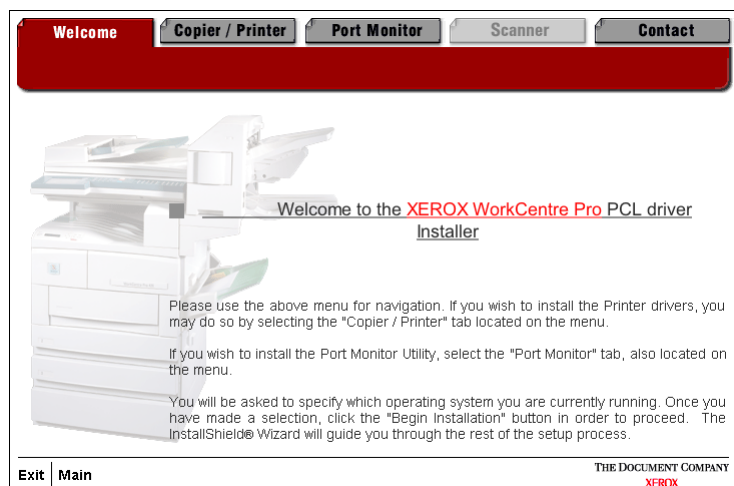
5.   Click Begin Installation on the Port.
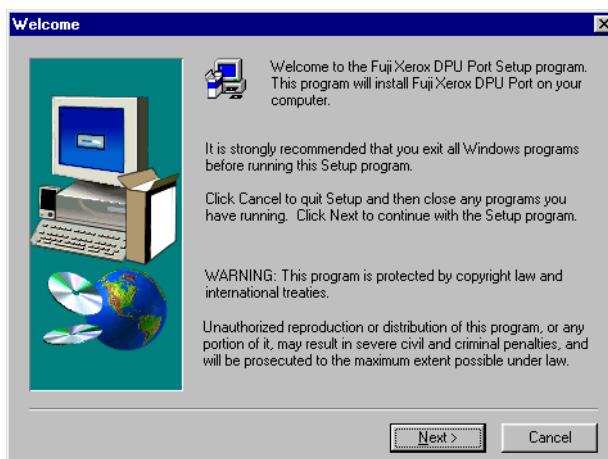
6.   Read the welcome message carefully and then click **[Next]** to continue with the installation.
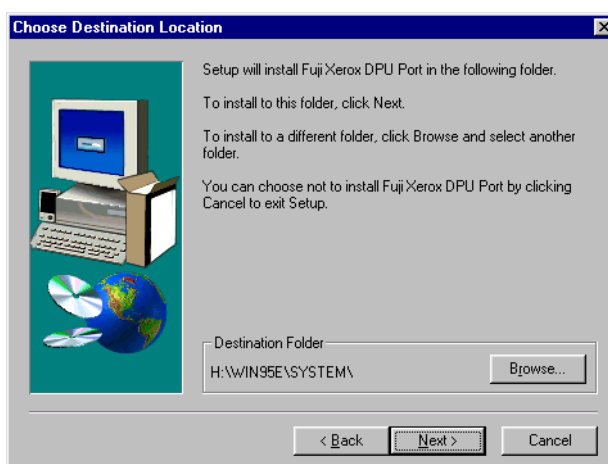
7.   If you do not need to change the destination location, click **[Next]** to continue.

When the installation is completed, a dialog box like the one below appears.
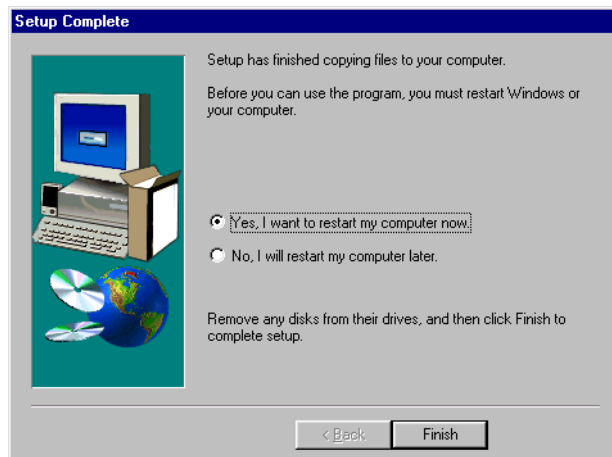
8. Click on the "Yes, I want to restart my computer now" radio button and then click **[Finish]** to complete the installation.

NOTE: Restart the system for the setting to take place.

Setting the port

To set up the Direct Print Utility port, a printer must be set upon a PC with Windows 95,98,Me OS first.

It is not necessary to specify the port when installing the printer driver.

If no printer has been set up earlier, it is necessary to add one to the local printer port.

The installation procedure of the Direct Print Utility port is as follows:

1. Double-click the "My Computer" icon, followed by the "Printers" icon. Then double-click the icon of the printer for which you will set the port setting. The following window appears.

    In this example, we will use the "Xerox WorkCentre Pro 428 PCL 6" printer.
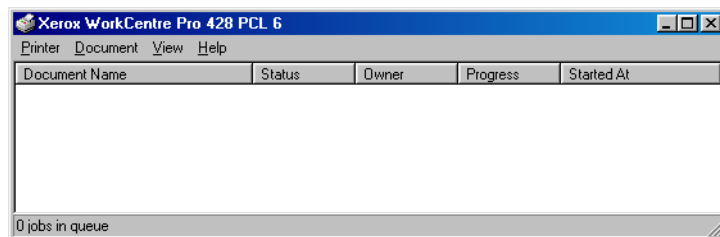
2. From the "Printer" menu, click **[Properties]**.

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A dialog box for setting up the printer properties appears.
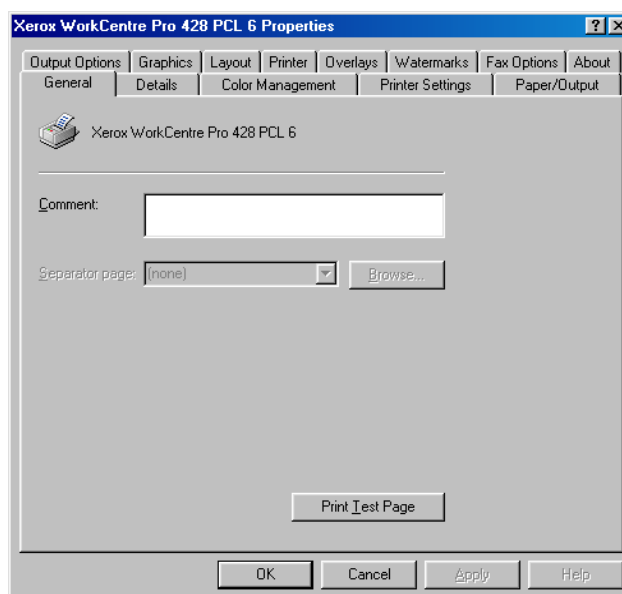
3. Click the **[Details]** tab.

4. Click **[Add Port]**.

   The "Add Port" dialog box appears.
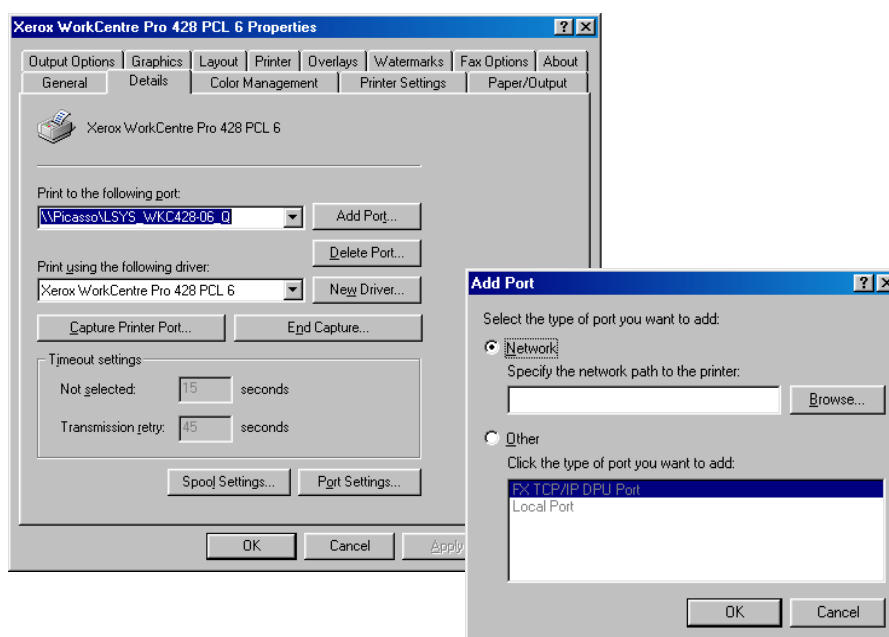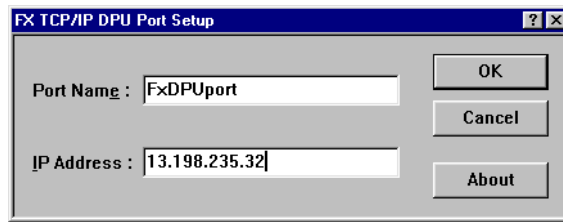
5. Click on the **[Other]** radio button, followed by the port, FX TCP/IP DPU Port and then **[OK]**.

   The "FX TCP/IP DPU Port Setup" dialog box appears.
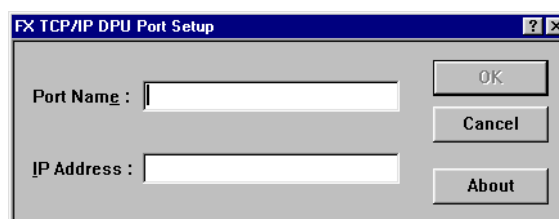
Enter the port name and IP address by referring to the explanations below.

After all the settings are made, click **[OK]**.

Port Name

Enter a name for identifying the printer.

NOTE: Use only alphanumeric characters in the name. Do not use colon (:) or space.

IP Address

Enter an IP address allocated to the printer. When the DNS (Domain Name System) has been set, the printer host name can be entered.

NOTE: IP address consists of four numbers separated by periods, with each value between 0-255 (xxx.xxx.xxx.xxx). If you do not know the IP address of your printer, either ask your system administrator or print out the Printer Settings List to check.

NOTE: After entering the host name, click OK to verify if the host already exists in the network. If the host entered does not exist, setting cannot be done. You can stop the verification process of the host name by clicking Cancel.

4 Installing the Printer for NetWare

The following information can be found in this chapter:

➢ Using NetWare

➢ Setting Up for NetWare

➢ Setting Up the Printer

➢ Setting Up the Client

Using NetWare

This section explains the characteristics and the operating environment of the printer when it is connected to a Novell NetWare network.

System configuration

The system configuration is as follows:

Client   File Server   Printer

Ethernet or Token Ring
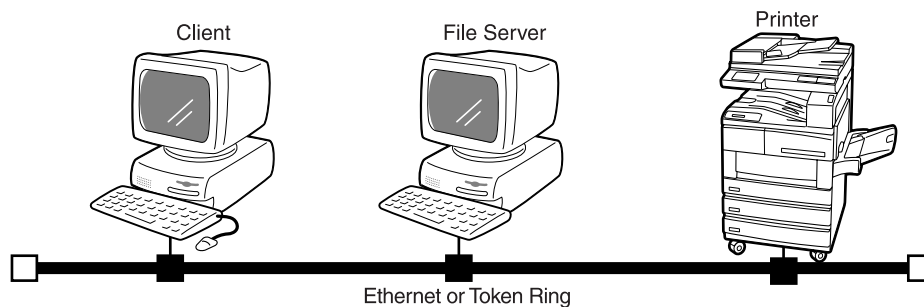
This printer is compatible with NetWare 3.1X/4.1/4.1X/5 and by the directory service supports the print server mode with the following provisos:

➢ This printer does not support RPrinter mode.

➢ This printer does not support Novell Distributed Print Services (NDPS), a feature introduced by NetWare 5.

➢ Print server mode (PSERVER mode) in which the printer functions as a print server. In the PSERVER mode, the printer will function as a print server and retrieve print jobs from the print queue for printing. As it fully utilizes the functions of the printer, this mode is superior to the remote printer mode in terms of system capacity. However, in this mode, the printer will take up one user license of the file server.

Target computers

The target computers must meet the following requirements:

➢ Compatible file servers

Novell-accredited PC which can be installed with NetWare 3.1X/4.1/4.1X/5.

➢ Compatible workstations

Novell-accredited PC which can run Windows 95/98/Me, Windows NT 4.0/2000.

Interface

The printer supports the following types of Ethernet interface:

➢ 10Base-T (Twisted Pair Cable)

➢ 100Base-TX (Twisted Pair Cable)

The following frame types are supported:

➢ Ethernet II specification

➢ IEEE802.3 specification

➢ IEEE802.3/802.2 specification

➢ IEEE802.3/802.2/SNAP specification

The printer will send out packets of each frame type on the connected network and activate automatically by the frame type which responded first.

However, if other protocols are running simultaneously on the same network, use the frame type that the NetWare server is using.

NOTE: Some network components (such as the hub) may not support automatic setup for frame type. If the data link indicator light of the port which is connected to the printer of the network component does not light up, match the setting (IPX/SPX setting) of the frame type of the printer to the frame type of the file server.

Setting Up for NetWare

This section describes the installation procedure for using the printer in a network environment running NetWare.

Setup sequence

1. Setting up the printer

   Set the NetWare port to Enable (default: Disable) and activate the protocol to be used from the control panel of the printer or CentreWare Internet Services screen. Print the Printer Settings list and check the device name and the network address.

   See *"Setting Up the Printer" on page 4-5.*.

2. Setting the NetWare print service

   Using PCONSOLE or NetWare Administrator (NWADMIN), create print queue, print server and printer, and assign the respective objects.

   • When using in the PSERVER mode, use the device name checked in Step 1 for the print server mane. Set **Printer Location** as **Auto Load (Local)**.

   • For information on how to use PCONSOLE or NWADMIN, see the manual which comes with NetWare. For NetWare 5, only NWADMIN is available for use.

3. Setting up the client

   Install a printer driver, which is compatible with the printer, to personal computers.

   Different printer drivers are used for different operating systems.

   NOTE: Run personal computers that are functioning normally as clients of NetWare.

   See *"Setting Up the Client" on page 4-8.*

Setting Up the Printer

This section describes the procedure to set the port for NetWare interface to Enable (default: Disable), activate the protocol to be used, print the Printer Settings list and check the device name as well as the network address.

Activating the NetWare port

Follow the procedure to set the NetWare port to Enable (default: Disable) and activate the protocol to be used from the printer control panel.

If setting the port to Enable leads to insufficient memory, a message to that effect will be displayed on the control panel and the port status may be set to Disable automatically. If this happens, set the ports which are not in use to Disable, change the memory size or add more memory.

```
┌─────────────────────────────┐
│ Ready to print              │
└─────────────────────────────┘

  ① Press  [ Menu ]

┌─────────────────────────────┐
│ Menu                        │
│         Quick Setup         │
└─────────────────────────────┘

  ② Press [ ▲ ] or [ ▼ ]  a few times until the following appears

┌─────────────────────────────┐
│ Menu                        │
│         Network/Port        │
└─────────────────────────────┘

  ③ Press [ ▶ ]

┌─────────────────────────────┐
│ Network/Port                │
│            Parallel         │
└─────────────────────────────┘

  ④ Press [ ▲ ] or [ ▼ ]  a few times until the following appears

┌─────────────────────────────┐
│ Network/Port                │
│            Netware          │
└─────────────────────────────┘

  ⑤ Press [ ▶ ]

┌─────────────────────────────┐
│ Netware                     │
│            Port Status      │
└─────────────────────────────┘

  ⑥ Press [ ▶ ]

┌─────────────────────────────┐
│ Port Status                 │
│            Disable *        │
└─────────────────────────────┘

  ⑦ Press [ ▼ ]

┌─────────────────────────────┐
│ Port Status                 │
│            Enable           │
└─────────────────────────────┘

  ⑧ Press [ Eject/Set ]
```

... from next page   To next page ...

Port Status
                    Enable *

⑨ Press ◄

Netware
                    Port Status

⑩ Press ▲ or ▼ a few times until the following appears

Netware
          Transpt Protocol

⑪ Press ►

Transpt Protocol
                    IPX/SPX *

⑫ Press ▲ or ▼ a few times until TCP/IP
            or IPX/SPX is selected. Here, we select IPX/SPX.

Transpt Protocol
                    IPX/SPX

⑬ Press Eject/Set

Transpt Protocol
                    IPX/SPX *

⑭ Press Menu

(When "Ready to print" appears, the printer is ready to receive data.)

Other settings

When necessary, adjust the following settings on the printer control panel. For normal use, the default values of these settings need not be changed.

- ➢ Print Mode   (default: Auto)
- ➢ PJL   (default: Enable)
- ➢ Number of Search   (default: No Limit)
- ➢ TBCP Filter   (default: Disable) (PostScript kit is installed)

Also, you can define the following settings if you are using CentreWare Internet Services screen:

- ➢ Device Name   (default: XCxxxxxx)
- ➢ Active Mode   (default: Directory: PServer Mode)
- ➢ File Server Name   (default: NULL)
- ➢ Poll Interval   (default: 4 Secs)
- ➢ Number of Search   (default: 0 (no limit))
- ➢ Password   (default: NULL)
- ➢ Tree Name   (default: NULL)
- ➢ Context Name   (default: NULL)
- ➢ Transport Protocol   (default: IPX/SPX, TCP/IP)
- ➢ Frame Type   (default: Auto)

See the printer manuals for the details on printer settings.

Printing the Printer Settings List

Print the Printer Settings list from the printer control panel by referring to *"Printing reports/lists"* in the *"User Guide (Printer)"*.

When the Printer Settings list is printed, check the network address and device name.

Setting Up the Client

When the OS of the PC is Windows 95/98/Me or Windows NT 4.0/ 2000, install the printer driver following the procedure below.

1. Install the printer driver for Windows 95/98/NT 4.0 by running the "Setup.exe" program. Click **[Add Network Port]** and select the network printer from Network Neighborhood.

   See *"User Guide (Printer)"* for the details.

NOTE: When you are printing, make sure that you uncheck the "Enable banner" check box displayed on the "Printer Settings" tab of the printer properties dialog box. Otherwise, you might not be able to obtain the desired printing result.

NOTE: When you encounter any problem, you can refer to the Readme.txt file in the "PCL Driver/Network Utility (Windows)" CD-ROM.

5   *Using Internet Printing Protocol*

The following information can be found in this chapter:

➢ Using IPP

➢ Setting Printer and Installing Printer Driver

Using IPP

This machine supports Internet Printing Protocol (IPP). As Windows 2000 is installed with the client software for outputting to IPP printer, you can specify a printer to support IPP using the Add Printer Wizard.

Using IPP, you can print to a remote printer via internet or intranet.

Before activating the IPP port, set up the IP address in the printer. Refer to *"Setting IP Address" on page 2-6* for information on defining the IP address.

