

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

NETWORK USER'S GUIDE

Please read this manual thoroughly before using this machine on your network. You can print or view this manual from the CD-ROM at any time, please keep the CD-ROM in a convenient place for quick and easy reference at all times.

The Brother Solutions Center (<u>http://solutions.brother.com</u>) is your one stop resource for all your printing needs. Download the latest drivers and utilities for your machine, read FAQs and troubleshooting tips or learn about special printing solutions.

Definitions of warnings, cautions, and notes

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



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

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- 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. Go to the Brother Solutions Center (<u>http://solutions.brother.com</u>) for more information on Windows[®] XP Professional x64 Edition support.

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

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	Brother International Corporation
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Internet addresses

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

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Overview

The Brother machine can be shared on a 10/100 MB wired Ethernet network using the internal network print server. The print server supports various functions and methods of connection depending on the operating system you are running on a network supporting TCP/IP. These functions include printing, scanning, PC-FAX send, PC-FAX receive, PhotoCapture Center[™], Remote Setup and Status Monitor. The following chart shows what network features and connections are supported by each operating system.

Operating Systems	10/100 BASE-TX Wired Ethernet (TCP/IP)	IEEE 802.11b/g Wireless Ethernet (TCP/IP)	Printing	Scanning	PC-Fax Send ¹	PC-FAX Receive ¹	Photo Capture Center™	Remote Setup ¹	Status Monitor
Windows [®] 98/98SE/Me/ 2000/XP /XP Professional x64 Edition ²	V	v	v	V	v	v	v	v	2
Mac OS [®] X 10.2.4 or greater	v	v	v	v	v		v	v	~

¹ Not available for DCP models.

² A wireless network connection is supported only between the Brother machine and an access point for PC's running Windows[®] XP Professional x64 Edition.

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

For Wireless Users:

To achieve optimum results with normal every day document printing, place the Brother machine 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.

Network function features

Your Brother machine has the following basic network functions.

Network printing

The print server provides printing services for Windows[®] 98/98SE/Me/2000/XP/XP Professional x64 Edition supporting the TCP/IP protocols and Macintosh[®] supporting TCP/IP (Mac OS[®] X 10.2.4 or greater).

Network scanning

You can scan documents over the network to your computer (See Network Scanning in the Software User's Guide).

Network PC-FAX (Not available for DCP models)

You can directly send a PC file as a PC-FAX over your network (See Brother PC-FAX Software for Windows[®] and Sending a Fax for Macintosh[®] in the Software User's Guide for a complete description). Windows[®] users can also PC-FAX receive (See PC-FAX receiving in the Software User's Guide).

Network PhotoCapture Center™

You can view, retrieve and save data from a media card inserted into the Brother machine. For Windows[®], double click the Network PhotoCapture Center[™] icon on the desktop of your PC. The software is automatically installed when you select network connection during the software installation. For Macintosh[®], launch any web browser in which FTP is available and enter FTP://xxx.xxx.xxx (where xxx.xxx.xxx is the IP address of your Brother machine).

Management utility

BRAdmin Professional (for Windows[®])

The BRAdmin Professional utility provides powerful, easy to use configuration and management of fax and network settings.

BRAdmin Light (for Mac OS[®] X 10.2.4 or greater)

BRAdmin Light is a utility for viewing machine status and configuring network settings from a computer running Mac OS[®] X 10.2.4 or greater.

Remote Setup (Not available for DCP models)

The Remote Setup software allows you to configure network settings from a Windows[®] or Macintosh[®] (Mac OS[®] X 10.2.4 or greater). (See Remote Setup for Windows[®] and Remote Setup & PhotoCapture Center[™] for Macintosh[®] in the Software User's Guide).

Types of Network Connections

Network Connection Example

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 Switch or Router

2 Network printer (your machine)

- 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 5.
- Each computer must use the TCP/IP Protocol.
- The Brother machine needs an appropriate IP address configuration.
- If you are using a router, the Gateway address must be configured on the computers and the Brother machine.

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 Network printer (your machine)
- 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 machine needs an appropriate IP address configuration unless the machine is shared via the parallel port or USB port of the server.

Wireless network connection example

Connected to a wireless capable 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 machine (your machine) is part of this network, it receives all print jobs via an access point.



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 machine (your machine) is part of this network, it receives all print jobs directly from the computer sending the print data.



An access point is in the network, but the computer is not wireless capable

This type of network has a central access point at the heart of the network. The access point is connected to a computer which is not wireless capable with an Ethenet cable. When the Brother wireless machine (your machine) is a part of this network, it receives all print jobs via an access point.



Protocols

TCP/IP protocols and functions

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) protocols.

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.

DHCP/BOOTP/RARP

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

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

APIPA

If you do not assign an IP address manually (using the control panel of the machine or the BRAdmin software) or automatically (using a DHCP/BOOTP/RARP server), the Automatic Private IP Addressing (APIPA) protocol will automatically assign an IP address from the range 169.254.10 to 169.254.254.255.

DNS client

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

LPR/LPD

Commonly used printing protocols on a TCP/IP network.

Port9100

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

mDNS

mDNS allows the Brother print server to automatically configure itself to work in a Mac OS[®] X Simple Network Configured system. (Mac OS[®] X 10.2.4 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, routers and Brother network ready machines.

2

Configuring your machine for a network with an Ethernet cable connection

Overview

Before you can use your Brother machine on your network, you need to install the Brother software and also configure the appropriate TCP/IP network settings on the machine itself. To do this, we recommend that you use the automatic installer on the Brother CD-ROM as this will guide you through the software and network installation.

If you do not wish to use the automatic installer, or you do not understand some of the terms used by the automatic installer, refer to the remainder of this chapter for more information.



If you do not wish to, or are unable to use the automatic installer or any of Brother's software tools, you can also use the machine's control panel to change network settings. For more information, see *Control panel setup* on page 70.

IP addresses, subnet masks and gateways

To use the machine in a networked TCP/IP environment, you need to configure its 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 device 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 number.

192.168.1.<u>1</u>, 192.168.1.<u>2</u>, 192.168.1.<u>3</u>

If you have a DHCP/BOOTP/RARP server in your network (typically a UNIX[®]/Linux or Windows[®] 2000/XP network) the print server will automatically obtain its IP address from that server.

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 100, Using BOOTP to configure the IP address on page 100 and Using RARP to configure the IP address on page 101.

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 101.

If the APIPA protocol is disabled, the default 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 11.

Subnet mask

Subnet masks restrict network communication.

Example: PC1 can talk to PC2

```
PC1
IP Address: 192.168.1.2
Subnet Mask: 255.255.255.0
PC2
```

IP Address: 192.168.1.3 Subnet Mask: 255.255.255.0

```
🖉 Note
```

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

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

Gateway (and router)

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

Setting the IP address and subnet mask

Using the BRAdmin Professional utility and the TCP/IP protocol to configure your network printer (for Windows[®])

BRAdmin Professional utility

The BRAdmin Professional utility is designed to allow you to manage your network connected Brother machines in a TCP/IP environment.

How to configure your machine using the BRAdmin Professional utility

🖉 Note

- Please use the BRAdmin Professional utility that was supplied on the CD-ROM of your Brother product. You can also download the latest Brother BRAdmin Professional utility from http://solutions.brother.com. This utility is only available for Windows[®] users.
- If you are using Personal Firewall software (e.g. the Internet Connection Firewall available in Windows[®] XP), disable it. Once you are sure that you can print, re-start your Personal Firewall software.
- Node name: Node name appears in current BRAdmin Professional window. The default Node name is "BRN_xxxxxx" ("xxxxxx" is the last six digits of Ethernet address.).
- For other models, no password is required by default. To set a password, double click the device you want to set a password. Click **Control** tab, and then click **Change Password**. Enter the new password.
- Start the BRAdmin Professional utility (from Windows[®] 98/98SE/Me/2000/XP/XP Professional x64 Edition), by clicking Start / Programs / Brother Administrator Utilities / Brother BRAdmin Professional Utilities / BRAdmin Professional.
- 2 Select **TCP/IP** in the left frame of the main BRAdmin window.
- 3 Select **Search Active Devices** from the **Devices** menu. BRAdmin Professional will search for new devices automatically.

🗱 pservers.psl - BF	Admin Professional					
File Devices Control	View Help					
A S 😏 🛞 😫	10 3 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8 🚭				
Filters	Node Name	Log	Node Address		Printer Status	~
TCP/IP	<u></u>		10.148.40.150		SLEEP	
🔤 😥 IPX/SPX	BRN_22054C		10.148.100.88		SLEEP	
	BRN_220DB8		10.148.150.25		SLEEP	
	BRN_220FB5		10.148.40.177		SLEEP	
	BRN_221002		10.148.100.17		READY	
	BRN_224161		10.148.40.193		SLEEP	1
	<					>
or help, press F1				Devices: 32	Unconfigured: 0	

🖉 Note

- If the print server is set to its factory default settings without using a DHCP/BOOTP/RARP server, the device will appear as an APIPA device in the BRAdmin Professional utility screen.
- You can find the node name and Ethernet address by printing the Network Configuration List. See *Printing the Network Configuration List* on page 81 for information on how to print the Network Configuration List on your print server.
- 4 Double click the unconfigured device.
- 5 Enter the **IP address**, **Subnet Mask** and **Gateway** (if needed) of your print server.
- 6 Click OK.
- 7 With the correctly programmed IP address, you will see the Brother print server in the device list.

Using the control panel to configure your machine for a network

You can configure your machine for a network using the control panel LAN menu. See *Control panel setup* on page 70.

Using other methods to configure your machine for a network

You can configure your machine for a network using other methods. See Other ways to set the IP address (for advanced users and administrators) on page 100.

Changing the print server settings

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

Start the BRAdmin Professional utility (from Windows[®] 98/98SE/Me/2000/XP), by clicking Start / Programs / Brother Administrator Utilities / Brother BRAdmin Professional Utilities / BRAdmin Professional.

- 2 Select **TCP/IP** in the left frame of the main BRAdmin window.
- **3** Select the print server which you want to configure, in the right frame of the main BRAdmin window.
- 4 Select Configure Print Server from the Control menu.
- 5 Enter a password if you have set it.

🖉 Note

By default, no password is required to change the print server settings. You can set a password to change the print server settings. Double click the device you want to set a password. Click **Control** tab, and then click **Change Password**. Enter the new password.

6 You can now change the print server settings.

Using the control panel to change the print server settings

You can configure and change the print server settings using the control panel LAN menu. See *Control panel setup* on page 70.

Using the Remote Setup to change the print server settings (for Windows[®] and Mac OS[®] X 10.2.4 or greater) (Not available for DCP models)

Remote Setup for Windows[®]

The Remote Setup application allows you to configure network settings from a Windows[®] application. When you access this application, the settings on your machine will be downloaded automatically to your PC and displayed on your PC screen. If you change the settings, you can upload them directly to the machine.

- Click the Start button, All Programs, Brother, MFC-XXXX LAN, then Remote Setup (where XXXX is your model name).
- 2 Click TCP/IP (Wired) or Setup Misc.
- You can now change the print server settings.

Remote Setup for Macintosh®

The Remote Setup application allows you to configure many MFC settings from a Macintosh[®] application. When you access this application, the settings on your machine will be downloaded automatically to your Macintosh[®] and displayed on your Macintosh[®] screen. If you change the settings, you can upload them directly to the machine.

- 1 Double click the Macintosh HD icon on your desktop, Library, Printers, Brother, then Utilities.
- 2 Double click the **Remote Setup** icon.
- 3 Click TCP/IP (Wired) or Setup Misc.
- 4 You can now change the print server settings.

3

Configuring your machine for a wireless network

Overview

To connect your machine to your wireless network, you need to follow the steps in the Quick Setup Guide. We recommend that you use the Setup Wizard from the machine's control panel LAN menu. By using this method, you can easily connect your machine to your wireless network. Please follow the instructions in the supplied Quick Setup Guide.

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 11. Then, in *Network printing from Windows*[®] basic TCP/IP Peer-to-Peer printing on page 87 and *Network printing from a*

Macintosh[®] on page 89, you will learn how to install the network software and drivers into the operating system running on your computer.

