

Multi-Protocol On-board Ethernet Print Server and Wireless (IEEE 802.11b/g) Ethernet Print Server

NETWORK USER'S GUIDE

HL-2150N HL-2170W

Please read this manual thoroughly before using the printer. Keep the CD-ROM in a convenient place so you can use it quickly if you need to.

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

> Version 0 CHN-ENG

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.

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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[™].

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Internet addresses

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

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Overview

The Brother printer can be shared on a 10/100Mb wired or IEEE 802.11b/802.11g wireless (HL-2170W only) Ethernet network using the internal network print server. The print server provides printing services for Windows[®] 2000/XP/XP Professional x64 Edition, Windows Vista[™], Windows Server[®] 2003/ 2003 x64 Edition supporting the TCP/IP protocols and Macintosh OS[®] X 10.2.4 or greater supporting TCP/IP. The following chart shows what network features and connections are supported by each operating system.

Operating Systems	Windows [®] 2000/XP Windows [®] XP Professional x64 Edition Windows Vista™ Windows Server [®] 2003 Windows Server [®] 2003 x64 Edition	Mac OS [®] X 10.2.4 or greater	Mac OS [®] X 10.3 or greater
10/100 BASE-TX Wired Ethernet (TCP/IP)	 ✓ 	~	 ✓
IEEE 802.11b/g Wireless Ethernet (TCP/IP) ¹	~	~	~
Printing	 ✓ 	~	 ✓
BRAdmin Light	 ✓ 	~	v
BRAdmin Professional ²	~		
Web BRAdmin ²	~		
Internet Printing (IPP)	 ✓ 		
Status Monitor	~		~
Driver Deployment Wizard	v		

¹ IEEE 802.11b/g Wireless Ethernet (TCP/IP) is available HL-2170W only.

² BRAdmin Professional and Web BRAdmin are available as a download from <u>http://solutions.brother.com</u>

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

Network features

The Brother HL-2100 series have the following basic network features.

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 10.2.4 or greater).

Management utilities

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[™] and Windows Server[®] 2003 and Mac OS[®] X 10.2.4 or greater computers. For installing BRAdmin Light, please see the Quick Setup Guide provided with the printer. For Macintosh[®] users, BRAdmin Light will be installed automatically when you install the printer driver. If you have already installed the printer driver, you do not have to install it again.

For more information 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[®]. BRAdmin Professional has additional features from BRAdmin Light.

For more information and to download the software, 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 is a server based utility that 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 computer running IIS ¹, administrators can connect to the Web BRAdmin server, using a web browser which then communicates with the device itself.

For more information and to download the software, visit us at http://solutions.brother.com

¹ Internet Information Server 4.0 or Internet Information Services 5.0 / 5.1 / 6.0 / 7.0

Web Based Management (web browser)

Web Based Management (web browser) is a utility for managing network connected Brother devices, using the HTTP (Hyper Text Transfer Protocol). This utility can view the status of Brother 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 13: Web Based Management.

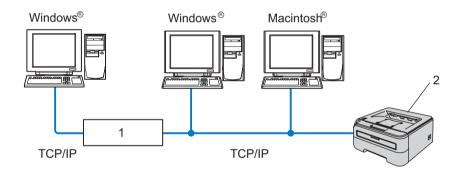
Types of network connections

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.



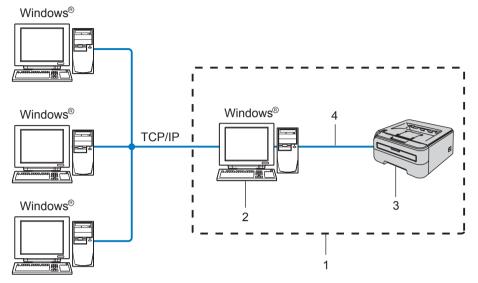
1 Router

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.
- The Brother printer 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 printer.
- The Brother printer 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.

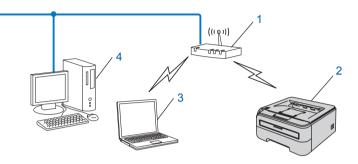


- **1 Network Shared**
- 2 Also known as "Server" or "Print server"
- 3 Printer
- 4 TCP/IP or USB
- In a larger network, we recommend a Network Shared printing environment.
- The "server" or the "print server" must use the TCP/IP print protocol.
- The Brother printer needs to have an appropriate IP address configuration unless the printer is connected via the USB interface at the server.

Wireless network connection examples (HL-2170W)

Connected to a computer with an access point in the network (Infrastructure mode)

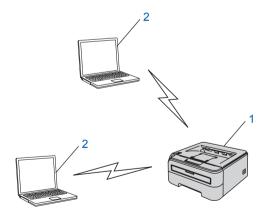
This type of network has a central access point at the heart of the network. The access point can also act as a bridge or a gateway to a wired network. When the Brother wireless printer (your printer) is part of this network, it receives all print jobs via an access point.



- 1 Access Point
- 2 Wireless Network printer (your machine)
- 3 Wireless capable computer connected to the access point
- 4 Wired computer which is not wireless capable connected to the access point with the Ethernet cable

Connected to a wireless capable computer without an access point in the network (Ad-hoc mode)

This type of network does not have a central access point. Each wireless client communicates directly with each other. When the Brother wireless printer (your printer) is part of this network, it receives all print jobs directly from the computer sending the print data.



- 1 Wireless Network printer (your machine)
- 2 Wireless capable computer

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 *How to configure the print* server settings using Web Based Management (web browser) on page 107.
- For security features, see Security methods for E-mail notification on page 102.

DHCP/BOOTP/RARP

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

Mote

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 Brother 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.

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 10.2.4 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 $6.0^{\mbox{(or greater)}}$ or Firefox^(a) 1.0 (or greater) for Windows^(b) and SafariTM 1.0 for Macintosh^(b). Please also make sure that JavaScript and Cookies are always enabled in whichever browser you use. We recommend you upgrade to SafariTM 1.2 or greater to enable JavaScript. 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 Brother machine easily on the Windows Vista[™] **Network Map**. Your Brother 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[™] users to install the Brother 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 124). 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 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 Brother 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 Brother 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.<u>1</u>
 - 192.168.1.<u>2</u>
 - 192.168.1.<u>3</u>

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, 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 120, Using BOOTP to configure the IP address on page 120 and Using RARP to configure the IP address on page 121.

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 122.

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 information 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.

Step by Step chart

Configure the TCP/IP settings. Configure the IP address Configure the subnet mask Configure the subnet mask Configure the gateway Configure the gateway See page 10 Change the print server settings. Using the BRAdmin Light utility See page 12 Using the BRAdmin Professional utility See page 13 Using the Web Based Management (web

- browser) → See page 14
- Using other methods

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 10.2.4 or greater.

🖉 Note

- Please 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: The Node name for each Brother device on the network appears in BRAdmin Light. The default Node name of the network card in the printer is "BRNxxxxxxxxxx" for a wired network or "BRWxxxxxxxxxxx" for a wireless network.
- The default password for Brother print servers is access.

Start the BRAdmin Light utility.

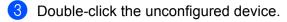
■ For Windows[®] 2000/XP, Windows Vista[™] and Windows Server[®] 2003 users

Click Start / All Programs ¹ / Brother / BRAdmin Light / BRAdmin Light.

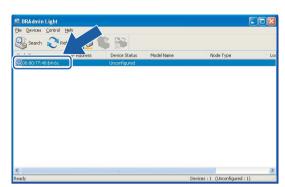
- ¹ **Programs** for Windows[®] 2000 users
- For Mac OS[®] X 10.2.4 or greater users

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

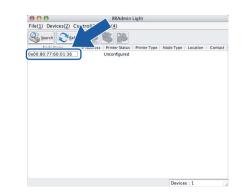
2 BRAdmin Light will search for new devices automatically.



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 Page* on page 100.
- 4 Choose STATIC from Boot Method. Enter the IP Address, Subnet Mask and Gateway (if needed) of your print server.

Windows®

etwork		
c.	oot Method	
	O AUTO	
	STATIC	
	ODHCP	
	RARP	
	O BOOTP	
IP Addr	ess	192.168.0.5
Subnet	Mask	255.255.255.0
Gatewa	v	192.168.0.1

Macintosh[®]

BOOT Method		٦
O AUTO		
STATIC		
O DHCP		
O BOOTP		
12.4.1.1	192.168.0.5	
IP Address	192.108.0.5	
Subnet Mask	255.255.255.0	
Gateway	192.168.0.1	

5 Click OK.

With the correctly programmed IP address, you will see the Brother 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 120.

Changing the print server settings

Note

For the wireless network users, you need to configure the wireless settings to change the printer settings. See *Configuring the wireless network settings (For HL-2170W)* on page 15.

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 10.2.4 or greater users

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

- 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.

🖉 Note

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

2

Using the BRAdmin Professional utility to change print server settings (for Windows[®])

🖉 Note

- Please use the latest version of the BRAdmin Professional utility that is available as a download from http://solutions.brother.com This utility is only available for Windows[®] users.
- Node name: The Node name for each Brother device on the network appears in BRAdmin Professional. The default Node name is "BRNxxxxxxxxx" for a wired network or "BRWxxxxxxxxx" for a wireless network.
- 1 Start the BRAdmin Professional utility (from Windows[®] 2000/XP, Windows Vista[™] and Windows Server[®] 2003), by clicking Start / All Programs ¹ / Brother Administrator Utilities / Brother BRAdmin Professional 3 / BRAdmin Professional 3.
 - ¹ **Programs** for Windows[®] 98/Me, Windows NT[®] 4.0, and Windows[®] 2000 users

BRAdmin Professional Stother Column Statu: Al Devices Filer: Al Devices Column: Default Node Name Model Name Device Status IP Address Log Location BRN0080778 Brother HL-2170W series Ready XXX.XXX.XXX.XXX.XXX	Eile Edit View Control Tools Help				
Status: All Devices V Filter: All Devices V 🕅 Column : Default Node Name Model Name Device Status IP Address Log Location			Solutions Center	broti	ne
Node Name Device Status IP Address Log Location	88 2 2 8 2 7 5 2 8	5			
	Status : All Devices	Filter : All Devices	💌 🎲 🛛 Column :	Default	
BRN0080778 Brother HL-2170W series Ready XXX.XXX.XXX.XXX	Node Name Model Name	Device Status	IP Address Log	Location	
	gennwuou//a brother HL-21/UW senes	кеаду	******		
	ritical Error : 0 Non-Critical Error : 0 Communical	tion Error : 0		Devices : 1	-

- 2 Select the print server which you want to configure.
- 3 Select **Configure Device** from the **Control** menu.
- 4 Enter a password. The default Password is access.
- 5 You can now change the print server settings.

🖉 Note

- If the print server is set to its factory default settings without using a DHCP/BOOTP/RARP server, the device will appear as APIPA in the BRAdmin Professional utility screen.
- You can find the node name and Ethernet address (Node Address) by printing out the Network Configuration List. See *Printing the Printer Settings Page* on page 100 for information on how to print the Network Configuration List on your print server.

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 107.

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 120.

3

Configuring the wireless network settings (For HL-2170W)

Overview

To connect your printer to your wireless network, you need to follow the steps in the Quick Setup Guide or the Network User's Guide. We recommend that you use the Brother 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 wireless network and install the network software and printer driver which you need to complete the configuration of your printer for a wireless network. You will be guided by the on-screen instructions until you are able to use your Brother wireless network printer.

If you want to configure your printer without using the Brother installer application, please read this chapter for more details on how to configure the wireless network settings. For information on TCP/IP settings, see Setting the IP address and subnet mask on page 10. For Wireless configuration using the one-push wireless setting mode (For HL-2170W), see Chapter 6. For Wireless configuration using the PIN Method of Wi-Fi Protected Setup™ (For HL-2170W), see Chapter 7.

🖉 Note

 To achieve optimum results with normal everyday document printing, place the Brother printer as close to the network access point (router) as possible with minimal obstructions. Large objects and walls between the two devices as well as interference from other electronic devices can affect the data transfer speed of your documents.

Due to these factors, wireless may not be the best method of connection for all types of documents and applications. If you are printing large files, such as multi-page documents with mixed text and large graphics, you may want to consider choosing wired Ethernet for a faster data transfer, or USB for the fastest throughput speed.

 Although Brother HL-2170W can be used in a both wired and wireless network, only one of the connection methods can be used at a time.

Wireless network terms and concepts

When you configure the wireless network printer, you must ensure that your wireless network printer is configured to match the settings of the existing wireless network. This section provides some of the main terms and concepts of these settings, which may be helpful when you configure the wireless network printer.

SSID (Service Set Identifier) and channels

You need to configure the SSID and a channel to specify the wireless network you want to connect to.

SSID

Each wireless network has its own unique network name and it is technically referred to as SSID or ESSID (Extended Service Set Identifier). The SSID is a 32-byte or less value and is assigned to the access point. The wireless network devices you want to associate to the wireless network should match the access point. The access point and wireless network devices regularly send wireless packets (referred to as a beacon) which has the SSID information. When your wireless network device receives a beacon, you can identify the wireless network that is close enough for the radio waves to reach your device.

Channels

Wireless networks use channels. Each wireless channel is on a different frequency. There are up to 14 different channels that can be used when using a wireless network. However, in many countries the number of channels available are restricted. For further information, see *Ethernet wireless network* on page 127.

