

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 (<a href="http://solutions.brother.com">http://solutions.brother.com</a>) 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.

### **Trademarks**

Brother and the Brother logo are registered trademarks and BRAdmin Professional is a trademark of Brother Industries, Ltd.

UNIX is a registered trademark of The Open Group.

Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries.

Apple and Macintosh are registered trademarks of Apple Inc.

Windows Vista is either a registered trademark or a trademark of Microsoft Corporation in the United States and other countries.

Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States and/or other countries.

BROADCOM, SecureEasySetup and the SecureEasySetup logo are trademarks or registered trademarks of Broadcom Corporation in the United States and/or other countries.

AOSS is a trademark of Buffalo Inc.

Wi-Fi, WPA and WPA2 are registered trademarks and Wi-Fi Protected Setup is a trademark of the Wi-Fi Alliance.

All other terms, brand and product names mentioned in this User's Guide are registered trademarks or trademarks of their respective companies.

### Copyright and License

Part of the software embedded in this product is gSOAP software.

Portions created by gSOAP are Copyright (C) 2001–2004 Robert A. van Engelen, Genivia inc. All Rights Reserved.

THE SOFTWARE IN THIS PRODUCT WAS IN PART PROVIDED BY GENIVIA INC AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANYWAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

i

### Compilation and publication notice

Under the supervision of Brother Industries, Ltd., this manual has been compiled and published, covering the latest product's descriptions and specifications.

The contents of this manual and the specifications of this product are subject to change without notice.

Brother reserves the right to make changes without notice in the specifications and materials contained herein and shall not be responsible for any damages (including consequential) caused by reliance on the materials presented, including but not limited to typographical and other errors relating to the publication. ©2008 Brother Industries, Ltd.

### IMPORTANT NOTE

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

### **Brother numbers**

### **IMPORTANT**

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

### For Customer Service

**In USA** 1-877-BROTHER (1-877-276-8437)

1-901-379-1215 (FAX)

In Canada 1-877-BROTHER

514-685-4898 (FAX)

**In Europe** Visit <a href="http://www.brother.com">http://www.brother.com</a> for contact information on your local Brother office.

■ Service center locator (USA)

For the location of a Brother authorized service center, call 1-877-BROTHER (1-877-276-8437).

■ Service center locations (Canada)

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

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

In USA	Customer Support
	Brother International Corporation
	100 Somerset Corporate Boulevard Bridgewater NJ 08807-0911
In Canada	Brother International Corporation (Canada), Ltd.
	- Marketing Dept. 1, rue Hôtel de Ville Dollard-des-Ormeaux, PQ, Canada H9B 3H6
In Europe	European Product & Service Support
	1 Tame Street Audenshaw Manchester, M34 5JE, UK

### Internet address

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

For Frequently Asked Questions (FAQs), Product Support, Driver Updates and Utilities:

http://solutions.brother.com

### Ordering accessories and supplies

**In USA**: 1-877-552-MALL (1-877-552-6255)

1-800-947-1445 (fax)

http://www.brothermall.com

In Canada: 1-877-BROTHER

http://www.brother.ca

### **Table of Contents**

1	Introduction	1
	Overview	1
	Network features	2
	Network printing	2
	Network scanning	2
	Network PC-FAX (Not available for DCP models)	2
	Network PhotoCapture Center™	
	Management utilities	
	Internet Fax/Scan to E-mail Server (MFC-6490CW: standard, MFC-5890CN: available as a download)	3
	Types of Network Connections	
	Wired network connection example	
	Wireless network connection examples	
	Protocols	
	TCP/IP protocols and functions	
	Other Protocol	
2	Configuring your machine for a network with an Ethernet cable connection	9
	Overview	
	IP addresses, subnet masks and gateways	
	IP address	
	Subnet mask	
	Gateway (and router)	
	Step by step chart	
	Setting up the IP address and subnet mask	
	Using the BRAdmin Light utility to configure your machine as a network printer	
	Using the control panel to configure your machine for a network	
	Using other methods to configure your machine for a network	14
	Changing the print convergettings	
	Changing the print server settings	15
	Using the BRAdmin Light utility to change the print server settings	15 15
	Using the BRAdmin Light utility to change the print server settings	15 15
	Using the BRAdmin Light utility to change the print server settings	15 15 16

3	Configuring your machine for a wireless network (Not available for MFC-5490CN and MFC-5890CN)	18
	Overview	18
	Wireless network terms and concepts	19
	SSID (Service Set Identifier) and channels	19
	Authentication and encryption	19
	Step by step chart for wireless network configuration	2
	For Infrastructure mode	21
	For Ad-hoc mode	22
	Confirm your network environment	
	Connected to a computer with an access point in the network (Infrastructure mode)	23
	Connected to a wireless capable computer without an access point in the network  (Ad-hoc mode)	23
	Confirm your wireless network setup method	
	Configuration using the machine's control panel Setup Wizard to configure your wireless network machine	24
	Configuration using the SES/WPS/AOSS control panel menu (Infrastructure mode only)	
	Configuration using the PIN Method of Wi-Fi Protected Setup™ (Infrastructure mode only)	
	Configuration using the Brother installer application on the CD-ROM to configure your wireless network machine	
	Configuring your machine for a wireless network	
	Using the Setup Wizard from the control panel	
	Using the SES/WPS/AOSS control panel menu to configure your machine for a	
	wireless network	3
	Using the PIN Method of Wi-Fi Protected Setup™	35
	Using the Brother automatic installer application on the CD-ROM to configure your machine for wireless network	
4	Wireless configuration for Windows <sup>®</sup> using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN)	38
	Configuration in Infrastructure mode	
	Before configuring the wireless settings	
	Configure the wireless settings	
	Configuration using the SES/WPS/AOSS control panel menu (One-Push method)	
	Before configuring the wireless settings	
	Configure the wireless settings	
	Configuration in Ad-hoc Mode	
	Before configuring the wireless settings	
	Configure the wireless settings	50

5	Wireless Configuration for Macintosh $^{\mathbb{R}}$ using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN)	on 58
	Configuration in Infrastructure mode	58
	Before configuring the wireless settings	
	Configure the wireless settings	59
	Configuration using the SES/WPS/AOSS control panel menu (One-Push method)	
	Before configuring the wireless settings	65
	Configure the wireless settings	65
	Configuration in Ad-hoc Mode	69
	Before configuring the wireless settings	69
	Configure the wireless settings	69
6	Control panel setup	77
	Network menu	
	TCP/IP	
	Setup Misc. (MFC-5490CN only)	
	Setup Wizard (wireless network only)	
	SES/WPS/AOSS (wireless network only)	
	WPS w/PIN code (wireless network only)	
	WLAN Status (wireless network only)	
	Ethernet (wired network only)	
	E-mail/I-FAX (For MFC-6490CW)	
	Scan to FTP (For MFC-5890CN and MFC-6490CW)	
	Time Zone (For MFC-6490CW)	
	Network I/F (Not available for MFC-5490CN and MFC-5890CN)	
	Restoring the network settings to factory default	
	Printing the Network Configuration List	113
7	Driver Deployment Wizard (Windows <sup>®</sup> only)	114
	Overview	
	Connection methods	
	Peer-to-Peer	
	Network Shared	
	How to install the Driver Deployment Wizard software	
	Using the Driver Deployment Wizard software	116
8	Network printing from Windows <sup>®</sup> basic TCP/IP Peer-to-Peer printing	119
	Overview	
	Configuring the standard TCP/IP port	
	Printer driver not yet installed	
	Printer driver already installed	
	Other sources of information	121

9	Network printing from a Macintosh <sup>®</sup>	122
	Overview	122
	How to choose the print server (TCP/IP)	122
	Changing the print server settings	125
	Changing the configuration using the Remote Setup (Not available for DCP models)	125
	Using the BRAdmin Light utility to change the print server settings	125
	Other sources of information	125
10	Internet fax and Scan to E-mail (For MFC-6490CW)	126
	Internet fax overview	126
	Getting connected	126
	Control panel key functions	127
	Sending an Internet fax	128
	Manually entering text	128
	Receiving E-mail or Internet fax	129
	Receiving an Internet fax to your computer	129
	Forwarding received E-mail and fax messages	129
	Relay broadcasting	
	TX Verification Mail	
	Setup Mail TX	
	Setup Mail RX	
	Error mail	
	Important information on Internet fax	
	Scan to E-mail Server overview (MFC-6490CW)	134
11	Security features (For MFC-6490CW)	136
	Overview	
	Security methods for E-mail notification	
	POP before SMTP (PbS)	
	SMTP-AUTH (SMTP Authentication)	
	APOP (Authenticated Post Office Protocol)	
	Using E-mail notification with user authentication	
	Managing your network machine securely using BRAdmin Professional (for Windows <sup>®</sup> )	137
12	Troubleshooting	138
	Overview	138
	General problems	
	Network print software installation problems	
	Printing problems	
	Scanning and PC Fax problems	
	Wireless network troubleshooting	
	Wireless setup problems	
	Wireless connection problem	
	· · · · · · · · · · · · · · · · · · ·	

Α	Appendix A	146
	Using services	146
	Other ways to set the IP address (for advanced users and administrators)	
	Using DHCP to configure the IP address	
	Using BOOTP to configure the IP address	147
	Using RARP to configure the IP address	148
	Using APIPA to configure the IP address	148
	Using ARP to configure the IP address	149
	Using the TELNET console to configure the IP address	150
	Installation when using a Network Print Queue or Share (printer driver only)	15
	Installation when using Web Services (For Windows Vista® users)	152
В	Appendix B	153
В	••	
В	Print server specifications	153
В	Print server specifications Ethernet wired network	153
В	Print server specifications Ethernet wired network Ethernet wireless network	153
В	Print server specifications Ethernet wired network Ethernet wireless network Function table and default factory settings	153 153 154
В	Print server specifications  Ethernet wired network  Ethernet wireless network  Function table and default factory settings  Entering Text	153 153 154 156
В	Print server specifications Ethernet wired network Ethernet wireless network Function table and default factory settings	
В	Print server specifications  Ethernet wired network  Ethernet wireless network  Function table and default factory settings  Entering Text  For Touchscreen models	

## 1

### Introduction

### **Overview**

The Brother machine can be shared on a 10/100 MB wired or IEEE 802.11b/802.11g wireless 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	Windows <sup>®</sup> 2000 Windows <sup>®</sup> XP Windows <sup>®</sup> XP Professional x64 Edition Windows Vista <sup>®</sup>	Mac OS® X 10.2.4 or greater
10/100BASE-TX wired Ethernet (TCP/IP)	V	~
IEEE 802.11b/g wireless Ethernet (TCP/IP) <sup>1</sup>	V	V
Printing	V	<b>V</b>
BRAdmin Light	<b>✓</b>	<b>✓</b>
BRAdmin Professional <sup>2</sup>	<b>✓</b>	
Web BRAdmin <sup>2</sup>	~	
Scanning	<b>✓</b>	<b>✓</b>
PC Fax Send <sup>3</sup>	~	V
PC Fax Receive <sup>3</sup>	~	
Remote Setup <sup>3</sup>	~	V
Status Monitor	~	<b>✓</b>
Driver Deployment Wizard	V	

<sup>&</sup>lt;sup>1</sup> Not available for MFC-5490CN and MFC-5890CN.

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

<sup>&</sup>lt;sup>2</sup> BRAdmin Professional and Web BRAdmin are available as a download from <a href="http://solutions.brother.com">http://solutions.brother.com</a>.

<sup>&</sup>lt;sup>3</sup> Not available for DCP models.

### For Wireless Users:

To achieve optimum results with normal every day document printing, place the Brother machine as close to the network access point (or 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 features**

Your Brother machine has the following basic network functions.

### **Network printing**

The print server provides printing services for Windows<sup>®</sup> 2000/XP/XP Professional x64 Edition and Windows Vista<sup>®</sup> supporting the TCP/IP protocols and Macintosh<sup>®</sup> supporting TCP/IP (Mac OS<sup>®</sup> 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<sup>®</sup> and *Sending a Fax* for Macintosh<sup>®</sup> in the Software User's Guide for a complete description.) Windows<sup>®</sup> users can also use 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 USB flash memory drive or a media card inserted into the Brother machine. The software is automatically installed when you choose network connection during the software installation. For Windows<sup>®</sup>, choose the **PHOTOCAPTURE** tab of the **ControlCenter3**. For more information, see *ControlCenter3* in the Software User's Guide. For Macintosh<sup>®</sup>, launch any web browser in which FTP is available and enter FTP://xxx.xxx.xxx.xxx (where xxx.xxx.xxx is the IP address of your Brother machine). For more information, see *Remote Setup & PhotoCapture Center* in the Software User's Guide.

### Management utilities

### **BRAdmin Light**

BRAdmin Light is a utility for initial setup of network connected Brother devices. This utility can search for Brother products on your network, view the status and configure basic network settings, such as IP address. The BRAdmin Light utility is available for Windows<sup>®</sup> 2000/XP and Windows Vista<sup>®</sup> and Mac OS<sup>®</sup> X 10.2.4 (or greater) computers. For installing BRAdmin Light on Windows<sup>®</sup>, please see the Quick Setup Guide we provided with the machine. For Macintosh<sup>®</sup> users, BRAdmin Light will be installed automatically when you install the printer driver. If you have already installed the printer driver, you don't have to install it again.

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

### BRAdmin Professional (for Windows®)

BRAdmin Professional is a utility for more advanced management of network connected Brother devices. This utility can search for Brother products on your network, view their status and configure the network settings from a computer running Windows<sup>®</sup> system. BRAdmin Professional has additional features from BRAdmin Light.

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

### Web BRAdmin (for Windows®)

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

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

### Remote Setup (Not available for DCP models)

The Remote Setup software allows you to configure network settings from a Windows<sup>®</sup> PC or Macintosh<sup>®</sup> (Mac OS<sup>®</sup> X 10.2.4 or greater) computer. (See *Remote Setup* in the Software User's Guide.)

## Internet Fax/Scan to E-mail Server (MFC-6490CW: standard, MFC-5890CN: available as a download)

The Brother machine can be assigned an E-mail address allowing you to send, receive or forward documents over a Local Area Network or the Internet to PC's or other Internet Fax machines. Before using this function, you have to configure the necessary machine settings by using the machine's control panel. For details, see *Internet fax and Scan to E-mail (For MFC-6490CW)* on page 126.

### For MFC-5890CN

In order to use this function, please download the necessary software from our web site The Brother Solutions Center. (<a href="http://solutions.brother.com">http://solutions.brother.com</a>)

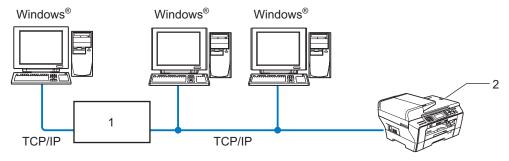
<sup>&</sup>lt;sup>1</sup> Internet Information Server 4.0 or Internet Information Service 5.0/5.1/6.0/7.0

### **Types of Network Connections**

### Wired network connection example

### Peer-to-Peer printing using TCP/IP

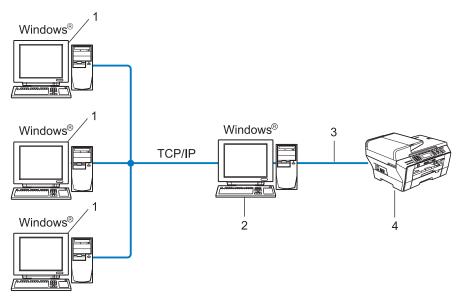
In a Peer-to-Peer environment, each computer directly sends and receives data to each device. There is no central server controlling file access or printer sharing.



- 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. (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.

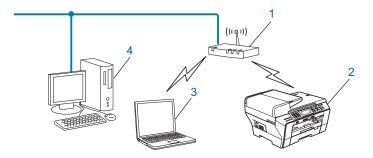


- 1 Client computer
- 2 Also known as "Server" or "Print Server"
- 3 TCP/IP or USB (where available)
- 4 Network printer (your machine)
- In a larger network, we recommend a Network Shared printing environment.
- The "Server" or the "Print Server" must use the TCP/IP Print Protocol.
- The Brother machine needs to have an appropriate IP address configuration unless the machine is connected via the USB interface at the server.

### Wireless network connection examples

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

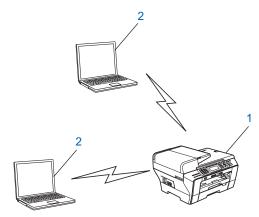
This type of network has a central access point at the heart of the network. The access point can also act as a bridge or a gateway to a wired network. When the Brother wireless machine (your machine) is part of this network, it receives all print jobs via an access point.



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

### Connected to a wireless capable computer without an access point on 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.



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

### **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<sup>®</sup>, Mac OS<sup>®</sup> X and Linux<sup>®</sup>. 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.



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 169.254.255.

### **DNS** client

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

### LPR/LPD

Commonly used printing protocols on a TCP/IP network.

### SMTP client (For MFC-6490CW)

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

### 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<sup>®</sup> X Simple Network Configured system. (Mac OS<sup>®</sup> 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.

### **Web Services**

The Web Services protocol enables Windows Vista<sup>®</sup> users to install the Brother printer driver by right-clicking the machine icon from the **Network** folder. (See *Installation when using Web Services (For Windows Vista*<sup>®</sup> *users)* on page 152.) The Web Services also let you check the current status of the machine from your computer.

### FTP client (For MFC-5890CN and MFC-6490CW)

The File Transfer Protocol (FTP) allows the Brother machine to scan black and white or color documents directly to an FTP server located locally on your network or on the internet.

### IPv6 (For MFC-5490CN, MFC-5890CN, MFC-6490CW and DCP-6690CW)

Your brother machine is compatible with IPv6, the next generation internet protocol. For more information on the IPv6 protocol, visit http://solutions.brother.com.

### **Other Protocol**

### LLTD

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

You can activate LLTD using the BRAdmin Professional utility software. Visit the download page for your model at <a href="http://solutions.brother.com">http://solutions.brother.com</a> to download BRAdmin Professional.

## 2

## Configuring your machine for a network with an Ethernet cable connection

### **Overview**

Before using your Brother machine in a network environment, you must install the Brother software and also configure the appropriate TCP/IP network settings on the machine itself. In this chapter, you will learn the basic steps required to print over the network using TCP/IP protocol.

We recommend that you use the Brother installer on the Brother CD-ROM to install the Brother software as this will guide you through the software and network installation. Please follow the instructions in the supplied Quick Setup Guide.



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 77.

### IP addresses, subnet masks and gateways

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

### IP address

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

- Example: In a small network, you would normally change the final number.
  - 192.168.1.<u>1</u>
  - 192.168.1.2
  - 192.168.1.3

### How the IP address is assigned to your print server:

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



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 146, *Using BOOTP to configure the IP address* on page 147 and *Using RARP to configure the IP address* on page 148.

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 148.

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 up the IP address and subnet mask* on page 12.

### Subnet mask

Subnet masks restrict network communication.

■ Example: Computer1 can talk to Computer2

Computer1

IP Address: 192.168.1.2 Subnet Mask: 255.255.255.0

• Computer2

IP Address: 192.168.1.3

Subnet Mask: 255.255.255.0



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

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

### **Gateway (and router)**

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

### Step by step chart

1 Configure the TCP/IP settings.

■ Configure the IP address → See page 12

■ Configure the subnet mask → See page 12

■ Configure the gateway → See page 12

Change the print server settings.

■ Using the BRAdmin Light utility → See page 15

■ Using the BRAdmin Professional utility → See page 16

■ Using the control panel → See page 77

■ Using the Remote Setup → See page 17

■ Using other methods → See page 146

### Setting up the IP address and subnet mask

### Using the BRAdmin Light utility to configure your machine as a network printer

### **BRAdmin Light**

The BRAdmin Light utility is designed for initial setup of the Brother network connected devices. It also can search for Brother products in a TCP/IP environment, view the status and configure basic network settings, such as IP address. The BRAdmin Light utility is available for Windows® 2000/XP, Windows Vista® and Mac OS® X 10.2.4 or greater.