Confirm your network environment

Wireless network connection example

Connected to a wireless capable 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 machine (your machine) is part of this network, it receives all print jobs via an access point.



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 machine (your machine) is part of this network, it receives all print jobs directly from the computer sending the print data.



An access point is in the network, but the computer is not wireless capable

This type of network has a central access point at the heart of the network. The access point is connected to a computer which is not wireless capable with the Ethenet cable. When the Brother wireless machine (your machine) is a part of this network, it receives all print jobs via an access point.



Confirm your network environment

The setup process will be different depending on your network environment

Configuration using SecureEasySetup™.

If your wireless access point(A) supports SecureEasySetup[™], you do not need to use a computer to configure the printer. The access point (router) and your machine can automatically negotiate using the SecureEasySetup[™] procedure.



Configuration temporarily using a network cable

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



Configuration using a wireless computer.

If your computer has wireless capability, you will need to change the wireless settings of the computer to Adhoc mode so you can directly connect and configure the machine.



Wireless network terms and concepts

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

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. When configuring your Brother device to work in a wireless network, you must set it to the channel that is used on the wireless network that you are connecting to. 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 107.

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 machine 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 machine 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 machine to associate with access points using TKIP for WPA-PSK or AES for WPA-PSK and WPA2-PSK encryption (WPA-Personal).

Encryption methods

Encryption is used to secure the data that is sent over the wireless network. The Brother machine 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.

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 datae.g. "71f2234ab56cd709e5412aa2ba"

WPA-PSK/WPA2-PSK and TKIP or AES

Uses a Pre-Shared Key (PSK) that is more than 7 and less than 64 characters in length.

Configuring your machine for a wireless network

There are three methods to configure your wireless network machine; by using the machine control panel (recommended), using the SecureEasySetup[™] software and using the automatic installer application on the CD-ROM.

Using the Setup Wizard from the control panel

You can configure your print server by using the Setup Wizard function. This is located in the LAN menu on the machine's control panel. See to the steps below for further information.



Configuring your machine for a wireless network

8 After a few tens of seconds, you can select the SSID from the list using \blacktriangle or \checkmark . Press **OK** to select the SSID. If you select the SSID displayed, go to f. If you want to add a new SSID, go to (9). 9 Select <New SSID> using ▲ or ▼. Press OK. Go to (1). D Enter the SSID. (For information how to type text, see *Entering Text* on page 112.) Press OK. Go to (11) Using \blacktriangle or ∇ , select Infrastructure when instructed. Press OK. Go to (2) If you select Ad-hoc, go to (3). 12 Select the Authentication method using \blacktriangle or ∇ , and press **OK**. If you select Open System, go to (3). If you select Shared Key, go to (). If you select WPA/WPA2-PSK, go to (). Select the Encryption type, None or WEP using \blacktriangle or ∇ , and press OK. If you select None, go to (). If you select WEP, go to (). (14) Select the key option; KEY1, KEY2, KEY3, KEY4 using \blacktriangle or \triangledown , and press OK. If you select the key which shows *********, go to (). If you select a blank key, go to (6). 15 If you want to change the key you selected in @, press ▲ or ▼ to select Change. Press OK. Go to @. If you want to keep the key you selected in (2), press \blacktriangle or \checkmark to select Keep. Press **OK**. Go to (2). **(16)** Enter a new WEP key. Press **OK**. Go to **(19)**. (To manually enter the text, see *Entering Text* on page 112) 17 Select the Encryption type, TKIP or AES using \blacktriangle or \triangledown . Press OK. Go to (B). 18 Enter the password and press **OK**. Go to **(1)**. (To manually enter the text, see *Entering Text* on page 112) 19 The following will be displayed. To apply the settings, select Yes. To cancel, select No. If you select Yes, go to 2. If you select No, go back to (8). 20 The machine starts to connect to the wireless device you have selected. 2) If your wireless device is connected successfully, the display shows Connected for 2 seconds and configuration is completed. If the connection failed, the display shows Connection Error for 2 seconds. See Wireless network troubleshooting on page 99.

Using the SecureEasySetup[™] software to configure your machine for a wireless network

The SecureEasySetup[™] software allows you to configure the wireless network easier than configuring it manually. By pushing a button on the wireless router or access point, you can complete setup and secure the wireless network. Your router or access point must also support SecureEasySetup[™]. See the user's guide for your wireless LAN router or access point for instructions to configure your machine for a wireless network.

🖉 Note

Routers or access points that support SecureEasySetup[™] have the SecureEasySetup[™] symbol as shown below.



- Push the SecureEasySetup[™] button on your wireless router or access point. See the user's guide for your wireless router or access point for instructions.
- 2 Press **Menu** on the control panel of the Brother machine.
- 3 Press ▲ or ▼ to select LAN. Press OK.
- Press ▲ or ▼ to select Setup WLAN. Press OK.
- 5 Press ▲ or ▼ to select SecurEasySetup. Press OK.

6 The wireless network connection status using the SecureEasySetup™ software will be displayed; Connecting WLAN, Connected **or** Connection Error.

Connecting WLAN is displayed when the print server is trying to make connections to your router or access point. Wait till either Connected or Connection Error is displayed.

Connected is displayed when the print server is successfully connected to your router or access point. You can now use your machine in a wireless network.

Connection Error is displayed when the print server has not successfully connected to your router or access point. Try starting from ① again. If the same message is displayed again, reset the print server back to the default factory settings and try again.

Using the Brother automatic installer application in the CD-ROM to configure your machine for a wireless network

See Wireless Configuration for Windows® on page 26 and Wireless Configuration for

Macintosh[®] on page 50 for information on how to use the Brother automatic installer application in the CD-ROM we have provided with the machine.

Changing the print server settings

Once you have configured your machine for a wireless network, you can change the wireless settings using the BRAdmin Professional utility, the Remote Setup software or the control panel on the front of the Brother machine.

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

Note

- Please use the BRAdmin Professional utility version that was supplied on the CD-ROM with your Brother product. You can also download the latest Brother BRAdmin Professional utility version from <u>http://solutions.brother.com</u>. This utility is only available for Windows[®] users.
- If you are using Personal Firewall software (e.g. the Internet Connection Firewall available in Windows[®] XP), disable it. Once you are sure that you can print, re-start your Personal Firewall software.
- Node name: Node name appears in current BRAdmin Professional window. The default Node name is "BRN_XXXXX" or "BRW_XXXXX" ("XXXXXX" is the last six digits of Ethernet address.).
- Start the BRAdmin Professional utility (from Windows[®] 98/98SE/Me/2000/XP), by clicking Start / Programs / Brother Administrator Utilities / Brother BRAdmin Professional Utilities / BRAdmin Professional.

File Devices Control	View Help			
🍕 🛞 🤧 🔗 🐒	2 16 🕏 🕹 🗳 🗐 🖗 客 🥵			
Filters	Node Name Log	Node Address	Printer Status	
TCP/IP	<u></u>	10.148.40.150	SLEEP	
🔤 😥 IPX/SPX	BRN_22054C	10.148.100.88	SLEEP	Į
	BRN_220DB8	10.148.150.25	SLEEP	
	SBRN_220FB5	10.148.40.177	SLEEP	
	BRN_221002	10.148.100.17	READY	
	BRN_224161	10.148.40.193	SLEEP	
	<			>
For help, press F1		Device	s: 32 Unconfigured: 0	

- 2 Select TCP/IP in the left frame of the main BRAdmin window.
- 3 Select the print server which you want to configure, in the right frame of the main BRAdmin window.
- 4 Select Configure Wireless Setting from the Control menu.
- 5 Enter a password if you have set it.

🖉 Note

By default, no password is required to change the print server settings. You can set a password to change the print server settings. Double click the device you want to set a password. Click **Control** tab, and then click **Change Password**. Enter the new password.

- 6 You can now change the wireless 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** above) by printing out the Network Configuration List. See *Printing the Network Configuration List* on page 81 for information on how to print the Network Configuration List on your print server.

Using the control panel to change the print server settings

You can configure and change the print server settings using the control panel LAN menu. See *Control panel setup* on page 70.

Using other methods to configure your machine for a wireless network

You can configure your machine for a wireless network using other methods. See Other ways to set the IP address (for advanced users and administrators) on page 100.

Using the Remote Setup to change the print server settings (Not available for DCP models)

Remote Setup for Windows[®]

The Remote Setup application allows you to configure network settings from a Windows[®] computer. When you access this application, the settings on your machine will be downloaded automatically to your PC and displayed on your PC screen. If you change the settings, you can upload them directly to the machine.

- Click the Start button, All Programs, Brother, MFC-XXXX LAN, then Remote Setup (where XXXX is your model name).
- 2 Enter a password if you have set it.
- 3 Click TCP/IP (WLAN).
- 4 You can now change the print server settings.

Remote Setup for Macintosh®

The Remote Setup application allows you to configure many MFC settings from a Macintosh[®]. When you access this application, the settings on your machine will be downloaded automatically to your Macintosh[®] and displayed on your Macintosh[®] screen. If you change the settings, you can upload them directly to the machine.

- 1 Double click the Macintosh HD icon on your desktop, Library, Printers, Brother, then Utilities.
- 2 Double click the **Remote Setup** icon.
- 3 Enter a password if you have set it.
- 4 Click TCP/IP (WLAN).
- 5 You can now change the print server settings.

Wireless Configuration for Windows[®]

Configuration in Infrastructure mode

For Windows[®] 98/98SE/Me/2000 Professional/XP/XP Professional x64 Edition

IMPORTANT

If you have previously configured the wireless settings of the machine, you must reset the network LAN settings before you can configure the wireless settings again. Press Menu, ▲ or ▼ for Factory Reset and select Yes to accept the change. The machine will restart automatically.

Turn on the machine by plugging in the power cord.



Turn on your computer.

(For Windows[®] 2000, XP and XP Professional x64 Edition, you must be logged on with Administrator rights.)

🖉 Note

- Before configuration, if you are using personal firewall software, disable it. Once you are sure that you can print after the installation, restart your personal firewall software.
- A wireless network connection is supported only between the Brother machine and an access point for PC's running Windows[®] XP Professional x64 Edition.
- 3 Put the supplied CD-ROM into your CD-ROM drive. If the model name screen appears, choose your machine. If the language screen appears, choose your language.

4 The CD-ROM main menu will appear. Click Install Other Drivers or Utilities.



Note

If this window does not appear, use Windows[®] Explorer to run the setup.exe program from the root folder of the Brother CD-ROM.

5 Click Wireless LAN Setup Wizard.

nstall Other Drivers or Utilities	\sim
MEL-Pro Suite without PanerPort® SE	
Wireless LAN Setup Wizard	
Printer Driver (Only)	
BRAdmin Professional	
Driver Deployment Wizard	

6 Choose Manual and then click Next.



For configuration, it is recommended that you temporarily connect your Brother wireless device directly to a free port on your access point, hub or router using a network cable.

If you can temporarily connect with a network cable:

Choose I'm able to temporarily connect my device to my access point with a network cable and then click Next.

Go to 8.

If you do not have a network cable or cannot temporarily connect the Brother wireless device to your access point:

Choose I'm not able to connect my device to my access point with a network cable and then click Next.

Go to 🛈.



Read the **Important Notice** and click **Next**.



9 Connect the Brother wireless device to your access point using a network cable and click Next. Go to @




If you choose This PC has wireless capability., check I am using an access point in infrastructure mode, and then click Next. Go to



If you are using a wired computer, choose

This PC uses a network cable to connect to the wireless network., you must configure the wireless settings from the control panel. Click **Next** and follow the on-screen instructions to complete the setup. See *Using the Setup Wizard from the control panel* on page 20.



Read the Important Notice and click Next.



12 You need to temporarily change your PC's wireless settings. Please follow the on-screen instructions. Please make sure you take notes on all the settings such as SSID or channel of your PC. You will need them to return your PC back to its original wireless settings.



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)	
Encryption:(None/WEP/WPA/ WPA2-PSK)	
Encryption key:	

13 To communicate with the un-configured wireless machine, temporarily change the wireless settings on your PC to match machine's default settings shown on this screen. Click **Next**.



