Multi-Protocol On-board Ethernet Print Server

NETWORK USER'S GUIDE

QL-1060N

Read this guide thoroughly before using the machine. Keep the CD-ROM in a convenient place so you can use it quickly if you need to.

Visit us at http://solutions.brother.com where you can get product support, the latest driver updates and utilities, and answers to frequently asked questions (FAQs) and technical questions.

Version 0

EN

Definitions of warnings, cautions, and notes

We use the following icon 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.

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IMPORTANT NOTE:

- Windows® XP in this document represents Windows® XP Professional, and Windows® XP Home Edition. In addition, Windows® XP in this document does not represent Windows XP x64 Edition.
- Windows Server® 2003 in this document does not represent Windows Server® 2003 x64 Edition.

Brother Numbers

For technical and operational assistance, you must call the country where you purchased the machine. Calls must be made ***from within*** that country.

In USA	1-877-BROTHER
In Canada	1-877-BROTHER
In Europe	Visit http://www.brother.com for contact information on your local Brother office.

If you have any comments or suggestions, write to us at:

In USA	Printer Customer Support
	Brother International Corporation 26250 Enterprise Ct. # 250 Lake Forest, CA 92630
In Canada	Brother International Corporation (Canada), Ltd.
	- Marketing Dept. 1, rue Hôtel de Ville Dollard-des-Ormeaux, PQ, Canada H9B 3H6
In Europe	European Product & Service Support
	1 Tame Street, Audenshaw, Manchester M34 5JE, UK

- Service center locator (USA)

  For the location of a Brother authorized service center, call 1-877-BROTHER.

- Service center locations (Canada)

  For the location of a Brother authorized service center, call 1-877-BROTHER.

Internet addresses

Brother Global Web Site: http://www.brother.com

For Frequently Asked Questions (FAQs), Product Support and Technical Questions, and Driver Updates and Utilities: http:/solutions.brother.com

(In USA Only) For Brother Accessories & Supplies: http://www.brothermall.com

Table of Contents

1 Introduction

Overview

The Brother 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, Windows Vista®, Windows Server® 2003 supporting the TCP/IP protocols and Mac OS® X 10.3.9 or greater supporting TCP/IP. The following chart shows what network features and connections are supported by each operating system.

Operating Systems	10/100 BASE-TX Wired Ethernet (TCP/IP)	Printing	BRAdmin Light	BRAdmin Professional [1]	Status Monitor	Driver Deployment Wizard	Web BRAdmin [1]
Windows® 2000/XP	✔	✔	✔	✔	✔	✔	✔
Windows Vista®							
Windows Server® 2003							
Mac OS® X 10.3.9 or greater	✔	✔	✔		✔		

[1] BRAdmin Professional and Web BRAdmin are available as a download from http://solutions.brother.com

To use the Brother printer through a network, you need to configure the print server, and set up the computers you use.

Network function features

The Brother QL-1060N has the following basic network functions.

Network printing

The print server provides printing services for Windows® 2000/XP, Windows Vista® and Windows Server® 2003 supporting the TCP/IP protocols and Macintosh supporting TCP/IP (Mac OS® X 10.3.9 or greater).

Management utility

BRAdmin Light

BRAdmin Light is a utility for initial setup of Brother network connected devices. This utility can search for Brother 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, Windows Vista®, Windows Server® 2003 and Mac OS® X 10.3.9 or greater computers. For installing BRAdmin Light, see the Setup & Operation Guide we provided with the machine. For Macintosh® users, BRAdmin Light will be installed automatically when you install the printer driver. If you have already installed the printer driver, you don't have to install it again.

