



## **External Wireless Print/Scan Server (IEEE 802.11b)**

# **NC-2200w Network User's Guide**

Please read this manual thoroughly before using the Brother Printer/MFC/DCP. You can print or view this manual from the NC-2200w CD-ROM at any time, please keep the NC-2200w CD-ROM in a convenient place for quick and easy reference at all times.

The Brother Solutions Center (<http://solutions.brother.com>) is your one stop resource for all your Brother Printer/MFC/DCP needs. Download the latest drivers and utilities for your Brother Printer/MFC/DCP or read the FAQs and troubleshooting tips.

Some Brother Printer/MFC/DCP models are network ready as standard. Other Brother Printer/MFC/DCP can be upgraded with an optional NC-2200w.

Version 0

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## Compilation and Publication

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

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### WARNING

**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.**

### Shipment of the NC-2200w

If for any reason you must ship your NC-2200w, carefully package the NC-2200w to avoid any damage during transit. It is recommended that you save and use the original packaging. The NC-2200w should also be adequately insured with the carrier.

### WARNING

When shipping the NC-2200w, put it into the anti-static bag to avoid damage.

**IMPORTANT NOTE:** For technical and operational assistance, you must call.  
Calls must be made **from within** that country.

**In USA** 1-800-276-7746

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

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**In USA** Printer Customer Support  
Brother International Corporation  
15 Musick  
Irvine CA 92618

**In Canada** Brother International Corporation (Canada), Ltd.  
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Call the number below and follow the recorded instructions to receive a fax about how to use the system and an Index of the subjects you can get information about.

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For the name of a Brother authorized dealer or service center, call 1-800-284-4357.

#### **Service centers (Canada)**

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#### **Internet addresses**

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

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

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

# IMPORTANT INFORMATION: REGULATIONS

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## Federal Communications Commission (FCC) Declaration of Conformity (For U.S.A. only)

Responsible Party: Brother International Corporation  
100 Somerset Corporate Boulevard  
Bridgewater, NJ 08807-0911, USA  
TEL: (908) 704-1700

declares, that the products

Product Name: Brother External Wireless Print/Scan Server  
Model Number: NC-2200w

complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### Important

Changes or modifications not expressly approved by Brother Industries, Ltd. could void the user's authority to operate the equipment.

## Industry Canada Compliance Statement (For Canada only)

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.



## EC Declaration of Conformity under the R & TTE Directive

### Manufacturer

Brother Industries Ltd.,  
15-1, Naeshiro-cho, Mizuho-ku,  
Nagoya 467-8561, Japan

Herewith declare that:

Products description : External Wireless Print/Scan Server  
Product Name : NC-2200w

is in conformity with provisions of the R & TTE Directive 1999/5/EC and we declare compliance with the following standards:

Radio : EN301489-1:2000  
EN301489-17:2000  
EN300328-2 V1.1.1

LVD : EN60950:1992+A1+A2+A3+A4+A11

EMC : EN55022:1998 Class B  
EN55024:1998  
EN61000-3-2:1995+A14:2000  
EN61000-3-3:1995

Year in which CE marking was first affixed: 2004

Issued by : Brother Industries, Ltd.  
Date : 6 February, 2004  
Place : Nagoya, Japan  
Signature :

Takashi Maeda

Takashi Maeda  
Regulations Manager  
Quality Management Group  
Quality Management Dept.  
Information & Document Company

Hereby, Brother Industries, Ltd., declares that this NC-2200w is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

# Table of Contents

---

<b>1</b>	<b>Introduction.....</b>	<b>1-1</b>
	General.....	1-1
	Specification and System Requirements.....	1-1
	Specification.....	1-1
	System requirements for network connection and Setup.....	1-2
	Parts on NC-2200w.....	1-3
	Parts and Function.....	1-3
	Test Button.....	1-4
<b>2</b>	<b>NC-2200w Wireless Setting.....</b>	<b>2-1</b>
	Setting up NC-2200 Wireless Setting.....	2-1
	General.....	2-1
	TCP/IP functions.....	2-1
	Wireless LAN terms and concepts.....	2-4
	Infrastructure Mode.....	2-4
	Ad-hoc Mode.....	2-5
	Channels.....	2-5
	Network Name (SSID).....	2-5
	Authentication and Encryption.....	2-6
	NC-2200w Configuration Procedure.....	2-8
	What is supplied on the CD-ROM.....	2-8
	Changing your Computer's Wireless Settings.....	2-9
	Configuring Brother NC-2200w.....	2-14
	Using the Wireless Setup Wizard to Configure the NC-2200w to your Wireless Network.....	2-14
	Using the Embedded Web Server to change settings.....	2-20
	Using the BRAdmin Professional utility.....	2-21
	TELNET.....	2-23
<b>3</b>	<b>Network Printing from Windows®.....</b>	<b>3-1</b>
	Overview.....	3-1
	Windows® 98/Me/Windows NT®4.0 Peer to Peer Printing and Windows® 2000/XP Standard TCP/IP Printing....	3-3
	STEP 1: Printer Driver Installation.....	3-3
	Windows® 2000/XP IPP Printing.....	3-11
	Specifying a Different URL.....	3-13
<b>4</b>	<b>Network Printing from Macintosh®.....</b>	<b>4-1</b>

Printing from a Macintosh® Using the Simple Network Configuration capabilities of Mac OS® X (Mac OS® X 10.2.4 - 10.3 or greater) .....	4-1
Overview .....	4-1
Printing from a Macintosh® Using the Simple Network Configuration capabilities of Mac OS® X (Mac OS® X 10.2.4 - 10.3 or greater) .....	4-2
Changing the Configuration .....	4-5

<b>5</b>	<b>Network Scanning from Windows® .....</b>	<b>5-1</b>
	Overview .....	5-1
	Network Scanning concept .....	5-2
	Pull scanning .....	5-2
	Push scanning .....	5-3
	Setting up the Network Scanning Software .....	5-4
	STEP 1: Install the MFL-Pro Suite using the CD-ROM supplied with your MFC/DCP .....	5-4
	STEP 2 :Specifying the Scan Destination Address using the NC-2200W Home Page .....	5-5

<b>6</b>	<b>Troubleshooting.....</b>	<b>6-1</b>
	Overview .....	6-1
	General Problems .....	6-1
	Wireless Setup Problems .....	6-2
	Network Print Software Installation Problems .....	6-7
	Printing Problem .....	6-9
	Windows NT®4.0 Troubleshooting .....	6-10
	Windows® 2000/XP IPP Troubleshooting .....	6-11
	Web Browser Troubleshooting (TCP/IP) .....	6-11

<b>7</b>	<b>Appendix.....</b>	<b>A-1</b>
	Appendix A .....	A-1
	General Information .....	A-1
	Protocols.....	A-1
	Protocol Configuration Items .....	A-1
	TCP/IP Configuration.....	A-1
	Appendix B .....	A-3
	Reloading firmware using BRAdmin Professional Utility ..	A-3
	General .....	A-3
	Reloading firmware.....	A-3
	Appendix C .....	A-4
	NC-2200w Print/Scan server Specifications .....	A-4

<b>8</b>	<b>INDEX .....</b>	<b>I-1</b>
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# 1 Introduction

## General

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Thank you for purchasing the Brother NC-2200w External Wireless Print/Scan Server. This User's Guide provides complete information on how to setup and use Brother NC-2200w safely. Please read this User's Guide carefully before using the product.

The NC-2200w supports the IEEE802.11b wireless network standards and can work in Infrastructure or Ad-hoc mode using common wireless authentication and security methods.

When a Printer/MFC/DCP is connected to the Wireless LAN via the Brother NC-2200w, it allows you to print and scan in a wireless environment.

## Specification and System Requirements

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### Specification

The NC-2200w, which can be connected to USB interface port of the Brother Printer/MFC/DCP.

Network Interface	:IEEE 802.11b
Printer/MFC/DCP Interface	:USB
Supported Protocol	:TCP/IP
Supported OS	:Windows® 98/98SE/Me/2000/XP/ Windows NT®4.0 :Mac® OS X 10.2.4 -10.3 or greater



If the CD supplied with your Brother Printer/MFC/DCP does not include a Windows NT® 4.0 driver, you are not able to use it in Windows NT® 4.0 environments.



## System requirements for network connection and Setup

- Computer with a wireless LAN equipment
- USB Interface Cable (Type A-B)
- Brother Printer, MFC or DCP



Depending on the placement of the Brother NC-2200w, a distance of up to 70 meters or 233 feet can be reached. However, distance and overall quality can vary depending on the environment itself and the types of the device used within that environment.

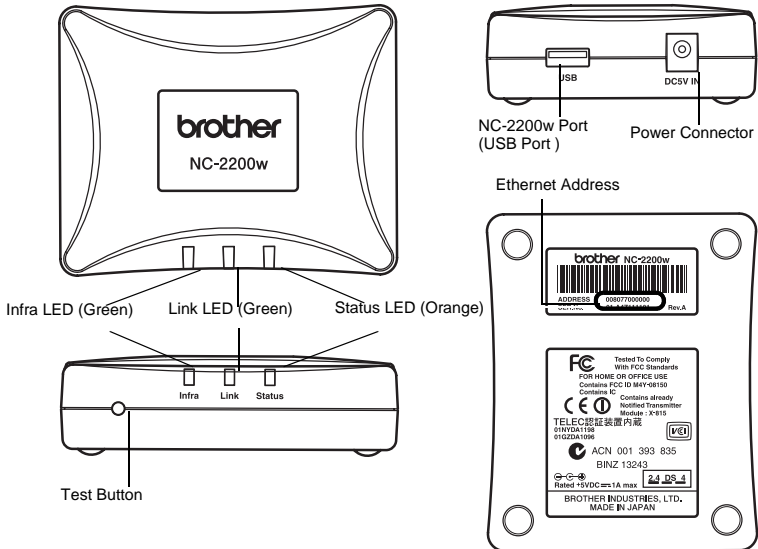


The Network scanner function is supported on the following models. The Network scanning function is not available on Macintosh® computers.

