



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 (<http://solutions.brother.com>) 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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For technical and operational assistance, you must call the country where you purchased the machine. Calls must be made **from within** that country.

In USA 1-800-284-4329

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

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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	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mac OS [®] X 10.2.4 or greater	✓	✓	✓	✓	✓		✓	✓	✓

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.

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

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.xxx (where xxx.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).

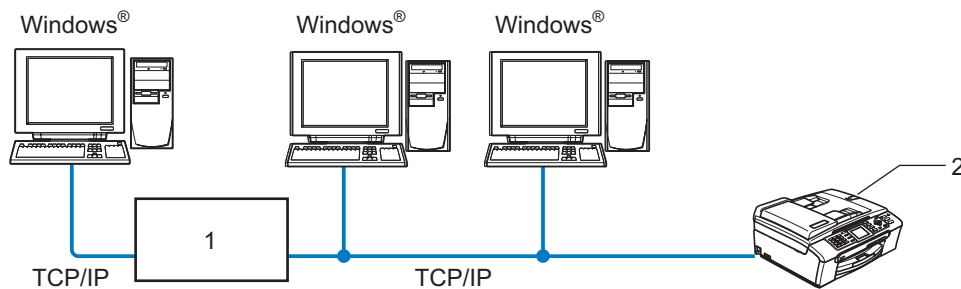
Types of Network Connections

1

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.



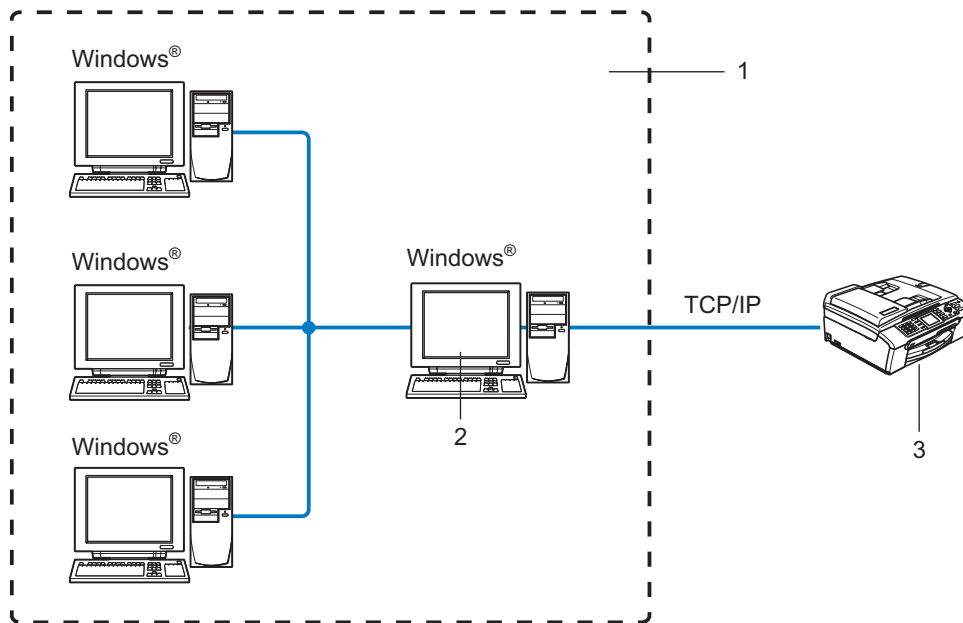
1 Switch or Router

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)

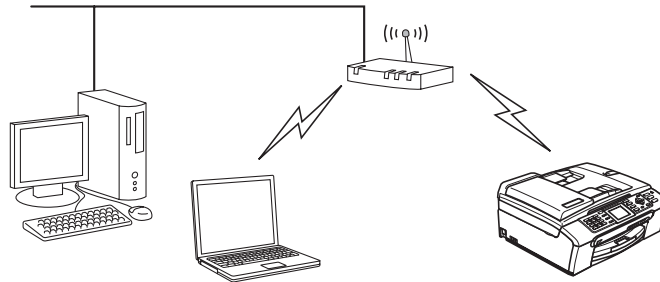
- In a larger network, we recommend a Network Shared printing environment.
- The “Server” or the “Print Server” must use the TCP/IP Print Protocol.
- The Brother machine needs an appropriate IP address configuration unless the machine is shared via the parallel port or USB port of the server.

Wireless network connection example

1

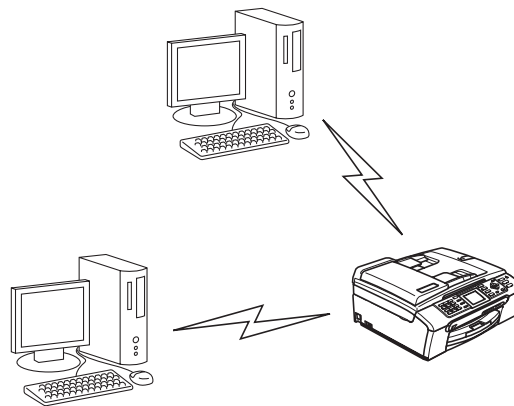
Connected to a wireless capable computer with an access point in the network (Infrastructure mode)

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.



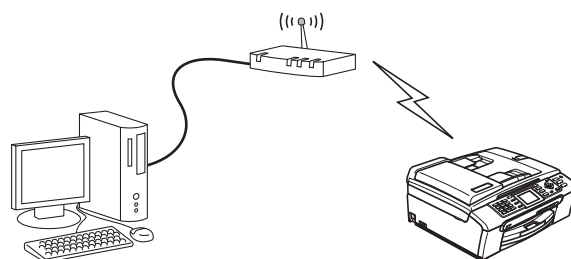
Connected to a wireless capable computer without an access point in the network (Ad-hoc mode)

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 Ethernet 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 169.254.1.0 to 169.254.254.255.

DNS client

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

LPR/LPD

Commonly used printing protocols on a TCP/IP network.

Port9100

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

mDNS

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

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.



Note

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.

192.168.1.1, 192.168.1.2, 192.168.1.3

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 110, *Using BOOTP to configure the IP address* on page 110 and *Using RARP to configure the IP address* on page 111.

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 111.

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®)

2

BRAdmin Professional utility

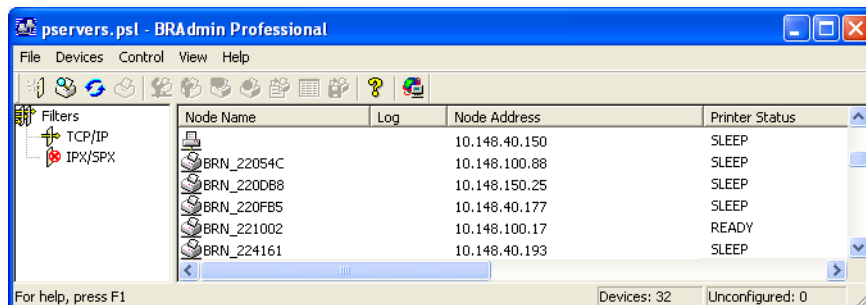
The BRAdmin Professional utility is designed to allow you to manage your network connected Brother machines in a TCP/IP environment.

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.

- 1 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.



**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 110.

Changing the print server settings

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

2

- 1 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.

- 1 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**.
- 3 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.

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.

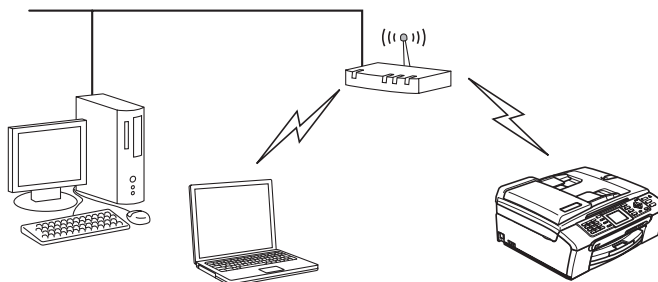
Please read this chapter for more details on how to configure the wireless network settings. For information on TCP/IP settings, see *Setting the IP address and subnet mask* on page 11. Then, in *Network printing from Windows® basic TCP/IP Peer-to-Peer printing* on page 87 and *Network printing from 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

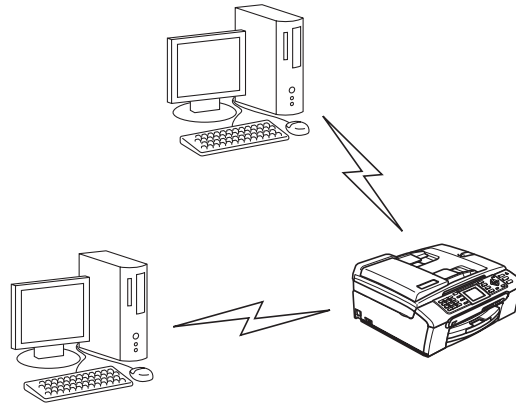
Connected to a wireless capable computer with an access point in the network (Infrastructure mode)

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.



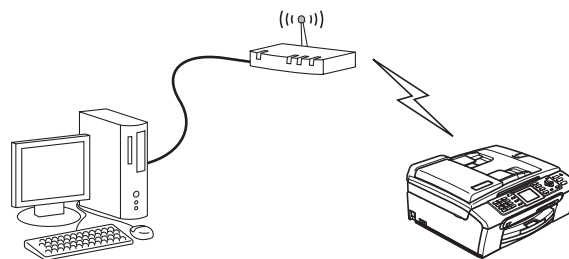
Connected to a wireless capable computer without an access point in the network (Ad-hoc mode)

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 Ethernet cable. When the Brother wireless machine (your machine) is a part of this network, it receives all print jobs via an access point.

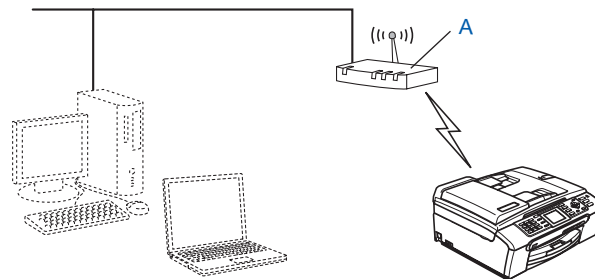


Confirm your network environment

The setup process will be different depending on your network environment

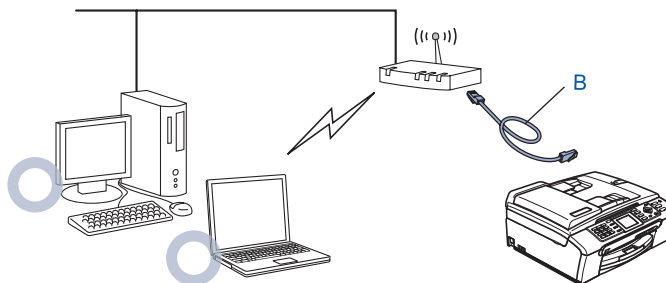
Configuration using SecureEasySetup™.

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.



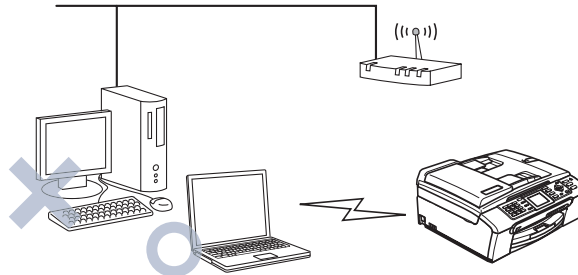
Configuration temporarily using a network cable

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 Ad-hoc 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 117.

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 re-keying 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.

- 1 Press **Menu**.
- 2 Press **▲** or **▼** to select `LAN`.
Press **OK**.
- 3 Press **▲** or **▼** to select `Network I/F`.
Press **OK**.
- 4 Press **▲** or **▼** to select `WLAN`.
Press **OK**. The wireless network interface will be activated.
- 5 Press **▲** or **▼** to select `Setup WLAN`.
Press **OK**.
- 6 Press **▲** or **▼** to select `Setup Wizard`.
Press **OK**.
- 7 Start to search for a SSID around the machine.