Authentication and encryption

Most wireless networks use some kind of security settings. These security settings define the authentication (how the device identifies itself to the network) and encryption (how the data is encrypted as it is sent on the network). If you do not correctly specify these options when you are configuring your Brother wireless device, it will not be able to connect to the wireless network. Therefore care must be taken when configuring these options. Please refer to the information below to see which authentication and encryption methods your Brother wireless device supports.

Authentication methods

The Brother printer supports the following methods:

· Open system

Wireless devices are allowed access the network without any authentication.

· Shared key

A secret pre-determined key is shared by all devices that will access the wireless network. The Brother printer uses the WEP keys as the pre-determined key.

• WPA-PSK/WPA2-PSK

Enables a Wi-Fi[®] Protected Access Pre-shared key (WPA-PSK/WPA2-PSK), which enables the Brother wireless printer to associate with access points using TKIP for WPA-PSK or AES for WPA-PSK and WPA2-PSK (WPA-Personal).

• LEAP

Cisco[®]LEAP (Light Extensible Authentication Protocol) has been developed by Cisco Systems, Inc. which uses user ID and password for authentication.

Encryption methods

Encryption is used to secure the data that is sent over the wireless network. The Brother printer supports the following encryption methods:

• None

No encryption method is used.

• WEP

By using WEP (Wired Equivalent Privacy), the data is transmitted and received with a secure key.

TKIP

TKIP (Temporal Key Integrity Protocol) provides per-packet key mixing a message integrity check and rekeying mechanism.

• AES

AES (Advanced Encryption Standard) is Wi-Fi[®] authorized strong encryption standard.

• CKIP

The original Key Integrity Protocol for LEAP by Cisco Systems, Inc.

Network Key

There are some rules for each security method:

• Open system/Shared key with WEP

This key is a 64-bit or 128-bit value that must be entered in an ASCII or hexadecimal format.

64 (40) bit ASCII:	Uses 5 text characters. e.g. "WLLAN" (this is case sensitive).
64 (40) bit hexadecimal:	Uses 10 digits of hexadecimal data. e.g. "71f2234aba"
128 (104) bit ASCII:	Uses 13 text characters. e.g. "Wirelesscomms" (this is case sensitive)
128 (104) bit hexadecimal:	Uses 26 digits of hexadecimal data. e.g. "71f2234ab56cd709e5412aa2ba"

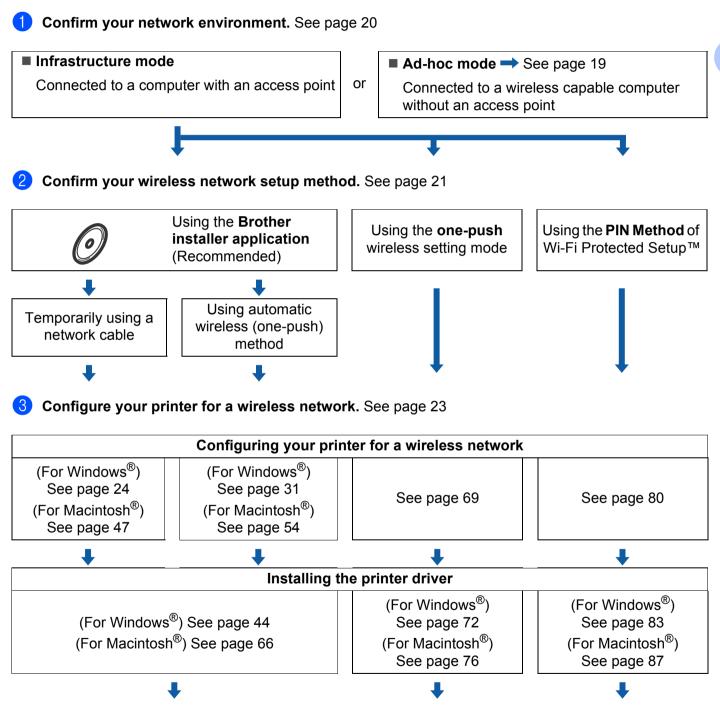
- WPA-PSK/WPA2-PSK and TKIP or AES Uses a Pre-Shared Key (PSK) that is more than 8 and less than 63 characters in length.
- LEAP

Uses User ID and Password.

- User ID: less than 64 characters in length.
- Password: less than 32 characters in length.

Step by step chart

For Infrastructure mode





Wireless configuration and installing printer driver have been completed.

3

For Ad-hoc mode



Confirm your network environment. See page 20



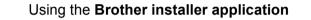
Connected to a wireless capable computer without an access point

⊥

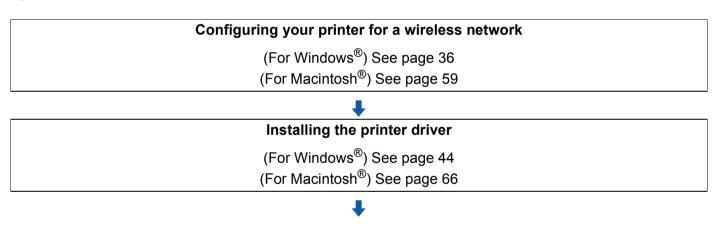
3

2 You need to configure the wireless network settings by using the Brother installer application.

or



3 Configure your printer for a wireless network. See page 23



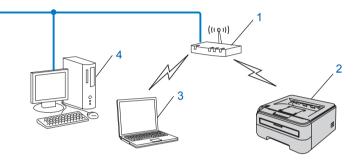


Wireless configuration and installing printer driver have been completed.

1. Confirm your network environment

Connected to a computer with an access point in the network (Infrastructure mode)

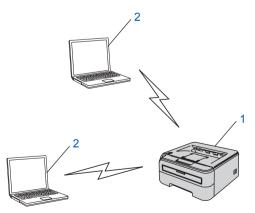
This type of network has a central access point at the heart of the network. The access point can also act as a bridge or a gateway to a wired network. When your Brother wireless printer is part of this network, it receives all print jobs via the access point.



- 1 Access Point
- 2 Wireless Network printer (your machine)
- 3 Wireless capable computer connected to the access point
- 4 Wired computer which is not wireless capable connected to the access point with an Ethernet cable

Connected to a wireless capable computer without an access point in the network (Ad-hoc mode)

This type of network does not have a central access point. Each wireless client communicates directly with each other. When the Brother wireless printer (your printer) is part of this network, it receives all print jobs directly from the computer sending the print data.



- 1 Wireless Network printer (your machine)
- 2 Wireless capable computer

2. Confirm your wireless network setup method in infrastructure mode

There are three methods to configure your wireless network printer; by using the Brother installer application on the CD-ROM (recommended), using the one-push wireless setting mode and using the PIN Method of Wi-Fi Protected Setup[™]. The setup process will be different depending on your network environment.

🖉 Note

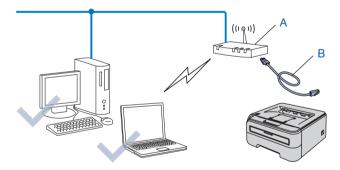
If you configure the wireless network settings in Ad-hoc mode, use the Brother installer application on the CD-ROM we have provided with the printer.

Configuration using the Brother installer application on the CD-ROM to configure your wireless network printer

We recommend that you use the Brother installer application on the CD-ROM we have provided with the printer. By using this application, you can easily connect your printer to your wireless network and install the network software and printer driver which you need to complete the configuration of your printer for a wireless network. You will be guided by the on-screen instructions until you are able to use your Brother wireless network printer. You must know your wireless network settings before you proceed with this installation.

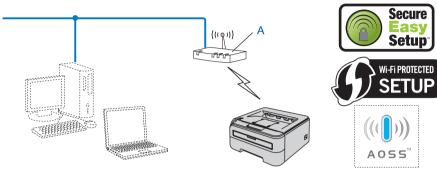
Configuration temporarily using a network cable

If there is an Ethernet Hub or Router in the same network as the wireless access point (A) of your printer, you can temporarily connect the Hub or Router to the printer using an Ethernet cable (B), this is an easy way to configure the printer. You can then remotely configure the printer from a computer on the network.



Configuration using the one-push wireless setting mode

If your wireless access point (A) supports either SecureEasySetup[™], Wi-Fi Protected Setup[™] (PBC¹) or AOSS[™], you can configure the machine without a computer.

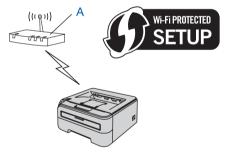


¹ Push Button Configuration

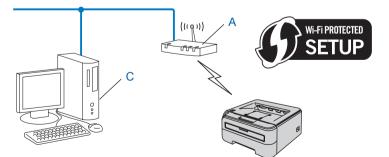
Configuration using the PIN Method of Wi-Fi Protected Setup™

If your wireless access point (A) supports Wi-Fi Protected Setup[™], you can also configure using the PIN Method of Wi-Fi Protected Setup[™].

Connection when the wireless access point (router) (A) doubles with a Registrar ¹.



Connection when another device (C), such as a computer is used as a Registrar ¹.



The Registrar is a device that manages the wireless LAN.

1

3. Configure your printer for a wireless network

Using the Brother installer application on the CD-ROM to configure your wireless network printer (Recommended)

For installation, see *Wireless configuration for Windows*® *using the Brother installer application (For HL-2170W)* in Chapter 4 or *Wireless configuration for Macintosh*® *using the Brother installer application (For HL-2170W)* in Chapter 5.

Using the one-push wireless setting mode to configure your printer for a wireless network

For installation, see *Wireless configuration using the one-push wireless setting mode (For HL-2170W)* in Chapter 6.

Using the PIN Method of Wi-Fi Protected Setup™

For installation, see *Wireless configuration using the PIN Method of Wi-Fi Protected Setup*™ (For HL-2170W) in Chapter 7.

Wireless configuration for Windows[®] using the Brother installer application (For HL-2170W)

Configuration in Infrastructure mode

Before configuring the wireless settings

IMPORTANT

- If you are going to connect the printer to your network, we recommend that you contact your system
 administrator prior to installation. You must know your wireless network settings before you proceed with
 this installation.
- If you have previously configured the wireless settings of the printer, you must reset the print server back to the default factory settings (see *Restoring the network settings to factory default* on page 100).
- If you are using Personal Firewall software (e.g. Windows Firewall), disable it. Once you are sure that you can print, restart your Personal Firewall software.
- You need to temporarily use an Ethernet cable during configuration.

Configure the wireless settings

- Turn on your computer. (You must be logged on with Administrator rights.) Close any applications running before configuration.
- 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.

🖉 Macromedia Flash Player 8	
Laser Printer Utilities HL-2170W	brother
Top Menu	
Top Menu	
Install the printer driver after the initial setup phase is complete.	Install Printer Driver
	Install Other Drivers or Utilities
	Documentation
5	Brother Solutions Center
	Supplies Information
© 2001-2007 Brother Industries, Ltd. All rights reserved.	D Back + Exit

Wireless configuration for Windows[®] using the Brother installer application (For HL-2170W)

Click Wireless Network users.



Rote

For Windows Vista[™], when the **User Account Control** screen appears, click **Allow**.

User Account Control
An unidentified program wants access to your computer
Don't run the program unless you know where it's from or you've used it before.
Inst32.exe Unidentified Publisher
Cancel I don't know where this program is from or what it's for.
Allow I trust this program. I know where it's from or I've used it before.
User Account Control helps stop unauthorized changes to your computer.

5 Choose Wireless Setup and Driver Install (Recommended) or Wireless Setup Only, and then click Next.



Wireless configuration for Windows[®] using the Brother installer application (For HL-2170W)

Choose Step by Step install (Recommended) and then click Next.



Choose With cable (Recommended) and then click Next.



8 Connect the Brother wireless device to your access point using a network cable and click **Next**.



9 Choose the printer you wish to configure, and click Next. If the list is blank, check if the access point and the printer are powered on, and then click Refresh.

vailable Wir	eless De	evices			(9)
lore than one Wire elect the device yo			"Next".		
Nede Neves II	n Aulunna	KARO Address	Deleter Manag	1	
BRNXXXXX 19	2.168.1.2	008077XXXXXX	Brother HL-XXX	< 1F	
DRINODODOD IS	2.100.1.3	00007777777	DIDUNEL HE WWW	V 2F	
Dittion					
Refresh	lf no devices	appear and you'rs			
Refresh	lf no devices	irewall and click th			

🖉 Note

The default Node name is "BRNxxxxxxxxxxx.".

10 The wizard will search for wireless networks available from your printer. Choose the access point you wish to associate the printer with, and then click **Next**.

reless Device Setup \	∕izard		
vailable Wirel	ess Networ	ks	((() (P)
hoose the access poi	nt or Ad-hoc netv	work that the Device will be	associated with.
Name (SSID)	Channel	Wireless Mode	Signal
DAME SETUP	1	802.11b/g (11Mbps/54M	1bps) mala
I∜ I HELLO2	2	802.11g (54Mbps)	
Refresh		IIII ← Access Poir Base Station oint or Ad-hoc network nar on to manually specify the	n Network ne doesn't appear_click
Help	(< Back	xt > Cancel

🖉 Note

- "SETUP" is the default SSID of the printer. Do not choose this SSID.
- If the list is blank, check that the access point has power and is broadcasting the SSID, and then see if the printer and the access point are within range for wireless communication. Then, click **Refresh**.