- Any MFC model which supports Network Scanning Capability
- MFC-210C/420CN/410CN/620CN/5440CN/5840CN/3240C/3340CN/8420/8820D/8820DN/8220/8440/8840D/8840DN/3820CN/3420CN and DCP-120C/320CN/8020/8025D/8025DN/8040/8045D/8045DN

# Parts on NC-2200w

## Parts and Function



### <Top/Front face>

LEDs change color depending on their status.

- Status LED (Orange)  
Flashes during data transfer.
- Link LED (Green)  
Lights, when a proper network connection is established.
- Infra LED (Green)  
Lights, when a proper infrastructure mode network connection is established.

## <Bottom>

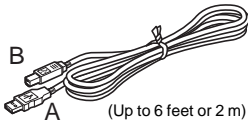
### ■ Ethernet Address (MAC Address)

The Ethernet Address of the device. An Ethernet Address is sometimes referred to as a MAC Address.

## <Right Side>

### ■ NC-2200w (USB Port)

Connect a USB cable (Type A) here.



### ■ Power Connector

Connects to the AC adapter.

## <Front face>

## Test Button

### How to Print a Network Configuration Page

To print the Network Configuration Page, press the Test Button of the NC-2200w.

### How to Reset to Factory Default Setting

If you wish to reset the NC-2200w back to its default factory settings (resetting all information such as the wireless settings, password and IP address), hold down the Test Button for **more than** 10 seconds.



Do not turn the NC-2200w power switch off during factory default setting.

# 2

# NC-2200w Wireless Setting

## Setting up NC-2200 Wireless Setting

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### General

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To connect the NC-2200w to your wireless network, follow the steps in the Quick Setup Guide.



- If you have already used the NC-2200w on another network, re initialize the NC-2200w to its factory default settings.
- The NC-2200w cannot be used with a USB HUB.
- Only use the supplied AC adapter.
- Only connect Brother Printer/MFC/DCP to the NC-2200w USB port.
- Do not disconnect the USB cable while setting up, printing or scanning.

### TCP/IP functions

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After completed the wireless setup for NC-2200w, following TCP/IP functionalities are available. You must have a valid IP address programmed into the NC-2200w and your computer to use TCP/IP functionalities except for the address setting protocols such as DHCP/BOOTP/RARP and APIPA.

#### DHCP/BOOTP/RARP

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



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

## **APIPA**

The NC-2200w supports the Automatic Private IP Addressing (APIPA) protocol. If a DHCP/BOOTP/RARP server is unavailable, the NC-2200w will automatically assign an IP address from the range 169.254.1.0 to 169.254.254.255.

## **DNS client**

DNS (Domain Name Service) allows the NC-2200w to connect to a DNS server. For more information, refer to Chapter 5 *Network Scanning from Windows*<sup>®</sup>.

## **NetBIOS/IP**

NetBIOS over IP basic functionality allows the NC-2200w to appear in a Windows<sup>®</sup> network neighborhood.

## **LPR/LPD**

One of the standard printing protocols in a TCP/IP network.

## **IPP**

Internet Printing Protocol (IPP version 1.0) allows you to print documents directly to any accessible printer via the internet.

## **mDNS**

mDNS allows the NC-2200w connected to a Brother Printer/MFC/DCP 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 - 10.3 or greater)

## **Network scanning**

The Brother NC-2200w allows some MFC/DCP machines to scan over the network. For more information, refer to Chapter 5 *Network Scanning from Windows*<sup>®</sup>.

## **Web Server**

The Brother NC-2200w is equipped with Web server that allows you to monitor its status or change some of its configuration settings.



We recommended Internet Explorer 5.0 (or higher) or Netscape Navigator 4.0 (or higher). If a different web browser is used, make sure it is compatible with HTTP 1.0 and HTML 2.0.

## **TELNET**

The NC-2200w supports TELNET server for command line configuration.

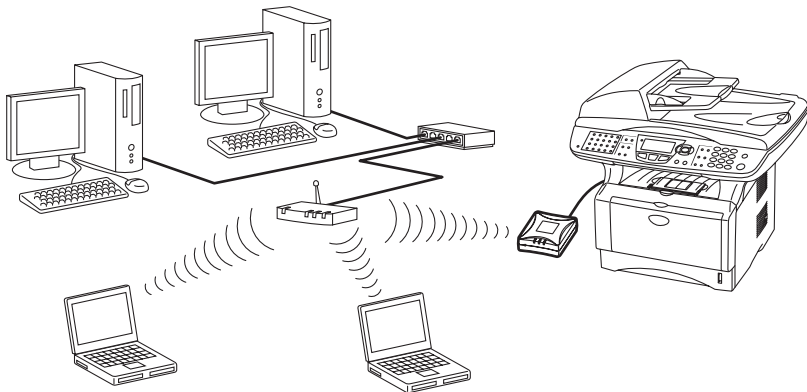
# Wireless LAN terms and concepts

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There are two types of Wireless networks: Infrastructure mode and Ad-hoc

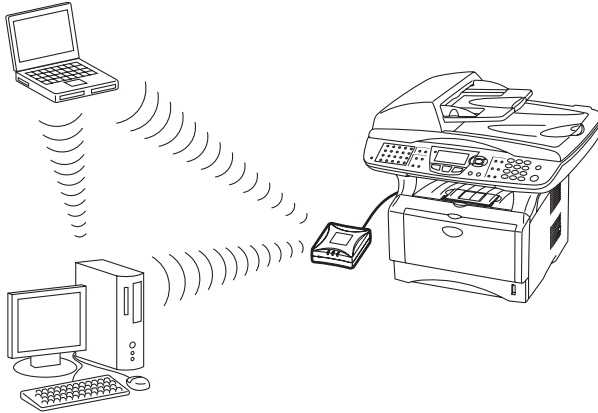
## Infrastructure Mode

Infrastructure mode networks have a central Access point/Base station at the heart of the network. The Access point/Base station can also act as a bridge or a gateway to a wired network. When the Brother wireless device is set in this mode, it receives all print jobs via an access point.



## Ad-hoc Mode

Ad-hoc networks (also sometimes referred to as peer-to-peer networks) do not have a central Access point. Each Wireless client communicates directly with each other. When the Brother wireless device is set in this mode, it receives all print/scan jobs directly from the computer sending the print data.



## Channels

Wireless networks use Channels. There are up to 14 channels that can be used. However, in many countries the number of channels available are restricted. For more information, see *NC-2200w Print/Scan server Specifications* on page A-4.

## Network Name (SSID/ESSID)

Each wireless network has its own unique network name (technically referred to as SSID/ESSID). The network name is assigned on the Access Point or the ad-hoc network devices and should match the Access Point or the ad-hoc network devices you want to associate.



# 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. For more information on Wireless communication visit, <http://solutions.brother.com/wireless>

## Authentication Methods

The Brother NC-2200w supports the following methods:

### ■ Open System

Wireless devices are allowed access to the network without any authentication.

### ■ Shared Key (Infrastructure mode only)

A secret pre-determined key is shared by all devices that will access the wireless network.

The NC-2200w uses following WEP key as pre-determined key.

## Encryption Methods

Encryption is used to secure the data itself. The NC-2200w supports WEP encryption.

### ■ None

No encryption method is used.

### ■ WEP

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

## Network Key (WEP Key)

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. "Hello" (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. "71f2234ab56cd709e5412aa3ba"

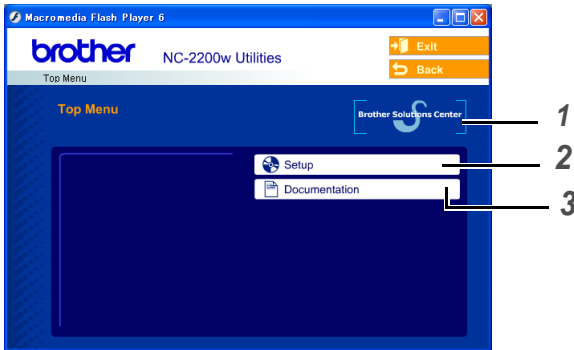
# NC-2200w Configuration Procedure

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## What is supplied on the CD-ROM

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Insert the NC-2200w CD-ROM into the CD-ROM drive of your computer. The main menu (as shown below) will be launched.



### 1 Brother Solutions Center

The Brother Solutions Center( <http://solutions.brother.com>) is a one-stop resource for your Brother Printer/MFC/DCP and NC-2200w. Download the latest drivers and required utilities, read the FAQs and troubleshooting tips.

### 2 Setup

You can run the Wireless Setup Wizard which guides you through the NC-2200w configuration. You can also install the Network Print Software and BRAAdmin Professional utility for Windows®.

### 3 Documentation

View NC-2200w Network User's Guide and the Quick Setup Guide in PDF format.

# Changing your Computer's Wireless Settings

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Before you can use the Brother Printer/MFC/DCP in a wireless network, the NC-2200w must be configured to match your network configuration.

To configure the NC-2200w from a wireless computer on your network, you must temporarily change your current wireless settings. Before changing the current wireless settings of your computer, we recommend you make a note of your current wireless network settings. You will need to return to these settings at the end of configuring the print/scan server.



We recommend you to contact your network administrator if you need assistance with your computers wireless settings.

To communicate with the un-configured NC-2200w change your wireless computer settings to:

**Communication mode:Ad-hoc** (channel 11)

**Network name (SSID/ESSID):SETUP** (case sensitive)

**Encryption:None**



Before installation, if you are using Personal Firewall software (e.g. the Internet Connection Firewall available in Windows XP), disable it. Once you are sure that you can print, re-start your Personal Firewall software.

## Windows® 98/Me/2000 Users

Please refer to your wireless card manufacturer instructions for changing the wireless settings. And then go to Step 3 Configuring the Print Server.