### How to configure your machine using the BRAdmin Light utility



- Please use the BRAdmin Light utility version that was supplied on the CD-ROM of your Brother product. You can also download the latest Brother BRAdmin Light utility version from http://solutions.brother.com.
- If you require more advanced printer management, use the latest Brother BRAdmin Professional utility that is available as a download from <a href="http://solutions.brother.com">http://solutions.brother.com</a>. This utility is only available for Windows<sup>®</sup> users.
- If you are using Windows<sup>®</sup> Firewall or a firewall function of anti-spyware or antivirus applications, temporarily disable them. Once you are sure that you can print, configure the software settings following the instructions again.
- Node Name: Node Name appears in current BRAdmin Light window. The default Node Name of the print server in the machine is "BRNxxxxxxxxxxx" ("xxxxxxxxxxx" is your machine's Ethernet address.).
- For MFC-5490CN, MFC-5890CN, MFC-6490CW and DCP-6690CW, the default password is "access". 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 Light utility.
  - For Windows<sup>®</sup> 2000/XP and Windows Vista<sup>®</sup>

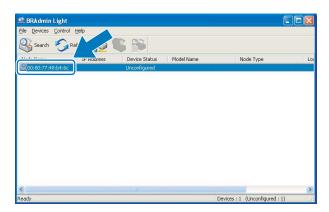
Click Start / All Programs <sup>1</sup> / Brother / BRAdmin Light / BRAdmin Light.

- Programs for Windows<sup>®</sup> 2000 users
- For Mac OS<sup>®</sup> X 10.2.4 or greater

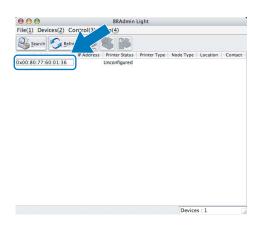
  Double-click Macintosh HD (Startup Disk) / Library / Printers / Brother / Utilities / BRAdmin Light.jar file.
- 2 BRAdmin Light will search for new devices automatically.

3 Double-click the unconfigured device.

### Windows<sup>®</sup>



### Macintosh®

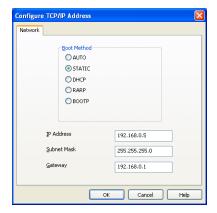




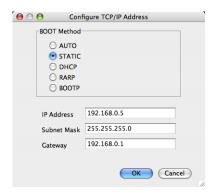
- If the print server is set to its factory default settings (if you don't use a DHCP/BOOTP/RARP server), the device will appear as **Unconfigured** in the BRAdmin Light utility screen.
- You can find the Node Name and Ethernet address by printing the Network Configuration List. (See *Printing the Network Configuration List* on page 113 for information on how to print the Network Configuration List on your print server.)

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

Windows<sup>®</sup>



Macintosh®



- 5 Click **OK**.
- 6 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 Network menu. (See *Control panel setup* on page 77.)

### 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 146.)

### Changing the print server settings



For wireless network users, you need to configure the wireless settings to change the print server settings. (See *Configuring your machine for a wireless network (Not available for MFC-5490CN and MFC-5890CN)* on page 18.)

### Using the BRAdmin Light utility to change the print server settings

- Start the BRAdmin Light utility.
  - For Windows<sup>®</sup> 2000/XP and Windows Vista<sup>®</sup>

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

- <sup>1</sup> **Programs** for Windows<sup>®</sup> 2000 users
- For Mac OS<sup>®</sup> X 10.2.4 or greater

  Double-click Macintosh HD (Startup Disk) / Library / Printers / Brother / Utilities / BRAdmin Light.jar file.
- Choose the print server which you want to change the settings.
- 3 Choose **Network Configuration** from the **Control** menu.
- 4 Enter a password if you have set one.
- 5 You can now change the print server settings.

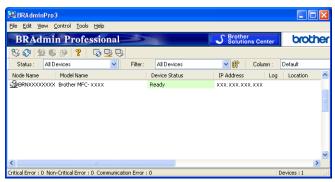


If you want to change more advanced settings, use the BRAdmin Professional utility that is available as a download from http://solutions.brother.com. For Windows<sup>®</sup> only.

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



- Please use the latest version of the BRAdmin Professional utility that is available as a download from <a href="http://solutions.brother.com">http://solutions.brother.com</a>. This utility is only available for Windows<sup>®</sup> users.
- If you are using Windows<sup>®</sup> Firewall or a firewall function of anti-spyware or antivirus applications, temporarily disable them. Once you are sure that you can print, configure the software settings following the instructions again.
- Node name: The node name appears in the current BRAdmin Professional window. The default Node name is "BRNxxxxxxxxxxx" or "BRWxxxxxxxxxxxx" ("xxxxxxxxxxx" is your Ethernet address.).
- 1 Start the BRAdmin Professional utility (from Windows® 2000/XP or Windows Vista®), by clicking Start / All Programs 1 / Brother Administrator Utilities / Brother BRAdmin Professional Utilities / BRAdmin Professional3.



- <sup>1</sup> **Programs** for Windows<sup>®</sup> 2000 users
- 2 Choose **TCP/IP** in the left frame of the main BRAdmin window.
- 3 Choose the print server which you want to configure, in the right frame of the main BRAdmin window.
- 4 Choose Configure Wireless Setting from the Control menu.
- Enter a password if you have set one.



For MFC-5490CN, MFC-5890CN, MFC-6490CW and DCP-6690CW, the default password is "access".

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.

6 You can now change the wireless settings.



- 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 (IP Address above) by printing out the Network Configuration List. (See Printing the Network Configuration List on page 113 for information on how to print the Network Configuration List on your print server.)

## 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<sup>®</sup> 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** <sup>1</sup>, **Brother**, **MFC-XXXX LAN**, then **Remote Setup** (where XXXX is your model name).
  - Programs for Windows<sup>®</sup> 2000 users
- 2 Enter a password if you have set one.



For MFC-5490CN, MFC-5890CN, MFC-6490CW and DCP-6690CW, the default password is "access". For other models, no password is required by default.

- Click TCP/IP (Wired) or Setup Misc.
- 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<sup>®</sup> application. When you access this application, the settings on your machine will be downloaded automatically to your Macintosh<sup>®</sup> and displayed on your Macintosh<sup>®</sup> 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 one.



For MFC-5490CN, MFC-5890CN, MFC-6490CW and DCP-6690CW, the default password is "access". For other models, no password is required by default.

- 4 Click TCP/IP (Wired) or Setup Misc.
- 5 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 Network menu. (See Control panel setup on page 77.)

## 3

# Configuring your machine for a wireless network (Not available for MFC-5490CN and MFC-5890CN)

### **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 <code>Network</code> 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 up the IP address and subnet mask* on page 12. Then, in *Network printing from Windows*<sup>®</sup> basic TCP/IP Peer-to-Peer printing on page 119 and Network printing from a Macintosh<sup>®</sup> on page 122, you will learn how to install the network software and drivers into the operating system running on your computer.



- To achieve optimum results with normal every day document printing, place the Brother machine as close
  to the network access point (or router) as possible with minimal obstructions. Large objects and walls
  between the two devices as well as interference from other electronic devices can affect the data transfer
  speed of your documents.
  - Due to these factors, wireless may not be the best method of connection for all types of documents and applications. If you are printing large files, such as multi-page documents with mixed text and large graphics, you may want to consider choosing wired Ethernet for a faster data transfer, or USB for the fastest throughput speed.
- Although the Brother machine can be used in both a wired and wireless network, only one connection method can be used at a time.

### Wireless network terms and concepts

If you want to use your machine in a wireless network you must configure the machine to match the settings of the existing wireless network. This section provides some of the main terms and concepts of these settings, which may be helpful when you configure your machine for a wireless network.

### SSID (Service Set Identifier) and channels

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

■ SSID

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

■ Channels

Wireless networks use channels. Each wireless channel is on a different frequency. There are up to 14 different channels that can be used when using a wireless network. However, in many countries the number of channels available are restricted. For further information, see *Ethernet wireless network* on page 154.

### **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 to 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 wireless machine uses the WEP keys as the pre-determined key.

■ WPA-PSK/WPA2-PSK

Enables a Wi-Fi<sup>®</sup> 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 (WPA-Personal).

### **Encryption methods**

Encryption is used to secure the data that is sent over the wireless network. The Brother wireless 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 the 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. "WSLAN" (this is case sensitive).

• 64 (40) bit hexadecimal:

Uses 10 digits of hexadecimal data e.g. "71f2234aba".

• 128 (104) bit ASCII:

Uses 13 text characters e.g. "Wirelesscomms" (this is case sensitive).

• 128 (104) bit hexadecimal:

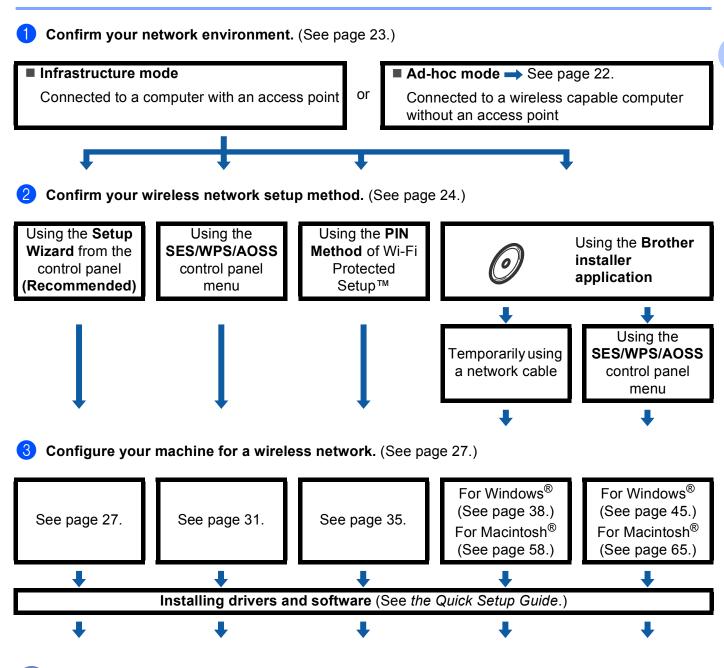
Uses 26 digits of hexadecimal data e.g. "71f2234ab56cd709e5412aa2ba".

■ WPA-PSK/WPA2-PSK and TKIP or AES

Uses a Pre-Shared Key (PSK) that is 8 or more characters in length, up to a maximum of 63 characters.

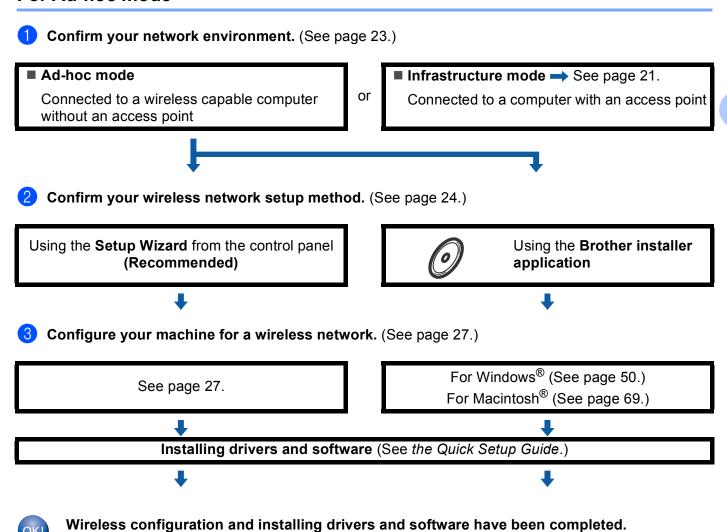
### Step by step chart for wireless network configuration

### For Infrastructure mode



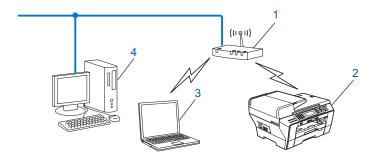
Wireless configuration and installing drivers and software have been completed.

### For Ad-hoc mode



### **Confirm your network environment**

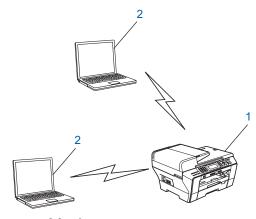
## Connected to a computer with an access point in the network (Infrastructure mode)



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

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

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



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

### Confirm your wireless network setup method

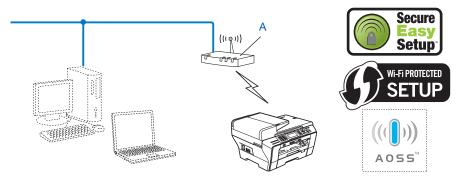
There are four methods to configure your machine for a wireless network; by using the machine's control panel (recommended), using SES, WPS or AOSS from the control panel menu, using the PIN Method of Wi-Fi Protected Setup™ or using the Brother installer application. The setup process will be different depending on your network environment.

## Configuration using the machine's control panel Setup Wizard to configure your wireless network machine

We recommend that you use the machine's control panel to configure your wireless network settings. By using the control panel Setup Wizard function, you can easily connect your Brother machine to your wireless network. You must know your wireless network settings before you proceed with this installation. (See Using the Setup Wizard from the control panel on page 27.)

## Configuration using the SES/WPS/AOSS control panel menu (Infrastructure mode only)

If your wireless access point (A) supports either SecureEasySetup<sup>™</sup>, Wi-Fi Protected Setup<sup>™</sup> (PBC <sup>1</sup>) or AOSS<sup>™</sup>, you can configure the machine without a computer. (See *Using the SES/WPS/AOSS control panel menu to configure your machine for a wireless network* on page 31.)

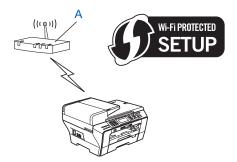


Push Button Configuration

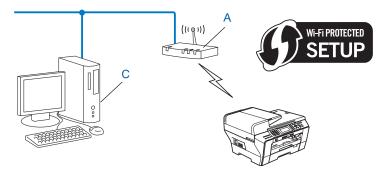
## Configuration using the PIN Method of Wi-Fi Protected Setup™ (Infrastructure mode only)

If your wireless access point (A) supports Wi-Fi Protected Setup™, you can also configure using the PIN Method of Wi-Fi Protected Setup™ on page 35.)

■ Connection when the wireless access point (router) (A) doubles as a Registrar <sup>1</sup>.



■ Connection when another device (C), such as a computer is used as a Registrar <sup>1</sup>.



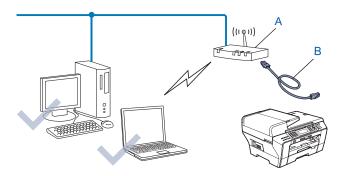
<sup>&</sup>lt;sup>1</sup> The Registrar is a device that manages the wireless LAN.

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

You can also use the Brother installer application on the CD-ROM we have provided with the machine. You will be guided by the on-screen instructions until you are able to use your Brother wireless network machine. You must know your wireless network settings before you proceed with this installation. (See Wireless configuration for Windows<sup>®</sup> using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN) on page 38 or Wireless Configuration for Macintosh<sup>®</sup> using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN) on page 58.)

### Configuration temporarily using a network cable

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



# Configuring your machine for a wireless network

#### **IMPORTANT**

- If you are going to connect your Brother machine to your network, we recommend that you contact your system administrator prior to installation. You must know your wireless network settings before you proceed with this installation.
- If you have previously configured the wireless settings of the machine, you must reset the network LAN settings before you can configure the wireless settings again. Use Menu, ▲ or ▼ to choose Network, Factory Reset, and choose Yes to accept the change. For Touchscreen models, press MENU, Network, ▲ or ▼ to display Factory Reset then press Factory Reset, and choose Yes to accept the change. The machine will restart automatically.

### 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 Network menu on the machine's control panel. See to the steps below for further information.

- 1 Write down the wireless network settings of your access point or wireless router.
  - SSID (Service Set ID or Network name)
  - WEP key (if needed)
  - WPA-PSK Encryption (TKIP or AES)
  - WPA-PSK password (if needed)
- 2 Turn on the machine by plugging in the power cord.
- 3 Press Menu.
- 4 Press ▲ or ▼ to choose Network.
  Press OK.
- Fress A or ▼ to choose WLAN. Press OK.
- 6 Press A or ▼ to choose Setup Wizard. Press OK.
- 7 The machine will search for your network and display a list of available SSIDs. You should see the SSID you wrote down earlier. If the machine finds more than one network use ▲ or ▼ key to choose your network, then press **OK**. Go to **①**.

If your access point is set to not broadcast the SSID, you will have to manually add the SSID name. Go to §.

8 Choose <New SSID> using ▲ or ▼. Press OK. Go to ⑨.

- 9 Enter the SSID name. (For information how to type text, see *Entering Text* on page 161.) Press **OK**. Go to **(6)**.
- Using ▲ or ▼, choose Infrastructure when instructed. Press OK. Go to ①.

  If you chose Ad-hoc, go to ②.
- 11 Choose the Authentication method using ▲ or ▼, and press OK.

  If you chose Open System, go to ②.

  If you chose Shared Key, go to ③.

  If you chose WPA/WPA2-PSK, go to ⑥.
- 12 Choose the Encryption type None or WEP using ▲ or ▼, and press OK. If you chose None, go to ❸.

  If you chose WEP, go to ❸.
- Choose the key option KEY1, KEY2, KEY3, KEY4 using ▲ or ▼, and press OK. If you chose the key which shows \*, go to ④. If you chose a blank key, go to ⑤.
- If you want to change the key you chose in ③, press ▲ or ▼ to choose Change. Press OK. Go to ⑤. If you want to keep the key you chose in ⑥, press ▲ or ▼ to choose Keep. Press OK. Go to ⑥.
- 15 Enter a new WEP key. Press **OK**. Go to **®**. (For information how to type text, see *Entering Text* on page 161.)
- 16 Choose the Encryption type, TKIP or AES using ▲ or ▼. Press OK. Go to 16.
- [7] Enter the password and press **OK**. Go to **®**. (For information how to type text, see *Entering Text* on page 161.)
- To apply the settings, choose Yes. To cancel, choose No. If you chose Yes, go to ⑤. If you chose No, go back to ⑥.
- 19 The machine starts to connect to the wireless device you have chosen.
- If your wireless device is connected successfully, the display shows Connected for 60 seconds and configuration is completed.

  If the connection failed, the display shows Connection Failed for 60 seconds. (See Wireless network troubleshooting on page 145.)
- Press OK.



#### (For Windows®)

You have completed the wireless network setup. If you would like to continue installing drivers and software necessary for operating your device, please choose Install MFL-Pro Suite or Initial Installation / Install MFL-Pro Suite from the CD-ROM menu.

(For Macintosh®)

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

#### For Touchscreen models

- 1 Write down the wireless network settings of your access point or wireless router.
  - SSID (Service Set ID or Network name)
  - WEP key (if needed)
  - WPA-PSK Encryption (TKIP or AES)
  - WPA-PSK password (if needed)
- 2 Turn on the machine by plugging in the power cord.
- 3 Press MENU.
- 4 Press Network.
- 5 Press WLAN.
- 6 Press Setup Wizard.
- 7 The machine will search for your network and display a list of available SSIDs. You should see the SSID you wrote down earlier. If the machine finds more than one network use ▲ or ▼ key to choose your network. Go to ①.

If your access point is set to not broadcast the SSID, you will have to manually add the SSID name. Go to 3.

- 8 Choose <New SSID> using A or V. Go to 9.
- 9 Enter the SSID name. (For information how to type text, see *Entering Text* on page 161.) Go to **0**.
- Press Infrastructure when instructed. Go to ①. If you chose Ad-hoc, go to ②.
- 11 Choose and press the Authentication method.

If you chose Open System, go to 12.

If you chose Shared Key, go to 13.

If you chose WPA/WPA2-PSK, go to 16.

12 Choose and press the Encryption type None or WEP.

If you chose None, go to 18.

If you chose WEP, go to 13.

- Choose and press the key option KEY1, KEY2, KEY3, KEY4. If you chose the key which shows \*\*\*\*\*\*\*\*\*\*\*\*, go to 4. If you chose a blank key, go to 4.
- If you want to change the key you chose in (8), press Change. Go to (6). If you want to keep the key you chose in (8), press Keep. Go to (8).
- 15 Enter a new WEP key. Press OK. Go to 16. (For information how to type text, see *Entering Text* on page 161.)
- **16** Choose and press the Encryption type, TKIP or AES. Go to **16**.
- The intersity of the password and press OK. Go to 18. (For information how to type text, see Entering Text on page 161.)
- 18 To apply the settings, press Yes. To cancel, press No. If you chose Yes, go to 19. If you chose No, go back to 7.
- 19 The machine starts to connect to the wireless device you have chosen.
- If your wireless device is connected successfully, the display shows Connected for 60 seconds and configuration is completed.

  If the connection failed, the display shows Connection Failed for 60 seconds. (See Wireless network troubleshooting on page 145.)
- 21 Press .
- ok!) (For Windows®)

You have completed the wireless network setup. If you would like to continue installing drivers and software necessary for operating your device, please choose Install MFL-Pro Suite or Initial Installation / Install MFL-Pro Suite from the CD-ROM menu.

