brother ®

Wi-Fi Direct™ Guide

Applicable models

This User's Guide applies to the following models:

MFC-J870DW/J875DW

Definitions of notes

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

NOTE	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

The Brother logo is a registered trademark of Brother Industries, Ltd.

Brother is a trademark of Brother Industries, Ltd.

Wi-Fi Alliance is a registered trademark of the Wi-Fi Alliance.

WPA, WPA2, Wi-Fi Protected Setup and Wi-Fi Direct are trademarks of the Wi-Fi Alliance.

Android is a trademark of Google Inc.

Google Play is a trademark of Google Inc.

Apple, iPad, iPhone, iPod touch and Safari are trademarks of Apple Inc., registered in the United States and other countries.

AirPrint is a trademark of Apple Inc.

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

Each company whose software title is mentioned in this manual has a Software License Agreement specific to its proprietary programs.

Any trade names and product names of companies appearing on Brother products, related documents and any other materials are all trademarks or registered trademarks of those respective companies.

IMPORTANT NOTE

■ This manual uses the MFC-J870DW's LCD messages unless otherwise specified.

■ Go to the Brother Solutions Center at http://solutions.brother.com/ and click **Manuals** on your model page to download other manuals.

■ Not all models are available in all countries.

Table of Contents

1 Introduction

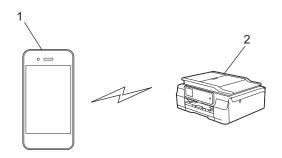## Overview

Wi-Fi Direct™ is one of the wireless configuration methods developed by the Wi-Fi Alliance®. It allows you to configure a secured wireless network between your Brother machine and a mobile device, such as an Android™ device, Windows® Phone device, iPhone, iPod touch, or iPad, without using an access point. Wi-Fi Direct™ supports wireless network configuration using the one-push or PIN Method of Wi-Fi Protected Setup™ (WPS). You can also configure a wireless network by manually setting an SSID and password. Your Brother machine's Wi-Fi Direct™ feature supports WPA2™ security with AES encryption.

1 **Mobile device**

2 **Your Brother machine**

NOTE

• Although the Brother machine can be used in both a wired and wireless network, only one connection method can be used at a time. However, a wireless network connection and Wi-Fi Direct™ connection, or a wired network connection and Wi-Fi Direct™ connection can be used at the same time.

• The Wi-Fi Direct™ supported device can become a Group Owner (G/O). When configuring the Wi-Fi Direct™ network, the G/O serves as an access point (see *Group Owner (G/O)* on page 13).

• When your Brother machine is the G/O, it supports one-to-one wireless communication using Wi-Fi Direct™.

• Ad-Hoc mode and Wi-Fi Direct™ cannot be used at the same time. You must disable one function in order to enable the other. If you want to use Wi-Fi Direct™ while you are using Ad-Hoc mode, set Network I/F to LAN or disable Ad-Hoc mode, and then connect your Brother machine to the access point.

1

Benefits

When you want to print from your mobile device or scan to your mobile device, use Wi-Fi Direct™ to configure a temporary wireless network using the one-push or PIN Method of WPS. For more information on printing from or scanning to your mobile device, download the Mobile Print/Scan Guide for Brother iPrint&Scan or the AirPrint Guide from the Brother Solutions Center (http://solutions.brother.com/).

Hardware requirements

Supported operating systems

You must have a Windows® phone, a device running either Android™ 1.6 or greater, or iOS 3.0 or greater.

Downloading and installing Brother iPrint&Scan

Brother iPrint&Scan allows you to use features of your Brother machine directly from your mobile device, without using a computer. Before you start configuring a wireless network using Wi-Fi Direct™, we recommend downloading Brother iPrint&Scan using one of the options listed below. Download the Brother iPrint&Scan guide from the Brother Solutions Center (http://solutions.brother.com/).

For Android™ devices

You can download and install Brother iPrint&Scan from Google Play™ (Android™ Market). To take advantage of all the features supported by Brother iPrint&Scan, make sure you are using the latest version.

To download and install or to uninstall Brother iPrint&Scan, see the instructions provided with your mobile device.

For iOS devices

You can download and install Brother iPrint&Scan from the App Store. To take advantage of all the features supported by Brother iPrint&Scan, make sure you are using the latest version.

To download and install or to uninstall Brother iPrint&Scan, see the instructions provided with your mobile device. A link to your mobile device's user's guide (which can be viewed on the Apple website) is a default link in Safari's **Bookmarks** folder.