- If a message to restart your PC appears after the wireless settings have been changed, restart your PC and then go back to step 4 and continue with the install skipping steps 11, 12 and 13.
- For Windows® XP SP2 usersYou can temporarily change the wireless settings on your PC, following the steps below:
 - 1 Click Start and then Control Panel.
 - 2 Click Network Connections icon.
 - 3 Select and right click Wireless Network Connection. Click View Available Wireless Networks.
 - 4 You can see the Brother wireless machine in the list. Select **SETUP** and click **Connect**.
 - **5** 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).
- 14 The following list appears. If the list is blank, check if the access point and the machine are powered on, and then click **Refresh**. Choose the machine you wish to configure, and click **Next**.

Wireless Device Setup Wizard				
Available Wireless Devices				
More than one Wireless Device was found. Select the device you wish to configure and click "Next".				
Nada Nama IID Address I MAC Address Drinter Nama I Leastion				
BRN_XXXXXX 192.0.0.192 XXXXXXXXXXXXXXXXXXXXXXXXXX Anywhere				
BRN_2000000 192.0.0.192 200000000000 2000-2000000 Anywhere				
Refresh Important Notice: If no devices appear and you're running a personal firewall. Plandisable the firewall and click the Refresh button to re-sear wireless network. Help < Back				

🖉 Note

The Default Node name of the NC-xxxx (where "xxxx" is your model name) is "BRW_xxxxx" (where "xxxxxx" is the last six digits of Ethernet address).

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

Wireless Device Setup	Wizard			
Available Wirel	ess Networ	'ks		ெ
Choose the access po	int or Ad-hoc net	work that the Device	e will be associate	ed with.
Name (SSID)	Channel	Wireless Mode	Sig	nal
BING SETUP	1	802.11b/g (11Mb	ops/54Mbps) 🚥	
III III III HELLO2	2	802.11g (54Mbp	s) 💻	
<u>R</u> efresh			ess Point / ⊏n) (∾⊑ e Station	⊐ Ad-hoc Network
Add		oint or Ad-hoc netw on to manually spec		
Help	(< <u>B</u> ack	<u>N</u> ext >	Cancel

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

Wireless Device Setup Wizard	
Wireless Network Name	(((@P)
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 netv	work and there is no access point.
<u>C</u> hannel	1
Help	< Back Next > Cancel

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



If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless machine, 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 click Next.

Wireless Device Setup Wizard				
Authentication Method and En Mode	cryption			
Configure the Authentication Method and Enc	ryption mode			
Name (SSID) :	WLAN			
Authentication Method	Open System 💌			
Encryption Mode	WEP			
Network <u>K</u> ey	•••••			
Confirm Network Key	•••••			
Advanced				
<u>H</u> elp	Eack Next > Cancel			

- If you want to set more than one WEP key, click Advanced.
- If you do not know the Authentication or Encryption settings for network, contact your network administrator.

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



Note

- If you want to manually enter the IP address settings of your machine, click Change IP Address and enter the necessary IP address settings for your network. After making your selection, click Next and the Wizard will search for available wireless networks.
- The control panel settings will be automatically changed to WLAN when the wireless settings are sent to your machine.

19 Disconnect the network cable between your access point (hub or router) and the machine, and click Next.



20 Using the information you recorded in (2), return the wireless settings of your computer back to their original settings. Click **Next**.



21 You have completed the wireless setup. Click **Finish**. If you would like to continue installing drivers and software necessary for operating your device, please select **Install MFL-Pro Suite** from CD-ROM menu.

Wireless Device Setup Wizard
Important Notice
Please confirm below before clicking "Finish".
If you would like to continue installing the drivers and software necessary for operating your device, please press "Finish" to get back to the main menu and select "Install MFL-Pro Suite".
Checked and confirmed
< Back Fridh Cancel

Configuration with an access point that supports SecureEasySetup™

For Windows[®] 98/98SE/Me/2000/XP/XP Professional x64 Edition

IMPORTANT

If you have previously configured the wireless settings of the machine, you must reset the network LAN settings before you can configure the wireless settings again. Press Menu, ▲ or ▼ for Factory Reset and select Yes to accept the change. The machine will restart automatically.

1 Turn on the machine by plugging in the power cord.



- Before configuration, if you are using personal firewall software, disable it. Once you are sure that you can print after the installation, restart your personal firewall software.
- A wireless network connection is supported only between the Brother machine and an access point for PC's running Windows[®] XP Professional x64 Edition.
- 3 Put the supplied CD-ROM into your CD-ROM drive. If the model name screen appears, choose your machine. If the language screen appears, choose your language.



4 The CD-ROM main menu will appear. Click Install Other Drivers or Utilities.



Note

If this window does not appear, use Windows[®] Explorer to run the setup.exe program from the root folder of the Brother CD-ROM.

5 Click Wireless LAN Setup Wizard.

Top Menu >> Install Other Drivers or Utilities	+ j Exit
Install Other Drivers or Utilities	\bigwedge
MEL-Pro Suite without PanerPort® SE	
Wireless LAN Setup Wizard	
Printer Driver (Only)	י
BRAdmin Professional	
Driver Deployment Wizard	

Choose

I'd like to use the SecureEasySetup™ function of my access point to configure my wireless dev ice. and click Next.



Read the Important Notice and click Next.



B Ensure the on-screen message and click **Next**.

Wireless Device Setup Wizard	
Setting Up with SecureEasySetup™	(((CP)
If your access point supports SecureEasySetup™ Please ensure the following:	
1. Your wireless access point supports SecureEasySetup™.	Secure Easy Setup
You have access to the documentation supplied with the access point and your device.	
Help C Back	Next > Cancel

9 Refer to the instruction manual that came with your access point to set the SecureEasySetup™ mode of your access point.

10 Put the machine in SecureEasySetup™ mode.

Press Menu, \blacktriangle or \lor for LAN and press OK. Press \blacktriangle or \lor for Setup WLAN and then press OK. Press \blacklozenge or \lor for SecureEasySetup and press OK.

🖉 Note

If the LCD shows Connection Error, please try again.

1 Click Finish.



12 The configuration is finished. Relocate the machine to a location that is within range of your access point. You have completed the wireless setup. If you would like to continue installing drivers and software necessary for operating your device, please select **Install MFL-Pro Suite** from CD-ROM menu.

Configuration in Ad-hoc Mode

For Windows[®] 98/98SE/Me/2000 Professional/XP

IMPORTANT

If you have previously configured the wireless settings of the machine, you must reset the network LAN settings before you can configure the wireless settings again. Press **Menu**, \blacktriangle or \triangledown for Factory Reset and select Yes to accept the change. The machine will restart automatically.

Turn on the machine by plugging in the power cord.



2 Turn on your computer.

(For Windows[®] 2000 Professional/XP, you must be logged on with Administrator rights.)

Note

Before configuration, if you are using personal firewall software, disable it. Once you are sure that you can print after the installation, restart your personal firewall software.

3 Put the supplied CD-ROM into your CD-ROM drive. If the model name screen appears, choose your machine. If the language screen appears, choose your language.

4 The CD-ROM main menu will appear. Click Install Other Drivers or Utilities.



Note

If this window does not appear, use Windows[®] Explorer to run the setup.exe program from the root folder of the Brother CD-ROM.

5 Click Wireless LAN Setup Wizard.

Top Mer	DU >> Install Other Drivers or Utilities	→
	stall Other Drivers or Utilities	\bigwedge
	MEL-Pro Suite without PanerPort® SE	
	Wireless LAN Setup Wizard	
٩	Printer Driver (Unity)	
	BRAdmin Professional	
	Driver Deployment Wizard	

6 Choose Manual and then click Next.



Choose I'm not able to connect my device to my access point with a network cable. Click Next.



8 Choose This PC has wireless capability, and make sure I am using an access point in infrastructure mode is not checked. Click Next.



9 Read the **Important Notice** and click **Next**.



10 You need to temporarily change your PC's wireless settings. Please follow the on-screen instructions. Please make sure you take notes on all the settings such as SSID or channel of your PC. You will need them to return your PC back to its original wireless settings.



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)	
Encryption:(None/WEP/WPA/ WPA2-PSK)	
Encryption key:	

1 To communicate with the un-configured wireless machine, temporarily change the wireless settings on your PC to match machine's default settings shown on this screen. Click**Next**.



Note

- If a message to restart your PC appears after the wireless settings have been changed, restart your PC and then go back to step 4 and continue with the install skipping steps 9, 10 and 11.
- For Windows® XP SP2 usersYou can temporarily change the wireless settings on your PC, following the steps below:
 - 1 Click Start and then Control Panel.
 - 2 Click Network Connections icon.
 - 3 Select and right click Wireless Network Connection. Click View Available Wireless Networks.
 - 4 You can see the Brother wireless machine in the list. Select **SETUP** and click **Connect**.
 - **5** 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).

12 The following list appears. If the list is blank, check if the machine is powered on, and then click **Refresh**. Choose the machine you wish to configure, and click **Next**.

eless Device Set	up Wizard			
vailable Wi	reless Dev	vices		ى اا
	eless Device wa rou wish to conf	as found. igure and click "Ne	ext".	
Niede Niewe	In a state of a	A A A A A A A A A A A A A A A A A A A	Middae No.	1.
BRN_XXXXXX	192.0.0.192	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	XXX-XXXXXX	Anywhere
BRN_XXXXXXX	192.0.0.192	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	X0X-X0000X	Anywhere
	_			
<u>R</u> efresh				
() Importar	nt Notice:			
•	lf no devices a	ppear and you're ru wall and click the rrk.		

Note

The Default Node name of the NC-xxxx (where "xxxx" is your model name) is "BRW_xxxxx" (where "xxxxxx" is the last six digits of Ethernet address).

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

If no Ad-hoc wireless networks are available, you need to create a new wireless network. Go to (6).

Wireless Device Setup	Wizard	
Available Wirel	ess Networks	(((@P)
Choose the access poi	nt or Ad-hoc network that the Device w	ill be associated with.
Name (SSID)	Channel Wireless Mode	Signal
mail Arm Extremetered	1 900-11h/a /11Mhna	EAMbach
HELLO	6 802.11b (11Mbps)	
	2 002. TTg (54M0ps)	
<u>R</u> efresh	<u>I</u> ® %⊐ Access Base St	Point / ⊐ I ≪⊐ Ad-hoc ation Network
Add	If the access point or Ad-hoc network the "Add" button to manually specify	
<u>H</u> elp	< <u>B</u> ack	Next > Cancel

🖉 Note

- If your target Ad-hoc network does not appear on the list, you can manually add it by clicking the **Add** button. Follow the on-screen instructions for entering the **Name (SSID)** and the **Channel** number.
- If the list is blank, check if the machine is within range for wireless communication. Then, click **Refresh**.

Wireless Device Setup Wizard
Wireless Network Name
Configure the wireless network name that the device will be associated with.
Ngme(SSID)
☐ This is an Ad-hoc network and there is no access point.
Channel 1
Help < Back Next > Cancel

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

Wireless Device Setup Wizard	
Name (SSID) : WLAN	
This Wireless Network is not secure. It is not using secure authentication of chargetion. Do you want to continity security and the security of the security o	
OK Cancel	

(15) If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless machine, 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 click Next.

Wireless Device Setup Wizard				
Authentication Method and Encryption				
Configure the Authentication Method and Encl	ryption mode			
Name (SSID) :	WLAN			
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 set more than one WEP key, click Advanced.
- If you do not know the Authentication or Encryption settings for network, contact your network administrator.
- 16 Enter a new SSID and choose the Authentication Method and Encryption Mode from the pull-downs in each setting box. Then enter the Network key and click Next.

Wireless Device Setup Wizard				
Authentication Method and Encryption				
Configure the Authentication Method and End	cryption mode			
Name (SSID) :	WLAN			
Authentication Method	Open System 💌			
Encryption Mode	WEP			
Network Key	•••••			
Confirm Network Key	•••••			
Advanced				
Help	< Back Next > Cancel			

🖉 Note

If you do not know the Authentication or Encryption settings for network, contact your network administrator.