- 8 After a few tens of seconds, you can select the SSID from the list using ▲ or ▼. Press **OK** to select the SSID.
If you select the SSID displayed, go to 11.
If you want to add a new SSID, go to 9.
- 9 Select <New SSID> using ▲ or ▼.
Press **OK**. Go to 10.
- 10 Enter the SSID. (For information how to type text, see *Entering Text* on page 122.)
Press **OK**. Go to 11.
- 11 Using ▲ or ▼, select `Infrastructure` when instructed.
Press **OK**. Go to 12.
If you select `Ad-hoc`, go to 13.
- 12 Select the Authentication method using ▲ or ▼, and press **OK**.
If you select `Open System`, go to 13.
If you select `Shared Key`, go to 14.
If you select `WPA/WPA2-PSK`, go to 17.
- 13 Select the Encryption type, `None` or `WEP` using ▲ or ▼, and press **OK**.
If you select `None`, go to 19.
If you select `WEP`, go to 14.
- 14 Select the key option; `KEY1`, `KEY2`, `KEY3`, `KEY4` using ▲ or ▼, and press **OK**.
If you select the key which shows `*****`, go to 15.
If you select a blank key, go to 16.
- 15 If you want to change the key you selected in 14, press ▲ or ▼ to select `Change`. Press **OK**. Go to 16.
If you want to keep the key you selected in 14, press ▲ or ▼ to select `Keep`. Press **OK**. Go to 19.
- 16 Enter a new WEP key. Press **OK**. Go to 19. (To manually enter the text, see *Entering Text* on page 122)
- 17 Select the Encryption type, `TKIP` or `AES` using ▲ or ▼. Press **OK**. Go to 18.
- 18 Enter the password and press **OK**. Go to 19. (To manually enter the text, see *Entering Text* on page 122)
- 19 The following will be displayed.
To apply the settings, select `Yes`. To cancel, select `No`.
If you select `Yes`, go to 20.
If you select `No`, go back to 8.
- 20 The machine starts to connect to the wireless device you have selected.
- 21 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 109.

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.



- 1 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**.
- 4 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.

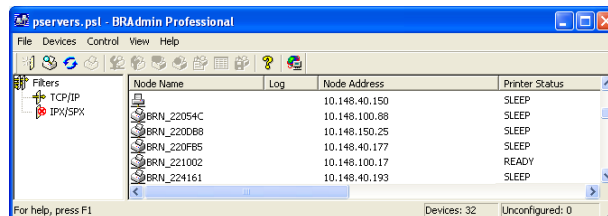
Using the BRAdmin Professional utility to change the wireless settings (for Windows®)



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 <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" or "BRW_XXXXXX" ("XXXXXX" is the last six digits of Ethernet address.).

- 1 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 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.

3

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 110.

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.

- 1 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.

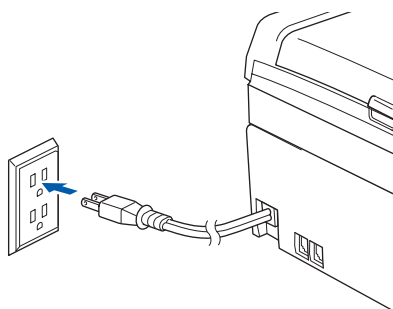
Configuration in Infrastructure mode

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.

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



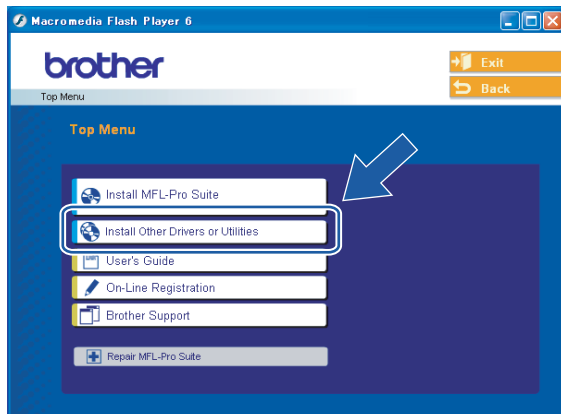
- 2 Turn on your computer.
(For Windows® 2000, XP and XP Professional x64 Edition, you must be logged on with Administrator rights.)



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.

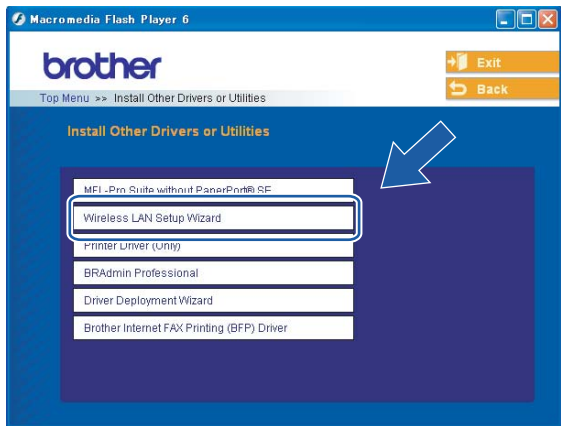
- 4 The CD-ROM main menu will appear. Click **Install Other Drivers or Utilities**.



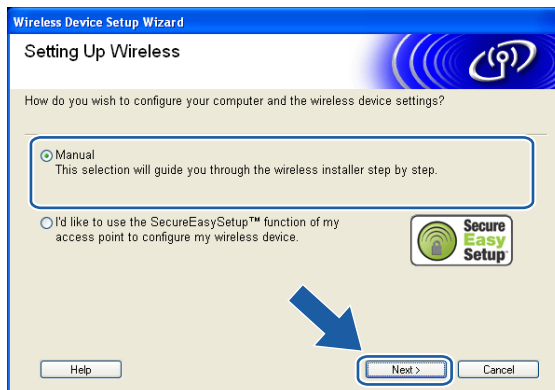
Note

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**.



- 6 Choose **Manual** and then click **Next**.



7 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:

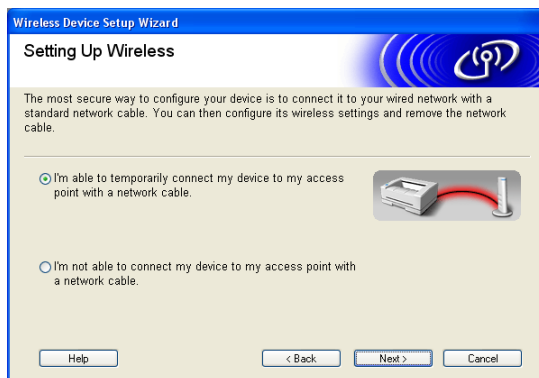
Choose **I'm able to temporarily connect my device to my access point with a network cable** and then click **Next**.

Go to 8.

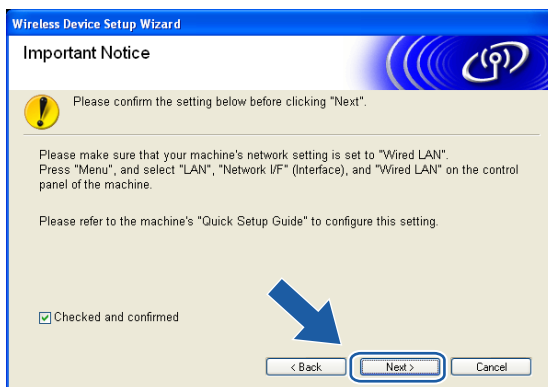
- If you do not have a network cable or cannot temporarily connect the Brother wireless device to your access point:

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

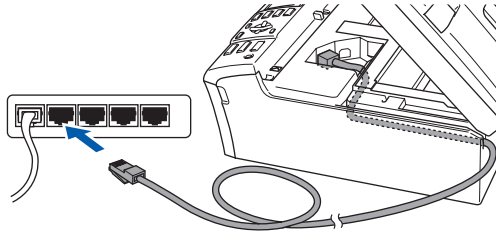
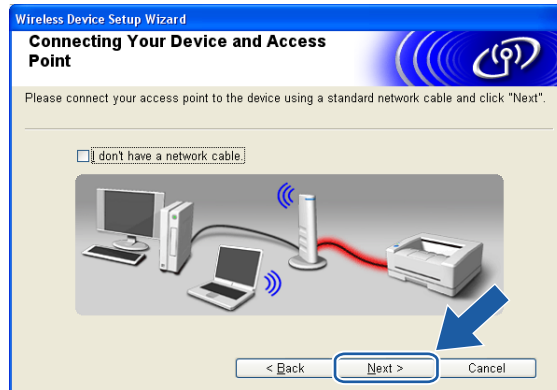
Go to 10.



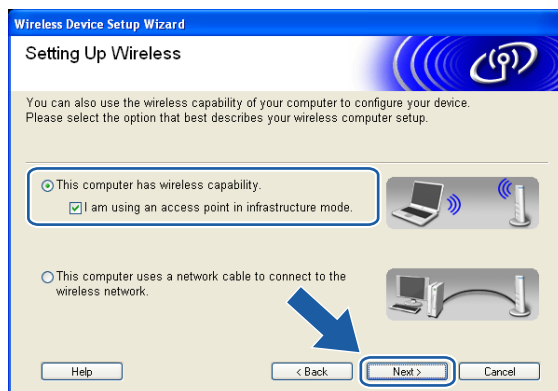
8 Read the **Important Notice** and click **Next**.



- 9 Connect the Brother wireless device to your access point using a network cable and click **Next**. Go to 14



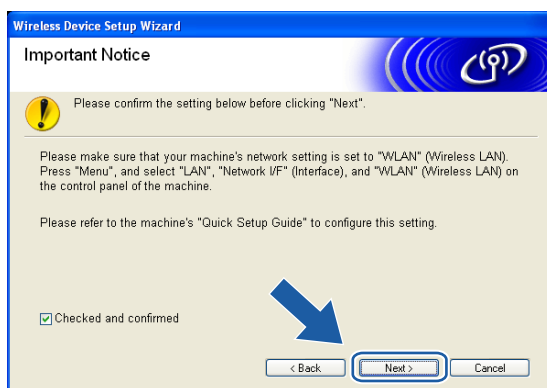
- 10 If you choose **This PC has wireless capability.**, check **I am using an access point in infrastructure mode**, and then click **Next**. Go to 11



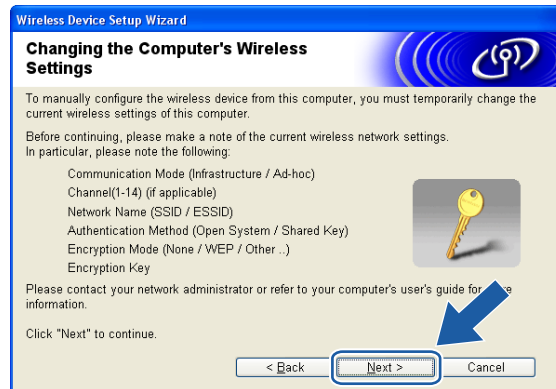
If you are using a wired computer, choose **This PC uses a network cable to connect to the wireless network.**, you must configure the wireless settings from the control panel. Click **Next** and follow the on-screen instructions to complete the setup. See *Using the Setup Wizard from the control panel*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



- 11 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**.

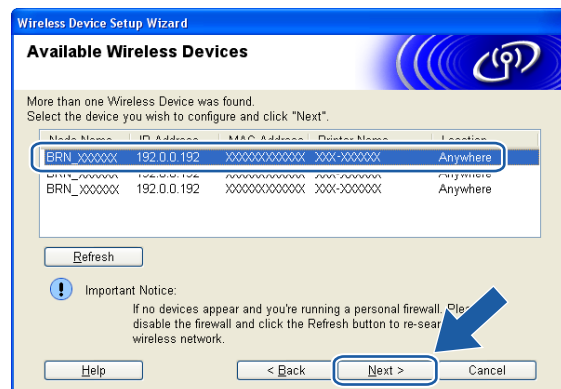


Note

- 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 11, 12 and 13.
- For Windows® XP SP2 users You 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).

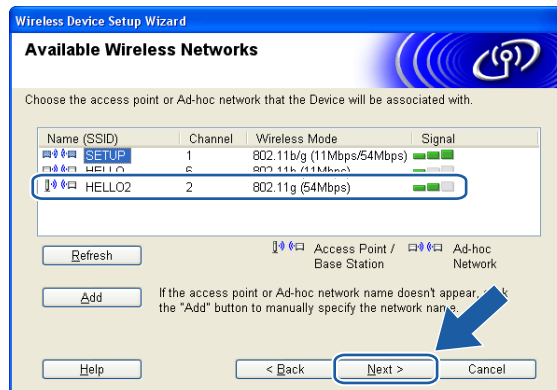
- 14 The following list appears. If the list is blank, check if the access point and the machine are powered on, and then click **Refresh**. Choose the machine you wish to configure, and click **Next**.



