SP 1210N
Network User's Guide

Read this manual carefully before you use this machine and keep it handy for future reference. For safe and correct use, be sure to read the Important Information in "User's Guide" before using the machine.

Definitions of warnings, cautions and notes

We use the following icons throughout this User's Guide:

Notes tell you how you should respond to a situation that may arise or give tips about how the operation works with other features.

Improper Setup icons alert you to devices and operations that are not compatible with the printer.

Trademarks

All brand and product names mentioned in this manual are registered trademarks of their respective companies.

IMPORTANT NOTE:

- This product is approved for use in the country of purchase only. Do not use this product outside the country of purchase as it may violate the wireless telecommunication and power regulations of that country.
- Windows® XP in this document represents Windows® XP Professional, Windows® XP Professional x64 Edition and Windows® XP Home Edition.
- Windows Server® 2003 in this document represents Windows Server® 2003 and Windows Server® 2003 x64 Edition.
- Windows Vista® in this document represents all editions of Windows Vista®.

Table of Contents

1 Introduction

Overview

This printer can be shared on a 10/100Mb wired Ethernet network using the internal network print server. The print server provides printing services for Windows® 2000/XP/7/XP Professional x64 Edition, Windows Vista®, Windows Server® 2003/ 2003 x64 Edition supporting the TCP/IP protocols. The following chart shows what network features and connections are supported by each operating system.

Operating Systems	**Windows® 2000/XP/7** **Windows® XP Professional x64 Edition** **Windows Vista®** **Windows Server® 2003** **Windows Server® 2003 x64 Edition**
10/100 BASE-TX Wired Ethernet (TCP/IP)	✔
Printing	✔
BRAdmin Light	✔
Internet Printing (IPP)	✔
Status Monitor	✔

To use this printer on a network, you need to configure the print server in the machine, and set up the computers you use.

Network features

SP 1210N series have the following basic network features.

Network printing

The print server provides printing services for Windows® 2000/XP/7, Windows Vista® and Windows Server® 2003 supporting the TCP/IP protocols.

Management utilities

BRAdmin Light

BRAdmin Light is a utility for initial setup of the network connected devices. This utility can search for this products on your network, view the status and configure basic network settings, such as IP address. The BRAdmin Light utility is available for Windows® 2000/XP/7, Windows Vista® and Windows Server® 2003 computers. For installing BRAdmin Light, please see the Quick Setup Guide provided with the printer. If you have already installed the printer driver, you do not have to install it again.

Web Based Management (web browser)

Web Based Management (web browser) is a utility for managing network connected devices, using the HTTP (Hyper Text Transfer Protocol). This utility can view the status of this products on your network and configure the machine or network settings using a standard web browser that is installed on your computer.

For more information, see *Chapter 7: Web Based Management*.

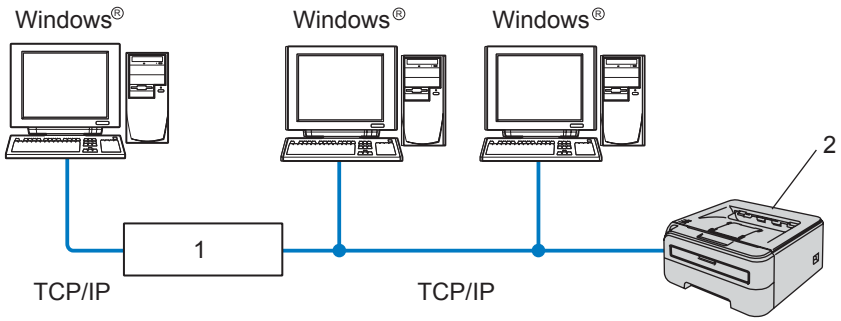
Types of network connections

Network connection example

Generally there are two types of network connections: Peer-to-Peer and Network Shared environment.

Peer-to-Peer printing using TCP/IP

In a Peer-to-Peer environment, each computer directly sends and receives data to each device. There is no central server controlling file access or printer sharing.



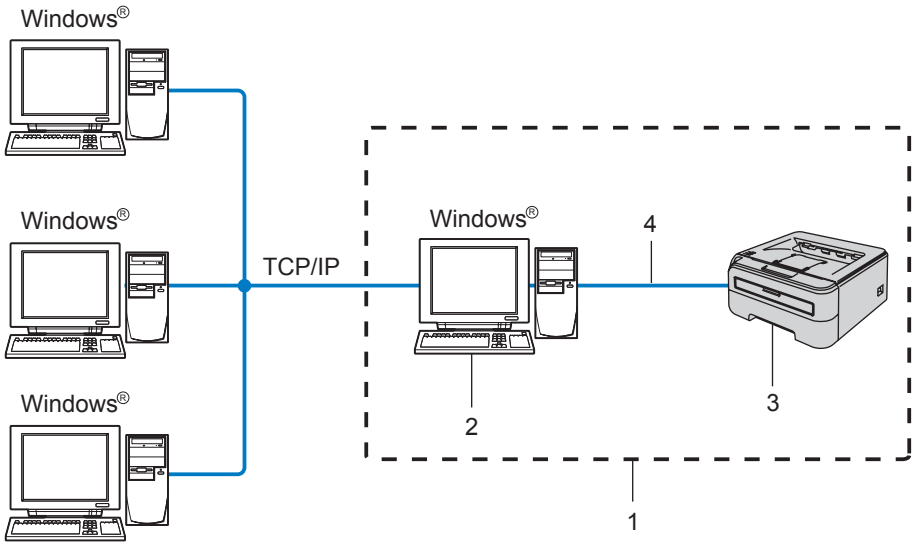
1 Router

2 Network printer

- In a smaller network of 2 or 3 computers, we recommend the Peer-to-Peer printing method as it is easier to configure than the Network Shared printing method described on the following page. See *Network Shared printing* on page 4.
- Each computer must use the TCP/IP Protocol.
- This printer needs to have an appropriate IP address configuration.
- If you are using routers, the Gateway address must be configured on the computers and your printer.

Network Shared printing

In a Network Shared environment, each computer sends data via a centrally controlled computer. This type of computer is often called a “Server” or a “Print Server”. Its job is to control the printing of all print jobs.



1 Network Shared

2 Also known as “Server” or “Print server”

3 Printer

4 TCP/IP or USB

- In a larger network, we recommend a Network Shared printing environment.
- The “server” or the “print server” must use the TCP/IP print protocol.
- This printer needs to have an appropriate IP address configuration unless the printer is connected via the USB interface at the server.

Protocols

TCP/IP protocols and functionalities

Protocols are the standardized sets of rules for transmitting data on a network. Protocols allow users to gain access to network connected resources.

The print server used on this product supports the TCP/IP (Transmission Control Protocol/Internet Protocol) protocol.

TCP/IP is the most popular set of protocols used for communication such as Internet and E-mail. This protocol can be used in almost all operating systems such as Windows® and Linux.

The following TCP/IP protocols are available on this product.

Note

- You can configure the protocol settings by using the HTTP (web browser). See *How to configure the print server settings using Web Based Management (web browser)* on page 24.
- For security features, see *Security methods for E-mail notification* on page 20.