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

Wireless Device Setup Wizard			
Wireless Network Setting Confirmation	js	(((@P)	
Click "Next" to submit following settin	igs to the device		
Target Device =	BRN_XXXXXX		
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 subr 		Next > Cancel	

🖉 Note

If you want to manually enter the IP address settings of your machine, click **Change IP Address** and enter the necessary IP address settings for your network. After making your selection, click **Next** and the Wizard will search for available wireless networks.

18 To communicate with the configured wireless device, you must configure your PC to use same wireless settings. Manually change the wireless settings on your PC to match the machine's wireless settings shown on this screen. Click Next.

(The settings shown on this screen are for example only. Your settings will not be the same.)

Wireless Device Setup Wizard				
Wireless Network Settir Confirmation	ngs	(((c))		
Click "Next" to submit following sett	tings to the device			
Target Device =	BRN_XXXXXX	_		
IP Address	Auto	Change IP Address		
Communication mode	Ad-hoc (Channel 6)			
Name (SSID)	HELLO			
Authentication Method	Open System			
Encryption Mode	WEP			
ע Erint test page after su ∐elp		Jext > Cancel		

19 You have completed the wireless setup. Click **Finish**. If you would like to continue installing drivers and software necessary for operating your device, please select **Install MFL-Pro Suite** from CD-ROM menu.

Wireless Device Setup Wizard
Important Notice
Please confirm below before clicking "Finish".
If you would like to continue installing the drivers and software necessary for operating your device, please press "Finish" to get back to the main menu and select "Install MFL-Pro Suite".
Checked and confirmed
< Back Finish Cancel

Wireless Configuration for Macintosh[®]

Configuration in Infrastructure mode

For Mac OS[®]X 10.2.4 or greater

IMPORTANT

If you have previously configured the wireless settings of the machine, you must reset the network LAN settings before you can configure the wireless settings again. Press Menu, ▲ or ▼ for Factory Reset and select Yes to accept the change. The machine will restart automatically.

Turn on the machine by plugging in the power cord.



- Turn on your Macintosh[®].
- Put the supplied CD-ROM into your CD-ROM drive.
- Double-click the Utilities icon and then Wireless LAN Setup Wizard.

	NOT WIFL-	rio suite	
Start Here (osx	Presto! PageManager	
Utilities		Documentation	U
Brother Solution	s Center	On-Line Registration	

WIFL-FIO Suite

Choose Manual and then click Next.



6 For configuration, it is recommended that you temporarily connect your Brother wireless device directly to a free port on your access point, hub or router using a network cable.

If you can temporarily connect with a network cable:

Choose I'm able to temporarily connect my device to my access point with a network cable and then click Next.

Go to 🕜.

If you do not have a network cable or cannot temporarily connect the Brother wireless device to your access point:

Choose I'm not able to connect my device to my access point with a network cable and then click Next.

Go to 9.

000	Wireless De	evice Setup Wizard		
Setting Up Wi	reless			ஞ
The most secure way to cable. You can then cor	configure your device is to figure its wireless settings a	connect it to your wired n ind remove the network c	etwork with a standa able.	urd network
 I'm able to tem a network cable 	porarily connect my device to	o my access point with	S/	
I'm not able to network cable.	connect my device to my acc	tess point with a		
?		< Back	Next>	Cancel

Read the Important Notice and click Next.



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





If you choose This PC has wireless capability., check I am using an access point in infrastructure mode, and then click Next. Go to



If you are using a wired computer, choose

This PC uses a network cable to connect to the wireless network., you must configure the wireless settings from the control panel. Click **Next** and follow the on-screen instructions to complete the setup. See *Using the Setup Wizard from the control panel* on page 20.



10 Read the Important Notice and click Next.



You need to temporarily change your PC's wireless settings. Please follow the on-screen instructions. Please make sure you take notes on all the settings such as SSID or channel of your PC. You will need them to return your PC back to its original wireless settings.

\varTheta 🔿 🕙 Wireless Device Setup Wizard				
Changing the	Computer's Wireless Settings	(((@P))		
	igure the wireless device from this computer, ettings of this computer.	, you must temporarily change the		
Before continuing	, please make a note of the current wireless	network settings.		
In particular, plea	se note the following:			
Communicatio	n Mode (Infrastructure / Ad-hoc)			
Channel(1-14)	(if applicable)			
Network Name	(SSID / ESSID)	II.		
Authentication	Method (Open System / Shared Key)	1 million and the second se		
Encryption Mor	de (None / WEP / Other)	0		
Encryption Key	1			
Please contact yo information.	ur network administrator or refer to your com	nputer's user's guid fr 3		
Click "Next" to cor	ntinue.			
	< Back	Next> 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)	
Encryption:(None/WEP/WPA/ WPA2-PSK)	
Encryption key:	

12 To communicate with the un-configured wireless machine, temporarily change the wireless settings on your PC to match machine's default settings shown on this screen. Click **Next**.

00	Wireless Device Setup Wiz	ard
Changing the	e Computer's Wireless Settings	((G))
To communicate computer to the	e with the un-configured wireless device, please following:	e change the wireless settings on this
	Communication Mode : Ad-hoc	
	Channel: 11 (if applicable)	
1	Network Name (SSID)* : SETUP	1 Ale and 1
	Encryption Mode : None	ß
* Case sensit	tive	
Please contact y computer's user	your network administrator or refer to your 's guide for more information.	
When you have "Next" to continu	configured the wireless network settings, click ue.	
Checked a	nd confirmed	
	< Back	Next > Cancel

13 The following list appears. If the list is blank, check if the access point and the machine are powered on, and then click **Refresh**. Choose the machine you wish to configure, and click **Next**.

00)	Wire	eless Device Setup	Wizard	
vaila	ble Wire	less Devices			راق (
		ess Device was four wish to configure a			
NI	odo Nama	ID Addroce	MAC Address	Drinter Name	Location
BRN	XXXXXX	192.0.0.192	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Brother MFC-XXXX	Anywhere
	XXXXXX	192.0.0.192	000000000000000000000000000000000000000	Brother MFC-XXXX	
	Refresh				
!	Important If no e and c	devices appear and	l you're running a pe tton to re-search the	rsonal firewall. Please wireless network.	e disab' drew

Note

The Default Node name of the NC-xxxx (where "xxxx" is your model name) is "BRW_xxxxxx" (where "xxxxxx" is the last six digits of Ethernet address).

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

Wireless Device Setup Wizard				
Available Wireless Networks				
Choose the access point	or Ad-hoc network that th	e Device will be associated with.		
Name (SSIE	D) Channel	Wireless Mode	Signal	
[] [®] ¢⊐HELLO	6	802.11b/g (11Mbps/54Mbps)		
Refresh	د 1%	Coccess Point/ □) (□ Access Point/ □) (□ / Base Station	Ad-hoc Network	
Add	If the access point or Ac button to manually spec	d-hoc network name doesn't appe cify the network name.	ar, cli Add"	
Help	< Back	Next >	Cancel	

🖉 Note

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

00	Window Davies Color Minor	4
Wireless Networ	Wireless Device Setup Wizard rk Name	(((@)
Configure the wireless r	network name that the device will be associate	ed with.
Name(SSID)	WLAN	
This is an A	d-hoc network and there is no access point.	
Channel	1	\$
Help	< Back Ne	ext > Cancel
Нер		Cancer

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

				_
0	0	Wireless Device	e Setup Wizard	
			TION!	
	Name (SSID) :	WLAN		
	This Wireless Netwo encryption.	rk is not secure. It i	is not using secure authentication and	
	Do you want to conti	nue setup?		
		ОК	Cancel	

16 If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless machine, 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 click Next.

6 0 0	Wireless	Device Setup Wizard	
Authentication M	lethod and En	cryption Mode	((((P)
Configure the Authentica	tion Method and En	cryption mode	
Name (SSID) :		WLAN	
Authentication Me	ethod	Open System	•
Encryption Mode		WEP	•
Network Key		*****	
Confirm Network	Key	•••••	
Advanced Help	<	Back Ne	xt> Cancel

Note

- If you want to set more than one WEP key, click **Advanced**.
- If you do not know the Authentication or Encryption settings for network, contact your network administrator.
- Click Next. The settings will be sent to your machine. The settings will remain unchanged if you click Cancel.

00	Wir	eless Device Setu	up Wizard	
Wireless Netwo	ork Settings	Confirmation	י ((((P)
Click "Next" to submit	ollowing settings	to the device		
Target Device =		BRN_XXXXXX		
IP Address		Auto		Change IP Address
Communicat	ion mode	Infrastructure		
Name (SSID)		WLAN		
Authenticatio	n Method	Open System		
Encryption M	ode	WEP		
🗹 Print test p	age after submitt	ing settings?		K
Help		< Back	Next >	Cancel

- If you want to manually enter the IP address settings of your machine, click Change IP Address and enter the necessary IP address settings for your network. After making your selection, click Next and the Wizard will search for available wireless networks.
- The control panel settings will be automatically changed to WLAN when the wireless settings are sent to your machine.

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



19 Using the information you recorded in (1), return the wireless settings of your computer back to their original settings. Click **Next**.



20 You have completed the wireless setup. Click **Finish**. If you would like to continue installing drivers and software necessary for operating your device, please select **Start Here OSX** from CD-ROM menu.

000	Wireless Device Setup Wizard		
Important No	tice		ஞ
Please conf	irm below before clicking "Finish".		
If you would like to device, please pres menu.	o continue installing the drivers and software necessa s "Finish" to close this screen and select "Start Here (ry for operating your ISX" from CD–ROM	
Checked and c	onfirmed.		
		Finish	Cancel

Configuration with an access point that supports SecureEasySetup™

For Mac OS[®]X 10.2.4 or greater

IMPORTANT

If you have previously configured the wireless settings of the machine, you must reset the network LAN settings before you can configure the wireless settings again. Press Menu, ▲ or ▼ for Factory Reset and select Yes to accept the change. The machine will restart automatically.





- 2 Turn on your Macintosh[®].
- 3 Put the supplied CD-ROM into your CD-ROM drive.





Choose I'd like

to use the SecureEasySetup[™] function of my access point to configure my wireless device. and click Next.



6 Read the Important Notice and click Next.



7 Ensure the on-screen message and click Next.

000	Wireless Device Setup Wizard	
Setting Up wit	th SecureEasySetup™	((((P)
If your access point sup Please ensure the follow	ports SecureEasySetup™. ving:	
1. Your wireless acc	tess point supports SecureEasySetup™.	Secure Easy Setup
 You have access point and your devi 	to the documentation supplied with the access ce.	V
?	<pre><back< pre=""></back<></pre>	Next> Cancel

8 Refer to the instruction manual that came with your access point to set the SecureEasySetup™ mode of your access point.

9 Put the machine in SecureEasySetup™ mode.

Press Menu, \blacktriangle or \lor for LAN and press OK. Press \blacktriangle or \lor for Setup WLAN and then press OK. Press \blacktriangle or \lor for SecureEasySetup and press OK.

Note If the LCD shows Connect	ion Error, please try again .
0 Click Finish.	
	Wireless Device Setup Wizard
	Setting Up with SecureEasySetup™
	Follow the steps below.
	STEP1: Set your device to SecureEasySetup ¹⁴ mode. Refer to the instruction manual that came with your device.
	STEP2: Set your access point to SecureEasySetup™ mode. Refer to the instruction manual that came with your Access point.
	If you encounter a problem during setup, temporarily place your machine closer to the wireless access point.
	(?) Cancel

1 The configuration is finished. Relocate the machine to a location that is within range of your access point. You have completed the wireless setup. If you would like to continue installing drivers and software necessary for operating your device, please select **Start Here OSX** from CD-ROM menu.

Configuration in Ad-hoc Mode

For Mac OS[®]X 10.2.4 or greater

IMPORTANT

If you have previously configured the wireless settings of the machine, you must reset the network LAN settings before you can configure the wireless settings again. Press **Menu**, \blacktriangle or \triangledown for <code>Factory Reset</code> and select Yes to accept the change. The machine will restart automatically.

Turn on the machine by plugging in the power cord.



- Turn on your Macintosh[®].
- **3** Put the supplied CD-ROM into your CD-ROM drive.
- 4 Double-click the Utilities icon and then Wireless LAN Setup Wizard.



