PN7127P
1-Port 10/100M
Internet Print Server
User's Guide

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Hawking Technology guarantees that every PN7127P Print Server is free from physical defects in material and workmanship under normal use for two (2) years from the date of purchase. If the product proves defective during this two-year warranty period, call Hawking Customer Service in order to obtain a Return Authorization number. Warranty is for repair or replacement only. Hawking Technology does not issue any refunds. BE SURE TO HAVE YOUR PROOF OF PURCHASE. RETURN REQUESTS CANNOT BE PROCESSED WITHOUT PROOF OF PURCHASE. When returning a product, mark the Return Authorization number (RMA) clearly on the outside of the package and include your original proof of purchase. IN NO EVEN SHALL HAWKING TECHNOLOGY'S LIABILTY EXCEED THE PRICE PAID FOR THE PRODUCT FROM DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, ITS ACCOMPANYING SOFTWARE OR ITS DOCUMENTATION. Hawking Technology makes no warranty or representation, expressed, implied or statutory, with respect to its products or the contents or use of this documentation and all accompanying software, and specifically disclaims its quality, performance, merchantability, or fitness for any particular purpose. Hawking Technology reserves the right to revise or updates its products, software, or documentation without obligation to notify any individual or entity. Please direct all inquiries to:techsupport@hawkingtech.com

Table of Contents

6. NETWORK PRINT MONITOR

7. TCP/IP LPR PORT PRINTING INSTALLATION

8.UPGRADING PRINT SERVER

9. TROUBLESHOOTING

1. Introduction

Product Overview

Congratulations on purchasing your Hawking PN7127P/ 1-Port 10/100 Internet Print Server. This External Print Server is a powerful and the most convenient way to connect your printer to a network. It provides 10/100Mbps auto-sensing port, allowing flexible attachment to either 10BaseT or 100BaseTX networks without the need for a dedicated PC print server. This Print Server also supports multiple servers and multiple protocols, which will allow you to print from anywhere, from any computer and from any application.

The Internet Printing Protocol (IPP) lets you easily connect to any printer and print documents by specifying the device's URL. With IPP Technology, Printing over a WAN or the Internet becomes much easier. You can send a job to a printer in another country just as easily as to a printer in your own office. IPP also turns your printer into a killer fax machine. Why send a degraded image by fax, when you can simply print an original at the destination?

The Print Server not only gives network users greater flexibility, but also reduces file server load. This enhances both printing performance as well as overall network performance. You can place your printer anywhere in the

1

network. There is no need to place your printer right next to the workstation or file server.

Managing your Print Server is simple. The built-in Web Management feature will allow you to configure, monitor the status of and even reset the Print Server from anywhere via a web browser. Furthermore, the Print Server supports the most popular network protocols such as Microsoft NetBEUI, Novell IPX/SPX, Macintosh AppleTalk, TCP/IP, IPP which will allow you connect the Print Server to any platform such as Windows 95/98/2000/ME, NT, NetWare, UNIX, LINUX and Macintosh network.

Network Management

The print servers support the Simple Network Management Protocol (SNMP), which can provide remote printer management and a warning. There's a standard SNMP agent permanent on these print servers that any standard SNMP-based application can be used to access and manage these print servers.

Network configuration

The print servers provide an embedded web server that can be accessed via a prop web browser. We are also a subsidiary of Windows-based PSAdmin utility that helps the administrator setup the print server environment, for example, Netware, Windows 95/98, Windows NT/2000, Mac or Unix system.

Transmission Media

IEEE 802.3 Ethernet	10Base-T	Four pairs of unshielded twisted-pair 3,4 or 5 cable with RJ-45 connector
IEEE 802.3 Fast Ethernet	100Base-TX	Four pairs of unshielded twisted-pair 5 cable with RJ-45 connector for 10/100Mbps
Note: The cable length from the print server to hub/switch must not exceed 300 feet (Approximately 100 meters)		

1 - 1

Components and Features

PN7127P One Port Print server

- Bi-direction parallel port (IEEE 1284)

- Fast Ethernet network port: RJ-45 for 10Base-T or 100Base-TX

- POST (Power On Self Test)

- 2 LEDs on the right of the LAN connector: yellow - status, green - link lights

- 2 setup diskette for Netware, Windows 95/98/NT/2000

- 1 external AC power adapter

- 1 user's manual

Hardware Requirements

IEEE 802.3 Ethernet	10Base-T	Four pairs of unshielded twisted-pair 3,4 or 5 cable with RJ-45 connector
IEEE 802.3 Fast Ethernet	100Base-TX	Four pairs of unshielded twisted-pair 5 cable with RJ-45 connector for 10/100Mbps

> **Note:** The cable length from the print server to hub/switch must not exceed 328 feet (100 meters)

Hardware Installation

To install the print server, you need to complete these steps:

· Please check that your printer parallel port(s) are working properly.

1. Connect the print server to the printer and then to the network using a network cable.

2. Plug the AC power adapter into the power receptacle on the print server.

3. Plug the AC power module into the wall outlet; the print server is switched on after you plug it in.

4. Check the LED marked as **status** (yellow light) on the print server. It should be flash five times normally, if not, please contact your local dealer for repair or replacement.

5. Insert the installation disk and generate a configuration page from the print server.

To ensure that your installation is successfully complete, please do the following:

6. Send a print test to the network printer.

Note: One port print server attaches only to one printer,
Plug the AC power adapter into the power receptacle
on the print server.

2. **P**rint **S**erver **I**nstallation

Preparation

To best meet users' network printing needs in today's heterogeneous and multiple protocol networking environments, the print server supports industrial standard protocols, including **TCP/IP**, **IPX/SPX**, **NetBEUI** and **AppleTalk**. This means that the print server supports the most popular network operating systems today, including **NetWare**, **Windows 95/98/NT/2000/ME**, **UNIX** systems and **Macintosh** computer. As such, there might be several ways to employ the print server on your network.

Supported Networks

Print server supports a variety of network protocol suites, including TCP/IP, IPX/SPX, NetBEUI and AppleTalk protocols. In addition, we provides software for network configuration on the following networks:

· Novell NetWare 3.12, 4.x, 5.x (Bindery and NDS)

· Microsoft Windows 95/98/ME

· Microsoft Windows NT/2000

· Apple EtherTalk

- UNIX system
- Internet (via Internet Printer Connection software)

Configuration Solution Table

Setup Operating System	Function	Remarks
PSAdmin utility		
Windows 95/98/ME Windows NT/2000 NetWare 3.12, 4.x, 5.x	Install a single network on a peer-to-peer or client-server network	Easy printer installation runs from diskette
Embedded Web server		
Windows 95/98/ME Windows NT/2000 NetWare 3.12, 4.x, 5.x	Remote setup print server from private LAN as soon	Follow standard browse, for example, IE or Netscape
HP Web JetAdmin		
Windows NT/2000 NetWare 3.12, 4.x, 5.x	Remote management of print server, include alerts and consumables	Print server solution for continual management of multiple printers-anywhere on your LAN

Internet Printing Protocol		
Windows 98 SE/ME Windows 2000	Printing via the internet to Internet Printing Protocol-enabled print server	Allows saving distribution of HQ hardcopy document over Internet, replacing fax, mail

Comment

The Configuration Solution Table shows many ways of installation in Windows 95/98/ME, Windows NT/2000, NetWare, UNIX system and Mac computer. First we will introduce the PSAdmin utility, then the HP Web JetAdmin program and finally the Internet Printing Protocol solution. We will also be discussing Embedded Web Server Installation with print server.

3.The PSAdmin Utility for Windows-based

The **PSAdmin** is a proprietary Windows based management program that can assist you in configuring and managing your print server in NetWare environments. The program can run from any Windows PC.

Installing the PSAdmin

To install PSAdmin, please follow the directions listed below.

1. Insert the **NetWare, Windows 95/98/NT/2000 Setup** diskette into your 3.25-inch floppy drive.

2. Run the **setup.exe** from Windows 95/98/NT/2000. The **Network Print Monitor for Windows 2000** welcome message then appears. Click **Next**.
3. In the next dialog box, type in an installation directory or leave it in default. The default installation directory will be **C:\Program files\Network Print Monitor**. Click **Next**.

4. The Setup program will ask you to select installation files as described below :

    Network Print Monitor **:** installs Print server Windows Driver for Windows PC and IP Configuration utility.

    PSAdmin **:** installs Print server Windows utility for NetWare and IP Configuration utility.

5. Select **PSAdmin**. Click **Next**.

6. The Setup program will begin to copy files into your local hard disk and automatically create the "**PSAdmin**" program for you.

7. Done.

Using PSAdmin

After PSAdmin is successfully installed, run the program by double-clicking the PSAdmin icon from "PSAdmin" program . The screen will then appear as follows.

All print server(s) feature Novell NetWare function on the LAN and will be displayed along with their respective device name, MAC Address, print server name, firmware version, and status. The terms are defined as follows:

Device Name: The name of the print server hardware used for identification purposes.

MAC Address: The Ethernet address of the print server.

Print server Name: The print server to which the device is attached.

Version: The firmware version of the print server.
Status: displays Printer's status

3- 2

Wizard

Wizard is a configuration program that can assist you in setting up the necessary parameters for your print server device to function. To configure IPP Internet Printing, you need to configure TCP/IP Protocol.

TCP/IP Wizard

1. Click **Wizard** button just like a picture < ![icon] > .and select **TCP/IP Wizard**.

2 Select "**Obtain an IP address from DHCP server"**. This option allows the print server to obtain IP-related settings automatically from your DHCP server. This setting, by default, is disabled. If you would like to manually specify an IP address to the device, please skip to the following step. For IPP Internet Printing, you need to configure a static IP address.

3 In the **IP Address** option, type an IP address for the print server. The IP address must meet the IP addressing requirements of the network segment.

4 *(Optional)* In the **Subnet Mask** option, type the Subnet Mask your LAN or network segment is currently configured to use.

5 *(Optional)* In the **Gateway** field, type the IP address of gateway.

6 When done, click **OK** button. The program will save the above settings into the print server.

3 - 3

7   Done

NetWare Wizard

1.   To configure Netware Print Server, you need to log into your NetWare file server as a Supervisor (Admin.) or equivalent first.