DHCP/BOOTP/RARP

By using the DHCP/BOOTP/RARP protocols, the IP address can be automatically configured.

Note

To use the DHCP/BOOTP/RARP protocols, please contact your network administrator.

APIPA

If you do not assign an IP address manually (using the BRAdmin applications) or automatically (using a DHCP/BOOTP/RARP server), the Automatic Private IP Addressing (APIPA) protocol will automatically assign an IP address from the range 169.254.1.0 to 169.254.254.255.

DNS client

The print server supports the Domain Name System (DNS) client function. This function allows the print server to communicate with other devices by using its DNS name.

LPR/LPD

Commonly used printing protocols on a TCP/IP network.

Port9100

Another commonly used printing protocol on a TCP/IP network.

SMTP client

Simple Mail Transfer Protocol (SMTP) client is used to send E-mails via Internet or Intranet.

IPP

Internet Printing Protocol (IPP Version 1.0) allows you to print documents directly to any accessible printer via the internet.

TELNET

The print server supports TELNET server for command line configuration.

SNMP

The Simple Network Management Protocol (SNMP) is used to manage network devices including computers, printers and terminals in a TCP/IP network.

Web server (HTTP)

The print server is equipped with a web server that allows you to monitor its status or change some of its configuration settings.

Note

We recommend Microsoft Internet Explorer 6.0® (or greater) or Firefox® 1.0 (or greater) for Windows®. Please also make sure that JavaScript and Cookies are always enabled in whichever browser you use. If a different web browser is used, make sure it is compatible with HTTP 1.0 and HTTP 1.1.

LLTD

The Link Layer Topology Discovery protocol (LLTD) lets you locate the machine easily on the Windows Vista® and Windows® 7 **Network Map**. Your machine will be shown with a distinctive icon and the node name. The default setting for this protocol is Off.

LLMNR

The Link-Local Multicast Name Resolution protocol (LLMNR) resolves the names of neighboring computers, if the network does not have a Domain Name System (DNS) server. The LLMNR Responder function works in both the IPv4 or IPv6 environment when using a computer that has the LLMNR Sender function such as Windows Vista®.

Web Services

The Web Services protocol enables Windows Vista® and Windows® 7 users to install the printer driver by right clicking the machine icon from the **Start** / **Network** selection. (See *Installation when using Web Services (For Windows Vista® users)* on page 34). The Web Services also lets you check the current status of the machine from your computer.

2 Configuring your printer for a network

Overview

Before using your printer in a network environment, you must configure the TCP/IP settings. In this chapter, you will learn the basic steps required to print over the network using the TCP/IP protocol.

We recommend that you use the installer application on the CD-ROM we have provided with the printer. By using this application, you can easily connect your printer to your network and install the network software and printer driver which you need to complete the network configuration. You will be guided by the on-screen instructions until you are able to use your network printer. Please follow the instructions in the supplied Quick Setup Guide.

IP addresses, subnet masks and gateways

To use the printer in a networked TCP/IP environment, you need to configure the IP address and subnet mask. The IP address you assign to the print server must be on the same logical network as your host computers. If it is not, you must properly configure the subnet mask and the gateway address.

IP address

An IP address is a series of numbers that identifies each computer connected to a network. An IP address consists of four numbers separated by dots. Each number is between 0 and 255.

■ Example: In a small network, you would normally change the final numbers.

- 192.168.1.1
- 192.168.1.2
- 192.168.1.3

How the IP address is assigned to your print server:

If you have a DHCP/BOOTP/RARP server in your network (typically a UNIX®/Linux, Windows® 2000/XP/7, Windows Vista®, or Windows Server® 2003 network) the print server will automatically obtain its IP address from the server and register its name with any RFC 1001 and 1002-compliant dynamic name services.

Note

On smaller networks, the DHCP server may be the router.

For more information on DHCP, BOOTP and RARP, see *Using DHCP to configure the IP address* on page 30, *Using BOOTP to configure the IP address* on page 30 and *Using RARP to configure the IP address* on page 31.

If you do not have a DHCP/BOOTP/RARP server, the Automatic Private IP Addressing (APIPA) protocol will automatically assign an IP address from the range 169.254.1.0 to 169.254.254.255. For more information on APIPA, see *Using APIPA to configure the IP address* on page 32.

If the APIPA protocol is disabled, the IP address of a print server is 192.0.0.192. However, you can easily change this IP address number to match with the IP address details of your network. For information on how to change the IP address, see *Setting the IP address and subnet mask* on page 9.

Subnet mask

Subnet masks restrict network communication.

■ Example: Computer 1 can talk to Computer 2

- Computer 1

  IP Address:192.168.1.2

  Subnet Mask:255.255.255.0

- Computer 2

  IP Address:192.168.1.3

  Subnet Mask:255.255.255.0

Note

0 denotes that there is no limit to communication at this part of the address.

In the above example, we can communicate with anything that has an IP address that begins with 192.168.1.X.

Gateway (and router)

A gateway is a network point that acts as an entrance to another network and sends data transmitted via the network to an exact destination. The router knows where to direct data that arrives at the gateway. If a destination is located at an external network, the router transmits data to the external network. If your network communicates with other networks, you may need to configure the Gateway IP address. If you do not know the Gateway IP address then contact your Network Administrator.

Step by Step chart

1 Configure the TCP/IP settings.

■ Configure the IP address → See page 9
■ Configure the subnet mask → See page 9
■ Configure the gateway → See page 9

2 Change the print server settings.

■ Using the BRAdmin Light utility → See page 11
■ Using the Web Based Management (web browser) → See page 11
■ Using other methods → See page 11

Setting the IP address and subnet mask

Using the BRAdmin Light utility to configure your network printer

BRAdmin Light

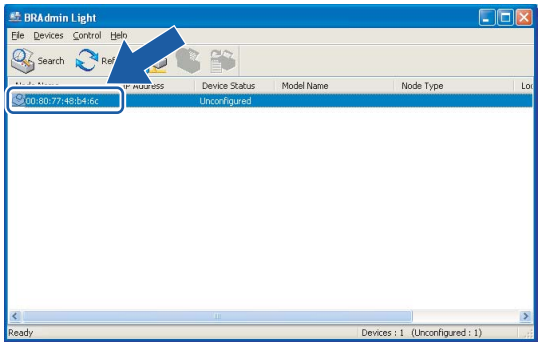
The BRAdmin Light utility is designed for initial setup of network connected devices. It can also search for products in a TCP/IP environment, view the status and configure basic network settings, such as IP address. The BRAdmin Light utility is available for Windows® 2000/XP/7, Windows Vista®, Windows Server® 2003.

Note

- Please use the BRAdmin Light utility version that was supplied on the CD-ROM with your product. You can also download the latest version of BRAdmin Light utility from our WebSite.
- If you are using Personal Firewall software (e.g. Windows Firewall), disable it. Once you are sure that you can print, re-start your Personal Firewall software.
- Node name: The Node name for each device on the network appears in BRAdmin Light. The default Node name of the network card in the printer is “RNPxxxxxxxxxxxx” for a wired network.
- The default password for print servers is `access`.

1. Start the BRAdmin Light utility.
   - Click **Start** / **All Programs** [1] / **SP 1200 Series** / **TYPE 1210N** / **BRAdmin Light**.