System configuration

The system environment is as follows:
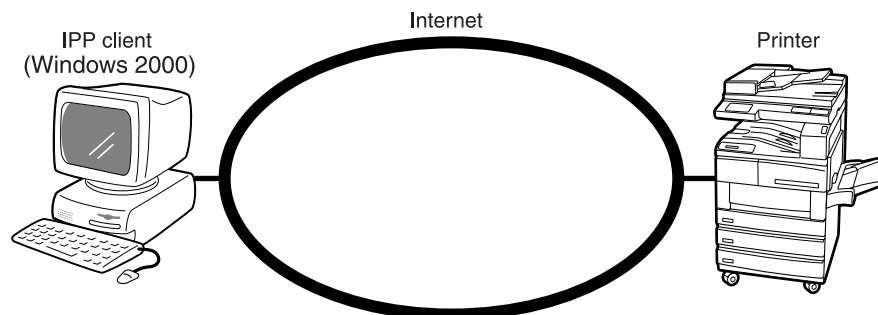
- ➤ Using TCP/IP protocol
- ➤ Microsoft Windows 2000 Server
- ➤ Microsoft Windows 2000 Professional
- ➤ Microsoft Windows 2000 Advanced Server

Setup sequence

1. Define the IP address.
   See *"Setting IP Address" on page 2-6.*
2. Setting up the printer
   Set the IPP port to Enable (default: Disable).
   See *"Activating the IPP port" on page 5-3."*
3. Installing the printer driver to the host computer.
   See *"Setting Printer and Installing Printer Driver" on page 5-5.*

Activating the IPP port

Follow the procedure to activate the IPP port (default: Disable) using the printer control panel.

```
┌─────────────────────────────┐
│ Ready to print              │
│                             │
└─────────────────────────────┘

  ① Press   [ Menu ]

      ┌─────────────────────────────┐
      │ Menu                        │
      │          Quick Setup        │
      └─────────────────────────────┘

        ② Press  [ ▲ ]  or  [ ▼ ]   a few times until the following appears

      ┌─────────────────────────────┐
      │ Menu                        │
      │          Network/Port       │
      └─────────────────────────────┘

        ③ Press  [ ▶ ]

          ┌─────────────────────────────┐
          │ Network/Port                │
          │              Parallel       │
          └─────────────────────────────┘

            ④ Press  [ ▲ ]  or  [ ▼ ]   a few times until the following appears

          ┌─────────────────────────────┐
          │ Network/Port                │
          │                      IPP    │
          └─────────────────────────────┘

            ⑤ Press  [ ▶ ]

              ┌─────────────────────────────┐
              │ IPP                         │
              │              Port Status    │
              └─────────────────────────────┘

                ⑥ Press  [ ▶ ]

                  ┌─────────────────────────────┐
                  │ Port Status                 │
                  │              Disable *       │
                  └─────────────────────────────┘

                    ⑦ Press  [ ▼ ]

                  ┌─────────────────────────────┐
                  │ Port Status                 │
                  │              Enable          │
                  └─────────────────────────────┘

                    ⑧ Press  [ Eject/Set ]

                  ┌─────────────────────────────┐
                  │ Port Status                 │
                  │              Enable *        │
                  └─────────────────────────────┘

  ⑨ Press   [ Menu ]
```
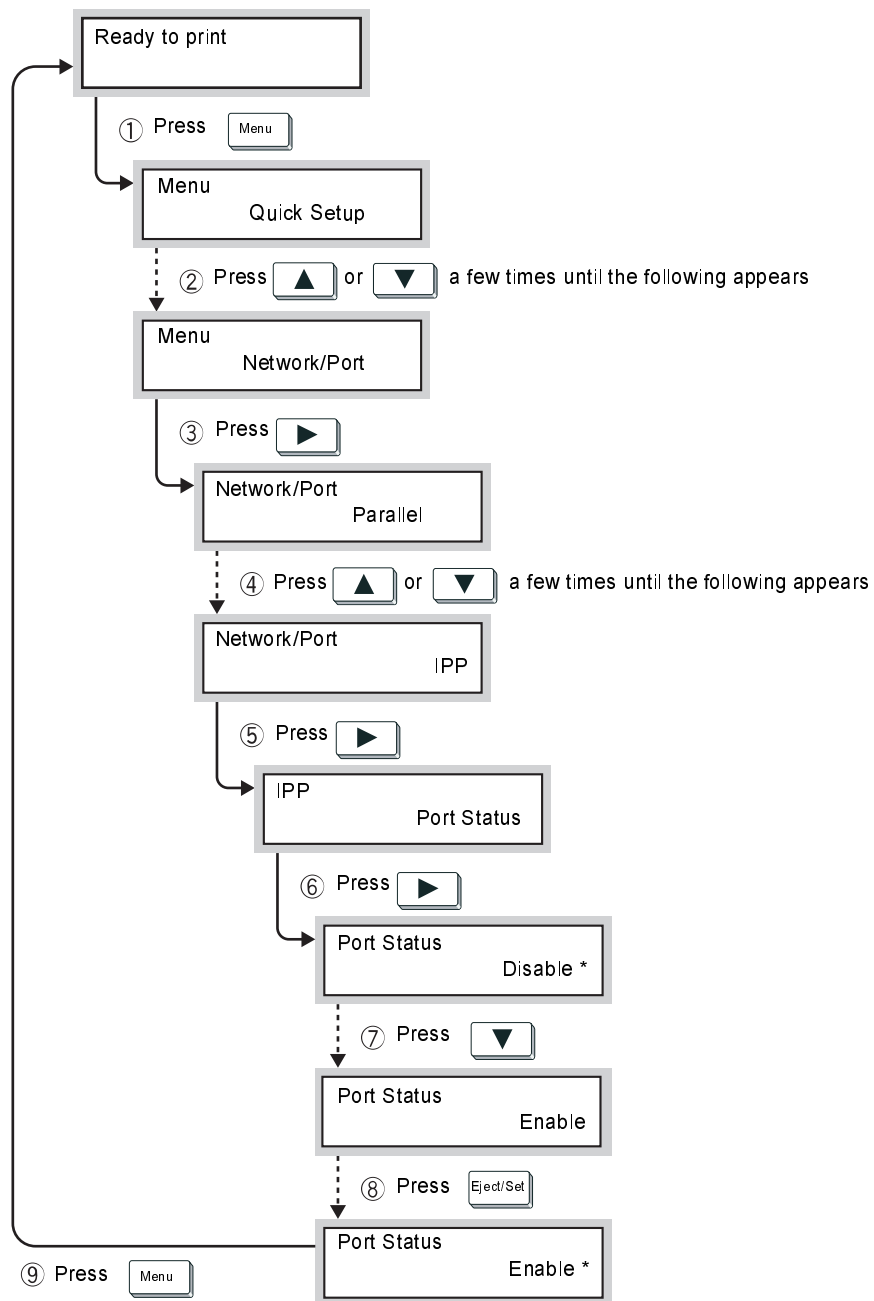
(When "Ready to print" appears, the printer is ready to receive data.)

Other setting items

If necessary, define the following items related to IPP on the printer control panel. However, there is no need to change the factory setting of these items for normal usage.

- ➢ Print Mode (default: Auto)
- ➢ PJL (default: Enable)
- ➢ TBCP Filter (default: Disable) (PostScript kit is installed)
- ➢ Access Control (default: Disable)
- ➢ DNS (default: Enable)
- ➢ Add Port Number (default: 80)
- ➢ Connect Time-Out (default: 60 Secs)
- ➢ Buffer Size (default: IPP Spool Off: 256KB)

NOTE: You can also use CentreWare Internet Services for the settings.

Setting Printer and Installing Printer Driver

After the printer protocol setting is done, carry out the following procedure on the computer.

NOTE: Before installing the printer driver on the client computer, check that Internet Protocol (TCP/IP) has been installed. If it has not been installed, refer to the Windows 2000 manual to install it.

NOTE: When using the internet printing via the proxy server, an error message, "Cannot be connected to the internet" may appear when setting the printer. When this happens, change the setting of the IP address without going through the proxy server by selecting Printer, Settings, Control Panel, and then Internet Options. For details on the way of setting, refer to the Windows 2000 manual.

Installation procedure

This procedure assumes that the printer driver has been installed on the workstation but the printer has not been added.

See the *Printer User Guide* for details.

1. Click **[Start]**, and then select **[Settings]**, followed by **[Printers]** for Windows 2000.

    The Printers window appears.
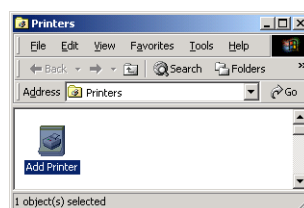
2. Double click **[Add Printer]**.

    The Add Printer Wizard dialog box appears.

3. Click **[Next]**.
4. Select **[Network printer]** and then click **[Next]**.

The screen to locate your printer appears.
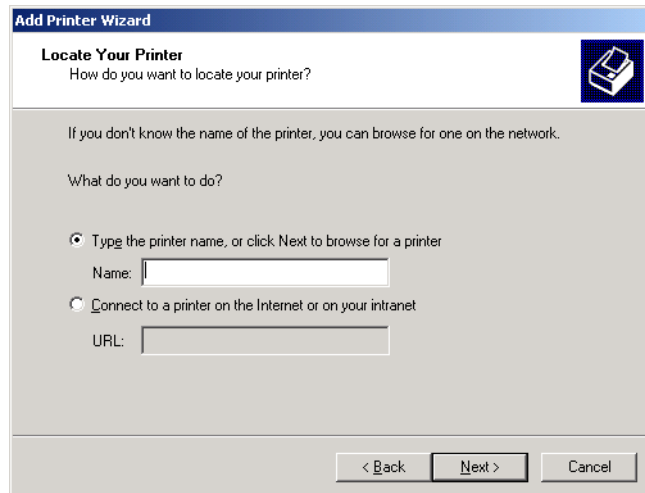
5. Select **[Connect]** to a printer on the Internet or on your intranet, enter the following URL, and then click **[Next]**:
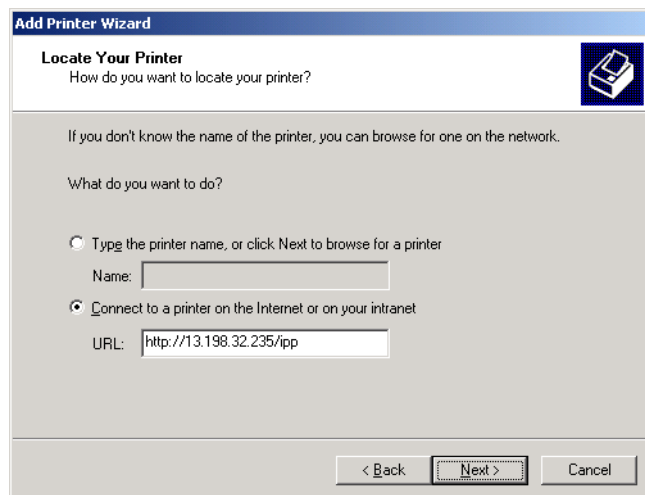
The printer connection dialog box appears.

NOTE: If the DNS setting has been defined for the client and the host name is effective, you can enter the host name as well.

6. Click **[OK]** on the "Connect to Printer" dialog box.

The screen to select the manufacturer and model of your printer appears.
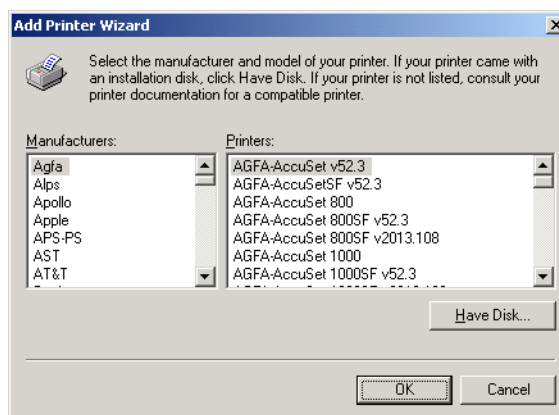
7.   Click **[Have Disk]**.

     The Install From Disk dialog box appears.
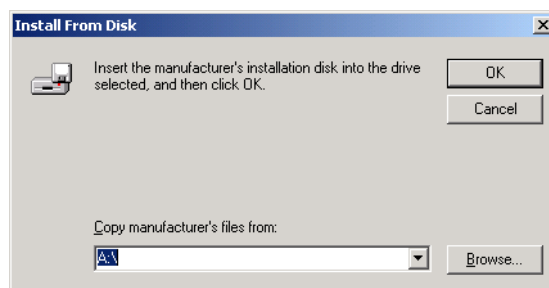
8.   Browse to where the driver files were installed.

     If you installed the files on your workstation, the location will be:

     C:\Program Files\Xerox\Xerox WorkCentre Pro 423 & 428

9.   Choose the driver file and click **[Open]**.

10. Click **[OK].**

11. Select your printer model from the Printers list and click **[Next]**.
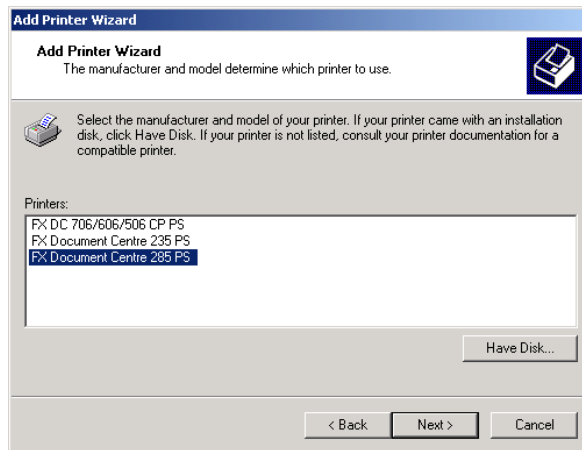
12. Enter the printer name, set whether you want to use it as the default printer, and click **[Next]**.
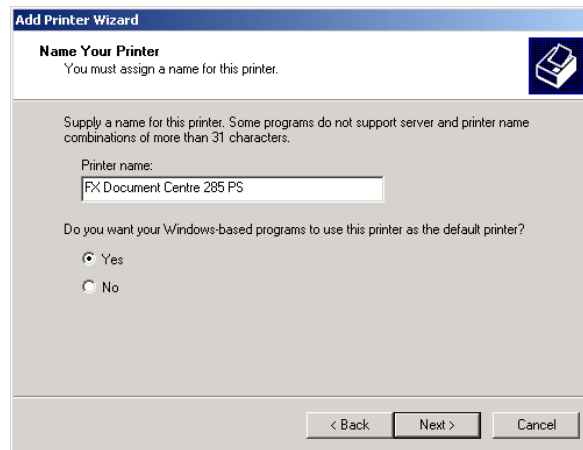
13. Click **[Finish]**.
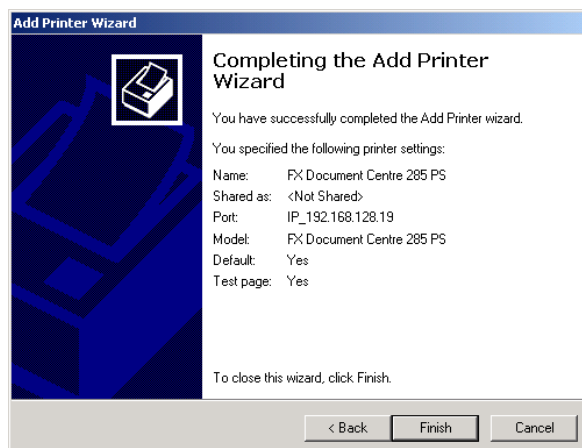
6 *Setting Up for Windows Network*

The following information can be found in this chapter:

- ➢ Using SMB
- ➢ Setting Up the Printer
- ➢ Changing Printer and Workgroup Name
- ➢ Auto Driver Downloading

Using SMB

Server Message Block (SMB) is a protocol for sharing file or printer through the network. It is supported by Windows OS. You can use NetBEUI or TCP/IP as the transport protocol for SMB. This section explains the operating environment and setting up procedure for using SMB. Before setting up SMB, check the following information.

System configuration

SMB operates in an environment where the port is set and the printer connected to the internet network. It uses NetBEUI or TCP/IP as the transport protocol.

OS:Windows 95 / Windows 98 / Windows Me
Windows NT / Windows 2000

NetBEUI or TCP/IP
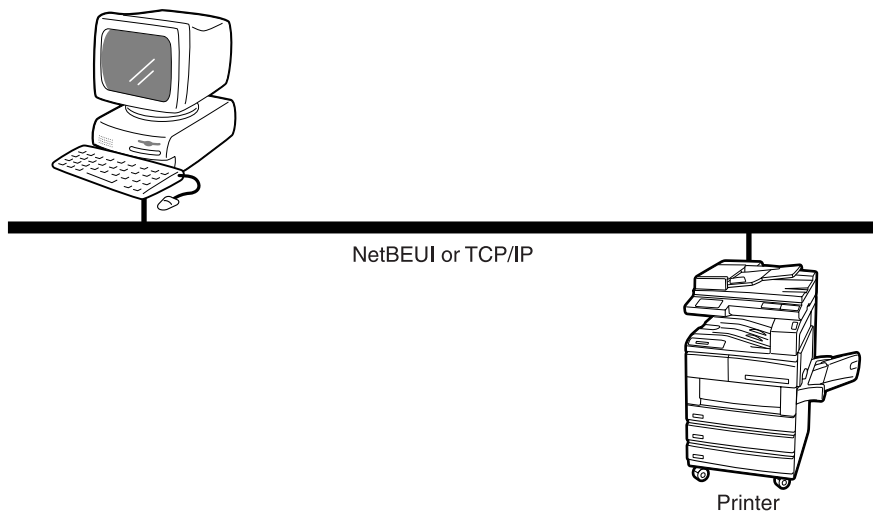
Printer

NOTE: You can use either NetBEUI or TCP/IP, or even both as the transport protocol for SMB. Refer to *"Setting Up the Printer" on page 6-4* for details when setting up the printer.

NOTE: You will need to set up the IP address in the computer and printer if you are using TCP/IP.

Setup sequence

Follow the procedure below to set up the printer for the Windows network environment.

1. Setting up the port status and transport protocol at the printer

    • When using NetBEUI

    From the control panel of the printer or CentreWare Internet Services screen, select Enable for the port status of SMB (default: Enable), followed by On for NetBEUI (default: On).

    See *"Setting Up the Printer" on page 6-4*.

    • When using TCP/IP

    From the control panel of the printer or CentreWare Internet Services screen, select Enable for the port status of SMB (default: Enable), followed by On for TCP/IP (default: On).

    See *"Setting Up the Printer" on page 6-4*.

2. Changing the printer and workgroup name

    If necessary, change the SMB setting file, "config.txt" as well as the printer and workgroup name from the host computer.

    See *"Changing Printer and Workgroup Name" on page 6-7*.

3. Installing the printer driver to the host computer

    See *"Auto Driver Downloading" on page 6-11*.

Setting Up the Printer

This section describes the procedure to set the port for SMB interface to Enable (default: Enable), activate the protocol to be used.

You need to set up the IP address in computer and printer if you are using TCP/IP protocol for SMB. Refer to *"Setting IP Address" on page 2-6* for information on defining the IP address. Depending on the network environment used, it may be necessary to set the subnet mask and gateway address as well. Consult your network administrator on the necessary setting to make.

Activating the SMB port

Follow the procedure to set the SMB port to Enable and activate the protocol to be used from the printer control panel.

If setting the port to Enable leads to insufficient memory, a message to that effect will be displayed on the printer control panel and the port status may be set to Disable automatically. If this happens, set the ports which are not in use to Disable, change the memory size or add more memory.