2.   Click **Wizard** button just like the picture < ![wand icon] > And select **NetWare Wizard**, as follow.
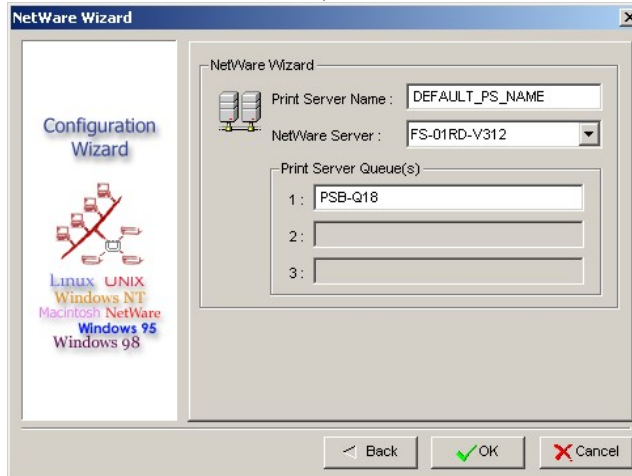
3.   Select the NetWare File Server to which the print server device will be attached.

4.   Type in a Print server.

3- 4

5. Type in a Print Queue Names.

Note: Each print queue corresponds to each print port of the print server. This Wizard only creates each print queue for each printer port. To create multiple queues, please refer to Multiple Print Queues Configurations.

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6. Click **OK**.

7. Done.
8. From your NetWare client computer, such as Windows 95/98, create a printer that is connected (redirected) to one of the NetWare print queues serviced by the print server.

Manual Setup

Manual Setup is a configuration program designed for more experienced users of NetWare. To setup the print server by using Manual Setup follow the steps:

1. Run PCONSOLE in NetWare 3.x or NetWare 4.x and create the necessary parameters (Refer to your Novell NetWare print server/Services manual for details).

2. Log into your NetWare file server as a Supervisor (Admin.) or equivalent. From your Windows 95/98 and run PSAdmin.

3. Select the print server that you wish to configure.

4. Click **Properties** in the tool bar and the following screen will appear, **Properties** button just like this picture < ⬜ > .

5. Select **NetWare** and type in the Print server that was created during PCONSOLE.

6. *(Optional)* In **Bindery Settings**, Select NetWare file server(s) where the print server can do Bindery mode.

7. *(Optional)* In **NDS Settings**, Select NetWare file server(s), NetWare 4.x or later can do NDS mode.

8. Click **OK**, From your NetWare client computer, such as Windows 95/98, create a printer that is connected (redirected) to one of the NetWare print queues serviced by the print server.
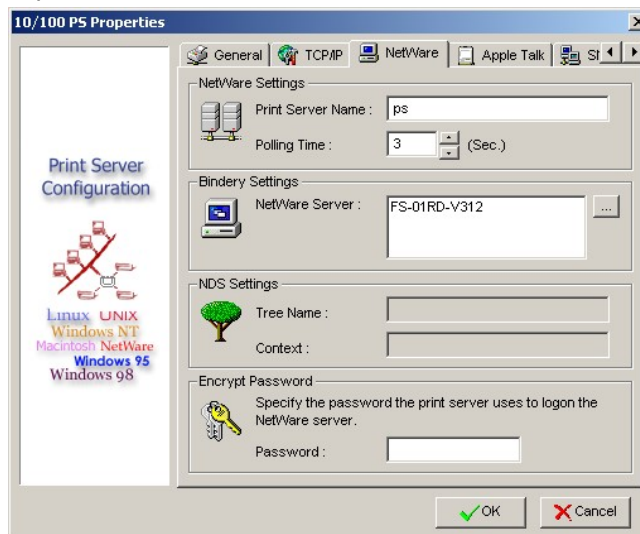
9. Done.

Properties –TCP/IP Options

The TCP/IP options allow you to modify the print server's TCP/IP settings. Each option is described as follows.

Obtain an IP address from a DHCP server:

This option enables or disables the DHCP feature of the print server. When this option is enabled, the print server will obtain an IP address automatically from the DHCP server on your LAN. **The default value is Disable**.

Note: 1.　　　　Once this option is enabled, the following IP address, Subnet Mask, Gateway will be grayed out and are not available for editing.

2.　　　　While the print server supports DHCP, we strongly recommend you manually specify a **fixed** IP address to the print server.

Specify an IP address:

IP Address: This option shows the print server's current IP address that is either obtained from your DHCP server or manually specified. This option also allows you to manually specify an IP address to the print server, if DHCP option is disabled.

Subnet Mask: This option shows the print server's current subnet mask that is either obtained from the DHCP server or manually specified. This option also lets you manually specify a subnet mask to the print server, if DHCP option is disabled. **This value is optional**.

Gateway: This option shows the print server's current gateway address that is either obtained from the DHCP server or manually specified. The option also allows you to manually specify the IP address of the gateway to the print server, if DHCP option is disabled. **This value is optional**

Upgrade

Upgrade allows the user to upgrade the print server device. In order to upgrade the unit please perform the steps as follows:

1. Click **Upgrade** button just like this picture < > .
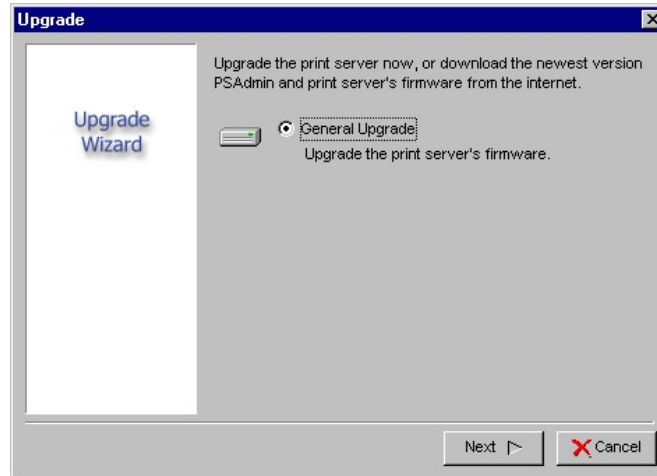
2. Select **General Upgrade**, Make sure that the upgrade file is located in the same directory as PSAdmin. The upgrade filename is **mps12.bin** (One Port Print Server), **mps11.bin** (Three Ports print server).

Reset

1. Click **Reset** button just like this picture < > .

2. Reset allows the user to reset the print server device in order to establish a new connection or for new settings to take effect.

Refresh

1. Click **Reset** button just like this picture < > .

2. Refresh searches the network for all attached print server(s).

Multiple Print Queues Configuration

To configure the print server to service multiple print queues, please follow the instructions listed below:

1. Log into your NetWare file server as a Supervisor (Admin.) or equivalent.
2. Run the **PSAdmin** from your Windows.
3. Select the print server that is about to be configured.
4. Click the **Wizard** icon in the tool bar.

3- 10

5. Type in a Print server and a Print Queue Name (For more detailed information about **Wizard**, please refer to the "*Wizard*" section in this chapter).
6. Run the NetWare's PCONSOLE and create additional print queues.
7. Select the Print server name you specify in Step 5.
8. Select the "**Print server Configuration**" option and select the "**Queue Serviced by Printer**" option *(For NetWare 4.x's PCONSOLE, please select "Printers" option and select "Printer 0" instead)*.
9. Select the "**Printer 0**" and press the [*Insert*] key to add the print queues you create in Step 6 into the list *(For NetWare 4.x's PCONSOLE, please select "Print queues assigned" option instead)*.
10. Reset the print server by clicking the "**Reset**" icon from the PSAdmin.

Note: Please refer to NetWare's Print server/Services manuals for detailed PCONSOLE commands.

Uninstalling the PSAdmin on Windows PC

To help users easily remove all installed software components of the PSAdmin from their Windows PCs, the PSAdmin software comes with an uninstall wizard program that can automatically remove the software components from their Windows PC systems in minutes. Please follow the directions listed below to proceed with the uninstall procedure.

After the PSAdmin is removed, the print server is no longer accessible via the PSAdmin. You have to re-install the

PSAdmin on your system in order to access the print server again.

Procedure:

1. Click **Start**, go to **Settings**, and select **Control Panel**.

2. Double click the **Add/Remove Programs** icon.

3. Click **Change or Remove Programs** tab.

4. Select **Network Print Monitor for Windows 95/98/NT/2000** and click **Change/Remove** button.

5. The uninstall wizard program will be launched.

6. Follow the directions on the screen to complete the uninstall procedure.

4.Internet Printer Connection and HP Web JetAdmin

INTERNET PRINTING

The Internet Printing Protocol (IPP) lets you easily connect to any printer and print documents by specifying the device's URL. With Hawking Internet Print Server's IPP Technology, Printing over a WAN or the Internet becomes much easier. With it, you can send a job to a printer in another country just as easily as to a printer in your own office. IPP also turns your printer into a killer fax machine. One way to think of a fax machine (especially when you're faxing from your computer) is as a remote printer. IPP is a better choice. Why send a degraded image by fax, when you can simply print an original at the destination?

IPP is first and foremost a new standard, with support promised in all major operating systems and network operating systems. It's designed for full interoperability across the board with OSs, NOSs, and printers. IPP offers a simpler way to connect printers through a network queue or let workstations print directly to a printer. Setting up with IPP is a straightforward procedure that follows the same steps for any IPP printer.

Microsoft supports IPP in Windows 2000 and also offers IPP support for Windows 95, 98, and 98 SE in the form of an Internet Printing Services update. One of the nicer benefits of printing directly to an IPP printer using Windows

2000/98 is that setup is extraordinarily easy. Simply run the Add Printer wizard, specify that you're printing to a network printer, and enter the printer's URL, eg.
"http://192.168.10.182/lp1" or "http://www.abc.com/lp1" .

SYSTEM REQUIREMENTS

To set up IPP Print Server, you need a fixed WAN IP Address and TCP/IP network. To configure IPP Print Server, use PSAdmin program, click TCP/IP Wizard to fill IP Address, Subnet Mark, Default Gateway.
To set IPP Client, you need an IPP Server IP/URL Address, Print Driver and Internet Connection.