For details on BRAdmin Light, visit us at http://solutions.brother.com

BRAdmin Professional (for Windows®)

BRAdmin Professional is a utility for more advanced management of network connected Brother devices. This utility can search for Brother products on your network, view the status and configure the network settings from a computer running Windows® system. BRAdmin Professional has additional features from BRAdmin Light. For details and downloading, visit us at http://solutions.brother.com

Web BRAdmin (For Windows®)

Web BRAdmin is a utility for managing network connected Brother devices. This utility can search for Brother products on your network, view the status and configure the network settings. Unlike BRAdmin Professional, which is designed for Windows® only, the Web BRAdmin server utility can be accessed from any client PC with a web browser that supports JRE (Java Runtime Environment). By installing the Web BRAdmin server utility on a PC running IIS [1], administrators with a web browser can connect to the Web BRAdmin server, which then communicates with the device itself.

For details and downloading, visit us at http://solutions.brother.com

[1] Internet Information Server 4.0 or Internet Information Service 5.0 / 5.1 / 6.0 / 7.0

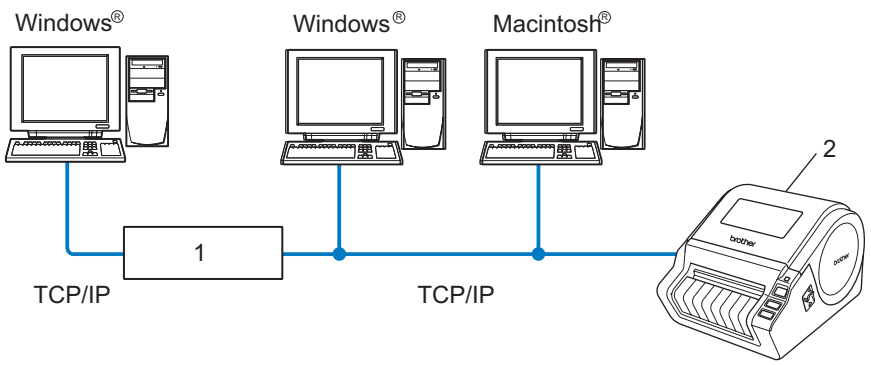
Types of network connection

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.



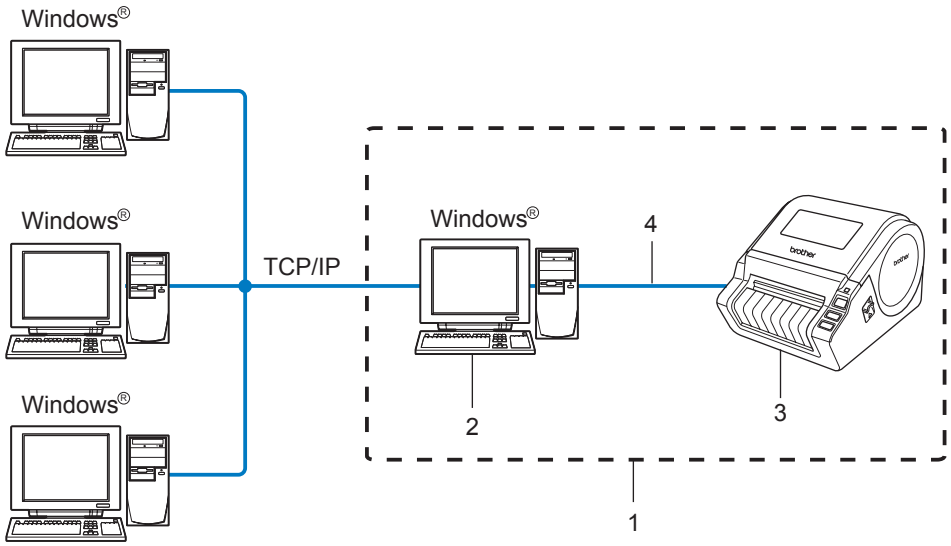
1 Router

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.
- The Brother machine needs to have an appropriate IP address configuration.
- If you are using routers, the Gateway address must be configured on the computers and the Brother machine.
- The Brother machine can also communicate with Macintosh®. (TCP/IP compatible operating systems)

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 “Printer server”

3 Network printer

4 TCP/IP, USB

- In a larger network, we recommend a Network Shared printing environment.
- The “server” or the “print server” must use the TCP/IP protocol.
- The Brother machine needs to have an appropriate IP address configuration unless the machine is connected via the USB interface at the server.
- For information about evaluated environment, visit us at http://solutions.brother.com.

