Network User's Guide

PT-E550W

This Network User's Guide provides useful information to configure wireless network and Wireless Direct settings using your Brother machine. You can also find supported protocol information and detailed troubleshooting tips.

To download the latest manual, please visit the Brother Solutions Center at (http://solutions.brother.com/). You can also download the latest drivers and utilities for your machine, read FAQs and troubleshooting tips or learn about special printing solutions from the Brother Solutions Center.

Version 0

ENG

Definitions of notes

We use the following icon throughout this guide:

IMPORTANT	This symbol indicates information or directions that should be followed. Ignoring them may result in damage, or failed operations.
NOTE	This mark indicates notes that provide information or directions that can help you better understand and use the product more efficiently.

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- Please go to the Brother Solutions Center at http://solutions.brother.com/ and click [**Manuals**] on your model page to download the other manuals.
- 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 Vista® in this document represents all editions of Windows Vista®.
- Windows® 7 in this document represents all editions of Windows® 7.
- Windows® 8 in this document represents all editions of Windows® 8.
- Windows® 8.1 in this document represents all editions of Windows® 8.1.
- Windows Server® 2008 in this document represents all editions of Windows Server® 2008 and Windows Server® 2008 R2.
- Windows Server® 2012 in this document represents all editions of Windows Server® 2012 and Windows Server® 2012 R2.
- Not all models are available in all countries.

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Section I

Wireless Direct

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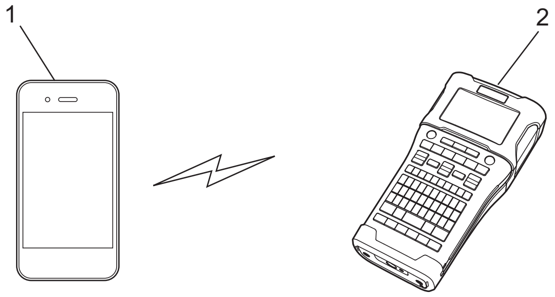
1 Introduction

Overview

Wireless Direct allows you to configure a secured wireless network between your Brother machine and a mobile device, such as an Android™ device, iPhone, iPod touch, or iPad, without using an access point.



1 Mobile device

2 Your Brother machine

NOTE

- The Wi-Fi Direct supported device serves as an access point.
- When using Wireless Direct, your Brother machine supports one-to-one wireless communication with your mobile device.
- Infrastructure mode and Wireless Direct cannot be used at the same time. Disable one function to enable the other.

Hardware requirements

Supported operating systems

Operating systems	
Android™	**iOS**
2.3 or greater	6.0 or greater

Downloading and installing Applications for Use with Mobile Devices

Brother offers various applications for use with your Brother machine, including applications that allow you to print directly from your Apple iPhone, iPad, and iPod touch or Android™ smartphone, and applications that allow you to transfer data, such as templates, symbols, and databases that were created using a computer, to your Brother machine wirelessly.

The following Brother applications can be downloaded free-of-charge from the App Store or Google Play™.

- **iPrint&Label**
- **Mobile Cable Label Tool**
- **Mobile Transfer Express**

2

Wireless Direct network configuration

You can use Wireless Direct to connect mobile devices, computers, and other devices that support Wi-Fi connections directly to your Brother machine using a wireless network connection without using a wireless router or access point.

Here will be described the configuration methods using your Brother machine's own functions. See *Communication Settings (Windows® only)* on page 21 for configurations using the Printer Setting Tool.

Configuring your network using Wireless Direct

The Wireless Direct network settings are configured from the LCD display of your Brother machine.

When connecting an Android™ device, make sure that the device is configured for Wi-Fi connections.

① Press **Menu**.

② Select "`WLAN`" using ▲ or ▼ and then press **OK** or **Enter**.

③ Select "`Network Setting`" using ▲ or ▼ and then press **OK** or **Enter**.