Ready to print

① Press [Menu]

Menu
Quick Setup

② Press [▲] or [▼] a few times until the following appears

Menu
Network/Port

③ Press [▶]

Network/Port
Parallel

④ Press [▲] or [▼] a few times until the following appears

Network/Port
SMB

⑤ Press [▶]

SMB
Port Status

⑥ Press [▶]

Port Status
Disable *

⑦ Press [▼]

... from next page   *To next page ...*

To previous page ...   *... from previous page*

```
┌──────────────────────────┐
│ Port Status              │
│              Enable      │
└──────────────────────────┘
```

⑧ Press   [Eject/Set]

```
┌──────────────────────────┐
│ Port Status              │
│              Enable *     │
└──────────────────────────┘
```

⑨ Press   [◀]

```
┌──────────────────────────┐
│ SMB                      │
│          Port Status     │
└──────────────────────────┘
```

⑩ Press [▲] or [▼] a few times until the following appears

```
┌──────────────────────────┐
│ SMB                      │
│       Transpt Protocol   │
└──────────────────────────┘
```

⑪ Press   [▶]

```
┌──────────────────────────┐
│ Transpt Protocol         │
│           NetBEUI *       │
└──────────────────────────┘
```

⑫ Press [▲] or [▼] a few times until TCP/IP or NetBEUI is selected. Here, we select NetBEUI.

```
┌──────────────────────────┐
│ Transpt Protocol         │
│           NetBEUI        │
└──────────────────────────┘
```

⑬ Press   [Eject/Set]

```
┌──────────────────────────┐
│ Transpt Protocol         │
│           NetBEUI *       │
└──────────────────────────┘
```

⑭ Press   [Menu]
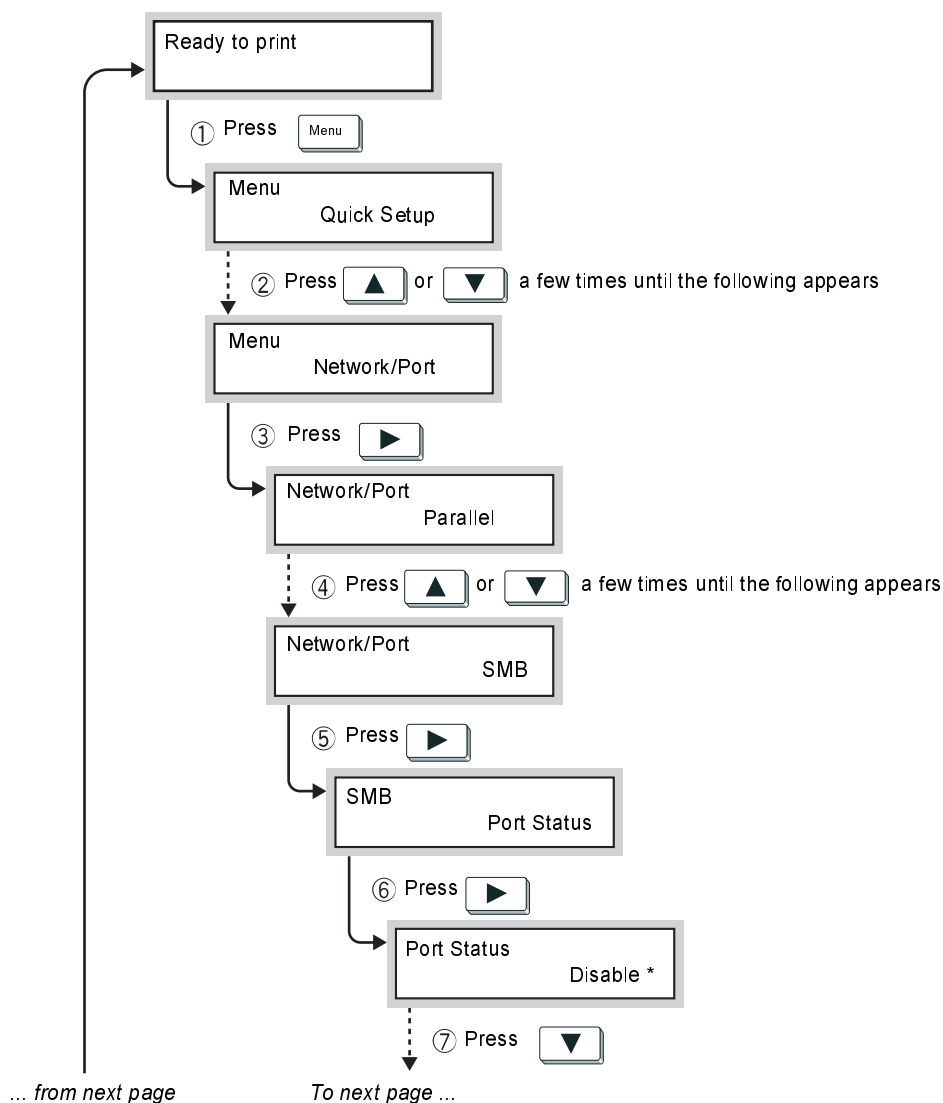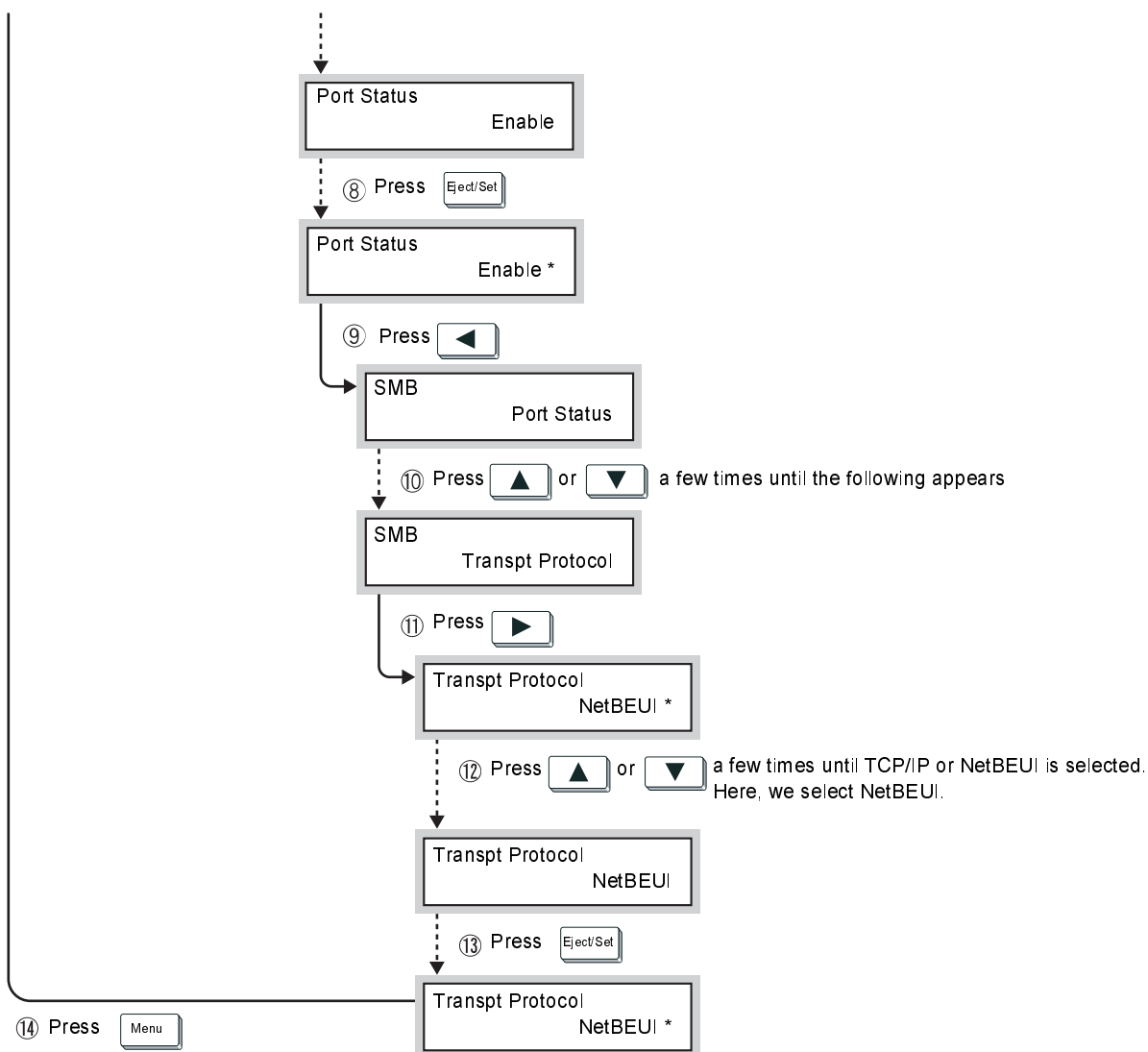
When "Ready to print" appears, the printer is ready to receive data.

Other settings

When necessary, adjust the following settings on the printer control panel. For normal use, the default values of these settings need not be changed.

- ➢ Print Mode   (default: Auto)
- ➢ PJL   (default: Enable)
- ➢ TBCP Filter   (default: Disable) (PostScript kit is installed)
- ➢ Buffer Size   (default: SMB Spool Off: 256KB)

Also, you can define the following settings if you are using CentreWare Internet Services screen:

- ➢ Workgroup   (default: WORKGROUP)
- ➢ Host Name   (default: XC-xxxxxx)
- ➢ Administrator Name   (default: admin)
- ➢ Administrator Password   (default: admin)
- ➢ Maximum Sessions   (default: 5)
- ➢ Auto Driver Download   (default: Enable)
- ➢ Unicode Support   (default: Disable)
- ➢ Auto Master Mode   (default: On)
- ➢ Encrypt Password   (default: On)

Refer to the printer manuals for the details on printer settings.

Changing Printer and Workgroup Name

If necessary, change the SMB printer and workgroup names. You cannot change these names using the printer control panel. Instead, change them from CentreWare Internet Services or the Windows host computer. This section describes the procedure to change these names from the Windows host computer.

Through Windows Network

You can change the SMB setting by accessing the file in the printer via the Windows network from the host computer, and then changing the information there. However, only the administrator is allowed to do this.

The procedure below explains how to overwrite the setting file (config.txt) at the first instance. Subsequently, you will need to know the following items that have been set: SMB Host Name, Workgroup, Administrator Name, and Administrator Password.

1. Either open Network Neighborhood from the Windows client computer, followed by Workgroup (default: Workgroup) and then the printer. Or enter the IP address of the WorkCentre Pro in the Start>Run dialog and press OK.

NOTE: The factory setting of the host name of the printer is "XC-xxxxxx" (where xxxxxx is the last three bytes of the Ethernet address of the printer). You can confirm the name by referring to Host Name of SMB on the Printer Settings List.

2. Double-click the admintool folder.

    The following dialog box will be displayed.
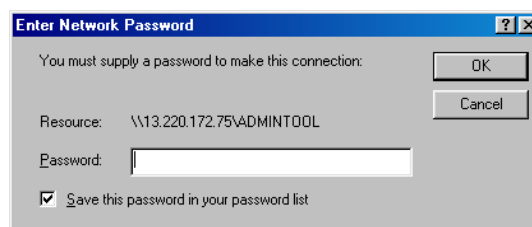
3. For Windows 95/98/Me, enter only the password (SMB Administrator Password) and for Windows NT 4.0/2000, enter the user name (SMB Administrator Name) and password (SMB Administrator Password). Then, click **[OK]**. The admintool folder will be opened.

NOTE: The factory settings of both Administrator Name and Password are "admin".
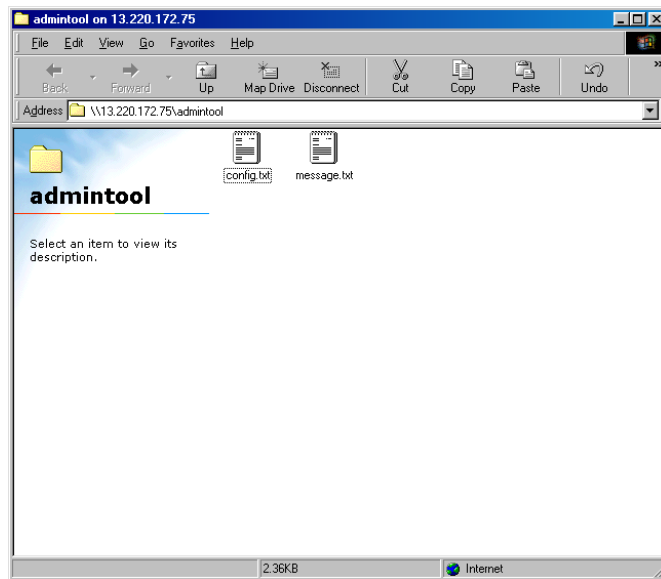
4. Using a text editor like Notepad, open config.txt.

5. If necessary, change the workgroup and host name, and then overwrite and close config.txt.

NOTE: The workgroup and host names can be set up to 15 bytes. For details on config.txt, refer to next page, "Setting format of config.txt".

The message.txt file is created inside the admintool folder.

6. Open message.txt and check that it displays the following information.

NOTE: If message.txt is not displayed, select Refresh from the "View" menu. If an error message appears, check the contents that have been set again.
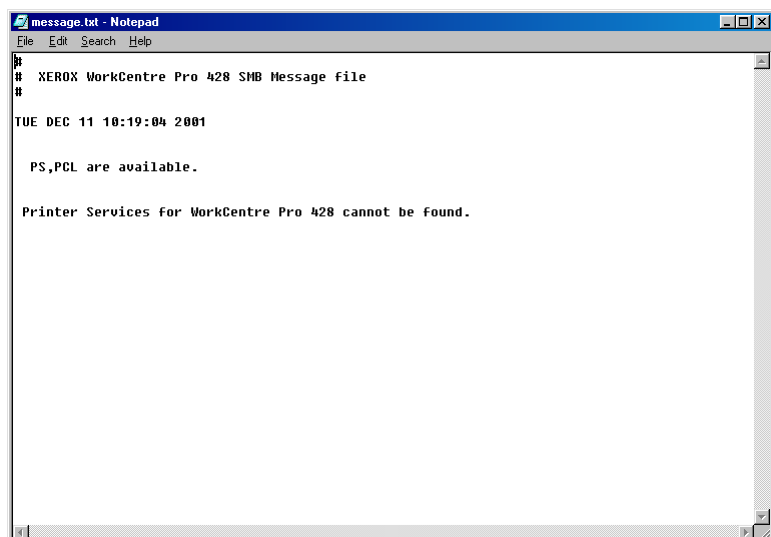
7. Close message.txt.

8. Switch off the printer, and wait for at least five seconds before switching it on again.

Setting format of config.txt

Item	Remarks	Value	Default
Printer Language	Language to be used.	English	English
Host Name	Host name of the printer	Maximum 15 bytes	XC-xxxxxx (xxxxxx: last 3 bytes of the printer MAC address)
Workgroup	Name of workgroup of printer	Maximum 15 bytes	WORKGROUP
NETBEUI	Activation of NetBEUI protocol	On/Off	On
TCP/IP	Activation of TCP/IP protocol	On/Off	On
Spool	Activation of spool function. Can select from Disk, Memory, and Off. If Disk is not recognized when it is selected, it will become Off.	Disk/Memory/Off	Off
Max Spool Size	The maximum receive buffer size during spooling. Can be set in 256 kbyte units.	512 - 32768 (unit: kbyte)	1024 kbyte
Max Receive Buffer	The maximum receive buffer size during non-spooling. Can be set in 32 kbyte units.	64 - 1024 (unit: kbyte)	256 kbyte
Auto Driver Download	Activation of the automatic downloading of printer driver.	Enable/Disable	Enable
PJL	Activation of PJL	On/Off	On
Print Mode	Set the printer language.	AUTO/PS/PCL	AUTO
Auto Master Mode	Activation of the automatic browse master feature. No available when Wins server is designated.	On/Off	On
Encrypt Password	Activation of the encrypt password feature.	On/Off	On
Time Zone	Set the time zone in units of minutes.	-720 to 720 (unit: minutes)	0 (England)
Summer Time	Set the period of summer time	hour-start-end (h-hhddmm-hhddmm)	
Maximum Sessions	Maximum connections of printer.	3 - 10	5
Unicode Support	Set whether to use unicode or local code (Shift JIS).	Enable/Disable	Disable
DHCP	Activation of DHCP.	On/Off	On
WINS DHCP Resolve	Activation of WINS DHCP Resolve.	On/Off	On
IP Address	Set the IP address.	-----	0.0.0.0
Subnet Mask	Set the subnet mask.	-----	0.0.0.0
Gateway Address	Set the gateway address.	-----	0.0.0.0
WINS Primary Server Address	Set the WINS primary server address	-----	0.0.0.0
WINS Secondary Server Address	Set the WINS secondary server address.	-----	0.0.0.0

Item	Remarks	Value	Default
Administrator	Name Administrator name.	Maximum 20 bytes	admin
Administrator Password	Password of administrator. Current setting not displayed.	Maximum 14 bytes.	admin
Location	Comments on location of machine.	Maximum 48 bytes.	-----
Reboot	Printer will be rebooted after the editing of the config.txt parameter setting file if set to On. Usually set to Off when activated. Machine will not be rebooted even if it is set to On if there is an error in the setting.	On/Off	Off

Example of config.txt

```
config.txt - Notepad
File  Edit  Search  Help

#
#   XEROX WorkCentre Pro 428 SMB config file
#

Printer Language          :English       :
Host Name                 :LSYS_WKC428-05 : Max 15 bytes (*)
Workgroup                 :WORKGROUP      : Max 15 bytes (*)
NETBEUI                   :Off            : On or Off (*)
TCP/IP                    :On             : On or Off (*)
Spool                     :Off            : Disk/Memory/Off (*)
Max Spool Size            :1024           : Applicable to Memory Spool(512-32768 Kbyte)(*
Max Receive Buffer Size   :256            : Applicable to Spool Off(64-1024)(*)
Auto Driver Download      :Enable         : Enable or Disable
PJL                       :On             : On or Off
Print Mode                :AUTO           : AUTO/PS/PCL/
Auto Master Mode          :On             : On or Off (*)
Encrypt Password          :On             : On or Off (*)
Time Zone                 :0              : Japan(540)/England(0)/Hawaii(-600)(min)
Summer Time               :               : hour-start-end(h-hhddmm-hhddmm)
Maximum Sessions          :5              : Min 3 Max 10 (*)
Unicode Support           :Disable        : Enable or Disable (*)
DHCP                      :Off            : On or Off (*)
Get WINS DHCP             :No             : Yes or No (*)
IP Address                :13.220.172.75  : ex 128.0.0.1 (*) (-)
Subnet Mask               :255.255.252.0  : ex 255.255.255.0 (*) (-)
Gateway Address           :13.220.172.1   : ex 128.0.0.1 (*) (-)
WINS Primary Server IP Address:13.200.1.254   : ex 128.0.0.1 (*) (-)
WINS Secondary Server IP Address:13.202.66.21   : ex 128.0.0.1 (*) (-)
Administrator Name        :ADMIN          : Max 20 bytes (*)
Administrator Password    :               : Max 14 bytes (*)
Location                  :EC1 Language Services Lab: Max 48 bytes (*)
```

Auto Driver Downloading

When installing printer driver to Windows 95/98/Me client computer, you can define setting to use the automatic driver downloading feature.