5 Choose Manual and then click Next.



6 Choose I'm not able to connect my device to my access point with a network cable. Click Next.

000	Wireless Device Setup Wiz	ard
Setting Up V	Vireless	(((GP)
The most secure way cable. You can then	y to configure your device is to connect it to your w configure its wireless settings and remove the netw	ired network with a standard network rork cable.
○ I'm able to to a network ca	emporarily connect my device to my access point w bble.	ith
 I'm not able network cab 	to connect my device to my access point with a le.	
(?)	< Bac	ck Next> Cancel

7 Choose This PC has wireless capability, and make sure I am using an access point in infrastructure mode is not checked. Click Next.



8 Read the Important Notice and click Next.



9 You need to temporarily change your PC's wireless settings. Please follow the on-screen instructions. Please make sure you take notes on all the settings such as SSID or channel of your PC. You will need them to return your PC back to its original wireless settings.



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)	
Encryption:(None/WEP/WPA/ WPA2-PSK)	
Encryption key:	

10 To communicate with the un-configured wireless machine, temporarily change the wireless settings on your PC to match machine's default settings shown on this screen. Click**Next**.

● ● ●	Wireless Device Setup	Wizard	
Changing the C	computer's Wireless Setting	js	ெரு
To communicate wit computer to the follo	th the un-configured wireless device, ple owing:	ease change the wir	eless settings on this
	mmunication Mode : Ad-hoc Channel : 11 (if applicable) vork Name (SSID)* : SETUP Encryption Mode : None	4	
Please contact your	network administrator or refer to your uide for more information.		" "
When you have con "Next" to continue.	figured the wireless network settings, cl	ick	
	< Back	Next >	Cancel

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

00	Wireless Device Setup Wizard			
vailable Wire	eless Devices			((ē)
	ess Device was four wish to configure a		Printer Name	Location
BRN_XXXXXX	192.0.0.192	X00000X00000X	Brother MFC-XXXX	
BRN_XXXXXX	192.0.0.192	000000000000000000000000000000000000000	Brother MFC-XXXX	
Refresh				
Important If no e and c	devices appear and	you're running a per ton to re-search the	rsonal firewall. Please wireless network.	e rlisab' arew

Note

The Default Node name of the NC-xxxx (where "xxxx" is your model name) is "BRW_xxxxx" (where "xxxxx" is the last six digits of Ethernet address).
12 The wizard will search for wireless networks available from your machine. Choose the Ad-hoc network you wish to associate the machine with, and then click **Next**.

If no Ad-hoc wireless networks are available, you need to create a new wireless network. Go to (5).

00	Wireless D	evice Setup Wizard	
Available Wirel	ess Networks		(9)
Choose the access po	int or Ad-hoc network that	the Device will be associated with.	
Name (S	SID) Chann	el Wireless Mode	Signal
□ • • • □ SETUP	1	802.11b/g (11Mbps/54Mbps)	ک ک د
III (RELLO	6	802.11b/a (11Mbps/54Mbps)	
□ □ • • • □ HELLO2	2	802.11b/g (11Mbps/54Mbps)	
Refresh] 아디 Access Point / 다 아이 Ad- Base Station	hoc Network
Add		Ad-hoc network name doesn't appear, ecify the network name.	cli Add
Help	< Bac	k Next>	Cancel

🖉 Note

- If your target Ad-hoc network does not appear on the list, you can manually add it by clicking the Add button. Follow the on-screen instructions for entering the Name (SSID) and the Channel number.
- If the list is blank, check if the machine is within range for wireless communication. Then, click Refresh.

$\bigcirc \bigcirc \bigcirc \bigcirc$	Wireless Device Setup W	Vizard
Wireless Netwo	rk Name	(((@P)
Configure the wireless	network name that the device will be as	sociated with.
Name(SSID)	WLAN	
This is an A	Ad-hoc network and there is no access p	oint.
Channel	1	A T
Help	< Back	Next> Cancel

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

O Wireless Device Setup Wizard
Name (SSID) : WLAN
This Wireless Network is not secure. It is not using secure authentication and encryption.
Do you want to continue setup?
OK Cancel

14 If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless machine, 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 click Next.

000	Wireless	Device Setup Wizard	
Authentication M	lethod and En	cryption Mode	((((P)
Configure the Authentica	tion Method and En	cryption mode	
Name (SSID) :		WLAN	
Authentication Me	ethod	Open System	•
Encryption Mode		WEP	•
Network Key		*****	
Confirm Network	Key	•••••	
Advanced Help	<	Back Ne	xt> Cancel

🖉 Note

- If you want to set more than one WEP key, click **Advanced**.
- If you do not know the Authentication or Encryption settings for network, contact your network administrator.

(5) Enter a new SSID and choose the Authentication Method and Encryption Mode from the pull-downs in each setting box. Then enter the Network key and click Next.

● ⊖ ⊖	Wireless Device Setup Wizard	ł
Wireless Network S	ettings	(((@))
Specify the Wireless Network	name:	
Name (SSID)	WLAN	
Channel	[11	•
Authentication Method	d Open System	•
Encryption Mode	WEP	•
Network Key	•••••	
Confirm Network Key	*****	
	< Back Ne	ext > Cancel

🖉 Note

If you do not know the Authentication or Encryption settings for network, contact your network administrator.

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

● ⊖ ⊖	Wi	reless Device Setup	Wizard	
Wireless Networ	k Settings	Confirmation		(((P)
Click "Next" to submit fol	owing settings	to the device		
Target Device =		BRN_XXXXXX		
IP Address		Auto	(Change IP Address
Communication	mode	Ad-hoc		
Name (SSID)		WLAN		
Authentication	Method	Open System		
Encryption Mod	le	WEP		
🗹 Print test pag	e after submit	ting settings?		K
Help		< Back	Next >	Cancel

Note

If you want to manually enter the IP address settings of your machine, click **Change IP Address** and enter the necessary IP address settings for your network. After making your selection, click **Next** and the Wizard will search for available wireless networks.

17 To communicate with the configured wireless device, you must configure your PC to use same wireless settings. Manually change the wireless settings on your PC to match the machine's wireless settings shown on this screen. Click Next.

(The settings shown on this screen are for example only. Your settings will not be the same.)



18 You have completed the wireless setup. Click **Finish**. If you would like to continue installing drivers and software necessary for operating your device, please select **Start Here OSX** from CD-ROM menu.

000	Wireless Device Set	up Wizard	
Important No	tice	ى)))	D
Please con	firm below before clicking "Finish".		
If you would like t device, please pre menu.	o continue installing the drivers and soft ss "Finish" to close this screen and selec	ware necessary for operating your t "Start Here OSX" from CD-ROM	
Checked and d	confirmed.		
		Finish Can	icel

6

Control panel setup

LAN menu

Before using your Brother product in a network environment, you need to configure the correct TCP/IP settings. For more information, see *Configuring your machine for a network with an Ethernet cable connection* on page 9 or *Configuring your machine for a wireless network* on page 15.

In this chapter, you will learn how to configure the network settings using the control panel, located on the front of the machine.

The LAN menu selections of the control panel allow you to set up the Brother machine for your network configuration. Press **Menu**, then press \blacktriangle or \triangledown to select LAN. Proceed to the menu selection you wish to configure. See *Function table and default factory settings* on page 109.

Please note that the machine is supplied with the BRAdmin Professional Windows[®] software and Remote Setup applications for Windows[®] and Macintosh[®], which also can be used to configure many aspects of the network. See *Changing the print server settings* on page 13 for wired connection or *Changing the print server settings* on page 23 for wireless connection.

TCP/IP (Wired) / TCP/IP (WLAN)

If you connect the machine with the Ethernet cable to your network, use the TCP/IP (Wired) menu selections. If you connect the machine to the wireless Ethernet network, use the TCP/IP (WLAN) menu selections.

This menu has nine sections: BOOT Method, IP Address, Subnet Mask, Gateway, Node Name, WINS Config, WINS Server, DNS Server and APIPA.

BOOT Method

This selection controls how the machine obtains the IP address for itself. The default setting is Auto.

- Press Menu.
 Press ▲ or ▼ to select LAN. Press OK.
 (For Wired) Press ▲ or ▼ to select TCP/IP(Wired). (For Wireless) Press ▲ or ▼ to select TCP/IP(WLAN). Press OK.
 Press ▲ or ▼ to select BOOT Method. Press OK.
 Press ▲ or ▼ to select Auto, Static, RARP, BOOTP or DHCP. Press OK.
- 6 Press Stop/Exit.

Auto mode

In this mode, the machine will scan the network for a DHCP server, if it can find one, and if the DHCP server is configured to allocate an IP address to the machine, then the IP address supplied by the DHCP server will be used. If no DHCP server is available, then the machine will scan for a BOOTP server. If a BOOTP server is available, and it is configured correctly, the machine will take its IP address from the BOOTP server. If a BOOTP server. If a BOOTP server is not available, the machine will scan for a RARP server. If a RARP server also does not answer, the IP Address is scanned through APIPA facility, see *Using APIPA to configure the IP address* on page 101. After it is initially powered ON, it may take a few minutes for the machine to scan the network for a server.

Static mode

In this mode the machine's IP address must be manually assigned. Once entered the IP address is locked to the assigned address.

RARP mode

The Brother print server IP address can be configured using the Reverse ARP (RARP) service 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 BRN_310107 (or BRW_310107 for a wireless network)

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 it is powered on.

BOOTP mode

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

🖉 Note

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

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: ("BRN" below is "BRW" for a wireless network.)

BRN 310107 1 00:80:77:31:01:07 192.189.207.3

and:

```
BRN 310107:ht=ethernet:ha=008077310107:\
```

ip=192.189.207.3:

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.

DHCP mode

Dynamic Host Configuration Protocol (DHCP) is one of several automated mechanisms for IP address allocation. If you have a DHCP server in your network (typically a UNIX[®], Windows[®] 2000/XP network) the print server will automatically obtain its IP address from a 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, 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 machine's control panel or the BRAdmin Professional utility.

IP Address

This field displays the current IP address of the machine. If you have selected a BOOT Method of Static, enter the IP address that you wish to assign to the machine (check with your network administrator for the IP address to use). If you have selected a method other than Static, the machine will attempt to determine its IP address using the DHCP or BOOTP protocols. The default IP address of your machine will probably be incompatible with the IP address numbering scheme of your network. We recommend that you contact your network administrator for an IP address for the network the unit will be connected on.



Press \blacktriangle or \blacktriangledown to select LAN. Press **OK**.

3 (For Wired) Press ▲ or ▼ to select TCP/IP(Wired). (For Wireless) Press ▲ or▼ to select TCP/IP(WLAN). Press OK.

72



Press **OK**.

6 Enter the IP address. Press **OK**.

🖉 Note

For DCP models, press \blacktriangle or \triangledown repeatedly to enter the first three-digit number for the IP address. Press \blacktriangleright to enter the second three-digit number. Repeat this step until you have entered the fourth three-digit number to complete the IP address. Press **OK**.



Subnet Mask

This field displays the current subnet mask used by the machine. If you are not using DHCP or BOOTP to obtain the subnet mask, enter the desired subnet mask. Check with your network administrator for the subnet mask to use.

1	Press Menu.
2	Press \blacktriangle or \blacktriangledown to select LAN. Press OK .
3	(For Wired) Press ▲ or ▼ to select TCP/IP(Wired). (For Wireless) Press ▲ or ▼ to select TCP/IP(WLAN). Press OK.
4	<pre>Press ▲ or ▼ to select Subnet Mask. Press OK.</pre>
5	Press ▲ or ▼ to select Change. Press OK.
6	Enter the Subnet Mask address. Press OK .

🖉 Note

For DCP models, press ▲ or ▼ repeatedly to enter the first three-digit number for the Subnet Mask. Press ► to enter the second three-digit number. Repeast this step until you have entered the fourth three-digit number to complete the Subnet Mask. Press **OK**.

7 Press Stop/Exit.

Gateway

This field displays the current gateway or router address used by the machine. If you are not using DHCP or BOOTP to obtain the gateway or router address, enter the address you wish to assign. If you do not have a gateway or router, leave this field blank. Check with your network administrator if you are unsure.