(For Macintosh®)

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

# Using the SES/WPS/AOSS control panel menu to configure your machine for a wireless network

If your wireless access point supports either SecureEasySetup<sup>™</sup>, Wi-Fi Protected Setup<sup>™</sup> (PBC <sup>1</sup>) or AOSS<sup>™</sup> (one-push method), you can configure the machine easily without a computer. Your Brother machine has the SES/WPS/AOSS menu available from the control panel. This feature automatically detects which mode your access point uses, SecureEasySetup<sup>™</sup>, Wi-Fi Protected Setup<sup>™</sup> or AOSS<sup>™</sup>. By pushing a button on the wireless LAN router / access point, you can setup the wireless network and security settings. See the user's guide for your wireless LAN router / access point for instructions on how to access one-push mode.

Push Button Configuration



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







- 1 Turn on the machine by plugging in the power cord.
- 2 Press **Menu** on the control panel of the Brother machine.
- 3 Press ▲ or ▼ to choose Network.
  Press OK.
- Press A or ▼ to choose WLAN. Press OK.
- 5 Press ▲ or ▼ to choose SES/WPS/AOSS.
  Press OK.

This feature will automatically detect which mode (SecureEasySetup™, Wi-Fi Protected Setup™ or AOSS™) your access point uses to configure your machine.



If your wireless access point supports Wi-Fi Protected Setup™ (PIN Method) and you want to configure your machine using the PIN (Personal Identification Number) Method, see *Using the PIN Method of Wi-Fi Protected Setup*™ on page 35.

- 6 The machine searches for an access point that supports SecureEasySetup™, Wi-Fi Protected Setup™ or AOSS™ for 2 minutes.
- 7 Put your access point in the SecureEasySetup™ mode, Wi-Fi Protected Setup™ mode or AOSS™ mode, depending on what is supported by your access point. Please refer to the instruction manual that came with your access point.

8 If the LCD shows Connected, the machine has successfully connected to your router or access point. You can now use your machine in a wireless network.

If the LCD shows Setting WLAN, Connecting SES (Connecting WPS or Connecting AOSS), then Connection Failed, the machine has not successfully connected to your router or access point. Try starting from ⑤ again. If the same message is indicated again, reset the machine back to the default factory settings and try again. For resetting, see Restoring the network settings to factory default on page 112.

If the LCD shows Setting WLAN, then Connection Failed or Incorrect Mode, session overlap is detected (see the table below). The machine has detected more than one router or access point on your network that has SecureEasySetup™, the Wi-Fi Protected Setup™ mode or AOSS™ mode enabled. Make sure that only one router or access point has SecureEasySetup™, Wi-Fi Protected Setup™ mode or AOSS™ mode enabled and try starting from ⑤ again.

#### LCD messages when using the SES/WPS/AOSS control panel menu

LCD shows	Connection status	Action	
Setting WLAN	Searching or accessing the access point, and downloading settings from the access point.	_	
Connecting SES			
Connecting WPS	Connecting to the access point.	_	
Connecting AOSS			
Connected	Connection succeeded.	_	
Connection Failed	Connection failed. (If this is shown after the LCD shows Connecting SES, Connecting WPS or Connecting AOSS.)	<ol> <li>Try starting from 6 again.</li> <li>If the same message continues, reset the machine back to the factory settings and try again.</li> </ol>	
	A session overlap was detected.	Check that only one router or access	
Incorrect Mode	A session overlap was detected.	point has SecureEasySetup™, the Wi-Fi Protected Setup™ mode or AOSS™ mode enabled and try starting from <b>6</b> again.	

# 9 Press **OK**.



#### (For Windows®)

You have completed the wireless network setup. If you would like to continue installing drivers and software necessary for operating your device, please choose Install MFL-Pro Suite or Initial Installation / Install MFL-Pro Suite from the CD-ROM menu.

#### (For Macintosh®)

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

#### For Touchscreen models

- 1 Turn on the machine by plugging in the power cord.
- 2 Press MENU.
- 3 Press Network.
- 4 Press WLAN.
- 5 Press SES/WPS/AOSS.

  This feature will automatically detect which mode (SecureEasySetup™, Wi-Fi Protected Setup™ or AOSS™) your access point uses to configure your machine.

# Note

If your wireless access point supports Wi-Fi Protected Setup™ (PIN Method) and you want to configure your machine using the PIN (Personal Identification Number) Method, see *Using the PIN Method of Wi-Fi Protected Setup*™ on page 35.

- 6 The machine searches for an access point that supports SecureEasySetup™, Wi-Fi Protected Setup™ or AOSS™ for 2 minutes.
- 7 Put your access point in the SecureEasySetup™ mode, Wi-Fi Protected Setup™ mode or AOSS™ mode, depending on what is supported by your access point. Please refer to the instruction manual that came with your access point.
- 8 If the LCD shows Connected, the machine has successfully connected to your router or access point. You can now use your machine in a wireless network.

If the LCD shows Setting WLAN, Connecting SES (Connecting WPS or Connecting AOSS), then Connection Failed, the machine has not successfully connected to your router or access point. Try starting from § again. If the same message is indicated again, reset the machine back to the default factory settings and try again. For resetting, see *Restoring the network settings to factory default* on page 112.

If the LCD shows Setting WLAN, then Connection Failed or Incorrect Mode, session overlap is detected (see the table below). The machine has detected more than one router or access point on your network that has SecureEasySetup™, the Wi-Fi Protected Setup™ mode or AOSS™ mode enabled. Make sure that only one router or access point has SecureEasySetup™, Wi-Fi Protected Setup™ mode or AOSS™ mode enabled and try starting from ⑤ again.

#### LCD messages when using the SES/WPS/AOSS control panel menu

LCD shows	Connection status	Action	
Setting WLAN	Searching or accessing the access point, and downloading settings from the access point.	_	
Connecting SES			
Connecting WPS	Connecting to the access point.	_	
Connecting AOSS			
Connected	Connection succeeded.	_	
Connection Failed	Connection failed. (If this is shown after the LCD shows Connecting SES, Connecting WPS or Connecting AOSS.)	<ol> <li>Try starting from 6 again.</li> <li>If the same message continues, reset the machine back to the factory settings and try again.</li> </ol>	
	A session overlap was detected.	Check that only one router or access	
Incorrect Mode	A session overlap was detected.	point has SecureEasySetup™, the Wi-Fi Protected Setup™ mode or AOSS™ mode enabled and try starting from ⑤ again.	



9 Press 🔀.



# (For Windows®)

You have completed the wireless network setup. If you would like to continue installing drivers and software necessary for operating your device, please choose Install MFL-Pro Suite or Initial Installation / Install MFL-Pro Suite from the CD-ROM menu.

# (For Macintosh®)

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

# Using the PIN Method of Wi-Fi Protected Setup™

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



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



- 1 Turn on the machine by plugging in the power cord.
- Press Menu on the control panel of the Brother machine.
- 3 Press ▲ or ▼ to choose Network. Press OK.
- Press A or ▼ to choose WLAN. Press OK.
- Fress A or ▼ to choose WPS w/PIN Code. Press OK.
- 6 The LCD will show an 8 digit PIN and the machine starts searching for an access point for 5 minutes.
- Using a computer that is on the network, type "http://access point's IP address/" into your browser. (Where "access point's IP address" is the IP address of the device that is used as the Registrar <sup>1</sup>.) Go to the WPS (Wi-Fi Protected Setup) setting page and input the PIN which the LCD shows in 6 to the Registrar and follow the on-screen instruction.
  - The Registrar is normally the access point / router.



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

If you are using your Windows  $\mathsf{Vista}^{\texttt{®}}$  computer as a Registrar, follow the instructions below.



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

- 1 Click and then Network.
- 2 Click Add a wireless device.
- 3 Choose your machine and click **Next**.
- 4 Input the PIN from the printed page and then click **Next**.
- **5** Choose your network that you want to connect to, and then click **Next**.
- 6 Click Close.
- If the LCD shows Connected, the machine has successfully connected to your router or access point. You can now use your machine in a wireless network.

  If the LCD shows Connection Failed, the machine has not successfully connected to your router or access point. Try starting from ⑤ again. If the same message is indicated again, reset the machine back to the default factory settings and try again. For resetting, see Restoring the network settings to factory default on page 112.



### (For Windows®)

You have completed the wireless network setup. If you would like to continue installing drivers and software necessary for operating your device, please choose Install MFL-Pro Suite or Initial Installation / Install MFL-Pro Suite from the CD-ROM menu.

### (For Macintosh®)

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

#### For Touchscreen models

- 1 Turn on the machine by plugging in the power cord.
- Press MENU.
- 3 Press Network.
- 4 Press WLAN.
- 5 Press A or V to display WPS w/PIN Code, and then press WPS w/PIN Code.
- 6 The LCD will show an 8 digit PIN and the machine starts searching for an access point for 5 minutes.
- Using a computer that is on the network, type "http://access points IP address/" into your browser. (Where "access point's IP address" is the IP address of the device that is used as the Registrar <sup>1</sup>.) Go to the WPS (Wi-Fi Protected Setup) setting page and input the PIN which the LCD shows in 6 to the Registrar and follow the on-screen instruction.

<sup>1</sup> The Registrar is normally the access point / router.



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

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



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

- 1 Click and then Network.
- 2 Click Add a wireless device.
- 3 Choose your machine and click Next.
- 4 Input the PIN from the printed page and then click **Next**.
- **5** Choose your network that you want to connect to, and then click **Next**.
- 6 Click Close.
- 8 If the LCD shows Connected, the machine has successfully connected to your router or access point. You can now use your machine in a wireless network.

If the LCD shows Connection Failed, the machine has not successfully connected to your router or access point. Try starting from **6** again. If the same message is indicated again, reset the machine back to the default factory settings and try again. For resetting, see *Restoring the network settings to factory default* on page 112.

9 Press X.



#### (For Windows®)

You have completed the wireless network setup. If you would like to continue installing drivers and software necessary for operating your device, please choose Install MFL-Pro Suite or Initial Installation / Install MFL-Pro Suite from the CD-ROM menu.

(For Macintosh®)

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

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

For installation, see *Wireless configuration for Windows*<sup>®</sup> using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN) on page 38 and *Wireless Configuration for Macintosh*<sup>®</sup> using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN) on page 58.

4

# Wireless configuration for Windows<sup>®</sup> using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN)

#### **IMPORTANT**

- The following instructions will install your Brother machine in a network environment using the Brother installer application for Windows<sup>®</sup> found on the CD-ROM we have provided with the machine.
- You can also setup your Brother machine using the machine's control panel which we recommend. You can find instructions in the supplied Quick Setup Guide or see *Configuring your machine for a wireless network (Not available for MFC-5490CN and MFC-5890CN)* on page 18.
- If you are going to connect your Brother machine to your network, we recommend that you contact your system administrator prior to installation. You must know your wireless network settings before you proceed with this installation.

# **Configuration in Infrastructure mode**

# Before configuring the wireless settings

#### **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. Use Menu, ▲ or ▼ to choose Network, press OK. Press ▲ or ▼ to choose Factory Reset, press OK. Choose Yes to accept the change. For Touchscreen models, press MENU, Network, ▲ or ▼ to display Factory Reset then press Factory Reset, and choose Yes to accept the change. The machine will restart automatically.
- If you are using Windows<sup>®</sup> Firewall or a firewall function of anti-spyware or antivirus applications, temporarily disable them. Once you are sure that you can print, configure the software settings following the instructions again.
- You need to temporarily use an Ethernet cable during configuration.

# Configure the wireless settings

- 1 Turn on the machine by plugging in the power cord.
- 2 Turn on your computer.
- 3 Put the supplied CD-ROM into your CD-ROM drive. The opening screen will appear automatically. 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 Initial Installation or Advanced.







- If this window does not appear, use Windows® Explorer to run the start.exe program from the root folder of the Brother CD-ROM.
- The screen on your machine may vary depending on your region.
- 5 Click Wireless LAN Setup Wizard.





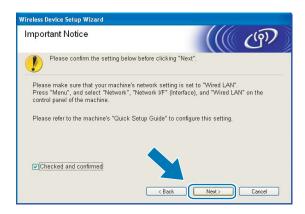
6 Choose Step by Step install (Recommended) and then click Next.



7 Choose With cable (Recommended) and then click Next.



8 Read the **Important Notice**. Check the box after you confirm the wireless setting is enabled, and then click **Next**.



Wireless configuration for Windows® using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN)

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





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

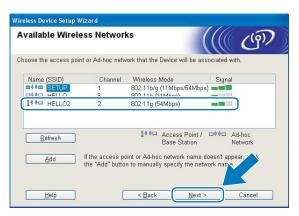


Note

The default Node name is "BRNxxxxxxxxxxxx".

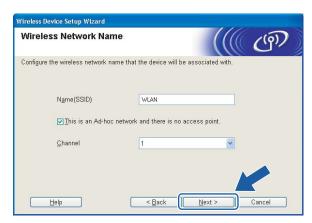
Wireless configuration for Windows® using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN)

11 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**.





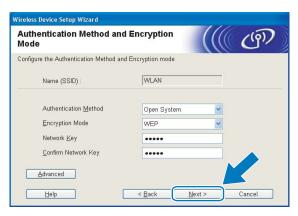
- "SETUP" is the default SSID of the machine. Do not choose this SSID.
- If the list is blank, check that the access point has power and is broadcasting the SSID, and then see if the machine and the access point are within range for wireless communication. Then, click **Refresh**.
- If your access point is set to not broadcast the SSID you can manually add it by clicking the **Add** button. Follow the on-screen instructions for entering the **Name (SSID)**.



12 If your network is not configured for Authentication and Encryption, the following screen will appear. To continue configuration, click **OK** and go to **(4)**.

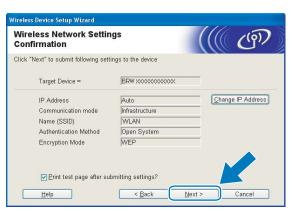


If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless machine, you must configure your machine to match the Authentication and Encryption settings of your existing wireless network. Choose the **Authentication Method**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





- If you want to setup or configure additional WEP key indexes other than WEP key1, click **Advanced**.
- If you do not know the Authentication or Encryption settings for your network, contact your network administrator.
- If your wireless settings fail, an error message will appear during the installation of **MFL-Pro Suite** and the installation will be terminated. If you encounter this failure, go to step ① on page 39 and setup the wireless connection again.
- If you are using WEP and the LCD displayed 'Connected' but your machine is not found, make sure you entered the WEP key correctly. The WEP key is case sensitive.
- Click **Next**. The settings will be sent to your machine. The settings will remain unchanged if you click **Cancel**.





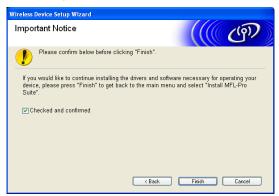
- If you want to manually enter the IP address settings of your machine, click **Change IP Address** and enter the necessary IP address settings for your network.
- The control panel settings will be automatically changed to WLAN when the wireless settings are sent to your machine.

Wireless configuration for Windows® using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN)

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



6 Check the box after you confirm that you have completed the wireless settings, and then click Finish.



You have completed the wireless network setup. If you would like to continue installing drivers and software necessary for operating your device, please choose Install MFL-Pro Suite or Initial Installation / Install MFL-Pro Suite from the CD-ROM menu.

# Configuration using the SES/WPS/AOSS control panel menu (One-Push method)

## Before configuring the wireless settings

#### **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. Use Menu, ▲ or ▼ to choose Network, press OK. Press ▲ or ▼ to choose Factory Reset, press OK. Choose Yes to accept the change. For Touchscreen models, press MENU, Network, ▲ or ▼ to display Factory Reset then press Factory Reset, and choose Yes to accept the change. The machine will restart automatically.
- If you are using Windows<sup>®</sup> Firewall or a firewall function of anti-spyware or antivirus applications, temporarily disable them. Once you are sure that you can print, configure the software settings following the instructions again.

# Configure the wireless settings

- 1 Turn on the machine by plugging in the power cord.
- Press Menu.
  Press ▲ or ▼ to choose Network, press OK.
  Press ▲ or ▼ to choose Network I/F, press OK.
  Choose WLAN.

#### (For Touchscreen models)

Press MENU. Press Network. Press Network I/F and then press WLAN.

- Turn on your computer.
  Close any applications running before you start configuration.
- 4 Put the supplied CD-ROM into your CD-ROM drive. The opening screen will appear automatically. If the model name screen appears, choose your machine. If the language screen appears, choose your language.

Wireless configuration for Windows® using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN)

5 The CD-ROM main menu will appear. Click Initial Installation or Advanced.







- If this window does not appear, use Windows® Explorer to run the start.exe program from the root folder of the Brother CD-ROM.
- The screen on your machine may vary depending on your region.
- 6 Click Wireless LAN Setup Wizard.



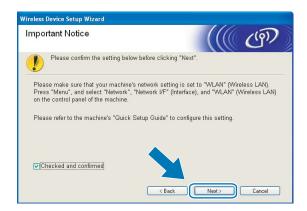


Wireless configuration for Windows® using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN)

Choose Automatic install (Advanced) and click Next.



8 Read the **Important Notice**. Check the box after you confirm the wireless setting is enabled, and then click **Next**.



Oonfirm the on-screen message and click Next.



Press Menu, ▲ or ▼ to choose Network and press OK. Press ▲ or ▼ to choose WLAN and then press OK. Press ▲ or ▼ to choose SES/WPS/AOSS and press OK.

#### (For Touchscreen models)

Press MENU. Press Network. Press WLAN and then press SES/WPS/AOSS.



If your wireless access point supports Wi-Fi Protected Setup™ (PIN Method) and you want to configure your machine using the PIN (Personal Identification Number) Method, see *Using the PIN Method of Wi-Fi Protected Setup*™ on page 35.

- 11 The machine searches for an access point that supports SecureEasySetup™, Wi-Fi Protected Setup™ or AOSS™ for 2 minutes.
- Put your access point in the SecureEasySetup™ mode, Wi-Fi Protected Setup™ mode or AOSS™ mode, depending on what is supported by your access point. Please refer to the instruction manual that came with your access point.
- If the LCD shows Connected, the machine has successfully connected to your router or access point. You can now use your machine in a wireless network.

  If the LCD shows Setting WLAN, Connecting WLAN, then Connection Failed, the machine has not successfully connected to your router or access point. Try starting from ♠ again. If the same message is indicated again, reset the machine back to the default factory settings and try again. For resetting, see Restoring the network settings to factory default on page 112.

  If the LCD shows Setting WLAN, then Connection Failed or Incorrect Mode, session overlap is detected (see the table below). The machine has detected more than one router or access point on your network that has the Wi-Fi Protected Setup™ mode or AOSS™ mode enabled. Make sure that only one router or access point has the Wi-Fi Protected Setup™ mode or AOSS™ mode enabled and try starting from ♠ again.

#### LCD messages when using the SES/WPS/AOSS control panel menu

LCD shows	Connection status	Action	
Setting WLAN	Searching or accessing the access point, and downloading settings from the access point.	_	
Connecting SES			
Connecting WPS	Connecting to the access point.	_	
Connecting AOSS			
Connected	Connection succeeded.	_	
Connection Failed	Connection failed. (If this is shown after the LCD shows Connecting SES, Connecting WPS or Connecting AOSS.)	<ol> <li>Try starting  again.</li> <li>If the same message continues, reset the machine back to the factory settings and try again.</li> </ol>	
	A session overlap was detected.	Check that only one router or access	
Incorrect Mode	A session overlap was detected.	point has the Wi-Fi Protected Setup™ mode or AOSS™ mode enabled and try starting from <b>(0</b> again.	

Wireless configuration for Windows® using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN)

14 Click Finish.





You have completed the wireless network setup. If you would like to continue installing drivers and software necessary for operating your device, please choose Install MFL-Pro Suite or Initial Installation / Install MFL-Pro Suite from the CD-ROM menu.

# **Configuration in Ad-hoc Mode**

### Before configuring the wireless settings

#### **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. Use Menu, ▲ or ▼ to choose Network, press OK. Press ▲ or ▼ to choose Factory Reset, press OK. Choose Yes to accept the change. For Touchscreen models, press MENU, Network, ▲ or ▼ to display Factory Reset then press Factory Reset, and choose Yes to accept the change. The machine will restart automatically.
- If you are using Windows<sup>®</sup> Firewall or a firewall function of anti-spyware or antivirus applications, temporarily disable them. Once you are sure that you can print, configure the software settings following the instructions again.

# Configure the wireless settings

- 1 Turn on the machine by plugging in the power cord.
- Press Menu.
  Press ▲ or ▼ to choose Network, press OK.
  Press ▲ or ▼ to choose Network I/F, press OK.
  Choose WLAN.