NOTE: This feature is not applicable to Windows NT 4.0/2000.

Preparation for auto driver downloading

The following procedure explains the preparations needed in order to use the auto driver downloading feature. Only the administrator can define this setting.

1. Either open Network Neighborhood from the Windows client computer, followed by Workgroup (default: Workgroup) and then the printer. Or enter the IP address of the WorkCentre Pro in the Start>Run dialog and press OK.

2. Refer to *"Changing Printer and Workgroup Name" on page 6-7*, open the config.txt inside the "admintool" folder, and then check that Auto Driver Download is set to Enable (default: Enable).

3. Close config.txt and then open the "drivers" folder.

4. Insert the PCL Driver/Network Utility CD-ROM into the CD-ROM drive and open it through Windows Explorer or My Computer.

5. Create a folder inside the "drivers" folder of the printer under Workgroup. Name the folder with a maximum of eight characters. You can create up to a maximum of two levels of folders.

    Here, we will create a folder called win98.
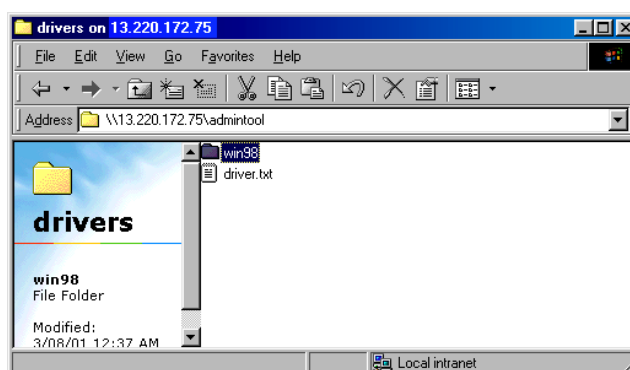
6. Copy all the files of the printer driver in the appropriate AddPrint folder in the CD-ROM (e.g. /Win9x_Me/PCL6/AddPrint) to the folder you have just created (here, "win98"). Close the "drivers" folder.

7. Switch off the power of the printer, and wait for five seconds before switching it on again.

8. Open Network Neighborhood from the Windows client computer, followed by Workgroup (default: Workgroup) and then the printer.

    You notice that a printer icon of the printer driver (9x_mee-pcl) has been added.

    You are now ready for auto driver downloading.

Auto downloading of printer driver

The following procedure explains how to use the auto downloading feature of the printer driver to install printer driver to the client computer. We will install the PCL 6 printer driver to Windows 98 here as an example.

NOTE: If you are not sure of your Workgroup or Host Name, consult your system administrator.

1. Either open Network Neighborhood from the Windows client computer, followed by Workgroup (default: Workgroup) and then the printer. Or enter the IP address of the WorkCentre Pro in the Start>Run dialog and press OK. Then, select **[9x_mee-pcl]**.

NOTE: The factory setting of Workgroup is Workgroup and host name of the printer is "XC-xxxxxx" (where xxxxxx is the last three bytes of the Mac address of the printer). See your system administrator for the current setting.
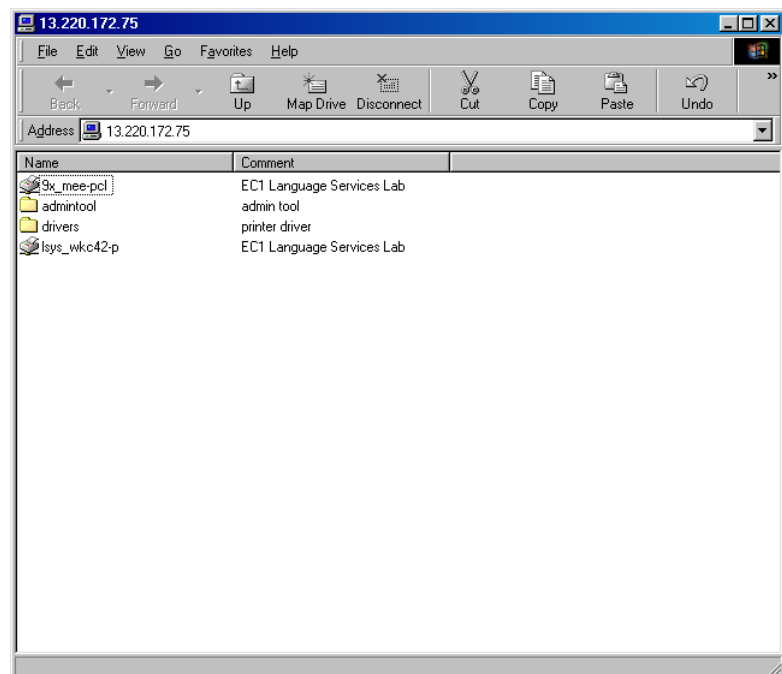
2. The following message appears. Select **[Yes]**.
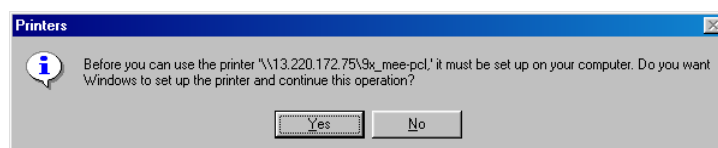
3. The Add Printer Wizard dialog box appears.
    Select **[Yes]** if you want to print from MS-DOS-based programs

and **[No]** if you do not want to, and then click **[Next]**.
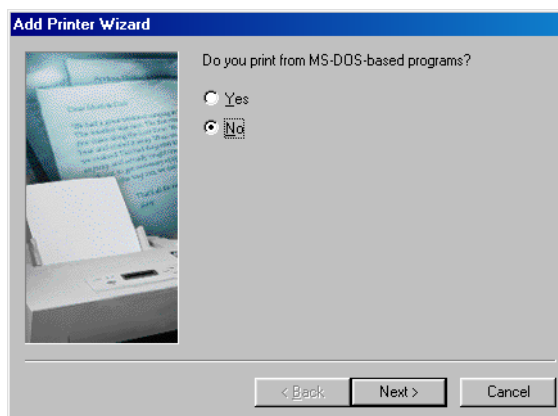
4. If necessary, change Printer name.

   Click **[Yes]** if you want to use the printer as a default printer and **[No]** if you do not want to.

   Then click **[Next]**.
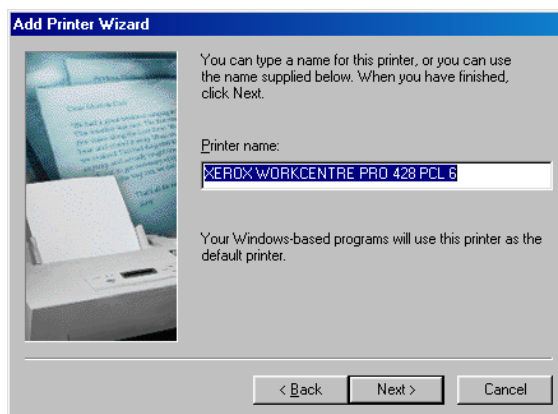
5. Click **[Yes]** if you want to print a test page and **[No]** if you do not want to. Then click **[Finish]** to start the installation.
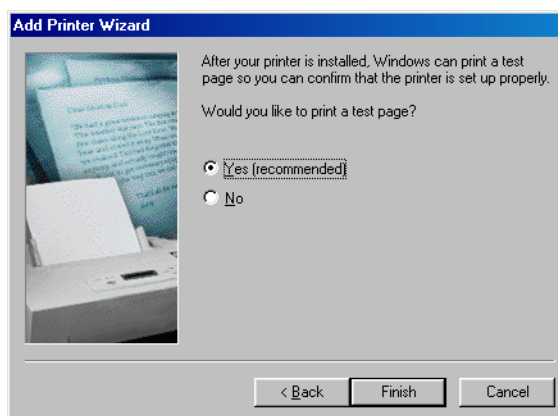
6. If you have chosen to print a test page, the following message appears.
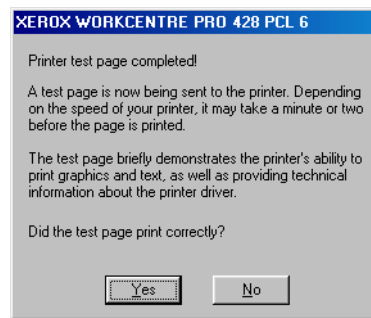
7. Check that the test page has been correctly printed and then click **[Yes]**.

8. The printer icon of the newly installed printer is added to the "Printers" folder and the printer is now ready for use.

    The printer window is displayed for you to specify settings.

9. From the "Printers" menu, select **[Properties]**.

    The printer properties dialog box is displayed.
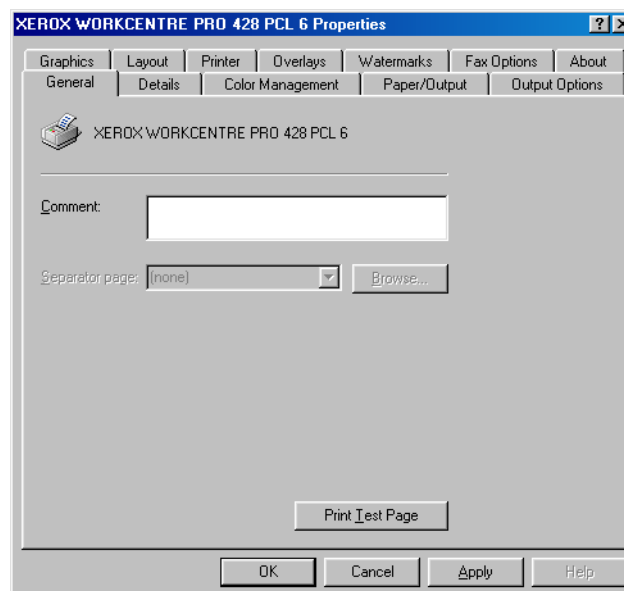
10. Refer to *"User Guide (Printer)"* to configure your settings.

7 Setting Up for TCP/IP (Windows NT/ 2000)

The following information can be found in this chapter:

➢ Setting Up for TCP/IP (Windows NT/2000)

➢ Setting Up the Printer

➢ Setting Up Windows NT/2000

➢ Using Port 9100 for Windows 2000

Setting Up for TCP/IP (Windows NT/2000)

This section describes the setup sequence for connecting the printer to a Windows NT/2000 server (workstation) using the TCP/IP protocol. To print in TCP/IP environment, ensure that the Windows NT/2000 server (workstation), client, and printer have been assigned their respective IP addresses to connect to the network. It is necessary to specify the IP address assigned to the printer using the port settings at the Windows NT/2000 server (workstation). A printer driver compatible with the printer must be used for the setup.

Setup sequence

There are three possible network printer connections when printing from environments using Windows NT/2000:

1. From a Windows 95/98/Me client through a Windows NT/2000 server (workstation)

2. From a Windows NT/2000 server (workstation) directly

3. From a Windows NT/2000 client through a Windows NT/2000 server (workstation)

Unless otherwise indicated, the following flow is applicable to all three connections.

1. Setting up the printer

   Set the LPD port to **[Enable]** (factory setting: Enable) and set up the IP address.

   NOTE: If your network has a DHCP, BOOTP or RARP environment, the printer can obtain the IP address automatically from each of the servers.

   See *"Setting Up the Printer" on page 7-3.*

2. Setting up Windows NT/2000

   Install the printer driver for Windows NT/2000.

   For Windows 95/98/Me only: Next, install the Windows 95/98/Me driver as an alternate driver in the Windows NT/2000 server (workstation) if necessary.

   See *"Setting Up Windows NT/2000" on page 7-5.*

3. Setting up the client:

   For Windows 95/98/Me only:

   • When the Windows NT/2000 server (workstation) is installed with an alternate Windows 95/98/Me driver, download the driver using the "Add Printer Wizard" dialog box. Select Network printer server as the printer connection and the printer installed for Windows NT/2000 in Step 2.

   • When the Windows NT/2000 server (workstation) is not installed with an alternate Windows 95/98/Me driver, install the driver using the "Setup.exe" program from the CD-ROM.

   For Windows NT/2000 client through a Windows NT/2000

   Download the Windows NT/2000 driver using the "Add Printer Wizard" dialog box, select Network printer server as the printer connection and the printer installed for Windows NT/2000 in Step 2. Otherwise, run the "Setup.exe" program from the CD-ROM to install the Windows NT/2000 driver.

   See *"User Guide (Printer)"* for details on the installation of the printer driver.

Setting Up the Printer

To print in TCP/IP environment, check that the LPD port is set to Enable (default: Enable) from the printer control panel or CentreWare Internet Services screen.

➢ Before activating the LPD port, set up the IP address in the printer. Refer to *"Setting IP Address" on page 2-6* for information on defining the IP address.

➢ If setting the port to Enable leads to insufficient memory, a message to that effect will be displayed on the control panel and the port status may be set to Disable automatically. If this happens, set the ports which are not in use to Disable, change the memory size or add more memory.

Activating the LPD port

The LPD port is set to Enable by default. However, if the LPD is set to Disable, activate the LPD port from the control panel based on the following procedure.

Ready to print

① Press [Menu]

Menu
Quick Setup

② Press [▲] or [▼] a few times until the following appears

Menu
Network/Port

③ Press [▶]

Network/Port
Parallel

④ Press [▲] or [▼] a few times until the following appears

Network/Port
LPD

⑤ Press [▶]

LPD
Port Status

⑥ Press [▶]

Port Status
Disable *

⑦ Press [▼]

... from next page

To next page ...

To previous page ...   *... from previous page*

```
                    Port Status
                              Enable
```

                                    ⑧ Press [Eject/Set]

```
                    Port Status
                              Enable *
```

⑨ Press [Menu]

(When "Ready to print" appears, the printer is ready to receive data.)

Other settings

When necessary, adjust the following settings on the printer control panel. For normal use, the default values of these settings need not be changed.

➢ Print Mode   (default: Auto)

➢ PJL   (default: Enable)

➢ Connect Time-Out   (default: 16 Secs)

➢ TBCP Filter   (default: Disable) (PostScript kit is installed)

➢ IP Filter   (default: Off)

➢ Buffer Size   (default: LPD Spool Off: 256KB)

You can also use CentreWare Internet Services for the settings.

Setting Up Windows NT/2000

This section describes the procedure for installing the printer driver on Windows NT 4.0/2000.

A printer driver compatible with the printer must be used for the setup.

For Windows NT 4.0/2000

The PC must be installed with TCP/IP protocol (protocol) and Microsoft TCP/IP Printing for Windows NT (service). It is necessary to specify the IP address assigned to the printer using the port settings at the Windows NT/2000 server (workstation).

Refer to the manuals that come with Windows NT 4.0/2000 for details on the installation method.

1. Install the printer driver for Windows NT 4.0/2000 by running the "Setup.exe" program. Click Add Network Port and select the network printer from Network Neighborhood.

    If you use Port9100 for Windows 2000, double-click the "My Computer" icon, followed by the "printer" icon. Then double-click **[Add Printer]**.

    Refer to *"Using Port 9100 for Windows 2000" on page 7-5* for details.

2. For printing from a Windows 95/98/Me client through a Windows NT/2000 server (workstation):

    To share the Windows 95/98/Me printer driver as an alternate driver in the Windows NT/2000 server (workstation), install the printer driver for Windows 95/98/Me into the Windows NT/2000 server (workstation) by running the "Setup.exe" program.

Using Port 9100 for Windows 2000

This section describes how to use Port 9100 for Windows 2000.

Setup sequence

1. Setting up the printer

    Set the Port 9100 to **Enable** (default: Disable) from the printer control panel or CentreWare Internet Services screen, and set up the IP address.

    NOTE: If your network has a DHCP, BOOTP or RARP environment, the printer can obtain the IP address automatically from the server.

    See *"Activating the Port 9100 port" on page 7-6.*"

2. Installing the printer driver to the host computer

    See *"Installing the printer driver" on page 7-7.*"

Activating the Port 9100 port

The Port9100 port is set to Disable by default. If the Port9100 port is Disable, activate the port from the printer control panel using the following procedure.
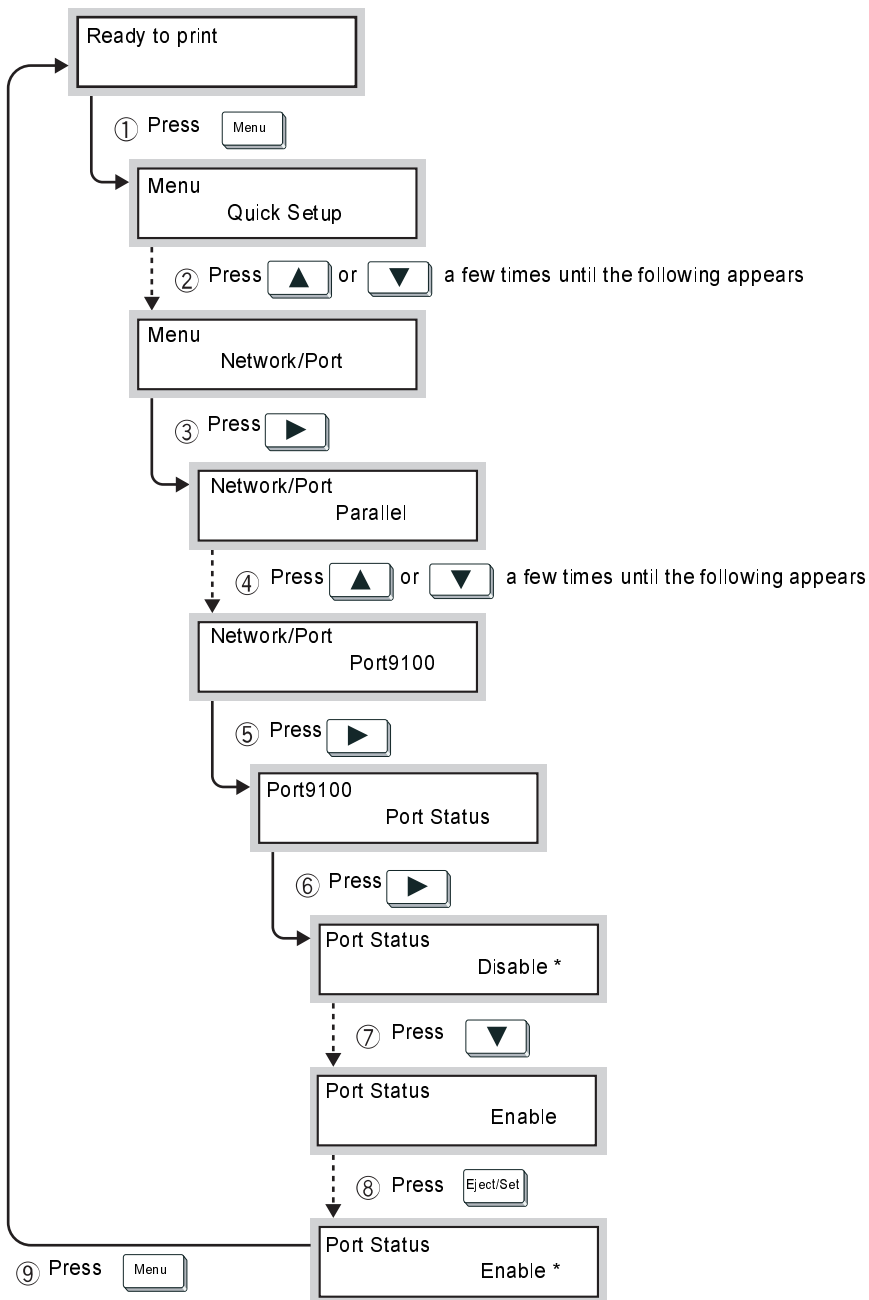
```
┌─────────────────────────┐
│ Ready to print          │
│                         │
└─────────────────────────┘
  ① Press  [ Menu ]

┌─────────────────────────┐
│ Menu                    │
│      Quick Setup        │
└─────────────────────────┘
  ② Press [ ▲ ] or [ ▼ ]   a few times until the following appears

┌─────────────────────────┐
│ Menu                    │
│      Network/Port       │
└─────────────────────────┘
  ③ Press [ ▶ ]

┌─────────────────────────┐
│ Network/Port            │
│         Parallel        │
└─────────────────────────┘
  ④ Press [ ▲ ] or [ ▼ ]   a few times until the following appears

┌─────────────────────────┐
│ Network/Port            │
│          Port9100       │
└─────────────────────────┘
  ⑤ Press [ ▶ ]

┌─────────────────────────┐
│ Port9100                │
│        Port Status      │
└─────────────────────────┘
  ⑥ Press [ ▶ ]

┌─────────────────────────┐
│ Port Status             │
│         Disable *       │
└─────────────────────────┘
  ⑦ Press [ ▼ ]

┌─────────────────────────┐
│ Port Status             │
│          Enable         │
└─────────────────────────┘
  ⑧ Press [ Eject/Set ]

┌─────────────────────────┐
│ Port Status             │
│         Enable *        │
└─────────────────────────┘
  ⑨ Press [ Menu ]
```

When "Ready to print" appears, the printer is ready to receive data.