NOTE
iOS does not support Wi-Fi Direct™, but you can connect your mobile device to your Brother machine manually (for more information, see *Manual configuration for a Wi-Fi Direct™ network* on page 9).

For Windows® Phone devices

You can download and install Brother iPrint&Scan from the Windows® Phone Marketplace. To take advantage of all the features supported by Brother iPrint&Scan, make sure you are using the latest version.
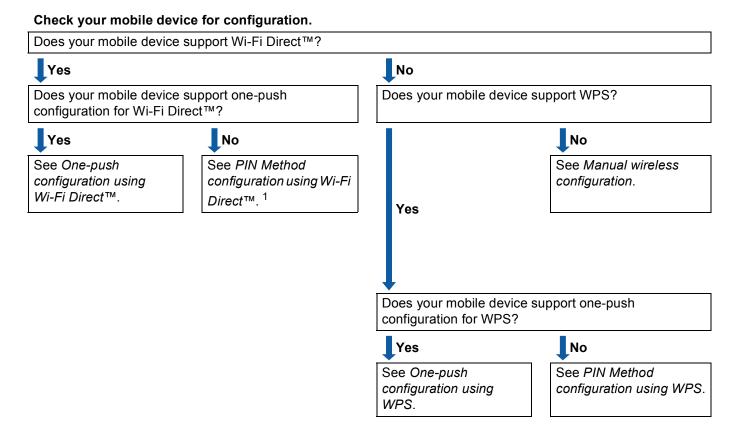
To download and install or to uninstall Brother iPrint&Scan, see the instructions provided with your mobile device.

2 Configuration methods

Determining which method to use when configuring your network for Wi-Fi Direct™

This step-by-step chart will help you decide which method to use for configuring your Brother machine in a wireless network environment.

Check your mobile device for configuration.

Does your mobile device support Wi-Fi Direct™?

Yes

Does your mobile device support one-push configuration for Wi-Fi Direct™?

Yes

See *One-push configuration using Wi-Fi Direct™*.

No

See *PIN Method configuration using Wi-Fi Direct™*. [1]

No

Does your mobile device support WPS?

Yes

Does your mobile device support one-push configuration for WPS?

Yes

See *One-push configuration using WPS*.

No

See *PIN Method configuration using WPS*.

No

See *Manual wireless configuration*.

[1] If you cannot connect when using Android™ 4.0, see *One-push configuration using Wi-Fi Direct™*.

■ One-push configuration using Wi-Fi Direct™

See *One-push configuration using Wi-Fi Direct™* on page 5.

■ One-push configuration using WPS

See *One-push configuration using WPS* on page 6.

■ PIN Method configuration using Wi-Fi Direct™

See *Configuration using the PIN Method of Wi-Fi Direct™* on page 7.

■ PIN Method configuration using WPS

See *Configuration using the PIN Method of WPS* on page 8.

■ Manual wireless configuration

See *Manual configuration for a Wi-Fi Direct™ network* on page 9.

NOTE

To use the Brother iPrint&Scan functionality in a Wi-Fi Direct™ network configured by *One-push configuration using Wi-Fi Direct™* or by *PIN Method configuration using Wi-Fi Direct™*, the device you use to configure Wi-Fi Direct™ must be running Android™ 4.0 or greater.

Configuring your network using Wi-Fi Direct™

The Wi-Fi Direct™ network settings are configured from the control panel of your Brother machine.

One-push configuration using Wi-Fi Direct™

If your mobile device supports Wi-Fi Direct™, follow these steps to configure a Wi-Fi Direct™ network.

NOTE

When the machine receives the Wi-Fi Direct™ request from your mobile device, the message `Wi-Fi Direct connection request received.` will be displayed. Press `OK` to connect. If this happens before you reach step ❾ in the instructions that follow, go directly to step ❾ and continue configuration.

❶ Press ![icon].

❷ Press `All Settings`.

❸ Press ⌃ or ⌄ to display `Network`.
Press `Network`.

❹ Press `Wi-Fi Direct`.

❺ Press `Push Button`.

❻ When `Wi-Fi Direct On?` is displayed, press `On` to accept.
To cancel, press `Off`.

❼ When `Activate Wi-Fi Direct on other device. Then Press [OK].` is displayed, activate Wi-Fi Direct™ on your mobile device (see your mobile device's user's guide for instructions), and then press `OK` on your Brother machine. This will start the Wi-Fi Direct™ setup.
To cancel, press ![icon].