④ Select "`Direct Mode`" using ▲ or ▼ and then press **OK** or **Enter**.

NOTE

- If "`Off`" is selected in the "`Network Mode`" screen, "`Turning on Wi-Fi Radio`" will be displayed. Press **OK** or **Enter**.
- When your Brother machine is powered by batteries, the battery power will decrease quickly when the wireless function is used. Therefore, a confirmation message is displayed when the **WiFi** key is pressed.
- If you want to use the wireless function, press the **OK** or **Enter** key. If you connect the AC adapter while the message is displayed, the power source will switch to the AC adapter.

⑤ The current SSID is displayed on the screen. Enter the new SSID if necessary, and then press **OK** or **Enter**.

⑥ The current password is displayed on the screen. Enter the new password if necessary, and then press **OK** or **Enter**.

⑦ The screen to confirm the entered SSID and password is displayed. Press any key except **Power** to continue. 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 symbol .
You have completed the Wireless Direct network setup. The Brother iPrint&Label application allows you to print directly to your Brother machine from your Apple iPhone, iPad, and iPod touch or Android™ smartphone. The Brother iPrint&Label application can be downloaded free-of-charge from the App Store or Google Play. Simply search for "Brother iPrint&Label" in the App Store or Google Play.
If the connection fails, see *Troubleshooting* on page 35.

Section II

Wireless network

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Introduction

Network features

Your Brother machine can be shared on an IEEE 802.11b/g/n wireless network using the internal network print server. The print server supports various functions and methods of connection on a network supporting TCP/IP, depending on the operating system you are running. The following chart shows what network features and connections are supported by each operating system.

Operating Systems	**Windows®**		**Macintosh**
	Windows Vista® **Windows® 7** **Windows® 8** **Windows® 8.1**	**Windows Server® 2008/2008 R2** **Windows Server® 2012/2012 R2**	**OS X v10.7.5** **OS X v10.8.x** **OS X v10.9.x**
BRAdmin Light	✔	✔	✔
BRAdmin Professional [1]	✔	✔	
Web Based Management	✔	✔	✔
Status Monitor	✔	✔	✔
Driver Deployment Wizard	✔	✔	
Printer Setting Tool	✔	✔	

[1] BRAdmin Professional is available as a download from http://solutions.brother.com/

4 Changing your machine’s network settings

Changing your machine’s network settings (IP address, Subnet mask and Gateway)

Using the BRAdmin Light utility

The BRAdmin Light utility is designed for the initial setup of Brother network connectable devices. It can also search for Brother products in a TCP/IP environment, show the status and configure basic network settings, such as the IP address.

Installing BRAdmin Light

- Windows®

  1. Ensure your machine is turned on.
  2. Turn on your computer. Close any running applications before installing.
  3. Insert 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 [**Advanced Applications**].
  5. Click [**Network Utility**].
  6. Click [**BRAdmin Light**] and follow the on-screen instructions.

- Macintosh

  You can download the Brother BRAdmin Light by visiting the Brother Solutions Center at http://solutions.brother.com/

NOTE

- You can download the latest Brother BRAdmin Light version from http://solutions.brother.com/
- If you require more advanced printer management, use the latest Brother BRAdmin Professional utility available as a download from http://solutions.brother.com/. This utility is only available for Windows® users.
- If you are using firewall, anti-spyware, or antivirus software, temporarily disable them. Once you are sure that you can print, re-enable them.
- The node name appears in the current BRAdmin Light window. The default node name of the print server in the machine is “BRWxxxxxxxxxxxx”. (“xxxxxxxxxxxx” is based on your Brother machine’s MAC Address/ Ethernet Address.)
- The default password for Brother print servers is “`access`”.

Setting the IP address, Subnet Mask and Gateway using BRAdmin Light

① Start the BRAdmin Light utility.

- Windows®

  (Windows Vista® / Windows® 7)
  Click [**Start**] - [**All Programs**] - [**Brother**] - [**BRAdmin Light**] - [**BRAdmin Light**].