For DCP models, press \blacktriangle or \triangledown repeatedly to enter the first three-digit number for the Gateway address. Press \triangleright to enter the second three-digit number. Repeat this step until you have entered the fourth three-digit number to complete the Gateway address. Press **OK**.



Node Name

You can register the machine name on the Network. This name is often referred to as a NetBIOS name; it will be the name that is registered by the WINS server on your network. Brother recommends the name BRN_xxxxx for a wired network or BRW_xxxxx for a wireless network (where xxxxxx is the last six digits of the Ethernet address) (up to 15 characters).



- Press ▲ or ▼ to select LAN.
 Press OK.
- (For Wired) Press▲ or ▼ to select TCP/IP(Wired).
 (For Wireless) Press ▲ or ▼ to select TCP/IP(WLAN).
 Press OK.
- Press ▲ or ▼ to select Node Name. Press OK.



Press Stop/Exit.

WINS Config

This selection controls how the machine obtains the IP address of the WINS server.



- Press ▲ or ▼ to select WINS Config. Press OK.
- 5 Press ▲ or ▼ to select Auto or Static. Press OK.
- 6 Press Stop/Exit.

Auto

Automatically uses a DHCP request to determine the IP addresses for the primary and secondary WINS servers. You must set the BOOT Method to Auto for this feature to work.

Static

Uses a specified IP address for the primary and secondary WINS servers.

WINS Server

1 Press Menu.

Press▲ or ▼ to select LAN. Press OK.

(For Wired) Press ▲ or ▼ to select TCP/IP(Wired).
 (For Wireless) Press ▲ or ▼ to select TCP/IP(WLAN).
 Press OK.



For DCP models, press \blacktriangle or \lor repeatedly to enter the first three-digit number for the WINS Server address. Press \triangleright to enter the second three-digit number. Repeat this step until you have entered the fourth three-digit number to complete the WINS Server address. Press **OK**.

8 Press Stop/Exit.

Primary WINS Server IP Address

This field specifies the IP address of the primary WINS (Windows[®] Internet Naming Service) server. If set to a non-zero value, the machine will contact this server to register its name with the Windows[®] Internet Name Service.

Secondary WINS Server IP Address

This field specifies the IP address of the secondary WINS server. It is used as a backup to the Primary WINS server address. If the Primary server is unavailable, the machine still can register itself with a secondary

server. If set to a non-zero value, the machine will contact this server to register its name with the Windows[®] Internet Name Service. If you have a primary WINS server, but no secondary WINS server, simply leave this field blank.

DNS Server



- Press ▲ or ▼ to select LAN. Press OK.
- (For Wired) Press ▲ or ▼ to select TCP/IP(Wired).
 (For Wireless) Press ▲ or ▼ to select TCP/IP(WLAN).
 Press OK.
- Press ▲ or ▼ to select DNS Server. Press OK.
- 5 Press ▲ or ▼ to select Primary or Secondary. Press OK.



7 Enter the DNS Server address. Press OK.

🖉 Note

For DCP models, press \blacktriangle or \lor repeatedly to enter the first three-digit number for the DNS Server address. Press \triangleright to enter the second three-digit number. Repeat this step until you have entered the fourth three-digit number to complete the DNS Server address. Press **OK**.

8 Press Stop/Exit.

Primary DNS Server IP Address

This field specifies the IP address of the primary DNS (Domain Name Service) server.

Secondary DNS Server IP Address

This field specifies the IP address of the secondary DNS server. It is used as a backup to the Primary DNS server address. If the Primary server is unavailable, the machine will contact the Secondary DNS server.

APIPA

The setting of On will cause the print server to automatically allocate a Link-Local IP address in the range (169.254.1.0 - 169.254.254.255) when the print server cannot obtain an IP address through the BOOT Method you have set (see *BOOT Method* on page 70). Selecting Off means the IP address doesn't change, when the print server cannot obtain an IP address through the BOOT Method you have set.



Setup WLAN (for wireless network only)

Setup Wizard

The **Setup Wizard** guides you through the wireless network configuration. For more information, see *Using the Setup Wizard from the control panel* on page 20.

SecureEasySetup

The SecureEasySetup[™] software allows you to configure the wireless network easier than configuring it manually. By pushing a button on the wireless router or access point, you can complete setup and secure the wireless network. Your router or access point must also support SecureEasySetup[™]. See Using the SecureEasySetup[™] software to configure your machine for a wireless network on page 22.

WLAN Status (for wireless network only)

Status

This field displays the current wireless network status; Active (11b), Active (11g), or Connection Error.



Signal

This field displays the current wireless network signal strength; Strong, Medium, Weak or None.



SSID

This field displays the current wireless network SSID. The display shows up to 32 characters of the SSID name.



6 Press Stop/Exit.

Comm.Mode

This field displays the current wireless network communication mode; Ad-hoc or Infrastructure.



Setup Misc.

Wired LAN (for wired network only)

Ethernet link mode. Auto allows the print server to operate in 100BaseTX full or half duplex, or in 10BaseT full or half duplex mode by auto negotiation.

100BASE-TX Full Duplex (100B-FD) or Half Duplex (100B-HD) and 10BASE-T Full Duplex (10B-FD) or Half Duplex (10B-HD) fix the print server link mode. This change is valid after the print server has been reset (default is Auto).



Network I/F

You can choose the network connection type, wired network connection or wireless network connection. If you want to use the wired network connection, select Wired LAN, and if you want to use the wireless network connection, select WLAN. You can only have one network connection type active at a time.

Press Menu. Press ▲ or ▼ to select LAN. Press OK.

- 3 Press ▲ or ▼ to select Network I/F. Press OK.
- Press ▲ or ▼ to select Wired LAN or WLAN. Press OK.

Printing the Network Configuration List

🖉 Note

Node name: Node name appears in the Network Configuration List. The default Node name is "BRN_xxxxxx" for a wired network or "BRW_xxxxxx" for a wireless network ("xxxxxx" is the last six digits of Ethernet address).

The Network Configuration List prints a report listing all the current network configuration including the network print server settings.

Press Menu. Press ▲ or ▼ to select Print Reports. Press OK.

- 3 Press ▲ or ▼ to select Network Config. Press OK.
- 4 Press Black Start or Color Start.

Restoring the network settings to factory default

If you wish 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:

🖉 Note

This function restores all wired and wireless network settings to the factory default.

Press Menu.

2	Press ▲ or ▼ to select LAN. Press OK.
3	<pre>Press ▲ or ▼ to select Factory Reset. Press OK.</pre>
4	Press 1 for Factory Reset.
5	Press 1 for Reboot.
	Note For DCP model, press + for Factory Reset and then press + for Reboot.

6 The machine will re-start. You can now reconnect the network cable and configure the network settings to work with your network.

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 network connected printers.

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

🖉 Note

Driver Deployment Wizard is not supported in Windows[®] XP Professional x64 Edition.

Connection methods

The Driver Deployment Wizard supports the two connection methods.

Brother Peer-to-peer Network printer

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

Network Printer

Client PC Client PC



Client PC

Client PC

Driver Deployment Wizard (Windows® only)

Network Shared Printer

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



Using the Driver Deployment Wizard software for the first time

- 1 When you run the Wizard for the first time you will see a welcome screen. Click Next.
- Select the Device Type you own and click Next.
- 3 Choose your connection type to the device that you want to print to.
- 4 Choose the option you require and click **Next**.
- 5 If you select the Brother Peer-to-Peer Network printer, the following screen is displayed.

Driver	r Deployment Wi	izard		
Sele	ect Printer			44
S	elect the appropriate	network printer.		
	Node Name	Node Address	Printer Name	Location
	BRN_220065 BRN_31D6E1 BRN_31D65E BRN_220078 BRN_3345DC BRN_3345DC BRN_31BAED	192.10.20.90 192.10.20.91 192.10.20.92 192.10.20.93 192.10.20.94 192.10.20.95 192.10.20.96	Brother HL-5070N ceries Brother HL-1650_1570N series Brother HL-3260N series Brother HL-5070N series Brother HL-1850_1870N series Brother MFC-5200C Brother HL-1650_1670N series	
	Port Driver C LPR [Recomm Set by No NetBIOS C IPP			Configure IP <u>R</u> efresh
	Help		< Back	Next > Cancel

6 Select the printer you wish to install and click **Next**.

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/IP configration this Print Server		or			
				Cancel		
	IP Address	0.0.0.0				
	Subnet Mask	0.0.0.0				
	Gateway	0.0.0.0				
		,				
river Denl	oyment Wizard					
	e printer driver				4	
Select th		specify the location	of the specified	l driver.	3	ġ
Select th To proce	e printer driver		of the specified	l driver.	3	ġ
Select th To proce	e printer driver		of the specified	l driver.		
Select th To proce	e printer driver		of the specified		ave Disk.	
Select th To proce	e printer driver		of the specified		ave Disk Dglete	

- 1 Choose the printer driver you want to use.
- 2 If the driver you want to use is not installed on your PC, click the **Have Disk** button and then specify the path of the printer driver.
- 3 Click **Next** after you choose the correct driver.
- 4 After you choose the appropriate driver a summary screen appears. Confirm the settings of the driver.
- 5 Click **Finish**. The driver is automatically installed to your computer.

Creating an executable file

The **Driver Deployment Wizard** can create self running .EXE files. These self-running .EXE files can be saved to the network, copied to a CD-ROM, a floppy disc 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 PC and also create a self-running executable file for use with another PC 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 PC and you wish to create a self-running executable file without installing the driver again onto your own PC.

Driver Deployment Wizard					
Completing the Driver Deployment Wizard	3				
You have successfully completed the Driver Deployment Wizard You specified the following printer settings:					
Printer Information Printer Name : Brother HL- XXX Driver Name : Brother HL- XXX Shared as : Not Shared Default : Yes IP Address : XXX.XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX					
Copy the Driver files to this PC and create an installation program for other Settings Only create an Installation Program for other users Custom					
<u>H</u> elp <u>Canc</u>	el				

🖉 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 PC will default to LPT1 printing.

8

Network printing from Windows[®] basic TCP/IP Peer-to-Peer printing

Overview

If you are a Windows[®] user and want to print using the TCP/IP protocol in a Peer-to-Peer environment, please follow the instructions in this chapter. This chapter explains how to install the network software and the printer driver which you will need to be able to print using your network printer.

	Note
--	------

- You must configure the IP address on your machine before you proceed with this chapter. If you have not configured the IP address, see Setting the IP address and subnet mask on page 11 first.
- Verify the host computer and print server are either on the same subnet, or that the router is properly configured to pass data between the two devices.
- If you are connecting to a Nework Print Queue or Share (printing only), see *Installation when using a Network Print Queue or Share (printer driver only)* on page 104 for installation details.

For Windows[®] 98/Me/2000/XP/XP Professional x64 Edition users

Windows[®] 98/Me/2000/XP/XP Professional x64 Edition users can send print job using Brother Peer-to-Peer Print software provided on the CD-ROM which we have supplied with the machine.

If you have already installed the printer driver, jump to Printer driver already installed on page 88.

Configuring the standard TCP/IP port

Printer driver not yet installed

- 1 Start the CD-ROM installation menu program according to the Quick Setup Guide.
- 2 Select the model name and your language (if necessary), and then click **Install Other Drivers or Utilities**.
- 3 Click Printer Driver (Only).
- 4 Click **Next** in response to the Welcome message. Follow the on-screen instructions.
- 5 Select Standard Installation and click Next.
- 6 Select Brother Peer-to-Peer Network Printer, and then click Next.

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

7 Follow the on-screen instruction, and then click OK.

🖉 Note

Contact your administrator if you are not sure about the location and name of the printer in the network.

8 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[®] 2000/XP/XP Professional x64 Edition users)

- 1 From the **Printers and Faxes** windows, select the printer driver you wish to configure.
- Select File and then 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 Close Add Port and Properties dialog box.

(For Windows[®] 98/Me users)

- **1** From the **Printers** windows, select the printer driver you wish to configure.
- Select File and then Properties.
- 3 Click the **Details** tab and click **Add Port**.
- In the Add Port dialog, select Other and then Brother LPR Port.
- 5 Click **OK** and enter the port name.