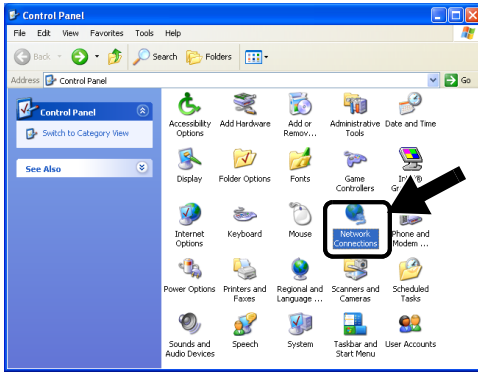
**If you are using Windows® XP or Mac OS® X 10.2.4 and you are using its built in Wireless Ethernet capabilities, use the following steps for each Operating System.**

# Windows® XP Users

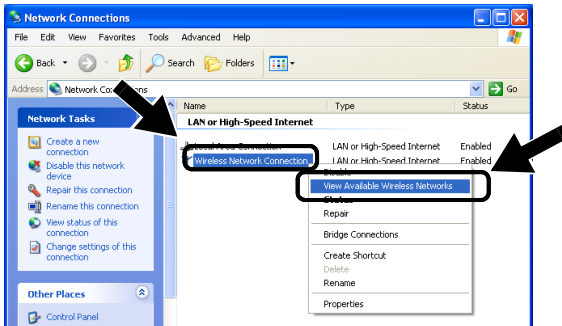
1 Click **Start** and then **Control Panel**.



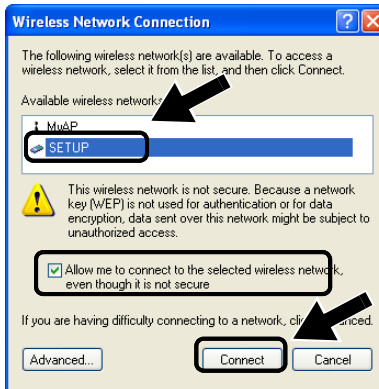
2 Click the **Network Connections** icon.



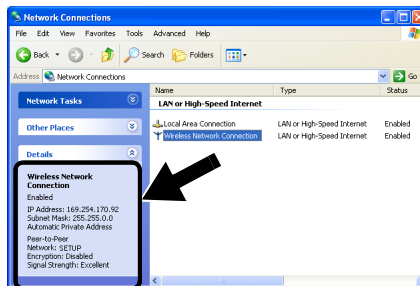
3 Select and right click **Wireless Network Connection**. Click **View Available Wireless Networks**.



- 4 You can see the Network name (SSID/ESSID) of the NC-2200w in the **Available wireless networks** box. Select **SETUP** and check the **Allow me to connect...** check box. Click the **Connect** button.



- 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 0 and 255).



If the Network name (SSID/ESSID) you want to choose is not listed, try the following:

- Unplug the AC adapter, plug it back in again and then wait for a few minutes.
- Move your Brother Printer/MFC/DCP with the NC-2200w installed closer to your computer and try again.
- Reset the NC-2200w back to its default factory settings and try again. For the information how to reset to the factory default setting see *Test Button* on page 1-4.
- Refer to Chapter 6 of the NC-2200w Network User's Guide on the CD-ROM we have supplied with the NC-2200w.

## Example for Mac OS® X 10.2.4 Users

- 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 Network name (SSID/ESSID) in the **Network** option. Select **SETUP**.



### 3 Your wireless network is connected successfully.



If the Network name (SSID/ESSID) you want to choose is not listed, try the following:

- Unplug the AC adapter, plug it back in again and then wait for a few minutes.
- Move your Brother Printer/MFC/DCP with the NC-2200w installed closer to your computer and try again.
- Reset the NC-2200w back to its default factory settings and try again. For the information how to reset to the factory default setting see *Test Button* on page 1-4.
- Refer to Chapter 6 of the NC-2200w Network User's Guide on the CD-ROM we have supplied with the NC-2200w.



# Configuring Brother NC-2200w

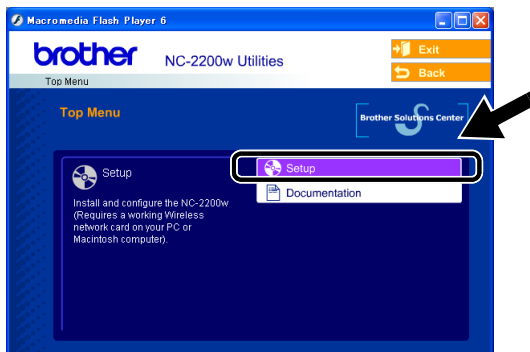
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You can configure and change the NC-2200w settings using the Wireless Setup Wizard in the NC-2200w CD-ROM or Embedded Web Management. And you can use the BRAdmin Professional utility as a convenient utility and TELNET command console for the NC-2200w setting.

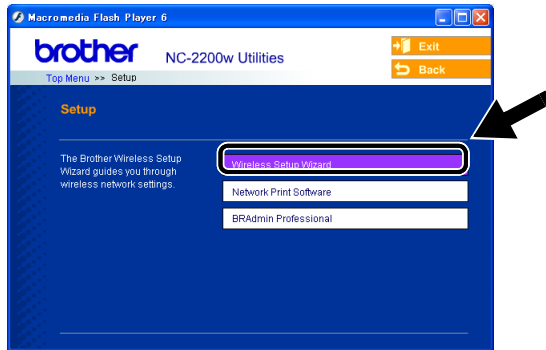
## Using the Wireless Setup Wizard to Configure the NC-2200w to your Wireless Network

We recommend you to use the Wireless Setup Wizard in the NC-2200w CD-ROM to configure the NC-2200w to your wireless network and IP address setting. Follow the steps below.

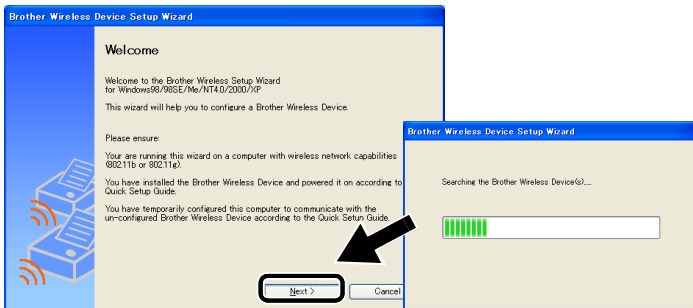
- 1 Insert the NC-2200w CD-ROM into your CD-ROM drive.  
**For Windows® users**  
The opening screen will appear automatically.  
**For Mac OS® X 10.2.4 to 10.3 or greater users**  
Double-click the NC2200w icon on your Macintosh®, and then double-click the **Start Here OSX** icon.
- 2 Select your language.
- 3 Click **Setup**.



4 Click **Wireless Setup Wizard**.



5 Review the **Welcome** information and when you are sure you have completed the necessary tasks, click **Next**.

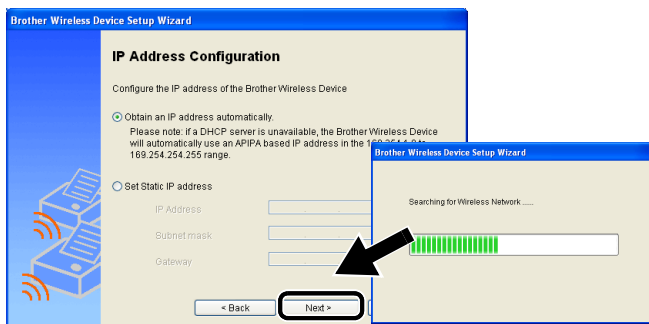


- 6 The search will display a list of found Brother Wireless Devices. Select the device you wish to configure and click **Next**.



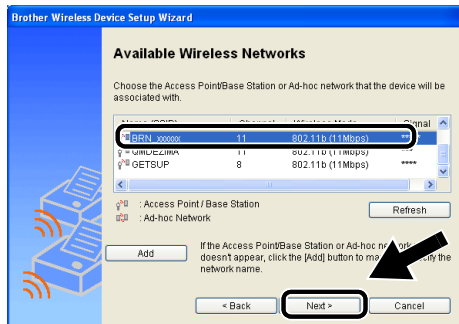
The Default Node name of the NC-2200w is "BRN\_XXXXXX" (where "XXXXXX" is the last six digits of Ethernet address.)

- 7 If your network supports DHCP/BOOTP/RARP, choose **Obtain an IP address automatically** and the NC-2200w will automatically obtain IP address information from your network. If you want to manually enter the IP address settings of the NC-2200w, choose **Set static IP address** and enter the necessary IP address settings for your network. After making your selection, click **Next** and the Wizard will search for available wireless networks.

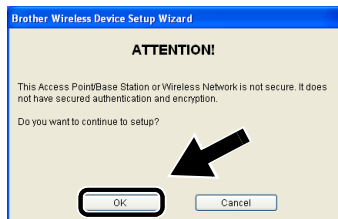




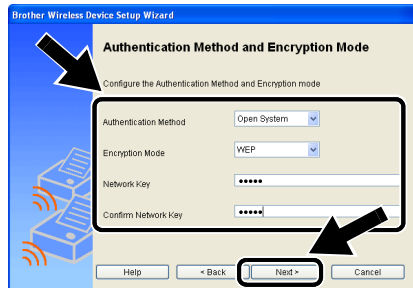
- The NC-2200w supports the Automatic Private IP Addressing (APIPA) protocol. If a DHCP/BOOTP/RARP server is unavailable, the NC-2200w will automatically assign an IP address from the range 169.254.1.0 to 169.254.254.255.
  - We recommend that you contact your network administrator if you are unsure about the correct IP address settings.
- 8 A list of the found Wireless Networks will be displayed. Select the Access Point/Base Station you wish to associate the NC-2200w with and click **Next**.