❽ Do one of the following:

■ When your Brother machine is the G/O, connect your mobile device directly to the machine. For instructions, see your mobile device's user's guide.

■ When your Brother machine is not the G/O, it will display available device names with which to configure a Wi-Fi Direct™ network. Choose the mobile device to which you want to connect and press `OK`. Search for available devices again by pressing `Rescan`.

❾ If your mobile device connects successfully, the machine displays the message `Connected`.
You have completed the Wi-Fi Direct™ network setup. For more information on printing from or scanning to your mobile device, download the Mobile Print/Scan Guide for Brother iPrint&Scan or the AirPrint Guide from the Brother Solutions Center (http://solutions.brother.com/).
If the connection fails, see *Troubleshooting* on page 10.

2

One-push configuration using WPS

If your mobile device supports WPS or Push Button Configuration (PBC), follow these steps to configure a Wi-Fi Direct™ network.

NOTE

When the machine receives the Wi-Fi Direct™ request from your mobile device, the message `Wi-Fi Direct connection request received.` will be displayed. Press `OK` to connect. If this happens before you reach step ❿ in the instructions that follow, go directly to step ❿ and continue configuration.

1 Press .

2 Press `All Settings`.

3 Press ⌃ or ⌄ to display `Network`.
Press `Network`.

4 Press `Wi-Fi Direct`.

5 Press ⌃ or ⌄ to display `Group Owner`.

6 Press `Group Owner`, and then press `On`.

7 Press `Push Button`.

8 When `Wi-Fi Direct On?` is displayed, press `On` to accept.
To cancel, press `Off`.

9 When `Activate Wi-Fi Direct on other device. Then Press [OK].` is displayed, activate your mobile device's WPS one-push configuration method (see your mobile device's user's guide for instructions) and then press `OK` on your Brother machine. This will start the Wi-Fi Direct™ setup.
To cancel, press .

❿ If your mobile device connects successfully, the machine displays the message `Connected`.
You have completed the Wi-Fi Direct™ network setup. For more information on printing from or scanning to your mobile device, download the Mobile Print/Scan Guide for Brother iPrint&Scan or the AirPrint Guide from the Brother Solutions Center (http://solutions.brother.com/).
If the connection fails, see *Troubleshooting* on page 10.

Configuration using the PIN Method of Wi-Fi Direct™

If your mobile device supports the PIN Method of Wi-Fi Direct™, follow these steps to configure a Wi-Fi Direct™ network.

NOTE

When the machine receives the Wi-Fi Direct™ request from your mobile device, the message `Wi-Fi Direct connection request received.` will be displayed. Press `OK` to connect. If this happens before you reach step ❾ in the instructions that follow, go directly to step ❾ and continue configuration.

1. Press 🛠.

2. Press `All Settings`.

3. Press ⋀ or ⋁ to display `Network`.
   Press `Network`.

4. Press `Wi-Fi Direct`.

5. Press `PIN Code`.

6. When `Wi-Fi Direct On?` is displayed, press `On` to accept.
   To cancel, press `Off`.

7. When `Activate Wi-Fi Direct on other device. Then Press [OK].` is displayed, activate Wi-Fi Direct™ on your mobile device (see your mobile device's user's guide for instructions), and then press `OK` on your Brother machine. This will start the Wi-Fi Direct™ setup.
   To cancel, press ✖.

8. Do one of the following:

   ■ When your Brother machine is the G/O, it will wait for a connection request from your mobile device. When `PIN Code` appears, type the PIN displayed on your mobile device into the machine. Press `OK`. Follow the instructions and go to step ❿.

   If the PIN is displayed on your Brother machine, type the PIN into your mobile device.

   ■ When your Brother machine is not the G/O, it will display available device names with which to configure a Wi-Fi Direct™ network. Choose the mobile device to which you want to connect and press `OK`. Search for available devices again by pressing `Rescan`. Go to step ❾.

9. Do one of the following:

   ■ Press `Display PIN Code` to display the PIN on your machine and type the PIN into your mobile device. Follow the instructions and then go to step ❿.

   ■ Press `Input PIN Code` to type a PIN shown by your mobile device into the machine and then press `OK`. Follow the instructions and then go to step ❿.

   If your mobile device does not display a PIN, press 🏠 on your Brother machine. Go back to step ❶ and try again.

NOTE

Depending on your mobile device, you may not need to select a PIN code option. Follow the instructions on your device.