Other settings

When necessary, adjust the following settings on the printer control panel. For normal use, the default values of these settings need not be changed.

- ➢ Print Mode   (default: Auto)
- ➢ PJL   (default: Enable)
- ➢ Port Number   (default: 9100)
- ➢ TBCP Filter   (default: Disable) (PostScript kit is installed)
- ➢ Connect Time-Out   (default: 60 Secs)
- ➢ Buffer Size   (default: LPD Spool Off: 256KB)

NOTE: You can also use CentreWare Internet Services for the settings.
Use the default port number, 9100. Only when the number is already used for another service, consult the system administrator to change the port number.

Installing the printer driver

This procedure assumes that the printer driver has been installed on the workstation but the printer has not been added.

See the *Printer User Guide* for details.

1. Click **[Start]**, and then select **[Settings]**, followed by **[Printers]** for Windows 2000.

   The Printers window appears.

2. Double click **[Add Printer]**.

   The Add Printer Wizard dialog box appears.

3. Click **[Next]**.

4. Select **[Local printer]** and then click **[Next]**.
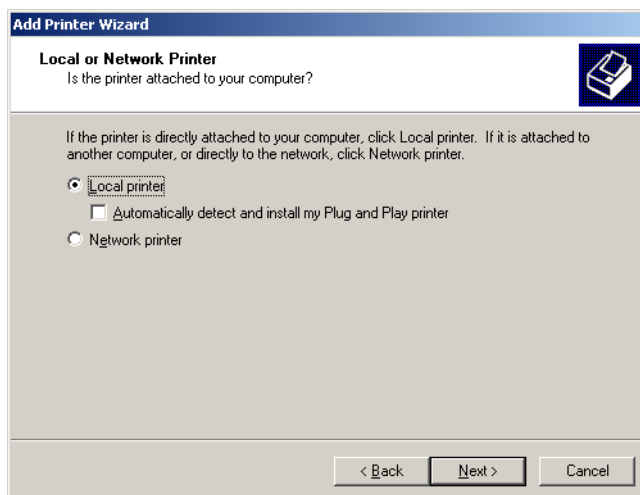
5. Select **[Create a new port]** and then **[Standard TCP/IP Port]** from the drop down list. Then click **[Next]**.
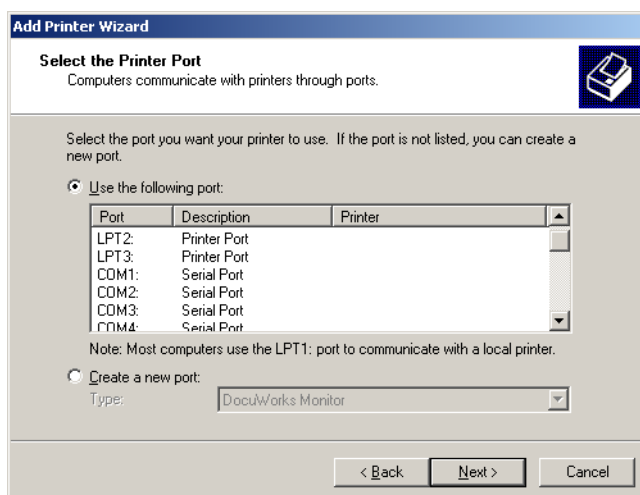
6. Click **[Next]** on the Add Standard TCP/IP Printer Port Wizard.

7. Enter the IP address or printer name of your printer, then click **[Next]**.

NOTE: If the following dialog box appears, select **Custom** and click **Settings**. Then select **Raw** and enter "9100" for Port Number. Click **OK**, and then **Next**.

8. Click **[Finish]**.

9. Click **[Have Disk]**.
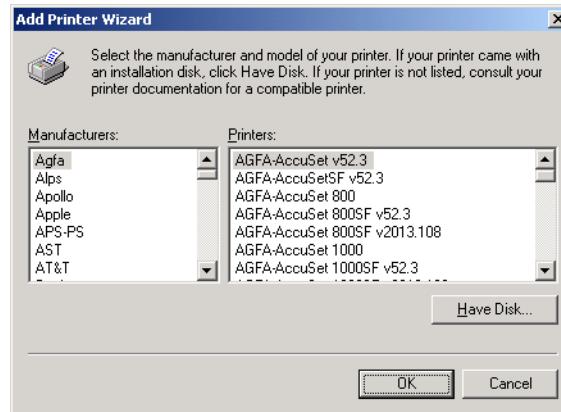
10. Browse to where the driver files were installed.

    If you installed the files on your workstation, the location will be:

    C:\Program Files\Xerox\Xerox WorkCentre Pro 423 & 428

11. Choose the driver file and click **[Open]**.

12. Click **[OK]**.

    The screen to select the printer driver appears.

13. Select your printer name and then click **[Next]**.
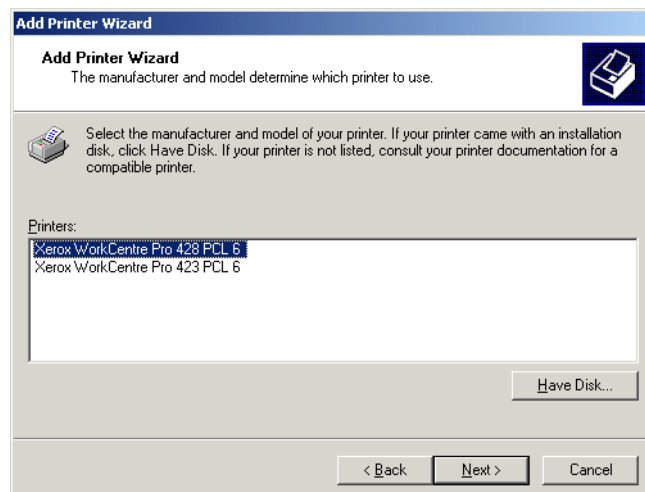
    The screen to specify whether to use this printer as the default printer appears.

14. Select **[Yes]** when you want to use the printer as the default printer and **[No]** when you do not want to use it as the default. The necessary files will be copied.

15. After the copying is done, click **[Finish]**.

Setting the protocol for Port 9100

If the dialog box for Custom Settings has not appeared to let you specify Port 9100 while installing the printer driver, follow the procedure below to set up the protocol for Port 9100 (Raw) after the driver installation.

1. Select the printer icon you have just created in the Printer folder, then select **[Properties]**.

2. Select the Ports tab, then click **[Configure Port]**.
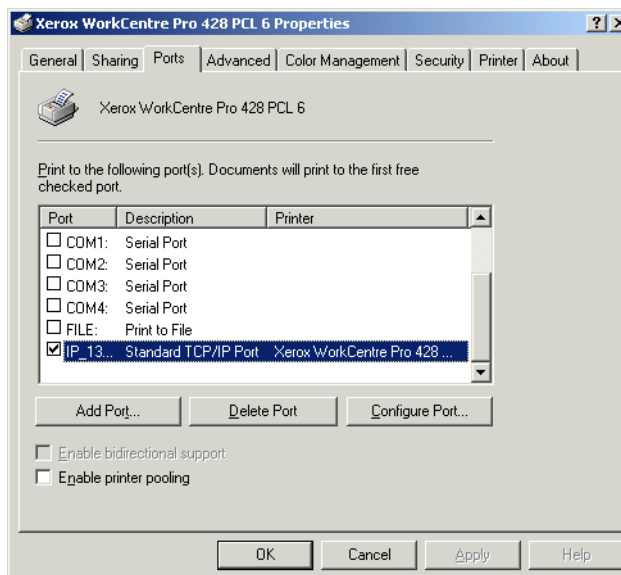
3. Select **[Raw]** for Protocol. Make sure that the displayed port number is the same as the number specified at the printer. Click **[OK]**, and then **[Apply]** on the dialog box displayed to save your setting.
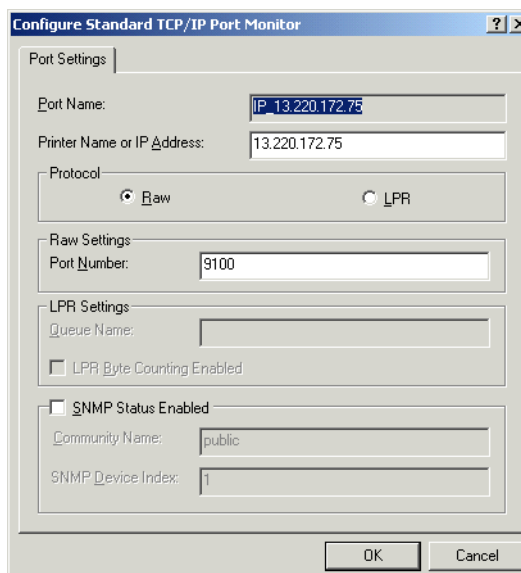
8 Installing the Printer for TCP/IP (UNIX)

The following information can be found in this chapter:

➢ Setting Up for TCP/IP (UNIX)

➢ Setting Up the Printer

➢ Setting Up the Workstation

➢ Printing (SunOS)

➢ Printing (HP-UX)

➢ Printing (Solaris)

➢ -C Option (lpr Command)

Setting Up for TCP/IP (UNIX)

This section describes the setup sequence for connecting the printer to UNIX machines via the TCP/IP protocol.

Setup sequence

1. Setting up the printer

   Set the LPD port to **[Enable]** (default: Enable), and set up the IP address.

   NOTE: If your network has a DHCP, BOOTP or RARP environment, the printer can obtain the IP address automatically from the server.

   See *"Setting Up the Printer" on page 8-3.*"

2. Setting up the workstation

   This section explains the setup procedure for the workstation.

   See *"Setting Up the Workstation" on page 8-5.*"

3. Printing

   This section explains the procedures for printing, deleting a print job and inquiring about the print status.

   The procedures vary according to the models involved.

   • See *"Printing (SunOS)" on page 8-11.*" for information on SunOS.

   • See *"Printing (HP-UX)" on page 8-14.*" for information on HP-UX.

   • See *"Printing (Solaris)" on page 8-17.*" for information on Solaris.

Setting Up the Printer

To print in TCP/IP environment, check that the LPD port is set to Enable (default: Enable) from the printer control panel.

➢ Before activating the LPD port, set up the IP address in printer. Refer to *"Setting IP Address" on page 2-6* for information on defining the IP address.

➢ If setting the port to Enable leads to insufficient memory, a message to that effect will be displayed on the control panel and the port status may be set to Disable automatically. If this happens, set the ports which are not in use to Disable, change the memory size or add more memory.

Activating the LPD port

The LPD port is set to Enable by default. However, if the LPD is set to Disable, activate the LPD port from the control panel based on the following procedure.

```
┌──────────────────────────┐
│ Ready to print           │
│                          │
└──────────────────────────┘
    ① Press [ Menu ]
┌──────────────────────────┐
│ Menu                     │
│        Quick Setup       │
└──────────────────────────┘
    ② Press [▲] or [▼]  a few times until the following appears
┌──────────────────────────┐
│ Menu                     │
│        Network/Port      │
└──────────────────────────┘
    ③ Press [▶]
┌──────────────────────────┐
│ Network/Port             │
│              Parallel    │
└──────────────────────────┘
    ④ Press [▲] or [▼]  a few times until the following appears
┌──────────────────────────┐
│ Network/Port             │
│                   LPD    │
└──────────────────────────┘
    ⑤ Press [▶]
┌──────────────────────────┐
│ LPD                      │
│            Port Status   │
└──────────────────────────┘
    ⑥ Press [▶]
┌──────────────────────────┐
│ Port Status              │
│            Disable *     │
└──────────────────────────┘
    ⑦ Press [▼]
```

... from next page

To next page ...

To previous page ...   ... from previous page

```
                          ┌────────────────────────┐
                          │ Port Status            │
                          │               Enable    │
                          └────────────────────────┘
                                      ⑧  Press  [Eject/Set]

                          ┌────────────────────────┐
                          │ Port Status            │
   ⑨  Press  [Menu]       │               Enable *  │
                          └────────────────────────┘
```

(When "Ready to print" appears, the printer is ready to receive data.)

Other settings

When necessary, adjust the following settings on the printer control panel. For normal use, the default values of these settings need not be changed.

> Print Mode   (default: Auto)

> PJL   (default: Enable)

> Connect Time-Out   (default: 16 Secs)

> TBCP Filter   (default: Disable)

> IP Filter   (default: Off)

> Buffer Size   (default: LPD Spool Off: 256KB)

You can also use CentreWare Internet Services for the settings.

Setting Up the Workstation

This section describes the setup procedure for using the printer from workstations.

Before installation

Verify the following information before the installation:

➢ The setup procedures and commands may vary according to different versions of OS. Refer to the manuals that came with the workstation for the details.

➢ To setup the printer, the user must be a superuser. Contact your network administrator to perform the setup if you do not have the authority of a superuser.

➢ Check the IP address set up for the printer in advance. Be cautious as an incorrect IP address may cause serious errors.

➢ Before performing any network setup (such as the IP address) to a host running under NIS (Network Information Service), consult the NIS administrator.

Installation procedure (SunOS 4.1.X)

This section explains the procedure for setting up the printer with "xcprinter" as the host name in SunOS 4.1.X.

1. To perform the setup, you must be a superuser.

   Ask your network administrator to perform the setup if you do not have the authority of a super user.

2. Register the printer host at /etc/hosts. Enter the IP address, host name, and alias.

```
#
192.168.1.10 xcprinter XCPRINTER # TCP/IP Printer
#
```

Be cautious with the IP address as an incorrect one may cause serious errors. Consult your network administrator.

3. To check the connection with the printer, switch on the printer and input the following commands:

```
#/usr/etc/ping xcprinter
```

If the printer responses with "xcprinter is alive", proceed to Step . If there is no response, something may be wrong in the settings of the IP address or the network states. Consult your network administrator.

4. Set up the printer entry. Register the printer at /etc/printcap.

   Register the printer and set the printer name to "XCPS".

```
#
##chosen PS decomposer on printer
##
XCPS | printerPS | Auto select PS:\
     :lp=::rp=PS:rm=xcprinter:\
     :sd=/usr/spool/printerPSlpd:\
     :lf=/usr/adm/xcprinter-errs:
```

To specify multiple entries for the logical printer, make sure each printer entry is assigned its unique spool directory. If a single spool directory is used for multiple printer entries, the printer select option may not function correctly.

- Add the printer name to the initial field of /etc/printcap. To specify multiple printer names, separate them by "|".

- **lp**: - The connected port device. No need to specify.

- **rp**: - his is the printer name of the remote host.

- **rm**: - This is the host name of the remote printer. Input the host name registered with /etc/hosts.

- **sd**: - This is the spool directory. Specify the absolute path of the spool directory which must be created. Refer to Step to create a spool directory.

- **lf**: - This is the error log file. Create one if it does not already exist. Refer to Step to create a log file.

Refer to the manuals, such as online manuals, that came with various workstations for the details.

5. Create the spool directory specified by the "sd=" parameter of /etc/printcap and change the owner and permission.

```
#cd /usr/spool
#mkdir printerPSlpd
#chown daemon.daemon printerPSlpd
#chmod 755 printerPSlpd
#
```

6. Create the error log file specified by the "lf=" parameter of /etc/printcap.

```
#touch /usr/adm/printer-errs
#chmod 644 /usr/adm/printer-errs
```

7. Run the printer daemon.

```
#/usr/etc/lpc
lpc>start XCPS
XCPS:
daemon started
lpc>quit
#
```

The workstation has been set up by the above steps.

Installation procedure (HP-UX 9.X, 10.X)

This section explains the procedure for setting up the printer with "xcprinter" as the host name in HP-UX 9.X and 10.X.

1. To perform the setup, you must be a superuser.

Consult your network administrator to perform the setup if you do not have the authority of a superuser.

2. Register the printer host at "/etc/hosts". Enter the IP address, host name, and alias.

```
#
192.168.1.10 xcprinter XCPRINTER # TCP/IP Printer
#
```

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3. To check the connection with the printer, switch on the printer and enter the following commands:

```
#/usr/etc/ping xcprinter
```

If the printer responses, proceed to Step . If there is no response, something may be wrong in the settings of the IP address or the network states. Consult your network administrator.

4. Stop the entire spool system by issuing the "lpshut" command.

```
#lpshut
```

5. Set up the printer entry. Use the "lpadmin" command and set up the remote printer. Register the printer and set the printer name specified by the "lpadmin" command to printer.

The host name is set up by the "-orm" parameter.

```
#lpadmin -pXCPS -mrmodel -v/dev/null
-ormxcprinter -osmrsmodel -orpPS -ob3
```

6. Restart the master daemon which has been stopped to facilitate the setting up process.

```
#lpsched
```

7. Issue an "enable" command to enable output to the printer which has been set up by the "lpadmin" command. If the printer name is set up as "printer", enter the following command:

```
#enable printer
```

8. Run the printer daemon. Issue an "accept" command and set the lp program to accept requests for the printer which has been set up by the "lpadmin" command. If the printer name is set up as printer, enter the following command:

```
#accept printer
```

The workstation has been set up by the above steps.

Installation procedure (Solaris)

This section explains the procedure for setting up the printer in Solaris. The example here has "xcprinter" as the host name in Solaris, the IP address is "192.168.1.10", and the logical printer name is "xcps".

1. To perform the setup, you must be a superuser.

```
% su
Password:
#
```

Consult your network administrator to perform the setup if you do not have the authority of a superuser.

2. Register the network printer host name. Open the /etc/hosts file by using an editor such as vi and add the following description:

```
192.168.1.10 xcprinter XCPRINTER # TCP/IP Printer
```

> This registration is not required for system that will use NIS/NIS+. Instead ask your network administrator to register the host on the NIS/NIS+ database.

> Be cautious with the IP address as an incorrect one may cause serious errors. Consult your network administrator.