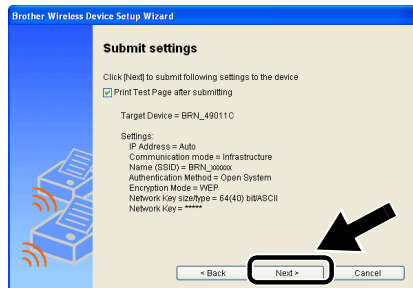
- If the Access Point/Base Station doesn't appear on the list, you can manually add it by clicking **Add**. Follow the on screen instructions for entering the SSID/ESSID and Channel number.
  - The SSID/ESSID name "SETUP" may be displayed on the list more than one time. You can select any "SETUP" from the list.
- 9 If your network is not configured for Authentication and Encryption, the screen shown will appear. To continue installation, click **OK**.  
Go to **Step 10**.



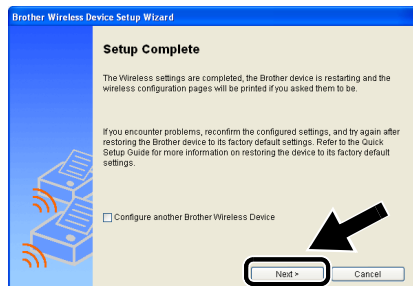
- 10 When configuring your Brother Wireless device, you must ensure that it is configured to match the Authentication and Encryption settings of your existing wireless network. If your network is configured for Authentication and Encryption, choose the **Authentication Method** and **Encryption Mode** from the pull downs in each setting box. Then enter the **Network Key** and click **Next**.



- 11 Click **Next** to submit the settings to the NC-2200w.



- 12 When the Setup Complete screen appears, click **Next**.



**13 Click Exit.**



**14** Using the information you noted in *Changing your Computer's Wireless Settings* on page 2-9, return the wireless settings of your computer back to their original settings.



You can print the Network Configuration Page anytime. To learn how to print the Network Configuration Page, see *Test Button* on page 1-4.

# Using the Embedded Web Server to change settings

If you configured the NC-2200w using the Wireless Setup Wizard, you do not need to make any additional settings. However, if you do wish to change some settings, and you do not want to use the Wireless Setup Wizard, you can use a standard Web browser to alter settings.

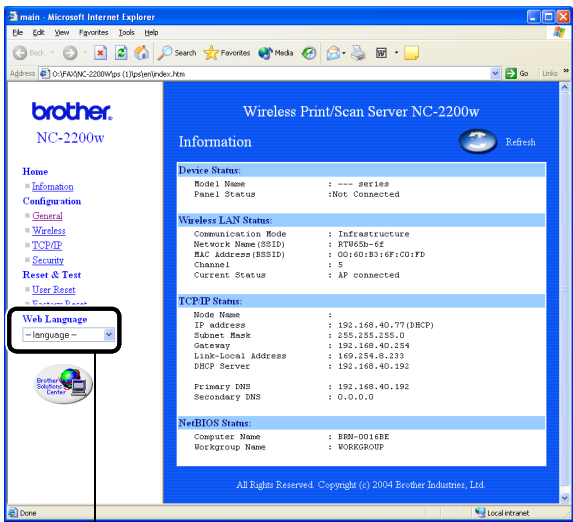
We recommend Netscape Navigator version 4.0 or later or Microsoft Internet Explorer version 5.0 or later.



- Your computer must be configured to use a valid TCP/IP address that can communicate with the NC-2200w.
- Please be careful when you modify any settings as an incorrect setting may result in the NC-2200w losing its connection from your wireless network.

## How to connect to your Printer/MFC/DCP using a Browser

Type `http://NC-2200w_ip_address /` into your browser. Where `NC-2200w_ip_address` is the IP address or node name of the NC-2200w.



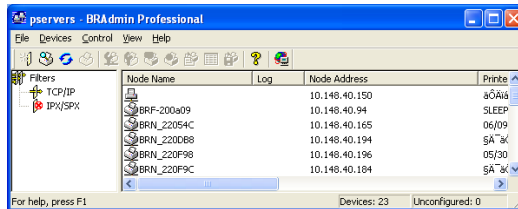
(Available languages are English, German, French, Dutch and Japanese.)



- The IP address and node name of your NC-2200w is printed on the Network Configuration Page. To learn how to print the Network Configuration Page, see *Test Button* on page 1-4.
- You will be asked for a user name and password. Enter the following.  
users name : admin (case sensitive)  
password: access (default)
- Please be careful when you modify any settings as an incorrect setting may result in the NC-2200w losing its connection from your wireless network.

## Using the BRAdmin Professional utility

The BRAdmin Professional utility can be used to find all Brother Print servers in your environment.



## BRAdmin Professional features available when using the NC-2200w

- Show the NC-2200w and Brother Printer/MFC/DCP and configure general items such as Node Name, Location and Contact information.
- Link to the NC-2200w home page
- Update firmware  
For more information, see *Reloading firmware using BRAdmin Professional Utility* on page A-3 .





- Please use the BRAdmin Professional utility version that was supplied on the CD-ROM of the NC-2200w. You can download the latest Brother BRAdmin Professional utility version from ( <http://solutions.brother.com>). This utility is only available for Windows® users.
- You need to use the TCP/IP protocol and have a valid IP address programmed in to the NC-2200w and your computer.
- The default BRAdmin Professional password is `access`.

If you wish to change any NC-2200w settings you must do the following.

### **Link to the NC-2200w home page**

- 1 Select the appropriate device on the list
- 2 Access the printer home page icon or menu from the control menu

# TELNET

You can also use a TELNET console to configure the device.



- Please be careful when you modify any settings as an incorrect setting may result in the NC-2200w losing its connection from your wireless network.
- The TELNET console will prompt you for a user name and the password, enter the following;  
Login user : admin (case sensitive)  
Password : access (default)

## TELNET Login screen example

```
Brother NC-2200w Ver1.00 TELNET Server
Copyright © 2004 BrotherIndustries, Ltd.
Login: admin
'admin' user need password to login.
Password:
User 'admin' logged in
```

```
No. Item                               Value (level.1)
```

---

```
  1 : Configure General
  2 : Configure TCP/IP
  3 : Configure Wireless
 96 : Display Status
 97 : Reset to factory default
 98 : Reset Print Server
 99 : Exit
```

```
Please select ( 1 -99 )?
```

# 3 Network Printing from Windows®

## Overview

---

A network-connected Brother Printer/MFC/DCP allows multiple computers to print one Printer/MFC/DCP.

### Important information

For MFC-210C/420CN/410CN/620CN/5440CN/5840CN/3240C/3340CN/8420/8820D/8820DN/8220/8440/8840D/8840DN/3820CN/3420CN and DCP-120C/320CN/8020/8025D/8025DN/8040/8045D/8045DN users, see Chapter 5 *Network Scanning from Windows®*.

This chapter explains how to install the printer driver for the following models.

- Brother Laser Printer HL-1440/1450/1470N/5040/5050/5070N/5070DN/5140/5150D/5170DN
- Brother MFC-9070/9180/9160



You must ensure that you have completed the steps detailed in chapter 2 or the Quick Setup Guide before you proceed.

## Quick Tips:

- 1 Windows® 2000/XP users can print using TCP/IP using the standard Network Printing software (Standard TCP/IP port) and/or IPP protocol software built into any Windows® 2000/XP installation.
- 2 Windows® 98/Me and Windows NT®4.0 users can send print job using Brother Peer to Peer Print software provided by the NC-2200w CD-ROM. This software makes the Brother LPR port as the Windows® Printing port.
- 3 You will need to search and/or assign the IP address or the node name of the NC-2200w over the setup procedure. The default node name for the NC-2200w is usually BRN\_XXXXXXX (where XXXXXX is the last six digits of the Ethernet address of the NC-2200w). You can see this information from the Network Configuration Page. To learn how to print the Network Configuration Page, see *Test Button* on page 1-4.

# Windows® 98/Me/Windows NT® 4.0 Peer to Peer Printing and Windows® 2000/XP Standard TCP/IP Printing

---

## STEP 1: Printer Driver Installation

If you have not already installed the printer driver, do the following. Install the printer driver that was supplied on the CD-ROM of the Brother Printer/MFC/DCP.

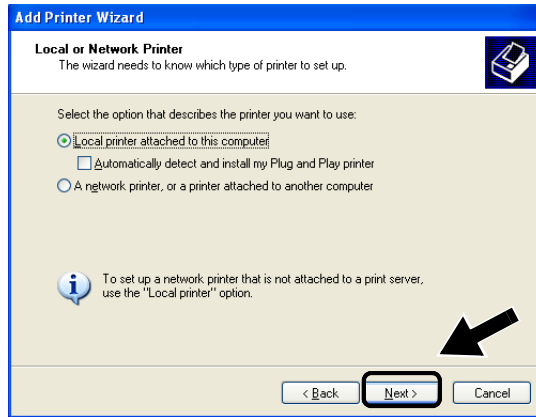
The printer driver can also be downloaded from the Brother Solutions Center at: <http://solutions.brother.com>.

The instructions in this section are based on Windows® XP.

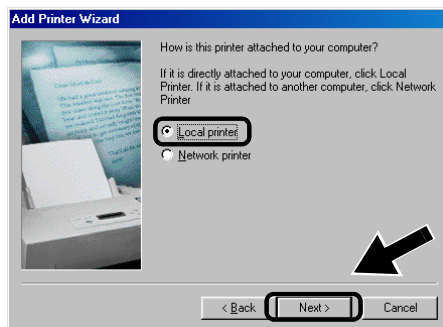
- 1 Click **Start** and select **Printers and Faxes**. Click on **Add a printer** and the Add Printer Wizard will start. When this screen appears, click **Next**.



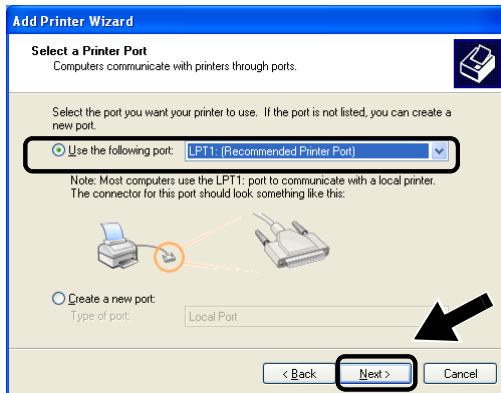
- 2 Un-check the **Automatically detect and install my Plug and Play printer** selection and then click **Next**.