❿ If your mobile device connects successfully, the machine displays the message `Connected`.
You have completed the Wi-Fi Direct™ network setup. For more information on printing from or scanning to your mobile device, download the Mobile Print/Scan Guide for Brother iPrint&Scan or the AirPrint Guide from the Brother Solutions Center (http://solutions.brother.com/).
If the connection fails, see *Troubleshooting* on page 10.

Configuration using the PIN Method of WPS

If your mobile device supports the PIN Method of WPS, follow these steps to configure a Wi-Fi Direct™ network.

NOTE

When the machine receives the Wi-Fi Direct™ request from your mobile device, the message `Wi-Fi Direct connection request received.` will be displayed. Press `OK` to connect. If this happens before you reach step ❿ in the instructions that follow, go directly to step ❿ and continue configuration.

❶ Press ⚙.

❷ Press `All Settings`.

❸ Press ⌃ or ⌄ to display `Network`.
Press `Network`.

❹ Press `Wi-Fi Direct`.

❺ Press ⌃ or ⌄ to display `Group Owner`.

❻ Press `Group Owner`, and then press `On`.

❼ Press `PIN Code`.

❽ When `Wi-Fi Direct On?` is displayed, press `On` to accept.
To cancel, press `Off`.

❾ When `Activate Wi-Fi Direct on other device. Then Press [OK].` is displayed, activate your mobile device's WPS PIN configuration method (see your mobile device's user's guide for instructions) and then press `OK` on your Brother machine. This will start the Wi-Fi Direct™ setup.
To cancel, press ✖.

❿ The machine will wait for a connection request from your mobile device. When `PIN Code` appears, type the PIN displayed on your mobile device in to the machine.
Press `OK`.

11 If your mobile device connects successfully, the machine displays the message `Connected`.
You have completed the Wi-Fi Direct™ network setup. For more information on printing from or scanning to your mobile device, download the Mobile Print/Scan Guide for Brother iPrint&Scan or the AirPrint Guide from the Brother Solutions Center (http://solutions.brother.com/).
If the connection fails, see *Troubleshooting* on page 10.

Manual configuration for a Wi-Fi Direct™ network

If your mobile device does not support an automatic Wi-Fi Direct™ connection or WPS, you must configure a Wi-Fi Direct™ network manually.

1 Press ▯▯.

2 Press `All Settings`.

3 Press ⌃ or ⌄ to display `Network`.
Press `Network`.

4 Press `Wi-Fi Direct`.

5 Press `Manual`.

6 When `Wi-Fi Direct On?` is displayed, press `On` to accept.
To cancel, press `Off`.

7 The machine will show the SSID name and Password for two minutes. Go to the wireless network settings page of your mobile device and type the SSID name and password.

8 If your mobile device connects successfully, the machine displays the message `Connected`.
You have completed the Wi-Fi Direct™ network setup. For more information on printing from or scanning to your mobile device, download the Mobile Print/Scan Guide for Brother iPrint&Scan or the AirPrint Guide from the Brother Solutions Center (http://solutions.brother.com/).
If the connection fails, see *Troubleshooting* on page 10.

3 Troubleshooting

Overview

This section explains how to resolve typical network problems you may encounter when using the Brother machine. If, after reading this chapter, you are unable to resolve your problem, visit the Brother Solutions Center at http://solutions.brother.com/ and click **Manuals** on your model page to download other manuals.

Identifying the problem

Make sure you have checked the following:
The power cord is connected correctly and the Brother machine is turned on.
All protective packaging has been removed from the machine.
The ink cartridges are installed correctly.
The Scanner Cover and the Jam Clear Cover are fully closed.
Paper is inserted correctly in the paper tray.

Problem	See page
I see error messages when configuring the Wi-Fi Direct™ from the control panel menu.	10
I cannot complete the Wi-Fi Direct™ network setup configuration.	12
I want to make sure that my network devices are working correctly.	12

I see error messages when configuring Wi-Fi Direct™ from the control panel menu.

Error Message	Cause	Action
Connection Failed	The Brother machine and your mobile device cannot communicate during configuration.	■ Move the mobile device closer to your Brother machine. ■ Move your Brother machine and the mobile device to an obstruction-free area. ■ If you are using the PIN Method of WPS, make sure you have entered the correct PIN.
Connection Error	Other devices are trying to connect to the Wi-Fi Direct™ network at the same time.	Make sure there are no other devices trying to connect to the Wi-Fi Direct™ network and then try to configure the Wi-Fi Direct™ settings again.