#### (For Touchscreen models)

Press MENU. Press Network. Press Network I/F and then press WLAN.

- 3 Turn on your computer.
  Close any applications running before configuration.
- 4 Put the supplied CD-ROM into your CD-ROM drive. The opening screen will appear automatically. If the model name screen appears, choose your machine. If the language screen appears, choose your language.

4

5 The CD-ROM main menu will appear. Click Initial Installation or Advanced.







- If this window does not appear, use Windows® Explorer to run the start.exe program from the root folder of the Brother CD-ROM.
- The screen on your machine may vary depending on your region.
- 6 Click Wireless LAN Setup Wizard.





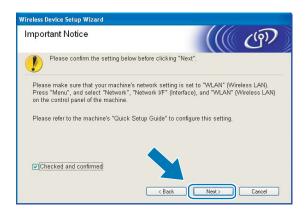
7 Choose Step by Step install (Recommended) and then click Next.



8 Choose Without cable (Advanced) and then click Next.



9 Read the Important Notice. Check the box after you confirm the wireless setting is enabled, and then 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	
Network Name (SSID/ESSID)	
Authentication Method (Open System / Shared Key / WPA/WPA2-PSK)	
Encryption Mode (None / WEP / TKIP / AES)	
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**.





- 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 Vista<sup>®</sup> users:

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

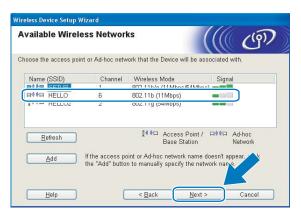
- 1 Click and then Control Panel.
- 2 Click Network and Internet and then Network and Sharing Center icon.
- 3 Click Connect to a network.
- 4 You can see the SSID of the wireless Brother machine in the list. Choose **SETUP** and click **Connect**.
- 5 Click Connect Anyway and then Close.
- 6 Click View status of Wireless Network Connection (SETUP).
- 7 Click **Details...** and check the **Network Connection Details**. It may take a few minutes to change from 0.0.0.0 to 169.254.x.x IP address to be shown on screen (where x.x. are numbers between 1 and 254).
- For Windows® XP SP2 users you can temporarily change the wireless settings on your PC, following the steps below:
  - 1 Click Start and then Control Panel.
  - 2 Click Network Connections icon.
  - 3 Choose and right click Wireless Network Connection. Click View Available Wireless Networks.
  - 4 You can see the Brother wireless machine in the list. Choose **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 Choose the machine you wish to configure, and click **Next**. If the list is blank, check if the machine is powered on, and then click **Refresh**.





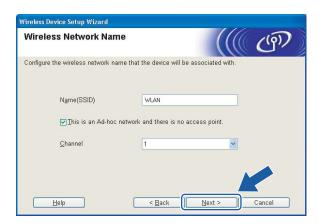
The default Node name is "BRWxxxxxxxxxxx" (where "xxxxxxxxxxx" is your Ethernet address).

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**.





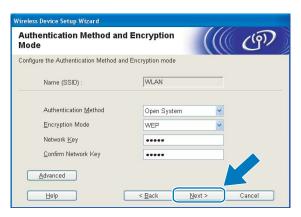
- If the list is blank, check if the machine is within range for wireless communication. Then, click Refresh.
- If your target Ad-hoc network does not appear on the list, you can manually add it by clicking the Add button. Check This is an Ad-hoc network and there is no access point., and then enter the Name (SSID) and the Channel number, and then click Next.



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

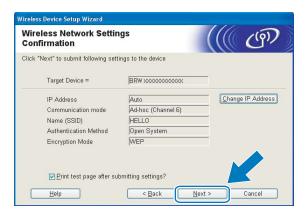


If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless machine, you must ensure that it is configured to match the Authentication and Encryption settings of your existing wireless network. Choose the Authentication Method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





- If you want to setup or configure additional WEP key indexes other than WEP key1, click Advanced.
- If you do not know the Authentication or Encryption settings for your network, contact your network administrator.
- If your wireless settings fail, an error message will appear during the installation of **MFL-Pro Suite** and the installation will be terminated. If you encounter this failure, go to step on page 50 and setup the wireless connection again.
- If you are using WEP and the LCD displayed 'Connected' but your machine is not found, make sure you entered the WEP key correctly. The WEP key is case sensitive.
- 16 Click Next. The settings will be sent to your machine. The settings will remain unchanged if you click Cancel.

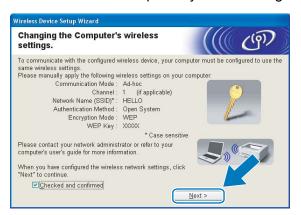




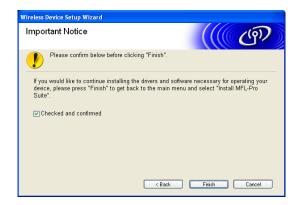
If you want to manually enter the IP address settings of your machine, click **Change IP Address** and enter the necessary IP address settings for your network.

To communicate with the configured wireless device, you must configure your computer to use the same wireless settings. Manually change the wireless settings on your computer to match the machine's wireless settings shown on this screen. Check the box after you confirm these settings, and then click **Next**.

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



18 Click Finish.



OK!

You have completed the wireless network setup. If you would like to continue installing drivers and software necessary for operating your device, please choose Install MFL-Pro Suite or Initial Installation / Install MFL-Pro Suite from the CD-ROM menu.

5

# Wireless Configuration for Macintosh<sup>®</sup> using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN)

#### **IMPORTANT**

- The following instructions will install your Brother machine in a network environment using the Brother installer application for Macintosh<sup>®</sup> found on the CD-ROM we have provided with the machine.
- You can also setup your Brother machine using the machine's control panel which we recommend. You can find instructions in the supplied Quick Setup Guide or see *Configuring your machine for a wireless network (Not available for MFC-5490CN and MFC-5890CN)* on page 18.
- If you are going to connect your Brother machine to your network, we recommend that you contact your system administrator prior to installation. You must know your wireless network settings before you proceed with this installation.

# **Configuration in Infrastructure mode**

# Before configuring the wireless settings

#### **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. Use Menu, ▲ or ▼ to choose Network, press OK. Press ▲ or ▼ to choose Factory Reset, press OK. Choose Yes to accept the change. For Touchscreen models, press MENU, Network, ▲ or ▼ to display Factory Reset then press Factory Reset, and choose Yes to accept the change. The machine will restart automatically.
- If you are using Windows<sup>®</sup> Firewall or a firewall function of anti-spyware or antivirus applications, temporarily disable them. Once you are sure that you can print, configure the software settings following the instructions again.
- You need to temporarily use an Ethernet cable during configuration.

# Configure the wireless settings

- 1 Turn on the machine by plugging in the power cord.
- 2 Turn on your Macintosh<sup>®</sup>.
- 3 Put the supplied CD-ROM into your CD-ROM drive. Double-click the **MFL-Pro Suite** icon on your desktop.
- 4 Double-click the Utilities.



5 Double-click the Wireless Device Setup Wizard.



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



7 Choose With cable (Recommended) and then click Next.



8 Read the Important Notice and click Next.



Wireless Configuration for Macintosh® using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN)

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



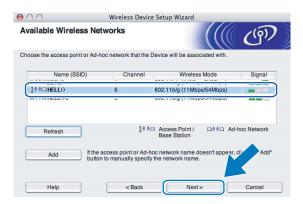
10 Choose the machine you wish to configure, and click **Next**. If the list is blank, check if the access point and the machine are powered on, and then click **Refresh**.





The default Node name is "BRNxxxxxxxxxxxx".

11 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**.





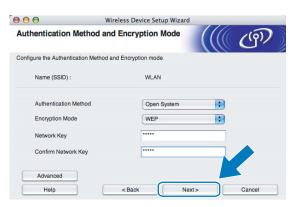
- "SETUP" is the default SSID of the machine. Do not choose this SSID.
- If the list is blank, check that the access point has power and is broadcasting the SSID, and then see if the machine and the access point are within range for wireless communication. Then, click **Refresh**.
- If your access point is set to not broadcast the SSID you can manually add it by clicking the **Add** button. Follow the on-screen instructions for entering the **Name (SSID)**.



12 If your network is not configured for Authentication and Encryption, the following screen will appear. To continue installation, click **OK** and go to **4**.

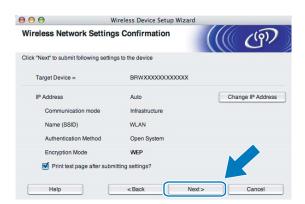


If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless machine, you must ensure that it is configured to match the Authentication and Encryption settings of your existing wireless network. Choose the Authentication Method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





- If you want to setup or configure additional WEP key indexes other than WEP key1, click **Advanced**.
- If you do not know the Authentication or Encryption settings for your network, contact your network administrator.
- If your machine is not detected, go to step 1 on page 59 and setup the wireless connection again.
- If you are using WEP and the LCD displayed 'Connected' but your machine is not found, make sure you entered the WEP key correctly. The WEP key is case sensitive.
- Click **Next**. The settings will be sent to your machine. The settings will remain unchanged if you click **Cancel**.





- If you want to manually enter the IP address settings of your machine, click **Change IP Address** and enter the necessary IP address settings for your network.
- The control panel settings will be automatically changed to WLAN when the wireless settings are sent to your machine.

Wireless Configuration for Macintosh® using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN)

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



6 Check the box after you confirm that you have completed the wireless settings, and then click Finish.



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

# Configuration using the SES/WPS/AOSS control panel menu (One-Push method)

## Before configuring the wireless settings

#### **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. Use Menu, ▲ or ▼ to choose Network, press OK. Press ▲ or ▼ to choose Factory Reset, press OK. Choose Yes to accept the change. For Touchscreen models, press MENU, Network, ▲ or ▼ to display Factory Reset then press Factory Reset, and choose Yes to accept the change. The machine will restart automatically.
- If you are using Windows<sup>®</sup> Firewall or a firewall function of anti-spyware or antivirus applications, temporarily disable them. Once you are sure that you can print, configure the software settings following the instructions again.

## Configure the wireless settings

- 1 Turn on the machine by plugging in the power cord.
- Press Menu.
  Press ▲ or ▼ to choose Network, press OK.
  Press ▲ or ▼ to choose Network I/F, press OK.
  Choose WLAN.

#### (For Touchscreen models)

Press MENU. Press Network. Press Network I/F and then press WLAN.

- Turn on your Macintosh<sup>®</sup>.
- 4 Put the supplied CD-ROM into your CD-ROM drive. Double-click the MFL-Pro Suite icon on your desktop.

Wireless Configuration for Macintosh® using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN)

5 Double-click the **Utilities**.



6 Double-click the Wireless Device Setup Wizard.



7 Choose Automatic install (Advanced) and click Next.



8 Read the Important Notice and click Next.



9 Confirm the on-screen message and click Next.



Press Menu, A or V to choose Network and press OK. Press A or V to choose WLAN and then press OK. Press A or V to choose SES/WPS/AOSS and press OK.

#### (For Touchscreen models)

Press MENU. Press Network. Press WLAN and then press SES/WPS/AOSS.



If your wireless access point supports Wi-Fi Protected Setup™ (PIN Method) and you want to configure your machine using the PIN (Personal Identification Number) Method, see *Using the PIN Method of Wi-Fi Protected Setup*™ on page 35.

- The machine searches for an access point that supports SecureEasySetup™, Wi-Fi Protected Setup™ or AOSS™ for 2 minutes.
- Put your access point in the SecureEasySetup™ mode, Wi-Fi Protected Setup™ mode or AOSS™ mode, depending on what is supported by your access point. Please refer to the instruction manual that came with your access point.

If the LCD shows Connected, the machine has successfully connected to your router or access point. You can now use your machine in a wireless network.

If the LCD shows Setting WLAN, Connecting WLAN, then Connection Failed, the machine has not successfully connected to your router or access point. Try starting from again. If the same message is indicated again, reset the machine back to the default factory settings and try again. For resetting, see *Restoring the network settings to factory default* on page 112.

If the LCD shows Setting WLAN, then Connection Failed or Incorrect Mode, session overlap is detected (see the table below). The machine has detected more than one router or access point on your network that has the Wi-Fi Protected Setup™ mode or AOSS™ mode enabled. Make sure that only one router or access point has the Wi-Fi Protected Setup™ mode or AOSS™ mode enabled and try starting from nagain.

#### LCD messages when using the SES/WPS/AOSS control panel menu

LCD shows	Connection status	Action	
Setting WLAN	Searching or accessing the access point, and downloading settings from the access point.	_	
Connecting SES			
Connecting WPS	Connecting to the access point.	_	
Connecting AOSS			
Connected	Connection succeeded.	_	
Connection Failed	Connection failed. (If this is shown after the LCD shows Connecting SES, Connecting WPS or Connecting AOSS.)	<ol> <li>Try starting  again.</li> <li>If the same message continues, reset the machine back to the factory settings and try again.</li> </ol>	
	A session overlap was detected.	Check that only one router or access	
Incorrect Mode	A session overlap was detected.	point has the Wi-Fi Protected Setup™ mode or AOSS™ mode enabled and try starting from <b>(0</b> again.	

(4) Click Finish.





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

## **Configuration in Ad-hoc Mode**

## Before configuring the wireless settings

#### **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. Use Menu, ▲ or ▼ to choose Network, press OK. Press ▲ or ▼ to choose Factory Reset, press OK. Choose Yes to accept the change. For Touchscreen models, press MENU, Network, ▲ or ▼ to display Factory Reset then press Factory Reset, and choose Yes to accept the change. The machine will restart automatically.
- If you are using Windows<sup>®</sup> Firewall or a firewall function of anti-spyware or antivirus applications, temporarily disable them. Once you are sure that you can print, configure the software settings following the instructions again.

## Configure the wireless settings

- 1 Turn on the machine by plugging in the power cord.
- Press Menu.
  Press ▲ or ▼ to choose Network, press OK.
  Press ▲ or ▼ to choose Network I/F, press OK.
  Choose WLAN.

#### (For Touchscreen models)

Press MENU. Press Network. Press Network I/F and then press WLAN.

- Turn on your Macintosh<sup>®</sup>.
- 4 Put the supplied CD-ROM into your CD-ROM drive. Double-click the MFL-Pro Suite icon on your desktop.

Wireless Configuration for Macintosh® using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN)

5 Double-click the **Utilities**.



6 Double-click the Wireless Device Setup Wizard.



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



8 Choose Without cable (Advanced) and then click Next.



9 Read the Important Notice. Check the box after you confirm the wireless setting is enabled, and then click Next.



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



Item	Record the current wireless computer settings
Communication Mode (Infrastructure/Ad-hoc)	
Channel	
Network Name (SSID/ESSID)	
Authentication Method (Open System / Shared Key / WPA/WPA2-PSK)	
Encryption Mode (None / WEP / TKIP / AES)	
Encryption Key	

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





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

- 1 Click the AirPort status icon and select **Open Internet Connect...**
- 2 Click the Network tab to see the available wireless devices. You can see the Brother wireless print server in the **Network** option. Select **SETUP**.
- **3** Your wireless network is connected successfully.

Wireless Configuration for Macintosh® using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN)

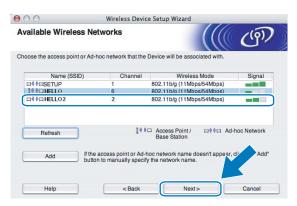
(2) Choose the machine you wish to configure, and click **Next**. If the list is blank, check if the machine is powered on, and then click **Refresh**.





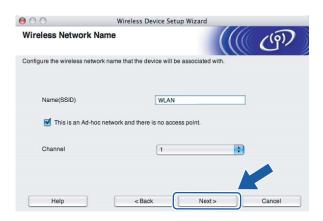
The default Node name is "BRWxxxxxxxxxxxx" (where "xxxxxxxxxxx" is your Ethernet address).

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**.





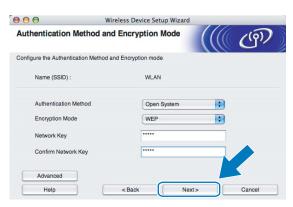
- If the list is blank, check if the machine is within range for wireless communication. Then, click Refresh.
- If your target Ad-hoc network does not appear on the list, you can manually add it by clicking the **Add** button. Check **This is an Ad-hoc network and there is no access point.**, and then enter the **Name** (SSID) and the **Channel** number, and then click **Next**.



If your network is not configured for Authentication and Encryption, the following screen will appear. To continue installation, click **OK** and go to **6**.

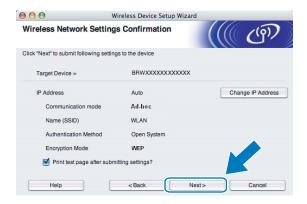


If your network is configured for Authentication and Encryption, the following screen will appear. When configuring your Brother wireless machine, you must ensure that it is configured to match the Authentication and Encryption settings of your existing wireless network. Choose the Authentication Method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





- If you want to setup or configure additional WEP key indexes other than WEP key1, click **Advanced**.
- If you do not know the Authentication or Encryption settings for your network, contact your network administrator.
- If your machine is not detected, go to step ① on page 69 and setup the wireless connection again.
- If you are using WEP and the LCD displayed 'Connected' but your machine is not found, make sure you entered the WEP key correctly. The WEP key is case sensitive.
- Click Next. The settings will be sent to your machine. The settings will remain unchanged if you click Cancel.





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

To communicate with the configured wireless device, you must configure your computer to use the same wireless settings. Manually change the wireless settings on your computer to match the machine's wireless settings shown on this screen. Check the box after you confirm these settings, and then click **Next**.

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



(18) Click Finish.



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

## 6

## **Control panel setup**

## **Network menu**

Before using your Brother product in a network environment, you need to configure the correct TCP/IP settings. In this chapter, you will learn how to configure the network settings using the control panel, located on the

front of the machine.

The Network menu selections of the control panel allow you to set up the Brother machine for your network configuration. Press **Menu**, then press **\( \Delta\)** or **\( \V\)** to choose Network. Proceed to the menu selection you wish to configure. (See *Function table and default factory settings* on page 156.)

Please note that the machine is supplied with the BRAdmin Light software and Remote Setup applications for Windows<sup>®</sup> and Macintosh<sup>®</sup>, which also can be used to configure many aspects of the network. (See *Using the Remote Setup to change the print server settings (Not available for DCP models)* on page 17 for a wired connection or *Changing the print server settings* on page 15 for a wireless connection.)

#### TCP/IP

If you connect the machine with the Ethernet cable to your network, use the Wired LAN menu selections. If you connect the machine to a wireless Ethernet network, use the WLAN menu selections.

This menu has 10 sections: BOOT Method, IP Address, Subnet Mask, Gateway, Node Name, WINS Config, WINS Server, DNS Server, APIPA and IPv6 (For MFC-5490CN, MFC-5890CN, MFC-6490CW and DCP-6690CW).

#### **BOOT Method**

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



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 machine's control panel, BRAdmin Light utility or Remote Setup.

- 1 Press Menu.
- Press ▲ or ▼ to choose Network. Press OK.
- (For Wired) Press ▲ or ▼ to choose Wired LAN. (For Wireless) Press ▲ or ▼ to choose WLAN. Press OK.
- Press A or ▼ to choose TCP/IP. Press OK.
- Press A or ▼ to choose BOOT Method. Press OK.

- 6 Press ◀ or ▶ to choose Auto <sup>1</sup>, Static <sup>2</sup>, RARP <sup>3</sup>, BOOTP <sup>4</sup> or DHCP <sup>5</sup>. Press OK.
- Press Stop/Exit.

#### For MFC-5490CN

- 1 Press Menu, 5, 1, 1.
- Press or ► to choose Auto <sup>1</sup>, Static <sup>2</sup>, RARP <sup>3</sup>, BOOTP <sup>4</sup> or DHCP <sup>5</sup>.
  Press OK.
- 3 Press Stop/Exit.

#### For Touchscreen models

- 1 Press MENU.
- 2 Press Network.
- (For Wired) Press Wired LAN. (For Wireless) Press WLAN.
- 4 Press TCP/IP.
- 5 Press BOOT Method.
- 6 Press Auto 1, Static 2, RARP 3, BOOTP 4 or DHCP 5.
- Press Stop/Exit.
- <sup>1</sup> 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 set using the APIPA protocol, see *Using APIPA to configure the IP address* on page 148. After the machine is initially powered ON, it may take a few minutes for the machine to scan the network for a server.

- 2 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.
- 3 RARP mode

The Brother print server IP address can be configured using the Reverse ARP (RARP) service on your host computer. For more information on RARP, see *Using RARP to configure the IP address* on page 148.