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 Brother 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®, Macintosh® and Linux.

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

Note

You can configure the protocol settings by using the HTTP (web browser). See *Using Web Based Management (web browser) to change the print server settings* on page 13.

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, contact your network administrator.

APIPA

If you do not assign an IP address manually (using the BRAdmin software) 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 Brother print server supports the Domain Name Service (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.

mDNS

mDNS allows the Brother print server to automatically configure itself to work in a Mac OS® X Simple Network Configured system. (Mac OS® X 10.3.9 or greater).

Telnet

The Brother 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 Brother 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 higher) for Windows® and Safari™ 1.2 (or higher) for Macintosh®. Make sure that JavaScript and Cookies are always enabled in whichever browser you use. We recommend you upgrade to Safari™ 1.2 or higher to enable JavaScript. If a different web browser is used, make sure it is compatible with HTTP 1.0 and HTTP 1.1.

2 Configuring your network printer

Overview

Before using your Brother 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 automatic installer application on the CD-ROM we have provided with the machine. By using this application, you can easily connect your machine 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 Brother network printer. Follow the instructions in the supplied Setup & Operation Guide.

If you want to configure your machine without using the automatic installer application, refer to the remainder of this chapter for more information.

IP addresses, subnet masks and gateways

To use the machine 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 Windows® 2000/XP, Windows Vista®, Windows Server® 2003, or UNIX®/Linux 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 details on DHCP, BOOTP and RARP, see *Using DHCP to configure the IP address* on page 27, *Using BOOTP to configure the IP address* on page 27 and *Using RARP to configure the IP address* on page 28.

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 details on APIPA, see *Using APIPA to configure the IP address* on page 29.

If the APIPA protocol is disabled, the IP address of a Brother 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 details on how to change the IP address, see *Setting the IP address and subnet mask* on page 10.

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.

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 Brother network connected devices. It can also search for Brother 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, Windows Vista®, Windows Server® 2003 and Mac OS® X 10.3.9 or greater.

Note

- Use the BRAdmin Light utility version that was supplied on the CD-ROM with your Brother product. You can also download the latest version of BRAdmin Light utility from http://solutions.brother.com
- If you require more advanced printer management, use the latest version of BRAdmin Professional utility that is available as a download from http://solutions.brother.com This utility is only available for Windows® users.
- 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: Node name appears in current BRAdmin Light. The default Node name of the network card in the machine is "BRNxxxxxxxxxxxx" ("xxxxxxxxxxxx" is the Ethernet address.).
- The default password for Brother print servers is access.

1. Start the BRAdmin Light utility.

   - For Windows® 2000/XP, Windows Vista® and Windows Server® 2003 users

     Click **Start** / **All Programs** [1] / **Brother** / **BRAdmin Light** / **BRAdmin Light**.

     [1] **Programs** for Windows® 2000 users

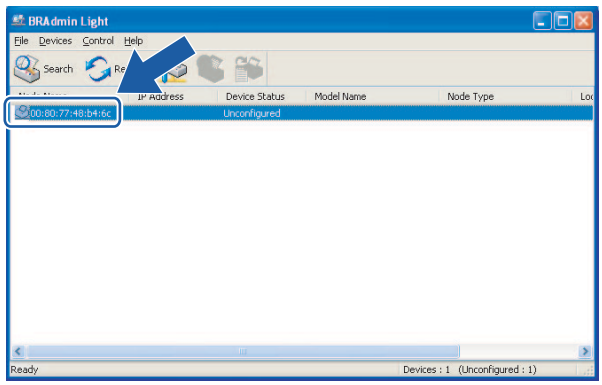
   - For Mac OS® X 10.3.9 or greater users

     Double-click **Macintosh HD** (Startup Disk) / **Library** / **Printers** / **Brother** / **P-touch Utilities** / **BRAdmin Light.jar** file.