  (Windows® 8 / Windows® 8.1)
  Click [**BRAdmin Light**] icon on [**Apps**] screen.

- Macintosh

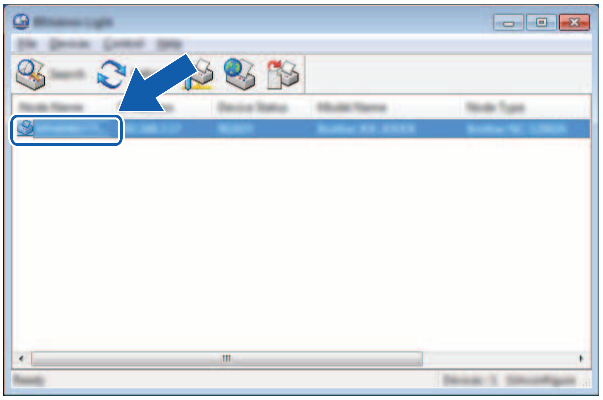
  Start the utility by double-clicking one of the following files.

  [**BRAdmin Light.jar**] installed in the desired location on the Macintosh

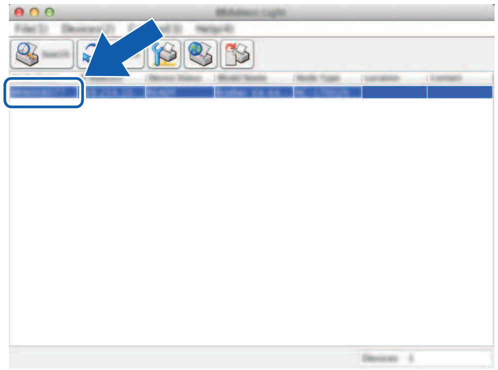
② BRAdmin Light will search for new devices automatically.

③ Double-click the unconfigured device.

Windows®



Macintosh

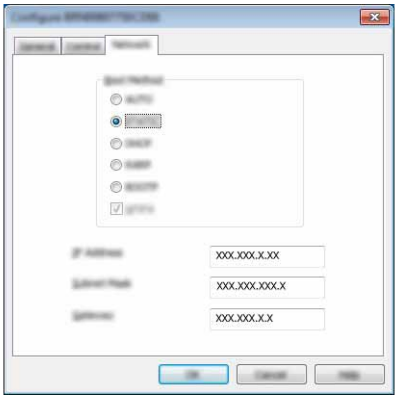


NOTE

If you don’t use a DHCP/BOOTP/RARP server, the device will appear as [**Unconfigured**] in the BRAdmin Light utility screen.

④ Choose [**STATIC**] for the [**Boot Method**]. Enter the [**IP Address**], [**Subnet Mask**] and [**Gateway**] (if needed) of your print server.

Windows®

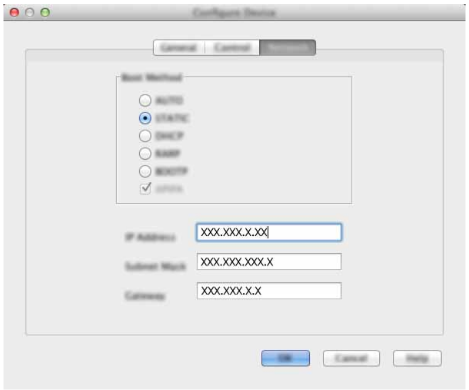


XXX.XXX.X.XX

XXX.XXX.XXX.X

XXX.XXX.X.X

Macintosh



XXX.XXX.X.XX

XXX.XXX.XXX.X

XXX.XXX.X.X

⑤ Click [**OK**].

⑥ With a correctly programmed IP address, you will see the Brother print server in the device list.

Other Management Utilities

Your Brother machine can be used with the following management utilities in addition to the BRAdmin Light utility. You can change your network settings using these utilities.