• If your access point is set to not broadcast the SSID you can manually add it by clicking the **Add** button. Follow the on-screen instructions for entering the **Name (SSID)**, and then click **Next**.

Wireless Device Setup Wizard	
Wireless Network Name	(((c))
Configure the wireless network name	that the device will be associated with.
N <u>a</u> me(SSID)	WLAN
□ <u>I</u> his is an Ad-hoc net	work and there is no access point.
Channel	1
Help	< Back Next > Cancel

1 If your network is not configured for Authentication and Encryption, the following screen will appear. To continue configuration, click **OK** and go to **(B)**.



12 If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless printer, you must ensure that it is configured to match the Authentication and Encryption settings of your existing wireless network. Choose the **Authentication Method** and **Encryption Mode** from the pull-downs in each setting box. Then enter the **Network key** and **Confirm Network Key**, and then click **Next**.

Wireless Device Setup Wizard	
Authentication Method and El Mode	ncryption
Configure the Authentication Method and En	cryption mode
Name (SSID) :	HELLO2
Authentication Method	Open System
Encryption Mode	WEP
Network Key	****
<u>C</u> onfirm Network Key	••••
Advanced	
Help	< Back (Next > Cancel

🖉 Note

- If you want to setup more than WEP key1, click Advanced.
- If you do not know the Authentication or Encryption settings for your network, contact your network administrator.
- If the Authentication Method is set to Open System and the Encryption Mode is set to WEP, an error indication will NOT appear if the Network key is incorrect.

Click **Next**. The settings will be sent to your printer. The settings will remain unchanged if you click **Cancel**.

s to the device	
a to the device	
BRNX0000000000	_
Auto	Change IP Address
Infrastructure	
HELLO2	
Open System	
WEP	
	Auto Infrastructure HELLO2 Open System

🖉 Note

If you want to manually enter the IP address settings of your printer, click **Change IP Address** and enter the necessary IP address settings for your network.

Wireless configuration for Windows[®] using the Brother installer application (For HL-2170W)

14 Disconnect the network cable between your access point (hub or router) and the printer, and click **Next**.





You have completed the wireless setup. If you chose to install the printer driver in step **6**, Go to *Installing the printer driver* on page 44.

Configuration using the automatic wireless (one-push) method

IMPORTANT

If you are going to connect the printer to your network, we recommend that you contact your system administrator prior to installation.

- Make sure that the power cord is plugged in.
- 2 Turn on your printer and wait until the printer is in the Ready state.
- 3 Turn on your computer. (You must be logged on with Administrator rights.) Close any applications running before configuration.
- 4 Put the supplied CD-ROM into your CD-ROM drive. The opening screen will appear automatically. Choose your printer model and the language.
- 5 Click Install Printer Driver on the menu screen.



Wireless configuration for Windows[®] using the Brother installer application (For HL-2170W)

Click Wireless Network users.



Rote

6

For Windows Vista[™], when the **User Account Control** screen appears, click **Allow**.

User Account Control
An unidentified program wants access to your computer
Don't run the program unless you know where it's from or you've used it before.
Inst32.exe Unidentified Publisher
 Cancel I don't know where this program is from or what it's for.
Allow I trust this program. I know where it's from or I've used it before.
User Account Control helps stop unauthorized changes to your computer.

7 Choose Wireless Setup and Driver Install (Recommended) or Wireless Setup Only, and then click Next.



Wireless configuration for Windows® using the Brother installer application (For HL-2170W)

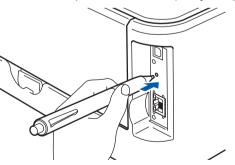
Choose Automatic install (Advanced) and click Next.



Confirm the on-screen message and click **Next**.



Press the wireless setup button located at the back of the machine for less than 2 seconds as show in the illustration below. This will put the printer in one-push wireless setting mode. This feature will automatically detect which mode your access point uses for one-push configuration (SecureEasySetup™, Wi-Fi Protected Setup™ or AOSS™) of your printer.



🖉 Note

- Use a pointy object such as a ballpoint pen to press the button.
- If you press the button for 3 seconds or more, the printer will change to the PIN Method of the Wi-Fi Protected Setup[™] mode. See *How to configure your wireless printer, using the PIN Method of Wi-Fi Protected Setup*[™] on page 80.

1 The printer starts the one-push wireless setting mode. The printer searches for an access point that supports SecureEasySetup™, Wi-Fi Protected Setup™ or AOSS™ for 2 minutes.

Put your access point in the SecureEasySetup[™] mode, the Wi-Fi Protected Setup[™] mode or the AOSS[™] mode, depending on what is supported by your access point. Please refer to the instruction manual that came with your access point.

Wait for the Ready LED (Go button) of your printer indicates connection succeeded. The Ready LED will turn on for 5 minutes. (See the table below) This indication means the machine has successfully connected to your router or access point. You can now use your printer in a wireless network.

If the LED indicates connection failed (See the table below), the machine has not successfully connected to your router or access point. Try starting from **()** again. If the same message is indicated again, reset the machine back to the default factory settings and try again. For resetting, see *Restoring the network settings to factory default* on page 100.

If the LED indicates session overlap (See the table below), the machine has detected more than 2 routers or access points on your network that have the Wi-Fi Protected Setup[™] mode or the AOSS[™] mode enabled. Make sure that only one router or access point has the Wi-Fi Protected Setup[™] mode or the AOSS[™] mode enabled and try starting from **(**) again.

LEDs	Searching or accessing the access point ¹	Connecting and downloading settings from the access point ¹	Connection succeeded ²	Connection failed ³	on over etected	-
Toner (Yellow)						
Drum (Yellow)						
Error (Red)					\leftrightarrow	
Ready (Blue)						

LED indications when using the one-push wireless setting mode

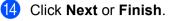
¹ The LED will blink (turn on for 0.2 seconds and off for 0.1 second).

² The LED will turn on for 5 minutes.

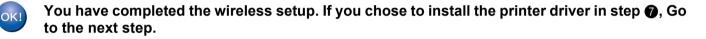
³ The LED will blink (turn on for 0.1 second and off for 0.1 second) for 30 seconds.

⁴ The LED will flash 10 times and then turn OFF for half a second. This pattern will repeat 20 times.

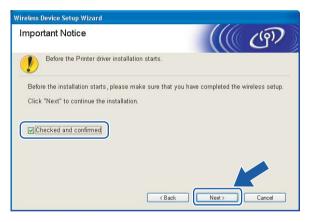
Λ







(15) Check the box after you confirm that you have completed the wireless settings, and then click **Next**. Go to *Installing the printer driver* on page 44.



Configuration in Ad-hoc mode

Before configuring the wireless settings

IMPORTANT

- If you have previously configured the wireless settings of the printer, you must reset the print server back to the default factory settings (see *Restoring the network settings to factory default* on page 100).
- If you are using Personal Firewall software (e.g. Windows Firewall), disable it. Once you are sure that you can print, restart your Personal Firewall software.

Configure the wireless settings

- 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.



Wireless configuration for Windows[®] using the Brother installer application (For HL-2170W)

Click Wireless Network users.



Rote

For Windows Vista[™], when the **User Account Control** screen appears, click **Allow**.

User Account Control	×
An unidentified program wants access to your comp	uter
Don't run the program unless you know where it's from or you've used it before.	
Inst32.exe Unidentified Publisher	
Cancel I don't know where this program is from or what it's for.	
Allow I trust this program. I know where it's from or I've used it before.	
S Details	
User Account Control helps stop unauthorized changes to your computer.	

5 Choose Wireless Setup and Driver Install (Recommended) or Wireless Setup Only, and then click Next.



Wireless configuration for Windows[®] using the Brother installer application (For HL-2170W)

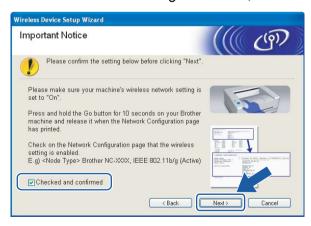
Choose Step by Step install (Recommended) and then click Next.



Choose Without cable (Advanced) and then click Next.

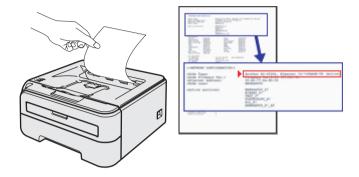


8 Read the Important Notice to enable the wireless interface. Hold down the Go button for 10 seconds, and then release the Go button when the printer prints a Network Configuration page. Check the box after you confirm the wireless setting is enabled, and then click Next.



🖉 Note

To confirm the wireless setting is enabled, check the text to the right side of **IEEE 802.11b/g** in the **Node Type** section on the Network Configuration page. **Active** means that the wireless setting is enabled and **Inactive** means that the wireless setting is disabled. If the wireless setting is disabled, press the **Go** for 10 seconds again.



9 You need to temporarily change your computer's wireless settings. Follow the on-screen instructions. Make sure you take notes on all the settings such as SSID or channel of your computer. You will need them to return your computer back to its original wireless settings, and then click **Next**.

Wireless Device Setup Wizard	
Changing the Computer's Wireless Settings	
To manually configure the wireless device from this computer, you must temporarily change the current wireless settings of this computer.	
Before continuing, please make a note of the current wireless network settings. In particular, please note the following:	
Communication Mode (Infrastructure / Ad-hoc) Channel(1-14) (if applicable) Network Name (SSID / ESSID) Authentication Method (Open System / Shared Key) Encryption Mode (None / WEP / Other) Encryption Key	
Please contact your network administrator or refer to your computer's user's guide for more information. Click "Next" to continue	
Cancel	

Item	Record the current wireless computer settings
Communication mode: (Infrastructure / Ad-hoc)	
Channel: (1-14)	
Network name: (SSID / ESSID)	
Authentication method: (Open system / Shared key / WPA/WPA2-PSK / LEAP)	
Encryption mode: (None / WEP / TKIP / AES/ CKIP)	
Encryption key:	

10 To communicate with the un-configured wireless printer, temporarily change the wireless settings on your computer to match your printer's default settings shown on this screen. Check the box after you confirm these settings, and then click **Next**.



🖉 Note

- If a message to restart your computer appears after the wireless settings have been changed, restart your computer and then go back to step
 and continue with the install skipping steps
 and

 0
 and
- For Windows Vista[™] users:

You can temporarily change the wireless settings on your computer, following the steps below:

- 1 Click Start and then Control Panel.
- 2 Click Network and Internet and then the Network and Sharing Center icon.
- 3 Click Connect to a network.
- 4 You can see the SSID of the wireless printer in the list. Select **SETUP** and click **Connect**.
- 5 Click Connect Anyway and then Close.
- 6 Click View status of Wireless Network Connection (SETUP).
- 7 Click **Details...** and check the **Network Connection Details**. It may take a few minutes to change from 0.0.0 to 169.254.x.x IP address to be shown on screen (where x.x. are numbers between 1 and 254).
- For Windows[®] XP SP2 users:

You can temporarily change the wireless settings on your computer, following the steps below:

- 1 Click Start and then Control Panel.
- 2 Click the Network and Internet Connections icon.
- 3 Click the **Network Connections** icon.
- 4 Select and right click Wireless Network Connection. Click View Available Wireless Networks.
- 5 You can see the SSID of the wireless printer in the list. Select **SETUP** and click **Connect**.

6 Check the **Wireless Network Connection** status. It may take a few minutes to change from 0.0.0.0 to 169.254.x.x IP address to be shown on screen (where x.x. are numbers between 1 and 254).

1 Choose the printer you wish to configure, and click **Next**. If the list is blank, check if the printer is powered on, and then click **Refresh**.

vailable V	Vireless De	evices			(9)
	Vireless Device e you wish to co	was found. onfigure and click "	"Next".		
Nede Neuro	ID Address	MARC Address		1	1
BRWXXXXX	192.168.1.2	008077XXXXX	(Brother HL-XX)	KX 1F	
	192.100.1.3	0000777777777	Elotion ne roo	VA 21	
Refresh			Elemente //o	21	
Refresh					
Refresh	tant Notice: If no devices	appear and you're irewall and click th	e running a perso	nal firewal ∖ P	

🖉 Note

The default Node name is "BRWxxxxxxxxxxx.".

12 The wizard will search for wireless networks available from your printer. Choose the Ad-hoc network you wish to associate the printer with, and then click Next.

vailable Wirele	ss Networl	<s< th=""><th></th><th></th><th>(9)</th></s<>			(9)
noose the access poin	or Ad-hoc netw	ork that the Device v	vill be assoc	iated with	
Name (SSID)	Channel	Wireless Mode	T.	Signal	
	6	802.11b (11Mbps)	(64Mhnc)		
19 VH HELLUZ	2	802.11g (54Mbps)			
<u>R</u> efresh		I∜¢⊐ Access Base S			hoc work
Add		int or Ad-hoc networ n to manually specify			r click
Help	C	< <u>B</u> ack	<u>N</u> ext >		Cancel

🖉 Note

• If the list is blank, check if the printer is within range for wireless communication. Then, click Refresh.

 If your target Ad-hoc network does not appear on the list, you can manually add it by clicking the Add button. Check This is an Ad-hoc network and there is no access point., and then enter the Name (SSID) and the Channel number, and then click Next.

reless network r	name that the device will be	associated with.	
me(SSID)	WLAN		
[his is an Ad-ho	c network and there is no a	access point.	
annel	1	*	
	me(SSID) Ihis is an Ad-ho annel	This is an Ad-hoc network and there is no a	This is an Ad-hoc network and there is no access point.