🖉 Note

The default port name is BLP1. If you have already used this name, you will see an error message.

- 6 Port Properties dialog appears.
- 7 Enter the IP address of the machine that you wish to print to and click OK.

Other sources of information

See Configuring your machine for a network with an Ethernet cable connection on page 9 and Configuring your machine for a wireless network on page 15 to learn how to configure the IP address of the printer.

9

Network printing from a Macintosh[®]

Overview

This chapter explains how to print from Macintosh[®] on a Network using the Simple Network Configuration capabilities on Mac OS[®] X 10.2.4 or greater.

For updated information on printing from a Macintosh[®], visit the Brother Solutions Center at: http://solutions.brother.com.

How to select the print server (TCP/IP)

- 1 Switch the machine ON.
- 2 From the Go menu, select Applications.
- **Open the Utilities** folder.
- Ouble 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) Go to (6).
 (For Mac OS[®] X 10.4) Go to (7).





7 Select Brother MFC-XXXX (XXXX is your model name), and then click Add.

00	Printer I	Browser		C
9	9	Q.		
efault Browser	IP Printer		Search	
Printer Name			Connection	-
MFC-XXXXX (E	RN_XXXXX)		Bonjour	
MFC-XXXXX (B	RN_XXXXXX)		Bonjour	
MFC-XXXX (B	RN_XXXXX)		Bonjour	
MFC-XXXX (8	RN_XXXXX)		Bonjour	
MFC-XXXX (8	RN_XXXXX)		Bonjour	
MFC-XXXXX (8	RN_XXXXX)		Bonjour	
MFC-XXXXX (8	RN_XXXXXXX)		Bonjour	
			Bonjour	
Name:	MFC-XXXXXX		Bonjour	
Name: Location:				

8 Click the printer, then click Make Default to set the printer as the default printer. The printer is now ready.

Changing the print server settings

Changing the configuration using the Remote Setup (Not available for DCP models)

From a Macintosh[®], you can change the printer or print server parameters using the Remote Setup application. See Using the Remote Setup to change the print server settings (for Windows® and Mac OS® X 10.2.4 or greater) (Not available for DCP models) on page 13.

Using the BRAdmin Light utility to change the print server settings

Brother BRAdmin Light utility is a Java application that is designed for Mac OS X 10.2.4 or greater environment. BRAdmin Light allows you to change network settings on Brother network ready machine

🖉 Note

- Please use the BRAdmin Light utility that was supplied on the CD-ROM of your Brother product. You can
 also download the latest version of the BRAdmin Light utility from http://solutions.brother.com. This utility
 is only available for Macintosh[®] users.
- Node name: Node name appears in current BRAdmin Light. The default Node name is BRN_xxxxx for a wired network or BRW_xxxxx for a wireless network (where xxxxx is the last six digits of the Ethernet address).
- Start the BRAdmin Light utility, by double clicking the Macintosh HD icon on your desk top and clicking Library / Printers / Brother / Utilities. And then, double click the BRAdminLight.jar file.
- 2 Select the print server which you want to change the settings.
- 3 Select Configure Print Server from the Control menu.
- 4 Enter a password if you have set it. You can now change the print server settings

Other sources of information

- 1 Visit <u>http://solutions.brother.com</u> for more information on network printing.
- See Setting the IP address and subnet mask on page 11 to learn how to configure the IP address of the printer.

10 Troubleshooting

Overview

This chapter explains how to resolve typical network problems you may encounter when using the machine. 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
- Scanning and PC-FAX problems
- Protocol-specific troubleshooting
- Wireless network 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 **setup.exe** in the root directory of the CD-ROM.

How to reset the Brother print server to factory default

You can reset the print server back to its default factory settings (resetting all information such as the password and IP address information). See *Restoring the network settings to factory default* on page 81.

My computer cannot find the machine/print server My machine/print server does not appear in the window of Remote Setup or BRAdmin Professional (BRAdmin Light)

■ For Windows[®]

Firewall setting on your PC may be rejecting the necessary network connection. For more information, see *Check the following:* on page 94.

For Macintosh[®]

Re-select your machine in the DeviceSelector application located in Macintosh **HD/Library/Printers/Brother/Utilities** or from the model pull-down list of ControlCenter2.

Network print software installation problems

The Brother print server is not found during setup of the network print software installation or from the printer driver of the Brother machine in Windows[®].

The Brother print server is not found using the Simple Network Configuration capabilities of Mac OS^{\otimes} X.

For a network with an Ethernet cable connection

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.

For a wireless network

Make sure you have completed the IP address setting and wireless network settings of the Brother print server according to Chapter 3 of this User's Guide before installing the network print software or printer driver.

Check the following:

1 Make sure that the machine is powered on, is on-line and ready to print.

Check to see if the LCD displays LAN Active after being connected to the network. The LCD displays LAN Active: The print server is connected to the network. The LCD does not display LAN Active: The print server is not connected to the network.

Print the Network Configuration List and check if the settings such as IP address settings are correct for your network. The problem may be the result of 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 Network Configuration List, see *Printing the Network Configuration List* on page 81.

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 Mac OS[®] X 10.2.4 or greater
 - 1 From the **Go** menu, select **Applications**.
 - 2 Open the **Utilities** folder.
 - 3 Double click the **Printer Setup Utility** icon.
 - 4 Click Add.

(For Mac $OS^{\ensuremath{\mathbb{R}}}$ X 10.2.4 to 10.3) Go to **5**. (For Mac $OS^{\ensuremath{\mathbb{R}}}$ X 10.4) Go to **6**.

Troubleshooting

5 (For Mac OS[®] X 10.2.4 to 10.3) Make the following selection.



6 Make sure that your print server appears. If it is visible, then the connection is good. Otherwise, go to **6**.

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 how to reset to the default factory settings, see *Restoring the network settings to factory default* on page 81.

6 Check the following:

For Windows[®]

If the installation failed, the Firewall on your computer may be blocking the necessary network connection to the machine. In this case, you will need to disable the Firewall on your computer and re-install the drivers.

- Windows[®] XP SP2 users
 - 1 Click the Start button, Settings, and then Control Panel.
 - 2 Double click Windows Firewall.
 - 3 Click the General tab. Verify that Off (not recommended) is selected.
 - 4 Click OK.
- Windows[®] XP SP1 users
 - 1 Locate the "Windows" key on your keyboard. These are the keys with the Windows logo on it.





- 2 Press the "Windows" key plus the "E" key to open **My Computer**.
- 3 On the left, right click **My Network Places**, click **Properties**, then right click **Local Area Connection** and click **Properties**.

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- 4 Click the Advanced tab. Under Internet Connection Firewall, verify that the box next to Protect my computer... is unchecked. If the box is selected, click the box to remove the check. Then, click OK.
- **5** Once your firewall is disabled, try reinstalling the Brother software package. For instructions on how to install from the CD-ROM, use the Quick Setup Guide we have provided with the machine.
- 6 If the installation completed successfully, the Firewall on your computer was rejecting the necessary network connection. In this case, you will need to disable the Firewall on your computer whenever you install the network drivers.

🖉 Note

After the Brother software package is installed, enable again your Firewall. For instructions on how to reenable your Firewall software, refer to your User's Guide or contact the Firewall software manufacturer.

■ For Macintosh[®] (for a wireless network)

Select again your machine in the DeviceSelector application located in Macintosh **HD/Library/Printers/Brother/Utilities** or from the model pull-down list of the ControlCenter2.

7 Move your PC closer to the Brother machine and try again.

8 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 81.

Printing problems

Print job is not printed

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



1 Make sure that the machine is powered on, is on-line and ready to print.

- 2) Print the Network Configuration List of the machine and check if the settings such as IP address settings are correct for your network. The problem may be the result of 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[®] 98/98SE/Me Peer-to-Peer print 2 (LPR) troubleshooting. Otherwise, proceed to 4.

■ For Mac OS[®] X 10.2.4 or greater

- 1 From the Go menu, select Applications.
- 2 Open the Utilities folder.
- 3 Double click the Printer Setup Utility icon.
- 4 Click Add.

(For Mac OS[®] X 10.2.4 to 10.3) Go to 5. (For Mac OS[®] X 10.4) Go to 6.

Troubleshooting

5 (For Mac OS[®] X 10.2.4 to 10.3) Make the following selection.



- 6 Make sure that your print server appears. If it is visible, then the connection is good. Otherwise, go to ④.
- 4 Reset the print server back to the default factory settings and try from the initial setup again. For information how to reset to the default factory settings, see *Restoring the network settings to factory default* on page 81.

Error during printing

If you try to print while other users are printing large amounts of data (e.g. many pages or color pages with 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.

Scanning and PC-FAX problems

The network scanning feature does not work in Windows[®] The network PC-FAX feature does not work in Windows[®]

Firewall setting on your PC may be rejecting the necessary network connection. Follow the instructions below to disable the Firewall. if you are using a personal Firewall software, see the User's Guide for your software or contact the software manufacturer.

- Windows[®] XP SP2 users
 - Click the Start button, Settings, and then Control Panel.
 - 2 Double click Windows Firewall.
 - 3 Click the General tab. Verify that On is selected.
 - 4 Click the Exceptions tab and Add port button.
 - 5 Enter any name, port number (54925 for network scanning and 54926 for PC-FAX receiving), select **UDP** and click **OK**.
 - 6 Make sure if the new setting is added and is checked, and then click **OK**.

Wireless network troubleshooting

Wireless setup problems

The Brother print server is not found during setup by the Wireless Device Setup Wizard.

- 1 Make sure that the machine is powered on, is on-line and ready to print.
- 2 Move your computer closer to the Brother machine 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 81.

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

If you are using Windows[®] 98/98SE/Me/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 machine to your access point, hub or router using a network cable. You will also need to change your machine's network setting to wired LAN temporarily. Your machine's network setting will be changed to wireless LAN automatically or during the course of the setup.

■ For Windows[®]:

Wireless Configuration for Windows® on page 26.

Using the Setup Wizard from the control panel on page 20.

■ For Macintosh[®]:

Wireless Configuration for Macintosh® on page 50.

Using the Setup Wizard from the control panel on page 20.

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 located between the Brother machine and the access point.
- 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 nearby fluorescent light is being switched 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)
BRN_xxxxxx_P1	TCP/IP binary

Where xxxxxx is the last six digits of the Ethernet address (for example, BRN_310107_P1).

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

For information on how to configure your machine for a network using the BRAdmin Professional utility, see *Setting the IP address and subnet mask* on page 11.

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 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 Professional utility.