Using the Web Based Management (web browser)

A standard web browser can be used to change your print server settings using the HTTP (Hyper Text Transfer Protocol). (See *Configuring the printer settings using Web Based Management (web browser)* on page 18.)

Using the BRAdmin Professional utility (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, and show the device status from an easy to read Explorer style window that changes color to represent the status of each device. You can configure network and device settings along with the ability to update device firmware from a Windows® computer on your Local Area Network (LAN). BRAdmin Professional can also log activity of Brother devices on your network and export the log data in an HTML, CSV, TXT or SQL format.

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

NOTE

- Please use the latest version of the BRAdmin Professional utility available as a download from http://solutions.brother.com/. This utility is only available for Windows® users.
- If you are using firewall, anti-spyware, or antivirus software, temporarily disable them. Once you are sure that you can print, re-enable them.
- The node name appears in the current BRAdmin Professional window. The default node name is “BRWxxxxxxxxxxxx”. (“xxxxxxxxxxxx” is based on your Brother machine’s MAC Address/Ethernet Address.)

5 Configuring your machine for a wireless network

Overview

First, you must configure the wireless network settings of your Brother machine to communicate with your network.

The following methods are available for configuring your Brother machine.

- **Configuration using the CD-ROM installer and a USB cable**

  See below. This is the recommended method, you can quickly connect your machine to your wireless network using this method.

- **Configuration using your machine’s own functions**

  See *Using your Brother machine’s own functions* on page 14.

- **Configuration using the Communication Settings in the Printer Setting Tool**

  See *Communication Settings (Windows® only)* on page 21.

Using the CD-ROM installer

NOTE

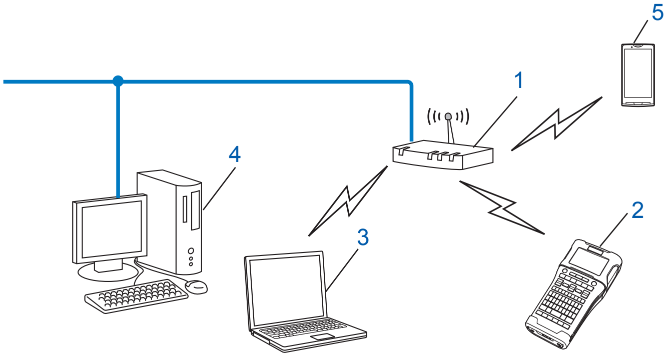
- To achieve optimum results with normal everyday document printing, use your Brother machine as close to the WLAN access point/router as possible with minimal obstructions. Large objects and walls between the two devices as well as interference from other electronic devices can affect the data transfer speed of your documents.

  Due to these factors, wireless may not be the best method of connection for all types of documents and applications. You can use USB for the fastest throughput speed.

- Before configuring wireless settings, you will need to know your SSID and Network Key.

Confirm your network environment

Connected to a computer with a WLAN access point/router in the network (Infrastructure mode)



1 **WLAN access point/router**

2 **Wireless network printer (your Brother machine)**

3 **Wireless capable computer connected to the WLAN access point/router**

4 **Wired computer (which is not wireless capable) connected to the WLAN access point/router with an Ethernet cable**

5 **Mobile device**

NOTE

Installation method

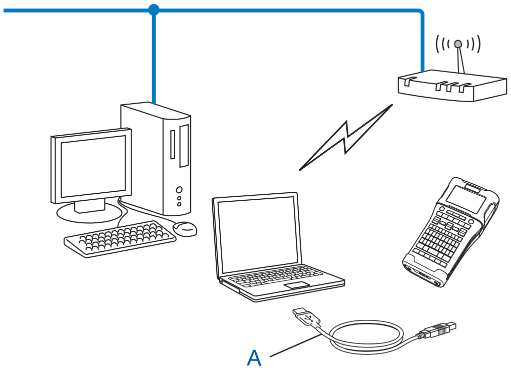
The following instructions will detail the methods for installing your Brother machine in a wireless network environment. Choose the method you prefer for your environment.