13 If your network is not configured for Authentication and Encryption, the following screen will appear. To continue configuration, click **OK** and go to **(b)**.



14 If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless printer, you must ensure that it is configured to match the Authentication and Encryption settings of your existing wireless network. Choose the Authentication Method and Encryption Mode from the pull-downs in each setting box. Then enter the Network key and Confirm Network Key, and then click Next.

Wireless Device Setup Wizard	
Authentication Method and Mode	Encryption
Configure the Authentication Method and	I Encryption mode
Name (SSID) :	HELLO
Authentication Method	Open System
Encryption Mode	WEP
Network Key	•••••
Confirm Network Key	•••••
Advanced	
<u>H</u> elp	< <u>B</u> ack Next > Cancel

🖉 Note

- If you want to setup more than WEP key1, click **Advanced**.
- If you do not know the Authentication or Encryption settings for your network, contact your network administrator.
- If the Authentication Method is set to Open System and the Encryption Mode is set to WEP, an error indication will NOT appear if the Network key is incorrect.

15 Click **Next**. The settings will be sent to your printer. The settings will remain unchanged if you click **Cancel**.

Wireless Network Settir Confirmation	igs	((((()))))
Click "Next" to submit following sett	ings to the device	
Target Device =	BRWX00000000000	
IP Address	Auto	Change IP Address
Communication mode	Ad-hoc (Channel 6)	
Name (SSID)	HELLO	
Authentication Method	Open System	_
Encryption Mode	WEP	
Print test page after su		xt > Cancel

🖉 Note

If you want to manually enter the IP address settings of your printer, click **Change IP Address** and enter the necessary IP address settings for your network.

16 To communicate with the configured wireless device, you must configure your computer to use the same wireless settings. Manually change the wireless settings on your computer to match the printer's wireless settings shown on this screen. Check the box after these settings, and then click **Next** or **Finish**. (The settings shown on this screen are for example only. Your settings will not be the same.)

Wireless Device Setup Wizard
Changing the Computer's wireless settings.
To communicate with the configured wireless device, your computer must be configured to use the same wireless settings. Please manually apply the following wireless settings on your computer: Communication Mode : Ad-hoc Channel : 6 (if applicable) Network Name (SSID)* HELLO Authentication Method : Open System Encryption Mode : WEP Key : X0000X
* Case sensitive
Please contact your network administrator or refer to your computer's user's guide for more information. "Wireless Setup" is now complete. Please remember to restore the firewall, to the orbinal settings. When you have configured the wireless network settings, click "Nerv" to hue.



You have completed the wireless setup. If you chose to install the printer driver in step (3, Go to *Installing the printer driver* on page 44.

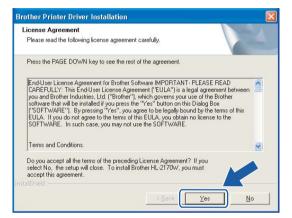
Installing the printer driver

N Improper Setup

DO NOT try to cancel any of the screens during this installation.

If your wireless settings fail, an error message will appear during the installation of the printer driver and the installation will be terminated. If you encounter this failure, please go back to step 1 and setup the wireless connection again.

The driver installation starts. When the License Agreement window appears, click Yes if you agree to the License Agreement.



Choose Standard Installation, and then click Next.

Brother Printer Driver Installation	
Select Components	
Select the method of Installation	
Standard Installation Custom Installation	
Custom installation	
	< <u>Back</u> (<u>N</u> ext>) Cancel

3 Choose Search the network for devices and choose from a list of discovered devices (Recommended). Or enter your printer's IP address or its node name. Click Next.

llation	
ur Brother machine on the network?	
vices and choose from a list of discovered devices	
	J
address (Advanced Users)	
	1
name (Advanced Users)	
< Back Next >	Cancel
	ur Brother machine on the network? vices and choose from a list of discovered devices ddress (Advanced Users) ame (Advanced Users)

🖉 Note

You can find your printer's IP address and the node name by printing out the Printer Settings Page. See Printing the Printer Settings Page on page 100.

4 Choose your printer, and then click **Next**.

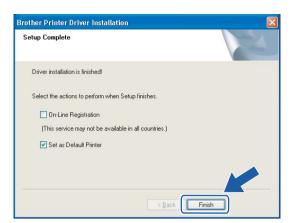
rother Printer Dr Select Printer Select the approp	iver Installation		
Node Name BRWXXXXXXXX	Node Address XXXXXXXXXXXXXXX	Printer Name Brother HL-2170W series	Location
<			×
LPR	e Name		Configure IP
		< <u>B</u> ack	lext > Cancel

🖉 Note

If your printer takes a long time to appear on the list, 1 minute or more, then click **Refresh**. If your printer still fails to appear, reset the print server back to the default factory settings (see *Restoring the network settings to factory default* on page 100) and try the wireless setup again.

Wireless configuration for Windows[®] using the Brother installer application (For HL-2170W)

Click Finish.



🖉 Note

- If you do not want to set your printer as Default printer, uncheck Set as Default Printer.
- If you disable the Personal Firewall software (e.g. Windows Firewall), Turn it back on.



Setup is now complete.

Wireless configuration for Macintosh[®] using the Brother installer application (For HL-2170W)

Configuration in Infrastructure mode

Before configuring the wireless settings

IMPORTANT

5

- If you are going to connect the printer to your network, we recommend that you contact your system
 administrator prior to installation. You must know your wireless network settings before you proceed with
 this installation.
- If you have previously configured the wireless settings of the printer, you must reset the print server back to the default factory settings (see *Restoring the network settings to factory default* on page 100).
- If you are using Personal Firewall software, disable it. Once you are sure that you can print, restart your Personal Firewall software.
- You need to temporarily use an Ethernet cable during configuration.

Configure the wireless settings

Turn on your Macintosh[®].

Put the supplied CD-ROM into your CD-ROM drive. Double-click the HL2100 icon on your desktop. Double-click the Start Here icon. Choose your printer model and the language.



Wireless configuration for Macintosh® using the Brother installer application (For HL-2170W)

Click Install Printer Driver on the menu screen.



4 Click Wireless Network users.

Laser Printer Utilities	and the second sec	brother
HL-2170W	1 de la compañía de	Gioulei
Top Menu ≫ Install Printer Driver Install Printer Driver		
	USB c	able users
	Netwo	rk cable users
	Wirele	ss Network users
)
	5 Bag	k → 🚺 Exit

5 Choose Wireless Setup and Driver Install (Recommended) or Wireless Setup Only, and then click Next.



Wireless configuration for Macintosh[®] using the Brother installer application (For HL-2170W)

6 Choose Step by Step install (Recommended) and then click Next.



Choose With cable (Recommended) and then click Next.



8 Connect the Brother wireless device to your access point using a network cable and click **Next**.



9 Choose the printer you wish to configure, and click Next. If the list is blank, check if the access point and the printer are powered on, and then click Refresh.

Available Wir	eless Devices			((19))
	less Device was four ou wish to configure a			
Nodo Namo	ID Address	MAC Addrace	Printer Name	Location
BRNXXXXXXXX	XX192.0.0.192	XXXXXXXXXXXXXX	Brother XXX-XXXX	Anywhere
Refresh				
Importan If no	devices appear and	i you're running a per ton to re-search the v	sonal firewall. Pleasi vireless network.	a disab'' the firewal

🖉 Note

The default Node name is "BRNxxxxxxxxxxxx.".

10 The wizard will search for wireless networks available from your printer. Choose the access point you wish to associate the printer with, and then click Next.

0.0	Wireless Devi	ice Setup Wizard		
	ess Networks	Davice will be perce	isted with	(⁽⁹⁾
Name (S		Wireless		Signal
□•) (•□SETUP	1	802.11b/g (11Mbp		
■» (•□ HELLO 2	я 2	802.11b/g (11Mbp 802.11b/g (11Mbp	0011100001	
Refresh	<u>1</u> .»	(□ Access Point / Base Station	다) (·디 Ad-t	noc Network
Add	If the access point or Ad button to manually spec		oesn't appear, c	the "Add

🖉 Note

- "SETUP" is the default SSID of the printer. Do not choose this SSID.
- If the list is blank, check that the access point has power and is broadcasting the SSID, and then see if the printer and the access point are within range for wireless communication. Then, click **Refresh**.

• If your access point is set to not broadcast the SSID you can manually add it by clicking the **Add** button. Follow the on-screen instructions for entering the **Name (SSID)**, and then click **Next**.

000	Wireless Device Setup Wizard	
Wireless Netwo	ork Name	((() ()))
Configure the wireless	network name that the device will be associated w	ith.
Name(SSID)	WLAN	
This is an a	Ad-hoc network and there is no access point.	
Channel	(1	\$
Help	<pre></pre>	Cancel

1 If your network is not configured for Authentication and Encryption, the following screen will appear. To continue configuration, click **OK** and go to **(B)**.



12 If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless printer, you must ensure that it is configured to match the Authentication and Encryption settings of your existing wireless network. Choose the Authentication Method and Encryption Mode from the pull-downs in each setting box. Then enter the Network key and Confirm Network Key, and then click Next.

00	Wireles	ss Device Setup Wizar	d	
Authentication	Method and Er	ncryption Mode		(9)
Configure the Authent	cation Method and E	ncryption mode		
Name (SSID) :		HELLO2		
Authentication	Method	Open System	;	
Encryption Mo	de	WEP	•	
Network Key		•••••		
Confirm Netwo	rk Key	*****		
[7			
Advanced				0
Help	<	Back	ext>	Cancel

🖉 Note

- If you want to setup more than WEP key1, click Advanced.
- If you do not know the Authentication or Encryption settings for your network, contact your network administrator.
- If the Authentication Method is set to Open System and the Encryption Mode is set to WEP, an error indication will NOT appear if the Network key is incorrect.
- Click Next. The settings will be sent to your printer. The settings will remain unchanged if you click Cancel.



🖉 Note

If you want to manually enter the IP address settings of your printer, click **Change IP Address** and enter the necessary IP address settings for your network.

Wireless configuration for Macintosh[®] using the Brother installer application (For HL-2170W)

14 Disconnect the network cable between your access point (hub or router) and the printer, and click **Next**.





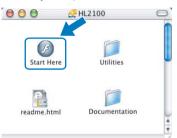
You have completed the wireless setup. If you chose to install the printer driver in step 6, Go to *Installing the printer driver* on page 66.

Configuration using the automatic wireless (one-push) method

IMPORTANT

If you are going to connect the printer to your network, we recommend that you contact your system administrator prior to installation.

- Make sure that the power cord is plugged in.
- 2 Turn on your printer and wait until the printer is in the Ready state.
- 3 Turn on your Macintosh[®].
- 4 Put the supplied CD-ROM into your CD-ROM drive. Double-click the **HL2100** icon on your desktop. Double-click the **Start Here** icon. Choose your printer model and the language.



5 Click Install Printer Driver on the menu screen.



Wireless configuration for Macintosh® using the Brother installer application (For HL-2170W)





7 Choose Wireless Setup and Driver Install (Recommended) or Wireless Setup Only, and then click Next.



8 Choose Automatic install (Advanced) and click Next.



Wireless configuration for Macintosh® using the Brother installer application (For HL-2170W)

9 Confirm the on-screen message and click Next.

6		Wireles	s Device Setur	Wizard		
Setu	p using Auto	matic Wire	eless (one-	push)		ஞ
	your access point sup ease make sure the fo		ySetup™, Wi-Fi P	rotected Setup	or AOSS™,	
1.	Your wireless access	point supports S	SecureEasySetup [™]	™, Wi-Fi Protec	ted Setup or /	AOSS™.
	Secure Easy Setup	6	SETUP	((() A05))) 55"	
	You have access to ti pplied with the acces				V	
	Help		< Back	Next		Cancel

Press the wireless setup button located at the back of the machine for less than 2 seconds as show in the illustration below. This will put the printer in one-push wireless setting mode. This feature will automatically detect which mode your access point uses for one-push configuration (SecureEasySetup[™], Wi-Fi Protected Setup[™] or AOSS[™]) of your printer.



🖉 Note

- Use a pointy object such as a ballpoint pen to press the button.
- If you press the button for 3 seconds or more, the printer will change to the PIN Method of the Wi-Fi Protected Setup[™] mode. See How to configure your wireless printer, using the PIN Method of Wi-Fi Protected Setup[™] on page 80.
- 11 The printer starts the one-push wireless setting mode. The printer searches for an access point that supports SecureEasySetup™, Wi-Fi Protected Setup™ or AOSS™ for 2 minutes.
- 12 Put your access point in the SecureEasySetup[™] mode, the Wi-Fi Protected Setup[™] mode or the AOSS[™] mode, depending on what is supported by your access point. Please refer to the instruction manual that came with your access point.

13 Wait for the **Ready** LED (**Go** button) of your printer to indicate connection succeeded. The **Ready** LED will turn on for 5 minutes. (See the table below) This indication means the machine has successfully connected to your router or access point. You can now use your printer on the wireless network.

If the LED indicates connection failed (See the table below), the machine has not successfully connected to your router or access point. Try starting from **()** again. If the same message is indicated again, reset the machine back to the default factory settings and try again. For resetting, see *Restoring the network settings to factory default* on page 100.