Using BOOTP to configure the IP address

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

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

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

🖉 Note

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

```
BRN_310107 1 00:80:77:31:01:07 192.168.1.2
```

```
and:
```

```
BRN_310107: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: ("BRN" below is "BRW" for a wireless network.)

00:80:77:31:01:07 BRN_310107

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.

Using APIPA to configure the IP address

The Brother print server supports the Automatic Private IP Addressing (APIPA) protocol. With APIPA, DHCP 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 control panel of the machine. For more information, see *APIPA* on page 77.

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

Using ARP to configure the IP address

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

arp -s ipaddress ethernetaddress

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

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

🖉 Note

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

If there is a router, you may use BOOTP or other methods described in this chapter to enter the IP address. If your Administrator has configured the system to deliver IP addresses using BOOTP, DHCP or RARP your 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 ignore any attempts to do this. If you wish to change the IP address again, use a 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).

To configure the print server and to verify the connection, enter the following command ping ipaddress where ipaddress is the IP address of the print server. For example, ping 192.189.207.2.

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 machine's IP address. But a valid IP address must already be programmed into 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 a password if you have set it.

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 Ctrl-D (i.e., hold down the control key and type "D") to end the remote console session.

Installation when using a Network Print Queue or Share (printer driver only)

🖉 Note

- You must configure the IP address on your machine before you proceed with this chapter. If you have not configured the IP address, see *Configuring your machine for a network with an Ethernet cable connection* on page 9 first.
- Verify the host computer and print server are either on the same subnet, or that the router is properly configured to pass data between the two devices.
- Before installation, if you are using Personal Firewall software (e.g. the Internet Connection Firewall available in Windows XP), disable it. Once you are sure that you can print, re-start your Personal Firewall software.
- 1 Start the CD-ROM installation menu program according to the Quick Setup Guide.
- Select the model name and your language (if necessary), and then click Install Other Drivers or Utilities.
- Click Printer Driver (Only).
- Click Next in response to the Welcome message. Follow the on-screen instructions.
- 5 Select Standard Installation and click Next.
- 6 Select Network Shared Printer, and then click Next.
- **7** Select your printer's queue, and then click **OK**.

🖉 Note

Contact your administrator if you are not sure about the location and name of the printer in the network.

8 Click Finish.

Print server specifications

Ethernet wired network

Β

Model name	NC-130h				
Operating system	Windows [®] 98/98SE/Me/2000/XP/XP Professional x64 Edition				
support	Mac OS [®] X 10.2	2.4 or greater			
Protocol support	TCP/IP	ARP, RARP, BOOTP, DHCP, APIPA (Auto IP), NetBIOS Name Resolution, WINS, DNS Resolver, LPR/LPD, Custom Raw Port/Port9100, FTP Server, mDNS, TELNET, SNMP, TFTP, Scanner Port			
Network type	10/100BASE-T>	K Ethernet network			
Network printing		8SE/Me Peer-to-Peer printing /XP/XP Professional x64 Edition TCP/IP printing			
	Macintosh [®] prin	ting (Mac $OS^{ extsf{B}}$ 10.2.4 or greater supporting TCP/IP)			
Network PC-FAX	Windows [®] 98/98	3SE/Me/2000/XP/XP Professional x64 Edition			
	Mac OS [®] 10.2.4	or greater (Send only)			
Network scanning	Windows [®] 98/98SE/Me/2000/XP/XP Professional x64 Edition				
	Mac OS [®] 10.2.4 or greater				
Network	Windows [®] 98/98SE/Me/2000/XP/XP Professional x64 Edition				
PhotoCapture Center™	Mac OS [®] 10.2.4 or greater				
Windows [®] Computer requirements(for drivers, BRAdmin Professional, Peer-to- Peer software)	Processor Minimum Speed	Pentium [®] II or equivalent for Windows [®] 98/98SE/Me/2000 Professional/XP AMD Opteron [™] , AMD Athlon [™] 64, Intel [®] Xeon [™] with Intel [®] EM64T, Intel [®] Pentium [®] 4 with Intel [®] EM64T for Windows [®] XP Professional x64 Edition			
	Minimum RAM	32MB for Windows [®] 98/98SE/Me 64MB for Windows [®] 2000 Professional 128MB for Windows [®] XP 256MB for Windows [®] XP Professional x64 Edition			
	Recommended RAM	128MB for Windows [®] 98/98SE/Me 256MB for Windows [®] 2000 Professional 256MB for Windows [®] XP 512MB for Windows [®] XP Professional x64 Edition			

Macintosh [®] Computer requirements	Computer	Ethernet ready Power Macintosh [®]
	Processor Minimum Speed	All base models meet minimum requirements
	Minimum RAM	128MB for Mac OS [®] X 10.2.4 or greater
	Recommended RAM	160MB for Mac OS [®] X 10.2.4 or greater
Management utilities	BRAdmin Professional	Windows [®] 98/98SE/Me/2000/XP/XP Professional x64 Edition
	BRAdmin Light ¹	Mac OS [®] X 10.2.4 or greater
	Web BRAdmin ¹	Windows [®] 2000 Professional / Server / Advanced Server, Windows [®] XP Professional

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

Ethernet wireless network

Model name	NC-140w			
Operating system	Windows [®] 98/98SE/Me/2000/XP/XP Professional x64 Edition ¹			
support	¹ A wireless network running Windows® >	connection is supported only between the Brother machine and an access point for PC's KP Professional x64 Edition.		
	Mac OS [®] X 10.2.4	4 or greater		
Protocol support	TCP/IP	ARP, RARP, BOOTP, DHCP, APIPA (Auto IP), NetBIOS Name Resolution, WINS, DNS Resolver, LPR/LPD, Custom Raw Port/Port9100, FTP Server, mDNS, TELNET, SNMP, TFTP, Scanner Port		
Network type	IEEE 802.11b/g w	vireless		
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	54/48/36/24/18/12/11/9/6/5.5/2/1 Mbps		
Link distance	70m (233 ft.) at lo (The distance rate	west data rate will vary upon environment and other equipment location.)		
Network Security	SSID/ESSID, 128	(104) / 64 (40) bit WEP, WPA/WPA2-PSK(TKIP/AES)		
Network printing		SE/Me Peer-to-Peer printing		
	Windows [®] 2000/>	(P/XP Professional x64 Edition TCP/IP printing		
	Macintosh [®] printir	ng (Mac OS [®] 10.2.4 or greater supporting TCP/IP)		
Network PC-FAX	Windows [®] 98/985	SE/Me/2000/XP/XP Professional x64 Edition		
	Mac OS [®] 10.2.4 c	or greater (Send only)		
Network scanning	Windows [®] 98/98SE/Me/2000/XP/XP Professional x64 Edition			
	Mac OS [®] 10.2.4 or greater			
Network	Windows [®] 98/985	SE/Me/2000/XP/XP Professional x64 Edition		
PhotoCapture Center™	Mac OS [®] 10.2.4 c	or greater		

Windows [®] Computer requirements(for drivers, BRAdmin Professional, Peer-to- Peer software, etc.)	Processor Minimum Speed	Pentium [®] II or equivalent for Windows [®] 98/98SE/Me/2000 Professional/XP AMD Opteron [™] , AMD Athlon [™] 64, Intel [®] Xeon [™] with Intel [®] EM64T, Intel [®] Pentium [®] 4 with Intel [®] EM64T for Windows [®] XP Professional x64 Edition
	Minimum RAM	32MB for Windows [®] 98/98SE/Me 64MB for Windows [®] 2000 Professional 128MB for Windows [®] XP 256MB for WIndows [®] XP Professional x64 Edition
	Recommended RAM	128MB for Windows [®] 98/98SE/Me 256MB for Windows [®] 2000 Professional 256MB for Windows [®] XP 512MB for WIndows [®] XP Professional x64 Edition
Macintosh [®]	Computer	Wireless (AirPort) ready Power Macintosh [®]
Computer requirements	Processor Minimum Speed	All base models meet minimum requirements
	Minimum RAM	128MB for Mac $OS^{ entropy} X$ 10.2.4 or greater
	Recommended RAM	256MB for Mac $OS^{\textcircled{R}}$ X 10.2.4 or greater
Management utilities	BRAdmin Professional	Windows [®] 98/98SE/Me/2000/XP/XP Professional x64 Edition
	BRAdmin Light	Mac OS [®] X 10.2.4 or greater
	Web BRAdmin ¹	Windows [®] 2000 Professional / Server / Advanced Server, Windows [®] XP Professional

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

Function table and default factory settings

Level1	Level2	Level3	Options	Options
LAN	TCP/IP (Wired)	BOOT Method	Auto/Static/RARP/BOOTP/ DHCP	
		IP Address	Change	[000-255].[000-255].[000- 255].[000-255].
				[000].[000].[000].[000] ¹
			Exit	
		Subnet Mask	Change	[000-255].[000-255].[000- 255].[000-255].
				[000].[000].[000].[000] ¹
			Exit	
		Gateway	Change	[000-255].[000-255].[000- 255].[000-255].
				[000].[000].[000].[000]
			Exit	
		Node Name	Change	BRN_XXXXX= (last 6 figures of Ethernet address)
				(up to 15 characters)
				BRN_XXXXXX*
			Exit	
		WINS Config	Auto/Static	
	WINS Server	Primary/Secondary	[000-255].[000-255].[000- 255].[000-255].	
			[000].[000].[000].[000]	
	DNS Server	Primary/Secondary	[000-255].[000-255].[000- 255].[000-255].	
				[000].[000].[000].[000]
		APIPA	On/ Off	

Level1	Level2	Level3	Options	Options
LAN	TCP/IP (WLAN)	BOOT Method	Auto/Static/RARP/BOOTP/ DHCP	
		IP Address	Change	[000-255].[000-255].[000- 255].[000-255].
				[000].[000].[000].[000] ¹
			Exit	
		Subnet Mask	Change	[000-255].[000-255].[000- 255].[000-255].
				[000].[000].[000].[000] ¹
			Exit	
		Gateway	Change	[000-255].[000-255].[000- 255].[000-255].
				[000].[000].[000].[000]
			Exit	
		Node Name	Change	BRW_XXXXXX= (last 6 figures of Ethernet address)
				(up to 15 characters)
			BRW_XXXXXX*	
		Exit		
	WINS Config	Auto/Static		
	WINS Server	Primary/Secondary	[000-255].[000-255].[000- 255].[000-255].	
			[000].[000].[000].[000]	
	DNS Server	Primary/Secondary	[000-255].[000-255].[000- 255].[000-255].	
			[000].[000].[000].[000]	
		APIPA	On/ Off	
	Setup	Setup Wizard	Searching SSID	Select SSID&Set
	WLAN			(Select SSID from list or manually add SSID)
		SecureEasySetup	Connecting WLAN/Connected/Connect ion Error	
LAN	WLAN Status	Status	Active(11b)/Active(11g)/Connection Error	
		Signal	Strong/Medium/Weak/None	
		SSID	(Shows SSID with up to 32 digits)	
		Comm.Mode	Ad-hoc/Infrastructure	
	Setup Misc.	Wired LAN	Auto/1008-FD/1008- HD/108-FD/108-HD	

Appendix B

Level1	Level2	Level3	Options	Options
	Network	Wired LAN		
	I/F	WLAN		
	Factory Reset		Yes/No	

■ The factory settings are shown in bold.

1

On connection to the network, the machine will automatically set the IP address and Subnet Mask to value appropriate for your network.

B

Entering Text

For MFC models

When you are setting certain menu selections, such as the Station ID, you may need to enter text into the machine. Most number keys have three or four letters printed on keys. The keys for 0, # and \times do not have printed letters because they are used for special characters.

By pressing the proper number key repeatedly, you can access the character you want.

For setting a wireless network

Press Key	one time	two times	two times	four times	five times	six times	seven times	eight times
2	а	b	С	А	В	С	2	а
3	d	е	f	D	Е	F	3	b
4	g	h	i	G	Н	I	4	g
5	j	k	I	J	К	L	5	j
6	m	n	0	М	Ν	0	6	m
7	р	q	r	S	Р	Q	R	S
8	t	u	V	Т	U	V	8	t
9	w	х	У	z	W	Х	Y	Z

For setting other menu selections

Press Key	one time	two times	thres times	four times
2	А	В	С	2
3	D	Е	F	3
4	G	Н	I	4
5	J	K	L	5
6	М	Ν	0	6
7	Р	Q	R	S
8	Т	U	V	8
9	W	Х	Y	Z

Putting spaces

To enter a space in a fax number, press ► once between numbers. To enter a space in a name, press ► twice between characters.

Making corrections

If you entered an incorrect letter and want to change it, press ◀ to move the cursor under the incorrect letter. Press **Clear/Back**. Re-enter the correct letter. You can also back up and type over incorrect letters.

Repeating letters

If you need to enter a letter that is on the same key as the letter before, press ► to move the cursor to the right before you press the key again.

Special characters and symbols

Press \neq , **#** or **0**, and then press \triangleleft or \triangleright to move the cursor under the special character or symbol you want. Then press **OK** to choose it.

Press X for	(space) ! " # \$ % & ' () * + , / €
Press # for	:;<=>?@[]^_
Press 0 for	Ä Ë Ö Ü À Ç È É 0

For DCP models

Press \blacktriangle or \triangledown repeatedly to enter the text and press **OK**.

press \blacktriangleleft or \blacktriangleright repeatedly to move the cursor.

Press ▲ or ▼ for characters below

abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789

Making corrections

If you entered an incorrect letter and want to change it, press ◀ to move the cursor under the incorrect letter. Press **Stop**. All letters above and to the right of the cursor will be deleted. Re-enter the correct letter.

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