3. To check the connection with the printer, switch on the printer and enter the following commands:

```
# ping xcprinter
xcprinter is alive
```

If the printer responses, proceed to Step 4. If "no answer from xcprinter" is displayed, it means that there is no response from the printer as there may be some errors in the settings of the IP address or the network status. Consult your network administrator.

4. Register the printer on Solaris. The printer name to be registered on Solaris is "xcps" and the network printer host name is "xcprinter". Add "WorkCentre Pro" as the remarks in the command line.

```
# lpadmin -p xcps -s xcprinter\IPS
# lpadmin -p xcps -D "WorkCentre Pro"
```

Enter the following command to send a job directly to the printer. This command is not required if the version of Solaris is 2.6 or later.

```
# lpsystem -t bsd xcprinter
# lpadmin -p xcps -I any -T " "
```

Enter the following commands to enable the printer to accept print jobs:

```
# accept xcps
# enable xcps
```

• Enter the following to restart the LP print service:

```
# lpshut
# lpsched
```

5. Check that the settings have been done correctly. Enter the following command to check that the printer is functioning normally:

```
# lpstat -p xcps -l
printer xcps is idle. enabled since Tue Oct 27
17:19:22 JST 1998. available.
     Content types: any
     Printer types: unknown
     Description: WorkCentre Pro
     Users allowed:
         (all)
     Forms allowed:
         (none)
     Banner not required
     Character sets:
         (none)
     Default pitch:
     Default page size:
```

The above will not be output if the settings have not been done correctly.

This example is output from Solaris 2.5.1. The contents will be

Setting up by using the Solaris filter

This section explains the procedure for setting up the printer by using the Solaris filter. Refer to " *Chapter - Installation procedure (Solaris)*" for the setup procedure.

Using Solaris 2.5.1 or an earlier version

An example is used in this section to describe the installation procedure by using the Solaris filter. In this example, the host name of the printer is "xcprinter", the IP address is "192.168.1.10", and the logical printer name on Solaris is "xcps". Enter the following command to define the printer language as PostScript:

1. Enter the printer host name to the /etc/hosts file.

```
# vi /etc/hosts
```

2. Register the printer on Solaris.

```
# lpsystem -t bsd xcprinter
# lpadmin -p xcps -s xcprinter\IPS
# lpadmin -p xcps -D "WorkCentre Pro"
# lpadmin -p xcps -I postscript -T PS
```

3. Register the filter on the system.

Bourne (B) shell:

```
# cd /etc/lp/fd
# for f in *.fd; do
> lpfilter -f 'basename $f .fd'-F $f
> done
```

C shell:

```
# cd /etc/lp/fd
# foreach f ( *.fd )
foreach? lpfilter -f 'basename $f .fd' -F $f
foreach? end
```

4. Enable the registered printer.

```
# accept xcps ;enable xcps
# lpshut ;lpsched
```

Using Solaris 2.6 or a later version

An example is used in this section to describe the installation procedure by using the Solaris filter functions. In this example, the host name of the printer is "xcprinter", the IP address is "192.168.1.10", and the logical printer name on Solaris is "xcps".

Enter the following command to define the printer language as PostScript:

1. Enter the printer host name to the /etc/hosts file.

```
# vi /etc/hosts
```

2. Register the printer on Solaris.

```
# lpadmin -p xcps -v /dev/null
# lpadmin -p xcps -i /usr/lib/lp/model/netstandard
# lpadmin -p xcps -o dest=xcprinter -o protocol=bsd
# lpadmin -p xcps -D "WorkCentre Pro"
# lpadmin -p xcps -I postscript -T PS
```

3. Register the filter on the system.

Bourne (B) shell:

```
# cd /etc/lp/fd
# for f in *.fd; do
> lpfilter -f 'basename $f .fd' -F $f
> done
```

C shell:

```
# cd /etc/lp/fd
# foreach f ( *.fd )
foreach? lpfilter -f 'basename $f .fd' -F $f
foreach? end
```

4. Enable the registered printer.

```
# accept xcps ;enable xcps
# lpshut ;lpsched
```

Printing (SunOS)

This section describes the procedure for printing from workstations running SunOS.

Refer to the manuals that came with the workstations for the details.

Print (lpr)

The "lpr" command is used to print.

Command format

```
/usr/ucb/lpr [-P Printer name] [-# No. of copies] [-C Option] File name
```

Command options

The following command options are available:

-P Printer name
This option specifies the printer name registered at "/etc/printcap". If this option is omitted, print data will be output to the default printer lp.

-# No. of copies
This option specifies the number of copies. If one "lpr" command is issued to print multiple files, the number of copies specified by this option will apply to all the files.

This option is valid when the printer is in the spool mode.

-C option
To print using the PostScript language from this printer, use the -C option to specify the form of output.

See *"-C Option (lpr Command)" on page 8-20.*"

This option is valid when the printer is in the spool mode. In the non-spool mode, the client must be a Windows NT machine to use this option.

Precautions

➢ Among options not listed above (e.g., -m option), those not processed by the workstation that sends the print instructions will not be valid.

➢ In the spool mode, up to 32 files can be printed by one "lpr" command. Files that come after the 32nd files will be ignored.

Sample

To print a file named "file1" to a printer set up as "XCPS", enter the following command:

```
%lpr -PXCPS file1
```

To output 3 copies of "file1" and "file2" to "XCPS", enter the following:

```
%lpr -PXCPS -#3 file1 file2
```

Delete (lprm)

This "lprm" command is used to delete print data which has been sent to print.

Command format

```
/usr/ucb/lprm [-P Printer name] Job number
```

Command options

The following command options are available:

-P Printer name This option specifies the printer name registered with /etc/printcap. If this option is omitted, the default printer lp will be specified.

Job Number This option specifies the job number of the print data to be deleted. A job number is a serial number between 1-999 determined by the workstation. These numbers can be checked by issuing a "lpq" command.

This option is invalid in the non-spool mode.

[User name] This option is only valid when the user logs in as a superuser. When this option is executed, all the print data specified by the user who logged in as superuser will be deleted.

This option is invalid in the non-spool mode.

[-] A user can delete all his print data by specifying this option. If this option is issued by a superuser, all the print data received by the printer can be deleted.

This option is invalid in the non-spool mode.

Precautions

➢ Print data which consists of multiple files sent in one print instruction, cannot be deleted file by file. All the files will be deleted at one go.

➢ This command will become invalid if it is executed without options having been specified or if there is no print data which matches the option.

➢ A workstation can only delete print data it has sent. It cannot delete print data sent by other workstations.

➢ When a command to delete print data is received, the file concerned will be deleted even if it is in the process of being printed. The outcome of the printing will only consist of the print data available before the file is deleted.

Sample

To cancel the print data related to the files of printer "XCPS" (Job number: 351), enter the following command:

```
%lprm -PXCPS 351
```

Inquiry (lpq)

The "lpq" command is used to inquire about the status of the printer.

In the non-spool mode, this function is available to Windows-NT clients but not to SunOS clients.

Command format

```
/usr/ucb/lpq [-P Printer name] [-l] [+interval]
```

Command options

The following command options are available:

-P Printer name   This option specifies the printer name registered at /etc/printcap. If this option is omitted, the default printer lp will be specified.

-l   This option displays the information of the workstation, which sends print instruction, in the long format.

+interval   This option specifies the interval for which inquiries are sent and information is displayed regularly on the client for the duration of printing until the print data received by the printer has been printed. The interval is set up in seconds.

This option clears the display each time the information is displayed.

Precautions

➢ Long file names will be truncated.

➢ Up to 64 print instruction information can be displayed.

➢ If two or more types of print languages/modes are set up on a single workstation, identical job numbers may be displayed when an inquiry command (lpq) is issued.

Sample

To inquire about the print data received by a printer set up as "XCPS", enter the following command:

```
%lpq -PXCPS
```

To display a printer set up as "XCPS" in the long format, enter the following command:

```
%lpq -PXCPS -l
```

Printing (HP-UX)

This section describes the procedure for printing from workstations running HP-UX.

Refer top the manuals that came with the workstations for the details.

Print (lp)

The "lp" command is used for printing.

Command format

```
lp [-d Printer name] [-n No. of copies] File name
```

Command options

The following command options are available:

-d Printer name Specify the printer name registered by the "lpadmin" command as the -d option. If this option is omitted, the default printer lp will be specified.

-n No. of copies This option specifies the number of copies. If one "lp" command is issued to print multiple files, the number of copies specified by this option will apply to all the files.

However, this option is effective when the printer is in the spool mode. In the non-spool mode, the client must be a Windows NT machine to use this option.

Precautions

➢ Among options not listed above (e.g. -m option), those not processed by the workstation which sends the print instructions will not be effective.

➢ In the spool mode, up to 32 files can be printed by one lp command. Files that come after the 32nd files will be ignored.

Sample

To print a file named "file1" to a printer set up as "XCPS", enter the following command:

```
%lp -dXCPS file1
```

To output three copies of "file1" and "file2" to "XCPS", enter the following:

```
%lp -dXCPS -n3 file1 file2
```

Delete (cancel)

This cancel command is used to delete print data which has been sent to print.

Command format

```
cancel [Option]
```

Command options

The following command options are available:

Job Number This option specifies the job number of the print data to be deleted. These numbers can be checked by issuing a "lpstat" command.

This option is invalid in the non-spool mode.

Printer name This option specifies the printer name. The "cancel" command can be effectively used with the combined use of -a, -e and -u as shown below. This option is invalid in the non-spool mode.

- ➢ **-a** - Deletes all the print data, sent by a user who issues this command, from the data which has been received by a specified printer.

- ➢ **-e** - Deletes all the print data received by a specified printer.

- ➢ **-u [user name]** - Deletes all the print data sent by a specified user and received by a specified printer.

Precautions

- ➢ Print data which consists of multiple files sent in one print instruction, cannot be deleted file by file. All the files will be deleted at one go.

- ➢ This command will become invalid if it is executed without options having been specified or if there is no print data which matches the option.

- ➢ A workstation can only delete print data it has sent. It cannot delete print data sent by other workstations.

- ➢ When a command to delete print data is received, the file concerned will be deleted even if it is in the process of being printed. The outcome of the printing will only consist of the print data available before the file is deleted.

Sample

To cancel the print data related to the files of printer "XCPS" (Job number: XCPS-27), enter the following command:

```
%cancel XCPS-27
```

To cancel all the printer data of printer "XCPS", enter the following command:

```
%cancel XCPS -e
```

Inquiry (lpstat)

The "lpstat" command is used to inquire about the status of the printer.

In the non-spool mode, this function is available to Windows NT clients but not to HP-UX clients.

Command format

```
lpstat [Option]
```

Command options

The following command options are available:

If no option is specified, all the print data-related information will be displayed.

The sequence of the options does not affect the outcome.

To use more than one argument at the same time, separate them by commas and enclose all the arguments with " ".

E.g., %lpstat -u "user1,user2,user3"

-o [Printer name]   This option displays the print data received. The printer name is specified in the argument.

-t   This option displays all the information.

-u [User name]   This option displays received print data information on users of specified user names.

-v [Printer name]   This option displays the printer name and the device path name. The printer name is specified in the argument.

Precautions

➢ Long file names will be truncated.

➢ Up to 64 print instruction information can be displayed.

➢ If two or more types of print languages/modes are set up on a single workstation, identical job numbers may be displayed when an inquiry command (lpstat) is issued.

Sample

To inquire about the print data received by a printer set up as "XCPS", enter the following command:

```
%lpstat -oXCPS
```

Printing (Solaris)

This section describes the procedure for printing from workstations running Solaris 2.X. In Solaris 2.X, BSD Unix commands such as lpr/lprm can also be used.

Refer to *"Printing (SunOS)" on page 8-11"* for information on lpr/lprm.

Print (lp)

The "lp" command is used for printing.

Command format

```
lp [-d Printer name] [-n No. of copies] File name...
```

Command options

The following command options are available:

-d Printer name This option specifies the printer name registered on Solaris. If this option is omitted, the default printer will be specified. Although the default printer name is usually "lp", the default printer can also be specified by defining the printer name in the environment variable LPDEST.

In Solaris 2.6, you can also specify the default printer by using "$HOME/.printers".

Refer to the online manual (printers (4)) for the details.

-n No. of copies This option specifies the number of copies. If one "lp" command is issued to print multiple files, the number of copies specified by this option will apply to all the files.

However, this option is not effective if the printer lpd is in the non-spool mode.

Sample

To print a file named "file1" to a printer set up as "XCPS", enter the following command:

```
% lp -d XCPS file1
```

To output three copies of "file1" and "file2" to "XCPS", enter the following:

```
% lp -d XCPS -n3 file1 file2
```

Delete (cancel)

This "cancel" command is used to delete print data which has been sent to print.

Command formats

```
cancel [Request ID...] [Printer name...]
cancel -u User name [Printer name...]
```

Command options

The "cancel" command has two formats.

The command options available for the first format are:

Request ID This option specifies the request ID of the print data to be deleted. Specify the request ID in the LP style (destination-number). This ID can be checked by issuing a "lpstat" command.

Printer name This option specifies the printer name registered on Solaris. This command is used to cancel all print requests of the specified printer. All print requests of the user, except the superuser, can be cancelled.

The command options available for the second format are:

-u User name This option specifies the name of the user who wants to cancel his print requests. If only the user's name is specified, all print requests of the specified user will be cancelled. Only the superuser can cancel the requests made by all the users.

Printer name This option specifies the printer name registered on Solaris. This command is used to cancel all print requests of the user specified by the "-u" option.

Sample

To cancel the print request with request ID "XCPS-10", enter the following:

```
% cancel XCPS-10
```

To cancel all the print requests to the printer "XCPS", enter the following: (This can only be done by a superuser.)

```
# cancel XCPS
```

To cancel all the print requests from the user "bob" to the printer "XCPS", enter the following:

```
# cancel -u bob XCPS
```

Inquiry (lpstat)

The "lpstat" command is used to inquire about the status of the printer.

Command format

```
lpstat -p Printer name [-l] [-u User name]
```

Command options

The following command options are available:

-p Printer name   This option specifies printer name registered on Solaris.

-l   This option displays all the information about the printer besides its status.

-u [User name]   This option specifies the name of the user inquiring about the print status.

NOTE: The "lpstat" command has other options besides those mentioned above. Refer to the online manual (lpstat(1)) for the details.

Sample

To inquire about the print status of the printer "XCPS", enter the following:

```
% lpstat -p XCPS
```

To inquire about the print request of user "bob" on the printer "xcps", enter the following:

```
% lpstat -p XCPS -u bob
```

-C Option (lpr Command)

On SunOS, the output format of the printing can be specified if the printer prints with the PostScript language and the -C option.

This section explains the functions which can be specified and printing operations which will be affected by the -C option.

Function

The following items can be set up by using the -C option:

Selecting a paper tray

To select a paper tray, one can either specify a paper tray or a paper size. When the paper size is specified, the printer will search for the tray which is loaded with the specified size and select it.

The following parameters can be specified as:

- A3 : A3,a3
- B4 : B4,b4
- A4 : A4,a4
- B5 : B5,b5
- A5 : A5,a5
- Letter : LETTER, letter
- Legal : LEGAL, legal
- Tray : INTRAY #,intray# (where # is the tray number)
- MSI : INMF,inmf

Take note of the following when specifying a paper tray:

- If multiple paper trays are specified at the same time by one lpr option, the operation may not function correctly. One of the trays will be selected.
- If the tray number is not specified, the tray number set up in the system setup will be specified.
- If the printer is not set up with the specified paper size or paper tray, the system settings will be adopted.
- Depending on the print language, these specifications may not be valid.

Selecting a paper output tray

The following parameters can be specified.

- Face up : OUTUP, outup
- Face down : OUTDOWN, outdown

Take note of the following when specifying a paper output tray:

- If multiple paper output trays are specified at the same time by one lpr option, the operation may not function correctly. One of the trays will be selected.
- If the bin number is not specified, the mailbox cannot be specified.

➢ If the printer is not set up with the specified paper size or paper tray, the system settings will be adopted.

➢ Depending on the print language, these specifications may not be valid.

Specifying 2-sided printing

The following parameters can be specified:

➢ 2-sided left binding   : DUP, dup

➢ 2-sided top binding   : TUMBLE, tumble

➢ 1-sided   : SIMP, simp

Take note of the following when specifying 2-sided printing:

➢ If multiple selections of 2-sided printing are specified at the same time by one lpr option, the operation may not function correctly. One of the selections will be made.

➢ If the selection conflicts with other output formats, the output operation may not function correctly.

➢ If there is no selection, the system setting will be adopted.

➢ If print data already includes selection of either 2-sided or 1-sided printing, this selection of the printed side of the print data becomes valid and specification according to the -C option becomes invalid.

Specifying collated printing

The following parameters can be specified:

➢ To collate   : COLLATE, collate

Take note of the following when specifying collated printing:

➢ Depending on the print language, these specifications may not be valid.

Printing

To specify the output format of printing, enter the following command:

```
-C , [Parameter] , [Parameter]
```

Enter a "," (comma) after -C followed by the parameters which specify the output format. To specify multiple parameters, separate them with ",".

For example, to output a file named "file1" 2-sided on A4 to printer "XCPS", enter the following command:

```
%lpr -PXCPS -C,DUP,A4 file1
```

If the command specified by the -C option exceeds 64 characters, the operation may not function correctly.

9   Installing the Printer for Macintosh

The following information can be found in this chapter:

➢ Setting Up for Macintosh

➢ Setting Up the Printer

➢ Setting Up the Macintosh

Setting Up for Macintosh

This section describes the setup procedure for printing from Macintosh by using the AppleTalk protocol.

Verify the following requirements before the installation:

For EtherTalk

➢ The printer is installed with the network-compatible ROM.

➢ The printer is installed with an interface card (for Ethernet) and is connected to a network.

Setup sequence

1. Setting up the printer

   For EtherTalk, set the EtherTalk port to Enable (default: Disable).

   See *"Setting Up the Printer" on page 9-3.*

2. Setting up the Macintosh

   Install the printer driver (AdobePS) for Macintosh. Install the screen font if necessary.

   See *"Setting Up for Macintosh" on page 9-2.*

   See *"PostScript Driver Library User Guide"*

Setting Up the Printer

On the printer control panel, set the port used by AppleTalk to Enable.

Setting up the printer for EtherTalk

Follow the procedure to set the port for EtherTalk to Enable from the printer control panel.

If setting the port to Enable leads to insufficient memory, a message to that effect will be displayed on the control panel and the port status may be set to Disable automatically. If this happens, set the ports which are not in use to Disable, change the memory size or add more memory.