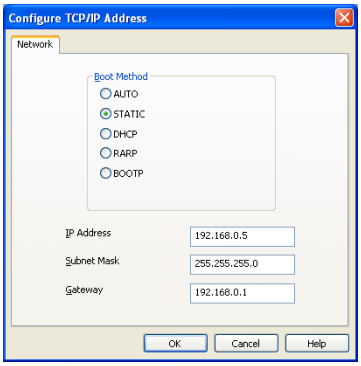
   [1] **Programs** for Windows® 2000 users
2. BRAdmin Light will search for new devices automatically.
3. Double-click the unconfigured device.



Note

- If the print server is set to its factory default settings without using a DHCP/BOOTP/RARP server, the device will appear as **Unconfigured** in the BRAdmin Light utility screen.
- You can find the node name and Ethernet address by printing out the Printer Settings Page. See *Printing the Printer Settings Page* on page 19.

4 Choose **STATIC** from **Boot Method**. Enter the **IP Address**, **Subnet Mask** and **Gateway** (if needed) of your print server.



5 Click **OK**.

6 With the correctly programmed IP address, you will see the print server in the device list.

Using other methods to configure your printer for a network

You can configure your network printer using other methods. See *Other ways to set the IP address (for advanced users and administrators)* on page 30.

Changing the print server settings

Using the BRAdmin Light utility to change the print server settings

1. Start the BRAdmin Light utility.
   - Click **Start** / **All Programs** [1] / **SP 1200 Series** / **TYPE 1210N** / **BRAdmin Light**.

     [1] **Programs** for Windows® 2000 users
2. Select the print server which you want to change the settings.
3. Select **Network Configuration** from the **Control** menu.
4. Enter a password. The default Password is `access`.
5. You can now change the print server settings.

Using Web Based Management (web browser) to change the print server settings

A standard web browser can be used to change your print server settings using the HTTP (Hyper Text Transfer Protocol). See *How to configure the print server settings using Web Based Management (web browser)* on page 24.

Using other methods to change print server settings

You can configure your network printer using other methods. See *Other ways to set the IP address (for advanced users and administrators)* on page 30.

3 Network printing: basic TCP/IP Peer-to-Peer printing

Overview

To connect your printer to your network, you need to follow the steps in the Quick Setup Guide. We recommend that you use the installer application on the CD-ROM which we have provided with the printer. By using this application, you can easily connect your printer to your network and install the network software and printer driver which you need to complete the configuration of your printer for a network. You will be guided by the on-screen instructions until you are able to use your network printer.

If you are a Windows® user and want to configure your printer without using the installer application, use the TCP/IP protocol in a Peer-to-Peer environment. Please follow the instructions in this chapter. This chapter explains how to install the network software and the printer driver which you will need in order to use your network printer.

Note

- You must configure the IP address on your printer before you proceed with this chapter. If you need to configure the IP address, see *Chapter 2* first.
- Verify the host computer and the machine are either on the same subnet, or that the router is properly configured to pass data between the two devices.
- The default password for the print servers is `access`.

Configuring the standard TCP/IP port

Printer driver not yet installed

For Windows Vista® and Windows® 7

1. Click the **Start** button, **Control Panel**, **Hardware and Sound**, and then **Printers**.
2. Click **Add a printer**.
3. Select **Add a local printer**.
4. You must now select the correct Network printing port. Select **Create a new port** and select **Standard TCP/IP Port** from the pull-down window, then click **Next**.
5. Select **TCP/IP Device** from the pull-down window of **Device type**. Enter the IP address, or the node name you wish to configure. The Wizard will automatically enter the Port name information for you, then click **Next**.
6. Windows Vista® and Windows® 7 will now contact the printer that you specified. If you did not specify the correct IP address or name then an error dialog will appear.

7. Now that you have configured the port, you must specify which printer driver you wish to use. Select the appropriate driver from the list of supported printers. If you are using a driver supplied with the printer on the CD-ROM then select the **Have Disk** option to browse to the CD-ROM.

8. For example, select the "X:\\install\your language\PCL\win2kxpvista [1]" folder (where X is your drive letter). Click **Open**.

   [1] "winxpx64vista64" folder for 64-bit OS users

9. Specify a name and click **Next**.

Note

- When the **User Account Control** screen appears, click **Continue**.
- If the printer driver that you are installing does not have a Digital Certificate you will see a warning message. Click **Install this driver software anyway** to continue with the installation.

10. Continue through the Wizard clicking **Finish** when complete.

For Windows® 2000/XP/7 and Windows Server® 2003

1. For Windows® XP and Windows Server® 2003: Click the **Start** button and select **Printers and Faxes**.
   For Windows® 2000: Click the **Start** button, select **Settings** and then **Printers**.

2. For Windows® XP and Windows Server® 2003: Click **Add a printer** to start the **Add Printer Wizard**.
   For Windows® 2000: Double click the **Add Printer** icon to start the **Add Printer Wizard**.

3. Click **Next** when you see the **Welcome to the Add Printer Wizard** screen.

4. Select **Local printer** and deselect the **Automatically detect and install my Plug and Play printer** option, then click **Next**.

5. You must now select the correct Network printing port. Select **Create a new port** and select **Standard TCP/IP Port** from the pull-down window, then click **Next**.

6. The **Add Standard TCP/IP Printer Port Wizard** will now appear. Click **Next**.

7. Enter the IP address, or the node name you wish to configure. The Wizard will automatically enter the Port name information for you, then click **Next**.

8. Windows® 2000/XP/7 and Windows Server® 2003 will now contact the printer that you specified. If you did not specify the correct IP address or name then an error dialog will appear.

9. Click **Finish** to complete the Wizard.

10. Now that you have configured the port, you must specify which printer driver you wish to use. Select the appropriate driver from the list of supported printers. If you are using a driver supplied with the printer on the CD-ROM then select the **Have Disk** option to browse to the CD-ROM.

11. For example, select the "X:\\install\your language\PCL\win2kxpvista [1]" folder (where X is your drive letter). Click **Open**.

    [1] "winxpx64vista64" folder for 64-bit OS users

12. Specify a name and click **Next**.
13. Continue through the Wizard clicking **Finish** when complete.

Printer driver already installed

If you have already installed the printer driver and wish to configure it for network printing, follow these steps:

1. For Windows Vista® and Windows® 7:
   Click the **Start** button, **Control Panel**, **Hardware and Sound**, and then **Printers**.
   For Windows® XP and Windows Server® 2003:
   Click the **Start** button and select **Printers and Faxes**.
   For Windows® 2000:
   Click the **Start** button and select **Settings** and then **Printers**.
2. Right click on the printer driver you wish to configure, and then select **Properties**.
3. Click the **Ports** tab and click **Add Port**.
4. Select the port that you wish to use. Typically this would be **Standard TCP/IP Port**. Then click the **New Port...** button.
5. The **Standard TCP/IP Port Wizard** will start.
6. Enter the IP address of your network printer. Click **Next**.
7. Click **Finish**.
8. Close **Printer Ports** and **Properties** dialog box.

Other sources of information

How to configure the IP address of the printer, see *Configuring your printer for a network* on page 7.