I see error messages when configuring Wi-Fi Direct™ from the control panel menu. (continued)

Error Message	Cause	Action
No Device	The Brother machine cannot find your mobile device.	■ Make sure your machine and mobile device are in the Wi-Fi Direct™ mode. ■ Move the mobile device closer to your Brother machine. ■ Move your Brother machine and the mobile device to an obstruction-free area. ■ If you are manually configuring the Wi-Fi Direct™ network, make sure you have entered the correct password. ■ If your mobile device has a configuration page for how to obtain an IP address, make sure the IP address of your mobile device has been configured via DHCP.
A device is already connected. Press [OK].	Another mobile device is already connected to the Wi-Fi Direct™ network where the Brother machine is the G/O.	After the current connection between your Brother machine and another mobile device has shut down, try to configure the Wi-Fi Direct™ settings again. Confirm the connection status by printing the Network Configuration Report (see Software and Network User's Guide).

3

I cannot complete the Wi-Fi Direct™ network setup configuration.

Check	Solution
Are your security settings (SSID/password) correct?	■ Reconfirm the SSID and password. When you are configuring the network manually, the SSID and password are displayed on your Brother machine. If your mobile device supports the manual configuration, the SSID and password will be displayed on your mobile device's screen. ■ For more information on the SSID name, see *SSID* on page 13.
Are you using Android™ 4.0? Does your mobile device disconnect approximately six minutes after using Wi-Fi Direct™?	Try the one-push configuration using WPS (recommended) and set the Brother machine as a G/O.
Is your Brother machine placed too far from your mobile device?	Move your Brother machine within about 3.3 feet (1 meter) of the mobile device when you configure the Wi-Fi Direct™ network settings.
Are there any obstructions (walls or furniture, for example) between your machine and the mobile device?	Move your Brother machine to an obstruction-free area.
Is there a wireless computer, Bluetooth supported device, microwave oven or digital cordless phone near the Brother machine or the mobile device?	Move other devices away from the Brother machine or the mobile device.
If you have checked and tried all of the above, but still cannot complete the Wi-Fi Direct™ configuration, do the following.	■ Turn your Brother machine off and back on. Then try to configure the Wi-Fi Direct™ settings again. ■ If you are using your Brother machine as a client, confirm how many devices are allowed in the current Wi-Fi Direct™ network, and then check how many devices are connected.

I want to make sure that my network devices are working correctly.

Check	Solution
Are both your Brother machine and mobile device turned on?	Make sure you have confirmed all instructions in *Make sure you have checked the following:* on page 10.
Where can I find my Brother machine's network settings, such as IP address?	Print the Network Configuration Report (see Software and Network User's Guide).

4 Glossary

Wi-Fi Direct™ network terms

Group Owner (G/O)

If you set Group Owner to `On`, your Brother machine serves as an access point when you configure a Wi-Fi Direct™ network. The G/O assigns an SSID name, password and IP address for the Wi-Fi Direct™ network. The default setting is `Off`.

Device Information

Device Name

You can check the Brother machine's device name in the Wi-Fi Direct™ network environment. The device name will be shown as MFC-XXXX or DCP-XXXX (where XXXX is your model name).

SSID

This field displays the current Wi-Fi Direct™ network SSID name. The display shows up to 32 characters of the SSID name.

IP Address

This field displays the current IP address of the machine, as assigned by the G/O.

Status Information

Status

This field displays the current Wi-Fi Direct™ network status. When your machine is a G/O, it displays the message `G/O Active(**)` (where ** is the number of devices). When your machine is a client, the machine displays the message `Client Active`. If the machine displays `Off`, your machine's Wi-Fi Direct™ interface is disabled.

Signal

This field displays the current Wi-Fi Direct™ network signal strength.

Channel

This field displays the current Wi-Fi Direct™ network channel.

Speed

This field displays the current Wi-Fi Direct™ network speed.

I/F Enable

If you want to use the Wi-Fi Direct™ network connection, set `I/F Enable` to `On`.

Network terms and concepts

Network terms

■ WPA2-PSK

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

■ AES

Advanced Encryption Standard (AES) provides stronger data protection by using a symmetric-key encryption and is the Wi-Fi® authorized strong encryption standard.

■ WPA2 with AES

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

■ SSID

Each wireless network has its own unique network name that is referred to as the Service Set Identification (SSID). 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 beacons) which have the SSID information. When your wireless network device receives a beacon, you can identify and connect to nearby wireless networks.

4

brother®

**Visit us on the World Wide Web
http://www.brother.com/**

Brother
Earth