... from next page   *To next page ...*

Port Status
                    Enable

⑧ Press [Eject/Set]

Port Status
                    Enable *

⑨ Press [Menu]
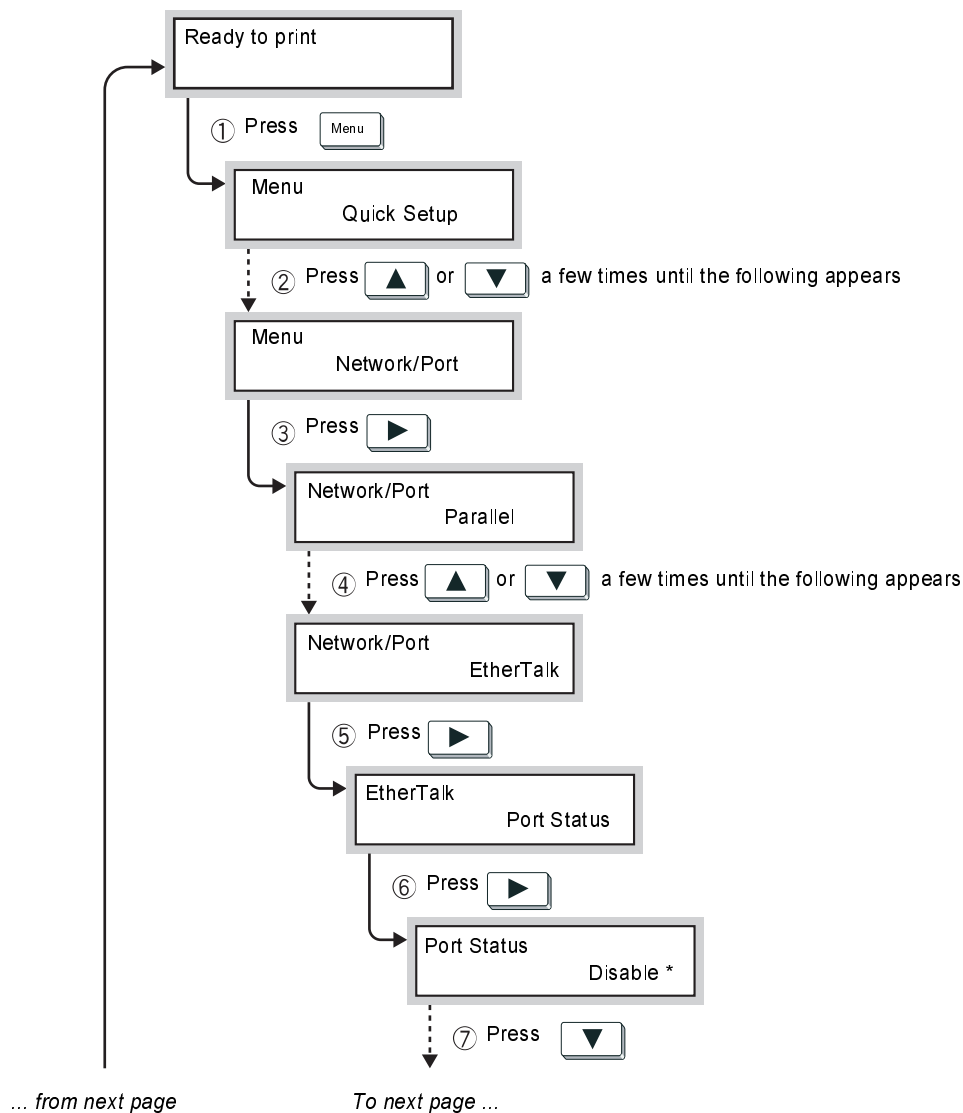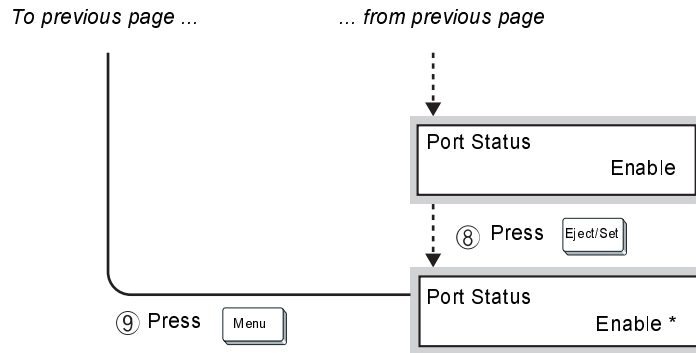
When "Ready to print" appears, the printer is ready to receive data.

Other settings

When necessary, adjust the following settings on the printer control panel. For normal use, the default values of these settings need not be changed.

Refer to the printer manuals for details on the settings of the printer.

➢ Print Mode   (default: PostScript)

➢ PJL   (default: Enable)

NOTE: The default value for the print mode stated above is that for a printer with a PostScript Kit installed.

Also, you can define the following settings if you are using CentreWare Internet Services screen:

➢ Printer Name   (default: product name of the system will be shown.)

➢ Zone Name   (default: *)

Setting Up the Macintosh

Make sure the Macintosh computer is already connected to the network and is functioning properly before performing any setup on it.

Installation

1. For the installation of the AdobePS printer driver, use a name set up in advance as the printer name. Otherwise, if there are multiple printers of the same model on the network, their names will be the same and the user will not be able to differentiate between them. If this situation arises, install the Xerox PS Utility and change the printer name.

   Printers connected by EtherTalk will be connected to the default zone on the network. To change the zone, use the PS Utility.

   See "User Guide (PostScript® Kit)" for information on the Xerox PS utility.

2. Install the AdobePS printer driver.

   See "User Guide (PostScript® Kit)" for information on the Xerox PS utility.

3. Install the screen font.

   See "User Guide (PostScript® Kit)" for information on the Xerox PS utility.

   The above steps have prepared the environment for printing and document printing can be carried out by the usual operations.

   Select the "Print" command from the applications used or from the document icons on the desktop. Then select the "Print" command from the file menu to print.

   If necessary, make use of the Xerox PS Utility to perform the necessary setups.

10 Precautions and Limitations

The following information can be found in this chapter:

➢ On Using TCP/IP

➢ On Using NetWare

➢ On Using SMB

On Using TCP/IP

Be aware of the precautions and limitations when using the printer with the TCP/IP protocol.

Setting up

Setting up the printer

➢ Be very careful when setting up IP addresses which are controlled as an entire system. Consult your network administrator before performing any setup on IP addresses.

➢ Depending on the network environments, some require a subnet mask and a gateway to be set up. Consult your network administrator and set up the necessary items.

➢ If setting the port to Enable leads to insufficient memory, a message to that effect will be displayed on the control panel and the port status may be set to Disable automatically. If this happens, set the ports which are not in use to Disable, change the memory size or add more memory.

➢ Set up the size for the receive buffer memory as required by the environment.

If the size of the receive buffer memory is smaller than the file data to be received, data will not be received.

Setting up the PC/workstation

➢ Be very careful when setting up IP addresses which are controlled as an entire system. Consult your network administrator before performing any setup on IP addresses.

➢ Before performing any network setup (such as the IP address) to a host running under NIS (Network Information Service), consult the NIS administrator.

Switching the power on/off

Take note of the following when switching off the printer:

When LPD spool is set to Memory (spool mode)

All the print data spooled in the printer memory, including print data which is being output, will be deleted. When the printer is switched on again, the print data will not be found.

However, if the printer is switched off immediately after the print data has been sent, the data may be stored on the PC. In this case, when it is switched on again, the stored print data will be printed first even if new print data has been sent.

When LPD spool is set to Hard Disk (spool mode)

All the spooled print data, including print data which is being printed, will be saved. When the power is switched on again, the stored print data will be printed first even if new print data has been sent.

When LPD spool is set to Off (non-spool mode)

All the print data spooled in the printer receive buffer, including print data which is being output, will be deleted. When the printer is switched on again, the print data will not be found.

However, if the power is switched off immediately after the print data has been sent, the data may be stored on the PC. In this case, when the power is switched on again, the stored print data will be printed first even if new print data has been sent.

Printing

Take note of the following when printing:

Printing from Windows NT

➢ In the spool mode, if the print data is bigger than the remaining capacity of the hard disk or the memory at the point of receiving, the data will not be received by the printer.

NOTE: Some clients may re-send immediately when the print data has exceeded the receiving capacity. When this occurs, the client appears as if it has crashed. To rectify this situation, the client must be stopped from sending print data.

➢ In the non-spool mode, printing will commence once data starts to be received by the printer. Therefore, if the printer has accepted a print request from a client, it will not receive another print request from another client.

➢ For PCL and DUMP, the specification for the number of copies is invalid.

Print

➢ In the spool mode, up to 32 files can be printed by one command. Files that come after the 32nd file will be ignored. An instruction with more than 32 files will be treated by the printer as a print request of up to 32 files.

➢ In the spool mode, if the print data is bigger than the remaining capacity of the hard disk or the memory at the point of receiving, the data will not be received by the printer.

NOTE: Some clients may re-send immediately when the print data has exceeded the receiving capacity. When this occurs, the client appears as if it has crashed. To rectify this situation, the client must be stopped from sending print data.

➢ In the non-spool mode, multiple files can be printed by issuing one command. Furthermore, the number of files is not limited.

➢ In the non-spool mode, printing will commence once the data starts to be received by the printer. Therefore, if the printer has accepted a print request from a client, it will not receive another print request from another client.

➢ Options, such as -m option, not processed by the workstation which sends the print instructions will not be valid.

➢ For PCL and DUMP, the number of copies specification is invalid.

Delete

➢ Print data which consists of multiple files sent in one print instruction, cannot be deleted file by file. All the files will be deleted at one go.

➢ This command will become invalid if it is executed without options having been specified or if there is no print data which matches the option.

➢ A workstation can only delete print data it has sent. It cannot delete print data sent by other workstations.

➢ Print data which is in the process of printing may not be deleted.

Inquiry

➢ Long file names will be truncated.

➢ Up to 64 print instruction information can be displayed.

➢ If two or more types of print languages/modes are set up on a single workstation, identical job numbers may be displayed when an inquiry command is issued.

➢ In the non-spool mode, the client must be a Windows NT machine to use this option.

Others

➢ When the IP address or the computer name of a PC/workstation is changed, the printer may not process inquiries or deletions correctly. Make sure the printer is free of all spooled data and switch the printer off then on .

The function to stop/eject print data spooled to the printer spool can be set up from the control panel. Refer to the manuals that came with the printer for information on the setup.

On Using NetWare

This section explains the precautions and limitations of using this printer with NetWare.

Setting printer

➤ If there is not enough memory after the port status is set to Enable, the display might display a message of the insufficient memory and the port status might be set to Disable automatically. When this happens, either set the port status of ports not in use to Disable or change the memory size, increase the memory.

➤ Take note of the following limitations on the names:

Item	Limitation
Device Name	Use only half-width alphanumeric characters. Cannot use mathematical symbol (+ =), dot (.), backslash (\\), tilde (~). There is no difference between underscore(_) and space( ).[1] There is no difference between the capital and small letters of half-width alphanumeric characters.
Tree	Use only half-width alphanumeric characters. Cannot use mathematical symbol (+ =), dot (.), backslash (\\), tilde (~). There is no difference between underscore(_) and space( ). There is no difference between the capital and small letters of half-width alphanumeric characters.
File Server Name	Use only half-width alphanumeric characters. Cannot use mathematical symbol (+ =), dot (.), backslash (\\), tilde (~). There is no difference between underscore(_) and space( ).[1] There is no difference between the capital and small letters of half-width alphanumeric characters.
Context	Use only half-width alphanumeric characters. Cannot use mathematical symbol (+ =), dot (.), backslash (\\), tilde (~). There is no difference between underscore(_) and space( ).[2] There is no difference between the capital and small letters of half-width alphanumeric characters.
Print Server Name	Use only half-width alphanumeric characters. Cannot use mathematical symbol (+ =), dot (.), backslash (\\), tilde (~). There is no difference between underscore(_) and space( ).[1] There is no difference between the capital and small letters of half-width alphanumeric characters.

1. The following characters cannot be used in the present Netware file server when it is operating in bindery mode but in order to standardize the directory service and the limitations, there is no limitation at the printer without taking into consideration the type of operating mode:

   semicolon (;), colon (:), asterisk (*), question mark (?), comma (,), double quotation ("), greater than/less than symbol (<>), bracket ([ ]), pipe (|)

2. Mathematical symbol (=) and dot (.) cannot be used as context and can be only used as delimiters.

Setting server

For NDS

Take note of the following when setting up environment in NDS:

Item	For Pserver Mode
No. of file server	Up to 16 servers per tree
No. of print queue	Up to 48 queues
No. of notifying candidates	Up to 48 users
No. of password characters	Up to 32 characters*

*: If 33 or more characters are used to set the password, printing cannot be carried out.

For Bindery

Take note of the following when setting up environment in bindery:

Item	For Pserver Mode
No. of file server	Up to 16 servers per tree
No. of print queue	Up to 48 queues
No. of notifying candidates	Up to 48 users
No. of password characters	Up to 32 characters*

*: If 33 or more characters are used to set the password, printing cannot be carried out.

Workload of Bindery reference queue

This is used for directory service/Pserver mode.

This printer does not support bindery reference queue. As such, printing with bindery reference queue is not allowed.

During printing

The following printer features are applicable when using NWADMIN or PCONSOLE:

Parameter	Port status
Interrupt Print Job	A
Stop Printer	A
Pause Printer	A
Activate Printer	A
Paper Edge mark	NA
Form feed	NA
Printer rewind	A
Mount paper	A
Stop print server	A

NA: Not Available; A: Available

On using SMB

Be aware of the following precautions and limitations when using the printer with SMB.

During setting up

Setting up the printer

➢ Be very careful when setting up IP addresses which are controlled as an entire system. Consult your network administrator before defining any IP address.

➢ Depending on the network environment used, it may be necessary to set up the subnet mask and gateway. Consult your network administrator to set up the necessary items.

➢ If setting the port to Enable leads to insufficient memory, a message to that effect will be displayed on the control panel and the port status may be set to Disable automatically. When this happens, set the ports which are not in use to Disable, change the memory size, or install more memories.

➢ Specify the size for the receive buffer memory (SMB spool) as required by the environment. If the size of the receive buffer memory (SMB spool) is smaller than the file data to be received, the data may not be received.

Setting up the PC/workstation

Be very careful when setting up IP addresses which are controlled as an entire system. Consult your network administrator before defining any IP address.

Before setting any network (such as the IP address) to a host being used under Network Information Service (NIS), consult the NIS administrator.

During switching power on/off

Take note of the following when switching off the printer:

When SMB Spool is set to Memory (spool mode)

All the print data spooled to the printer memory, including print data which is being output, will be deleted. When the printer is switched on again, the print data will not be found.

However, if the printer is switched off immediately after the print data has been sent, the data may be stored on the host computer. In this case, when it is switched on again, the stored print data will be printed first even if new print data has been sent.

When SMB Spool is set to Hard Disk (spool mode)

All the spooled print data, including print data which is being printed, will be saved. When the power is switched on again, the stored print data will be printed first even if new print data has been sent.

When SMB Spool is set to Off (non-spool mode)

All the print data spooled in the printer receive buffer, including print data which is being output, will be deleted. When the printer is switched on again, the print data will not be found.

However, if the power is switched off immediately after the print data has been sent, the data may be stored in the host device. In this case, when the power is switched on again, the stored print data will be printed first even if new print data has been sent.

During printing

Take note of the following when printing:

When SMB Spool is set to Hard Disk or Memory

This is referred to as spool mode.

If the print data is larger than the hard disk or the remaining memory capacity at the point of receiving data, the data will not be received by the printer.

NOTE: Some client computers may re-send immediately when the print data has exceeded the receiving capacity. When this occurs, the client computer appears as if it has crashed. To rectify this situation, the client computer must be stopped from sending print data.

When SMB Spool is set to Off

This is referred to as non-spool mode.

The printer will process print data as soon as data is being received. If the printer has accepted a print request from a host computer, it will not receive another print request from another host computer.

When the IP address or computer name is changed

When the IP address or computer name of a PC/workstation is changed, it may not be able to process enquiries or deletion requests from the printer correctly. Make sure the printer is free of all spooled data and then switch off/on the printer.

The function to stop/eject print data spooled to the printer spool can be set up from the control panel. *Refer to "3.4 Cancelling Printing" and "3.5 Outputting" in the "User Guide (Printer)"* for information on the setup method.

When printer is in offline mode

If the printer receives print request from a host device when it is in offline mode, it will not receive the data and an error message dialog box will be displayed on the host device. However, with SMB, print data will be sent from the host computer even in offline mode.

Deleting jobs

For Windows NT 4.0, you cannot delete jobs if it is not installed with Service Pack 3 and above. If you delete jobs while the computer is receiving data, an error message will be displayed. When this happens, the Retry button on the error message is not effective.

11 Troubleshooting

The following information can be found in this chapter:

➢ Using the TCP/IP print utilities

➢ Using NetWare

➢ Using TCP/IP

➢ Using SMB

➢ Using the Printer with AppleTalk

➢ Using UNIX

Using the TCP/IP Print Utilities

This section provides information on the possible causes, status displays, verifying methods and recommended actions pertaining to errors which may occur when the printer is used with either of the TCP/IP Print Utilities.

Cause		Treatment
The printer and the PC are connected to different networks.	Status Display	Unable to print (Network Error)
	Verification	Check with the system administrator of the network to verify that the network connecting the PC and that connecting the printer are linked by a router or a gateway.
	Action	Connect the printer directly to the network connecting the PC.
An error has occurred on the network between the PC and the printer. Connection cannot be established.	Status Display	Unable to print (Network Error)
	Verification	-
	Action	Ask the system administrator of the network to check the network for errors.
The IP address of the printer is entered wrongly.	Status Display	Unable to print (Network Error)
	Verification	From the printer window, select Properties from the "Printer" menu. Click the "Details" tab of the dialog box displayed. Then select Port Settings. Compare the IP addresses in the "TCP/IP DPU Port Setup" dialog box and the printer settings list.
	Action	Enter the correct IP address set at the printer, in the "TCP/IP DPU Port Setup" dialog box.
The printer is switched off after the print instruction has been sent from the PC. Or the print instruction is sent to the printer which is switched off.	Status Display	Unable to print (Network Error)
	Verification	Check whether or not the printer is switched on.
	Action	Switch on the printer.
Print instructions from multiple PCs are sent to the printer at the same time.	Status Display	Unable to print (Network Error)
	Verification	-
	Action	- (Printing will be reprocessed automatically.)
Printing files cannot be spooled due to insufficient disk capacity of the PC.	Status Display	Unable to print (Spool Error)
	Verification	Double-click My Computer and right-click the disk installed with Windows 95/98/Me (e.g. C-drive). Select Properties from the menu displayed and the check the free space available.
	Action	After erasing unnecessary files to increase the free space available, select Pause Printing from the "Document" menu of the "Printer" window to enable printing to restart.

Cause		Treatment
The spool setting is not cor-rect.	Status Display	- (The print processing cannot be completed and nothing will be printed)
	Verification	From the window of the printer, select Properties from the "Printer" menu. On the "Details" tab, check that (TCP/IP DPU Port) is displayed at Print to the following port. Click Spool Settings to display its dia-log box. Check if the "Print directly to the printer" radio button is selected. Make sure there is no space in the port name e.g. "XeroxDC" and not "Xerox DC".)
	Action	Change the spool setting by selecting any other radio button other than Print directly to the printer.

Using NetWare

This section provides information on the possible causes, verifying methods and recommended actions pertaining to errors which may occur when using the printer with NetWare.