If the LED indicates session overlap (See the table below), the machine has detected more than 2 routers or access points on your network that have the Wi-Fi Protected Setup[™] mode or the AOSS[™] mode enabled. Make sure that only one router or access point has the Wi-Fi Protected Setup[™] mode or the AOSS[™] mode enabled and try starting from **()** again.

LEDs	Searching or accessing the access point ¹	Connecting and downloading settings from the access point ¹	Connection succeeded ²	Connection failed ³	Session overlap is detected ⁴		-
Toner (Yellow)							
Drum (Yellow)							
Error (Red)						\rightarrow	
Ready (Blue)							

LED indications when using the one-push wireless setting mode

¹ The LED will blink (turn on for 0.2 seconds and off for 0.1 second).

² The LED will turn on for 5 minutes.

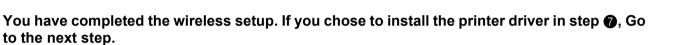
³ The LED will blink (turn on for 0.1 second and off for 0.1 second) for 30 seconds.

⁴ The LED will flash 10 times and then turn OFF for half a second. This pattern will repeat 20 times.



OK!





(15) Check the box after you confirm that you have completed the wireless settings, and then click **Next**. Go to *Installing the printer driver* on page 66.



Configuration in Ad-hoc mode

Before configuring the wireless settings

IMPORTANT

- If you have previously configured the wireless settings of the printer, you must reset the print server back to the default factory settings (see *Restoring the network settings to factory default* on page 100).
- If you are using Personal Firewall software, disable it. Once you are sure that you can print, restart your Personal Firewall software.

Configure the wireless settings

- Turn on your Macintosh[®].
- Put the supplied CD-ROM into your CD-ROM drive. Double-click the HL2100 icon on your desktop. Double-click the Start Here icon. Choose your printer model and the language.



3 Click Install Printer Driver on the menu screen.

000	HL2100:Start Here
Laser Printer Utilities HL-2170W	brother
Top Menu	
Top Menu	
Install the printer driver after the initial setup phase is complete.	Install Printer Driver
	Documentation
	S Brother Solutions Center
	Supplies Information
	Back + Exit
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Wireless configuration for Macintosh® using the Brother installer application (For HL-2170W)





6 Choose Wireless Setup and Driver Install (Recommended) or Wireless Setup Only, and then click Next.



6 Choose Step by Step install (Recommended) and then click Next.



Wireless configuration for Macintosh® using the Brother installer application (For HL-2170W)

Choose Without cable (Advanced) and then click Next.

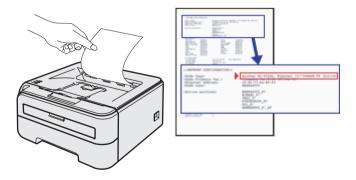


8 Read the Important Notice to enable the wireless interface. Hold down the Go button for 10 seconds, and then release the Go button when the printer prints a Network Configuration page. Check the box after you confirm the wireless setting is enabled, and then click Next.



🖉 Note

To confirm the wireless setting is enabled, check the text to the right side of **IEEE 802.11b/g** in the **Node Type** section on the Network Configuration page. **Active** means that the wireless setting is enabled and **Inactive** means that the wireless setting is disabled. If the wireless setting is disabled, press the **Go** for 10 seconds again.



9 You need to temporarily change your computer's wireless settings. Follow the on-screen instructions. Make sure you take notes on all the settings such as SSID or channel of your computer. You will need them to return your computer back to its original wireless settings, and then click **Next**.



Item	Record the current wireless computer settings
Communication mode: (Infrastructure / Ad-hoc)	
Channel: (1-14)	
Network name: (SSID / ESSID)	
Authentication method: (Open system / Shared key / WPA/WPA2-PSK / LEAP)	
Encryption mode: (None / WEP / TKIP / AES/ CKIP)	
Encryption key:	

10 To communicate with the un-configured wireless printer, temporarily change the wireless settings on your computer to match your printer's default settings shown on this screen. Check the box after you confirm these settings, and then click **Next**.

00	Wireless Device Setup	Wizard	
Changing the 0	Computer's Wireless Settin	gs	((m)
To communicate w computer to the foll	ith the un-configured wireless device, p lowing:	lease change the win	eless settings on this
Co	ommunication Mode : Ad-hoc		<u>()</u>
	Channel : 11 (if applicable)	2
Net	twork Name (SSID)* : SETUP		8
	Encryption Mode : None	ß	
* Case sensitive			
	r network administrator or refer to your uide for more information.	4	»«<
When you have co "Next" to continue.	nfigured the wireless network settings, o	click	
Checked and	confirmed		
	< Back	Next>	Cancel

🖉 Note

You can temporarily change the wireless settings on your computer, following the steps below:

1 Click the AirPort status icon and select **Open Internet Connect...**.

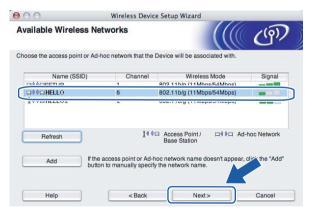
- 2 Click the Network tab to see the available wireless devices. You can see the Brother wireless print server in the **Network** option. Select **SETUP**.
- **3** Your wireless network is connected successfully.
- 1 Choose the printer you wish to configure, and click **Next**. If the list is blank, check if the printer is powered on, and then click **Refresh**.

Available Wire	less Devices			<u>((</u> (Ca))
More than one Wirele Select the device you				
Node Name	ID Addrace	MAC Address	Printer Name	Location
BRWXXXXXXXXX			Brother XXX-XXXX	
Befresh				
Refresh Important If no c and c	devices appear and	l you're running a pers tion to re-search the w	sonal firewall. Pleass vireless network.	e disahi "Nhe firewali

🖉 Note

The default Node name is "BRWxxxxxxxxxxx.".

12 The wizard will search for wireless networks available from your printer. Choose the Ad-hoc network you wish to associate the printer with, and then click Next.



🖉 Note

• If the list is blank, check if the printer is within range for wireless communication. Then, click Refresh.

63

 If your target Ad-hoc network does not appear on the list, you can manually add it by clicking the Add button. Check This is an Ad-hoc network and there is no access point., and then enter the Name (SSID) and the Channel number, and then click Next.

000	Wireless Device Setup Wizard	
Wireless Netwo	ork Name	(((()))
Configure the wireles	ss network name that the device will be associated with	n.
Name(SSID)	WLAN	
This is an	Ad-hoc network and there is no access point.	
Channel	[1	•
Help	<back next=""></back>	Cancel

13 If your network is not configured for Authentication and Encryption, the following screen will appear. To continue configuration, click **OK** and go to **(b)**.

00	0	Wireless	Device Setu	p Wizar	d	é éstran	
		A	TTENTION	!!			
	Name (SSID) :	HE	LLO				
	This Wireless Netw encryption.	ork is not se	cure. It is not u	sing sec	ure authe	ntication	and
	Do you want to cor	tinue setup?	K				
		ОК) (Ca	ncel)	

14 If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless printer, you must ensure that it is configured to match the Authentication and Encryption settings of your existing wireless network. Choose the Authentication Method and Encryption Mode from the pull-downs in each setting box. Then enter the Network key and Confirm Network Key, and then click Next.

000	Wire	eless Device Setup Wizard		2
Authentication	Method and	Encryption Mode		ஞ
Configure the Authenti	ication Method an	d Encryption mode		
Name (SSID) :		HELLO		
Authentication	Method	Open System		
Encryption Mod	Encryption Mode		\$	
Network Key		•••••		
Confirm Network Key		*****		
Advanced	-			
Help		< Back Nex	d>	Cancel

🖉 Note

- If you want to setup more than WEP key1, click **Advanced**.
- If you do not know the Authentication or Encryption settings for your network, contact your network administrator.
- If the Authentication Method is set to Open System and the Encryption Mode is set to WEP, an error indication will NOT appear if the Network key is incorrect.

15 Click **Next**. The settings will be sent to your printer. The settings will remain unchanged if you click **Cancel**.

000	Wireless Device Setup Wiz	zard
Wireless Network	Settings Confirmation	(((cm)
Click "Next" to submit follo	wing settings to the device	
Target Device =	BRWXXXXXXXXXXXX	x
IP Address	Auto	Change IP Address
Communication	mode Ad-hoc	
Name (SSID)	HELLO	
Authentication M	lethod Open System	
Encryption Mode	e WEP	
Print test page	after submitting settings?	
Help	< Back	Next > Cancel

🖉 Note

If you want to manually enter the IP address settings of your printer, click **Change IP Address** and enter the necessary IP address settings for your network.

16 To communicate with the configured wireless device, you must configure your computer to use the same wireless settings. Manually change the wireless settings on your computer to match the printer's wireless settings shown on this screen. Check the box after these settings, and then click **Next** or **Finish**. (The settings shown on this screen are for example only. Your settings will not be the same.)

00	Wireless Device Setu	p Wizard	
Changing the Co	mputer's wireless settin	ngs.	(9)
same wireless setting	the configured wireless device, you is. In the following wireless settings on		figured to use the
Com	munication Mode : Ad-hoc		2
	Channel: 1 (if applicabl	le)	
Netwo	ork Name (SSID)* : HELLO	le le	
Auth	entication Method : Open System		
	Encryption Mode : WEP		
	WEP Key: XXXX		
	* Case sensitiv	e	
information. "Wireless Setup" is no	etwork administrator or refer to you ow complete. Please remember to re gured the wireless network settings	estore the firewall, to	

ок!

You have completed the wireless setup. If you chose to install the printer driver in step (5), Go to *Installing the printer driver* on page 66.

Installing the printer driver

S Improper Setup

DO NOT try to cancel any of the screens during this installation.

If your wireless settings fail, an error message will appear during the installation of the printer driver and the installation will be terminated. If you encounter this failure, please go back to step 1 and setup the wireless connection again.

1 The driver installation starts. Follow the on-screen instructions. Then, restart your Macintosh[®].

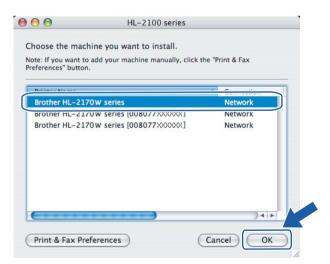
For Mac $OS^{\mathbb{8}} \times 10.2.4$ to 10.2.8 users: Go to step 4. For Mac $OS^{\mathbb{8}} \times 10.3$ or greater users: Go to step 2.

2) The Brother software will search for the Brother printer. During this time the following screen will appear.



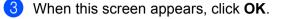
🖉 Note

• If more than one printer is available, the following list appears. Choose the printer you wish to connect, and then click **OK**.



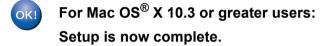
- If there is more than one of the same printer model connected on your network, the Ethernet address (MAC address) will be displayed after the model name.
- You can find your printer's Ethernet address (MAC address) by printing out the Printer Settings Page. See Printing the Printer Settings Page on page 100.

• If your printer fails to appear on the list, reset the print server back to the default factory settings (see *Restoring the network settings to factory default* on page 100) and try the wireless setup again.

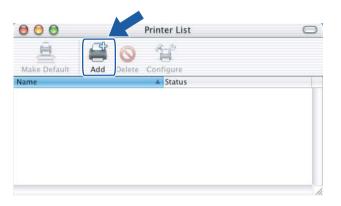


r

	Setup is now complete.
A	The Printer Driver, BRAdmin Light and Status Monitor have been installed.
	ОК



4 When this screen appears, click Add.

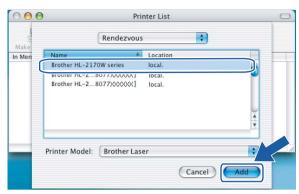


Make the following selection.

000		Printer List	C
Make In Men		✓ AppleTalk IP Printing Open Directory	
1	Name	Rendezvous 🛌 💦	
		Windows Printing	
	Printer Model:	Auto Select	(‡)
		Cancel	Add

Wireless configuration for Macintosh® using the Brother installer application (For HL-2170W)

Choose your printer, and then click Add.



🖉 Note

- If there is more than one of the same printer model connected on your network, the Ethernet address (MAC address) will be displayed after the model name.
- You can find your printer's Ethernet address (MAC address) by printing out the Printer Settings Page. See Printing the Printer Settings Page on page 100.
- If your printer fails to appear on the list, reset the print server back to the default factory settings (see *Restoring the network settings to factory default* on page 100) and try the wireless setup again.

Click Print Center, then Quit Print Center.







For Mac OS[®] X 10.2.4 to 10.2.8 users: Setup is now complete.

6

Wireless configuration using the one-push wireless setting mode (For HL-2170W)

Overview

If your wireless access point supports either SecureEasySetup[™], Wi-Fi Protected Setup[™] (PBC¹) or AOSS[™], you can configure the machine easily without a computer. Your Brother printer has one-push wireless setting mode. This feature automatically detects which mode your access point uses for one-push configuration (SecureEasySetup[™], Wi-Fi Protected Setup[™] or AOSS[™]). By pushing a button on the wireless LAN router / access point and the machine, you can setup the wireless network and security settings. See the user's guide for your wireless LAN router / access point for instructions on how to access one-push mode.