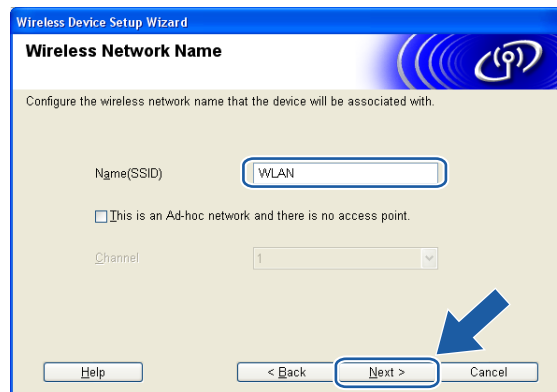
 **Note**

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).

- 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**.


 **Note**

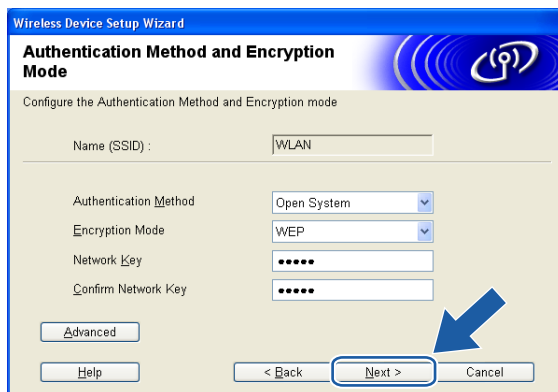
- If your access point is set to not broadcast the SSID you can manually add it by clicking the **Add** button. Follow the on-screen instructions for entering the **Name (SSID)** and the Channel number.
- If the list is blank, check that the access point has power and is broadcasting the SSID, and then 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.



- 16 If your network is not configured for Authentication and Encryption, the following screen will appear. To continue configuration, click **OK** and go to 18.



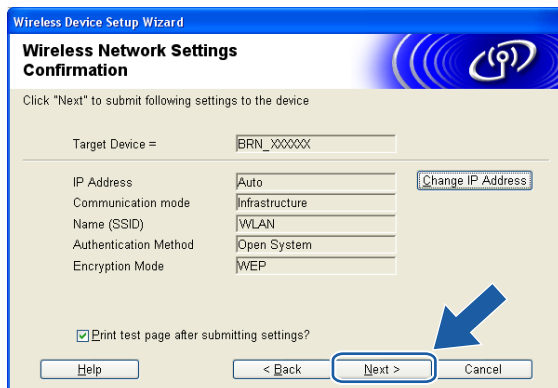
- 17 If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless machine, you must ensure that it is configured to match the Authentication and Encryption settings of your existing wireless network. Choose the **Authentication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



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.

- 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.

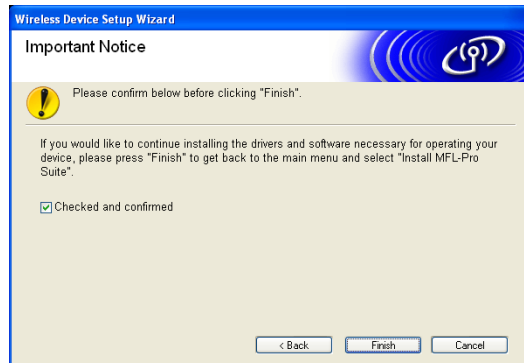
- 19 Disconnect the network cable between your access point (hub or router) and the machine, and click **Next**.



- 20 Using the information you recorded in 12, 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.



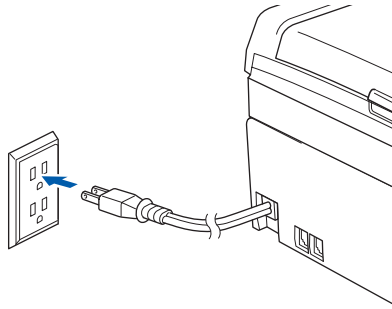
Configuration with an access point that supports SecureEasySetup™

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.



- 2 Turn on your computer.
(For Windows® 2000/XP/XP Professional x64 Edition, you must be logged on with Administrator rights.)



Note

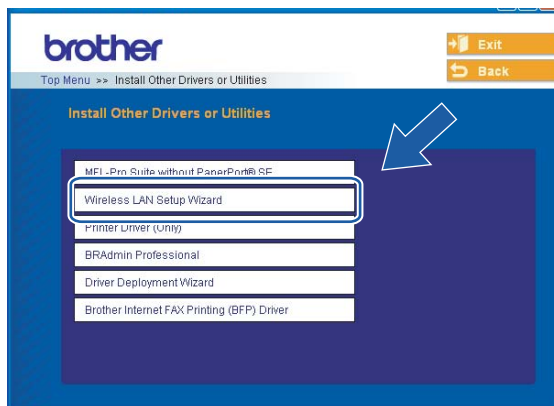
- Before configuration, if you are using personal firewall software, disable it. Once you are sure that you can print after the installation, restart your personal firewall software.
 - A wireless network connection is supported only between the Brother machine and an access point for PC's running Windows® 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**.

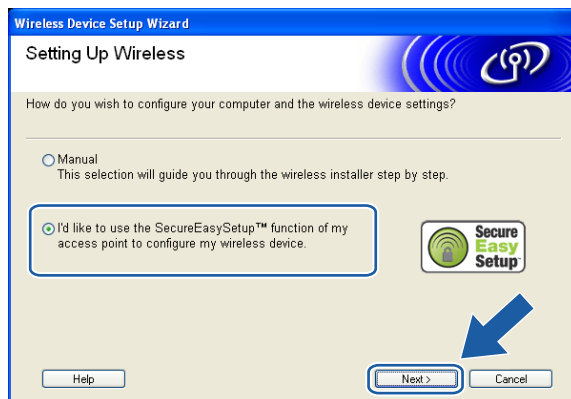
**Note**

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

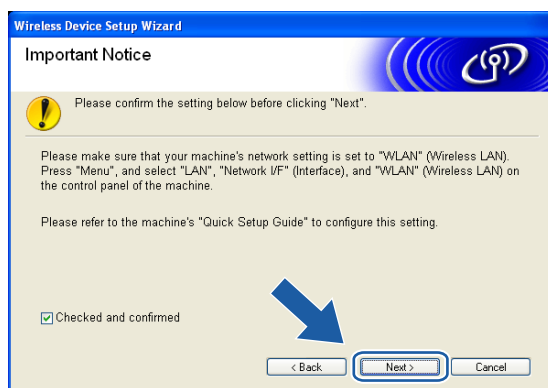
- 5 Click **Wireless LAN Setup Wizard**.



- 6 Choose **I'd like to use the SecureEasySetup™ function of my access point to configure my wireless device.** and click **Next**.



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



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



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

- Put the machine in SecureEasySetup™ mode.
Press **Menu**, **▲** or **▼** for LAN and press **OK**. Press **▲** or **▼** for Setup WLAN and then press **OK**. Press **▲** or **▼** for SecureEasySetup and press **OK**.

**Note**

If the LCD shows Connection Error, please try again.

- Click **Finish**.



- 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.

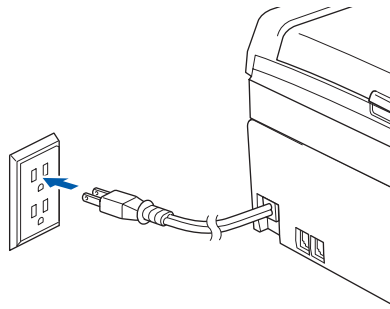
Configuration in Ad-hoc Mode

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**, **▲** 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.



- 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.

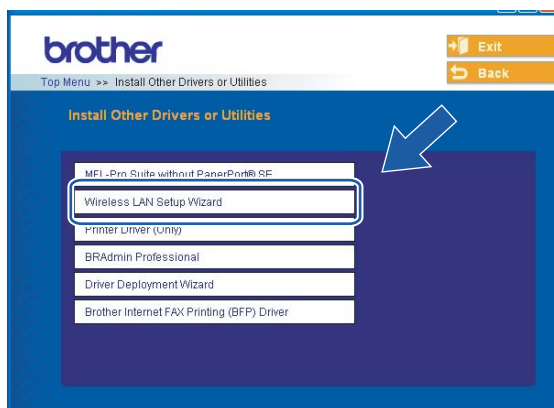
- 4 The CD-ROM main menu will appear. Click **Install Other Drivers or Utilities**.



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.

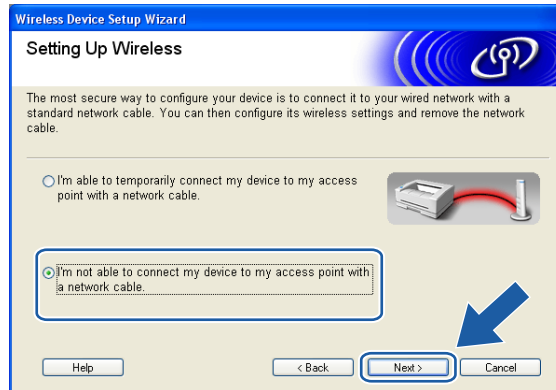
- 5 Click **Wireless LAN Setup Wizard**.



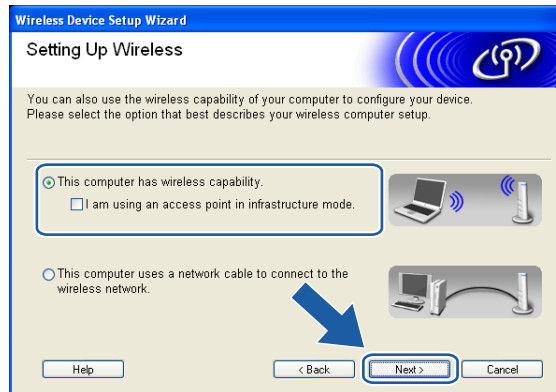
- 6 Choose **Manual** and then click **Next**.



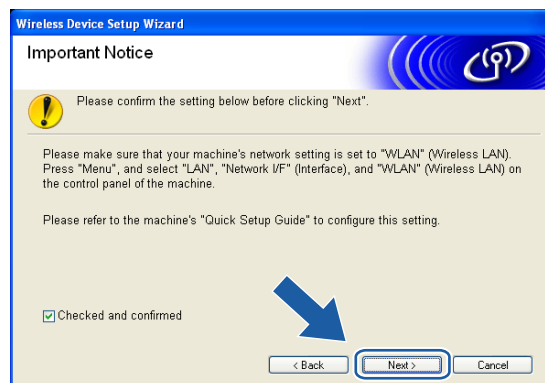
- 7 Choose **I'm not able to connect my device to my access point with a network cable**. Click **Next**.



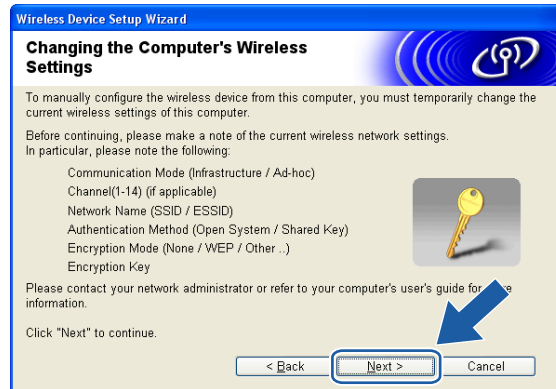
- 8 Choose **This PC has wireless capability**, and make sure **I am using an access point in infrastructure mode** is not checked. Click **Next**.