- <sup>4</sup> BOOTP mode
  - BOOTP is an alternative to RARP that has the advantage of allowing configuration of the subnet mask and gateway. For more information on BOOTP, see *Using BOOTP to configure the IP address* on page 147.
- 5 DHCP mode (DHCP
  - 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<sup>®</sup>, Windows<sup>®</sup> 2000/XP, Windows Vista<sup>®</sup> 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.

#### **IP Address**

This field displays the current IP address of the machine. If you have chosen 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 chosen 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.
- Press A or ▼ to choose Network. Press OK.
- (For Wired) Press ▲ or ▼ to choose Wired LAN. (For Wireless) Press ▲ or ▼ to choose WLAN. Press OK.
- 4 Press ▲ or ▼ to choose TCP/IP.
  Press OK.
- 5 Press A or V to choose IP Address.
  Press OK.
- 6 Enter the IP address. Press **OK**.



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**.

Press Stop/Exit.

#### For MFC-5490CN

- 1 Press Menu, 5, 1, 2.
- Choose 1 to change. Enter IP address. Press **OK**.
- 3 Press Stop/Exit.

#### For Touchscreen models

- 1 Press MENU.
- 2 Press Network.
- (For Wired) Press Wired LAN. (For Wireless) Press WLAN.
- 4 Press TCP/IP.
- 5 Press IP Address.
- 6 Enter the IP address.
- 7 Press OK.
- 8 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.
- Press ▲ or ▼ to choose Network. Press OK.
- (For Wired) Press ▲ or ▼ to choose Wired LAN. (For Wireless) Press ▲ or ▼ to choose WLAN. Press OK.
- 4 Press ▲ or ▼ to choose TCP/IP.
  Press OK.
- Fress A or V to choose Subnet Mask. 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**.

Press Stop/Exit.

#### For MFC-5490CN

- 1 Press Menu, 5, 1, 3.
- 2 Choose 1 to change. Enter the Subnet Mask address. Press **OK**.
- 3 Press Stop/Exit.

#### For Touchscreen models

- 1 Press MENU.
- 2 Press Network.
- (For Wired) Press Wired LAN. (For Wireless) Press WLAN.
- 4 Press TCP/IP.
- 5 Press Subnet Mask.
- 6 Enter the Subnet Mask address. 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.
- Press ▲ or ▼ to choose Network. Press OK.
- (For Wired) Press ▲ or ▼ to choose Wired LAN. (For Wireless) Press ▲ or ▼ to choose WLAN. Press OK.
- Press ▲ or ▼ to choose TCP/IP. Press OK.
- 5 Press A or ▼ to choose Gateway. Press OK.
- 6 Enter the Gateway address. Press **OK**.



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**.

Press Stop/Exit.

#### For MFC-5490CN

- 1 Press Menu, 5, 1, 4.
- Select 1 to change. Enter the Gateway address. Press OK.
- 3 Press Stop/Exit.

#### For Touchscreen models

- 1 Press MENU.
- 2 Press Network.
- (For Wired) Press Wired LAN. (For Wireless) Press WLAN.
- 4 Press TCP/IP.
- Oress A or ▼ to display Gateway and then press Gateway.
- 6 Enter the Gateway address. Press **OK**.
- 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 BRNxxxxxxxxxxx for a wired network or BRWxxxxxxxxxxx for a wireless network (where xxxxxxxxxxx is your machine's Ethernet address) (up to 15 characters).

- 1 Press Menu.
- Press ▲ or ▼ to choose Network. Press OK.
- (For Wired) Press ▲ or ▼ to choose Wired LAN. (For Wireless) Press ▲ or ▼ to choose WLAN. Press OK.

- 4 Press ▲ or ▼ to choose TCP/IP.
  Press OK.
- 6 Press ▲ or ▼ to choose Node Name. 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.

#### For MFC-5490CN

- 1 Press Menu, 5, 1, 5.
- Select 1 to change. Enter the Node Name. Press OK.
- 3 Press Stop/Exit.

#### For Touchscreen models

- 1 Press MENU.
- 2 Press Network.
- (For Wired) Press Wired LAN. (For Wireless) Press WLAN.
- 4 Press TCP/IP.
- 5 Press A or ▼ to display Node Name and then press Node Name.
- 6 Enter the Node Name. Press **OK**.
- **Note**

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

Press Stop/Exit.

### **WINS Config**

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

- 1 Press Menu.
- Press A or ▼ to choose Network.
  Press OK.
- (For Wired) Press ▲ or ▼ to choose Wired LAN. (For Wireless) Press ▲ or ▼ to choose WLAN. Press OK.
- 4 Press ▲ or ▼ to choose TCP/IP.
  Press OK.
- 5 Press A or V to choose WINS Config.
  Press OK.
- 6 Press **d** or **>** to choose Auto or Static. Press **OK**.
- Press Stop/Exit.

#### For MFC-5490CN

- 1 Press Menu, 5, 1, 6.
- Press A or ▼ to choose Auto or Static. Press OK.
- 3 Press Stop/Exit.

- 1 Press MENU.
- 2 Press Network.
- (For Wired) Press Wired LAN. (For Wireless) Press WLAN.
- 4 Press TCP/IP.
- 5 Press A or V to display WINS Config and then press WINS Config.
- 6 Press Auto or Static.
- 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 or DHCP for this feature to work.

#### **Static**

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

#### **WINS Server**

#### **Primary WINS Server IP Address**

This field specifies the IP address of the primary WINS (Windows<sup>®</sup> Internet Name Service) server. If set to a non-zero value, the machine will contact this server to register its name with the Windows<sup>®</sup> 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<sup>®</sup> Internet Name Service. If you have a primary WINS server, but no secondary WINS server, simply leave this field blank.

- 1 Press Menu.
- Press or ▼ to choose Network. Press OK.
- (For Wired) Press ▲ or ▼ to choose Wired LAN. (For Wireless) Press ▲ or ▼ to choose WLAN. Press OK.
- Press ▲ or ▼ to choose TCP/IP. Press OK.
- 5 Press A or V to choose WINS Server.
  Press OK.
- 6 Press ▲ or ▼ to choose Primary or Secondary.
  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.

#### For MFC-5490CN

- 1 Press Menu, 5, 1, 7.
- Press A or ▼ to choose Primary or Secondary. Press OK.
- 3 Choose 1 to change. Enter the WINS Server address. Press **OK**.
- 4 Press Stop/Exit.

#### For Touchscreen models

- 1 Press MENU.
- 2 Press Network.
- (For Wired) Press Wired LAN. (For Wireless) Press WLAN.
- 4 Press TCP/IP.
- 5 Press ▲ or ▼ to display WINS Server and then press WINS Server.
- 6 Press Primary or Secondary.
- 7 Enter the WINS Server address. Press **OK**.
- 8 Press Stop/Exit.

#### **DNS Server**

#### **Primary DNS Server IP Address**

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

- 1 Press Menu.
- Press ▲ or ▼ to choose Network. Press OK.
- (For Wired) Press ▲ or ▼ to choose Wired LAN. (For Wireless) Press ▲ or ▼ to choose WLAN. Press OK.

- Press ▲ or ▼ to choose TCP/IP. Press OK.
- Fress A or V to choose DNS Server. Press OK.
- 6 Press A or ▼ to choose Primary or Secondary.
  Press OK.
- 7 Enter the DNS Server address. Press **OK**.



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.

#### For MFC-5490CN

- 1 Press Menu, 5, 1, 8.
- Press A or ▼ to choose Primary or Secondary. Press OK.
- 3 Choose 1 to change. Enter the DNS Server address. Press **OK**.
- Press Stop/Exit.

- 1 Press MENU.
- 2 Press Network.
- (For Wired) Press Wired LAN. (For Wireless) Press WLAN.
- 4 Press TCP/IP.
- 5 Press ▲ or ▼ to display DNS Server and then press DNS Server.
- 6 Press Primary or Secondary.
- 7 Enter the DNS Server address. Press **OK**.
- 8 Press Stop/Exit.

#### **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) when the print server cannot obtain an IP address through the BOOT Method you have set (see *BOOT Method* on page 77). Choosing 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.
- Press A or ▼ to choose Network. Press OK.
- (For Wired) Press ▲ or ▼ to choose Wired LAN. (For Wireless) Press ▲ or ▼ to choose WLAN. Press OK.
- 4 Press ▲ or ▼ to choose TCP/IP.
  Press OK.
- 5 Press A or V to choose APIPA. Press OK.
- 6 Press ◀ or ▶ to choose On or Off. Press OK.
- Press Stop/Exit.

#### For MFC-5490CN

- 1 Press Menu, 5, 1, 9.
- Press A or ▼ to choose on or off. Press OK.
- 3 Press Stop/Exit.

- 1 Press MENU.
- 2 Press Network.
- (For Wired) Press Wired LAN. (For Wireless) Press WLAN.
- 4 Press TCP/IP.
- 5 Press ▲ or ▼ to display APIPA and then press APIPA.
- 6 Press On or Off.
- Press Stop/Exit.

### IPv6 (For MFC-5490CN, MFC-5890CN, MFC-6490CW and DCP-6690CW)

This machine is compatible with IPv6, the next generation internet protocol. If you want to use the IPv6 protocol, choose On. The default setting for IPv6 is Off. For more information on the IPv6 protocol, visit http://solutions.brother.com.

- 1 Press Menu.
- Press ▲ or ▼ to choose Network. Press OK.
- (For Wired) Press ▲ or ▼ to choose Wired LAN. (For Wireless) Press ▲ or ▼ to choose WLAN. Press OK.
- 4 Press ▲ or ▼ to choose TCP/IP.
  Press OK.
- 5 Press A or V to choose IPv6.
  Press OK.
- 6 Press ◀ or ▶ to choose on or off. Press OK.
- Press Stop/Exit.

#### For MFC-5490CN

- 1 Press Menu, 5, 1, 0.
- Press A or ▼ to choose on or off. Press OK.
- 3 Press Stop/Exit.

- 1 Press MENU.
- 2 Press Network.
- (For Wired) Press Wired LAN. (For Wireless) Press WLAN.
- 4 Press TCP/IP.
- 5 Press **A** or **V** to display IPv6 and then press IPv6.
- 6 Press On or Off.
- Press Stop/Exit.

## Setup Misc. (MFC-5490CN only)

#### **Ethernet**

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.

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



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

- 1 Press Menu, 5, 2, 1.
- Press ▲ or ▼ to choose Auto, 100B-FD, 100B-HD, 10B-FD or 10B-HD. Press OK.
- 3 Press Stop/Exit.

## **Setup Wizard (wireless network only)**

The Setup Wizard guides you through the wireless network configuration. For more information, see *Using* the Setup Wizard from the control panel on page 27.

## SES/WPS/AOSS (wireless network only)

If your wireless access point supports either SecureEasySetup<sup>™</sup>, Wi-Fi Protected Setup<sup>™</sup> (PBC <sup>1</sup>) or AOSS<sup>™</sup>, you can configure the machine easily without a computer. Your Brother machine has the SES/WPS/AOSS menu on the control panel. This feature automatically detects which mode your access point uses, SecureEasySetup<sup>™</sup>, Wi-Fi Protected Setup<sup>™</sup> or AOSS<sup>™</sup>. By pushing a button on the wireless LAN router / access point and the machine, you can setup the wireless network and security settings. See the user's guide for your wireless LAN router / access point for instructions on how to access one-push mode. (See *Using the SES/WPS/AOSS control panel menu to configure your machine for a wireless network* on page 31.)

## WPS w/PIN code (wireless network only)

If your wireless access point supports Wi-Fi Protected Setup™ (PIN Method), you can configure the machine easily without a computer. The PIN (Personal Identification Number) Method is one of the connection methods developed by the Wi-Fi Alliance. By inputting a PIN which is created by an Enrollee (your machine) to the Registrar (a device that manages the wireless LAN), you can setup the wireless network and security settings. See the user's guide for your wireless LAN router / access point for instructions on how to access the Wi-Fi Protected Setup™ mode. (See *Using the PIN Method of Wi-Fi Protected Setup*™ on page 35.)

Push Button Configuration

## WLAN Status (wireless network only)

#### **Status**

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

- 1 Press Menu.
- Press ▲ or ▼ to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose WLAN. Press OK.
- Press A or V to choose WLAN Status. Press OK.
- Fress A or ▼ to choose Status. Press OK.
- 6 The current wireless network status will be displayed; Active(11b), Active(11g), or Connection Failed.
- Press Stop/Exit.

- 1 Press MENU.
- 2 Press Network.
- 3 Press wlan.
- 4 Press A or ▼ to display WLAN Status and then press WLAN Status.
- 5 The current wireless network status will be displayed; Active(11b), Active(11g), or Connection Failed.
- 6 Press Stop/Exit.

## **Signal**

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

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

- 1 Press MENU.
- Press Network.
- 3 Press WLAN.
- 4 Press ▲ or ▼ to display WLAN Status and then press WLAN Status.
- 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.
- Press A or V to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose WLAN.
  Press OK.
- Press A or V to choose WLAN Status. Press OK.
- 5 Press A or V to choose SSID.
  Press OK.
- 6 The current wireless network SSID will be displayed.
- Press Stop/Exit.

- 1 Press MENU.
- 2 Press Network.
- 3 Press WLAN.
- 4 Press ▲ or ▼ to display WLAN Status and then press WLAN Status.
- 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.
- Press ▲ or ▼ to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose WLAN. Press **OK**.
- Press A or ▼ to choose WLAN Status. Press OK.
- 5 Press A or V to choose Comm. Mode. Press OK.
- 6 The current wireless network communication mode will be displayed; Ad-hoc or Infrastructure.
- Press Stop/Exit.

- 1 Press MENU.
- Press Network.
- 3 Press WLAN.
- 4 Press ▲ or ▼ to display WLAN Status and then press WLAN Status.
- 5 Press ▲ or ▼ to display Comm. Mode.
- 6 The current wireless network communication mode will be displayed; Ad-hoc or Infrastructure.
- 7 Press Stop/Exit.

## Ethernet (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.

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



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

- 1 Press Menu.
- Press ▲ or ▼ to choose Network. Press OK.
- 3 Press A or ▼ to choose Wired LAN. Press OK.
- 4 Press ▲ or ▼ to choose Ethernet.
  Press OK.
- Fress ◀ or ▶ to choose Auto/100B-FD/100B-HD/10B-FD/10B-HD. Press OK.
- 6 Press Stop/Exit.

- 1 Press MENU.
- Press Network.
- 3 Press Wired LAN.
- 4 Press Ethernet.
- 5 Press Auto/100B-FD/100B-HD/10B-FD/10B-HD.
- 6 Press Stop/Exit.

## E-mail/I-FAX (For MFC-6490CW)

This menu has five selections: Mail Address, Setup Server, Setup Mail RX, Setup Mail TX, and Setup Relay. These settings must be configured for the I-Fax feature to work. For more details about Internet fax, see Internet fax and Scan to E-mail (For MFC-6490CW) on page 126.

You can access the character you want by repeatedly pressing the appropriate number key using the machine's control panel. For more information, see *Entering Text* on page 161.

#### **Mail Address**

- 1 Press Menu.
- 2 Press ▲ or ▼ to choose Network. Press OK.
- 3 Press A or ▼ to choose E-mail/IFAX. Press OK.
- Press A or ▼ to choose Mail Address. Press OK.
- 5 Press Clear/Back to delete default address, then enter the mail address. Press OK.
- 6 Press Stop/Exit.

#### **Setup Server**

#### **SMTP Server**

This field displays the node name or IP address of an SMTP mail server (outgoing E-mail server) on your network.

(Ex, "mailhost.brothermail.net" or "192.000.000.001")

- 1 Press Menu.
- Press A or ▼ to choose Network. Press OK.
- 3 Press A or V to choose E-mail/IFAX.
  Press OK.
- Press A or V to choose Setup Server. Press OK.
- 5 Press ▲ or ▼ to choose SMTP Server.
  Press OK.
- 6 Press A or V to choose Name or IP Address.
  Press OK.
- 7 Enter the SMTP server name or IP address. Press **OK**.
- 8 Press Stop/Exit.

#### **SMTP Port**

This field displays the SMTP port number (for outgoing E-mails) on your network.

- 1 Press Menu.
- Press ▲ or ▼ to choose Network. Press OK.
- 3 Press A or V to choose E-mail/IFAX. Press OK.
- Press A or ▼ to choose Setup Server. Press OK.
- 5 Press ▲ or ▼ to choose SMTP Port. Press OK.
- 6 Enter the SMTP port number. Press **OK**.
- Press Stop/Exit.

#### Auth. for SMTP

You can specify the security method for E-mail notification. For details on security methods for E-mail notification, see *Security methods for E-mail notification* on page 136.

- 1 Press Menu.
- Press ▲ or ▼ to choose Network. Press OK.
- 3 Press A or V to choose E-mail/IFAX. Press OK.
- Press A or V to choose Setup Server. Press OK.
- 5 Press ▲ or ▼ to choose Auth. for SMTP. Press OK.
- 6 Press A or V to choose None, SMTP-AUTH or POP bef.SMTP. Press OK.
- 7 If you chose None or POP bef.SMTP in (6), go to (1). If you chose SMTP-AUTH in (6), go to (8).
- 8 Enter the account name for SMTP authentication. Press **OK**.
- 9 Enter the account password for SMTP authentication. Press **OK**.
- 10 Enter the account password again. Press **OK**.
- Press Stop/Exit.

### **POP3 Server**

This field displays the node name or IP address of the POP3 server (incoming E-mail server) used by the Brother machine. This address is necessary for the Internet fax features to function correctly.

(Ex, "mailhost.brothermail.net" or "192.000.000.001")

- 1 Press Menu.
- Press ▲ or ▼ to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose E-mail/IFAX. Press OK.
- Press A or ▼ to choose Setup Server. Press OK.
- 5 Press A or V to choose POP3 Server.
  Press OK.
- 6 Press A or V to choose Name or IP Address.
  Press OK.
- 7 Enter the POP3 server name or IP address. Press **OK**.
- 8 Press Stop/Exit.

### **POP3 Port**

This field displays the POP3 port number (for incoming E-mails) used by the Brother machine.

- 1 Press Menu.
- Press A or ▼ to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose E-mail/IFAX.
  Press OK.
- Press A or ▼ to choose Setup Server. Press OK.
- Fress A or ▼ to choose POP3 Port. Press OK.
- 6 Enter the POP3 port number. Press **OK**.
- Press Stop/Exit.

### **Mailbox Name**

You can specify a mailbox name on the POP3 server where the internet print jobs are to be retrieved.

- 1 Press Menu.
- Press A or ▼ to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose E-mail/IFAX. Press OK.
- 4 Press A or V to choose Setup Server.
  Press OK
- 5 Press ▲ or ▼ to choose Mailbox Name. Press OK.
- 6 Enter the user account name assigned to the Brother machine that will login to the POP3 server. Press **OK**.
- Press Stop/Exit.

### Mailbox Pwd

You can specify the password for the POP3 server account where the internet print jobs are to be retrieved.

- 1 Press Menu.
- Press A or V to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose E-mail/IFAX. Press OK.
- Press A or ▼ to choose Setup Server. Press OK.
- 5 Press A or V to choose Mailbox Pwd.
  Press OK.
- 6 Enter the user password assigned to the machine that will login to the POP3 server. Please note that this password is case sensitive.

  Press **OK**.
- 7 Enter the password again. Press **OK**.
- 8 Press Stop/Exit.



To set for no password, enter a single space.

### **APOP**

You can enable or disable the APOP (Authenticated Post Office Protocol).

- 1 Press Menu.
- Press A or V to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose E-mail/IFAX. Press OK.
- 4 Press A or V to choose Setup Server.
  Press OK.
- 5 Press ▲ or ▼ to choose APOP. Press OK.
- 6 Press A or V to choose on or off.
  Press OK.
- Press Stop/Exit.

# **Setup Mail RX**

This menu has five selections: Auto Polling, Poll Frequency, Header, Del Error Mail and Notification.

### **Auto Polling**

When set to On, the machine automatically checks the POP3 server for new messages.

- 1 Press Menu.
- Press A or ▼ to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose E-mail/IFAX. Press OK.
- Press A or V to choose Setup Mail RX. Press OK.
- 5 Press ▲ or ▼ to choose Auto Polling.
- 6 Press ◀ or ▶ to choose on or off.
  Press OK.
- Press Stop/Exit.

### **Poll Frequency**

Sets the interval for checking for new messages on the POP3 server (default is 10Min (s)).