Note:1. For incoming print path requests, the network administrator have to configure the firewall to accept incoming IPP requests

2. To set up IPP Print Server under NAT (Network Address Translation) Router such Hawking DSL/Cable Router, You need to enable "visual Computer" to map IPP Print Server local LAN IP to WAN IP address. And use WAN IP address as IPP Server IP/URL Address, not local LAN IP.
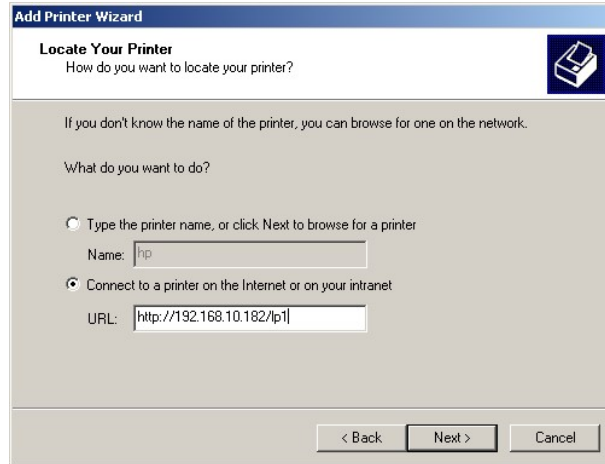
IPP Printing from Windows NT/2000

To add IPP Printer is easy, simply run Add Printer Wizard.

Click **Start** button.

4 - 2

1. Select **Settings**, then select **printers** option.

2. Click **Add Printer** icon. Appear welcome to the add printer wizard, Click **Next**.

3. Select **Network printer** option, then click **Next**.

4. Select **Connect to a printer on the Internet or on your intranet** option, appear as follow picture.

5. In URL's box, input print server's IP address, for example, http://192.168.10.182/lp1. Then Click **Next**.
   ** One port should be the port name as lp1.
   ** Three ports should be port named as lp1, lp2, lp3.
6. It will check print server connection to HP printer, if it is not found, the following will appear. Then Click **OK**.
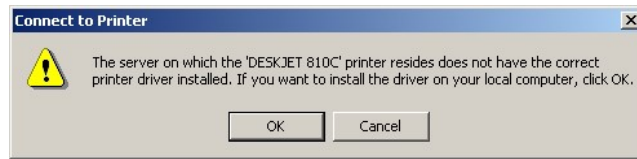
8. Select the appropriate printer manufacturer and printer type and click **Next,** illustrated below.
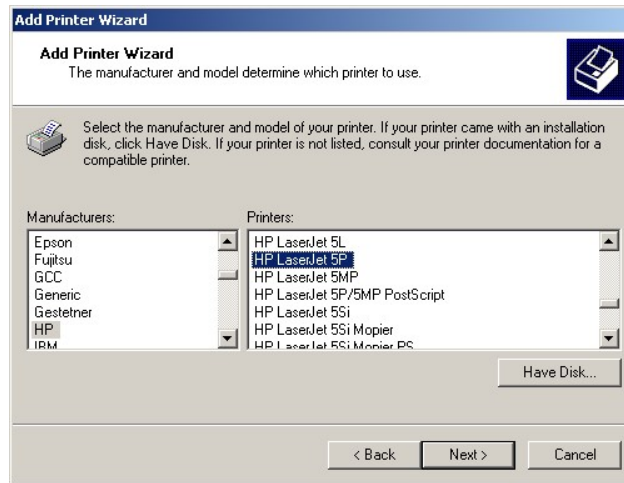
9.If you want your Windows-based programs to use this printer as the default printer, please select **Yes** and Click **Next**. As illustrated below:
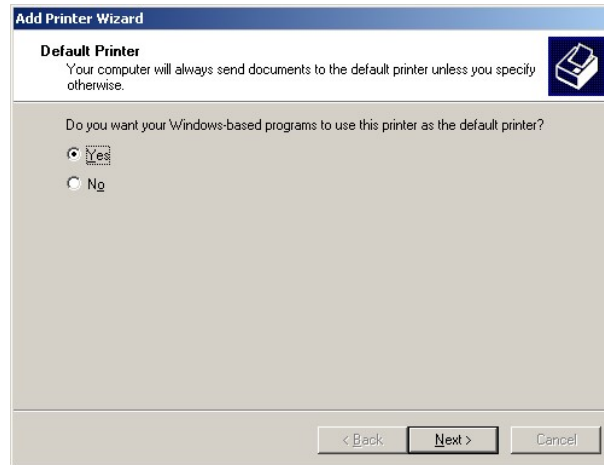
10. Click Finish button.

11. Done.

IPP Printing from Windows 95/98

Microsoft has an upgrade for Windows 95 and 98 that adds IPP support. First, you need to download and install the upgrade. Note that Microsoft rearranges its Web site occasionally, so the specifics for downloading may have changed. Open your browser and go to the Microsoft Windows Update Web site, (You can download the Windows 98 and 98 SE upgrade from www.windowsupdate.microsoft.com. For the Windows 95 upgrade, go to

www.microsoft.com/windows95/downloads.) and then
choose *Product Updates*. The Web site will check your
system automatically and then show you a list of updates
that you haven't yet installed. Scroll through the list until you
find the *Communications* section. Under *Communications*,
look for *Internet Print Service*, as illustrated below:
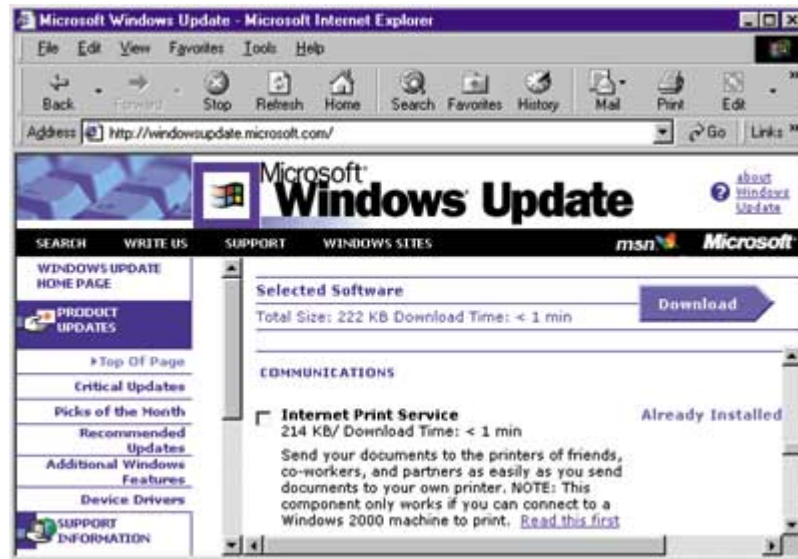
(If you don't see this choice, IPP may already be installed.
To check, go to the top of the list, click on *Show Installed
Updates*, and scroll down to *Communications*. If the
Internet Print Service is installed, you should see it marked
with the designation *Already Installed.*

If the Internet Print Service isn't already installed, check the box next to the name and then choose the *Download* button. The file will download and install automatically. Please reboot after it's done.

The next step is to make sure you have the printer driver. If you don't already have it, you should be able to download it from the vendor's site, or you may be able to get it directly from the printer.

Once you have the driver files in hand, choose *Start ¦ Settings ¦ Printers*, then *Add Printer* to start the *Add Printer Wizard*. Choose *Next*, then *Network Printer*, then *Next* again, and type the printer URL in the text box labeled *Network Path Or Queue Name*.
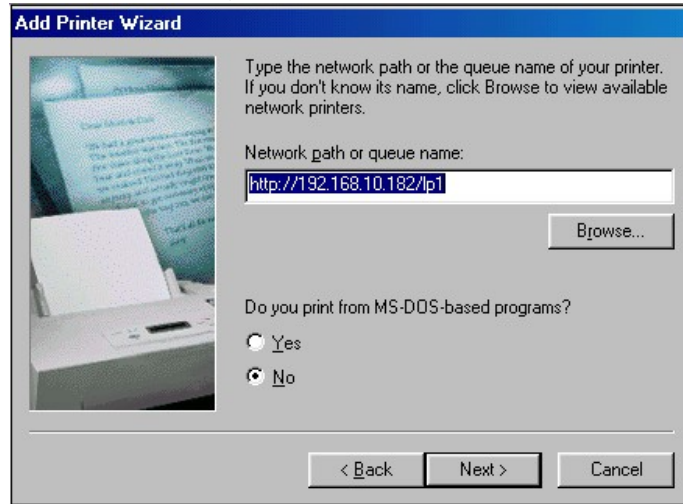
For Example, http://192.168.10.182/lp1. Also note that the printer may be assigned a name using a DNS server. If someone else set up the printer, you'll want to find out the URL they are using.

After you type the URL in the text box, choose *Next*. If your system can see the printer, it will simply move to the next screen. If not, you should get a message telling you the printer is off-line, and that you won't be able to print until it comes back online. If you see this message, check to make sure you entered the URL correctly. If you did, you may have a networking problem that you need to resolve so your system can see the printer. Also, though it may seem elementary, make sure the printer is actually online.

Assuming your system finds the printer, the Wizard will take you to the next step, which installs the driver. Simply choose *Have Disk* and complete the installation the way you would with any other printer. If you downloaded the files to your local hard drive, point to the appropriate directory. When the installation finishes, you should be able to print.

You can install the driver to an LPT port first and then change the port. If you took that route, choose *Start ¦ Settings ¦ Printers* after installing the driver, right-click on the printer and choose *Properties*, then *Details*. Choose *Add Port*, then *Network*, and type the URL in the text box labeled *Specify the network path to the printer*. Then choose *OK*, and click on *OK* again to close the *Properties* dialog box and save the settings. You should now be able to print.

4 - 8

HP Web JetAdmin Overview

HP Web JetAdmin allows you to use a Web browser to revise, view, manage and diagnose devices connected to the print server or any standard printer MIB devices.

For more information about a procedure or Windows working with HP Web JetAdmin software, see about HP's related document.

System Requirements

HP Web JetAdmin software runs on Microsoft Windows NT, HP-UX, Solaris, Red Hat Linux and SuSE Linux system. For information on supported operating systems and browser versions, we recommend IE or Netscape version 4 or higher. Please access HP Customer Care Online at http://www.hp.com/go/webjetadmin.

Note: When installed on a supported host server, HP Web JetAdmin can be accessed from any client through a supported Web browser by browsing to the HP Web JetAdmin host.

Installing HP Web JetAdmin

Before installing the HP Web JetAdmin software, you must have domain administrator or root privileges:

4 - 9

7. Download the installation files from HP Customer Care Online at http://www.hp.com/go/webjetadmin/.
8. Follow the instructions on the screen to install the HP Web JetAdmin software.