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

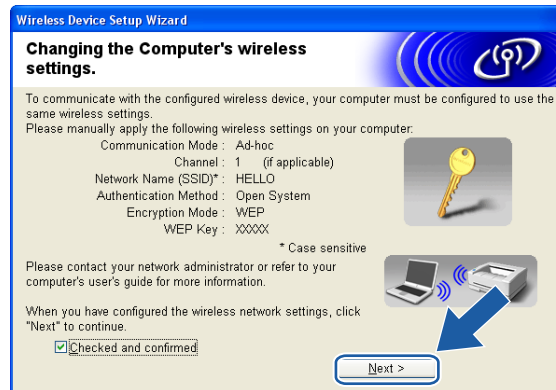


- 10 You need to temporarily change your PC's wireless settings. Please follow the on-screen instructions. Please make sure you take notes on all the settings such as SSID or channel of your PC. You will need them to return your PC back to its original wireless settings.



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:	

- 11 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 users You 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).

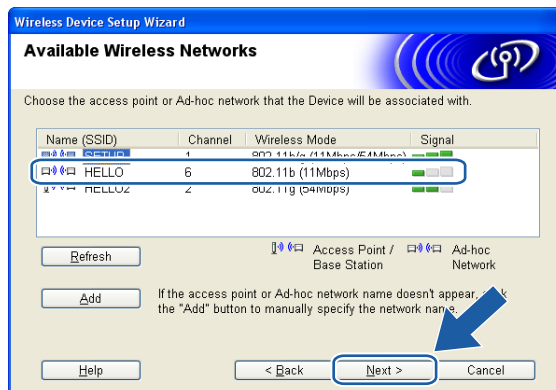
- 12 The following list appears. If the list is blank, check if the machine is powered on, and then click **Refresh**. Choose the machine you wish to configure, and click **Next**.



Note

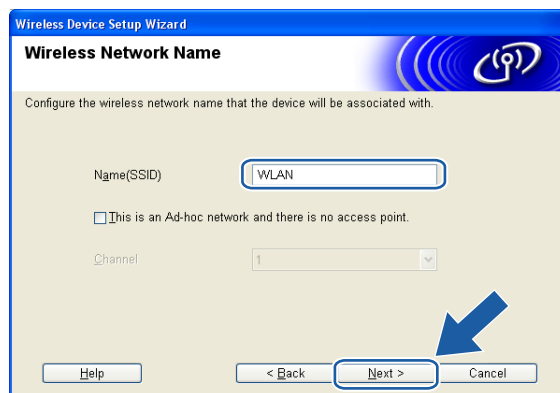
The Default Node name of the NC-xxxx (where "xxxx" is your model name) is "BRW_XXXXXX" (where "XXXXXX" is the last six digits of Ethernet address).

- 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 16.



 **Note**

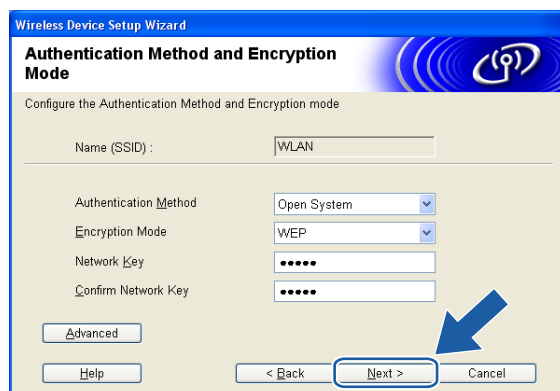
- If your target Ad-hoc network does not appear on the list, you can manually add it by clicking the **Add** button. Follow the on-screen instructions for entering the **Name (SSID)** and the **Channel** number.
- If the list is blank, check if the machine is within range for wireless communication.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



- 14 If your network is not configured for Authentication and Encryption, the following screen will appear. To continue configuration, click **OK** and go to 17.



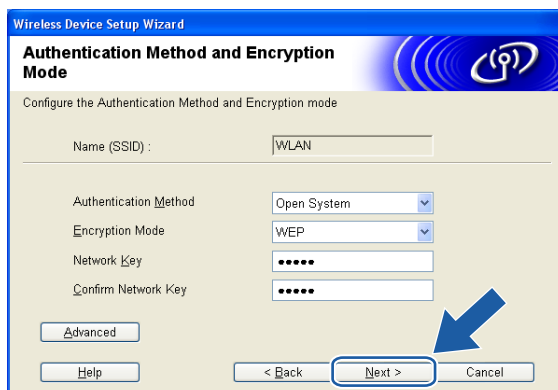
- 15 If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless machine, you must ensure that it is configured to match the Authentication and Encryption settings of your existing wireless network. Choose the **Authentication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



 **Note**

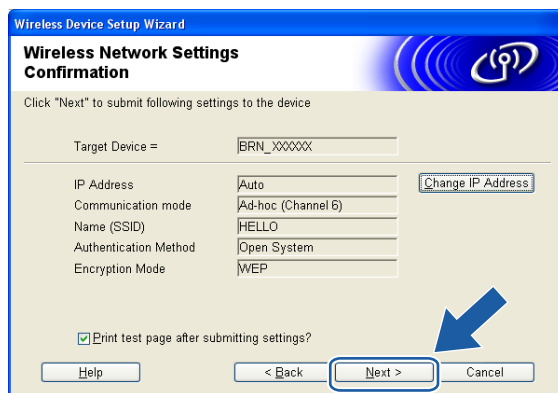
- If you want to set more than one WEP key, click **Advanced**.
- If you do not know the Authentication or Encryption settings for network, contact your network administrator.

- 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**.


 **Note**

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

- 17 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.

- 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 Settings Confirmation

Click "Next" to submit following settings to the device

Target Device = BRN_XXXXXX

IP Address: Auto

Communication mode: Ad-hoc (Channel 6)

Name (SSID): HELLO

Authentication Method: Open System

Encryption Mode: WEP

Print test page after submitting settings?

- 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

5

Wireless Configuration for Macintosh®

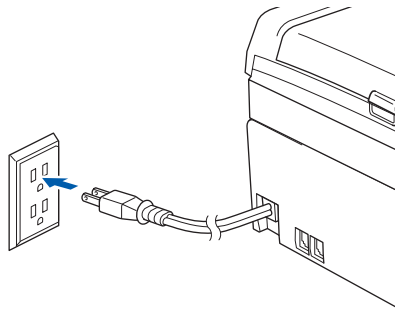
Configuration in Infrastructure mode

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.

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



- 2 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 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 7.

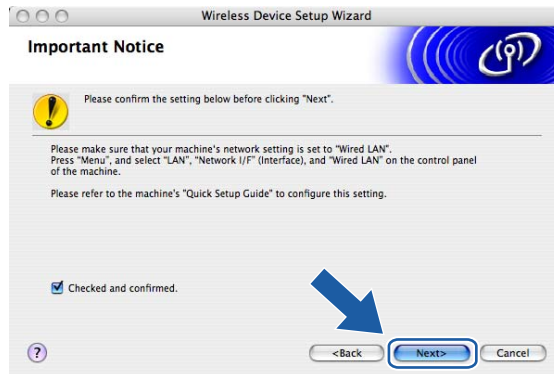
- If you do not have a network cable or cannot temporarily connect the Brother wireless device to your access point:

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

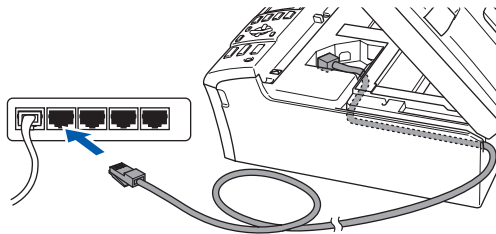
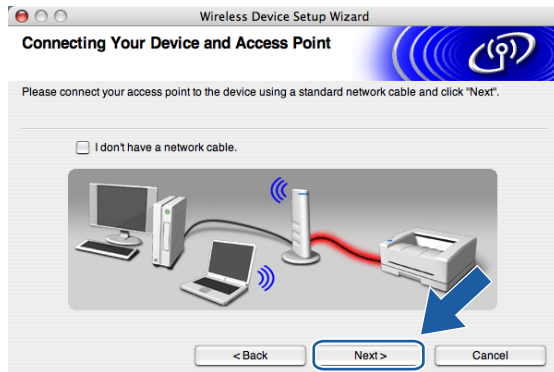
Go to 9.



- 7 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 13



- 9 If you choose **This PC has wireless capability.**, check **I am using an access point in infrastructure mode**, and then click **Next**. Go to 10



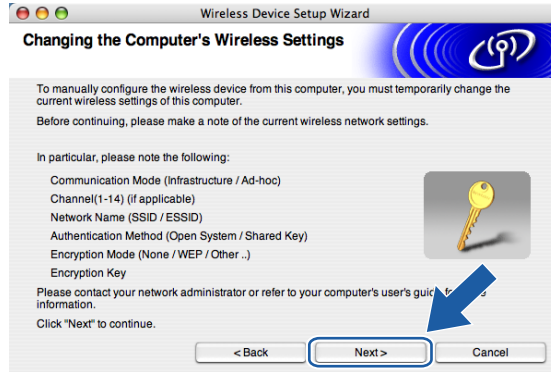
If you are using a wired computer, choose **This PC uses a network cable to connect to the wireless network.**, you must configure the wireless settings from the control panel. Click **Next** and follow the on-screen instructions to complete the setup. See *Using the Setup Wizard from the control panel*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



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

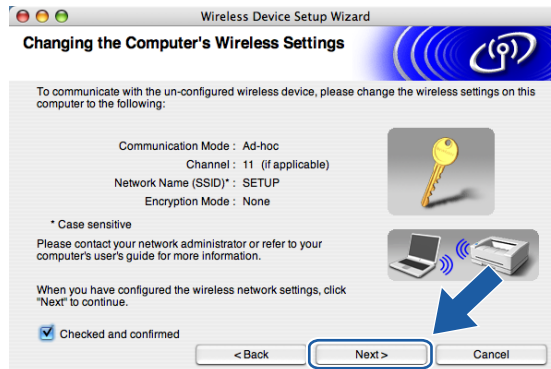


- 11 You need to temporarily change your PC's wireless settings. Please follow the on-screen instructions. Please make sure you take notes on all the settings such as SSID or channel of your PC. You will need them to return your PC back to its original wireless settings.

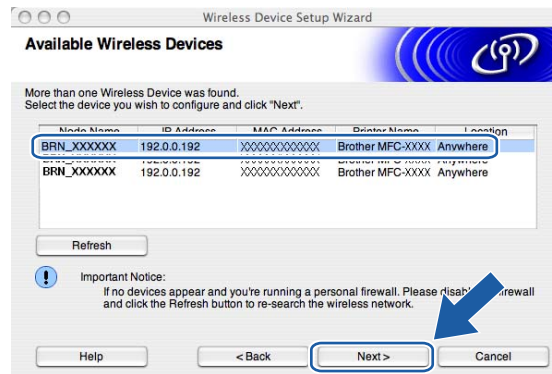


Item	Record the current wireless computer settings
Communication mode:(Infrastructure/Ad-hoc)	
Channel: (1-14)	
Network name(SSID/ESSID)	
Authentication method(Open system/Shared key)	
Encryption:(None/WEP/WPA/WPA2-PSK)	
Encryption key:	

- 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**.



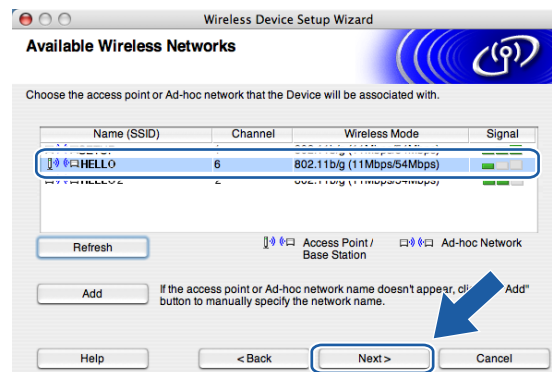
- 13 The following list appears. If the list is blank, check if the access point and the machine are powered on, and then click **Refresh**. Choose the machine you wish to configure, and click **Next**.



Note

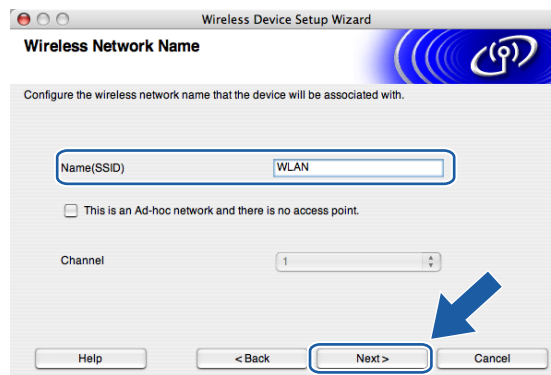
The Default Node name of the NC-xxxx (where “xxxx” is your model name) is “BRW_xxxxxx” (where “xxxxxx” is the last six digits of Ethernet address).