1 Push Button Configuration

🖉 Note

Routers or access points that support SecureEasySetup™, Wi-Fi Protected Setup™ or AOSS™ have the symbols shown below.







How to configure your wireless printer, using the one-push wireless setting mode

IMPORTANT

If you are going to connect the printer to your network, we recommend that you contact your system administrator prior to installation.

Press the wireless setup button located at the back of the machine for less than 2 seconds as show in the illustration below. This will put the printer in one-push wireless setting mode. This feature will automatically detect which mode your access point uses for one-push configuration (SecureEasySetup™, Wi-Fi Protected Setup™ or AOSS™) of your printer.



🖉 Note

- Use a pointy object such as a ballpoint pen to press the button.
- If you press the button for 3 seconds or more, the printer will change to the PIN Method of the Wi-Fi Protected Setup[™] mode. See *How to configure your wireless printer, using the PIN Method of Wi-Fi Protected Setup*[™] on page 80.
- 2 The printer starts the one-push wireless setting mode. The printer searches for an access point that supports SecureEasySetup™, Wi-Fi Protected Setup™ or AOSS™ for 2 minutes.
- 3 Put your access point in the SecureEasySetup[™] mode, the Wi-Fi Protected Setup[™] mode or the AOSS[™] mode, depending on what is supported by your access point. Please refer to the instruction manual that came with your access point.

4 Wait for the **Ready** LED (**Go** button) of your printer to indicate connection succeeded. The **Ready** LED will turn on for 5 minutes. (See the table below) This indication means the machine has successfully connected to your router or access point. You can now use your printer on the wireless network.

If the LED indicates connection failed (See the table below), the machine has not successfully connected to your router or access point. Try starting from **①** again. If the same message is indicated again, reset the machine back to the default factory settings and try again. For resetting, see *Restoring the network settings to factory default* on page 100.

If the LED indicates session overlap (See the table below), the machine has detected more than 2 routers or access points on your network that have the Wi-Fi Protected Setup[™] mode or the AOSS[™] mode enabled. Make sure that only one router or access point has the Wi-Fi Protected Setup[™] mode or the AOSS[™] mode enabled and try starting from ① again.

LEDs	Searching or accessing the access point ¹	Connecting and downloading settings from the access point ¹	Connection succeeded ²	Connection failed ³	Session overl detected	-
Toner (Yellow)						
Drum (Yellow)						
Error (Red)						
Ready (Blue)						

LED indications when using the one-push wireless setting mode

¹ The LED will blink (turn on for 0.2 seconds and off for 0.1 second).

² The LED will turn on for 5 minutes.

OK!

³ The LED will blink (turn on for 0.1 second and off for 0.1 second) for 30 seconds.

⁴ The LED will flash 10 times and then turn OFF for half a second. This pattern will repeat 20 times.

You have completed the wireless setup. To install the printer driver, Go to step **①** on page 72 for Windows[®] or page 76 for Macintosh[®].

For Windows[®] users

N Improper Setup

DO NOT try to cancel any of the screens during this installation.

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.

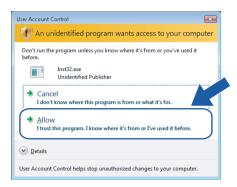
Ø Macromedia Flash Player 8	
Laser Printer Utilities HL-2170W	brother
Top Menu	
Top Menu	
Install the printer driver after the initial setup phase is complete.	Install Printer Driver
	Install Other Drivers or Utilities
	Documentation
	5 Brother Solutions Center
	Supplies Information
© 2001-2007 Brother Industries, Ltd. All rights	reserved. Sack + F Exit

4 Click Wireless Network users.



🖉 Note

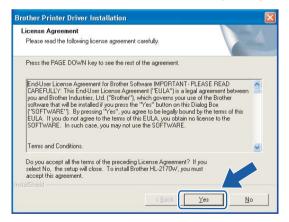
For Windows Vista[™], when the **User Account Control** screen appears, click **Allow**.



Choose Driver Install Only, and then click Next.



6 When the License Agreement window appears, click Yes if you agree to the License Agreement.



6

7 Choose Standard Installation, and then click Next.

Select Components	
Select the method of Installation	
Standard Installation	
Custom Installation	
	<back next=""> Cancel</back>

8 Choose Search the network for devices and choose from a list of discovered devices (Recommended). Or enter your printer's IP address or its node name. Click Next.

other Printer Driver Insta	llation 🛛
Select Printer	124
Choose how you will locate yo	ur Brother machine on the network?
Search the network for de (Recommended)	evices and choose from a list of discovered devices
O Specify your machine by a	address (Advanced Users)
IP Address	
O Specify your machine by r	name (Advanced Users)
Node Name	
	< Back Next > Cancel

Note

You can find your printer's IP address and the node name by printing out the Printer Settings Page. See Printing the Printer Settings Page on page 100.

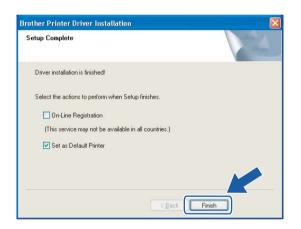
9 Choose your printer, and then click Next.

elect Printer Select the appropr	iate network printer.		
Node Name	Node Address	Printer Name	Location
BWXXXXXXXX	XXXXXXXXXXX	Brother HL-2170W series	
			Ì
LPR			Configura ID
LPR			<u>C</u> onfigure IP <u>R</u> efresh

Note

If your printer takes a long time (about 1 minute) to appear on the list, click **Refresh**.

10 Click Finish.



🖉 Note

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



Setup is now complete.

For Macintosh[®] users

N Improper Setup

DO NOT try to cancel any of the screens during this installation.

Turn on your Macintosh[®].

Put the supplied CD-ROM into your CD-ROM drive. Double-click the HL2100 icon on your desktop. Double-click the Start Here icon. Choose your printer model and the language.



3 Click Install Printer Driver on the menu screen.







5 Choose Driver Install Only, and then click Next. Follow the on-screen instructions. Then, restart your Macintosh[®].



For Mac $OS^{\ensuremath{\mathbb{R}}}$ X 10.2.4 to 10.2.8 users: Go to step (3). For Mac $OS^{\ensuremath{\mathbb{R}}}$ X 10.3 or greater users: Go to step (3).

The Brother software will search for the Brother printer. During this time the following screen will appear.

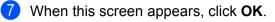


🖉 Note

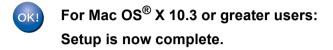
• If more than one printer is available, the following list appears. Choose the printer you wish to connect, and then click **OK**.

000	HL-2100 series	
Choose the mac	hine you want to install.	
Note: If you want to Preferences" buttor	add your machine manually, cli 1.	ck the "Print & Fax
Believes kinnes		
Brother HL-217	70W series	Network
Brother HL-21	UW Series [UU8U//XXXXXX]	Network
Brother HL-217	70W series [008077:000003]	Network
()++(
Print & Fax Pre	eferences	Cancel OK

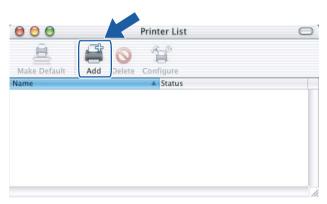
- If there is more than one of the same printer model connected on your network, the Ethernet address (MAC address) will be displayed after the model name.
- You can find your printer's Ethernet address (MAC address) by printing out the Printer Settings Page. See Printing the Printer Settings Page on page 100.



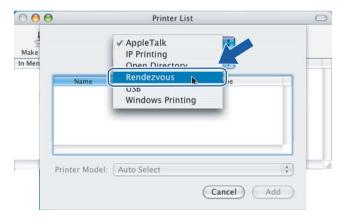




8 When this screen appears, click Add.



9 Make the following selection.



10 Choose your printer, and then click Add.

000)	Printer List	C
Make	Ren	dezvous 🛟	
In Men	Name	Location	
	Brother HL-2170W ser	ries local.	
	Brother HL-28077X		
			A Y
-	Printer Model: Bro	ther Laser	
		Cancel	Add

🖉 Note

- If there is more than one of the same printer model connected on your network, the Ethernet address (MAC address) will be displayed after the model name.
- You can find your printer's Ethernet address (MAC address) by printing out the Printer Settings Page. See Printing the Printer Settings Page on page 100.

1 Click Print Center, then Quit Print Center.







For Mac OS[®] X 10.2.4 to 10.2.8 users: Setup is now complete.

79

Wireless configuration using the PIN Method of Wi-Fi Protected Setup™ (For HL-2170W)

Overview

If your wireless access point supports Wi-Fi Protected Setup[™] (PIN Method), you can configure the machine easily without a computer. The PIN (Personal Identification Number) Method is one of the connection methods developed by the Wi-Fi Alliance. By inputting a PIN which is created by an Enrollee (your machine) to the Registrar (a device that manages the wireless LAN), you can setup the wireless network and security settings. See the user's guide for your wireless LAN router / access point for instructions on how to access the Wi-Fi Protected Setup[™] mode.

🖉 Note

Routers or access points that support Wi-Fi Protected Setup[™] have a symbol as shown below.

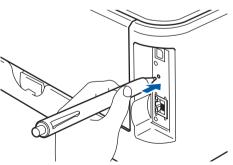


How to configure your wireless printer, using the PIN Method of Wi-Fi Protected Setup™

IMPORTANT

If you are going to connect the printer to your network, we recommend that you contact your system administrator prior to installation.

Press the wireless setup button located at the back of the machine for 3 seconds or more as show in the illustration below.



🖉 Note

Use a pointy object such as a ballpoint pen to press the button.

- 2 The printer will print a piece of paper that shows an 8 digit PIN and starts searching for an access point for 5 minutes.
- 3 Using a computer that is on the network, type http://access_point_ip_address/ into your browser. (Where access_point_ip_address is the IP address of the device that is used as the Registrar ¹) Go to the WPS (Wi-Fi Protected Setup) setting page and input the PIN from the printed page to the Registrar and follow the on-screen instruction.
 - ¹ The Registrar is normally the access point / router.

🖉 Note

The setting page is different, depending on the brand of access point / router. See the instruction manual that came with your access point / router.

If you are using your Windows Vista[™] computer as a Registrar, follow the instructions below.

🖉 Note

To use a Windows Vista[™] computer as a Registrar, you need to register it to your network in advance. See the instruction manual that came with your access point / router.

- 1 Click Start and then Network.
- 2 Click Add a wireless device.
- 3 Choose your printer and click **Next**.
- 4 Input the PIN from the printed page and then click **Next**.
- **5** Choose your network that you want to connect to, and then click **Next**.
- 6 Click Close.

4 Wait for the **Ready** LED (**Go** button) of your printer to indicate connection succeeded. (See the table below) This indication means the machine has successfully connected to your access point / router. You can now use your printer on the wireless network.

If the LED indicates connection failed (See the table below), the machine has not successfully connected to your router or access point. Try starting from **①** again. If the same message is indicated again, reset the machine back to the default factory settings and try again. For resetting, see *Restoring the network settings to factory default* on page 100.

LEDs	Searching or accessing the access point ¹	Connecting and downloading the settings from the access point ¹	Connection succeeded ²	Connection failed ³
Toner (Yellow)				
Drum (Yellow)				
Error (Red)				
Ready (Blue)				

LED indications when using the one-push wireless setting mode

¹ The LED will blink (turn on for 0.2 seconds and off for 0.1 second).

² The LED will turn on for 5 minutes.

³ The LED will blink (turn on for 0.1 second and off for 0.1 second) for 30 seconds.



You have completed the wireless setup. To install the printer driver, Go to step **()** on page 83 for Windows[®] or page 87 for Macintosh[®].

For Windows[®] users

N Improper Setup

DO NOT try to cancel any of the screens during this installation.

 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.

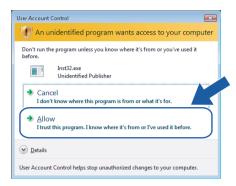
aser Printer Utilities HL-2170W	brother
Top Menu	\sim
Top Menu	
Install the printer driver after the initial setup phase is complete.	Install Printer Driver
	Install Other Drivers or Utilities
	Documentation
	S Brother Solutions Center
	Supplies Information

4 Click Wireless Network users.

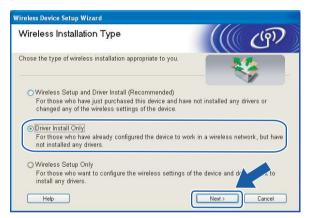


Note

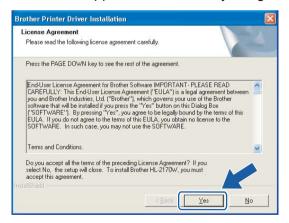
For Windows Vista[™], when the **User Account Control** screen appears, click **Allow**.



Choose Driver Install Only, and then click Next.



6 When the License Agreement window appears, click Yes if you agree to the License Agreement.



Wireless configuration using the PIN Method of Wi-Fi Protected Setup™ (For HL-2170W)

7 Choose Standard Installation, and then click Next.

Select Components	
Select the method of Installation	
Standard Installation	
O Custom Installation	
	<back next=""> Cancel</back>

8 Choose Search the network for devices and choose from a list of discovered devices (Recommended). Or enter your printer's IP address or its node name. Click Next.

rother Printer Driver Installation	
Select Printer	2
Choose how you will locate your Brother machine on the network?	
Search the network for devices and choose from a list of discovered device (Recommended)	25
O Specify your machine by address (Advanced Users)	
IP Address	
O Specify your machine by name (Advanced Users)	
Node Name	
< <u>Back</u>	Cancel

Note

You can find your printer's IP address and the node name by printing out the Printer Settings Page. See Printing the Printer Settings Page on page 100.