Note: Installation instructions are also contained in the HP Web JetAdmin install file.

Confirming Installation and Supply Access

· Confirm that the HP Web JetAdmin software is correctly installed by navigating to it with your browser. For example, http:// server domain port/ where server domain is the host name of your web server and port is the port number assigned during installation.

· Supply users should access the HP Web JetAdmin software by adding a link to your web server's home page that is addressed to HP Web JetAdmin's URL. For example:
http://server.domain:port/

Configuring and Modifying a Device

Using your browser, navigate to HP Web JetAdmin's URL.
For example: http://server.domain:port/
Follow the instructions on the appropriate home page to

configure or modify your printer.

Note: You can also substitute the server domain with
the TCP/IP address.

Removing HP Web JetAdmin Utility

To remove HP Web JetAdmin software from your web
server, use the uninstall program provided with the software
package.

5. Configuration from Embedded Web Server

Overview

The Print Server contains an embedded web server that can be accessed through a supported web browser on a LAN, for example, IE 4.0, Netscape 4.0 or above is recommended.
The embedded web server provides access to configuration and management pages for the print server and the connected peripheral device.

Using Embedded Web Server

Before you can use the embedded web server, the print server must be configured with an IP address. There are many ways to configure the print server's IP address. For example, the Windows-based of PSAdmin utility can easily set an IP address with the print server, please see the Properties – TCP/IP options of chapter 3.

After an IP address is established on the print server, perform the following step:

1. Run a web browser from your computer.

2. Enter the IP address of the print server as the URL. For example, 192.168.10.201 appear as follow picture.

Status Menu

Once you have finished the IP address configuration with print server. You should be use web browser to view and management the print server. The status menu of the print server helps administrator control the print server's System, Printer, NetWare, TCP/IP, SNMP and AppleTalk of status for the time being.

5 - 1

Preparation

Enter the IP address of the print server as the URL. For example, 192.168.10.201. Then the print server's home page appears in content of the web browser.
Please follow these steps in the status menu of the print server:

System Status

1. Click **Status** in the left-column, a sub-menu will show.

2. Click **System** and a diagram will show. As seen below:

System :

Device Name :	3P_PrintServ733902
Contact :	
Location :	
UpTime :	4:39:14
Version :	3.51.11E
Node ID :	00-40-01-73-39-02

Device Name: This option allows you to view device name of the print server. You can correct the print server's device name.

Contact: This option allows you to view contact name of the print server. To check the print server's contact name who in charge of this device.

Location: This option allows you to view Location name of the print server. To confirm the print server's location name where the print server is located in the office's LAN.

Uptime: This option allows you to view uptime of the print server. When you start the print server, it will compute the print server from start time to power off time.

Version: This option allows you to view the firmware version of the print server. You can verify if the print server's firmware version is updated.

Node ID: This option allows you to view Node ID of the print server. The Node ID is unique from any print server

Printer Status

1. Click **Status** in the left-column, a sub-menu will appear.

2. Click **Printer**, and a display will appear as shown below.

Printer :

Manufacture :	
Model :	ML-5000A
Command Set :	PCL5E
Status :	Waiting for job

5 - 3

Manufacture: This option allows you to view the manufacturer of the printer in the dialog box when the printer is connected with the print server.

Model: This option allows you to view model of the printer in the dialog box when the printer connected with the print server.

Command Set: This option allows you to view the command set of the printer in the dialog box when the printer is connected to the print server.

Status: This option allows you to view status of the printer in the dialog box when it is connected to the print server. For Example, Waiting for job. It is means the printer is processing the print job.

NetWare Status

1. Click **Status** in the left-column, a sub-menu will appear.

2. Click **NetWare**, a display will appear as shown below.

NetWare :

Print Server Name :	ps2
Polling Time :	3 seconds

NDS Mode : Disable	
Tree Name :	
Context :	
Connect Status :	Disconnected

Bindery Mode : Enable	
File Server Name :	FS-01RD-V312
Connect Status :	Connected

Print Server Name: This option allows you to view print server name that is configured by PSAdmin utility.

Polling Time: This option allows you to view polling time from the print server.

NDS Mode: In NDS Mode status, it includes NetWare's **Tree Name**, **Context** and **Connect Status**. The print server can do DNS Mode.

Bindery Mode: In Bindery Mode status, it includes NetWare's **File Server Name** and **Connect Status**. The print server can do Bindery Mode.

TCP/IP Status

1. Click **Status** in the left-column, a sub-menu will appear.

2. Click **TCP/IP**, a display will appear as shown below.

TCP/IP :

DHCP/BOOTP :	OFF
IP Address :	192.168.10.201
Subnet Mask :	255.255.255.0
Gateway :	192.168.10.10

DHCP/BOOTP: This option allows you to view DHCP/ BOOTP status. if there is a DHCP/BOOTP server on your network. This option allows the print server to obtain IP-related settings automatically from your DHCP server.

IP Address: This option allows you to view IP address from the print server. The IP address must meet the IP addressing requirements of the network segment.

Subnet Mask: This option allows you to view subnet mask from the print server. The IP address must meet the IP addressing requirements of the network segment.

Gateway: This option allows you to view gateway from the print server. This IP address of gateway must meet the router or gateway to go across of the network segment.

SNMP Status

1. Click **Status** in the left-column, a sub-menu will appear.

2. Click **SNMP**, a display will appear as shown below.

5 - 6

SNMP :

SNMP Communities :	
Community 1 :	public , Read-Only
Community 2 :	public , Read-Only

SNMP Traps : Disable	
Authentication Traps :	Disable
Trap 1 IP :	0.0.0.0
Trap 2 IP :	0.0.0.0

SNMP Communities: This option allows you to view SNMP communities from the print server. There are two communities that control message from the network management of the print server.

SNMP Traps: This option allows you to view SNMP traps from the print server.

AppleTalk Status

1. Click **Status** in the left-column, a sub-menu will appear.

2. Click **AppleTalk**, a display will appear as shown below.

AppleTalk :

Zone Name :	*
Chooser Name :	ATALK_PS-40F189-1
Printer Type :	LaserWriter
Data Format :	TBCP

Zone Name: If no zones exist, the print server itself displays the zone name as an asterisk (*****) in the current **AppleTalk Status** of the print server in the web browser.

Chooser Name: <*ATALK_PS*>*-xxxxxx-1*, where xxxxxx represents the last six digits of the print server's Node ID.

Printer Type: This option allows you to view printer type from the print server. If you are using a PostScript printer you can select the LaserWriter 8 icon from your Mac computer.

Data Format: This option allows you to view data format from the print server. If you are using a PostScript printer you can select **ASCII**, **TBCP** or **BCP** format from web configuration.

Setup Menu

After you have finished the IP address configuration with print server, you should use the web browser to configure the print server. The setup menu of the print server helps the administrator setup the print server's System, Printer, NetWare, TCP/IP, SNMP and AppleTalk.

Preparation

Enter the IP address of the print server as the URL. For example, 192.168.10.201. Then the print server's home page will appear in the content of the web browser.

Please follow these steps in the setup menu of the print server:

System Setup

1. Click **Setup** in the left-column, a sub-menu will appear.

2. Click **System**, a display will appear as shown below.

Device Name: This option allows you to input device name of the print server. You can correct the print server's device name.

Contact: This option allows you to input the contact name of the print server. This enables you to check the print server's contact name as well as who is in charge of this device.

Location: This option allows you to input the Location name of the print server. To confirm the print

server's location name where the print server is located in the office's LAN.

Setup Password: This option allows you to input setup password of the print server when you select the setup menu of web configuration from the print server.

· **User Name:** You must input the default administration user name, **admin** as login user name.

· **Password**: The default password is empty. After setup password is completed from the print server, you should remember this password to input in the password box for future use.

5 - 10

Printer Setup

1. Click **Setup** in the left-column, a sub-menu will appear.

2. Click **Printer**, a display will appear as shown below.

Printer :

Bi-directional : Auto Detect ▼
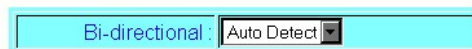
Bi-directional: This option allows you to select the bi-directional setting of the print server. There are two ways to select this option, you can **Disable** or **Auto Detect**.

NetWare Setup

1. Log into your NetWare file server as a Supervisor (Admin.) or equivalent.

2. Select NetWare, and type in the Print server that was created during PCONSOLE setup. Select the NetWare File Server to which the print server device will be attached.

3. In web configuration, Click **Setup** in the left-column, a sub-menu will appear.

4. Click **NetWare**, a display will appear as shown below.

Print Server Name: This option allows you to input the print server name that was configured by PSAdmin utility or PCOMSOLE program.

Polling Time: The time interval in which the print server unit polls the file server for servicing of print queues.

Encrypted Password: This option allows you to input the encrypted password from the print server. This is the login password to the NetWare server that administrator sets from selected print server.

NDS Mode: Enable the NDS Mode, if you want to setup NDS environment. To select **Tree Name** of NetWare, input context name in the **Context** box.

5 - 12

Bindery Mode: Enable Bindery Mode, if you want to setup Bindery environment. Select **File Server Name** of NetWare.

Installing Print Server on NetWare 4.x/5.x

Due to its architecture and functionality, the print server must work under NetWare 4.x/5.x NDS Bindery Emulation. When you install the NetWare file server for the first time, by default, the installation program will automatically set up the **Bindery Emulation** function for you by adding "SET BINDERY CONTEXT =" in the AUTOEXEC.NCF file. By default, the bindery context will only be set on your organization (O) object.

If you have ever modified this line, or if you have ever added any organization units (OU) to your NDS tree after the NetWare system was installed, please read the following section before you install the print server.