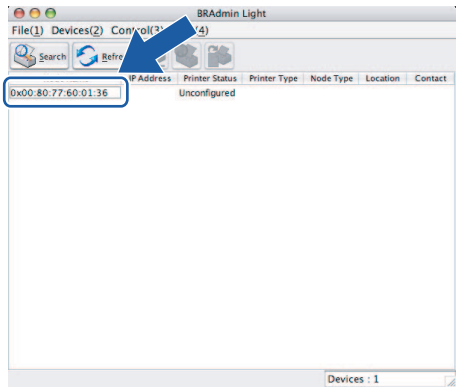
2. BRAdmin Light will search for new devices automatically.

3 Double-click the unconfigured device.

Windows®



Macintosh®

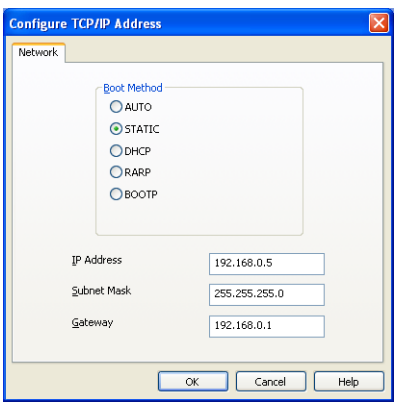


Note

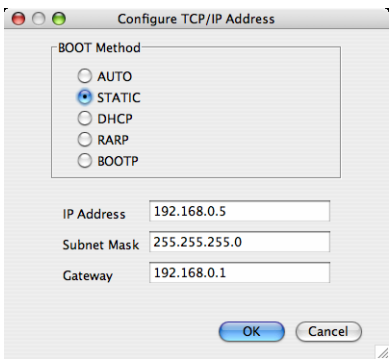
- If the print server is set to its factory default settings without using a DHCP/BOOTP/RARP server, the device will appear as **Unconfigured** in the BRAdmin Light utility screen.
- You can find the node name and Ethernet address by printing out the Printer Settings Page. See *Printing the Printer Settings* on page 14.

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

Windows®



Macintosh®



5 Click **OK**.

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

Using other methods to configure your machine 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 27.

Changing the print server settings

Using the BRAdmin Light utility to change the print server settings

1. Start the BRAdmin Light utility.
   - For Windows® 2000/XP, Windows Vista® and Windows Server® 2003 users

     Click **Start** / **All Programs** [1] / **Brother** / **BRAdmin Light** / **BRAdmin Light**.

     [1] **Programs** for Windows® 2000 users
   - For Mac OS® X 10.3.9 or greater users

     Double-click **Macintosh HD** (Startup Disk) / **Library** / **Printers** / **Brother** / **P-touch Utilities** / **BRAdmin Light.jar** file.
2. Choose the print server which you want to change the settings.
3. Choose **Network Configuration** from the **Control** menu.
4. Enter a password. The default Password is `access`.
5. You can now change the print server settings.

Note

For Windows only: If you want to change more advanced settings, use the BRAdmin Professional utility that is available as a download from http://solutions.brother.com

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).

Note

We recommend Microsoft Internet Explorer 6.0® (or higher) for Windows® and Safari™ 1.2 (or higher) for Macintosh®. Make sure that JavaScript and Cookies are always enabled in whichever browser you use. We recommend you upgrade to Safari™ 1.2 or higher to enable JavaScript. To use a web browser, you will need to know the IP address of the print server.

1. Type `http://printer_ip_address/` into your browser. (Where `printer_ip_address` is the IP address or the print server 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 "BRNxxxxxxxxxxxx" where "`xxxxxxxxxxxx`" is the Ethernet address.

2. Click **Network Configuration**.
3. Enter a user name and a password. The User Name is `admin` and the default Password is `access`.
4. Click **OK**.
5. You can now change the print server settings.