- 1 Press Menu.
- Press A or V to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose E-mail/IFAX. Press OK.
- 4 Press A or V to choose Setup Mail RX. Press OK.
- 6 Press ▲ or ▼ to choose Poll Frequency.
- 6 Enter the polling frequency. Press **OK**.
- Press Stop/Exit.

### Header

This selection allows the contents of the mail header to be printed when the received message is printed.

- 1 Press Menu.
- Press A or ▼ to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose E-mail/IFAX. Press OK.
- 4 Press A or ▼ to choose Setup Mail RX. Press OK.
- 5 Press ▲ or ▼ to choose Header.
- 6 Press ◀ or ▶ to choose All, Subject+From+To or None. Press OK.
- Press Stop/Exit.

### **Del Error Mail**

When set to On, the machine automatically deletes error mails that the machine cannot receive from the POP server.

- 1 Press Menu.
- Press ▲ or ▼ to choose Network. Press OK.
- 3 Press A or ▼ to choose E-mail/IFAX. Press OK.
- 4 Press A or V to choose Setup Mail RX. Press OK.
- 6 Press ▲ or ▼ to choose Del Error Mail.
- 6 Press ◀ or ▶ to choose on or off.
  Press OK.
- Press Stop/Exit.

### **Notification**

The notification feature allows a confirmation of receipt message to be transmitted to the sending station when the I-Fax has been received.

This feature only works on I-Fax machines that support the "MDN" specification.

- 1 Press Menu.
- Press ▲ or ▼ to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose E-mail/IFAX. Press OK.
- Press A or V to choose Setup Mail RX. Press OK.
- 6 Press ▲ or ▼ to choose Notification.
- 6 Press ◀ or ▶ to choose On, MDN or Off. Press OK.
- Press Stop/Exit.

# Setup Mail TX

This menu has three selections: Sender Subject, Size Limit and Notification.

### Sender Subject

This field displays the subject that is attached to the Internet fax data being sent from the Brother machine to a computer (default is "Internet Fax Job").

- 1 Press Menu.
- Press A or ▼ to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose E-mail/IFAX.
  Press OK.
- Press A or V to choose Setup Mail TX. Press OK.
- 5 Press A or V to choose Sender Subject.
- 6 Enter the subject information. Press **OK**.
- Press Stop/Exit.

### Size Limit

Some E-mail servers do not allow you to send large E-mail documents (the System Administrator will often place a limit on the maximum E-mail size). With this function enabled, the machine will display Out of Memory when trying to send E-mail documents over 1 Mbyte in size. The document will not be sent and an error report will be printed. The document you are sending should be separated into smaller documents that will be accepted by the mail server. (For your information, a 42 page document based on the ITU-T Test Chart #1 test chart is approximately 1 Mbyte in size.)

- 1 Press Menu.
- Press ▲ or ▼ to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose E-mail/IFAX. Press OK.
- Press A or V to choose Setup Mail TX. Press OK.
- 6 Press A or V to choose Size Limit.
- 6 Press ◀ or ▶ to choose on or off.
  Press OK.
- Press Stop/Exit.

### **Notification**

The notification feature allows a confirmation of receipt message to be transmitted to the sending station when the I-Fax has been received.

This feature only works on I-Fax machines that support the "MDN" specification.

- Press Menu.
- Press A or ▼ to choose Network. Press OK.
- 3 Press A or ▼ to choose E-mail/IFAX. Press OK
- Press A or V to choose Setup Mail TX. Press OK.
- **5** Press **A** or **V** to choose Notification.
- 6 Press ◀ or ▶ to choose on or off.
  Press OK.
- Press Stop/Exit.

# Setup Relay

This menu has three selections: Rly Broadcast, Relay Domain and Relay Report. For more information on Relay Broadcast, see *Relay broadcasting* on page 130 of this User's Guide.

### **Relay Broadcast**

This function allows the machine to receive a document over the Internet, and then relay it to other fax machines through conventional analog landlines.

- 1 Press Menu.
- Press A or ▼ to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose E-mail/IFAX.
  Press OK.
- Press A or V to choose Setup Relay. Press OK.
- 5 Press ▲ or ▼ to choose Rly Broadcast.
- 6 Press ◀ or ▶ to choose on or off.
  Press OK.
- Press Stop/Exit.

### **Relay Domain**

You can register the Domain Names (Max. 5) that are allowed to request a Relay Broadcast.

- 1 Press Menu.
- Press A or V to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose E-mail/IFAX. Press OK.
- Press A or V to choose Setup Relay. Press OK.
- Press A or ▼ to choose Relay Domain. Press OK.
- 6 Press A or V to choose Relay(01 05).
- 7 Enter the Relay Domain name for the Domain that is being allowed to request a Relay Broadcast. Press **OK**.
- 8 Press Stop/Exit.

### **Relay Report**

A Relay Broadcast Report can be printed at the machine that will act as a Relay Station for all Relay Broadcasts.

Its primary function is to print reports of any relayed broadcasts that have been sent through the machine. Please note: In order to use this function, you must assign the relay domain in the "Trusted Domains" section of the Relay function settings.

- 1 Press Menu.
- Press A or ▼ to choose Network. Press OK.
- 3 Press A or V to choose E-mail/IFAX. Press OK.
- Press ▲ or ▼ to choose Setup Relay. Press OK.
- 5 Press A or ▼ to choose Relay Report.
- 6 Press ◀ or ▶ to choose on or off.
  Press OK.
- Press Stop/Exit.

# Scan to FTP (For MFC-5890CN and MFC-6490CW)

The details required to use Scan to FTP can be entered manually at the control panel to pre-configure and store the details in an FTP Profile. You can configure up to five FTP server profiles.

### **Passive Mode**

You can set Passive Mode to OFF or ON depending on your FTP server and network firewall configuration. By default this setting is ON. In most cases this setting can remain as default.

- 1 Press Menu.
- Press A or ▼ to choose Network. Press OK.
- 3 Press A or V to choose Scan to FTP. Press OK.
- Press A or ▼ to choose Passive Mode. Press OK.
- Press ◀ or ▶ to choose on or off.
- 6 Press Stop/Exit.

### Port number

You can change the port number used to access the FTP server. The default for this setting is port 21. In most cases this setting can remain as default.

- 1 Press Menu.
- Press ▲ or ▼ to choose Network. Press OK.
- 3 Press A or V to choose Scan to FTP. Press OK.
- Press ▲ or ▼ to choose Port Number. Press OK.
- 5 Enter the port number. Press **OK**.
- 6 Press Stop/Exit.

# Creating a user defined File Name

In addition to the seven preset file names you can store two user defined file names that can be used for creating an FTP Server Profile.

- 1 Press Menu.
- Press ▲ or ▼ to choose Network.
  Press OK.
- 3 Press ▲ or ▼ to choose Scan to FTP.
  Press OK.
- Press A or V to choose File Name1 or File Name2. Press OK.
- Enter a file name you want to use. A maximum of 15 characters can be entered for each of the user defined names.
  Press OK.
- 6 Press Stop/Exit.

# Pre-configuring your FTP profiles

- 1 Press Menu.
- Press ▲ or ▼ to choose Network. Press OK.
- 3 Press A or V to choose Scan to FTP. Press OK.
- Press A or V to choose Setup Profile. Press OK.
- Fress A or V to choose Not Registered. Press OK.
- 6 Press ▲ or ▼ to choose Profile Name. Press OK.
- The enter the name that you want to use for the profile of the FTP server. This name will be displayed on the LCD of the machine and can be up to 30 characters.

  Press **OK**.
- 8 Press A or V to choose Host Address.
  Press OK
- 9 Enter the Host Address (for example ftp.example.com) (up to 60 characters) or the IP address (for example 192.23.56.189).

  Press **OK**.

- Press A or ▼ to choose Store Directory. Press OK.
- Enter the destination folder where your document will be stored on the FTP server (for example /brother/abc/) (up to 60 characters).

  Press **OK**.
- Press ▲ or ▼ to choose Username.

  Press OK.
- 13 Enter the Username that has been registered with the FTP server for the machine (up to 32 characters). Press **OK**.
- Press ▲ or ▼ to choose Password.
  Press OK.
- Enter the Password for access to the FTP server (up to 32 characters). Press **OK**.
- Press A or ▼ to choose Quality. Press OK.
- Press A or V to choose Color 150 dpi, Color 300 dpi, Color 600 dpi, B/W 200x100 dpi or B/W 200 dpi.

Press **OK**.

- 18 Choose the file type for the document. Press ▲ or ▼ to choose File Type. Press OK.
- Press ▲ or ▼ to choose PDF or JPEG for color or gray scale documents and PDF or TIFF for B/W document.

  Press OK.

# 🖉 Note

For MFC-6490CW

If you use the scanner glass of the machine, choose the document size.

- Press A or V to choose Glass ScanSize.
- Press ◀ or ▶ to choose Letter, Legal, Ledger, A4, or A3 for US, A4, A3, Letter, Legal or Ledger for UK.

Press OK.

- Press ▲ or ▼ to choose Passive Mode.
- Press ◀ or ▶ to choose on or off. Press OK.
- Press ▲ or ▼ to choose Port Number.
- Enter the port number. Press **OK**.

Choose the file name you want to use for the scanned document. You can choose from seven preset and two user defined File Names. The file name that will be used for your document will be the file name you selected plus the last 6 digits of the flatbed/ADF scanner counter plus the file extension (For example, BRNxxxxxxxxxxxx098765.pdf). You can also manually enter a File Name up to 15 characters. Press ▲ or ▼ to choose File Name.

Press OK.

Press ▲ or ▼ to choose the file name you want to use. Press OK.

After you have set all the settings, press ▲ or ▼ to choose Complete. Press OK.

Press Stop/Exit.

# Time Zone (For MFC-6490CW)

This field displays your country time zone. The time shown is the time difference between your country and Greenwich Mean Time. For example, the Time Zone for Eastern Time in the USA and Canada is UTC-05:00.

- 1 Press Menu.
- Press A or ▼ to choose Network. Press OK.
- 3 Press A or ▼ to choose Time Zone. Press OK.
- Press ▲ or ▼ to choose the time. Press OK.
- 5 Press Stop/Exit.

# Windows® Time Zone setting

You can see the time difference for your country by using the Time Zone setting in Windows<sup>®</sup>.

1 For Windows Vista<sup>®</sup>:

Click the button, Control Panel, Date and Time, and then Change time zone.

For Windows® XP:

Click the Start button, Control Panel, Date and Time, and then select Time Zone.

For Windows® 2000:

Click the Start button, Settings, Control Panel, Date/Time, and then select Time Zone.

Change the data and time. Verify your time zone settings from the pull-down menu (this menu displays the time difference from GMT).

# Network I/F (Not available for MFC-5490CN and MFC-5890CN)

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

- 1 Press Menu.
- Press ▲ or ▼ to choose Network. Press OK.
- 3 Press ▲ or ▼ to choose Network I/F. Press OK.
- 4 Press A or V to choose Wired LAN or WLAN. Press OK.
- 5 Press Stop/Exit.

### For Touchscreen models

- 1 Press MENU.
- 2 Press Network.
- Oress A or ▼ to display Network I/F and then press Network I/F.
- 4 Press Wired LAN or WLAN.
- 5 Press Stop/Exit.

# 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:



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

- 1 Press Menu.
- Press A or V to choose Network. Press OK.
- 3 Press A or ▼ to choose Factory Reset. Press OK.
- 4 Press 1 for Factory Reset.
- Press 1 for Reboot.



For DCP models, 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.

#### For MFC-5490CN

- 1 Press Menu, 5, 0.
- Press 1 for Factory Reset.
- 3 Press 1 for Reboot.
- Press Stop/Exit.

### For Touchscreen models

- 1 Press MENU.
- 2 Press Network.
- 3 Press A or ▼ to display Factory Reset and then press Factory Reset.
- 4 Press Yes.
- 6 Press Yes for 2 seconds to confirm.

# **Printing the Network Configuration List**

# **Note**

- Node Name: Node Name appears in the Network Configuration List. The default Node Name is
   "BRNxxxxxxxxxxx" for a wired network or "BRWxxxxxxxxxxxx" for a wireless network ("xxxxxxxxxxxx" is
   your machine's Ethernet address).
- You can find the MAC address (Ethernet address) by printing the Network Configuration List.

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

- 1 Press Menu.
- Press A or ▼ to choose Print Reports. Press OK.
- 3 Press A or ▼ to choose Network Config. Press OK.
- (For US) Press Black Start or Color Start. (For UK) Press Mono Start or Colour Start.

### For MFC-5490CN

- 1 Press Menu, 6, 6.
- (For US) Press Black Start or Color Start. (For UK) Press Mono Start or Colour Start.
- 3 Press Stop/Exit.

### For Touchscreen models

- 1 Press MENU.
- 2 Press ▲ or ▼ to display Print Reports and then press Print Reports.
- 3 Press Network Config.
- (For US) Press Black Start or Color Start. (For UK) Press Mono Start or Colour Start.
- 5 Press Stop/Exit.

# Driver Deployment Wizard (Windows® only)

# **Overview**

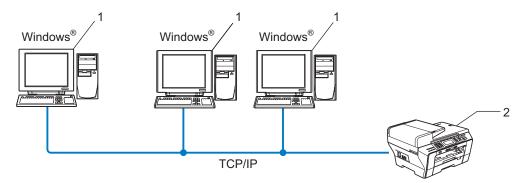
The Driver Deployment Wizard software can be used to ease the installation or even automate the installation of network connected printers. The Driver Deployment Wizard can also be used to create self running executable files which when run on a remote PC, completely automate the installation of a printer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

# **Connection methods**

The Driver Deployment Wizard supports the two connection methods.

# Peer-to-Peer

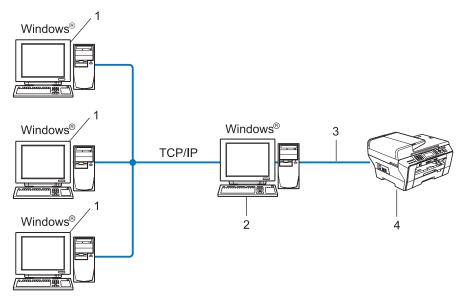
The device is connected to the network but each user prints directly to the machine WITHOUT printing through a central queue.



- 1 Client Computer
- 2 Network Printer (your machine)

# **Network Shared**

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



- 1 Client computer
- 2 Also known as "Server" or "Print Server"
- 3 TCP/IP or USB
- 4 Printer (your machine)

# How to install the Driver Deployment Wizard software

- 1 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.
- 2 The CD-ROM main menu will appear. Click **Network Utilities** or **Advanced**, then **Network Utilities**.
- 3 Choose the **Driver Deployment Wizard** installation program.
- Note

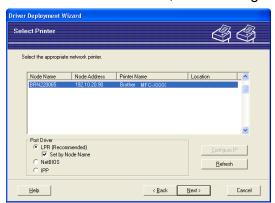
For Windows Vista  $^{\circledR}$ , when the **User Account Control** screen appears, click **Continue**.

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

# **Using the Driver Deployment Wizard software**

- 1 When you run the Wizard for the first time you will see a welcome screen. Click **Next**.
- Choose MFC, and then click Next.
- 3 Choose your connection type to the machine that you want to print to.
- 4 Choose the option you require, and follow the on-screen instructions.

  If you choose **Brother Peer-to-Peer Network Printer**, the following screen is displayed.



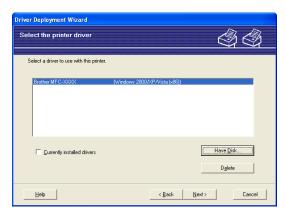
# ■ Setting the IP Address

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



- 5 Choose the machine you wish to install.
  - If the printer driver you wish to use is installed on your computer:
    Check the box of Currently installed drivers and choose the machine you wish to install, and then click Next.
  - If the driver you wish to use is not installed on your computer:

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



- 6 Click **Next** after you choose the correct driver.
- 7 A summary screen will appear. Confirm the settings of the driver.



### ■ Creating an executable file

The Driver Deployment Wizard software can also be used to create self running .EXE files. These self-running .EXE files can be saved to the network, copied to a CD-ROM, 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.

  Choose this option if you wish to install the driver onto your computer and also create a self-running executable file for use with another computer using the same operating system as your own.
- Only create an Installation Program for other users.
   Choose this option if the driver is already installed on your computer and you wish to create a self-running executable file without installing the driver again on your own computer.



If you work in a "queue" based network and you create an executable file for another user who does not have access to the same printer queue that you define into the executable file, the driver when installed on the remote computer will default to LPT1 printing.

8 Click Finish. The driver is automatically installed to your computer.

8

# Network printing from Windows<sup>®</sup> basic TCP/IP Peer-to-Peer printing

# **Overview**

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

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



- You must configure the IP address on your machine before you proceed with this chapter. If you need to configure the IP address, see Setting up the IP address and subnet mask on page 12 first.
- Verify the host computer and the machine are either on the same subnet, or that the router is properly configured to pass data between the two devices.
- 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 151 for installation details.
- For MFC-5490CN, MFC-5890CN, MFC-6490CW and DCP-6690CW, the default password is "access".
   For other models, no password is required by default.

# Configuring the standard TCP/IP port

# Printer driver not yet installed

- 1 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.
- 2 The CD-ROM main menu will appear. Click Initial Installation or Advanced.
- 3 Click Printer Driver (Only, for network).
- 4 Click **Next** in response to the Welcome message. Follow the on-screen instructions.
- 6 Choose Standard Installation and click Next.
- 6 Choose 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 on 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:

- 1 For Windows Vista<sup>®</sup>:
  - Click the button, Control Panel, Hardware and Sound, and then Printers.

For Windows® XP:

Click the Start button and choose Printers and Faxes windows.

For Windows® 2000:

Click the Start button and choose Settings and then Printers.

- Right click on the printer driver you wish to configure, and then choose Properties.
- Click the Ports tab and click Add Port.
- 4 Choose the port that you wish to use. Typically this would be **Standard TCP/IP Port**. Then click the **New Port...** button.
- 5 The Standard TCP/IP Port Wizard will start.
- 6 Enter the IP address of your network printer. Click **Next**.
- Click Finish.
- 8 Close Printer Ports and Properties dialog box.

# Other sources of information

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

# 9

# **Network printing from a Macintosh®**

# **Overview**

This chapter explains how to print from a Macintosh<sup>®</sup> on a Network using the Simple Network Configuration capabilities on Mac OS<sup>®</sup> 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 choose the print server (TCP/IP)

# For Mac OS®X 10.2.4 to 10.4.x

- 1 Turn on the machine by plugging in the power cord.
- 2 From the **Go** menu, choose **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.x or greater) Go to 6.
- 6 (For Mac OS®X 10.2.4 to 10.3.x) Make the following selection.



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

(Mac OS® X 10.4.x)

Printer Browser

Default Browser

IP Printer

Search

Printer Name

MFC-XXXXXX

Location:

Print Using: Brother MFC-XXXXXX CUPS v1.1

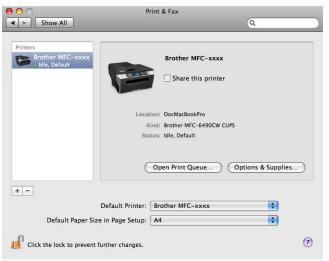
(2)

More Printers... Add

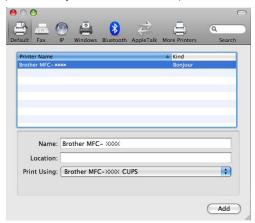
8 Click the printer, then click **Make Default** to set the printer as the default printer. The printer is now ready.

# For Mac OS®X 10.5

- 1 Turn on the machine by plugging in the power cord.
- Prom the Apple menu, choose System Preferences.
- 3 Click Print & Fax.
- Click + button to add your machine.



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



6 From the **Default Printer** pull-down list choose your model to set 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<sup>®</sup>, you can change the machine or print server parameters using the Remote Setup application. (See *Using the Remote Setup to change the print server settings (Not available for DCP models)* on page 17.)

# 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<sup>®</sup> X 10.2.4 or greater environment. BRAdmin Light allows you to change network settings on Brother network ready machine.



- 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.
- 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 **BRAdmin Light.jar** file.
- Choose the print server which you want to change the settings.
- 3 Choose Configure Print Server from the Control menu.
- 4 Enter a password if you have set it. You can now change the print server settings.