4 Internet printing

Overview

Windows® 2000/XP/7, Windows Vista® and Windows Server® 2003 users can print using TCP/IP and the standard Network Printing IPP protocol software built into Windows® 2000/XP/7, Windows Vista® and Windows Server® 2003.

Note

- You must configure the IP address on your printer before you proceed with this chapter. If you need to configure the IP address, see *Chapter 2* first.
- Verify the host computer and the machine are either on the same subnet, or that the router is properly configured to pass data between the two devices.
- The default password for the print servers is `access`.

IPP printing for Windows® 2000/XP/7, Windows Vista® and Windows Server® 2003

Use the following instructions if you wish to use the IPP printing capabilities of Windows® 2000/XP/7, Windows Vista® and Windows Server® 2003.

For Windows Vista® and Windows® 7

1. Click the **Start** button, **Control Panel**, **Hardware and Sound**, and then **Printers**.
2. Click **Add a printer**.
3. Select **Add a network printer**.
4. Click **The printer that I want isn't listed**.
5. Select **Select a shared printer by name** and then enter the following in the URL field: `http://printer_ip_address:631/ipp` (Where `printer_ip_address` is the IP address or the node name).

Note

If you have edited the hosts file on your computer or are using a Domain Name System, you can also enter the DNS name of the print server. As the print server supports TCP/IP and NetBIOS, you can also enter the NetBIOS name of the print server. The NetBIOS name can be seen in the printer settings page. The NetBIOS name assigned is the first 15 characters of the node name and by default it will appear as "RNPxxxxxxxxxxx".

6 When you click **Next**, Windows Vista® and Windows® 7 will make a connection with the URL that you specified.

■ If the printer driver has already been installed:

1 You will see the printer selection screen in the **Add Printer** wizard. Click **OK**.
If the appropriate printer driver is already installed on your computer, Windows Vista® and Windows® 7 will automatically use that driver. In this case, you will simply be asked if you wish to make the driver the default printer, after which the Driver installation wizard will complete. You are now ready to print.

2 Go to ⓫.

■ If the printer driver has NOT been installed:

One of the benefits of the IPP printing protocol is that it establishes the model name of the printer when you communicate with it. After successful communication you will see the model name of the printer automatically. This means that you do not need to inform Windows Vista® and Windows® 7 about the type of printer driver to be used.

Go to ❼.

7 If your printer is not in the list of supported printers, click **Have Disk**. You will then be asked to insert the driver disk.

8 Click **Browse** and select the appropriate printer driver that is contained in the CD-ROM or in the network share.
For example, select the “X:\\install\your language\PCL\win2kxpvista [1]” folder (where X is your drive letter). Click **Open**.

[1] “winxpx64vista64” folder for 64-bit OS users

9 Click **OK**.

10 Specify the model name of the printer. Click **OK**.

Note

- When the **User Account Control** screen appears, click **Continue**.
- If the printer driver that you are installing does not have a Digital Certificate you will see a warning message. Click **Install this driver software anyway** to continue with the installation. The **Add Printer** wizard will then complete.

11 You will see the **Type a printer name** screen in the **Add Printer** wizard. Check the **Set as the default printer** check box if you want to use this printer as the default printer, and then click **Next**.

12 To test the printer connection, click **Print a test page**, and then click **Finish** and the printer is now configured and ready to print.

For Windows® 2000/XP/7 and Windows Server® 2003

1. For Windows® XP and Windows Server® 2003: Click the **Start** button and select **Printers and Faxes**.
   For Windows® 2000: Click the **Start** button, select **Settings** and then **Printers**.
2. For Windows® XP and Windows Server® 2003: Click **Add a printer** to start the **Add Printer Wizard**.
   For Windows® 2000: Double click the **Add Printer** icon to start the **Add Printer Wizard**.
3. Click **Next** when you see the **Welcome to the Add Printer Wizard** screen.
4. Select **Network printer**.
   For Windows® XP and Windows Server® 2003: Make sure that you select **A network printer, or a printer attached to another computer**.
   For Windows® 2000: Make sure that you select **Network Printer**.
5. Click **Next**.
6. For Windows® XP and Windows Server® 2003: Select **Connect to a printer on the Internet or on a home or office network** and then enter the following in the URL field: `http://printer_ip_address:631/ipp` (Where `printer_ip_address` is the IP address or the node name).
   For Windows® 2000: Select **Connect to a printer on the Internet or on your intranet** and then enter the following in the URL field: `http://printer_ip_address:631/ipp` (Where `printer_ip_address` is the IP address or the node name).

Note

If you have edited the hosts file on your computer or are using a Domain Name System, you can also enter the DNS name of the print server. As the print server supports TCP/IP and NetBIOS, you can also enter the NetBIOS name of the print server. The NetBIOS name can be seen in the printer settings page. The NetBIOS name assigned is the first 15 characters of the node name and by default it will appear as “RNPxxxxxxxxxxx”.

7. When you click **Next**, Windows® 2000/XP/7 and Windows Server® 2003 will make a connection with the URL that you specified.
   - If the printer driver has already been installed:
     1. You will see the printer selection screen in the **Add Printer Wizard**.
        If the appropriate printer driver is already installed on your computer, Windows® 2000/XP/7 and Windows Server® 2003 will automatically use that driver. In this case, you will simply be asked if you wish to make the driver the default printer, after which the Driver installation wizard will complete. You are now ready to print.
     2. Go to ⓬.
   - If the printer driver has NOT been installed:

     One of the benefits of the IPP printing protocol is that it establishes the model name of the printer when you communicate with it. After successful communication you will see the model name of the

printer automatically. This means that you do not need to inform Windows® 2000 about the type of printer driver to be used.

Go to ❽.

❽ The driver installation starts automatically.

Note

If the printer driver that you are installing does not have a Digital Certificate you will see a warning message. Click **Continue Anyway** [1] to continue with the installation.

[1] **Yes** for Windows® 2000 users

❾ For Windows® XP and Windows Server® 2003: Click **Have Disk**. You will then be asked to insert the driver disk.

For Windows® 2000: Click **OK** when you see the **Insert Disk** screen.

❿ Click **Browse** and select the appropriate printer driver that is contained in the CD-ROM or in the network share.

For example, select the “X:\\install\your language\PCL\win2kxpvista [1]” folder (where X is your drive letter). Click **Open**.

[1] “winxpx64vista64” folder for 64-bit OS users

⓫ Click **OK**.

⓬ Check **Yes** if you want to use this printer as the default printer. Click **Next**.

⓭ Click **Finish** and the printer is now configured and ready to print. To test the printer connection, print a test page.

Specifying a different URL

Please note that there are several possible entries that you can enter for the URL field.

http://printer_ip_address:631/ipp

This is the default URL and we recommend that you use this URL.

http://printer_ip_address:631/ipp/port1

This is for HP® Jetdirect® compatibility.

http://printer_ip_address:631/

If you forget the URL details, you can simply enter the above text (http://printer_ip_address/) and the printer will still receive and process data.

Where printer_ip_address is the IP address or the node name.

Other sources of information

How to configure the IP address of the printer, see *Configuring your printer for a network* on page 7.