Printing the Printer Settings

Note

Node name: Node name appears in the Printer Settings Page. The default Node name of the network card in the printer is "BRNxxxxxxxxxxxx" where "xxxxxxxxxxxx" is the Ethernet address.

The Printer Settings Page prints a report listing the network settings. You can print the Printer Settings Page using the cut button of the printer.

How to print the Printer Settings Page

1. Make sure that the DK roll is set and the front cover is closed.
   To print the Printer Settings Page, we recommend to use 4" (102mm) DK roll.
2. Turn on the printer.
3. Press and hold the Cut button.

Note

- To reset network setting and turn APIPA ON
  Turn off the printer. Keep pressing ON/OFF button and press CUT button twice. All the network setting will be reset. Wait for two seconds after pressing ON/OFF button and press CUT button.
- To reset network setting and turn APIPA OFF
  Turn off the printer. Keep pressing ON/OFF button and press CUT button four times. All the network setting will be reset. Wait for two seconds after pressing ON/OFF button and press CUT button.

3 Network printing from Windows®: basic TCP/IP Peer-to-Peer printing

Overview

If you are a Windows® user and want to print using the TCP/IP protocol in a Peer-to-Peer environment, 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. Normally, you can install them with “Custom Installation” of the included CD-ROM.

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 print server are either on the same subnet, or that the router is properly configured to pass data between the two devices.
- The default password for Brother print servers is `access`.

Configuring the standard TCP/IP port

Printer driver not yet installed

For Windows Vista®

1. Click the **Start** button, **Control Panel**, **Hardware and Sound**, and then **Printers**.
2. Click **Add a printer**.
3. Choose **Add a local printer**.
4. You must now choose the correct Network printing port. Choose **Create a new port** and choose **Standard TCP/IP Port** from the pull-down window, then click **Next**.
5. Enter the IP address, or the print server name you wish to configure. The Wizard will automatically enter the Port name information for you, then click **Next**.
6. Windows Vista® 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. Choose the appropriate driver from the list of supported printers. If you are using a driver supplied with the printer on CD-ROM then choose the **Have Disk** option to browse to the CD-ROM.
8. For example, choose the “X:\your language\P-touch\Drivers\QL-1060N\x86 or x64\Driver” folder (where X is your drive letter). Click **Open**, and then **OK**. Choose your printer model, then click **Next**.
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 and Windows Server® 2003

1. For Windows® XP and Windows Server® 2003: Click the **Start** button and choose **Printers and Faxes**.
   For Windows® 2000: Click the **Start** button, choose **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. Choose **Local printer** and deselect the **Automatically detect and install my Plug and Play printer** option, then click **Next**.
5. You must now choose the correct Network printing port. Choose **Create a new port** and choose **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 print server name you wish to configure. The Wizard will automatically enter the Port name information for you, then click **Next**.
8. Windows® 2000/XP 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. Choose the appropriate driver from the list of supported printers. If you are using a driver supplied with the printer on CD-ROM then choose the **Have Disk** option to browse to the CD-ROM.
11. For example, choose the “X:\your language\P-touch\Drivers\QL-1060N\x86 or x64\Driver” folder (where X is your drive letter). Click **Open**, and then **OK**. Choose your printer model, then click **Next**.
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®:
   Click the **Start** button, **Control Panel**, **Hardware and Sound**, and then **Printers**.
   For Windows® XP and Windows Server® 2003:
   Click the **Start** button and choose **Printers and Faxes** windows.
   For Windows® 2000:
   Click the **Start** button and choose **Settings** and then **Printers**.
2. Right click on the printer driver you wish to configure, and then choose **Properties**.
3. Click the **Ports** tab and click **Add Port**.
4. Choose 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, or the print server name of your network printer. Click **Next**.
7. Click **Finish**.
8. Close **Printer Ports** and **Properties** dialog box.

Other sources of information

See *Chapter 2* of this User's Guide to learn how to configure the IP address of the printer.