- 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**.



 **Note**

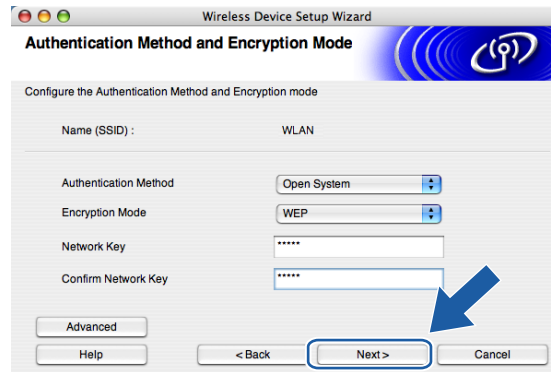
- If your access point is set to not broadcast the SSID you can manually add it by clicking the **Add** button. Follow the on-screen instructions for entering the **Name (SSID)** and the Channel number.
- If the list is blank, check that the access point has power and is broadcasting the SSID, and then 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.



- 15 If your network is not configured for Authentication and Encryption, the following screen will appear. To continue installation, click **OK** and go to 17.



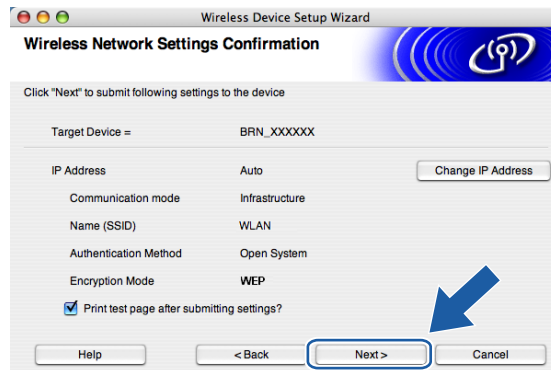
- 16 If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless machine, you must ensure that it is configured to match the Authentication and Encryption settings of your existing wireless network. Choose the **Authentication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



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.

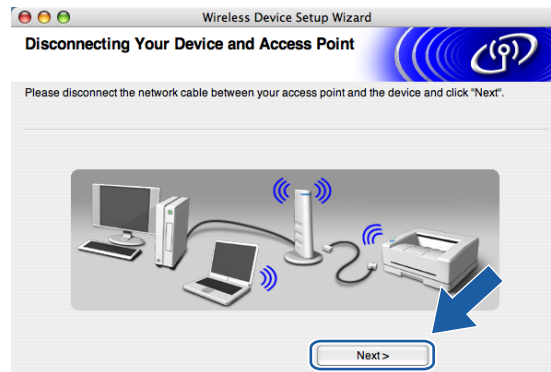
- 17 Click **Next**. The settings will be sent to your machine. The settings will remain unchanged if you click **Cancel**.



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.

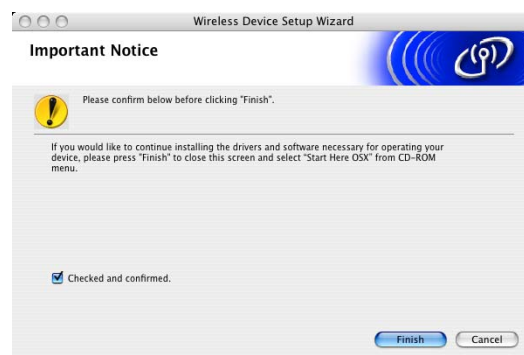
- 18 Disconnect the network cable between your access point (hub or router) and the machine, and click **Next**.



- 19 Using the information you recorded in 11, 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.



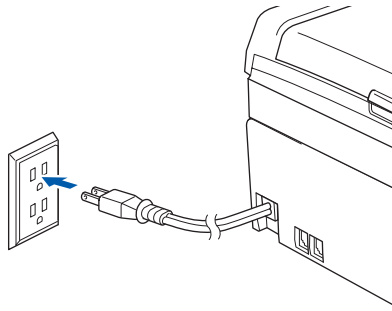
Configuration with an access point that supports SecureEasySetup™

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.

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



- 2 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 **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**.



- 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**, ▲ or ▼ for LAN and press **OK**. Press ▲ or ▼ for Setup WLAN and then press **OK**. Press ▲ or ▼ for SecureEasySetup and press **OK**.

**Note**

If the LCD shows Connection Error, please try again.

- 10 Click **Finish**.



- 11 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.

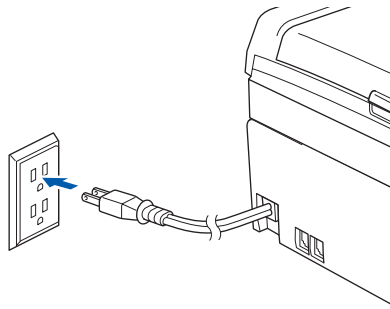
Configuration in Ad-hoc Mode

For Mac OS® X 10.2.4 or greater

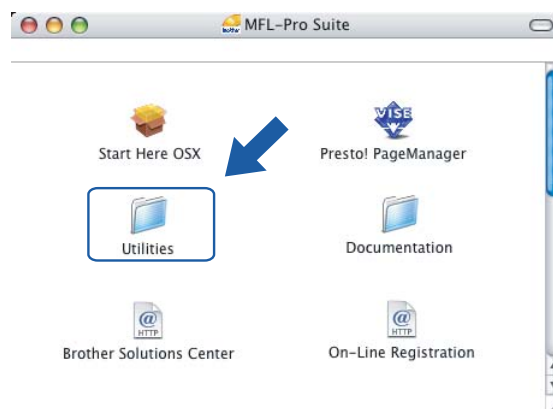
IMPORTANT

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**, **▲** 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.



- 2 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**.



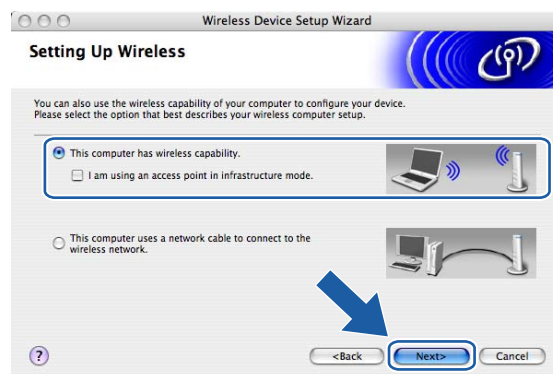
- 5 Choose **Manual** and then click **Next**.



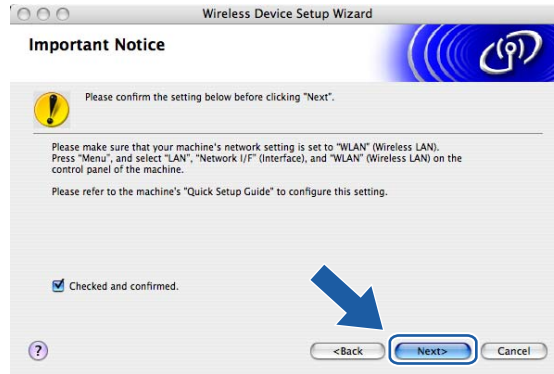
- 6 Choose **I'm not able to connect my device to my access point with a network cable**. Click **Next**.



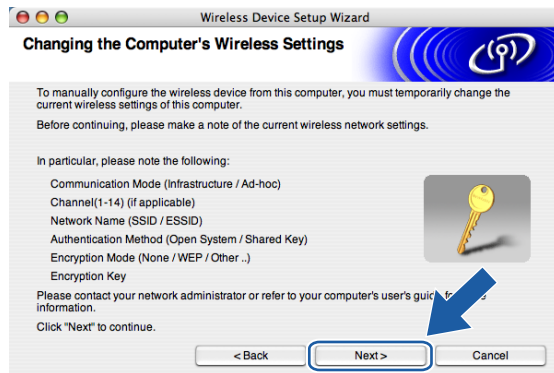
- 7 Choose **This PC has wireless capability**, and make sure **I am using an access point in infrastructure mode** is not checked. Click **Next**.



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

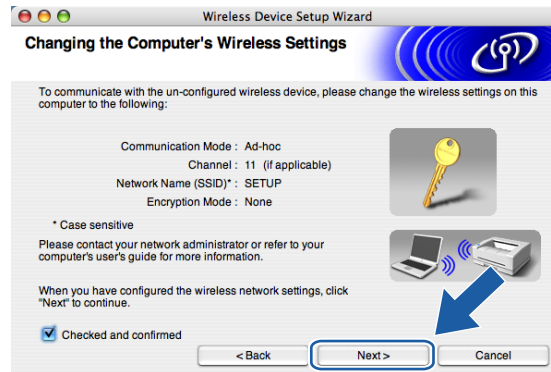


- 9 You need to temporarily change your PC's wireless settings. Please follow the on-screen instructions. Please make sure you take notes on all the settings such as SSID or channel of your PC. You will need them to return your PC back to its original wireless settings.



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**.



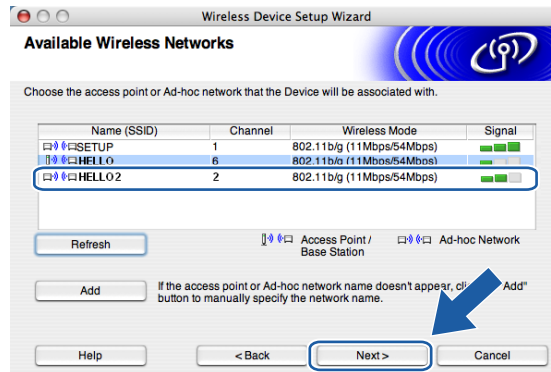
- 11 The following list appears. If the list is blank, check if the machine is powered on, and then click **Refresh**. Choose the machine you wish to configure, and click **Next**.



Note

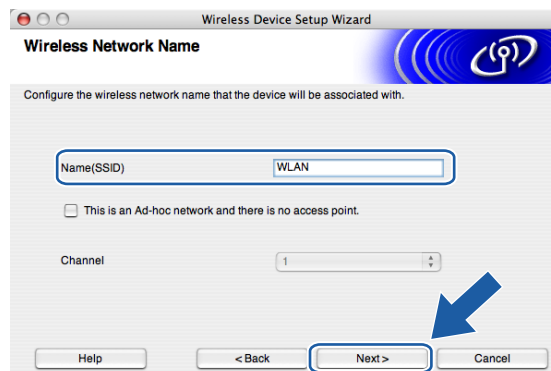
The Default Node name of the NC-xxxx (where "xxxx" is your model name) is "BRW_xxxxxx" (where "xxxxxx" is the last six digits of Ethernet address).

- 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 15.



Note

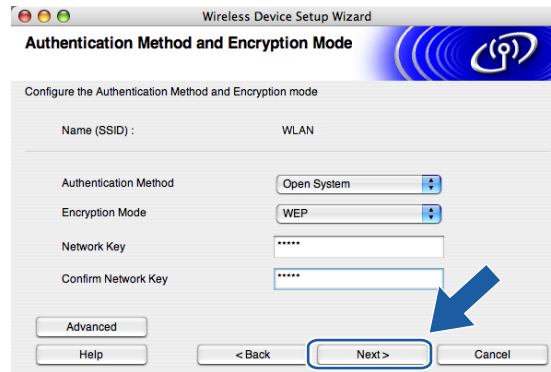
- If your target Ad-hoc network does not appear on the list, you can manually add it by clicking the **Add** button. Follow the on-screen instructions for entering the **Name (SSID)** and the **Channel** number.
- If the list is blank, check if the machine is within range for wireless communication.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



- 13 If your network is not configured for Authentication and Encryption, the following screen will appear. To continue installation, click **OK** and go to 16.