5 Control panel features

Overview

With the **Go** button on the control panel you can do the following:

Printing the Printer Settings Page

Note

Node name: Node name appears in the Printer Settings Page. The default Node name of the network card in the printer is “RNPxxxxxxxxxxx”.

The Printer Settings Page prints a report listing all the current printer settings including the network print server settings. You can print the Printer Settings Page using the **Go** button of the printer.

1. Make sure that the front cover is closed and the power cord is plugged in.
2. Turn on the printer and wait until the printer is in the Ready state.
3. Press **Go** three times within 2 seconds. The printer will print the current printer settings page.

Restoring the network settings to factory default

If you want to reset the print server back to its default factory settings (resetting all information such as the password and IP address information), please follow these steps:

1. Turn off the printer.
2. Make sure that the front cover is closed and the power cord is plugged in.
3. Hold down the **Go** button as you turn on the power switch. Keep the **Go** button pressed down until the **Toner**, **Drum** and **Error** LEDs light up. Release the **Go** button. Make sure that all the LEDs turn off.
4. Press the **Go** button seven times. Make sure that all the LEDs light up to indicate the print server has been reset to its default settings.

Note

You can reset the print server back to its default factory settings using the BRAdmin applications or Web Based Management (web browser). For more information, see *Changing the print server settings* on page 11.

6 Security methods

Overview

This chapter explains the security methods supported by your printer and how to configure them. You can also learn how to manage your network printer securely.

Security methods for E-mail notification

This machine supports the following security methods for E-mail notification.

POP before SMTP (PbS)

A user authentication method for sending E-mail from a client. The client is given permission to use the SMTP server by accessing the POP3 server before sending the E-mail.

SMTP-AUTH (SMTP Authentication)

SMTP-AUTH expands SMTP (the Internet E-mail sending protocol) to include an authentication method that ensures the true identity of the sender is known.

APOP (Authenticated Post Office Protocol)

APOP expands POP3 (the Internet receiving protocol) to include an authentication method that encrypts the password when the client receives E-mail.

Using E-mail notification with user authentication

To use the E-mail notification function via a secure SMTP server that requires a user authentication, you need to use POP before SMTP or SMTP-AUTH method. These methods prevent an unauthorized user from accessing the mail server. You can use Web Based Management (web browser).

Note

You need to match the settings of POP3/SMTP authentication with one of the E-mail servers. Contact your network administrator or your internet service provider about the configuration before using.

How to configure the POP3/SMTP settings using Web Based Management (web browser).

1. Start your web browser.
2. Type `http://printer_ip_address/` into your browser. (Where `printer_ip_address` is the IP address or the node name)
   - For example:

     `http://192.168.1.2/` (if the printer's IP address is 192.168.1.2.)

Note

If you have edited the hosts file on your computer or are using a Domain Name System, you can also enter the DNS name of the print server. As the print server supports TCP/IP and NetBIOS, you can also enter the NetBIOS name of the print server. The NetBIOS name can be seen on the printer settings page. The NetBIOS name assigned is the first 15 characters of the node name and by default it will appear as "RNPxxxxxxxxxxx".

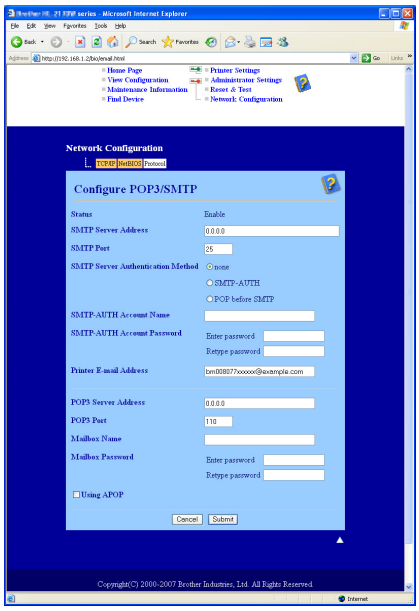
3. Click **Network Configuration**.
4. Enter a user name and a password.

Note

The login name for the Administrator is "`admin`" (case sensitive) and the default password is "`access`".

5. Click **Configure Protocol**.
6. Make sure that the POP3/SMTP setting is **Enable**, and then click **Advanced Setting** of **POP3/SMTP**.

7 You can configure the **POP3/SMTP** settings on this page.



Note

- You can also change the SMTP port number using Web Based Management. This is useful if your ISP (Internet Service Provider) implements the “Outbound Port 25 Blocking (OP25B)” service, and you are not using the ISP’s SMTP server. By changing the SMTP port number to a specific number which your SMTP server decide (for example, port 587), you can still send an E-mail via the SMTP server you currently use. You will also need to check **SMTP-AUTH** of **SMTP Server Authentication Method** to enable the SMTP server authentication.
- If you can use both POP before SMTP and SMTP-AUTH, we recommend choosing SMTP-AUTH.
- If you choose POP before SMTP for the SMTP Server Authentication Method, you need to configure POP3 settings. You can also use the APOP method.
- For more information, see the Help text in Web Based Management.
- You can also confirm whether the E-mail settings are correct after configuration by sending a test E-mail.

8 After configuring, click **Submit**. The Test E-mail Send/Receive Configuration dialog appears.

9 Follow the instructions on-screen if you want to test with the current settings.

7 Web Based Management

Overview

A standard Web Browser can be used to manage your printer using the HTTP (Hyper Text Transfer Protocol). You can get the following information from a printer on your network using a web browser.

- View the printer status, configuration and maintenance information details
- View the software version information of the printer and print server
- Change the printer setting
- Change the print server settings
- Print the test page, the printer settings page and the network configuration page
- Restoring the printer settings to its factory reset
- Restoring the network settings to its factory reset

You must use the TCP/IP protocol on your network and have a valid IP address programmed into the print server and your computer.

Note

- To learn how to configure the IP address on your printer, see *Setting the IP address and subnet mask* on page 9.
- You can use a web browser on most computing platforms, for example, UNIX® users are also able to connect to the machine and manage it.
- You can also use the BRAdmin applications to manage the printer and its network configuration.

How to configure the print server settings using Web Based Management (web browser)

A standard web browser can be used to change your print server settings using the HTTP (Hyper Text Transfer Protocol).

Note

We recommend Microsoft Internet Explorer 6.0® (or greater) or Firefox® 1.0 (or greater). Please also make sure that JavaScript and Cookies are always enabled in whichever browser you use. To use a web browser, you will need to know the IP address of the print server.

1. Start your web browser.
2. Type `http://printer_ip_address/` into your browser. (Where `printer_ip_address` is the IP address or the node name)
   - For example:

     `http://192.168.1.2/` (if the printer's IP address is 192.168.1.2.)

Note

If you have edited the hosts file on your computer or are using a Domain Name System, you can also enter the DNS name of the print server. As the print server supports TCP/IP and NetBIOS, you can also enter the NetBIOS name of the print server. The NetBIOS name can be seen on the printer settings page. The NetBIOS name assigned is the first 15 characters of the node name and by default it will appear as "RNPxxxxxxxxxxx".