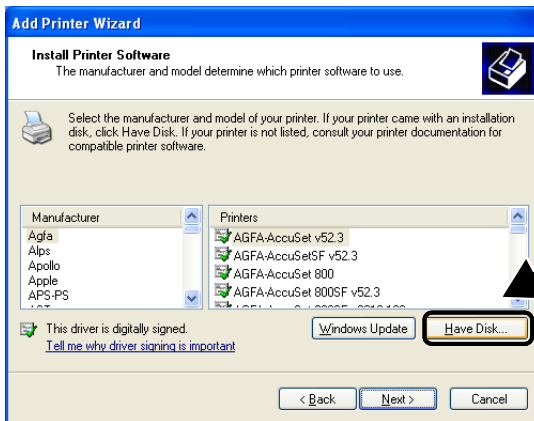
- Your OS may not have this screen.
- (For Windows® 98/Me/Windows NT® 4.0 Uses) If this screen is displayed, select **Local printer** and then click **Next**.



- 3 Temporarily select **LPT1:(Recommended Printer Port)** from the pull down window for the Printer Port Selection and then click **Next**.



- 4 Click on **Have Disk**.



## 5 (For Brother Laser Printer Users)

Browse the CD-ROM and select the **Driver** folder and click **Open**, then select the **Win2k\_xp** folder (or the folder for your OS) and click **Open** and then select the appropriate language and click **Open**.

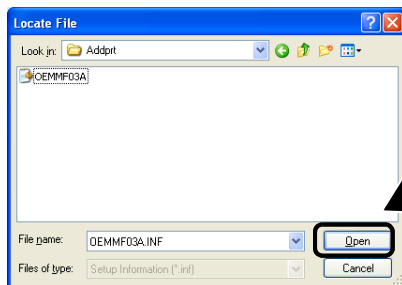
## (For Brother MFC/DCP Users)

Browse the CD-ROM and select the appropriate language folder and click **Open**, then select the **WXP** folder (or the folder for your OS) and click **Open** and finally select the **Addprt** folder and click **Open**.



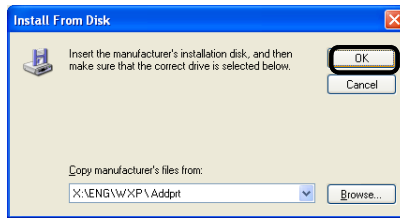
- If your OS is Windows® XP and the **Win2k\_xp** folder is not found in the list, please select **Win2k** folder.
- If you do not see the a folder for your operating system in the Driver folder, but instead see: inst, PCL, PS, USBW98ME, etc. we recommend that you select the PCL folder. You will see the appropriate operating system folder.

## 6 Click **Open**.

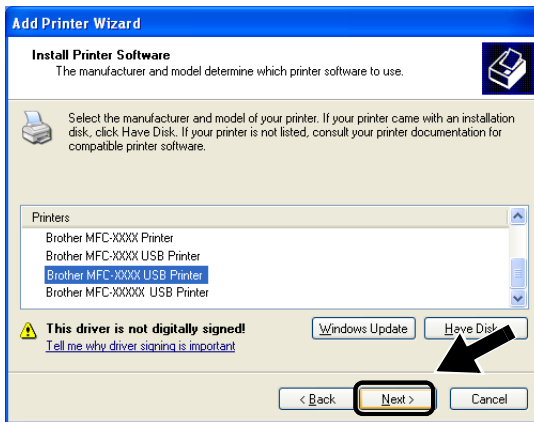




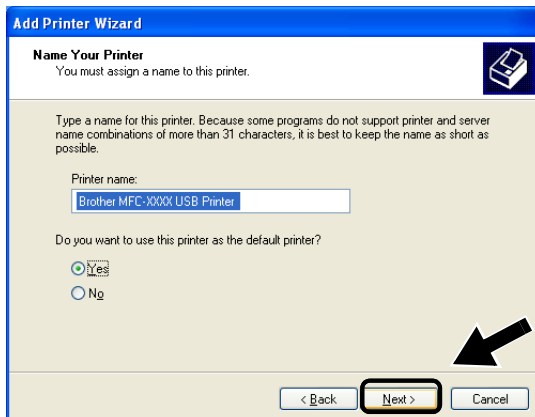
7 Click **OK**.



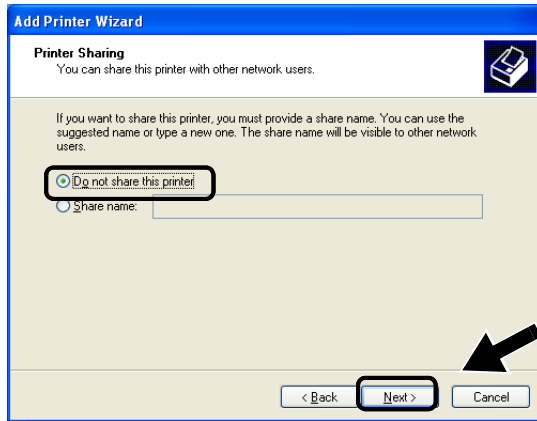
8 Highlight the model you are installing from the list of Printer/MFC/DCPs and click **Next**.



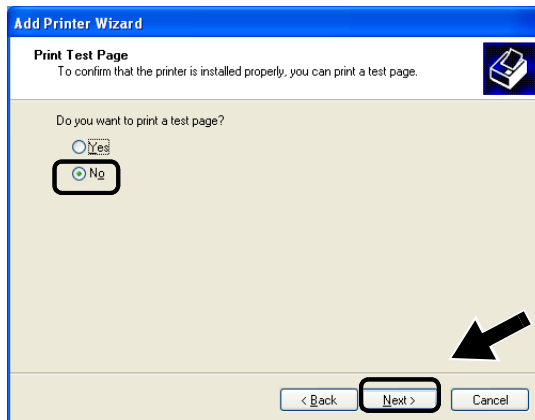
9 The model you are installing will be listed in the window. Select **Yes** or **No** if you want this printer to be your default printer, and then click **Next**.



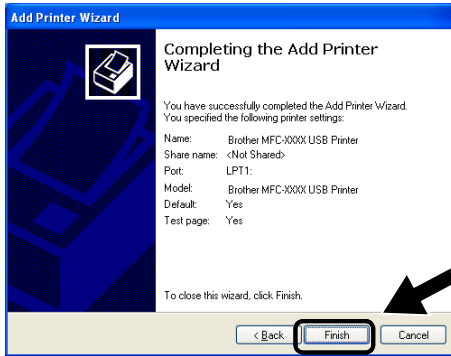
- 10 If this screen appears, select **Do not share this printer** and **Next**.



- 11 Select **No** and **Next**.



12 When this screen appears, click **Finish**.



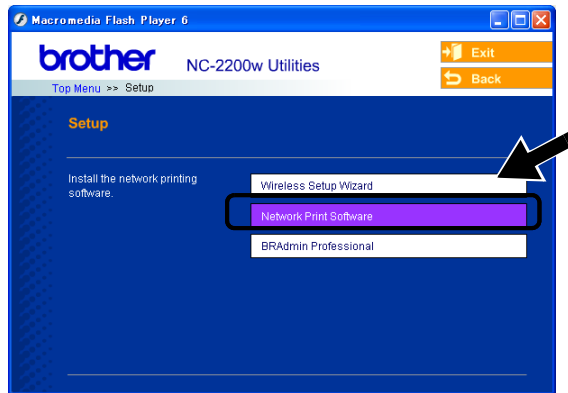
13 If the Windows Logo testing screen appears, click **Continue Anyway**.



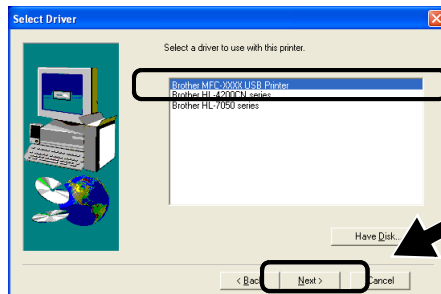
## STEP 2: Network Print Software Installation

You must now install the network print software, and configure it for the wireless network connection of the Brother Printer/MFC/DCP. Please follow the steps below.

- 1 Insert the NC2200w CD-ROM.
- 2 Click **Network Print Software**, and follow the on-screen instructions.



- 3 Select the same printer driver as the one you selected in the 8th step in the Step4 *STEP 1: Printer Driver Installation* on page 3-7. Highlight the model you are installing from the list of Printer/MFC/DCPs and click **Next**.



# Windows® 2000/XP IPP Printing

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Use the following instructions if you wish to use the IPP printing capabilities of Windows® 2000/XP.

- 1 Run the **Add Printer Wizard** and click the **Next** button when you see the **Welcome to the Add Printer Wizard** screen.
- 2 You are now able to select **Local Printer** or **Network Printer**.  
For Windows® 2000: Make sure that you select **Network Printer**.  
For Windows® XP: Make sure that you select **A Network Printer, or a Printer attached to another computer**.
- 3 You will see the **Add Printer Wizard** screen.
- 4 For Windows® 2000: Select **Connect to a printer on the Internet or on your intranet** and then enter the following in the URL field: `http://printer_ip_address:631/ipp`  
(Where `printer_ip_address` is the IP address or name of the NC-2200w).  
  
For Windows® XP: Select **Connect to a printer on the Internet or on a home or office network** and then enter the following in the URL field: `http://printer_ip_address:631/ipp`  
(Where `printer_ip_address` is the IP address or name of the NC-2200w).
- 5 When you click **Next**, Windows® 2000/XP will make a connection with the URL that you specified.