For information about evaluated environment, visit our website.

4 Network printing from Macintosh®

Overview

This chapter explains how to print from a Macintosh® on a Network using the Simple Network Configuration capabilities on Mac OS® X 10.3.9 or greater.

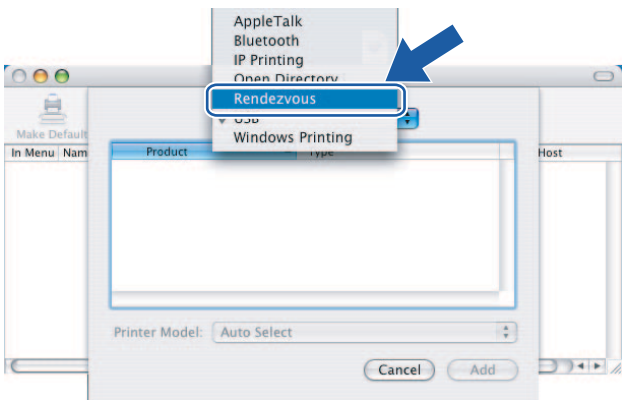
Printing from a Macintosh® using the Simple Network Configuration capabilities

The Simple Network Configuration capabilities of Mac OS® X lets you create an instant network of computers and smart devices by connecting them to each other. The smart devices automatically configure themselves to be compatible with your network. Before using the Simple Network Configuration capabilities, you must install the printer driver. For installing the printer driver, see the Setup & Operation Guide we provided with the printer.

You do not need to manually configure any IP address or network strings within the printer as the printer will automatically configure itself.

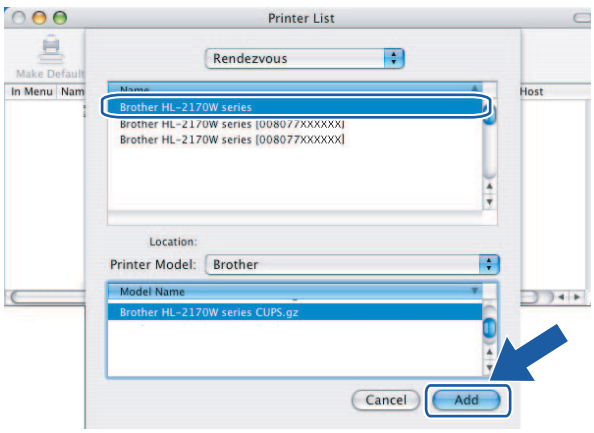
How to choose the printer driver

1. From the **Go** menu, select **Applications**.
2. Open the **Utilities** folder.
3. Double click the **Printer Setup Utility** icon.
4. Click **Add**.
   For Mac OS® X 10.3.9 users, Go to the next step.
   For Mac OS® X 10.4 users, Go to step ❻.
5. Make the following selection.

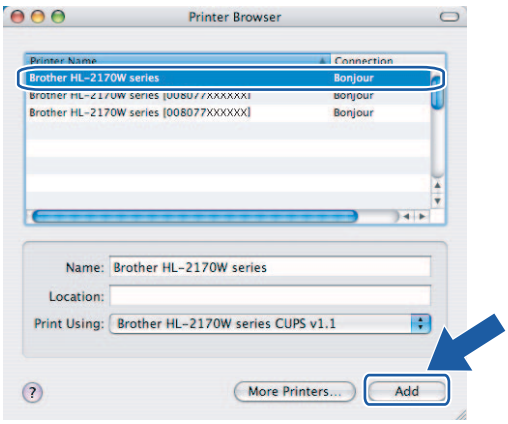


6 Choose your printer and then click **Add**. The printer is now ready to print.

(Mac OS® X 10.3.x)



(Mac OS® X 10.4.x)



Other sources of information

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

For information about manual configuration, refer to the Setup & Operation Guide.