For the purpose of illustration, we assume that the NDS tress structure is as follows:

5 - 13

[ROOT]

(O)ABC

(OU)ABC-USA   **(OU)Sales**

Admin

FileServer-1   **(OU) Tech**
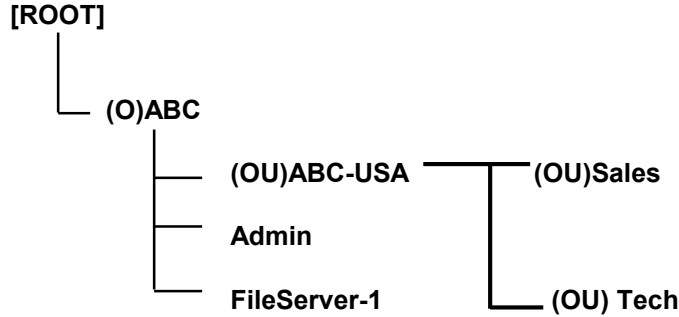
Installation Procedure

1. At your file server console, type "**load install**".

2. Select "**NCF files options**".

3. Select "**Edit AUTOEXEC.NCF file**".

4. Add or Modify the "**SET BINDERY CONTEXT =**" line to include the NDS organization (O) and all organization unit (OU) objects where users are located. For example: SET BINDERY CONTEXT = O=ABC; OU=SALES.OU=ABC-USA.O=ABC; OU=TECH.OU=ABC-USA.O=ABC ;

5. When done, save the new **AUTOEXEC.NCF** file. Please restart your NetWare file server in order for new settings to take effect immediately.

6. Next, please refer to "**Auto Setup**" section in this chapter to finish installing your print server.

7. Log into your NetWare file server as a Supervisor (Admin.) or equivalent *via a Bindery connection*.

8. Run NetWare's PCONSOLE and add users to the "**Queue Users**" list.

9. From your NetWare client computer, such as Windows 95/98, create a printer that is connected (redirected) to the NetWare print queue serviced by the print server.

Note: Please refer to NetWare's Print Server/Services manuals for detailed PCONSOLE commands.

TCP/IP Setup

1. Click **Setup** in the left-column, a sub-menu will appear.

2. Click **TCP/IP**, a display will appear as shown below.

TCP/IP :

○	Using DHCP/BOOTP Obtain IP.
◉	Specify IP :
	IP Address : 192.168.10.201
	Subnet Mask : 255.255.255.0
	Gateway : 192.168.10.10

DHCP/BOOTP: This option allows you to select DHCP/ BOOTP option, if there is a DHCP/BOOTP server

on your network. This option allows the print server to obtain IP-related settings automatically from your DHCP server.

IP Address: This option allows you to input IP address from the print server. The IP address must meet the IP addressing requirements of the network segment.

Subnet Mask: This option allows you to input subnet mask from the print server. The IP address must meet the IP addressing requirements of the network segment.

Gateway: This option allows you to input the gateway from the print server. This IP address of gateway must meet the router or gateway to go across of the network segment.

SNMP Setup

TCP/IP networks use a standard management protocol called *Simple Network Management Protocol* (SNMP). SNMP is widely used in the industry as a solution for remote network management and monitoring of networking devices. SNMP actually includes a protocol, a database structure specification, and a set of database objects. The database objects are contained in a standard database called *Management Information Base* (MIB) that is stored on the networking device called *SNMP agent*. The print server's SNMP implementation runs in a TCP/IP environment.

5 - 16

A host on the network running Network Management System (NMS) software can access the print server device by reading and writing the MIB objects stored in the device. The Network Management Systems are available from many third-party vendors, such as Hewlett-Packard's OpenView.

When accessing (traversing) MIB objects in the print server using NMS software called *SNMP manager,* you need to provide a *community name* in each SNMP request for authentication purpose. The print server supports up to two community names. The default community name is *public* (case-sensitive), with *Read Only* access right in default.

When an unusual condition or activity occurs, the SNMP agent alerts the SNMP manager through *SNMP traps*. Following list summaries SNMP trap messages that the print server will send out.

Activities/SNMP Trap Messages	Description
Link Up or Link Down	When the network interface on the print server fails, a link down trap message is generated; if the network interface comes back to life, a link up trap message is sent.
Cold Start or Warm Start	When the print server restarts, the cold start or warm start trap message is generated.

Authentication Failure	When the print server received a SNMP request with a community name that does not match the community name the print server is configured with (stored in the print server's memory), an authentication failure trap message is generated.

In the print server's SNMP implementation, the following MIB objects are available for updating.

MIB Object Names	Description
system.sysContact	Indicates the network administrator's name.

5 - 18

system.sysName   Indicates the print server's name for identification.

system.sysLocation   Indicates the location of the print server.

snmp.snmpEnableAuthenTraps
                                Enables or disables the function of sending SNMP Authentication Failure trap message to the network administrator, if the community name within a SNMP request is not correct.

Users can set up print server's SNMP functions by using their browsers.

1. Click **Setup** in the left-column, it then appears the sub-menu.

2. Click **SNMP**, it then as shown in the following picture.

5 - 19

SNMP :

SNMP Communities :
Community 1 : [public] , [Read-Only ▾]
Community 2 : [public] , [Read-Only ▾]

SNMP Traps : [Disable ▾]
Authentication Traps : [Disable ▾]
Trap 1 IP : [0.0.0.0]
Trap 2 IP : [0.0.0.0]

SNMP Communites: The print server supports up to two community names. The default community name is *public* (case-sensitive), with *Read Only* access right in default.

SNMP Traps: Enable the function of sending SNMP Authentication Failure trap message to the network administrator, if the community name within a SNMP request is not correct.

AppleTalk Setup

The print server can print jobs submitted from Macintosh workstations connected to an Ethernet using AppleTalk protocol. The basic configuration for the print server in an AppleTalk environment can simply be done by opening the

Chooser window and selecting a printer that is connected to the print server.

1. Click **Setup** in the left-column, a sub-menu will appear.

2. Click **Printer**, a display will appear as shown below.

AppleTalk :

Zone Name :	
Port Name :	ATALK_PS
Printer Type :	LaserWriter
Data Format :	TBCP ▾

3. **Zone Name:** In this option, type an AppleTalk Zone name that you want the print server to belong to or leave it in default *(This enables the print server automatically search and link itself to the default zone that is set on the AppleTalk router, if found)*. We also assume that at least an AppleTalk Zone exists on the network. If no zone exists, the print server itself displays the zone name as an asterisk (*****) in the current **AppleTalk Status** of the print server in the web browser.

4. **Port Name:** In this option, type a name for identification purpose or just leave it in default (**recommended**).

Note: The default print server's Chooser name is as shown as follows:

<ATALK_PS>-xxxxxx-1, where xxxxxx represents the last six digits of the device's Node ID. For example: ATALK_PS-40EEED-1. You may also change the *<ATALK_PS>* to a name you like for identification purpose in this option. The print server will append the last six digits to the name you specify.

5. **Printer Type**: In this option, the **LaserWriter** of printer type by default (**recommended**).

6. **Data Format:** In this option, data format includes **ASCII**, **TBCP** and **BCP**.

6. Network Print Monitor

Preparation

The print server supports **TCP/IP**, **IPX/SPX** and **NetBEUI** protocols under Windows 95/98. Please make sure that the following steps have been completed before proceeding with installation under Windows PC.

Select A Desired Protocol

TCP/IP

☐ The TCP/IP Protocol must be installed. For further information, please read "*TCP/IP Protocol Installation*" section in this chapter.

Note: If TCP/IP protocol is chosen, please refer to "Assigning an IP Address to the print server" section later in this chapter.

PX/SPX

The IPX/SPX-compatible Protocol must be installed. For further information, please read "*IPX/SPX-compatible Protocol Installation"* section in this chapter.

NetBEUI

The NetBEUI protocol must be installed. For further information, please read "*NetBEUI Protocol Installation"* section in this chapter.

TCP/IP Protocol Installation

1. Click **Start**, point to **Settings** and select **Control Panel**.
2. Double click the **Network** icon.

3. If the **TCP/IP Protocol** is not already installed, click **Add**.

4. Select **Protocol** and click **Add**.

5. Select **Microsoft** from the Manufacturers list.

6. Select **TCP/IP Protocol** from the Network Protocols list.

7. Specify an IP address, Subnet Mask, and Gateway address or specify "Obtain IP address automatically", if a DHCP server is available on the LAN.

8. **Restart the computer.**

9. Done.

Note: Using TCP/IP protocol to access the print server requires well-configured TCP/IP settings. If you are not familiar with these settings, please consult your network administrator for details or ask for help.

IPX/SPX-compatible Protocol Installation

1. Click **Start**, point to **Settings**, and select **Control Panel**.
2. Double click the **Network** icon.
3. If the **IPX/SPX-compatible Protocol** is not already installed, click **Add**.

4. Select **Protocol** and click **Add**.

5. Select **Microsoft** from the Manufacturers list.

6. Select **IPX/SPX-compatible Protocol** from the Network Protocols list and follow the instructions on the screen.

7. **Restart the computer.**

8. Done.

NetBEUI Protocol Installation

1. Click **Start**, point to **Settings**, and select **Control Panel**.

2. Double click the **Network** icon.

3. If the **NetBEUI** is not already installed, click **Add**.
4. Select **Protocol** and click **Add**.

5. Select **Microsoft** from the *Manufacturers* list.
6. Select **NetBEUI** from the *Network Protocols* box and follow the instructions on the screen.

7. **Restart your computer** for new settings to take effect.

8. Done.

Note: For more detailed information, please refer to your Microsoft Windows 95/98 manuals.

Windows 95/98 Installation Procedure

Please perform the steps as follows to ensure a smooth installation:

1. Run **Setup** from the print server's NetWare, Win 95/98/NT/2000 Setup diskette

2. The **Network Print Monitor for Windows 95/98 Setup** will then appear. Click **Next**.
3. A message reading, "Setup is complete. You may add the Network Print Port by using the PSAdmin" will appear. Click **OK**.

4. Click **Start**, point to **Settings**, and select **Printers**.

5. Double-click the **Add Printer** icon.

6. Select **Local Printer** and click **Next**.

7. Select the appropriate printer manufacturer and printer type and click **Next**.

8. Select **LPT1** and click **Next**.

9. Type in the **Printer Name** and click **Next**.

10. A message reading, "After your printer is installed, Windows can print a test page so you can confirm that the printer is set up properly." Select **No** and click **Finish**.

11. Double-click the newly created **Printer Name** icon.

12. Select **Printer** and **Properties**.

13. Click **Details** tab and select **Add Port**.

14. In the **Add Port** dialog box, select **Other,** as shown in the following picture.
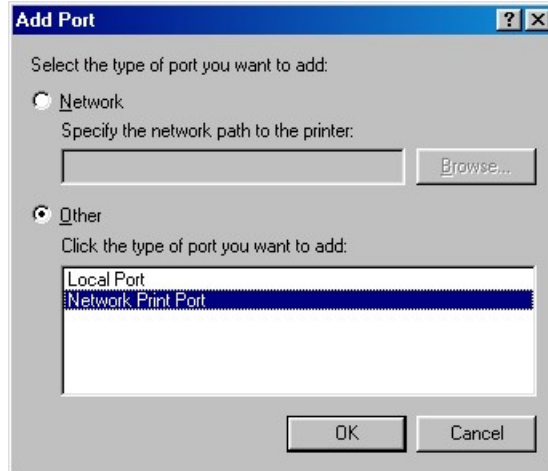
15. Select the **Network Print Port** and click **OK**.