## IF THE PRINTER DRIVER HAS ALREADY BEEN INSTALLED

If the appropriate printer driver is already installed on your PC, Windows® 2000/XP will automatically use that driver for use. In this case, you will simply be asked if you wish to make the driver the default driver, after which the Driver installation Wizard will complete. You are now ready to print.

## IF THE PRINTER DRIVER HAS NOT BEEN INSTALLED

One of the benefits of the IPP printing protocol is that it establishes the model name of the Printer/MFC/DCP when you communicate with it. After successful communication you will see the model name of the printer automatically. This means that you do not need to inform Windows® 2000 the type of printer driver to be used.

- 6 Click **OK**. You will then see the Printer/MFC/DCP selection screen in the **Add Printer Wizard**.
- 7 If your Printer/MFC/DCP is not in the list of supported printers, click the **Have Disk** button. You will then be asked to insert the driver disk.
- 8 Click the **Browse** button and select the CD-ROM or network share that contains the appropriate Brother printer driver.
- 9 Now specify the model name of the printer.
- 10 If the printer driver that you are installing does not have a Digital Certificate you will see a warning message. Click **Yes** to continue with the installation. The **Add Printer Wizard** will then complete.
- 11 Click the **Finish** button and the Printer/MFC/DCP is now configured and ready to print. To test the Printer/MFC/DCP connection, print a test page.

## Specifying a Different URL

Please note that there are several possible entries that you can enter for the URL field.

### **http://printer\_ip\_address:631/ipp**

This is the default URL and we recommend that you use this URL.

You can also use the following:

```
http://printer_ip_address:631/ipp/binary_p1
```

Where `printer_ip_address` is the IP address or node name of the NC-2200w.

# 4

# Network Printing from Macintosh®

## Printing from a Macintosh® Using the Simple Network Configuration capabilities of Mac OS® X (Mac OS® X 10.2.4 - 10.3 or greater)

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### Overview

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You must be using Mac OS® X 10.2.4-10.3 or greater.

The Simple Network Configuration capabilities on a Macintosh® running OS® X allow the NC-2200w to automatically configure its IP address settings. However, you must still configure the NC-2200w wireless settings before you can use the NC-2200w with your Macintosh® computer.



- You must ensure that you have completed the steps detailed in chapter 2 or Quick Setup Guide before you proceed.
- To print a NC-2200w Network Configuration page, see *Test Button* on page 1-4.



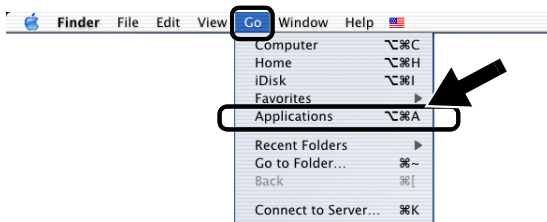
# Printing from a Maintosh<sup>®</sup> Using the Simple Network Configuration capabilities of Mac OS<sup>®</sup> X (Mac OS<sup>®</sup> X 10.2.4 - 10.3 or greater)

---

You need to install the printer driver before setting up your computer to work with the NC-2200w. If the printer driver is already installed, you can skip this step. The driver is on the CD-ROM included with your Printer/MFC/DCP or you can download the latest printer driver from our web site: <http://solutions.brother.com>

Please follow the steps below to install the printer driver.

- 1 Insert the supplied CD-ROM into your CD-ROM drive and then double-click the **Start Here OSX** icon to install the software. If the language screen appears, select your language.
- 2 **(For Brother Laser Printer Users)**  
Click **Install Software** and then **Printer Driver** on the Menu screens.  
**(For Brother MFC/DCP Users)**  
Click **MFL-Pro Suite** to install to install the printer driver.
- 3 Follow the on-screen instructions.
- 4 Select **Applications** from the **Go** menu.



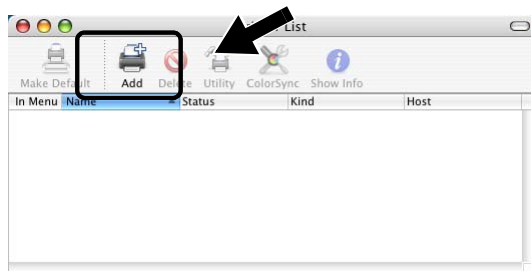
5 Open the **Utilities** folder.



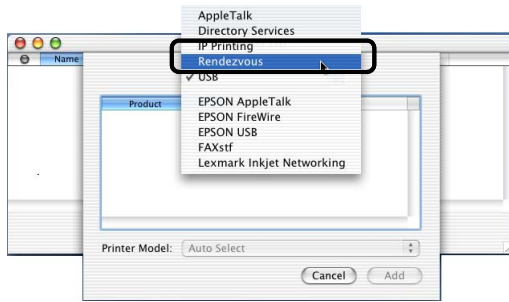
6 (For Mac OS® X 10.2.4 users) Open the **Print Center** icon.  
(For Mac OS® X 10.3 users) Open the **Printer Setup Utility**.



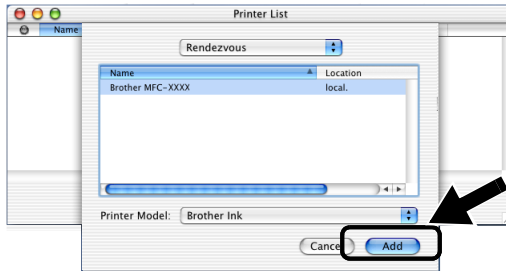
7 Click **Add** button.



8 Select Rendezvous.



9 Select your machine's model name, and then click **Add**.



## Changing the Configuration

---

- From a Macintosh<sup>®</sup>, the easiest way to change the Printer/MFC/DCP or NC-2200w parameters is to use a web browser.
- Simply connect to the Printer/MFC/DCP using the format: `http://ip_address` where `ip_address` is the address of the NC-2200w.
- If you change NC-2200w network setting such as wireless settings IP address, etc., the NC-2200w connection might be disconnected.

# 5 Network Scanning from Windows<sup>®</sup>

## Overview

---

Network scanning is only supported on models that include the Network ready version of the MFC-Pro software.

### Important information

The following models include the appropriate Network scanning software (Network capable MFL-Pro Suite). For more details, please see the Software User's Guide or User's Guide on the CD-ROM supplied with your Brother MFC/DCP.

- MFC-210C/420CN/410CN/620CN/5440CN/5840CN/3240C/3340CN/8420/8820D/8820DN/8220/8440/8840D/8840DN/3820CN/3420CN and DCP-120C/320CN/8020/8025D/8025DN/8040/8045D/8045DN



You must ensure that you have completed the steps detailed in chapter 2 or the Quick Setup Guide before you proceed.

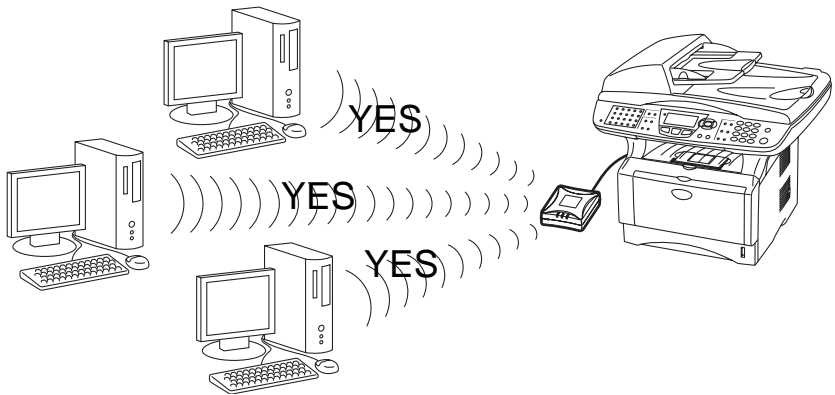
# Network Scanning concept

---

There are two type of network scanning.

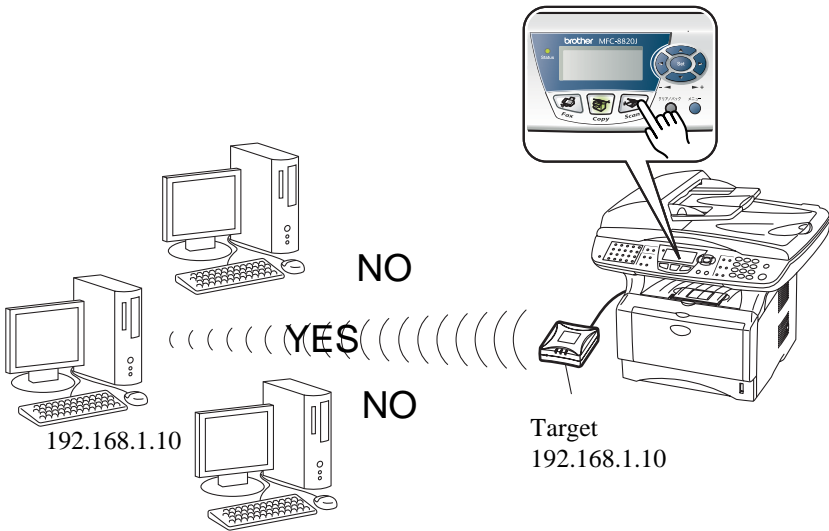
## Pull scanning

With Pull Scanning, each individual computer initiates the document scan via the MFL-Pro Suite software as and when the Brother MFC/DCP is available.



## Push scanning

With Push scanning, the MFC/DCP initiates the document scan and automatically passes the files the MFL-Pro Suite software running on the remote computer. In this case you have to configure the target computer IP address on the NC-2200w. In addition, you must select **USB** when you press Scan-key, since the MFC/DCP and NC-2200w are connected using a USB cable.



# Setting up the Network Scanning Software

## STEP 1: Install the MFL-Pro Suite using the CD-ROM supplied with your MFC/DCP

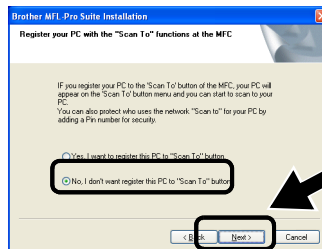
This software is included on the CD-ROM supplied with your MFC/DCP. To install the software, follow the steps in 'Installing the Driver & Software for Network Interface Cable Users' section of the Quick Setup Guide included with your MFC/DCP.