Wireless configuration using the PIN Method of Wi-Fi Protected Setup™ (For HL-2170W)

9 Choose your printer, and then click Next.

BRWXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	elect Printer Select the appropr	iate network printer.		
LPR Configure IP	Node Name	Node Address	Printer Name	Location
LPR Configure IP	BRWXXXXXXXX	XXXXXXXXXXX	Brother HL-2170W series	
Set by Node Name	1			
<u>Telesu</u>	LPR			Configure IP
				⊆onligure IP <u>R</u> efresh

🖉 Note

If your printer takes a long time (about 1 minute) to appear on the list, click **Refresh**.

10 Click Finish.



🖉 Note

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



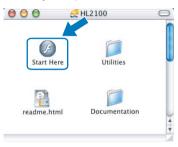
Setup is now complete.

For Macintosh[®] users

N Improper Setup

DO NOT try to cancel any of the screens during this installation.

- Turn on your Macintosh[®].
- Put the supplied CD-ROM into your CD-ROM drive. Double-click the HL2100 icon on your desktop. Double-click the Start Here icon. Choose your printer model and the language.



3 Click Install Printer Driver on the menu screen.



4 C

Click Wireless Network users.



5 Choose Driver Install Only, and then click Next. Follow the on-screen instructions. Then, restart your Macintosh[®].



For Mac $OS^{\ensuremath{\mathbb{R}}}$ X 10.2.4 to 10.2.8 users: Go to step (3). For Mac $OS^{\ensuremath{\mathbb{R}}}$ X 10.3 or greater users: Go to step (3).

The Brother software will search for the Brother printer. During this time the following screen will appear.



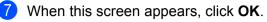
🖉 Note

• If more than one printer is available, the following list appears. Choose the printer you wish to connect, and then click **OK**.

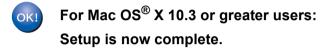
000	HL-2100 series	
Choose the mac	hine you want to install.	
Note: If you want to Preferences" buttor	add your machine manually, clic 1.	k the "Print & Fax
Define a blance		
Brother HL-21	70w series	Network
Brotner HL-21	UW Series [UU8U//XXXXXX]	Network
Brother HL-21	70W series [008077>>>>>>>>	Network
Print & Fax Pr	eferences	Cancel OK

- If there is more than one of the same printer model connected on your network, the Ethernet address (MAC address) will be displayed after the model name.
- You can find your printer's Ethernet address (MAC address) by printing out the Printer Settings Page. See Printing the Printer Settings Page on page 100.

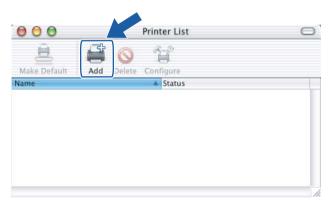
Wireless configuration using the PIN Method of Wi-Fi Protected Setup™ (For HL-2170W)



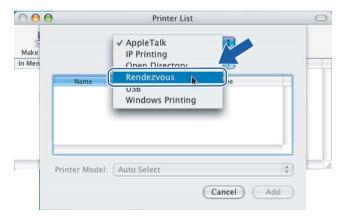




8 When this screen appears, click Add.



9 Make the following selection.



Wireless configuration using the PIN Method of Wi-Fi Protected Setup™ (For HL-2170W)

10 Choose your printer, and then click Add.

000		Printer List	0
Make	Rendez	vous	
In Men	Name	Location	
	Brother HL-2170W series	local.	
	Brother HL-28077XXXX		-
			Ă.
-	Printer Model: Brother	Laser	
		Cancel	Add

🖉 Note

- If there is more than one of the same printer model connected on your network, the Ethernet address (MAC address) will be displayed after the model name.
- You can find your printer's Ethernet address (MAC address) by printing out the Printer Settings Page. See Printing the Printer Settings Page on page 100.

1 Click Print Center, then Quit Print Center.







For Mac OS[®] X 10.2.4 to 10.2.8 users: Setup is now complete.

8

Network printing from Windows[®]: 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 Brother 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 Brother network printer.

If you are a Windows[®] user and want to configure your printer without using the Brother 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 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 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**.
- 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[™] 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\eng\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 and Windows Server[®] 2003

- 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.
- Por 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.
- 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 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.
- 1 For example, select the "X:\\install\eng\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**.
- (3) 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:

- 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 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**.
- 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 8.

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9

Internet printing for Windows[®]

Overview

Windows[®] 2000/XP, 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, 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 Brother print servers is access.

IPP printing for Windows[®] 2000/XP, Windows Vista[™] and Windows Server[®] 2003

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

For Windows Vista™

- 1 Click the Start button, Control Panel, Hardware and Sound, and then Printers.
- 2 Click Add a printer.
- 3 Select Add a network, wireless or Bluetooth 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 "BRNxxxxxxxxxxx" for a wired network or "BRWxxxxxxxxxx" for a wireless network.

- 6 When you click **Next**, Windows Vista[™] will make a connection with the URL that you specified.
 - If the printer driver has already been installed:
 - 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[™] 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 **①**.

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[™] about the type of printer driver to be used.

Go to 7.

- 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 Brother printer driver that is contained in the CD-ROM or in the network share.

For example, select the "X:\\install\eng\PCL\win2kxpvista¹" folder (where X is your drive letter). Click **Open**.

¹ "winxpx64vista64" folder for 64-bit OS users

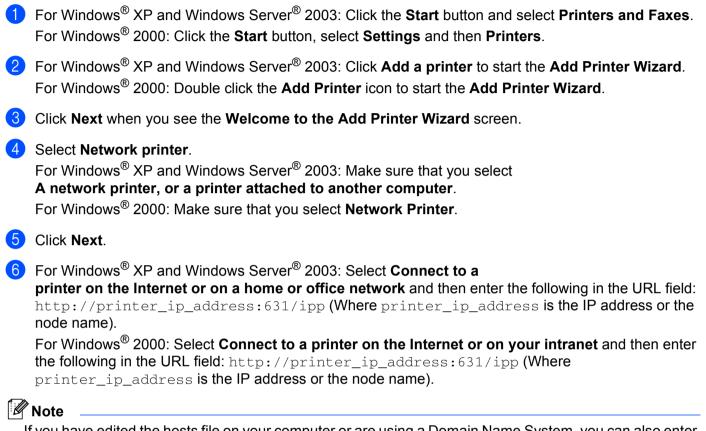
9 Click OK.

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.
- 1 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 and Windows Server[®] 2003



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 "BRNxxxxxxxxxx" for a wired network or "BRWxxxxxxxxx" for a wireless network.

When you click Next, Windows[®] 2000/XP 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 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 😰.

■ 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 8.



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

9 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.

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

For example, select the "X:\\install\eng\PCL\win2kxpvista¹" folder (where X is your drive letter). Click **Open**.

¹ "winxpx64vista64" folder for 64-bit OS users

- 11 Click OK.
- 12 Check **Yes** if you want to use this printer as the default printer. Click **Next**.
- 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 8.

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 10.2.4 or greater.

Printing from a Macintosh[®] using the Simple Network Configuration capabilities

With the release of Mac OS[®] X 10.2, Apple[®] introduced 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 Quick Setup Guide we provided with the printer.

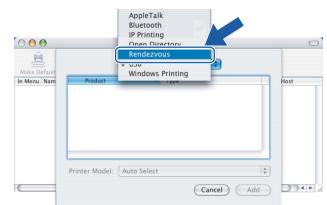
You do not need to manually configure any IP address or network strings within the printer as the printer will automatically configure itself.

How to select the printer driver

- 1 From the **Go** menu, select **Applications**.
- Open the Utilities folder.

3 Double click the **Printer Setup Utility** icon. (Mac OS[®] X 10.2.x users, click the **Print Center** icon.)

- Click Add.
 For Mac OS[®] X 10.2.4 to 10.3.x users, Go to the next step.
 For Mac OS[®] X 10.4 users, Go to step 6.
- 5 Make the following selection.



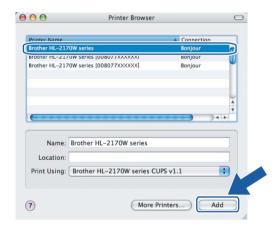
Cancel Add

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

(Mac OS[®] X 10.2.x)

000 Printer List \$ Rendezvous Mak In Men Location Nat Brother HL-2170W series local. brother HL .00///ХХХХХХ Brother HL-2...8077XXXXXX] local. Printer Model: Brother Laser * (Cancel) Add

(Mac OS[®] X 10.4.x)



Other sources of information

How to configure the IP address of the printer, see *Configuring your printer for a network* on page 8.

Printer List Rendezvous Rendezvous Rendezvous Host Rother HL-2170W series [008077XXXXX] Brother HL-2170W series [008077XXXXX] Brother HL-2170W series [008077XXXXX] Brother HL-2170W series [008077XXXXX] Frinter Model: Brother Nodel Name Brother HL-2170W series CUPS gz

(Mac OS[®] X 10.3.x)

1 Control panel features

Overview

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

Print the Printer Settings Page

See Printing the Printer Settings Page on page 100 for information on how to print the Printer Settings Page.

Restore the network settings to factory default

See *Restoring the network settings to factory default* on page 100 for information on how to restore the network settings to factory default.

Enable or Disable the wireless network (For HL-2170W)

See *Enabling or disabling the wireless network (For HL-2170W)* on page 101 for information on how to enable/disable the wireless network.

Printing the Printer Settings Page

Mote

Node name: Node name appears in the Printer Settings Page. The default Node name of the network card in the printer is "BRNxxxxxxxxx" for a wired network or "BRWxxxxxxxxxx" for a wireless network.

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:

- 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.

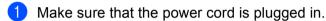
Press the Go button seven times. Make sure that all the LEDs light up to indicate the print server has been reset to its default settings.

🖉 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 12.

Enabling or disabling the wireless network (For HL-2170W)

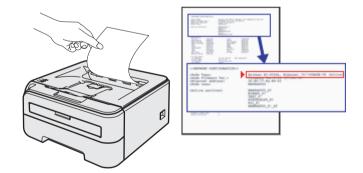
If you want to switch the wireless network to enabled/disabled, please follow these steps:



- Turn on the printer and wait until the printer is in the Ready state.
- 3 Hold down the **Go** button for 10 seconds. Release the **Go** button when the printer prints a Network Configuration page that indicates the current network settings.
- 🖉 Note

If you release the **Go** button in less than 10 seconds, the printer will change to the reprint mode.

4 Check the text to the right side of IEEE 802.11b/g in the Node Type section. Active means that the wireless setting is enabled and Inactive means that the wireless setting is disabled.



🖉 Note

You can switch the wireless network to enabled/disabled, using the BRAdmin applications or Web Based Management (web browser). For more information, see *Changing the print server settings* on page 12.

12 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

The Brother 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), BRAdmin Professional and Web BRAdmin to configure these settings.



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).

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 "BRNxxxxxxxxxx" for a wired network or "BRWxxxxxxxxx" for a wireless network.

3 Click Network Configuration.

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.

Make sure that the POP3/SMTP setting is **Enable**, and then click **Advanced Setting** of **POP3/SMTP**.

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.

12

Managing your network printer securely using BRAdmin Professional (for Windows[®])

To use the BRAdmin Professional utility securely, you need to follow the points below.

- We strongly recommend to use the latest version of the BRAdmin Professional utility or Web BRAdmin that are available as a download from <u>http://solutions.brother.com</u> If you use an older version of BRAdmin¹ to manage your brother devices the user authentication will not be secure.
- If you want to avoid access to your printer from older versions of BRAdmin¹, you need to disable the access from older versions of BRAdmin¹ from the Advanced Setting of SNMP on the Configure Protocol page using Web Based Management (web browser). See How to configure the print server settings using Web Based Management (web browser) on page 107.
- Disable the TELNET, FTP and TFTP protocols. Accessing the machine using these protocols is not secure. For how to configure the protocol settings, see *How to configure the print server settings using Web Based Management (web browser)* on page 107.
- If you are managing a mixed group of older print servers ² and the new NC-6600h or NC-7400w print server with BRAdmin Professional, we recommend using a different password in each group.
- ¹ BRAdmin Professional older than Ver. 2.80, Web BRAdmin older than Ver. 1.40, BRAdmin Light for Macintosh[®] older than Ver. 1.10
- ² NC-2000 series, NC-2100p, NC-3100h, NC-3100s, NC-4100h, NC-5100h, NC-5200h, NC-6100h, NC-6200h, NC-6300h, NC-6400h, NC-8000, NC-100h, NC-110h, NC-120w, NC-130h, NC-140w, NC-8100h, NC-9100h, NC-7100w, NC-7200w, NC-2200w

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 10.
- You can use a web browser on most computing platforms, for example, Macintosh[®] and 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) for Windows [®] and Safari [™] 1.0 for Macintosh [®] . Please also make sure that JavaScript and Cookies are always enabled in whichever browser you use. We recommend you upgrade to Safari [™] 1.2 or greater to enable JavaScript. 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 "BRNxxxxxxxxxx" for a wired network or "BRWxxxxxxxxx" for a wireless network.
 For Macintosh[®] users, you can also have easy access to Web Based Management by clicking the machine icon on Status Monitor screen.
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.