16. The Add Port box will then appear, along with the print server's Node ID *(The last 6 digits of the Node ID, located on the back of the print server unit)*. Select one printer server port from the list, which is now connected to (one of) your printer(s), as shown in the following picture.
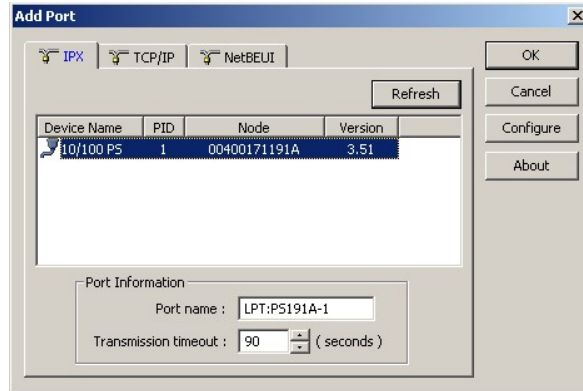
- By default, the computer will first search for the print server(s) on the network by using the IPX/SPX protocol.

- If the IPX/SPX protocol is installed, the print server will be displayed along with its Node ID, as shown in Node column. *(The last 6 digits of the Node ID, located on the back of the print server unit)*. Select one of the print server's ports from the list.

- If the IPX/SPX protocol is *not* installed, no print server will be shown in the display box. Then please select TCP/IP or NetBEUI alternatively.

- It starts again to search for the print server on the network by using the protocol you specify in the step above. When finished, the print server will be displayed along with the its Node ID, as shown in the

6 - 7

following picture. *(The last 6 digits of the Node ID, located on the back of the print server unit)*. Select one of the print server's ports from the list.
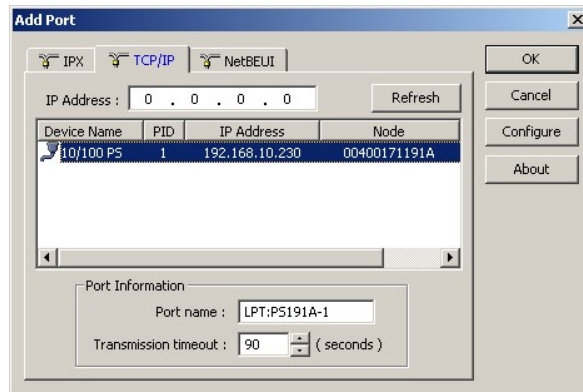
TCP/IP Configuration
To make the installation as easy as possible, we integrate a TCP/IP configuration program within this software driver. If you are going to print jobs using TCP/IP protocol, please follow the instructions listed below to configure the print server.

Note: 1. We assume that your Windows 95/98's TCP/IP settings are completely set up before executing this utility. If the TCP/IP protocol is not installed yet or is not well configured, please refer to the **TCP/IP Protocol Installation** section in previous page of this chapter.

2. This Network Print Port can only run on a Windows 95/98/NT/2000 computer that is located on the same network segment as the print server(s).

a.   Click **TCP/IP** tab.

b.   The print server(s) will be displayed along with its device name, Node ID, current IP address, and version.

c.   A (new) print server without an IP address will be shown in red. Select the (new) print server that you wish to configure according to its Node ID.

d.   Click **Configure** button.

e.   The **Configure Print server** dialog box will appear as shown in the following picture.
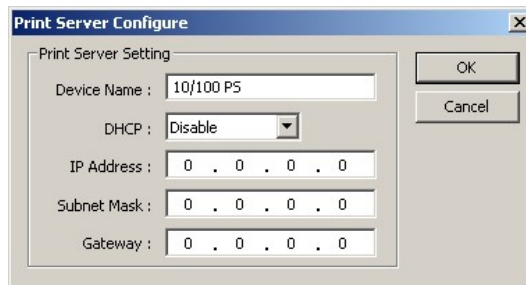
f.   *(Optional)* In the **Device Name** option, type a name for identification purpose.

g. Enable the print server's DHCP function, if there is a DHCP server on your network. This option allows the print server to obtain IP-related settings automatically from your DHCP server. This setting, by default, is disabled. If you would like to manually specify an IP address to the device, please skip to the following step.

h. In the **IP Address** option, type an IP address for the print server. The IP address must meet the IP addressing requirements of the network segment.

i. *(Optional)* In the **Subnet Mask** option, type the Subnet Mask your LAN or network segment is currently configured to use.

j. *(Optional)* In the **Gateway** field, type the IP address of gateway.

k. When done, click **OK** button. The program will save the above settings into the print server.

l. It then returns to the **Add Port** dialog box. Now you will see the print server have been set up an IP address.

m. Done.

17. Change the **Port Name** or leave it in default (**recommended**) and click **OK**.

18. Done.

Uninstalling Network Print Port on Windows 95/98

To provide users with the easiest way to remove all of the Network Print Port components from Windows 95/98, the Network Print Port software comes with an uninstall wizard program to help users remove the software components from their Windows 95/98 systems in minutes. Please follow the directions listed below to proceed with the uninstall procedure.

After the Network Print Port is removed, the print server will no longer accessible via the Network Print Port. You have to re-install the Network Print Port on your system in order to access the print server again.

Procedure:

1. Click **Start**, point to **Settings**, and select **Control Panel**.

2. Double click the **Add/Remove Programs** icon.

3. Click **Add/Remove** tab.

4. Select **Network Print Monitor for Windows 95/98** and click **Add/Remove** button.

5. The uninstall wizard program will be launched.

6. Follow the directions on the screen to complete the uninstall procedure.

Note: We recommend to *restart* your computer after the uninstall is finished.

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7. TCP/IP LPR Port Printing Installation

Basic TCP/IP Installation Overview

When installing your print server in a TCP/IP environment, IP addresses are essential as a basic means of communications. It is therefore necessary to first assign an IP address to your print server unit. After assigning an IP address, the print server can be configured accordingly.

Assigning an IP Address

The first step to install a print server on a TCP/IP network is to assign the print server an IP address and other related TCP/IP settings before the print server can function. You can select the following two methods to specify an IP address the print server. Each method is discussed in more detail in the following section.

> 1. Use the **Network Print Monitor** utility.

2. Manually specify (using DOS commands or UNIX text-mode commands. This applies to Windows NT/2000 and UNIX systems).

Note: The **Network Print Monitor** can only search for the print server(s) over the same network segment the Windows NT/2000/UNIX computer is located.

DHCP

The print server supports DHCP feature, allowing the print server to obtain an IP address and related TCP/IP settings automatically from a DHCP server. While the print server supports DHCP, we strongly recommend that you manually specify a **fixed** IP address to the print server. By default, the print server's DHCP function is disabled.

Windows NT LPR Port Printing Installation

1. Click **Start**, point to **Settings**, and select **Printer**.

2. Run **Add Printer**.

3. The Add Printer Wizard screen will appear, Select **My Computer** and click **Next**.

4. Click **Add Port**.

5. From the Printer Ports box as shown in the following picture, select the **LPR Port**.
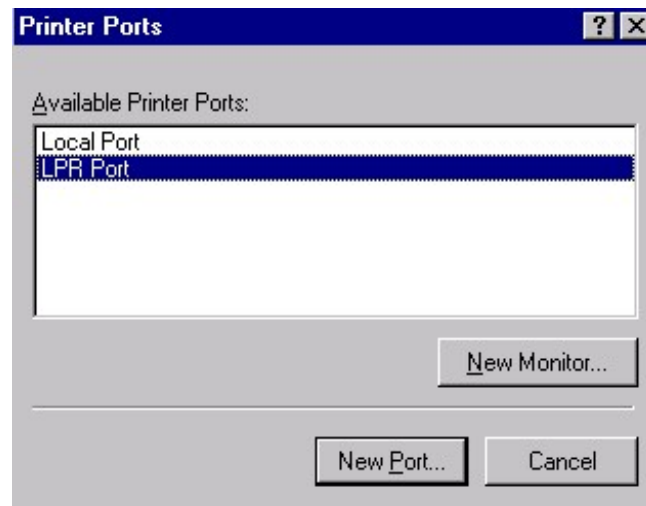
6. The Add LPR compatible printers box will then appear as shown in the following picture. Type in the IP address assigned to the print server in the **Name or address of server providing lpd** box.

7. In the **Name of printer or print queue on that server** box , type in a printer name, for example, lp1. Click **OK**.

8. In the Printer Ports box, select **Close**.

9. Click **Next**.

10. Select the appropriate printer manufacturer and printer type list and click **Next**.

11. Select **Shared**. Type in a new **Share Name** or leave it in default and click **Next**.

12. A message reading, "After your printer is installed, Windows can print a test page so you can confirm that the printer is set up properly.", Select **Yes (Recommended)** and click **Finish**.
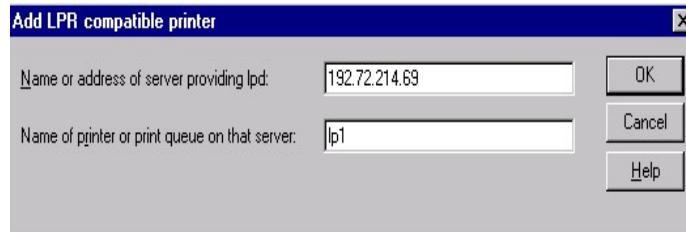
13. Done.

Windows 2000 Standard TCP/IP Port Printing Installation

1. Click **Start**, point to **Settings**, and select **Printer**.

2. Run **Add Printer**, Click **Next**..

3. The Add Printer Wizard screen will appear, Select **Local Printer** and click **Next**.

4. From the type of **Create a new port** box as shown in the following picture, select the **Standard TCP/IP Port**, Click **Next** and **Next**.