5 Driver Deployment Wizard (Windows® only)

Overview

The Driver Deployment Wizard software can be used to ease the installation or even automate the installation of a locally connected or network connected printers. The Driver Deployment Wizard can also be used to create self running executable files which when run on a remote PC, completely automate the installation of a printer driver. The remote PC does not have to be connected to a network.

For details and downloading, visit us at http://solutions.brother.com.

6 Troubleshooting

Overview

This chapter explains how to resolve typical network problems you may encounter when using the Brother network printer. If, after reading this chapter, you are unable to resolve your problem, please visit the Brother Solutions Center at: http://solutions.brother.com

This chapter is divided into the following sections:

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

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 **Setup.exe** in the root directory of the CD-ROM.

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

■ For Windows®

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® 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 chosen.
4. Click **OK**.

Windows® XP SP1 users:

1. Locate the “Windows” key on your keyboard. These are the keys with the Windows logo on it.

2. Press the “Windows” key plus the “E” key to open **My Computer**.
3. On the left, right click **My Network Places**, click **Properties**, then right click **Local Area Connection** and click **Properties**.
4. Click the **Advanced** tab. Under **Internet Connection Firewall**, verify that the box next to **Protect my computer...** is unchecked. If the box is chosen, click the box to remove the check. Then, click **OK**.
5. Once your firewall is disabled, try reinstalling the Brother software package. For instructions on how to install from the CD-ROM, use the Setup & Operation Guide we have provided with the printer.
6. If the installation completed successfully, the Firewall on your computer was rejecting the necessary network connection. In this case, you will need to disable the Firewall on your computer whenever you install the network drivers.

Note

After the Brother software package is installed, re-enable your Firewall.

Network print software installation problems

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

Make sure you have completed the IP address setting of the Brother print server according to the Setup & Operation 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. 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 details on how to print the Printer Settings Page, see *Printing the Printer Settings* on page 14.
3. Verify that the print server is on your network as follows:
   - For Windows®

     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).
   - For Macintosh®

     1. From the **Go** menu, choose **Applications**.
     2. Open the **Utilities** folder.
     3. Double click the **Terminal** icon.
     4. Try pinging the print server from the Terminal window:
        `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).
4. (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. For details on how to disable the Firewall, see *For Windows®* on page 23.

Printing problems

Print job is not printed

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

   - For Windows®

     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).

   - For Macintosh®

     1. From the **Go** menu, choose **Applications**.
     2. Open the **Utilities** folder.
     3. Double click the **Terminal** icon.
     4. Try pinging the print server from the Terminal window:
        `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).

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

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

1. If you can not 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 proper web browser, we recommend Microsoft Internet Explorer 6.0® (or higher) or Firefox® 1.0 (or higher) for Windows® and Safari™ 1.0 for Macintosh®. Make sure that JavaScript and Cookies are always enabled in whichever browser you use. We recommend you upgrade to Safari™ 1.2 or higher to enable JavaScript.

Others

When you use BRAdmin, you will see 6 different Status indicators in English. (For non-English users, refer to the following chart for the definition.)

Display	Deutsch	Français	Nederlands	Español	Português
READY	BEREIT	PRÊT	GEREED	LISTO	PRONTO
COOLING	ABKÜHLUNG	REFROIDIT	AFKOELEN	ENFRIANDO	A ARREFECER
PRINTING	DRUCKT	IMPRIME	PRINTEN	IMPRIMIENDO	A IMPRIMIR
BUSY	BESCHÄFTIGT	OCCUPE	BEZIG	OCUPADO	OCUPADO
COVER OPEN	ABDECKUNG OFFEN	CAPOT OUVERT	KLEP OPEN	CUBIERTA ABIERTA	TAMPA ABERTA
ERROR	FEHLER	ERREUR	FOUT	ERROR	ERRO