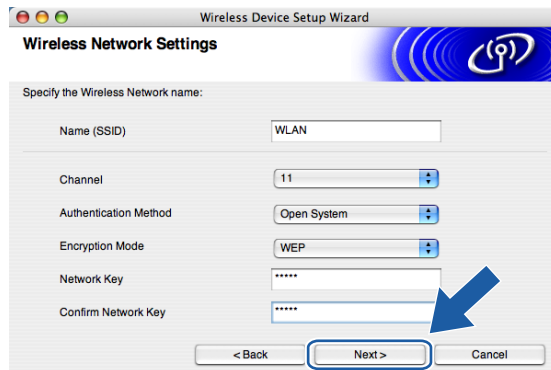
- 14 If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless machine, you must ensure that it is configured to match the Authentication and Encryption settings of your existing wireless network. Choose the **Authentication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



 **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.

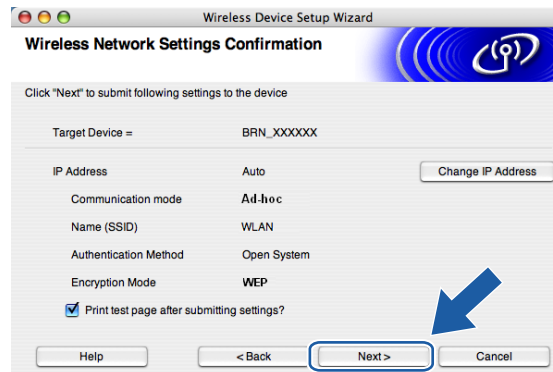
- 15 Enter a new SSID and choose the **Authentication Method** and **Encryption Mode** from the pull-downs in each setting box. Then enter the **Network key** and click **Next**.



 **Note**

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

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



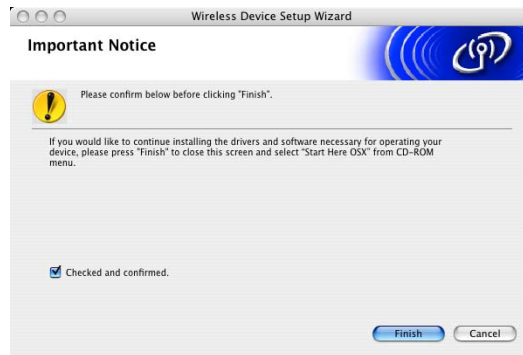
Note

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.

- 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.



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 **▲** or **▼** to select **LAN**. Proceed to the menu selection you wish to configure. See *Function table and default factory settings* on page 119.

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**.

- 1 Press **Menu**.
- 2 Press **▲** or **▼** 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 Press **▲** or **▼** to select **BOOT Method**.
Press **OK**.
- 5 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 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 111. 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.

- 1 Press **Menu**.
- 2 Press **▲** or **▼** 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 Press ▲ or ▼ to select IP Address.
Press **OK**.
- 5 Press ▲ or ▼ to select Change.
Press **OK**.
- 6 Enter the IP address.
Press **OK**.

**Note**

For DCP models, press ▲ or ▼ repeatedly to enter the first three-digit number for the IP address. Press ▶ 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**.

- 7 Press **Stop/Exit**.

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 ▲ or ▼ 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 Press ▲ or ▼ to select Subnet Mask.
Press **OK**.
- 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. Repeat 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.

- 1 Press **Menu**.
- 2 Press **▲** or **▼** 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 Press **▲** or **▼** to select Gateway.
Press **OK**.
- 5 Press **▲** or **▼** to select Change.
Press **OK**.
- 6 Enter the Gateway address.
Press **OK**.



Note

For DCP models, press **▲** or **▼** repeatedly to enter the first three-digit number for the Gateway address. Press **▶** 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**.

- 7 Press **Stop/Exit**.

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_XXXXXX for a wired network or BRW_XXXXXX for a wireless network (where XXXXXX is the last six digits of the Ethernet address) (up to 15 characters).

- 1 Press **Menu**.
- 2 Press **▲** or **▼** 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 Press **▲** or **▼** to select Node Name.
Press **OK**.

- 5 Press ▲ or ▼ to select **Change**.
Press **OK**.
- 6 Enter the Node Name.
Press **OK**.

**Note**

DCP models cannot change the Node Name from the control panel menu.

- 7 Press **Stop/Exit**.

WINS Config

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

- 1 Press **Menu**.
- 2 Press ▲ or ▼ 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 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**.
- 2 Press ▲ or ▼ 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 Press ▲ or ▼ to select `WINS Server`. Press **OK**.
- 5 Press ▲ or ▼ to select `Primary` or `Secondary`. Press **OK**.
- 6 Press ▲ or ▼ to select `Change`. Press **OK**.
- 7 Enter the WINS Server address. Press **OK**.

**Note**

For DCP models, press ▲ or ▼ repeatedly to enter the first three-digit number for the WINS Server address. Press ▶ 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

- 1 Press **Menu**.
- 2 Press ▲ or ▼ 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 Press ▲ or ▼ to select `DNS Server`. Press **OK**.
- 5 Press ▲ or ▼ to select `Primary` or `Secondary`. Press **OK**.

- 6 Press ▲ or ▼ to select **Change**.
Press **OK**.
- 7 Enter the DNS Server address.
Press **OK**.

**Note**

For DCP models, press ▲ or ▼ repeatedly to enter the first three-digit number for the DNS Server address. Press ► 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.

- 1 Press **Menu**.
- 2 Press ▲ or ▼ 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 Press ▲ or ▼ to select **APIPA**.
Press **OK**.
- 5 Press ▲ or ▼ to select **On** or **Off**.
Press **OK**.
- 6 Press **Stop/Exit**.

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 NG.

- 1 Press **Menu**.
- 2 Press ▲ or ▼ to select LAN.
Press **OK**.
- 3 Press ▲ or ▼ to select WLAN Status.
Press **OK**.
- 4 Press ▲ or ▼ to select Status.
Press **OK**.
- 5 The current wireless network status will be displayed; Active (11b), Active (11g), or Connection NG.
- 6 Press **Stop/Exit**.

Signal

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

- 1 Press **Menu**.
- 2 Press ▲ or ▼ to select LAN.
Press **OK**.
- 3 Press ▲ or ▼ to select WLAN Status.
Press **OK**.
- 4 Press ▲ or ▼ to select Signal.
Press **OK**.
- 5 The current wireless network signal strength will be displayed; Strong, Medium, Weak or None.
- 6 Press **Stop/Exit**.

SSID

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

- 1 Press **Menu**.
- 2 Press ▲ or ▼ to select LAN.
Press **OK**.
- 3 Press ▲ or ▼ to select WLAN Status.
Press **OK**.
- 4 Press ▲ or ▼ to select SSID.
Press **OK**.
- 5 The current wireless network SSID will be displayed.
- 6 Press **Stop/Exit**.

Comm.Mode

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

- 1 Press **Menu**.
- 2 Press ▲ or ▼ to select LAN.
Press **OK**.
- 3 Press ▲ or ▼ to select WLAN Status.
Press **OK**.
- 4 Press ▲ or ▼ to select Comm. Mode.
Press **OK**.
- 5 The current wireless network communication mode will be displayed; Ad-hoc or Infrastructure.
- 6 Press **Stop/Exit**.

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).



Note

If you incorrectly set this value, you may not be able to communicate with your print server.

- 1 Press **Menu**.
- 2 Press ▲ or ▼ to select LAN.
Press **OK**.
- 3 Press ▲ or ▼ to select Setup Misc..
Press **OK**.
- 4 Press ▲ or ▼ to select Wired LAN.
Press **OK**.
- 5 Press ▲ or ▼ to select Auto/100B-FD/100B-HD/10B-FD/10B-HD.
- 6 Press **Stop/Exit**.

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.

- 1 Press **Menu**.
- 2 Press **▲** or **▼** to select `LAN`.
Press **OK**.
- 3 Press **▲** or **▼** to select `Network I/F`.
Press **OK**.
- 4 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.

- 1 Press **Menu**.
- 2 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.

- 1 Press **Menu**.

- 2 Press ▲ or ▼ to select LAN.
Press **OK**.
- 3 Press ▲ or ▼ to select Factory Reset.
Press **OK**.
- 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.

7

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

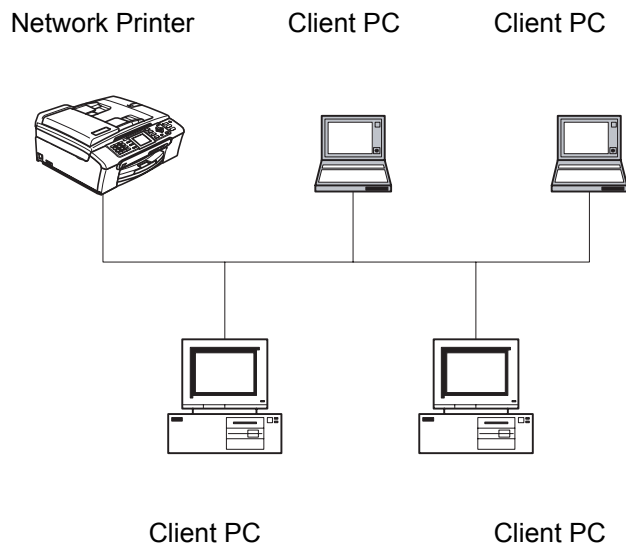
Driver Deployment Wizard is not supported in Windows[®] XP Professional x64 Edition.

Connection methods

The Driver Deployment Wizard supports the two connection methods.

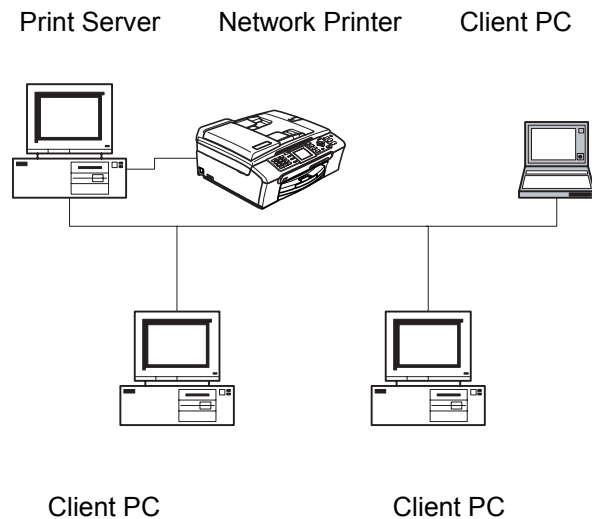
Brother Peer-to-peer Network printer

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



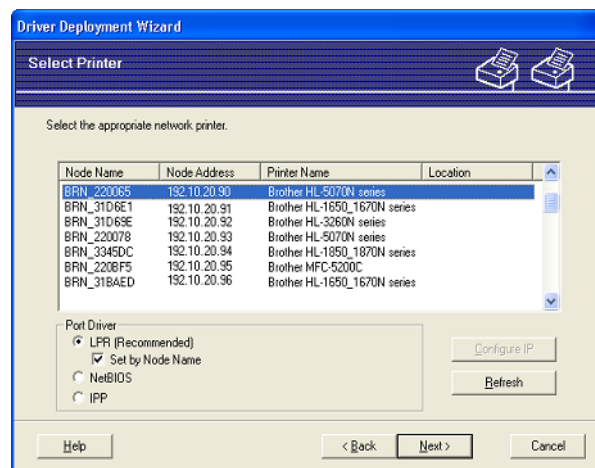
Network Shared Printer

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

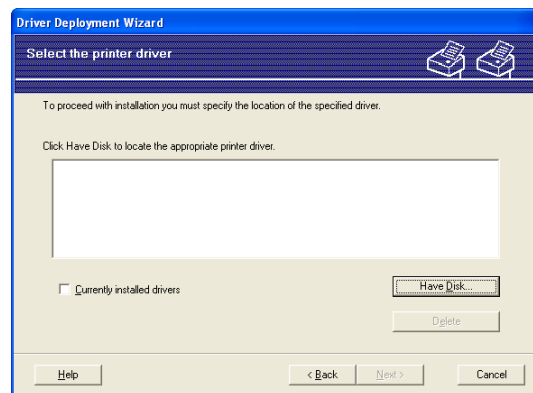
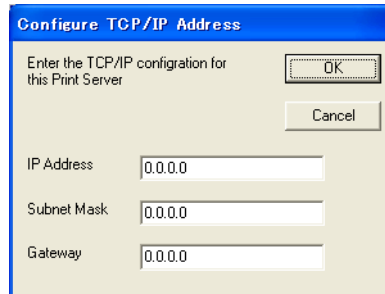
- 1 When you run the Wizard for the first time you will see a welcome screen. Click **Next**.
- 2 Select the Device Type you own and click **Next**.
- 3 Choose your connection type to the device that you want to print to.
- 4 Choose the option you require and click **Next**.
- 5 If you select the Brother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



- 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.