3. Click **Network Configuration**.
4. Enter a user name and a password.

Note

Web Based Management offers two levels of password access. Users are able to access to **Printer Settings**. The default user name for User is "`user`" (case sensitive) and the default password is "`access`". Administrators are able to access all settings. The login name for the Administrator is "`admin`" (case sensitive) and the default password is "`access`".

5. Click **OK**.
6. You can now change the print server settings.

8 Troubleshooting

Overview

This chapter explains how to resolve typical network problems you may encounter when using the network printer. If, after reading this chapter, you are unable to resolve your problem, please visit our Website.

This chapter is divided into the following sections:

- General problems
- Network print software installation problems
- Printing problems
- Protocol-specific troubleshooting

General problems

CD-ROM is inserted, but does not start automatically

If your computer does not support Autorun, the menu will not start automatically after inserting the CD-ROM. In this case, execute **Start.exe** in the root directory of the CD-ROM.

My computer cannot find the printer/print server
I cannot make a necessary connection to the printer/print server.
My printer/print server does not appear in the window of BRAdmin Light

The Firewall setting on your computer may be rejecting the necessary network connection. In this case, you will need to disable the Firewall on your computer and re-install the drivers.

Windows Vista® users:

1. Click the **Start** button, **Control Panel**, **Network and Internet**, **Windows Firewall** and click **Change settings**.
2. When the **User Account Control** screen appears, do the following.
   - Users who have administrator rights: Click **Continue**.
   - For users who do not have administrator rights: Enter the administrator password and click **OK**.
3. Click the **General** tab. Make sure that **Off (not recommended)** is selected.
4. Click **OK**.

Note

After the software is installed, restart your Firewall.

Windows® XP SP2 users:

1. Click the **Start** button, **Settings**, and then **Control Panel**.
2. Double click **Windows Firewall**.
3. Click the **General** tab. Verify that **Off (not recommended)** is selected.
4. Click **OK**.

Note

After the software is installed, restart your Firewall.

Network print software installation problems

The print server is not found during the setup of the network print software or from the installation of the printer driver.

Make sure you have completed the IP address setting of the print server according to Chapter 2 of this User's Guide before installing the network print software or printer driver.

Check the following:

1. Make sure that the printer is powered on, is on-line and ready to print.
2. **For wired network users:**
   Check to see if there is any LED activity. The print servers have two LEDs on the back panel of the printer. The lower green LED shows Link/Activity (Received/Transmit) status. The upper orange LED shows Speed status.
   - No light: If the lower LED is off, then the print server is not connected to the network.
   - The lower LED is green: The Link/Activity LED will be green if the print server is connected to a Ethernet network.
   - The upper LED is orange: The Speed LED will be orange if the print server is connected to a 100BASE-TX Fast Ethernet network.
   - The upper LED is off: The Speed LED will be off if the print server is connected to a 10BASE-T Ethernet network.
3. Print the Printer Settings Page and check if the settings such as IP address settings are correct for your network. The problem may be the result of a mismatched or duplicate IP address. Verify that the IP address is correctly loaded into the print server, and make sure that no other nodes on the network have this IP address. For information on how to print the Printer Settings Page, see *Printing the Printer Settings Page* on page 19.

4 Verify that the print server is on your network as follows:
Try pinging the print server from the host operating system command prompt with the command:
`ping ipaddress`
Where `ipaddress` is the print server IP address (note that in some instances it can take up to two minutes for the print server to load its IP address after setting the IP address).

5 If you have tried ❶ to ❹ above and it does not work, then reset the print server back to the default factory settings and try from the initial setup again. For information on how to reset to the default factory settings, see *Restoring the network settings to factory default* on page 19.

6 (For Windows®) If the installation failed, the Firewall on your computer may be blocking the necessary network connection to the printer. In this case, you will need to disable the Firewall on your computer and re-install the drivers. After you re-install the drivers verify you can print and then turn your Firewall back on. For information on how to disable the Firewall, see *Windows Vista® users:* on page 25.

Printing problems

Print job is not printed

Make sure the status and configuration of the print server. Check following:

1. Make sure that the printer is powered on, is on-line and ready to print.
2. Print the Printer Settings Page of the printer and check if the settings such as IP address settings are correct for your network. The problem may be the result of a mismatched or duplicate IP address. Verify that the IP address is correctly loaded into the print server, and make sure that no other nodes on the network have this IP address.
3. Verify that the print server is on your network as follows:

    1 Try pinging the print server from the host operating system command prompt with the command:
    `ping ipaddress`
    Where `ipaddress` is the print server IP address (note that in some instances it can take up to two minutes for the print server to load its IP address after setting the IP address).

    2 If a successful response is received, then proceed to Windows® 2000/XP/7, Windows Vista® and Windows Server® 2003 IPP troubleshooting. Otherwise, proceed to ❹.

4. If you have tried ❶ to ❸ above and it does not work, then reset the print server back to the default factory settings and try from the initial setup again. For information on how to reset to the default factory settings, see *Restoring the network settings to factory default* on page 19.

Error during printing

If you try to print while other users are printing large amounts of data (e.g. many pages or pages with a large amount of graphics at high resolution), the printer is unable to accept your print job until the ongoing printing is finished. If the waiting time of your print job exceeds a certain limit, a time out situation occurs, which causes the error message. In such situations, execute the print job again after the other jobs are completed.

Protocol-specific troubleshooting

Windows® 2000/XP/7, Windows Vista® and Windows Server® 2003 IPP troubleshooting

I want to use a different Port number other than 631.

If you are using Port 631 for IPP printing, you may find that your firewall may not let the print data through. If this is the case, use a different port number (port 80), or configure your Firewall to allow Port 631 data through.

To send a print job using IPP to a printer using Port 80 (the standard HTTP port) enter the following when configuring your Windows® 2000/XP/7, Windows Vista® and Windows Server® 2003 system.

`http://ip_address/ipp`

The Get More Info option in Windows® 2000 is not working

If you are using a URL of:

`http://ip_address:631/ipp`,

the **Get More Info** option in Windows® 2000 will not function. If you wish to use the **Get More Info** option, use the following URL:

`http://ip_address`

This will then force Windows® 2000/XP/7, Windows Vista® and Windows Server® 2003 to use Port 80 to communicate with the print server.

Web Based Management (web browser) troubleshooting (TCP/IP)

1. If you cannot connect to the print server using your web browser it may be worth checking the Proxy Settings of your browser. Look in the Exceptions setting and if necessary, type in the IP address of the print server. This will stop your computer from trying to connect to your ISP or proxy server every time you wish to look at the print server.
2. Make sure that you are using the correct web browser, we recommend Microsoft Internet Explorer 6.0® (or greater) or Firefox® 1.0 (or greater) for Windows®. Please also make sure that JavaScript and Cookies are always enabled in whichever browser you use.

A Appendix A

Using services

A service is a resource that can be accessed by computers that wish to print to the print server. The print server provides the following predefined services (do a SHOW SERVICE command in the print server remote console to see a list of available services): Enter `HELP` at the command prompt for a list of supported commands.

Service (Example)	Definition
BINARY_P1	TCP/IP binary, NetBIOS service
TEXT_P1	TCP/IP text service (adds carriage return after each line feed)
PCL_P1	PCL® service (switches PJL-compatible printer to PCL® mode)

Other ways to set the IP address (for advanced users and administrators)

For information on how to configure your network printer using the BRAdmin Light utility or Web Based Management (web browser), see *Setting the IP address and subnet mask* on page 9.