Display	Italiano	Dansk	Svenska	Suomi	Norsk
READY	PRONTO	KLAR	REDO	VALMIS	KLAR
COOLING	RAFFREDAMENTO	KØLING	SVALNAR	JÄÄHTYY	KJØLING
PRINTING	STAMPA	UDSKRIVNING	SKRIVER	TULOSTAA	SKRIVER
BUSY	OCCUPATO	OPTAGET	UPPTAGEN	VARATTU	OPPTATT
COVER OPEN	COPERCHIO APERTO	LÅGE ÅBEN	LUCKA ÖPPEN	KANSI AUKI	DEKSEL ÅPENT
ERROR	ERRORE	FEJL	FEL	VIRHE	FEIL

A Appendix A

Using services

A service is a resource that can be accessed by computers that wish to print to the Brother print server. The Brother print server provides the following predefined services (do a SHOW SERVICE command in the Brother 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

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

For details 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 10.

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 BRAdmin application 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 see your system documentation for details). 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 see 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:

```
BRN008077310107 1   00:80:77:31:01:07 192.168.1.2
```

and:

```
BRN008077310107: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 machine is powered on.

A

Using RARP to configure the IP address

The Brother 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    BRN008077310107
```

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 see 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 Brother 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 Brother 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 the APIPA protocol is disabled, the IP address of a Brother 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 application 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:

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 can not 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 Brother 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 Brother print server using the ARP command, you can not 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` IP address 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.

Using the Brother Web BRAdmin server software for IIS* to configure the IP address

The Web BRAdmin server software is designed to manage all LAN/WAN Brother network connected devices. By installing the Web BRAdmin server software on a computer running IIS [1], Administrators with a web browser can connect to the Web BRAdmin server, which then communicates with the device itself. Unlike the BRAdmin Professional utility - which is designed for Windows® systems only - the Web BRAdmin server software can be accessed from any client computer with a web browser that supports Java.

Note this software is not included on the CD-ROM that was supplied with your Brother product.

Visit http://solutions.brother.com for details and downloading it.

[1] Internet Information Server 4.0 or Internet Information Service 5.0 / 5.1 / 6.0 / 7.0

B Appendix B

Print server specifications

Ethernet wired network

Network node type	NC-11004h	
Operating system support	Windows® 2000/XP, Windows Vista®, Windows Server® 2003, Mac OS® X 10.3.9 or greater	
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, FTP Server, TELNET, SNMPv1, HTTP server, TFTP client and server
Network type	10/100BASE-TX Wired Ethernet network	
Network printing	Windows® 2000/XP, Windows Vista® and Windows Server® 2003 TCP/IP printing Mac OS® X 10.3.9 or greater printing	

Computer requirements

Computer Platform & Operating System Version		Processor Minimum Speed	Minimum RAM	Recommended RAM	Available Hard Disk Space
Windows® Operating System	2000 Professional	Intel® Pentium® or equivalent	64 MB	128 MB	50 MB
	XP Home Edition		128 MB	256 MB	50 MB
	XP Professional				
	Windows Vista®	Intel® Pentium® 4 or equivalent 64-bit supported CPU	512 MB	1 GB	50 MB
	Windows Server® 2003	Intel® Pentium® III or equivalent	256 MB	512 MB	50 MB
Macintosh® [1] Operating System	OS® X 10.3.9 or greater	PowerPC G4/G5, Intel® Core™ Solo/Duo, PowerPC G3 350MHz	128 MB	160 MB	50 MB

[1] Third party USB ports are not supported.

Management utilities

BRAdmin Light	Windows® 2000/XP, Windows Vista®, Windows Server® 2003
	Mac OS® X 10.3.9 or greater
BRAdmin Professional [1]	Windows® 2000/XP, Windows Vista®, Windows Server® 2003
Web BRAdmin [1]	Windows® 2000 Professional, Windows® XP Professional, Windows Vista®, Windows Server® 2003

[1] BRAdmin Professional and Web BRAdmin are available as a download from http://solutions.brother.com

To check relevant OS for your printer, refer to Setup & Operation Guide.

C Appendix C

Open Source Licensing Remarks

Open SSL statements

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