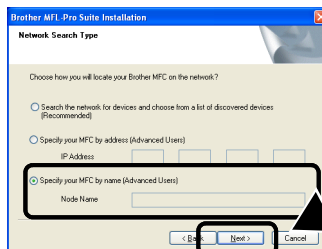
During the MFL-Pro Suite software installation you may see the following screens.

- For MFC-8420/8820D/8820DN/8220/8440/8840D/8840DN3820CN/3420CN and DCP-8020/8025D/8025DN/8040/8045D/8045DN

When this screen is displayed in the installation process, select **No** and then click **Next**.



- Some MFC/DCPs with the NC-2200w cannot be found in the search list during installation. In that case go back to the screen shown below and set the node name of the NC-2200w manually. You can see the node name on the Network Configuration page, see *Test Button* on page 1-4.





## STEP 2 :Specifying the Scan Destination Address using the NC-2200W Home Page

You must use a web browser to configure this setting.

- 1 Open your Web browser and enter the following in the URL field.  
`http://NC-2200w_ip_address`



- Where `NC-2200w_ip_address` is the IP address or node name of your NC-2200w.
- For more information on the IP address and the login password etc., see *Using the Embedded Web Server to change settings* on page 2-20.

- 2 Go to the **General Page** under the **Configurations**.



(Available languages are English, German, French, Dutch and Japanese.)

- 3 Enter the IP address or name of the target computer.



If the IP address was assigned automatically, you should enter the computer name because the IP address may have changed. This name can be Windows® (NetBIOS) computer name or a DNS host name.



- If you don't know your computer IP address, contact the network administrator.
- To find out your computer name, open Properties from **My Computer** and refer to **Computer Name** tab. To use a host name you have to assign DNS server address information by connecting to the embedded web server of the NC-2200w.
- For more information on pull scanning, please refer to the Software User's Guide or User's Guide on the CD-ROM supplied with your Brother MFC/DCP.

# 6

# Troubleshooting

## Overview

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This chapter describes procedures for troubleshooting problems you may encounter with the NC-2200w, it is divided into the following sections:

- General Problems
- Wireless Setup Problems
- Network Print Software Installation Problems
- Printing Problems
- Protocol-Specific Troubleshooting

## General Problems

---

### **CD-ROM is inserted, but does not start automatically**

If your computer does not support Autorun, the menu will not start automatically after inserting the CD-ROM. In this case, execute Start.exe in the root directory of the CD-ROM.

### **How to reset the NC-2200w to factory default**

The NC-2200w can be reset to its factory default by using the Test Button. For further information on how to reset using the Test Button, see *Test Button* on page 1-4.

# Wireless Setup Problems

---

## The NC-2200w is not found while setup by the Wireless Setup Wizard

Make sure that the Link LED is turned on. If the Link LED is not turned on, Brother NC-2200w may not work properly. Check the following:

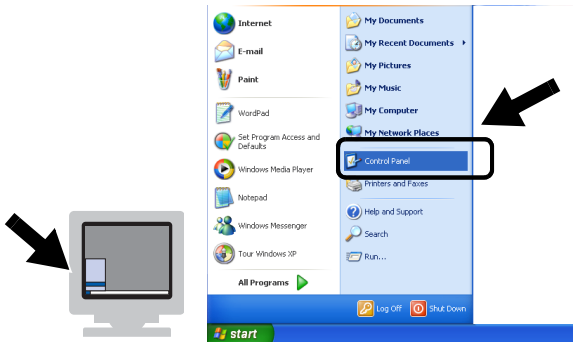
- 1 Check if the Brother NC-2200w power is turned on.
- 2 Check if the Brother NC-2200w is securely connected to the Brother Printer/MFC/DCP and the Printer/MFC/DCP is powered on.
- 3 Move your PC closer to the Brother Printer/MFC/DCP with the NC-220w installed and try again
- 4 Reset the NC-2200w back to the default setting and try again. For the information how to reset to the factory default setting, see *Test Button* on page 1-4.

Before you configure the NC-2200w, you need to temporarily change your computer's wireless settings to communicate with the un-configured NC-2200w. Check following:

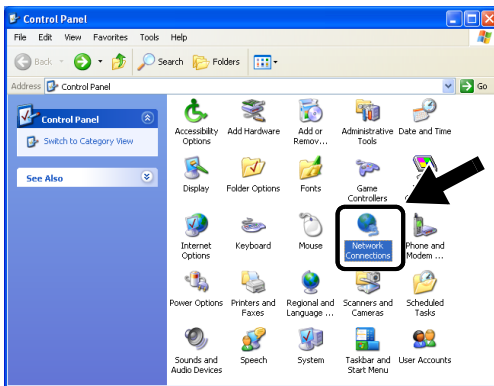
- 1 Check if the wireless settings of your computer are as follows.
  - Communication mode: Ad-hoc (channel 11)
  - Network name (SSID/ESSID): SETUP (case sensitive)
  - Encryption : None
- 2 If you are using Windows® XP or Mac OS® X 10.2.4-10.3 or greater, and the Ad-hoc network "SETUP" doesn't appear in the available network list of the wireless setup utility of the Windows® XP or Mac OS® X, you may be able to resolve this problem by manually adding the Ad-hoc network using the following procedure.

# For Windows® XP users

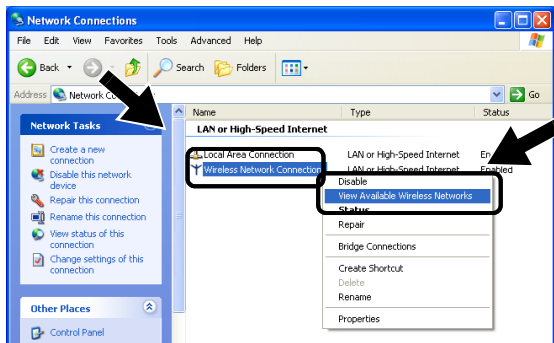
1 Click **Start** and then **Control Panel**.



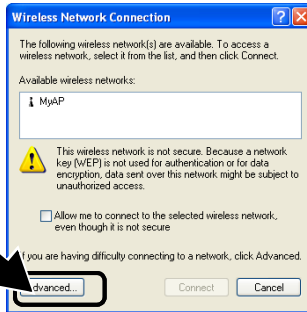
2 Click the **Network Connections** icon.



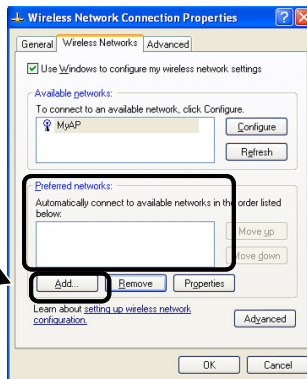
3 Select and right click **Wireless Network Connection**. Click **View Available Wireless Networks**.



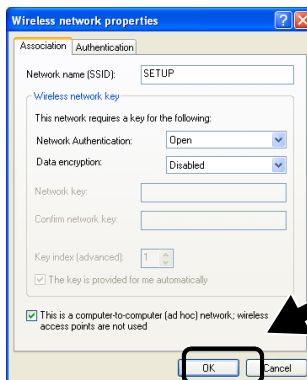
4 Click the **Advanced** button.



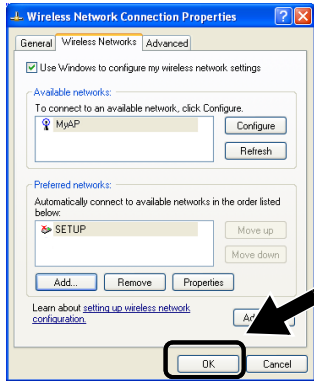
5 Make the **Preferred networks** field blank by using **Remove**. Click **Add**.



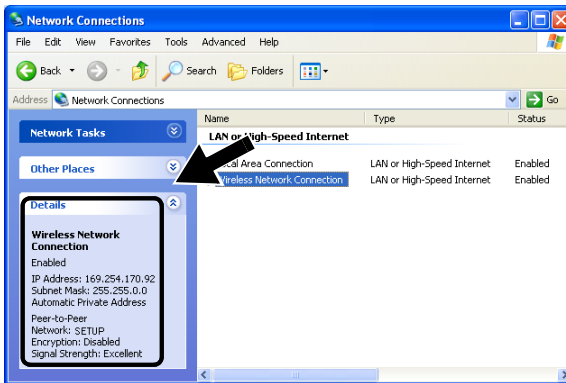
6 Enter **SETUP**. Select **Disabled**.  
Make sure that the check box at the bottom of the screen is selected, and then click **OK**.



7 Click **OK**.



8 Check the wireless network connection status. It may take a few minutes for the IP address to be displayed.



9 You can now use the Brother Wireless Setup Wizard to configure your NC-2200w settings.

## For Mac OS® X 10.2.4-10.3 or greater users

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



- 2 Select **Create Network...** from the **Network** option.



- 3 Enter **SETUP**, select **11** from the **Channel** option, and then click **OK**.





4 Your wireless network is connected successfully.



5 You can now use the Brother Wireless Setup Wizard to configure your NC-2200w settings.

## Network Print Software Installation Problems

---

**The Brother NC-2200w is not found during setup of the network print software installation or from the printer driver of the Brother Printer/MFC/DCP in Windows®**

**The Brother NC-2200w is not found using the Simple Network Configuration capabilities of Mac OS® X.**

Make sure you have completed the Wireless and IP address setting of the NC-2200w according to the Chapter2 or the Quick Setup Guide before installing the network print software or printer driver. Check the following:

- 1 Check if the Brother NC-2200w power is turned on.
- 2 Check if the Brother NC-2200w is securely connected to the Brother Printer/MFC/DCP and the Printer/MFC/DCP is powered on.
- 3 Move your PC closer to the Brother Printer/MFC/DCP with the NC-220w installed and try gain

- 4 Print the Network configuration page of the NC-2200w and check if the settings such as wireless and IP address settings are correct for your network. The problem may be the result of mismatched wireless setting, or mismatched or duplicate IP address. Verify that the Wireless settings and the IP address are correctly loaded into the NC-2200w. And make sure that no other nodes on the network have this IP address.
- 5 Try pinging the NC-2200w from the host operating system command prompt with the command:

```
ping ipaddress
```

Where the `ipaddress` is the NC-2200w IP address (note that in some instances it can take up to a few minutes for the NC-2200w to load its IP address after setting the IP address or powered on).