Using DHCP to configure the IP address

The Dynamic Host Configuration Protocol (DHCP) is one of several automated mechanisms for IP address allocation. If you have a DHCP server in your network, the print server will automatically obtain its IP address from the DHCP server and register its name with any RFC 1001 and 1002-compliant dynamic name services.

Note

If you do not want your print server configured via DHCP, BOOTP or RARP, you must set the boot method to static so that the print server has a static IP address. This will prevent the print server from trying to obtain an IP address from any of these systems. To change the boot method, use the BRAdmin applications or Web Based Management (web browser).

Using BOOTP to configure the IP address

BOOTP is an alternative to rarp that has the advantage of allowing configuration of the subnet mask and gateway. In order to use BOOTP to configure the IP address make sure that BOOTP is installed and running on your host computer (it should appear in the `/etc/services` file on your host as a real service; type `man bootpd` or refer to your system documentation for information). BOOTP is usually started up via the `/etc/inetd.conf` file, so you may need to enable it by removing the “#” in front of the bootp entry in that file. For example, a typical bootp entry in the /etc/inetd.conf file would be:

```
#bootp dgram udp wait /usr/etc/bootpd bootpd -i
```

Depending on the system, this entry might be called “bootps” instead of “bootp”.

Note

In order to enable BOOTP, simply use an editor to delete the"#" (if there is no "#", then BOOTP is already enabled). Then edit the BOOTP configuration file (usually /etc/bootptab) and enter the name, network type (1 for Ethernet), Ethernet address and the IP address, subnet mask and gateway of the print server. Unfortunately, the exact format for doing this is not standardized, so you will need to refer to your system documentation to determine how to enter this information (many UNIX® systems also have template examples in the bootptab file that you can use for reference). Some examples of typical /etc/bootptab entries include:

```
RNP008077310107 1 00:80:77:31:01:07 192.168.1.2
```

and:

```
RNP008077310107:ht=ethernet:ha=008077310107:\
ip=192.168.1.2:
```

Certain BOOTP host software implementations will not respond to BOOTP requests if you have not included a download filename in the configuration file. If this is the case, simply create a null file on the host and specify the name of this file and its path in the configuration file.

As with rarp, the print server will load its IP address from the BOOTP server when the printer is powered on.

Using RARP to configure the IP address

The print server's IP address can be configured using the Reverse ARP (RARP) facility on your host computer. This is done by editing the `/etc/ethers` file (if this file does not exist, you can create it) with an entry similar to the following:

```
00:80:77:31:01:07   RNP008077310107
```

Where the first entry is the Ethernet address of the print server and the second entry is the name of the print server (the name must be the same as the one you put in the `/etc/hosts` file).

If the rarp daemon is not already running, start it (depending on the system the command can be `rarpd`, `rarpd -a`, `in.rarpd -a` or something else; type `man rarpd` or refer to your system documentation for additional information). To verify that the rarp daemon is running on a Berkeley UNIX®-based system, type the following command:

```
ps -ax | grep -v grep | grep rarpd
```

For AT&T UNIX®-based systems, type:

```
ps -ef | grep -v grep | grep rarpd
```

The print server will get the IP address from the rarp daemon when the printer is powered on.

Using APIPA to configure the IP address

The print server supports the Automatic Private IP Addressing (APIPA) protocol. With APIPA, clients automatically configure an IP address and subnet mask when a DHCP server is not available. The device chooses it's own IP address in the range 169.254.1.0 through to 169.254.254.255. The subnet mask is automatically set to 255.255.0.0 and the gateway address is set to 0.0.0.0.

By default, the APIPA protocol is enabled. If you want to disable the APIPA protocol, you can disable it using the BRAdmin applications or Web Based Management (web browser). For more information, see *Changing the print server settings* on page 11.

If the APIPA protocol is disabled, the IP address of a print server is 192.0.0.192. However, you can easily change this IP address number to match with the IP address details of your network.

Using ARP to configure the IP address

If you are unable to use the BRAdmin applications and your network does not use a DHCP server, you can also use the ARP command. The ARP command is available on Windows® systems that have TCP/IP installed as well as UNIX® systems. To use arp enter the following command at the command prompt:

```
arp -s ipaddress ethernetaddress
ping ipaddress
```

Where `ethernetaddress` is the Ethernet address (MAC address) of the print server and `ipaddress` is the IP address of the print server. For example:

A

Windows® systems

Windows® systems require the dash “-” character between each digit of the Ethernet address.

```
arp -s 192.168.1.2 00-80-77-31-01-07
ping 192.168.1.2
```

UNIX®/Linux systems

Typically, UNIX® and Linux systems require the colon “:” character between each digit of the Ethernet address.

```
arp -s 192.168.1.2 00:80:77:31:01:07
ping 192.168.1.2
```

Note

You must be on the same Ethernet segment (that is, there cannot be a router between the print server and operating system) to use the arp -s command.

If there is a router, you may use BOOTP or other methods described in this chapter to enter the IP address. If your administrator has configured the system to deliver IP addresses using BOOTP, DHCP or RARP your print server can receive an IP address from any one of these IP address allocation systems. In which case, you will not need to use the ARP command. The ARP command only works once. For security reasons, once you have successfully configured the IP address of a print server using the ARP command, you cannot use the ARP command again to change the address. The print server will ignore any attempts

to do this. If you wish to change the IP address again, use Web Based Management (web browser), TELNET (using the SET IP ADDRESS command) or factory reset the print server (which will then allow you to use the ARP command again).

Using the TELNET console to configure the IP address

You can also use the TELNET command to change the IP address.

TELNET is an effective method to change the printer's IP address. But a valid IP address must already be programmed into the print server.

Type `TELNET ipaddress` at the command prompt of the system prompt, where `ipaddress` is the IP address of the print server. When you are connected, push the Return or Enter key to get the "#" prompt, enter the password `access` (the password will not appear on the screen).

You will be prompted for a user name. Enter anything in response to this prompt.

You will then get the `Local>` prompt. Type `SET IP ADDRESS ipaddress`, where `ipaddress` is the desired IP address you wish to assign to the print server (check with your network administrator for the IP address to use). For example:

```
Local> SET IP ADDRESS 192.168.1.3
```

You will now need to set the subnet mask by typing `SET IP SUBNET subnet mask`, where `subnet mask` is the desired subnet mask you wish to assign to the print server (check with your network administrator for the subnet mask to use). For example:

```
Local> SET IP SUBNET 255.255.255.0
```

If you do not have any subnets, use one of the following default subnet masks:

255.0.0.0 for class A networks

255.255.0.0 for class B networks

255.255.255.0 for class C networks

The leftmost group of digits in your IP address can identify the type of network you have. The value of this group ranges from 1 through 127 for Class A networks (e.g., 13.27.7.1), 128 through 191 for Class B networks (e.g.,128.10.1.30), and 192 through 255 for Class C networks (e.g., 192.168.1.4).