- 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

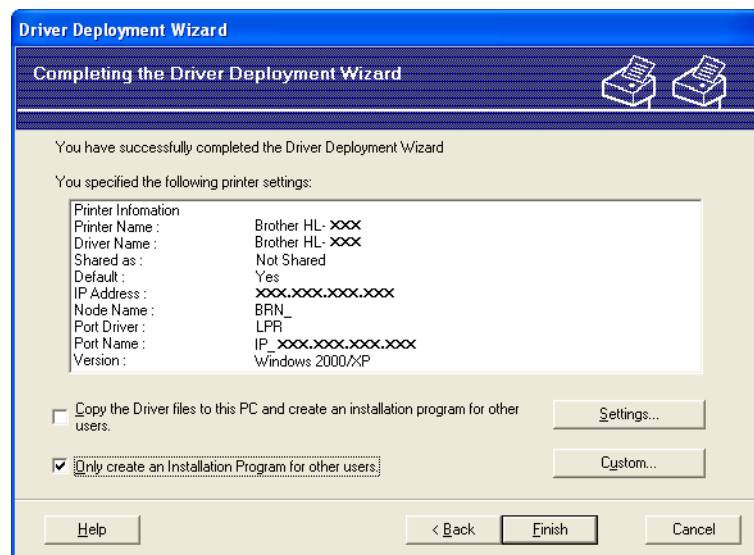
The **Driver Deployment Wizard** can create self running .EXE files. These self-running .EXE files can be saved to the network, copied to a CD-ROM, a floppy disc or even e-mailed to another user. Once run, the driver and its settings are automatically installed without any user intervention.

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.



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.

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 Network Print Queue or Share (printing only), see *Installation when using a Network Print Queue or Share (printer driver only)* on page 114 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**.

- 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.
- 2 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.
- 2 Select **File** and then **Properties**.
- 3 Click the **Details** tab and click **Add Port**.
- 4 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.

Overview

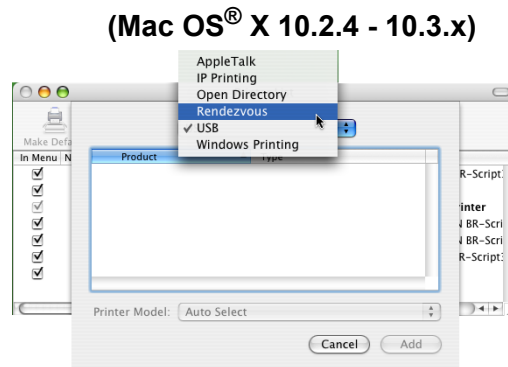
This chapter explains how to print from Macintosh[®] on a Network using the Simple Network Configuration capabilities on Mac OS[®] X 10.2.4 or greater.

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

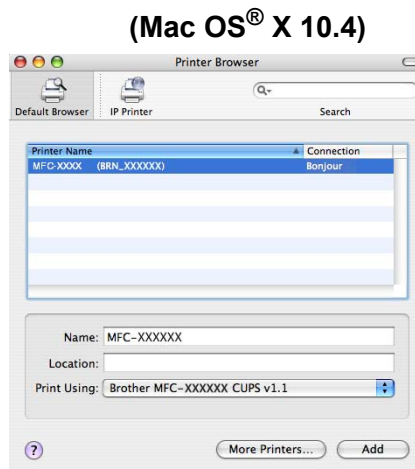
How to select the print server (TCP/IP)

- 1 Switch the machine ON.
- 2 From the **Go** menu, select **Applications**.
- 3 Open the **Utilities** folder.
- 4 Double click the **Printer Setup Utility** icon. (Mac OS[®] X 10.2.x users, click the **Print Center** icon.)
- 5 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.

- 6 (For Mac OS® X 10.2.4 to 10.3.x)
Make the following selection.



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



- 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_XXXXXX for a wired network or BRW_XXXXXX for a wireless network (where XXXXXX is the last six digits of the Ethernet address).

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

Overview

Depending on your network configuration and application requirements for sending faxes via a network, you can choose between Brother Network PC FAX Software or Brother Internet Fax Printing Software. With either software, viewable document such as web pages, word documents, PDF documents can be sent from the users desktop to any standard Facsimile machines, Internet fax machines and E-mail addresses.

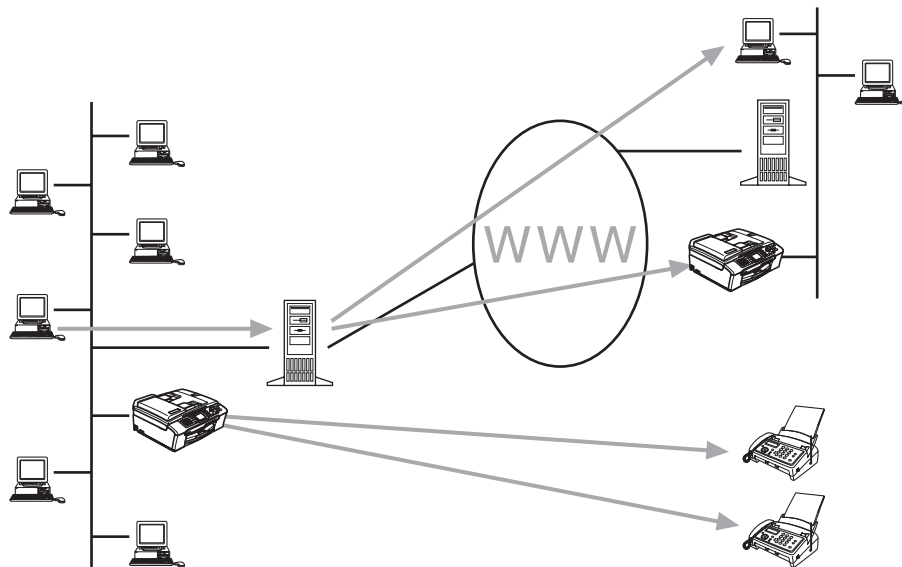
Brother Internet Fax Printing Software (BFP) is a Windows® 98/98SE/Me/2000/XP software utility that gives network PC Fax and Internet Fax functionality from the desktop to users on your network or over the Internet. BFP utilizes SMTP as the transport for sending documents from your PC. This allows any PC supported by a SMTP mail server to send an Internet FAX even if that PC does not have direct access to the networked machine.

Brother Network PC Fax Software utilizes LPR as the transport for sending documents from your PC to the networked machine for transmission. This requires that the sending PC has access to the network that the sending machine is connected.



Note

Brother Internet Fax Printing Software is not supported in Windows® XP Professional x64 Edition.



Installing Brother Internet Fax Printing Driver

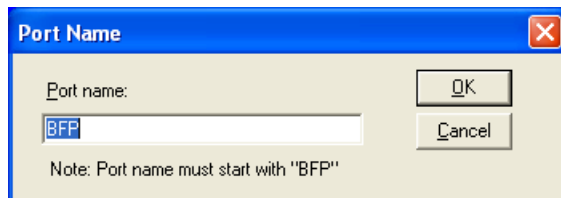
Insert the CD-ROM supplied with your Brother machine into your CD-ROM Drive. The installer screen will automatically start.



Note

If the installer screen does not appear automatically, select Start/Run and type X:/setup.exe.(X:/ should be the drive letter of your CD-ROM drive on your PC)

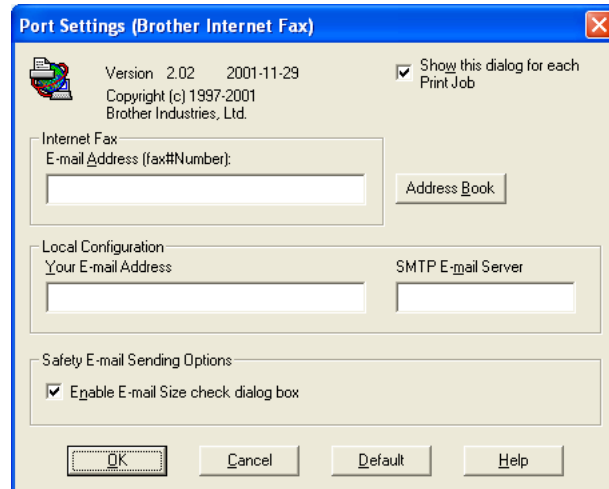
- 1 Select Install Other Drivers or Utilities.
- 2 Select Brother Internet Fax Printing (BFP) Driver.
- 3 Click Install.
- 4 Next you will be presented with the licensing agreement, please carefully read the agreement and make the necessary choice.
- 5 During the installation you are presented with the following screen, select the default unless you have previously installed this software. If this is the case use a port number that has not been previously configured. Example BFP2.



Note

When Installing BFP on Windows[®] 2000 and XP operating systems we recommend that you add a “.” to the end of the port name.

- 6 You also need to enter certain information into the printer driver dialog screen. It is very important that you enter your own E-mail address. You also need to configure the SMTP mail server IP address or Node Name.



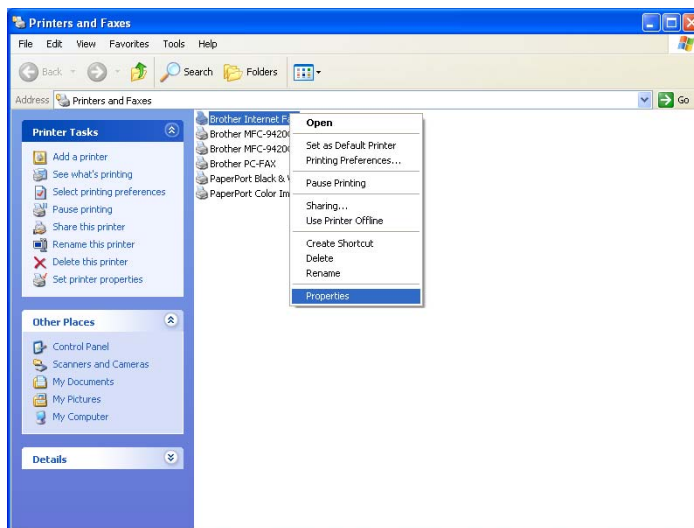
Note

- For **Internet Fax E-mail address**, you can enter the default E-mail address of the print server or you can leave it blank. If an address is specified, it will always be used as default.
- **SMTP E-mail server** can be the Node Name or IP address of the E-mail server.
- If in any doubt contact your Network Administrator for assistance.

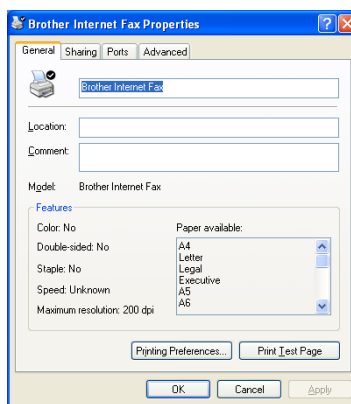
Changing the BFP Port Settings

If you have more than one networked machine with the print server you may want to change the settings of the BFP software to use an alternative machine as the network fax print server.

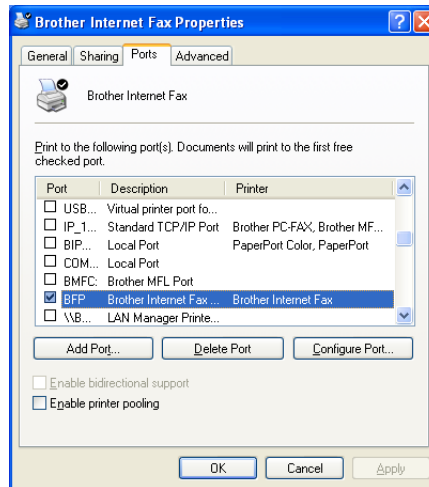
- 1 To alter BFP settings, select **Start/Printers and Faxes** to open the Printers dialogue box. Highlight Brother Internet Fax and right click the mouse. From the list presented select Properties.