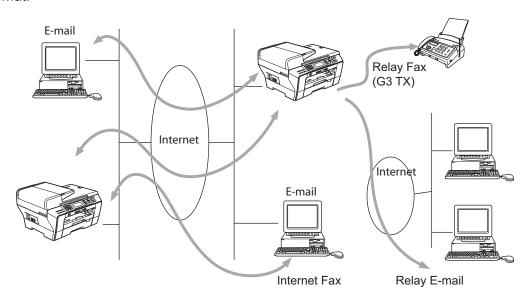
# Other sources of information

- 1 Visit <a href="http://solutions.brother.com">http://solutions.brother.com</a> for more information on network printing.
- 2 See Configuring your machine for a network with an Ethernet cable connection on page 9 to learn how to configure the IP address of the machine.

# Internet fax and Scan to E-mail (For MFC-6490CW)

# Internet fax overview

Internet faxing (I-Fax) allows you to send and receive fax documents using the Internet as the transport mechanism. Documents are transmitted in E-mail messages as attached TIFF-F files. This means that computers are also able to receive and send documents, providing that the computer has as an application that can generate and view TIFF-F files, you can use Microsoft® Imaging or a TIFF-F viewer application. Any documents sent via the machine will automatically be converted into a TIFF-F format. If you wish to send and receive messages to and from your machine, your mail application on the computer must be able to support the MIME format.





- You can send/receive I-Fax documents in Letter or A4 format and in Black & White only.
- If your document is in a Ledger or A3 format, it will automatically be reduced to Letter or A4 format when it is sent.
- If you want to send a document in a Ledger or A3 format, see *Scan to E-mail Server overview* (*MFC-6490CW*) on page 134.
- For MFC-5890CN

In order to use this function, please download the necessary software from the Brother Solutions Center. (http://solutions.brother.com)

# **Getting connected**

Before sending or receiving an Internet fax you must configure your Brother machine to communicate with your network and mail server. You must ensure the following: a correctly configured IP address for your machine, an E-mail address for your machine, the mail server(s) IP address, mailbox name and password for your Brother machine. If you are unsure of any of these items, please contact your systems Administrator. For details of how to configure this information, see *E-mail/I-FAX* (For MFC-6490CW) on page 96.

### 40

# **Control panel key functions**

### Shift + 1

Used to change input mode. You can use dial pad keys as Standard alphabet character keys.

### **Dial Pad**

Used to enter Standard Alphabet characters (26 letters), as well as @. space ! " # % & ' () + / : ;  $< > = ? []^{-}$  - \$ , \* \_ and Numbers.

### Shift + 3

To change between upper case and lower case for entering the E-mail address.

#### **d** or ▶

Moves the LCD cursor to the left or right when you enter text.

### OK

Used to store multiple numbers.

# (For US) Black Start (For UK) Mono Start

Begins transmitting the document.

### Stop/Exit

Deletes entered data and stops the scanning or transmitting process.

# One Touch Search/Speed-Dial

These functions work the same way as with conventional machines.

However, please note that you cannot use chain dialling for E-mail address.

(For US) Shift + Black Start or Color Start (For UK) Shift + Mono Start or Colour Start

Used to receive E-mail from the POP3 server manually.

# Sending an Internet fax

Sending an Internet fax is the same as sending a normal fax. If you have already programmed the addresses of the destination Internet fax machines as One Touch or Speed-Dial locations, you can send the Internet fax by loading the document into the machine, use the Fax Resolution to set the preferred resolution and select a Speed-Dial number and pressing **Black Start** or **Mono Start**.

If you wish to manually enter the Internet fax address load the document into the machine and press **Shift** and **1** simultaneously to change into the "alphabet" dialling mode.

To manually enter the Internet fax address, see *Entering Text* on page 161.

# Manually entering text

Press **Shift** and **1** simultaneously to change into the "alphabet" dialing mode.

You can use the Dial Pad to enter the E-mail address. For more information, Entering Text on page 161.

As you enter an Internet fax address, the address will appear character by character on the LCD. If you specify more than 22 characters, the LCD will scroll the name to the left character by character. You can enter up to 60 characters.

(For US) Press Black Start to send the document.

(For UK) Press Mono Start to send the document.

After the document is scanned, it is transmitted to the recipient Internet fax machine automatically via your SMTP server. You can cancel the send operation by pressing the **Stop/Exit** button during scanning. After the transmission is finished, the machine will return to standby mode.

Some E-mail servers do not allow you to send large E-mail documents (the System Administrator will often place a limit on the maximum E-mail size). With this function enabled, the machine will display Out of Memory when trying to send E-mail documents over 1 Mbyte in size. The document will not be sent and an error report will be printed. The document you are sending should be separated into smaller documents that will be accepted by the mail server. (For your information, a 42 page document based on the ITU-T Test Chart #1 test chart is approximately 1 Mbyte in size.)

# Receiving E-mail or Internet fax

There are 2 ways you can receive E-mail messages:

- POP3 receiving (manually initiated)
- POP3 receiving at regular intervals

Using POP3 receiving the machine must poll the E-mail server to receive the print jobs. This polling can occur at set intervals (for example, you can configure the machine to poll the E-mail server at 10 minute intervals) or you can manually poll the server by pressing the **Shift + Black Start/Mono Start** or **Color Start/Colour Start** button.

If your machine starts to receive E-mail print jobs, the LCD will reflect this activity. For example, you will see Receiving on the LCD followed by "xx E-mail(s)". If you press the **Shift + Black Start/Mono Start** or **Color Start/Colour Start** buttons to manually poll the E-mail server for E-mail print jobs and there are no mail documents waiting to be printed, the machine will display No Mail on the LCD for two seconds.

If your machine is out of paper when receiving data, the received data will be held in the machine's memory. This data will be printed automatically after paper is re-inserted into the machine. (For European, Asian and Oceanic machines, Memory receive must be switched ON.)

If the received mail is not in a plain text format or an attached file is not in the TIFF-F format, the following error message will be printed: "ATTACHED FILE FORMAT NOT SUPPORTED. FILE NAME:XXXXXX.doc" If the received mail is too large, the following error message will be printed: "E-MAIL FILE TOO LARGE". If Delete POP Receive Error Mail is ON (default) then error mail is automatically deleted from the E-mail server.

# Receiving an Internet fax to your computer

When a computer receives an Internet fax document, the document is attached to a mail message that informs the computer that it has received a document from an Internet fax. This is notified in the subject field of the received mail message.

If the computer to which you wish to send a document is not running Windows<sup>®</sup> 2000/XP or Windows Vista<sup>®</sup> operating system, please inform the computer's owner that they must install some software that can view TIFF-F files.

# Forwarding received E-mail and fax messages

You can forward received E-mail or standard fax messages to another E-mail address or fax machine. Received messages can be forwarded via E-mail to a computer or Internet fax. They can also be forwarded via standard phone lines to another machine.

The setting can be enabled through the machines front panel. The steps for configuring fax forward can be found in the User's Guide supplied with your machine.

Please see the User's Guide included with the machine to check that this feature is supported.

# Relay broadcasting

This function allows the Brother machine to receive a document over the Internet, and then relay it to other fax machines through conventional telephone lines.

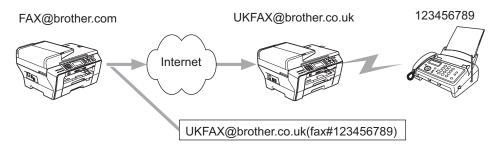
If you wish to use your machine as a relay broadcast device, you must specify the domain name that you trust at the machine, in other words, the portion of the name after the "@" sign.

A trusted domain refers to the E-mail address. For example, if the other party's address is bob@brother.com, then we identify the domain as brother.com. If the E-mail address is jack@brother.co.uk, then we identify the domain as brother.co.uk.

Use care in selecting a trusted domain since any user on a trusted domain will be able to send a relay broadcast. You can register up to 10 domain names.

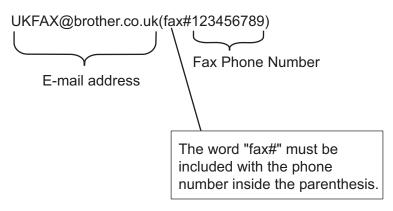
Relay broadcast can support the relay of a document up to a maximum of 48 fax machines through conventional telephone lines.

# Relay broadcast from your machine



In this example, your machine has an E-mail address of FAX@brother.com, you wish to send a document from this machine to another machine in England with an E-mail address of UKFAX@brother.co.uk, this machine will then forward the document to a standard fax machine using a conventional telephone line. If your E-mail address is FAX@brother.com, you must configure a trusted domain name of brother.com on the machine in England that will broadcast the document to the conventional fax machine. If you do not enter the domain name information, then the machine in the middle (the machine that will broadcast the document) will not trust any internet jobs that it receives from the machine in the @brother.com domain.

After the trusted domain is set, you can send the document from your machine [I.E. FAX@brother.com] by entering the E-mail address of the machine [I.E. UKFAX@brother.co.uk] that will forward the document followed by the phone number of the fax that will receive the document. The following is an example of how to enter the E-mail address and phone number.

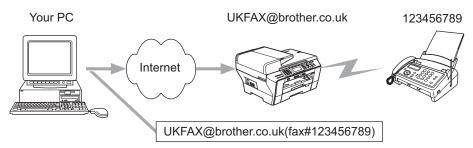


# Sending to multiple phone numbers:

If you want to have the document relayed to more than one standard fax machine the address can be entered using the following method:

- 1 Enter the phone number of the first Fax machine UKFAX@brother.co.uk(fax#123).
- Press **OK**.
- 3 Enter the phone number of the second Fax machine UKFAX@brother.co.uk(fax#456).
- (For US) Press Black Start. (For UK) Press Mono Start.

# Relay broadcast from your computer



You can also send an E-mail from your computer and have it relayed to a conventional fax machine. The method of entering the phone number of the conventional fax machine that will receive the relayed E-mail will vary depending on the mail application you are using. The following are some examples of different mail applications:

Some E-mail applications do not support sending to multiple phone numbers. If your E-mail application cannot support multiple phone numbers you will only be able to relay to one fax machine at a time.

Enter the address of the relay machine and phone number of the fax in the "TO" box using the same method used when sending from an machine.

UKFAX@brother.co.uk(fax#123456789)

### Outlook 97/98/2000/2002/2003:

For Outlook 97/98/2000/2002 and 2003 the address information must be entered into the address book as follows:

Name: fax#123456789

E-mail address: UKFAX@brother.co.uk

#### 40

# **TX Verification Mail**

Transmission Verification Mail supports two separate functions. Verification Mail for sending allows you request notification from the receiving station that the I-Fax or E-mail was received and processed. Verification Mail for receiving allows you to transmit a default report back to the sending station after successfully receiving and processing an I-Fax or E-mail.

To use this feature you must set the Notification option within the Setup Mail RX and Setup Mail TX options.

# **Setup Mail TX**

You can set the Notification option in the Setup Mail TX option to either On or Off. When switched to On an additional field of information is sent with the image data. This field is named "MDN".

MDN (Mail Disposition Notification):

This field requests the status of the I-Fax/E-mail message after delivery through the SMTP (Send Mail Transfer Protocol) transport system. Once the message has arrived at the receiving station this data is used when the machine or user reads or prints the received I-Fax or E-mail. For example, if the message is opened for reading or is printed the receiving station sends back a notification to the original sending machine or user.

The receiving station must support the MDN field in order to be able to send a notification report, otherwise the request will be ignored.

# **Setup Mail RX**

There are three possible settings for this option On, MDN or Off.

#### Receive Notification "On"

When switched to "on" a fixed message is sent back to the sending station to indicate successful reception and processing of the message. These fixed messages depend on the operation requested by the sending station.

### Report messages consist of:

SUCCESS: Received From < Mail Address>

### Receive Notification "MDN"

When switched to "MDN" a report as described above is sent back to the sending station if the originating station sent the "MDN" field to request confirmation.

# Receive Notification "Off"

Off switches all forms of receive notification Off, no message are sent back to the sending station regardless of the request.

### **Error mail**

If there is a mail delivery error while sending an Internet fax, the mail server will send an error message back to the machine and the error message will be printed. If there is an error while receiving mail, an error message will be printed (Example: "The message being sent to the machine was not in a TIFF-F format.").

# Important information on Internet fax

Internet fax communication on a LAN system is basically the same as communication via E-mail; however, it is different from fax communication using standard phone lines. The following is important information for using Internet fax:

- Factors such as the receiver's location, structure of the LAN system, and how busy the circuit (such as the internet) is, may cause the system to take a long time to send back an error mail. (normally 20 sec. to 30 sec.)
- In the case of transmission through the Internet, due to its low level of security, we recommend that you use standard phone lines to send confidential documents.
- If the receiver's mail system is not compatible with the MIME format, you cannot transmit a document to the receiver. Depending on receiver's server, there may be some cases in which the error mail will not be sent back.
- If the size of a document's image data is too large, there is a possibility of unsuccessful transmission.
- You cannot change the font or character size of Internet mail that you have received.

#### 10

# Scan to E-mail Server overview (MFC-6490CW)

When you choose Scan to E-mail (E-mail Server) you can scan a black and white or color document and send it directly to an E-mail address from the machine. You can choose PDF or TIFF for Black and White and PDF or JPEG for color.



- Scan to E-mail (E-mail Server) requires SMTP/POP3 mail server support. (See the Network User's Guide on the CD-ROM.)
- MFC-5890CN can be also assigned an E-mail address allowing you to send, receive or forward documents over a Local Area Network or the Internet to PC's or other Internet Fax machines. In order to use this function, please download the necessary software from the Brother Solutions Center (http://solutions.brother.com).
- 1 Load your document.
- 2 Press the (Scan) key.
- 3 Press A or ▼ to choose Scan to E-mail. Press OK.
- Press A or V to choose E-mail Server. Press OK.
- Fress ▲ or ▼ to choose Quality.
  If you don't want to change the quality or file type, press ▲ and then enter destination address, go to ⑤.
- 6 Press ◀or ▶ to choose Color 150 dpi, Color 300 dpi, Color 600 dpi, B/W 200x100 dpi or B/W 200 dpi.

Press **OK**.

- 7 Press ▼ to choose File Type.
  - Press ◀ or ▶ to choose PDF or JPEG for color or gray scale documents and PDF or TIFF for B/W document.

Press OK.



If you are using the scanner glass of the machine, choose the document size.

- Press ▼ to choose Glass ScanSize.
- Press ◀ or ▶ to choose Letter, Legal, Ledger, A4 or A3 for US or A4, A3, Letter, Legal or Ledger for UK.

Press OK.

8 Press ▲ or ▼ to choose ⋈. Enter the destination E-mail address from the dial pad.

Note

You can also use E-mail addresses you have stored in your machine.

• Press A or V to choose Phone Book.

Press ▶.

• Press ▲ or ▼ to choose Alphabetical Order or Numerical Order.

Press OK

Press ▲ or ▼ to choose the E-mail address you want.

Press OK.

Press **OK** again.

#### Press Black Start / Mono Start or Color Start / Colour Start.

The machine will start the scanning process.

If you are using the scanner glass, the LCD displays Next Page?. Press 1 for Yes or press 2 for No.

## 11

### **Security features (For MFC-6490CW)**

#### **Overview**

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

### Security methods for E-mail notification

The Brother print server supports the following security methods for E-mail notification.

#### POP before SMTP (PbS)

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

#### **SMTP-AUTH (SMTP Authentication)**

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

#### **APOP (Authenticated Post Office Protocol)**

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

#### 11

#### Using E-mail notification with user authentication

To use the E-mail notification function via secure SMTP server that requires a user authentication, you need to use POP before SMTP or SMTP-AUTH method. These methods prevent an unauthorized user from accessing the mail server. You can use BRAdmin Professional and Web BRAdmin to configure these settings.



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

## Managing your network machine securely using BRAdmin Professional (for Windows®)

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

- We strongly recommend to use the latest version of the BRAdmin Professional utility or Web BRAdmin that are available as a download from <a href="http://solutions.brother.com">http://solutions.brother.com</a>. If you use an older version of BRAdmin <sup>1</sup> to manage your Brother machines the user authentication will not be secure.
- Disable the TELNET, FTP and TFTP protocols. Accessing the machine using these protocols is not secure. You can configure the protocol settings from BRAdmin Professional.
- If you are managing a mixed group of older print servers <sup>2</sup> and the new NC-170h or NC-180w print server with BRAdmin Professional, we recommend using a different password in each group. This will ensure security is maintained on the new NC-170h or NC-180w print server.
- 1 BRAdmin Professional older than Ver. 2.80, Web BRAdmin older than Ver. 1.40, BRAdmin Light for Macintosh® older than Ver. 1.10
- NC-2000 series, NC-2100p, NC-3100h, NC-3100s, NC-4100h, NC-5100h, NC-5200h, NC-6100h, NC-6200h, NC-6300h, NC-6400h, NC-8000, NC-100h, NC-110h, NC-120w, NC-130h, NC-140w, NC-8100h, NC-9100h, NC-7100w, NC-7200w, NC-2200w

### 12 Troubleshooting

#### **Overview**

This chapter explains how to resolve typical network problems you may encounter when using the machine. If, after reading this chapter, you are unable to resolve your problem, please visit the Brother Solutions Center at: 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 **Start.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 112.)

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

#### ■ For Windows®

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, Control Panel, Network and Internet Connections.
- 2 Double-click Windows Firewall.
- 3 Click the General tab. Make sure that Off (not recommended) is selected.
- 4 Click **OK**.



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

#### Windows Vista® users:

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



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

■ For Macintosh<sup>®</sup>

Re-select your machine in the Device Selector application located in **Macintosh HD/Library/Printers/Brother/Utilities/DeviceSelector** 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<sup>®</sup>.

The Brother print server is not found using the Simple Network Configuration capabilities of Mac OS<sup>®</sup> X.

■ For a network with an Ethernet cable connection

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

■ For a wireless network

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

Check the following:

- 1 Make sure that the machine is powered on, is on-line and ready to print.
- Check to see if the LCD momentarily displays LAN Active after being connected to the network. The LCD displays LAN Active: The print server is connected to the network. The LCD does not display LAN Active: The print server is not connected to the network.
- Print the Network Configuration List and check if the settings such as IP address settings are correct for your network. The problem may be the result of mismatched or duplicate IP address. Verify that the IP address is correctly loaded into the print server. And make sure that no other nodes on the network have this IP address. For information on how to print the Network Configuration List, see *Printing the Network Configuration List* on page 113.
- 4 Verify that the print server is on your network as follows:
  - For Windows®
    - 1 Click Start, All Programs, Accessories then choose Command Prompt.
    - 2 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<sup>®</sup> X 10.2.4 or greater
  - 1 From the **Go** menu, choose **Applications**.
  - 2 Open the Utilities folder.
  - 3 Double-click the **Terminal** icon.
  - **4** Try pinging the print server from the Terminal window:

ping ipaddress

Where ipaddress is the print server IP address (note that in some instances it can take up to two minutes for the print server to load its IP address after setting the IP address).

- 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 112.
- 6 Check the following:
  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 reinstall the drivers. For more information, see *General problems* on page 138. If you are using personal Firewall software, see the User's Guide for your software or contact the software manufacturer.

### **Printing problems**

#### Print job is not printed

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

- 1 Make sure that the machine is powered on, is on-line and ready to print.
- 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 it is the print server ID address (note that in serve instances it can take up to
  - 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<sup>®</sup> Peer-to-Peer print (LPR) troubleshooting. Otherwise, proceed to 4.

#### ■ For Mac OS<sup>®</sup> X 10.2.4 or greater

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

```
ping ipaddress
```

Where ipaddress is the print server IP address (note that in some instances it can take up to two minutes for the print server to load its IP address after setting the IP address).

4 If you have tried 1 to 3 above and it does not work, then reset the print server back to the default factory settings and try from the initial setup again. For information how to reset to the default factory settings, see Restoring the network settings to factory default on page 112.

#### **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 machine 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<sup>®</sup>
The network PC Fax feature does not work in Windows<sup>®</sup>

Firewall settings on your PC may reject the necessary network connection for network printing, network scanning and PC Fax. If you are using Windows<sup>®</sup> Firewall and you installed MFL-Pro Suite from the CD-ROM, the necessary Firewall settings have already been made. If you did not install from the CD-ROM follow the instructions below to configure Windows<sup>®</sup> Firewall. If you are using any other personal firewall software, see the User's Guide for your software or contact the software manufacturer.

#### **UDP Port number information for Firewall configuration**

UDP Port	Network Scanning	Network PC-Fax	Network Scanning and Network PC-Fax <sup>1</sup>
External Port number	54925	54926	137
Internal Port number	54925	54926	137

Add Port number 137 if you still have trouble with your network connection after you added port 54925 and 54926. Port number 137 also supports printing, PhotoCapture Center™ and Remote Setup over the network.