Driver Deployment Wizard (Windows[®] only)

Overview

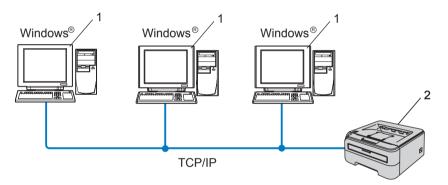
The Driver Deployment Wizard software can be used to ease the installation or even automate the installation of a locally connected or network connected printer. The Driver Deployment Wizard can also be used to create self running executable files which when run on a remote PC, completely automates the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

Connection methods

The Driver Deployment Wizard supports the three connection methods.

Peer-to-peer

The device is connected to the network but each user prints directly to the printer WITHOUT printing through a central queue.

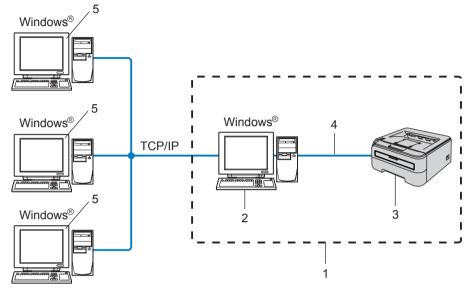


- 1 Client Computer
- 2 Network printer

Driver Deployment Wizard (Windows[®] only)

Network Shared

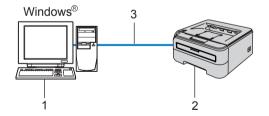
The device is connected to a network and a central print queue is used to manage all print jobs.



- **1** Network Shared
- 2 Print server
- 3 Network printer
- 4 TCP/IP or USB
- 5 Client Computer

Local Printer (USB)

The device is connected to the computer using an USB cable.



- **1** Client Computer
- 2 Printer
- 3 USB

14

Driver Deployment Wizard (Windows[®] only)

How to install the Driver Deployment Wizard software

- 1 Put the supplied CD-ROM into your CD-ROM drive. The opening screen will appear automatically.
- 2 Select your model and the language. Then click Install Other Drivers or Utilities.
- 3 Select the **Driver Deployment Wizard** installation program.

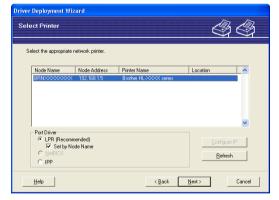
🖉 Note

For Windows Vista[™], when the **User Account Control** screen appears, click **Continue**.

- 4 Click **Next** in response to the Welcome message.
- 5 Read the license agreement carefully. Then follow the on-screen instructions.
- 6 Click **Finish**. Now the Driver Deployment Wizard software has been installed.

Using the Driver Deployment Wizard software

- 1 When you run the Wizard for the first time you will see a welcome screen. Click **Next**.
- 2 Choose **Printer**, and then click **Next**.
- 3 Choose your connection type to the printer that you want to print to.
- Choose the option you require, and follow the on-screen instructions. If you choose Brother Peer-to-Peer Network Printer, the following screen is displayed.



Setting the IP Address

If the printer does not have an IP address, the Wizard will allow you to change the IP address by selecting the printer from the list and by selecting the **Configure IP** option. A dialogue box then appears which allows you to specify information such as the IP address, subnet mask and also the gateway address.

Configure TCP/IP Address				
Enter the TCP/I this Print Server	P configration for	OK DK		
		Cancel		
IP Address	0.0.0			
Subnet Mask	0.0.0			
Gateway	0.0.0			

5 Choose the printer driver if you wish to install.

If the printer driver you wish to use is installed on your computer:

Check the box of **Currently installed drivers** and choose the printer you wish to install, and then click **Next**.

If the driver you wish to use is not installed on your computer:

Click Have Disk and then specify the path of the printer driver.

river Deployment Wizard Select the printer driver		44
Select a driver to use with this printer.		
Brother HL-XXXX series	(Windows2000/XP/Vista (x86)	
Currently installed drivers		Have <u>D</u> isk
Help	Back	Next> Cancel

6 Click **Next** after you choose the correct driver.

7 Check **Yes** if you want to install the Interactive Help feature and then click **Next**.

Driver Deployment Wizard	
Interactive Help	44
Do you with to initial and activate the Interactive Help (in Interactive help when used with a locally connected (or a monitored at all lines: When an entro occuts, an icon appears in your taskfray of how to resolve the problem.	a peer-to-peer) device allows the printer status to be
	<back next=""> Cancel</back>

A summary screen will appear. Confirm the settings of the driver.

Driver Deployment Wizard				
Completing the Driver	Deployment Wizard	44		
You have successfully comp You specified the following p	leted the Driver Deployment Wizard			
Printer Infomation Printer Name : Driver Name : Shared as : Default : IP Address : Node Name : Port Name : Version :	Brother HL-000X series Brother HL-000X series Nd Shared Yes SOX SOX SOX SOX BN000000000000 BRN000000000000 BRN000000000000 BRN000000000000 BRN000000000000 BRN0000000000000 BRN000000000000000000000000000000000000			
<u>C</u> opy the Driver files to thusers. <u>Only create an Installation</u>	is PC and create an installation program for other n Program for other users.	Settings		
Help	< Back	inish Cancel		

Creating an executable file

The Driver Deployment Wizard software can also be used to create self running .EXE files. These self-running .EXE files can be saved to the network, copied to a CD-ROM, USB memory or even E-mailed to another user. Once run, the driver and its settings are automatically installed without any user intervention.

• Copy the Driver files to this PC and create an installation program for other users.

Select this option if you wish to install the driver onto your computer and also create a self-running executable file for use with another computer using the same operating system as your own.

Only Create an Installation Program for other users.

Select this option if the driver is already installed on your computer and you wish to create a self-running executable file without again installing the driver on your own computer.

🖉 Note

- If you work in a "queue" based network and you create an executable file for another user who does not have access to the same printer queue that you define into the executable file, the driver when installed on the remote computer will default to LPT1 printing.
- If you check the box of **Currently installed drivers** in (3), you can change the default settings of the printer driver, such as paper size by clicking **Custom...**.

9 Click **Finish**. The driver is automatically installed to your computer.

15 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: <u>http://solutions.brother.com</u>

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 or BRAdmin Professional

■ 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 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.
- Click OK.

🖉 Note

After the Brother 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 Brother software is installed, restart your Firewall.

For Macintosh[®]

Re-select your printer in the DeviceSelector application located in the Macintosh **Macintosh HD** (Startup Disk) / **Library** / **Printers** / **Brother** / **Utilities**.

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 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. Brother 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 100.

4 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, select **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).
- If you have tried 1 to 4 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 100.
- (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 *For Windows*[®] on page 113.

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.

- 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).
 - If a successful response is received, then proceed to Windows[®] 2000/XP, Windows Vista[™] and 2 Windows Server[®] 2003 IPP troubleshooting. Otherwise, proceed to **4**.
 - For Macintosh[®]
 - 1 From the Go menu, select 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) If you have tried 1 to 3 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 100.

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, 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, 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, Windows Vista[™] and Windows Server[®] 2003 to use Port 80 to communicate with the Brother print server.

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

- 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[®] and Safari™ 1.0 for Macintosh[®]. Please also make sure that JavaScript and Cookies are always enabled in whichever browser you use. We recommend you upgrade to Safari™ 1.2 or greater to enable JavaScript.

Wireless network troubleshooting

Wireless setup problems

The Brother print server is not found during setup using the Brother installer application on the CD-ROM.

- Make sure that the printer is powered on, is on-line and ready to print.
- 2 Move your machine closer to the wireless access point / router and try again.
- 3 Reset the print server back to its default factory settings and try again. For the information how to reset to the factory default settings, see *Restoring the network settings to factory default* on page 100.

Why do I have to change my printer's network setting to "Wired LAN" during setup although I am trying to setup Wireless LAN?

If you are using Windows[®] 2000, Mac OS[®] X 10.2.4 or greater or your computer is connected to the wireless network using a network cable, it is recommended you temporarily connect the printer to your access point / router, hub or router using a network cable. You will also need to change your printer's network setting to wired LAN temporarily. Your printer's network setting will be changed to wireless LAN automatically or during the course of the setup.

For Windows[®]:

Configuration in Infrastructure mode on page 24 *Configuration using the automatic wireless (one-push) method* on page 31 *Configuration in Ad-hoc mode* on page 36

For Macintosh[®]:

Configuration in Infrastructure mode on page 47 *Configuration using the automatic wireless (one-push) method* on page 54 *Configuration in Ad-hoc mode* on page 59

Wireless connection problem

The wireless network connection is sometimes disabled.

The wireless network connection status is affected by the environment where the Brother printer and other wireless devices are located. The following conditions may cause connection problems:

- A concrete or metal framed wall is installed between the Brother machine and the access point / router.
- Electric appliances such as televisions, computer appliances, microwave ovens, intercoms, mobile/cellular phones and the battery chargers and AC power adapters are installed close to your network.
- A broadcast station or high-tension wire is located close to your network.
- A fluorescent light is being switching ON or OFF.

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, 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 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 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".

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🖉 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:

```
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 printer is powered on.

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

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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 169.254.10 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 12.

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 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:

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
```



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 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 cannot use the ARP command again to change the address. The print server will

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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 255.255.0

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

A

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 IIS¹, 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.

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

Please visit http://solutions.brother.com to learn more about this software and to download it.

¹ Internet Information Server 4.0 or Internet Information Services 5.0 / 5.1 / 6.0 / 7.0

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



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.

- Click Start, then choose Network.
 - 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 the Brother machine is your model name and the Ethernet address of your machine (e.g. Brother HL-XXXX series [XXXXXXXXXX]).

3 From the pull down menu, click **Install**.

- 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 Brother 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 \ eng \ 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.
Ins	stalling 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.
4	Click Network cable users.
	Note
	For Windows Vista™, 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.



Setup is now complete.

Print server specifications

Ethernet wired network

B

Network node type	NC-6600h			
Operating system support		Windows [®] 2000/XP, Windows [®] XP Professional x64 Edition, Windows Vista™, Windows Server [®] 2003, 2003 x64 Edition, Mac OS [®] X 10.2.4 or greater		
Net Cus POI HTT		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	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, Windows Vista™ and Windows Server [®] 2003 TCP/IP printing			
	Mac OS [®] X 10.2.4 or greater printing			

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

B

Ethernet wireless network

Network node type	NC-7400w			
Operating system support	Windows [®] 2000/XP, Windows [®] XP Professional x64 Edition, Windows Vista [™] , Windows Server [®] 2003, 2003 x64 Edition, Mac OS [®] X 10.2.4 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, 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	IEEE 802.11b/g wireless			
Frequency	2412-2472 MHz			
RF channels	US/Canada	1-11		
	Europe/Oceania	1-13		
	Japan	802.11b: 1-14, 802.11g: 1-13		
Communication mode	Infrastructure, Ad-hoc (802.11b only)			
Data rates	802.11b	11/5.5/2/1 Mbps		
	802.11g	11g 54/48/36/24/18/12/11/9/6/5.5/2/1 Mbps		
Link distance	70 m (233 ft.) at lowest data rate (The distance rate will vary upon environment and other equipment location.)			
Network security	SSID/ESSID, 128 (104) / 64 (40) bit WEP, WPA/WPA2-PSK (TKIP/AES), LEAP (CKIP)			
Network printing	Windows [®] 2000/XP, Windows Vista [™] and Windows Server [®] 2003 TCP/IP printing			
	Mac OS [®] X 10.2.4 or greater printing			

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

Computer requirements

Computer Platform & Operating System Version		Processor Minimum Speed	Minimum RAM	Recomm ended RAM	Hard Disk Space to install
Windows [®]	Windows [®] 2000 Professional	Intel [®] Pentium [®] II or equivalent	64 MB	256 MB	50 MB
Operating System	Windows [®] XP Home Edition		128 MB		
oyotom	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 Server [®] 2003	Intel [®] Pentium [®] III or equivalent	256 MB	512 MB	
	Windows Server [®] 2003 x64 Edition	64-bit (Intel [®] 64 or AMD64) supported CPU			
Macintosh [®] Operating System ¹	Mac OS [®] X 10.2.4 - 10.4.3	PowerPC G4/G5 PowerPC G3 350MHz	128 MB	256 MB	80 MB
	Mac OS [®] X 10.4.4 or greater	PowerPC G4/G5 Intel [®] Core™ Processor	512 MB	1 GB]

¹ Third party USB ports are not supported.

Management utilities

BRAdmin Light	Windows [®] 2000/XP/XP Professional x64 Edition, Windows Vista™, Windows Server [®] 2003/2003 x64 Edition	
	Mac OS [®] X 10.2.4 or greater	
BRAdmin Professional ¹	Windows [®] 2000/XP/XP Professional x64 Edition, Windows Vista™, Windows Server [®] 2003/2003 x64 Edition	
Web BRAdmin ¹	Windows NT [®] 4.0, Windows [®] 2000 Professional / Server / Advanced Server, Windows [®] XP Professional/XP Professional x64 Edition, Windows Vista [™] , Windows Server [®] 2003/2003 x64 Edition	

¹ BRAdmin Professional and Web BRAdmin are available as a download from <u>http://solutions.brother.com</u>

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