5. The Add Standard TCP/IP Printer Port Wizard box will then appear as shown in the following picture type in the IP address assigned to the print server in the **Printer Name or IP Address** box, Click **Next**.
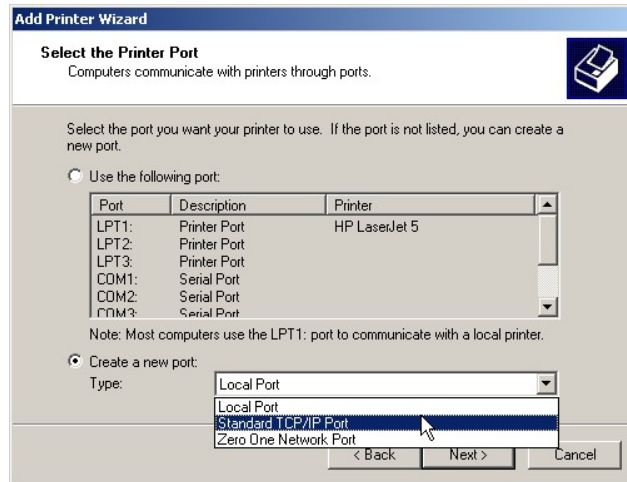
6.   In the **Add Standard TCP/IP Printer Port Wizard** box as shown in the following picture, Select **Custom**, Click **Settings** button, and click **Next**.

7 - 6
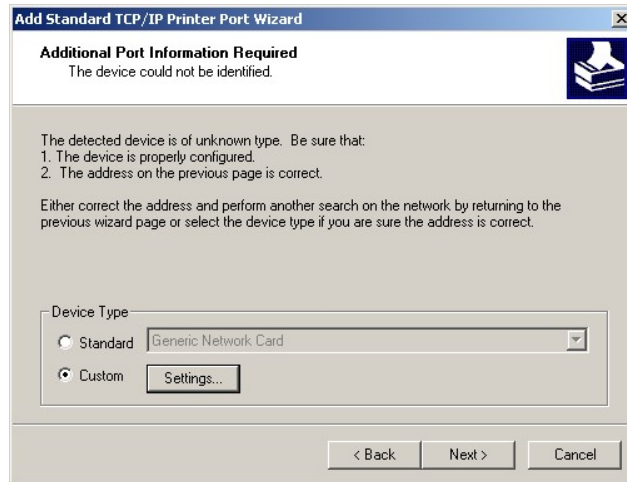
7.   In the **Configure Standard TCP/IP Port Monitor** box as shown in the following picture, select **LPR** form Protocol, type in the a queue name, for example, lp1.

8.   Click **OK**, and **Next**.

Note: *Please **DO NOT** type any other name than **lp1** in this step.*

9.   Click **Finish**.

10.   Select the appropriate printer manufacturer and printer type list and click **Next**.

11. Type in a new **Printer name** or leave it in default, and click **Next** button.

12. A message reading, "To confirm that the printer is installed properly, you can print a test page". Select **Yes (Recommended)** and click **Finish**.

13. Done.

UNIX Installations

After the IP address is assigned, the print server is ready to be configured. For some popular UNIX systems, we include the detailed installation procedure below. If you can't find the installation procedure corresponding to your UNIX system, please refer to your UNIX manuals for further details about configuring your UNIX for the "**remote printing system**".

SCO UNIX (OpenServer 5.0.x)

1. **Login root**

2. **Type "arp -s <IP address> <print server's node ID>"**
   The print server's node ID can be found from the white label on the backside of the print server.

For example:
    arp -s 192.72.214.103 00:40:01:05:01:8c

3.   Type "ping <print server's IP address>"
  For example:
    ping 192.72.214.103
(You should get the responses from the print server).

4.   Type "tftp <print server's IP address>"
  For example:
   tftp 192.72.214.103
At the tftp prompt, type "**get config.txt**" to retrieve the print server's configuration file.
  For example: tftp > get config.txt
5.   Quit from tftp, then use your editor to modify the "***BoxIPAddress***" field in the ***config.txt*** file from 0.0.0.0 to the IP address you specify in Step 2. When done, save the new config.txt.

6.   Type "tftp <print server's IP address>"
At the tftp prompt, type "**put config.txt**" to save the new configuration file back to the print server.
  For example:
   tftp > put config.txt

7.   Type "mkdev rlp"
After this step, the Remote Printer Configuration appears. Answer the questions as follows:
  a. Do you want to install or remove printing (i/r/q) ? [q] : -----> i
  b. Do you wish to change the printer description file /etc/printcap (y/n) [n] ? ---------> y

7 - 10

c. Enter the information for remote printers or local printers accepting remote printing requests
Please enter the printer name (q to quit): --->**lp1**

Note: *Please DO NOT enter any other name than **lp1**.*

---

d. Is xxxx a remote printer or a local printer (r/l) ---------> r

e. Please enter the name of the remote host that xxxx is attached to: ---------> the print server's IP address you specified in Step 2, for example, 192.72.214.103

Note: You can add the host name associated with the IP address in the /etc/hosts file. If you have done this, please use the host name instead of the IP address.

---

f. Printer xxxx is connected to host 192.72.214.103 Is this correct ? (y/n) ---------> y

g. After it shows some messages, it will ask you a question.
If you're not sure, answer 'n' ? (y/n) [n] --------> n

h. Would you like this to be the system default printer ? (y/n) [n]------->answer this question if you like to make it as a default printer.

i. Do you want to install or remove printing (i/r/q) ? [q] : -------> q

j. Do you want to star remote daemon now (y/n) --------> y

8. Installation completes.

9. Launch some print jobs by "lp" or "lpr" command.
    For example:
    lp -d lp1 /etc/printcap
    lpr -d lp1 /etc/printcap

SUN Solaris 2.x

1. Login root

2. Type "arp -s <IP address> <print server's node ID>"
The print server's node ID can be found from the white label on the backside of the print server. For example:
    arp -s 192.72.214.103 00:40:01:05:01:8c

3. Type "ping <print server's IP address>"
For example:
    ping 192.72.214.103
(You should get the responses from the print server).

4. Type "tftp <print server's IP address>"
For example: tftp 192.72.214.103
At the tftp prompt, type "**get config.txt**" to get the print server's configuration file.
For example: tftp > get config.txt

5. Quit from tftp, then use your editor to modify the "**BoxIPAddress**" field in the *config.txt* file from 0.0.0.0 to the IP address you specify in Step 2. When done, save the new *config.txt*.

6. Type "tftp <print server's IP address>"
At the tftp prompt, type "**put config.txt**" to save the new configuration file back to the print server.
 For example:
   tftp > put config.txt

7. Type "lpsystem -tbsd <print server's IP address>"
 For example:
   lpsystem -tbsd 192.72.214.103

Note: You can add the host name associated with the IP address in the /etc/hosts file. If you have done this, please use the host name instead of the IP address.

---

8. Type "lpadmin –plp1 -s<print server's IP address>"
 ,where **lp1** represents the print server's first parallel port.

Note: Please **DO NOT** specify any other name than **lp1**.

 For example: lpadmin –plp1 -s192.72.214.103

9. Type "accept lp1"
 For example:

      accept lp1

10. Type "enable lp1"
  For example:
     enable lp1

11. Installation completed.

12. Launch some print jobs by " lpr " command.
  For example:
     lpr -Plp1 /etc/hosts

8.Upgrading Print Server

Overview

Upgrading print server will allow you to replace its firmware inside the print server while the newer software version of the print server is available from your local dealer. Depending on the different systems users might use, this chapter is divided into several sections, please refer to the following list for your systems.

1. *Upgrading the print server from NetWare*

2. *Upgrading the print server from Windows NT/2000*

3. *Upgrading the print server from UNIX system*

Note: 1. Before you proceed to upgrade the print server, please ensure that the necessary binary file, **mps12.bin** (one port print server), **mps11.bin** (three ports print server) is located in your current working directory.

2. Before upgrading print server, please ensure that the print server have any printing jobs. Please wait till the current print job is finished before you can proceed.

Upgrading the print server from NetWare

1. Log into your NetWare file server as a Supervisor (Admin.) or equivalent.

2. Ensure binary file, **mps12.bin** (one port print server), **mps11.bin** (three ports print server), is located in the PSAdmin directory.

3. Run **PSAdmin** from your Windows PC.

4. Click the **Upgrade** icon in tool bar.

Upgrading the print server from Windows NT/2000 (Through TCP/IP)

1. Ensure **mps12.bin** (one port print server), **mps11.bin** (three ports print server) is located in your current working directory.

2. At NT/2000's DOS prompt, type "**tftp <print server's IP address > get upgrade**".

3. Type "**tftp <print server's IP address> put mps12.bin or mps11.bin**".

4. Wait for the transfer successful message.

5. Done !

Upgrading the print server from UNIX (Through TCP/IP)

1. Log in as root

2. Ensure **mps12.bin** (one port print server), **mps11.bin** (three ports print server) is located in your current working directory.

3. Type "**tftp <print server's IP address>**".

4. At tftp prompt, type "**get upgrade**".

5. At tftp prompt, type "**put mps12.bin or mps11.bin**".

6. Wait for the file transfer to complete.

7. Quit from tftp.
8. Done.

9. Troubleshooting

General Troubleshooting Overview

The most common problems that cause the print server to perform improperly are covered in this chapter. If a problem still exists after reading this chapter, please contact your dealer for technical support.

LED Light Indicators

The print server is equipped with two LED lights to assist in diagnosing problems that are the result of the network and/or the print server hardware itself.

Status (Green)

When the print server unit is powered on, the *Status* LED will flash five times as part of the unit's **P**ower **O**n **S**elf **T**est (**POST**). This indicates that the print server hardware is properly configured. This LED, however, may flicker whenever the data are being transmitted and printed.

Note: Make sure that the Orange LED flashes five times (**POST**) upon connecting the power. If the unit does not flash five times, contact your dealer for a replacement or repair.

Flow/Link (Solid Green)

When this light is on, the Twisted-Pair cable connection is problem free.

Cable Related Problems

In most cases, the print server fails to send and receive network data due to incorrect use of the network cable and/or to connector problems. Twisted-Pair Cable is 10BaseT/100BaseT 8-wire Unshielded Twisted-Pair Cable. The pin assignments for the RJ-45 connector used for this cable must conform to the UTP cable specifications.

Power Related Problems

The print server requires an external AC power adapter in order for it to function. If you have a power problem, check to see whether the power cord or its connectors are damaged. More importantly, check to see that the AC power adapter included with the print server matches the AC voltage in your country or area. Using an incorrect AC adapter will damage your print server.