#### Windows® XP SP2 users:

- 1 Click the **Start** button, **Control Panel**, **Network and Internet Connections** and then **Windows Firewall**. Make sure that **Windows Firewall** on the **General** tab is set to On.
- 2 Click the **Advanced** tab and **Settings...** button.
- 3 Click the **Add** button.
- 4 Add port **54925** for network scanning by entering the information below:
  - 1. In **Description of service**: Enter any description, for example, "Brother Scanner".
  - 2. In Name or IP address (for example 192.168.0.12)
  - or the computer hosting this service on your network: Enter "Localhost".
  - 3. In External Port Number for this service: Enter "54925".
  - In Internal Port Number for this service: Enter "54925".
  - 5. Make sure **UDP** is selected.
  - 6. Click OK.
- 6 Click the Add button.
- 6 Add port **54926** for Network PC-Fax by entering the information below:
  - 1. In **Description of service**: Enter any description, for example, "Brother PC Fax".
  - 2. In Name or IP address (for example 192.168.0.12)
  - or the computer hosting this service on your network: Enter "Localhost".
  - 3. In External Port Number for this service: Enter "54926".
  - 4. In Internal Port Number for this service: Enter "54926".
  - 5. Make sure **UDP** is selected.
  - 6. Click OK.

- 7 If you still have trouble with your network connection, click the **Add** button.
- 8 Add port **137** for both Network scanning and Network PC-Fax receiving by entering the information below:
  - 1. In **Description of service**: Enter any description, for example, "Brother PC Fax receiving".
  - 2. In Name or IP address (for example 192.168.0.12)
  - or the computer hosting this service on your network: Enter "Localhost".
  - 3. In External Port Number for this service: Enter "137".
  - 4. In Internal Port Number for this service: Enter "137".
  - 5. Make sure **UDP** is selected.
  - 6. Click OK.
- 9 Make sure that the new setting is added and is checked, and then click **OK**.

#### Windows Vista® users:

- 1 Click the 5 button, Control Panel, Network and Internet, Windows Firewall and click Change settings.
- When the User Account Control screen appears, do the following.
  - Users who have administrator rights: Click **Continue**.
  - For users who do not have administrator rights: Enter the administrator password and click **OK**.
- Make sure that Windows Firewall on the General tab is set to On.
- 4 Click the Exceptions tab.
- 6 Click the Add port... button.
- 6 To add port **54925** for network scanning, enter the information below:
  - 1. In Name: Enter any description, for example, "Brother Scanner".
  - 2. In Port number: Enter "54925".
  - 3. Make sure **UDP** is selected.
  - 4. Click OK.
- Click the Add port... button.
- 8 To add port **54926** for network PC Fax, enter the information below:
  - 1. In Name: Enter any description, for example, "Brother PC Fax".
  - 2. In Port number: Enter "54926".
  - 3. Make sure **UDP** is selected.
  - 4. Click OK.
- 9 Make sure that the new setting is added and is checked, and then click **OK**.
- If you still have trouble with your network connection such as network scanning or printing, check **File and Printer Sharing** box in the **Exceptions** tab 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 112.

### 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<sup>®</sup> 2000, Mac OS<sup>®</sup> 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 during the course of the setup.

■ For Windows<sup>®</sup>:

Wireless configuration for Windows<sup>®</sup> using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN) on page 38.

Using the Setup Wizard from the control panel on page 27.

■ For Macintosh®:

Wireless Configuration for Macintosh<sup>®</sup> using the Brother installer application (Not available for MFC-5490CN and MFC-5890CN) on page 58.

Using the Setup Wizard from the control panel on page 27.

#### Wireless connection problem

#### The wireless network connection is sometimes disabled.

The wireless network connection status is affected by the environment where the Brother machine 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 phone, battery chargers or AC power adaptors 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)
BRNxxxxxxxxxx	TCP/IP binary

Where xxxxxxxxxx is your machine's Ethernet address.

## 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 Light utility, see *Setting* up the *IP* address and subnet mask on page 12.

#### 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.



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 Light utility.

#### Λ

#### 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".



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.)

```
BRN008077310107 1 00:80:77:31:01:07 192.189.207.3 and:

BRN008077310107: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 machine is powered on.

#### A

#### Using RARP to configure the IP address

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

```
00:80:77:31:01:07 BRN008077310107 (or BRW008077310107 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 the machine is powered on.

#### Using APIPA to configure the IP address

The Brother print server supports the Automatic Private IP Addressing (APIPA) protocol. With APIPA, DHCP clients automatically configure an IP address and subnet mask when a DHCP server is not available. The device chooses it's own IP address in the range 169.254.1.0 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 88.

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<sup>®</sup> systems that have TCP/IP installed as well as UNIX<sup>®</sup> 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<sup>®</sup> systems

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

#### ■ UNIX<sup>®</sup>/Linux<sup>®</sup> systems

Typically, UNIX<sup>®</sup> and Linux<sup>®</sup> systems require the colon ":" character between each digit of the Ethernet address.

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



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 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 the print server.

Type TELNET ipaddress at the command prompt, where ipaddress is the IP address of the print server. When you are connected, press the Return or Enter key to get the "#" prompt. Enter a password if you have set it. For MFC-5490CN, MFC-5890CN, MFC-6490CW and DCP-6690CW, the default password is "access".

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.

#### A

## 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 section. 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.
- If you are using Windows<sup>®</sup> Firewall or a firewall function of anti-spyware or antivirus applications, temporarily disable them. Once you are sure that you can print, configure the software settings following the instructions again.
- 1 Start the CD-ROM installation menu program according to the Quick Setup Guide.
- Choose the model name and your language (if necessary), and then click Initial Installation or Advanced.
- Click Printer Driver (Only).
- 4 Click **Next** in response to the Welcome message. Follow the on-screen instructions.
- 5 Choose Standard Installation and click Next.
- 6 Choose Network Shared Printer, and then click Next.
- 7 Choose your printer's queue, and then click **OK**.



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

8 Click Finish.

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

#### **Note**

- You must configure the IP address on your machine before you proceed with this section. 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.
- 1 Click , then choose Network.
- The machine's Web Services Name will be shown with the printer icon. Right click the machine you want to install.



The Web Services Name for the Brother machine is your model name and the Ethernet address of your machine (e.g. Brother MFC-XXXX [XXXXXXXXXX]).

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

## Appendix B

### **Print server specifications**

#### Ethernet wired network

Network Board Model name NC-170h

Woder Haille

LAN

You can connect your machine to a network for Network Printing, Network Scanning,

and PC Fax Send <sup>1</sup>, PC Fax Receive <sup>1</sup> (Windows<sup>®</sup> only) and Remote Setup <sup>1</sup>. Also

included is Brother BRAdmin Light <sup>2</sup> Network Management software.

Support for Windows<sup>®</sup> 2000 Professional/XP/XP Professional x64 Edition/Windows Vista<sup>®</sup>

Mac OS® X 10.2.4 or greater

**Protocols** TCP/IP for IPv4: ARP, RARP, BOOTP, DHCP, APIPA (Auto IP),

NetBIOS/WINS, LPR/LPD, Custom Raw Port/Port9100, DNS Resolver, mDNS, FTP Server, TELNET, SNMPv1, TFTP, Scanner Port, Web Services, SMTP Client, POP before SMTP, SMTP-AUTH, POP3, APOP,

**FTP Client** 

TCP/IP for IPv6: (Turned off as default) NDP, RA, LPR/LPD,

Custom Raw Port/Port9100, mDNS, FTP Server,

TELNET, SNMPv1, TFTP, Scanner Port, Web Services, SMTP Client, POP before SMTP, SMTP-AUTH, POP3,

APOP, FTP Client

Other: LLTD responder

Network Type Management

utilities <sup>3</sup>

Ethernet 10/100 BASE-TX Auto Negotiation

BRAdmin Light for Windows<sup>®</sup> 2000 Professional, Windows<sup>®</sup> XP, Windows<sup>®</sup> XP Professional x64 Edition, Windows Vista<sup>®</sup> and

Mac OS<sup>®</sup> X 10.2.4 or greater

BRAdmin Professional for Windows® 2000 Professional, Windows® XP,

Windows® XP Professional x64 Edition and Windows Vista®

Web BRAdmin  $^3$  for Windows  $^{\circledR}$  2000 Professional, Windows  $^{\circledR}$  XP,

Windows® XP Professional x64 Edition and Windows Vista®

Client computers with a web browser supporting Java™.

Not available for DCP models.

If you require more advanced printer management, use the latest Brother BRAdmin Professional utility version that is available as a download from http://solutions.brother.com.

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

#### Ethernet wireless network

Network Board Model name NC-180w

LAN Y

You can connect your machine to a network for Network Printing, Network Scanning, and PC Fax Send <sup>1</sup>, PC Fax Receive <sup>1</sup> (Windows<sup>®</sup> only) and Remote

Setup <sup>1</sup>. Also included is Brother BRAdmin Light <sup>2</sup> Network Management software.

Support for Windows<sup>®</sup> 2000 Professional/XP/XP Professional x64 Edition/Windows Vista<sup>®</sup>

Mac OS® X 10.2.4 or greater

**Protocols** TCP/IP for IPv4: ARP, RARP, BOOTP, DHCP, APIPA (Auto IP),

NetBIOS/WINS, LPR/LPD, Custom Raw Port/Port9100, DNS Resolver, mDNS, FTP Server, TELNET, SNMPv1, TFTP, Scanner Port, Web Services, SMTP Client,

POP before SMTP, SMTP-AUTH, POP3, APOP, FTP Client

(T | 1 (C | 1 ( 1)) NIDD DA 1 DD ( 1DD

TCP/IP for IPv6: (Turned off as default) NDP, RA, LPR/LPD,

Custom Raw Port/Port9100, mDNS, FTP Server, TELNET, SNMPv1, TFTP, Scanner Port, Web Services, SMTP Client, POP before SMTP, SMTP-AUTH, POP3, APOP, FTP Client

Other: LLTD responder

Network Type Management

utilities <sup>3</sup>

IEEE 802.11 b/g (Wireless LAN)

BRAdmin Light for Windows<sup>®</sup> 2000 Professional, Windows<sup>®</sup> XP, Windows<sup>®</sup> XP Professional x64 Edition. Windows Vista<sup>®</sup> and

Mac OS<sup>®</sup> X 10.2.4 or greater

BRAdmin Professional for Windows® 2000 Professional, Windows® XP,

Windows® XP Professional x64 Edition and Windows Vista®

Web BRAdmin <sup>3</sup> for Windows<sup>®</sup> 2000 Professional, Windows<sup>®</sup> XP, Windows<sup>®</sup> XP Professional x64 Edition and Windows Vista<sup>®</sup>

Client computers with a web browser supporting Java™.

Frequency 2412-2472 MHz

RF channels USA/Canada 1-11

Japan 802.11b: 1-14, 802.11g: 1-13

Others 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)

## Setup Support SecureEasySetup™, Wi-Fi Protected Setup™, AOSS™ Utility (One-Push method)

- Not available for DCP models.
- <sup>2</sup> If you require more advanced printer management, use the latest Brother BRAdmin Professional utility version that is available as a download from <a href="http://solutions.brother.com">http://solutions.brother.com</a>.
- Web BRAdmin and BRAdmin Professional are available as a download from <a href="http://solutions.brother.com">http://solutions.brother.com</a>.

### **Function table and default factory settings**

#### For MFC-5490CN

Level1	Level2	Level3	Options
5.Network	1.Setup TCP/	1.BOOT Method	Auto/Static/RARP/BOOTP/DHCP
	IP	2.IP Address	[000-255].[000-255].[000-255].
			[000].[000].[000].
		3.Subnet Mask	[000-255].[000-255].[000-255].
			[000].[000].[000].
		4.Gateway	[000-255].[000-255].[000-255].
			[000].[000].[000]
		5.Node Name	BRNxxxxxxxxxxxx= (your machine's Ethernet address)
			(up to 15 characters)
		6.WINS Config	Auto/Static
		7.WINS Server	Primary/Secondary
			[000-255].[000-255].[000-255].
			[000].[000].[000]
		8.DNS Server	Primary/Secondary
			[000-255].[000-255].[000-255].
			[000].[000].[000]
		9.APIPA	On/Off
		0.IPv6	On/ <b>Off</b>
	2.Setup Misc.	1.Ethernet	Auto/100B-FD/100B-HD/10B-FD/10B-HD
	0.Factory Reset		

#### For other machines

Level1	Level2	Level3	Options1	Options2
Network	Wired LAN	TCP/IP	BOOT Method	Auto/Static/RARP/BOOTP/DHCP
			IP Address	[000-255].[000-255]. [000-255].[000-255].
				[000].[000].[000].
			Subnet Mask	[000-255].[000-255]. [000-255].[000-255].
				[000].[000].[000].
			Gateway	[000-255].[000-255]. [000-255].[000-255].
				[000].[000].[000]
			Node Name	BRNXXXXXXXXXXX = (your Ethernet address)
				(up to 15 characters)
				BRNXXXXXXXXXXX*
			WINS Config	Auto/Static
			WINS Server	Primary/Secondary
				[000-255].[000-255]. [000-255].[000-255].
				[000].[000].[000]
			DNS Server	Primary/Secondary
				[000-255].[000-255]. [000-255].[000-255].
				[000].[000].[000]
			APIPA	On/Off
			IPv6	On/ <b>Off</b>
			(MFC-5890CN, MFC-6490CW and DCP-6690CW only)	
		Ethernet	Auto/100B-FD/100B- HD/10B-FD/10B-HD	

Level1	Level2	Level3	Options1	Options2
Network	WLAN	TCP/IP	BOOT Method	Auto/Static/RARP/BOOTP/DHCP
(Continued)			IP Address	[000-255].[000-255].
				[000-255].[000-255].
				[000].[000].[000].
			Subnet Mask	[000-255].[000-255]. [000-255].[000-255].
				[000].[000].[000].
			Gateway	[000-255].[000-255]. [000-255].[000-255].
				[000].[000].[000]
			Node Name	BRWXXXXXXXXXXX = (your Ethernet address)
				(up to 15 characters)
				BRWXXXXXXXXXXX*
			WINS Config	Auto/Static
			WINS Server	Primary/Secondary
				[000-255].[000-255]. [000-255].[000-255].
				[000].[000].[000]
			DNS Server	Primary/Secondary
				[000-255].[000-255]. [000-255].[000-255].
				[000].[000].[000]
			APIPA	On/Off
			IPv6	On/Off
			(MFC-5890CN, MFC-6490CW and DCP-6690CW only)	
		Setup Wizard	_	(Choose SSID from list or manually add SSID)
		SES/WPS/AOSS	_	
		WPS w/PIN Code	_	
		WLAN Status	Status	Active(11b)/Active(11g)/ Connection Failed
			Signal	Strong/Medium/Weak/None
			SSID	(Shows SSID with up to 32 digits)
			Comm. Mode	Ad-hoc/Infrastructure

Level1	Level2	Level3	Options1	Options2
Network	E-mail/IFAX	Mail Address	_	
(Continued)	(MFC-6490CW only)	Setup Server	SMTP Server	Name (Up to 30 characters)
				IP Address [000-255].[000-255]. [000-255].[000-255].
			SMTP Port	[0001-65535]
			Auth. for SMTP	None/SMTP-AUTH/POP bef.SMTP
			POP3 Server	Name (Up to 30 characters)
				IP Address [000-255].[000-255]. [000-255].[000-255].
			POP3 Port	[00001-65535]
			Mailbox Name	_
			Mailbox Pwd	_
			APOP	On/Off
		Setup Mail	Auto Polling	On/Off
		RX	Poll Frequency	10 Min(s)
			Header	All/Subject+From+To/None
			Del Error Mail	On/Off
			Notification	On/MDN/Off
		Setup Mail	Sender Subject	_
		TX	Size Limit	On/ <b>Off</b>
			Notification	On/ <b>Off</b>
		Setup Relay	Rly Broadcast	On/Off
			Relay Domain	Relayxx
			Relay Report	On/ <b>Off</b>

Level1	Level2	Level3	Options1	Options2
Network	Scan to FTP	Passive Mode	On/Off	
(Continued)	(MFC-5890CN	Port Number	21	[00001-65535]
	and	File Name1	_	(Up to 15 characters)
	MFC-6490CW only)	File Name2	_	(Up to 15 characters)
	J, ,	Setup Profile	Not Registered	(Up to 30 characters)
			Not Registered	(Up to 30 characters)
			Not Registered	(Up to 30 characters)
			Not Registered	(Up to 30 characters)
			Not Registered	(Up to 30 characters)
	Time Zone	UTC		
		xxxx:xx		
	Network I/F	Wired LAN /WLAN		
	Factory Reset	Yes/No		

#### ■ The factory settings are shown in bold.

<sup>&</sup>lt;sup>1</sup> On connection to the network, the machine will automatically set the IP address and Subnet Mask to value appropriate for your network.

#### В

### **Entering Text**

#### For Touchscreen models

When you are setting certain menu selections, you may need to enter text into the machine. Press Mo to choose numbers, characters or special characters. Up to four letters are assigned to each button on the Touchscreen.

By pressing the correct button repeatedly, you can access the character you want.



#### **Inserting spaces**

To enter a space, press to choose special characters, then press the space button or ...



The characters available may differ depending on your country.

#### Making corrections

If you entered an incorrect letter and want to change it, use the arrow buttons to move the cursor under the incorrect character. Then press . Re-enter the correct character. You can also insert letters by moving the cursor and entering a character.

#### Repeating letters

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

#### For MFC models

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

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

#### For setting wireless network options

Press Key	one time	two times	three times	four times	five times	six times	seven times	eight times
2	а	b	С	Α	В	С	2	а
3	d	е	f	D	Е	F	3	d
4	g	h	i	G	Н	l	4	g
5	j	k	ĺ	J	K	L	5	j
6	m	n	0	M	N	Ο	6	m
7	р	q	r	S	Р	Q	R	S
8	t	u	V	T	U	V	8	t
9	W	Х	у	Z	W	Χ	Υ	Z

#### For setting other menu selections

Press Key	one time	two times	three times	four times
2	Α	В	С	2
3	D	E	F	3
4	G	Н	1	4
5	J	K	L	5
6	M	N	0	6
7	Р	Q	R	S
8	Т	U	V	8
9	W	Χ	Υ	Z

#### For setting an E-mail address, Scan to FTP menu options and E-mail/IFAX menu

Press **Shift** + **3** to change between upper case and lower case.

#### **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 a letter incorrectly and want to change it, press ◀ to move the cursor under the incorrect character, press Clear/Back. Re-enter the correct character. You can also back up and insert 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. The symbols and characters below will appear depending on your menu selection.

```
Press * for (space)!" # $ % & '() * + , - ./

Press # for :; < = > ? @ [] ^ _

Press 0 for 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

abcdefghijklmnopgrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789(space)!"#\$%&'()I+,./:;<=>?@[\]^^~

#### **Making corrections**

If you entered an incorrect letter and want to change it, press  $\blacktriangleleft$  or  $\blacktriangleright$  to position the cursor under the incorrect letter. Use the  $\blacktriangle$  and  $\blacktriangledown$  keys to change to the correct letter, then press  $\blacktriangleright$  repeatedly to move the cursor back to the end of the text.

Press Stop/Exit. All letters above and to the right of the cursor will be deleted. Re-enter the correct letter.

# CIndex

A
Accessories and supplies       iv         AES       20         AOSS™       24, 31, 45, 65, 90         APIPA       7, 88, 148         APOP       136         ARP       149         Authentication       19
В
BINARY_P1       146         BOOTP       7, 147         BRAdmin Light       1, 3, 12, 15         BRAdmin Professional       1, 3, 16, 137         Brother       iv         Brother installer application       24, 26         Brother Solutions Center       12, 16, 125
C
Channels
D
DHCP       7, 146         DNS Client       7         DNS Server       86         Driver Deployment Wizard       1
Encryption
F
Factory Default
G
Gateway81

IP Address
L
LPR/LPD7
М
MAC address
N
Network Configuration List113Network Key20Network Printing119Network Shared Printing5Node Name82
0
Open system
Open system
Operating systems
P         PBC       24, 31, 90         Peer-to-Peer       4         PIN Method       25, 35, 90         Ping       140, 142         POP before SMTP       136, 137         Port9100       7         Print server setting       15

#### S

SecureEasySetup™	46 19 40 7 37 8 53 19 1
Т	
TCP/IP       7,         TCP/IP Printing       1         TELNET       8, 1         Text       entering       1         special characters       1         TEXT_P1       1         TKIP       1         Trademarks       W	19 50 61 63 46 20
Web BRAdmin  Web Services	52 20 90 84 85 18