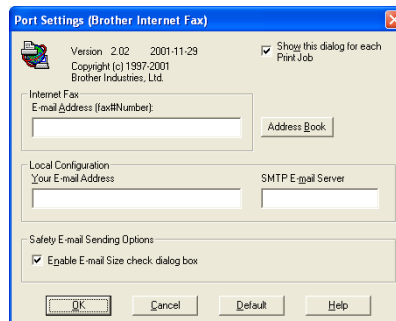
- 2 You are now presented with the screen below, which allows you to configure the BFP settings. To change the details of the print server, select the **Ports** tab.



- 3 The following screen shows the current configuration to alter this configuration, press the **Configure Port...** key.

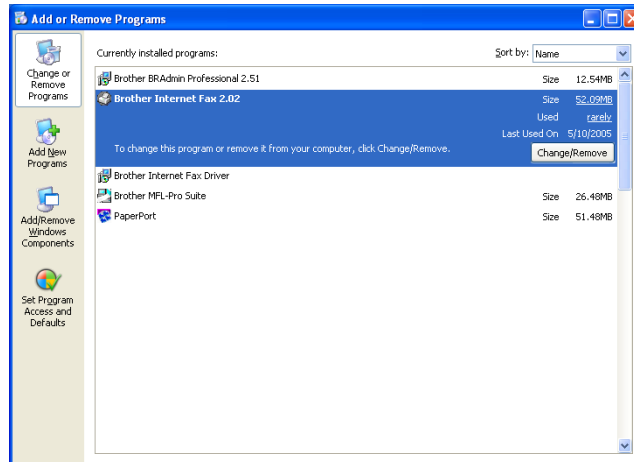


- 4 From the **Configure Port...** dialogue box you can change the settings.



Uninstalling from Windows® 98/98SE/Me/2000/XP

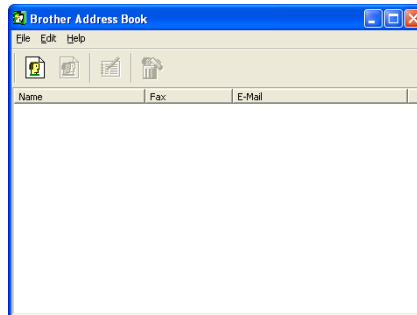
Select **Start/Control Panel** and then double click the **Add or Remove programs** icon. From the list of installed programs select **Brother Internet Fax x.xx** then click the **Change/Remove** button.



Using the BFP Address Book

This utility can administer the Fax addresses, Internet Fax addresses and E-mail address of all the contacts that you wish to use with the BFP Software. Additionally you can create Groups of contacts that you may wish to broadcast documents to.

From the **Start** menu, select **All Programs, Brother, MFC-XXXX, Internet FAX** and then click **Address Book**. The Brother Address Book dialog box will appear:



Setting Up a Member in the Address Book

In the Brother Address Book dialog box you can add, edit and delete stored information for members and groups

- 1 In the Address Book dialog box, click the  icon to add a member. The **Brother Address Book Member Setup** dialog box will appear:




Note

When creating the Address Book member please select the method of default delivery.

- 2 In the **Brother Address Book Member Setup** dialog box, type the member's information. **Name and Fax** are required fields. You can also enter the an E-mail contact address and machine address for the address book member Click the **OK** button to save the member's information.


Setting Up a Group for Broadcasting

If you repeatedly send the same PC-FAX to multiple recipients, you can combine members into a Group.


- 1 In the **Brother Address Book** dialog box, click the  icon to create a group. The Brother Address Book Group Setup dialog box appears:

- 2 Type the name of the new group in the **Group Name** field.
- 3 In the **Available Names** box, select each member to be included in the Group, and then click **Add>>**.
- 4 Members you add to the group will be listed in the **Group Members** box.
- 5 After all the members have been added, click **OK**.

Editing Member Information

- 1 To edit a Member or Group, select the Member or Group you want to edit.
- 2 Click the  Edit icon.
- 3 Edit the Member or Group information.
- 4 Click OK to save your changes.

Deleting a Member or Group

- 1 To delete a Member or Group, select the Member or Group you want to delete.
- 2 Click the  Delete icon.
- 3 Click **OK** when the **Delete OK?** dialog appears.

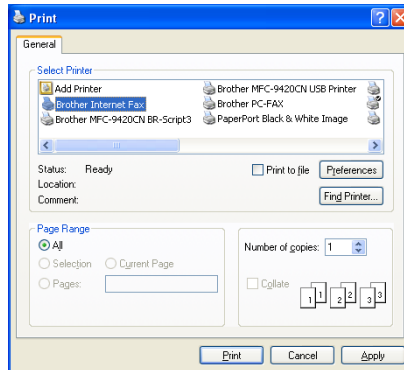
Exporting the Address Book

You can export the address book to an ASCII text file (*.csv).

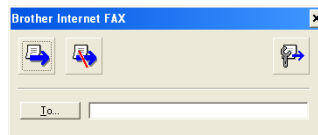
- 1 To export the current telephone book, from the Address Book select **File**, point to **Export**, and then click **Text** or click **Vcard** and go to Step 5.
- 2 Select the data fields you wish to export from the **Available Items** column, and then click **Add>>**.
- 3 If you are exporting to an ASCII file, select **Divide Character** - Tab or Comma. This selection inserts a Tab or Comma between each data field when it is exported.
- 4 Select the **OK** button to save the data.
- 5 Type in the name of the file, and then select **Save**.
- 6 If you are creating a Vcard, you must first select the member.
- 7 Select items in the order you want them listed.

Sending a Network Fax with BFP

From the application you wish to send the document from select **File/Print**. Ensure that the **Brother Internet Fax Driver** is selected as shown below.



Click OK to start the BFP dialogue box. From this dialogue box you can either specify an address in the address line or select a location from the address book. If you wish to type more than one location in the address line make sure they are separated by “,”.



Note

When entering a Fax Contact you must first specify the Internet Address of the machine that will send the document followed by the fax number as shown below.

Mailmfc9650@brother.co.uk(fax#2537)

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

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 104.

- 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® 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.

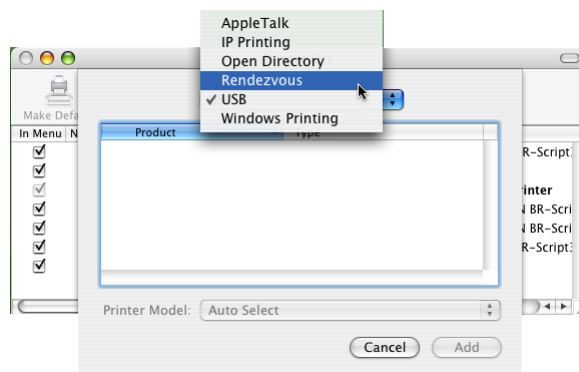
- For a wireless network

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.
- 2 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.`
- 3 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® X 10.2.4 to 10.3) Go to **5**.
(For Mac OS® X 10.4) Go to **6**.

- 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 5.

- 5 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**.

- 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 re-enable 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.

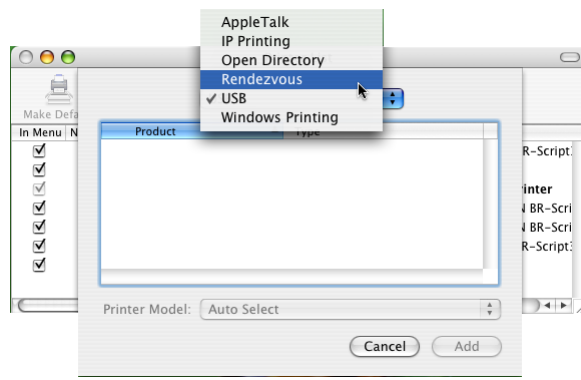
Printing problems

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).
 - 2 If a successful response is received, then proceed to Windows® 98/98SE/Me Peer-to-Peer print (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.

- 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

- 1 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.

A

Appendix A

Using services

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

Service (Example)	Definition
BINARY_P1	TCP/IP binary, 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 its own IP address in the range 169.254.1.0 through to 169.254.254.255. The subnet mask is automatically set to 255.255.0.0 and the gateway address is set to 0.0.0.0.

By default, the APIPA protocol is enabled. If you want to disable the APIPA protocol, you can disable it using 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 255.255.255.0
```

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.
- 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 **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

Model name	NC-130h	
Operating system support	Windows® 98/98SE/Me/2000/XP/XP Professional x64 Edition Mac OS® X 10.2.4 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-TX Ethernet network	
Network printing	Windows® 98/98SE/Me Peer-to-Peer printing Windows® 2000/XP/XP Professional x64 Edition TCP/IP printing Macintosh® printing (Mac OS® 10.2.4 or greater supporting TCP/IP)	
Network PC-FAX	Windows® 98/98SE/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 PhotoCapture Center®	Windows® 98/98SE/Me/2000/XP/XP Professional x64 Edition 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	All base models meet minimum requirements
	Minimum Speed	
	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 <http://solutions.brother.com>.

Ethernet wireless network

Model name	NC-140w	
Operating system support	Windows® 98/98SE/Me/2000/XP/XP Professional x64 Edition ¹	
	¹ A wireless network connection is supported only between the Brother machine and an access point for PC's running Windows® XP Professional x64 Edition.	
	Mac OS® X 10.2.4 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	IEEE 802.11b/g wireless	
Frequency	2412-2472 MHz	
RF channels	US/Canada	1-11
	Europe/Oceania	1-13
	Japan	802.11b:1-14, 802.11g:1-13
Communication mode	Infrastructure, Ad-hoc (802.11b only)	
Data rates	802.11b	11/5.5/2/1 Mbps
	802.11g	54/48/36/24/18/12/11/9/6/5.5/2/1 Mbps
Link distance	70m (233 ft.) at lowest data rate (The distance rate will vary upon environment and other equipment location.)	
Network Security	SSID/ESSID, 128 (104) / 64 (40) bit WEP, WPA/WPA2-PSK(TKIP/AES)	
Network printing	Windows® 98/98SE/Me Peer-to-Peer printing Windows® 2000/XP/XP Professional x64 Edition TCP/IP printing Macintosh® printing (Mac OS® 10.2.4 or greater supporting TCP/IP)	
Network PC-FAX	Windows® 98/98SE/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 PhotoCapture Center®	Windows® 98/98SE/Me/2000/XP/XP Professional x64 Edition Mac OS® 10.2.4 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 requirements	Computer	Wireless (AirPort) 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	256MB 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	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 <http://solutions.brother.com>.

Function table and default factory settings

B

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_XXXXXX= (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 WLAN	Setup Wizard	Searching SSID	Select SSID&Set (Select SSID from list or manually add SSID)
		SecureEasySetup	Connecting WLAN/Connected/Connection Error	
LAN	WLAN Status	Status	Active (11b)/Active (11g)/Connection NG	
		Signal	Strong/Medium/Weak/None	
		SSID	(Shows SSID with up to 32 digits)	
	Comm.Mode	Ad-hoc/Infrastructure		
Setup Misc.	Wired LAN	Auto/100B-FD/100B-HD/10B-FD/10B-HD		

Level1	Level2	Level3	Options	Options
	Network I/F	Wired LAN		
		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.

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 ***** 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	a	b	c	A	B	C	2	a
3	d	e	f	D	E	F	3	b
4	g	h	i	G	H	I	4	g
5	j	k	l	J	K	L	5	j
6	m	n	o	M	N	O	6	m
7	p	q	r	S	P	Q	R	S
8	t	u	v	T	U	V	8	t
9	w	x	y	z	W	X	Y	Z

For setting other menu selections

Press Key	one time	two times	thres times	four times
2	A	B	C	2
3	D	E	F	3
4	G	H	I	4
5	J	K	L	5
6	M	N	O	6
7	P	Q	R	S
8	T	U	V	8
9	W	X	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 ✖, # or 0, and then press ◀ or ▶ to move the cursor under the special character or symbol you want. Then press **OK** to choose it.

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

For DCP models

Press ▲ or ▼ repeatedly to enter the text and press **OK**.

press ◀ or ▶ 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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