Print Port Related Problems

Printing data failure may be caused by a loose connection of the print server to the Centronics parallel port of the printer. Check to see if any of the pins on the 36-pin connector are damaged. In addition, check the cable connection. If the pins are damaged, contact your dealer for a replacement connector.

Windows 95/98/NT Troubleshooting

Multi-Segment LAN Environment Installation (through the Network Print Port)

If your print server and Windows 95/98/NT are located on two different segments, and your Windows NT server is used as the router/gateway you will need to implement the following procedures in order for your print server to function properly:

□ Add the RIP for NWLink IPX/SPX compatible transport. See *RIP for NWLink IPX/SPX compatible transport Installation Procedure* later in this section.

□ Add the frame type 802.2 for both Ethernet adapters. See *Multi-Segment Frame Type 802.2 Installation* later in this section.

RIP for NWLink IPX/SPX compatible transport Installation Procedure

1. From your Windows NT server that is used as a router, select **Start** from the bottom left hand corner of the screen.
2. Select **Settings**.
3. Select **Control Panel**.
4. Double-click the **Network** icon.
5. Select **Services**.
6. Select **Add**.
7. In the Select Network Service box, select the **RIP for NWLink IPX/SPX compatible transport**. Click **OK**.
8. Follow the directions on the screen.
9. Done !

Multi-Segment Frame Type 802.2 Installation

1. From your Windows NT server that is used as a router, select **Start** from the bottom left hand corner of the screen.
2. Point to **Settings**, and select **Control Panel**.

3. Double-click the **Network** icon.
4. Select **Protocols**.
5. Select the **NWLink IPX/SPX Compatible Transport.**
6. Select **Properties**.
7. Select your (first) network interface card and select **Manual Frame Type Detection**.
8. Click **Add**.
9. In the **Frame Type** field, select **Ethernet 802.2**.
10. In the **Network Number** field, type in an unique 8-digit hexadecimal network number. For example: 12345ABC.
11. Select **Add**.
12. Repeat the Steps 8-12 for the other Ethernet adapter.
13. **Restart the computer**.
14. Done.

Moving the print server to A New Segment

If the print server is moved from one network segment to another after the initial installation, the print server must be reconfigured on the original Windows NT server or on each Windows 95/98 computer. The print server's driver must be installed to each computer to re-establish a new connection.

Print Server Reconfiguration Procedure on Windows 95/98

1. Click **Start** on the bottom left hand corner of the screen.

2. Select **Settings** and select **Printers**.

3. Select your printer that is connected to the print server. Then right-click the printer icon. Select **Properties**.

4. Click **Details** tab.

5. Click **Port Settings** as shown in the picture below. The print server will be displayed on the next print server's configuration screen.

Find your original print server according to its Port Name or other distinguished name and click this print server.

6. Click **OK** and it returns to the printer's Properties page.

7. Click **OK**.

8. Done !

Print server Reconfiguration Procedure on Windows NT

1. Click **Start** on the bottom left hand corner of the screen.

2. Select **Settings** and select **Printers**.

3. Select your printer that is connected to the print server, and right-click the printer icon. Select **Properties**.

4. Click Ports tab.

5. Click **Configure Port**. The print server will be shown on the next screen.

6. Find your original print server according to its Port Name or other distinguished name and click on the print server.

7. Click **OK** and it returns to the printer's Properties page.

8. Click **OK**.

9. Done !

Moving Your Computer to A New Segment

If you are using the print server through the Network Print Port on your NT or Windows 95/98 computer and your computer is going to be moved onto another segment, you have to reconfigure the print server on your computer to use your print server. Please refer to the "*Moving the print server to a new segment*" section for more detailed reconfiguration instructions.

Novell NetWare Troubleshooting

Many printing problems can be traced back to incorrect or incomplete print server installations. *It is always wise to check the installation configurations first.*

In some cases, if necessary, delete the print server, print queue(s) or other setting(s). Next recreate the necessary parameters or reconfigure the print server by running the PSAdmin.

TCP/IP Troubleshooting

When you are configuring a new print server on your NT/UNIX server through LPR Port printing under TCP/IP protocol, you might encounter the following problem in your initial installation steps:

   " I can do the "arp" command. However, when I am going to ping or tftp the print server, it always shows Request timed out. I have checked the print server's power and it exactly passed the POST. Besides, the network cabling is OK. As such, I can't do tftp command to get and put the print server's configuration file and save its IP address permanently. I can't, therefore, continue installing the print server."

Regarding this problem, there are three possible causes:

A. **The print server's Node ID you specified in the "arp" command is not correct.**

If this is the case, please ensure the Node ID field in the corresponding entry of the print server's IP address in NT's ARP cache table is correct by typing the following command at NT's DOS prompt.
    "arp -a"
If the Node ID shown on the screen doesn't match the print server's Node ID, please follow the instructions below to reset the entry.

1. At NT's DOS prompt, type "arp -d <print server's IP address>" to delete the current entry.

2. Type "arp -s <print server's IP> <print server's Node ID>" to specify a new ARP entry.

3. Refer to Chapter 7 for the detailed instructions to complete the installation.

B. **The print server's IP address is duplicate or is as same as another computer's IP address on the network.**

If this is the case, please consult your network administrator to obtain an unused IP address for your print server.

C. **The print server is on one segment and your Windows NT server is on the other segment.**

(This troubleshooting guide will also apply to a multiple-segmented network while installing the print server)

For example, assuming the print server is on Segment A, NT server is on Segment B, and there is a gateway computer between Segment A and Segment B. The network might be a complete TCP/IP network, or a hybrid of TCP/IP and IPX/SPX network.
If this is the case, you have to adopt the following steps, depending on which platform the gateway computer is.

a. If the gateway computer is a NT/UNIX server:

You have to do the same "arp" command to specify an entry on the NT/UNIX computer as a gateway in order for it to forward your subsequent "ping" or/and "tftp" commands to the print server.

b. If the gateway computer is a Novell NetWare file server:

1. Due to the presence of this NetWare file server, the IPX/SPX protocol might be used on your network. Therefore, we strongly suggest you run the **PSAdmin** from any client computer and select "*Manual Setup*" to specify the print server's IP address (For more detailed information about Manual Setup, please refer to Chapter 3).

2. If the solution described above is not applicable, you have to follow the instructions below to set up the print server's IP address.

For the purpose of explanation, we assume the NT server is on Segment A and its IP address is 192.72.214.66 (subnet mask: 255.255.255.224), the print server is going to be installed on Segment B, with IP address, for example, 192.72.214.100.

1. Find an unused IP address on Segment A for temporary use in the following steps, for example, 192.72.214.68.

2. Connect your print server to Segment A as a networked node.

3. On your NT server, type, for example, "arp -s 192.72.214.68 00-40-01-3F-02-AB". Please note, in this arp command you have to type 192.72.214.68 on purpose. Do not type this IP address as 192.72.214.100.

4. Type "tftp 192.722.214.68 get config.txt". The configuration file will then be retrieved and transferred to your NT server.

5. Type "edit config.txt" to modify this configuration file.

6. In your editor, modify "**BoxIPAddress**" field from "0.0.0.0" to "192.72.214.100". *Leave other options as default and do not change their values*. When done, save this new file and quit from your editor. *Please note, in this step you must specify an IP address which is valid on Segment B, such as 192.72.214.100 in this example, rather than 192.72.214.68.*

7. Type, for example, "tftp 192.72.214.68 put config.txt" to save this new configuration back to print server.

9 - 10

8. Move the print server back to the Segment B. Done !

Frequently Asked Questions

Question A

Print jobs are sent to the print queue successfully, but fail to be sent to the printer.

Possible explanations

1. The Print server Name/Print Queue configuration in PCONSOLE is incorrect.
2. The Print server name specified and stored in the print server memory doesn't match the same one set in PCONSOLE.
3. The network cable or power adapter connected to the print server is loose or disconnected.
4. The printer is off-line, jammed or out of paper.

Solutions

1. Check all the information in PCONSOLE.
2. Check all the information of the print server by running PSAdmin.
3. Check to see that if the network cabling and power adapter are properly connected.
4. Recheck the print server connection by running the PSAdmin. It should read "Connected."

9 - 11

Question B

Print jobs start printing, but print very slowly or print unknown characters.

Possible explanation and solution

A printer driver is missing or is incompatible with that printer. Using a print driver that is not specific for the printer can cause printing errors. Install the proper printer driver. If these printer drivers are not available to you, please contact your printer manufacturer.

Question C

The upgrading process indication bar stops and does not seem to proceed again while upgrading the print server.

Possible Explanation

There might be a network problem. This causes the upgrading procedure to fail.

Solutions

1. Check the network cabling, especially from the workstation running the PSAdmin to the print server unit.
2. Run the PSAdmin and upgrade the print server again.

Question D

The Status LED light keeps blinking after POST.

Possible explanation and solution
The last upgrade process was not completed. The print server must be upgraded again by using the PSAdmin. Please see Chapter 3 for details.

Question E

The PSAdmin reports "Create Print server Error", "Create Printer Error", or "Create Print Queue Error" while using Auto Setup.

Possible Explanation

The print server name, the printer name, or the print queue name you specified in the **Auto Setup** dialogue box contains a space.

Solution

Check to see if there is a space in the print server name, the printer name, or the queue name. Type in a new name

9 - 13

without a space between two characters or replace a space by a dash (-) or an underscore (_).

Question F

The PSAdmin reports "Print server Already Exists", "Printer Already Exists", or "Print Queue Already Exists" after specifying the print server name, or the print queue name in Auto Setup.

Possible Explanation

A same print server name or queue names exists in the specific NetWare file server as the one you specified in the **Auto Setup** dialogue box.

Solution

Specify a new print server name or queue name in the **Auto Setup**.

Additional Installation Instructions

Panasonic KX-P6100/6300/6500

If you are using a Panasonic KX-P6100/6300/6500 laser printer with the print server through the **Network Print Port** under Windows 95/98, please redirect the printer named "*Panasonic KX-P6100 PCL*" or "*Panasonic KX-P6300*

PCL", or "**Panasonic KX-P6500 PCL**" to the print server through the **Network Print Port**.

DO NOT redirect the printer named "Panasonic KX-P6100 GDI", "Panasonic KX-P6300 GDI", or "Panasonic KX-P6500 GDI" to the print server.

9 - 15