If you have a gateway (router), enter its address with the command `SET IP ROUTER routeraddress`, where `routeraddress` is the desired IP address of the gateway you wish to assign to the print server. For example:

```
Local> SET IP ROUTER 192.168.1.4
```

Type `SET IP METHOD STATIC` to set the method of IP access configuration to static.

To verify that you have entered the IP information correctly, type `SHOW IP`.

Type `EXIT` or CTR-D (i.e., hold down the control key and type "D") to end the remote console session.

Installation when using Web Services (For Windows Vista® users)

Note

Verify the host computer and print server are either on the same subnet, or that the router is properly configured to pass data between the two devices.

1. Click **Start**, then choose **Network**.
2. The machine's Web Services Name will be shown with the printer icon. Right click the machine you want to install.

Note

The Web Services Name for this machine is your model name and the Ethernet address of your machine (e.g. SP 1210N).

3. From the pull down menu, click **Install**.
4. When the **User Account Control** screen appears, do the following.
   - Users who have administrator rights: Click **Continue**.
   - For users who do not have administrator rights: Enter the administrator password and click **OK**.
5. Select **Locate and install driver software**.
6. Insert the CD-ROM.
7. Select **Don't search online** and then **Browse my computer for driver software** on your computer.
8. Select your CD-ROM drive, and then select the **install** \ **your language** \ **PCL** \ **win2kxpvista** folder.
9. Click **Next** to begin installation.

Installation when using a Network Print Queue or Share

Note

If you are going to connect to a shared printer on your network, we recommend that you ask your system administrator about the queue or share name for the printer prior to installation.

Installing the driver and choosing the correct printer queue or share name

1. Turn on your computer. (You must be logged on with Administrator rights.)
   Close any applications running before configuration.
2. Put the supplied CD-ROM into your CD-ROM drive. The opening screen will appear automatically.
   Choose your printer model and the language.
3. Click **Install Printer Driver** on the menu screen.

Note

Choose the **Install Printer Driver** icon for your region.

4. Click **Network cable users**.

Note

For Windows Vista® and Windows® 7, when the **User Account Control** screen appears, click **Continue**.

5. When the **License Agreement** window appears, click **Yes** if you agree to the License Agreement.
6. Choose **Network Shared Printer**, and then click **Next**.
7. Choose your printer's queue, and then click **OK**.

Note

Contact your administrator if you do not know the location or the name of the printer in the network.

8. Click **Finish**.

Note

If you do not want to set your printer as Default printer, uncheck **Set as Default Printer**.

OK! **Setup is now complete.**

How to use the IPV6 protocal

Before you can use the IPv6 protocol, you must enable the protocol on the machine and software it may be used with. For information on how to enable IPv6, refer to the things below.

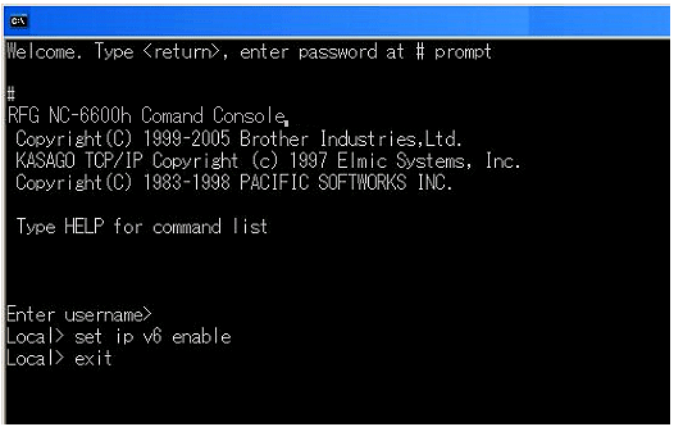
Using the Web Based Management (web browser), or TELNET to enable the IPv6 protocol

Web Based Management (web browser)

Network Configuration => Configure TCP/IP => Configure IPv6 => Select Enable => Submit => Turn the printer OFF and then ON

TELNET

Type in "set ip v6 enable" => "exit" => Turn the printer OFF and then ON



Making the Status Monitor software work with IPv6

The Status Monitor software supplied with your machine is designed to work with the standard IPv4 protocol. If you are working in an IPv6 environment, you must enable the IPv6 setting in the Status Monitor software.

To do that, do the following:

1. Download the IPv6 Settings (IPv6 setting tool) from our WebSite.
2. Install the IPv6 Settings tool on your PC and start the tool from the **Start Menu**.
   Start Menu => TYPE 1210N Administrator Utilities => TYPE 1210N IPv6 Settings.

3 Check **Enable** to enable IPv6. Check on **Priority on IPv6 address**. By enabling this option, the Status Monitor application, will start to use the IPv6 protocol.

Note

Required Environment:

The IPv6 setting tool works on Windows XP running SP2 or later. The IPv6 protocol on your Windows XP SP2 PC must be activated.

B Appendix B

Print server specifications

Ethernet wired network

Network node type	NC-6600h	
Operating system support	Windows® 2000/XP/7, Windows® XP Professional x64 Edition, Windows Vista®, Windows Server® 2003, 2003 x64 Edition	
Protocol support	TCP/IP: IPv4	ARP, RARP, BOOTP, DHCP, APIPA (Auto IP), WINS, NetBIOS name resolution, DNS resolver, mDNS, LPR/LPD, Custom Raw Port/Port9100, IPP, FTP Server, POP before SMTP, SMTP-AUTH, TELNET, SNMPv1, HTTP Server, TFTP client and server, SMTP Client, APOP, ICMP, LLTD responder, LLMNR responder, Web Services
	TCP/IP: IPv6 [1]	NDP, RA, DNS resolver, mDNS, LPR/LPD, Custom Raw Port/Port9100, IPP, FTP Server, POP before SMTP, SMTP-AUTH, TELNET, SNMPv1, HTTP Server, TFTP client and server, SMTP Client, APOP, ICMPv6, LLTD responder, LLMNR responder, Web Services
Network type	10/100BASE-TX Ethernet network	
Network printing	Windows® 2000/XP/7, Windows Vista® and Windows Server® 2003 TCP/IP printing	

[1] If you want to use the IPv6 protocol, visit http://solutions.brother.com for more information.

Computer requirements

Computer Platform & Operating System Version		Processor Minimum Speed	Minimum RAM	Recommended RAM	Hard Disk Space to install
Windows® Operating System	Windows® 2000 Professional	Intel® Pentium® II or equivalent	64 MB	256 MB	50 MB
	Windows® XP Home Edition		128 MB		
	Windows® XP Professional				
	Windows® XP Professional x64 Edition	64-bit (Intel®64 or AMD64) supported CPU	256 MB	512 MB	
	Windows Vista®	Intel® Pentium® 4 or equivalent 64-bit (Intel®64 or AMD64) supported CPU	512 MB	1 GB	
	Windows® 7				
	Windows Server® 2003	Intel® Pentium® III or equivalent	256 MB	512 MB	
	Windows Server® 2003 x64 Edition	64-bit (Intel®64 or AMD64) supported CPU			

[1] Third party USB ports are not supported.

Management utilities

BRAdmin Light	Windows® 2000/XP/7/XP Professional x64 Edition, Windows Vista®, Windows Server® 2003/2003 x64 Edition

C Index

This machine is approved for use in the country of purchase only.