The printer is not printing

Cause	Verification	Action
The network component is not compatible with the auto setup of the frame type.	Check if the data link lamp of the network component board connected to the printer is on. Check if the frame type of file server in the network is similar.	From the printer, set up the frame type specified to the file server which you want to connect.
There is a breakdown in the network from the workstation to the printer.	Using NWADMIN from the workstation, check if the target printer object can be seen.*	Switch the network cable between the workstation and printer that cannot be used for transmitting.
The user name and group name are not registered in User of the print queue.	Using NWADMIN from the workstation, and referring to the target queue object, check if the user name and group name are registered in User*.	1. Re-send the print jobs to a print queue which is correctly registered with the user name or group name at User of Print Queue Information.
		2. Using NWADMIN from the workstation, register the user name and group name at User of Print Queue Information.*
Jobs cannot be sent to the print queue.	Using PCONSOLE, check if Yes is set up for "User can register with the queue" at the Current Queue Status of Print Queue Information.	Using PCONSOLE, set it to Yes.
Jobs cannot be sent to the print queue.	Using NWADMIN from the workstation, check if the operator flag is checked by Recognition of the target print queue.*	Using NWADMIN from the workstation, check if each item of the operator flag is checked by Recognition of the target print queue. *
The user name and group name are not registered in the print server user of the print server.	Using NWADMIN from the workstation, check if the user name and group name are registered with the User of the target print server.*	1. Re-send the print jobs to a print queue which is correctly registered with the user name or group name at User of Print Server Information.
		2. Using NWADMIN from the workstation, register the user name and group name at User of the target print server.*
The print queue to which the job is sent is not assigned to the printer.	Using NWADMIN from the workstation, check if the target printer is assigned to the serviced printer in the list under User of the target print server.*	1. Re-send the job to a print queue registered with user name and group name at User of Print Server Information.*
		2. Using NWADMIN from the workstation, check if the user name and group name are registered at User of the target print server.*

Cause	Verification	Action
The print queue has exceeded the maximum number of supported queues of the printer (in the print server mode).	Using NWADMIN from the workstation, check if the desired print queue is assigned to the assigned print queue of the target print queue.*	Re-send the job to a print queue assigned to the printer.*
The slave file server is not set up (in the bindery service mode).	Using PCONSOLE from the workstation, check if the slave file server is registered in the Service NetWare Server by the print server of the Print Server Information. *	Using PCONSOLE from the workstation, reflect the setting parameter after having registered the slave file server.
The print type is incorrect.	Using PCONSOLE from the workstation, check if Printer: Parallel, Port: LPT1, Position: Auto mode (local) is defined for Printer Information > Printer > Printer xxx Environment.*	Using PCONSOLE from the workstation, set Printer: Parallel, Port: LPT1, Position: Auto mode (local) and reflect the parameter.*
The setting for the slave file server is incorrect (in the bindery service mode).	Using PCONSOLE from the workstation, check if the printer type has been set up as Defined at the Print Server Information > Printer > Printer xxx Environment Setting.*	If it is not Defined, change it to Defined and reflect the parameter.*
The paper number of the print job and that of the loaded paper are different.	Using PCONSOLE from the workstation, check if the first page paper number of the environment setting after selecting the target printer is similar to the job number.*	Using PCONSOLE from the workstation, make the first page paper number and job number similar in the target printer environment setting.*
Print job data format and workstation print environment setting are not similar.	-	When printing bindery-format file using PostScript language, enable TBCP at the printer. When using Windows at the workstation, set do not output Ctrl-D.
The level setting for the IPX checksum is incorrect.	At the console screen of the file server, execute a set command and check if the IPX checksum is set to level 2.	At the console screen of the file server, enter the following command and set the IPX checksum to level 0 or 1. set Enable IPX Checksum=X (X: 0 or 1)
The level setting for the NCP packet signature is incorrect.	At the console screen of the file server, execute a set command and check if the NCP packet signature is set to level 3.	At the console screen of the file server, enter the following command, and after setting the NCP packet signature to either level 0, 1 or 2, restart the file server: set NCP Packet Signature Option=X (X: 0, 1 or 2)
The default printer name is incorrect.	Print the Printer Settings List or output the Start Up Page. Check the lower six characters (3 bytes) of the MAC address.	1.Set up a printer name which uses the correct MAC address. 2.Set up any printer name except the default.
The directory tree name is not set.	Print the Printer Settings List and check if the tree name is specified.	Set the tree name.
Context is not set.	Print the Printer Settings List and check if the context is specified.	Set the context.

Cause	Verification	Action
Connected to another printer object.	Using NWADMIN from the workstation, check if the object is correctly assigned by the layout information of the desired print server.*	1.Using the "PCL Driver/NetWork Utility" CD-ROM from the workstation, set the file server name, tree, context, active mode correctly.
		2.Using the "PCL Driver/NetWork Utility" CD-ROM from the workstation, set another host name.
NetWare port cannot be activated.	Print the Printer Settings List.	Activate the NetWare port.
File server is down.	Search for the target file server in Network Neighborhood on Windows.	Activate the file server.
There are printers with similar host name on the network.	Switch off the printer, using NWADMIN from the station, check that the status of the concerned printer object is job waiting.	Using CentreWare Internet Services from the workstation, set the file server name, tree, context, active mode is correctly set.
Network port is not activated.	Print the Printer Settings List, check if the network number when using IPX/SPX is at 0000000 (NetWare server down). Also, check if the IP address when using TCP/IP is at 0.0.0.0 (fixed IP not set or address supply server (DHCP) is down).	For IPX/SPX, activate NetWare. For TCP/IP, set the fixed IP address or activate the address supply server (DHCP).

Refer to NetWare online documentation for details on the way to set and check.

When "Switch off the power" appears

Cause	Verification	Action
An error occurs in the NetWare interface.	-	Switch off, and then on the power.

Unable to obtain desired print results

Cause	Verification	Action
The print language of the print job and that set up at the printer are different.	Check the print language of the printer.	Set the same print language for the print job and the printer.

No notification

This section provides information on the possible causes, verifying methods and recommended actions when there are no messages on the workstations which have been sent print instructions.

No notification of printer errors

Cause	Verification	Action
Not registered in the Notify Candidate List of the print server.	Using PCONSOLE from the workstation, check if the user name and group name are registered in Print Server Information > Printer > Printer xxx Environment Settings > Notify.	Register the user name and group name in the Notify.

No end-of-job notification

Cause	Verification	Action
When sending jobs from the workstation, the NOTIFY option has not been specified.	Check if the NOTIFY option is specified when jobs are sent.	When jobs are sent, specify the NOTIFY option.
The NetWare CAST-OFF utility is executed on the workstation.	-	Execute the NetWare CASTON utility on the workstation.

Using TCP/IP

This section provides information on the possible causes, verifying methods and recommended actions pertaining to errors which may occur when the printer is used with TCP/IP.

When using Windows 95, Windows 98, Windows Me

Cause		Treatment
The printer and the PC are connected to different networks.	Status Display	Unable to print (Network Error)
	Verification	Check with the system administrator of the network to verify that the network connecting the PC and that connecting the printer are linked by a router or a gateway.
	Action	Connect the printer directly to the network connecting the PC.
An error has occurred on the network between the PC and the printer. Connection cannot be established.	Status Display	Unable to print (Network Error)
	Verification	-
	Action	Ask the system administrator of the network to check the network for errors.
The IP address of the printer is entered wrongly.	Status Display	Unable to print (Network Error)
	Verification	From the printer window, select Properties from the "Printer" menu. Click the "Details" tab of the dialog box displayed. Then select Port Settings. Compare the IP addresses in the "FX TCP/IP DPU Port Setup" dialog box and the printer settings list.
	Action	Enter the correct IP address set at the printer, in the "FX TCP/IP DPU Port Setup" dialog box.
The printer is switched off after the print instruction has been sent from the PC. Or the print instruction is sent to the printer which is switched off.	Status Display	Unable to print (Network Error)
	Verification	Check whether or not the printer is switched on.
	Action	Switch on the printer.
Print instructions from multiple PCs are sent to the printer at the same time.	Status Display	Unable to print (Network Error)
	Verification	-
	Action	- (Printing will be reprocessed automatically.)
Printing files cannot be spooled due to insufficient disk capacity of the PC.	Status Display	Unable to print (Spool Error)
	Verification	Double-click My Computer and right-click the disk installed with Windows 95/98/Me (e.g. C-drive). Select Properties from the menu displayed and the check the free space available.
	Action	After erasing unnecessary files to increase the free space available, select Pause Printing from the "Document" menu of the "Printer" window to enable printing to restart.

When using Windows NT 4.0

When the printer is not printing

Cause	Verification	Action
Incorrect IP address.	Ask the network administrator to check that the IP address is correct.	Set up the correct IP address for the printer.
If LPD spool is set to Memory, the print data sent by the user in a single print instruction has exceeded the upper limit of the receiving capacity set up by the control panel of the printer.	Check the upper limit of the receiving capacity from the touch panel display and compare it with the print data which was sent in the single print instruction.	1.If a single file of print data has exceeded the upper limit of the receiving capacity, split the file into smaller ones to keep them below the upper limit of the receiving capacity.
		2.If multiple files have exceeded the upper limit of the receiving capacity, reduce the number of files which can be sent at one go.
An irrecoverable error has occurred during printing.	Check the display of "LPD Error" from the printer control panel.	Power off and on the printer.
The transport protocol is different from that of the client.	Check the selected transport protocol on the touch panel display.	Select the same transport protocol as that of the client.
The data format of the print data to be processed by the printer and that sent by the client are different.	-	If the client is running Windows, disable the output function of Ctrl-D. Refer to the PRINTER.WRI file provided by Windows 4.0 for the details.

Unable to obtain the desired print results

Cause	Verification	Action
The specified print language and that of the print data are different.	Check the specified print language and that of the print data.	If it is running in Windows, the printer driver for this printer has not been used (a printer driver from another company has been used).
Specify the same print language as that of the print data.	Check that the printer driver which came with this printer has been selected.	Select the printer driver which came with this printer. If it does not appear on the selection list, install and select the printer driver. If a printer driver from another maker is used, the printer may not print properly.

Using SMB

This section provides information on the possible causes, verifying methods and recommended actions pertaining to errors which may occur when using the printer with SMB.

The printer is not found

Cause	Verification	Action
The transport protocol used by the client computer and printer is different.	On the client computer, you can find the printer when searching it as another computer (Start > Find > Other computer) but not when searching it in the Network Neighborhood.	Specify similar transport protocol for SMB in the printer and every client computer.
There are multiple browsers.	(same as above)	When there are multiple client computers within the same workgroup, change the Auto Master Mode in the config.txt file to Off, and then reboot the printer.
The network (subnet) is wrong.	(same as above)	When the printer and client computer is in a different network, contact your system administrator.
Name search of the the host name is not working correctly (for TCP/IP)	When specifying the printer IP address and the responded Host Name do not respond to the PING command issued.	Check the settings of the config.txt file (WINS Primary Server, WINS Secondary Server, Subnet Mask) with the settings on the client computer (e.g. WINS, DNS, LMHOST).
The host name specified already exists in the printer.	Check if Status of SMB on the Printer Settings List indicates that the host name is repetitive.	Change the Host Name of the config.txt file to another name not in use. Or, change the host name used by CentreWare Internet Services to another name not in use. Or, reset the printer settings to default values.

Cannot print

Cause	Verification	Action
The printer is processing print instructions from other client computer. (only for non-spool mode)	Check if the printer is processing print instructions. (For Windows 95/Windows 98/Windows NT 4.0, an error message about insufficient storing space for waiting print jobs is displayed.)	After the printer has processed the print instructions, sent a print job to the printer or at the printer, change the mode to spool mode.
The printer has exceeded the maximum number of connections allowed.	Check if the printer is processing requests (e.g. print instruction, status enquiry) from multiple client computers at the same time. (For Windows 95/Windows 98, an error message about remote computer cannot be used is displayed.)	Wait for a while, then sent print instruction again. Or, increase the value of Maximum Sessions on the config.txt file, and then reboot the printer. (only for printer system administrator)

Cannot delete documents from the printer window

Cause	Verification	Action
Tried to delete all documents displayed in the printer window. (only possible for printer administrator)	Check if you are trying to delete print jobs from the Printer menu on the printer window.	Select the document you want to delete, and then select Cancel Printing from the Document menu.
The Owner of the document is not correct.	Check if Owner of the selected document is similar to the name used for login in to Windows.	Log in to Windows again using the name of Owner of the document, and then delete the document.
Service Pack 3.0 and above is not installed. (for Windows NT 4.0)	Check the version of Service Pack displayed when Windows NT 4.0 is activated.	Install Service Pack 3.0 or above.

Cannot perform auto driver downloading

Cause	Verification	Action
The auto driver downloading feature is not working.	Check the setting of Auto Driver Download in the config.txt file. (only for printer administrator)	Set Auto Driver Download to Enable in the config.txt file, and then reboot the printer. (only for printer administrator)
Different types of printer drivers are saved.	Check the printer type, and then check if the correct printer driver is saved.	After saving the correct printer driver, reboot the printer. (only for printer administrator)
The printer driver is not saved within two levels from the drivers folder.	Check if the folder containing the printer driver is within two levels from the drivers folder.	Save the printer driver inside a folder within two levels from the drivers folder, and then reboot the printer. (only for printer administrator).
The printer driver is not saved in a folder which is named within eight alphanumeric characters.	Open driver.txt of the drivers folder, and check if there is a message about the folder name not within the 8.3 format.	Change the folder name to one within eight alphanumeric characters, and then reboot the printer. Change the folder name to one within eight alphanumeric characters, and then reboot the printer.

Using the Printer with AppleTalk

This section provides information on the possible causes, verifying methods and recommended actions pertaining to errors which may occur when the printer is used with AppleTalk.

Problem		Treatment
The name (or the default name) of the printer has been changed.	Cause	The AppleTalk function of the printer changes the printer name if it detects that a printer of the same name exists on the network.
	Verification	Check Chooser to confirm that the printer name has been changed.
	Action	Change the name of the printer or change the name of another printer to avoid duplicated printer names on the network.
The printer does not appear in "Chooser".	Cause 1	In Chooser, only the NBP entity name of which entity type is LaserWriter is displayed. The printer is set up as a slave of the Apple Share Print Server or the Windows NT Server and the NBP entity name of the printer has been changed from LaserWriter.
	Verification 1	Make use of a network management application software, such as Apple InterPole, and check that the type piece of the NBP entity name of the printer has been changed from LaserWriter.
	Action 1	If the type piece of NBP entity name of the printer has been changed from LaserWriter, the printer cannot be selected in the Chooser. If the printer must be selected, open the printer using the Apple Share Print Server or the Windows NT Server.
	Cause 2	The Macintosh printer driver searches a printer with the printer name specified in the Chooser and the zone name of AppleTalk. If the network is not connected correctly, the printer cannot be found.
	Verification 2	Make use of a network management application software, such as Apple InterPole, and check that the printer exists on the network. Check that the network is connected correctly.
	Action 2	If the printer cannot be found on the network, the power of the printer may be off or the network cable is faulty. If the printer is on and the network cable normal, contact our Customer Support Centre.

Problem		Treatment
Unable to obtain desired print results.	Cause 1	The print language of the printer and that of the printer driver are different.
	Verification 1	Check the print language set up for the printer from the control panel and that for the printer driver of Macintosh.
	Action 1	Ensure that PostScript and AdobePS are set up as the print language for the printer and printer driver respectively. If the print language of the printer is the dump mode, the print data sent from the Macintosh will be output in hexadecimal notations.
	Cause 2	The printer driver which came with the printer is not set up on the Macintosh. A printer driver of another maker has been used instead.
	Verification 2	Check the installation procedure for the printer driver which came with the printer again and confirm that the printer driver is installed on the Macintosh. Check that the printer driver which came with the printer appears in the Chooser.
	Action 2	If garbled characters are still printed after the printer driver for the printer has been selected, contact our Customer Support Centre. If a printer driver of another maker is used, the printer may not print properly.
The printer is not connected.	Cause 1	On the Macintosh, the printer is not selected correctly in the Chooser. Or, the printer is processing another job.
	Verification 1	Check that the printer is selected correctly on the Macintosh. If the printer is processing another job, the job must be completed before the printer can be connected.
	Action 1	If the printer is still not connected though it is selected correctly and is not processing another job, check the following causes.
	Cause 2	The EtherTalk port of the printer is set to Disable. Or, the Start/Stop setting for EtherTalk has been set to Off by the PostScript command. Or, the Pause key of the printer is being pressed.
	Verification 2	Check that the port used is set to Enable and that the Start/Stop setting is set to Start. Check that the Pause key of the printer is released.
	Action 2	If the printer still cannot be connected although all the above conditions are normal, contact our Customer Support Centre.

Problem		Treatment
Although it is connected, the printer does not print.	Cause 1	The Pause key of the printer is being pressed.
	Verification 1	Check that the Pause key is not being pressed.
	Action 1	Release the Pause key of the printer if it is being pressed. If the Pause key of the printer is released but this problem remains, check the following causes.
	Cause 2	The print language of the printer and that of the printer driver are different.
	Verification 2	Check the print language set up for the printer from the control panel and that for the printer driver of Macintosh.
	Action 2	If the print language of the printer and that of the printer driver are different, set the same language for them. If the problem remains, check the following causes.
	Cause 3	After the Macintosh was connected to the printer, the power of the printer is shut off. Or, paper jam has occurred to the printer. Or, the network is faulty.
	Verification 3	Check that the power of the printer is switched on. Select the printer again from Macintosh and reprint.
	Action 3	If the problem remains, contact our Customer Support Centre.
"Turn Power Off Then On" is displayed on the control panel of the printer.	Cause	The AppleTalk function of the printer has failed.
	Verification	Switch on the printer again.
	Action	If "Turn Power Off Then On" still appears on the control panel, contact our Customer Support Centre.

Using UNIX

When Printing Fails

The following are a list of causes, troubleshooting methods and solutions when printing fails.

Causes	Verification	Action
Incorrect IP address.	Ask the network administrator to check if the IP address is correct.	Set up the correct IP address for the printer.
Error occurs on the network connecting the client and the printer.	Activate the network test mode (ping) on client machine to check the communication status.	Ask the network administrator to look into the network failure.
Unable to set the correct printer entry on client machine.	Check and correct the printer entry settings on client machine. Check the /etc/printcap file on client machine or use the "lpstat" command to troubleshoot.	Re-enter the correct printer entry.
Offline is selected.	Check whether Offline is selected in the Menu screen>Print Mode.	Select Online.
The size of the print data sent in a single print instruction has exceeded the upper limit of the receive buffer memory. (For spool mode.)	Check the upper limit of the receiving capacity from the control panel on the printer and compare it with the size of the print data which you want to send in one go.	Solution 1 If a single file of print data has exceeded the upper limit of the receiving capacity, split the file into smaller ones to keep them below the upper limit of the receiving capacity.
		Solution 2 If multiple files have exceeded the upper limit of the receiving capacity, reduce the number of files which can be sent at one go.
An irrecoverable error has occurred during printing.	Check for the display of "LPD Error" from the control panel on the printer.	Power off and on the printer.
The transmission speed settings differ from that of the network.	Ask the network administrator to check if the transmission speed setting is correct.	Set to the correct transmission speed.
The printer has run out of paper.	Check the "Add Paper" instruction on the touch panel.	Load paper into the paper tray. To change the paper size used, specify the new paper size on the Tools Mode screen.
The transport protocol compatible to the client is not selected.	Check the selected transport protocol on the control panel display.	Select a transport protocol compatible to the client.

When the Output Result Differs

The following are causes, troubleshooting methods and solutions when the printout does not appear as it should be.

Causes	Verification	Action
The indicated print language and the print language used in the print data are different.	Check what the print language specified is the print language used in the print data.	Specify the print language consistent with that used in the print data.

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