- 6 If you have tried 4 or 5 above and it does not work, then reset the NC-2200w back to the default setting and try from the initial setup again. For the information how to reset to the factory default setting see *Test Button* on page 1-4.
- 7 Check if a personal firewall such as ICF for Windows® XP is running on your computer. If it is running, temporarily turn it off and try again.

# Printing Problem

---

## Print Job is not printed

Make sure the status and configuration of the NC-2200w and the Printer/MFC/DCP, check following:

- 1 Check if the Brother NC-2200w power is turned on
- 2 Check if the Brother NC-2200w is securely connected to the Brother Printer/MFC/DCP and the Printer/MFC/DCP is powered on.
- 3 Make sure the printer/MFC/DCP is on-line and ready to print.
- 4 Move your PC closer to the Brother Printer/MFC/DCP with the NC-220w installed and try gain
- 5 Print the Network configuration page of the NC-2200w and check if the settings such as wireless and IP address settings are correct for your network. The problem may be the result of mismatched wireless setting, or mismatched or duplicate IP address. Verify that the Wireless settings and the IP address are correctly loaded into the NC-2200w. And make sure that no other nodes on the network have this IP address.
- 6 Try pinging the NC-2200w from the host operating system command prompt with the command:

```
ping ipaddress
```

Where the `ipaddress` is the NC-2200w IP address (note that in some instances it can take up to a few minutes for the NC-2200w to load its IP address after setting the IP address or powered on).

## 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 NC-2200w and printer is unable to accept your print job until the ongoing printing is finished. If the waiting time of your print job exceeds a certain limit, a time out situation occurs, which causes the error message. In such situations, execute the print job again after the other jobs are completed.

## Windows NT<sup>®</sup>4.0 Troubleshooting

---

### Trouble printing with Windows NT<sup>®</sup>4.0

If you are having trouble printing with Windows NT<sup>®</sup>4.0, check the following:

- 1 Make sure that TCP/IP and TCP/IP print service are installed and running on the Windows NT<sup>®</sup>4.0 system or the LAN Server file server.
- 2 If you are using DHCP and you have not created a reservation for the NC-2200w, make sure that you enter the NetBIOS name of the NC-2200w in the **Name or address of server providing lpd** box.

## Windows® 2000/XP IPP Troubleshooting

---

### **Want to use a different Port number other than 631**

If you are using Port 631 for IPP printing, you may find that your firewall may not let the print data through. If this is the case, use a different port number (port 80), or configure your Firewall to allow Port 631 data through.

To send a print job using IPP to a Printer/MFC/DCP using Port 80 (the standard HTTP port) enter the following when configuring your Windows® 2000/XP system.

`http://ip_address/ipp`

## Web Browser Troubleshooting (TCP/IP)

---

- 1 If you cannot connect to the NC-2200w using your web browser it may be worth checking the Proxy Settings of your browser. Look in the Exceptions setting and if necessary, type in the IP address of the NC-2200w. This will stop your PC from trying to connect to your ISP or proxy server every time you wish to look at the NC-2200w.
- 2 Make sure that you are using the proper Web Browser, we recommend Netscape Navigator version 4.0 or later/ Microsoft Internet Explorer version 5.0 or later.

# A Appendix

## Appendix A

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### General Information

---

#### Protocols

Protocols are the standardized sets of rules for transmitting data on a network. Predetermined protocols allow the users to gain access to the network-connected resources. The NC-2200w uses TC/IP protocols to communicate and print.

#### ■ TCP/IP

This is the most popular set of protocols used for communication such as Internet and E-mail. This protocol can be used in almost all the operation systems such as Windows<sup>®</sup>, Macintosh<sup>®</sup> and Linux.

### Protocol Configuration Items

---

#### TCP/IP Configuration

- IP Address
- Gateway (when routers exist on your network)

#### ■ IP Address

An IP address is a series of numbers that identifies each computer connected to the Internet. An IP address consists of four numbers separated by dots. Each number is between 0 and 255. You must allocate a unique IP address that is correct for the attached network.

Example) In a small network, set the IP addresses by changing the final number.

192.168.1.1, 192.168.1.2, 192.168.1.3

## ■ Subnet mask

Subnet masks restrict network communication and an example of one follows...

- 255.255.0.0

Here is an example of an IP address and a subnet mask.

IP Address	193.	1.	2.	3
Subnet Mask	255.	255.	0.	0

0 means this part of the address is not limited for communication.

Example) PC1 can talk to PC2

PC1 IP Address	193.	1.	2.	3
Subnet Mask	255.	255.	0.	0

PC2 IP Address	193.	1.	3.	4
Subnet Mask	255.	255.	0.	0

In the above example, we can communicate with anything that has an IP address that begins with 193.1.X.X

## ■ Gateway (Router)

A Gateway is the transfer device that passes data between networks. 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.

## ■ Node name

Node name appears in current BRAdmin Professional or Network configuration page. Default Node name of the NC-2200w is "BRN\_XXXXXX" ("XXXXXX" is the last six digits of Ethernet address.)

Node name is also referred to as Windows computer name (NetBIOS name) or a DNS host name.

# Appendix B

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## Reloading firmware using BRAdmin Professional Utility

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### General

The firmware on the NC-2200w is stored in flash memory. This means that you can upgrade the firmware by downloading the appropriate update file. To get the latest firmware update, visit the Brother Solutions web site at <http://solutions.brother.com/>



Some software versions that we provide will automatically factory reset your print server parameters. We try to avoid doing this. However, if we add a significant new feature to our NC-2200w, it can result in the print server being factory reset.

Because of this, we **STRONGLY** recommend that you make a note of the current print server configuration before you upgrade. To do this, print out a Network configuration page. To learn how to print the Network Configuration Page, see *Test Button* on page 1-4.

### Reloading firmware

- 1 Select the appropriate device on the list.
- 2 Select **Load Firmware** from **Control**.
- 3 Enter the Firmware File name and the password and then click Load. Reloading process will start.
- 4 Status LED of the NC-2200w blinks. Don't turn off the NC-2200w power switch until the NC-2200w returns to ready. Only Link LED lights when the NC-2200w returns to ready.



# Appendix C

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## NC-2200w Print/Scan server Specifications

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<b>Model name</b>	<b>NC-2200w</b>	
<b>Network types</b>	IEEE802.11b wireless	
<b>Frequency</b>	2412-2472 MHz	
<b>RF channels</b>	US/Canada	1-11
	Europe/Oceania	1-13
	Japan	1-14
<b>Communication mode</b>	Ad-hoc 802.11, Infrastructure	
<b>Data rates</b>	802.11b	11/5.5/2/1 Mbps
<b>Link distance</b>	70 m (233ft.) at lowest data rate (The distance rate will vary upon miscellaneous items.)	
<b>Network security</b>	SSID/ESSID, 128 (104) / 64 (49) bit WEP	
<b>Interface</b>	USB	
<b>LED</b>	3 LEDs (Status, Link, Infra)	
<b>Button</b>	1 Test Button	
<b>Protocols</b>	TCP/IP	ARP, RARP, BOOTP, DHCP, APIPA WINS/NetBIOS, DNS LPR/LPD, Port 9100, Raw Port SMB Print, IPP, mDNS, TELNET, SNMP, HTTP
<b>Dimensions (W x D x H)</b>	80 x 100 x 25 mm (3.2 x 4.0 x 1.0 in.)	
<b>Weights</b>	0.135 Kg (0.3 lb)	
<b>Power consumption</b>	1 A (USB Bus Power Max. 500mA)	

<b>Electromagnetic Emission</b>	
<b>USA</b>	FCC Part 15 Class B
<b>Canada</b>	ICES-003 (B)
<b>Europe</b>	EN55022B/EN55024
<b>Australia/ New Zealand</b>	AS/NZA 3548
<b>Japan</b>	VCCI Class B

# INDEX

## A

Ad-hoc mode ..... 2-5  
APIPA ..... 2-2  
Authentication ..... 2-6  
Authentication methods ..... 2-6

## B

BOOTP ..... 2-1  
BRAdmin Professional utility  
..... 2-21, A-3  
Brother LPR port ..... 3-2  
Brother Peer to Peer Print .. 3-2  
Browser ..... 2-20

## C

Channel ..... 2-5

## D

DHCP ..... 2-1  
DNS ..... 2-2

## E

Encryption ..... 2-6  
Encryption methods ..... 2-6

## F

flash memory ..... A-3  
FTP ..... A-4

## G

Gateway ..... A-2

## I

Infrastructure mode ..... 2-4  
IP Address ..... A-1  
IPP ..... 2-2, 3-11  
ISP ..... 6-11

## L

LED ..... 1-3  
LPR/LPD ..... 2-2

## M

mDNS ..... 2-2, A-4

## N

NetBIOS/IP ..... 2-2  
Network key ..... 2-7  
Network Scanning ..... 2-2

## O

Open system ..... 2-6

## P

Protocol ..... 1-1

## R

RARP ..... 2-1

## S

Shared key ..... 2-6  
Simple Network Configuration  
  Printing ..... 4-2  
SSID ..... 2-5  
Subnet mask ..... A-2

## T

TCP/IP ..... A-1  
TELNET ..... 2-3

## W

Web Server ..... 2-3  
WEP ..... 2-6  
Windows Printing (2000/XP)  
..... 3-3  
Wired Equivalent Privacy .... 2-6

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