- Wireless configuration temporarily using a USB cable (Recommended for Windows® and Macintosh users)
- One push wireless configuration using WPS

Wireless configuration temporarily using a USB cable (Recommended for Windows® and Macintosh users)

It is recommended that you use a PC wirelessly connected to your network for this method.

You can remotely configure the printer from the computer on the network using a USB cable (A) [1].



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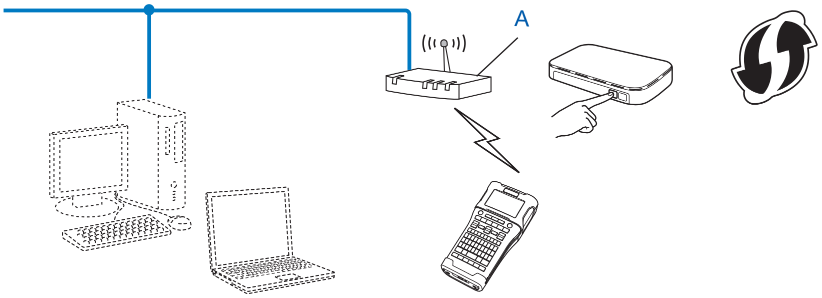
[1] You can configure the wireless settings of the printer using a USB cable temporarily connected to a wired or wireless computer.

See the installation procedure in the Quick Setup Guide.

One-push configuration using Wi-Fi Protected Setup™

You can use WPS to configure your wireless network settings easily if your WLAN access point/router (A) supports Wi-Fi Protected Setup™ (PBC [1]).



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[1] Push Button Configuration.

See the installation procedure in the Quick Setup Guide.

Using your Brother machine’s own functions

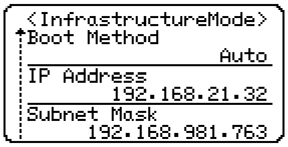
You can select the network type, configure or display the network settings, and so on, using the **Menu** key.

Selecting the Network Type

1. Press the **Menu** key, select “`WLAN`” using the ▲ or ▼ key and then press the **OK** or **Enter** key.
2. Select “`Network Mode`” using the ▲ or ▼ key and then press the **OK** or **Enter** key.
3. Select the network type to be used using the ▲ or ▼ key and then press the **OK** or **Enter** key.
   “`Off`”: Wireless network OFF
   “`Direct Mode`”: Connect using Wireless Direct
   “`Infrastructure Mode`”: Connect using WLAN
   The screen then returns to the text entry screen.
4. If some messages are displayed, press the **OK** or **Enter** for each message.

Displaying the Network Settings

1. Press the **Menu** key, select “`WLAN`” using the ▲ or ▼ key and then press the **OK** or **Enter** key.
2. Select “`Network Status`” using the ▲ or ▼ key and then press the **OK** or **Enter** key.
3. Select “`Infrastructure Mode`” using the ▲ or ▼ key and then press the **OK** or **Enter** key.
   The current Infrastructure Mode settings are displayed.



```
 <InfrastructureMode>
Boot Method
                Auto
IP Address
         192.168.21.32
Subnet Mask
        192.168.981.763
```

NOTE

When using the Direct Mode, select “`Direct Mode`”.

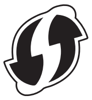
4. The screen returns to the text entry screen when you press the **OK** or **Enter** key.

Configuring the Infrastructure Mode Settings

The method of configuring the Infrastructure Mode settings is explained below.

Configuring using WPS

① First, confirm that your WLAN access point/router has the WPS symbol.



② Press the **Menu** key, select “`WLAN`” using the ▲ or ▼ key and then press the **OK** or **Enter** key.

③ Select “`Network Setting`” using the ▲ or ▼ key and then press the **OK** or **Enter** key.

④ Select “`Infrastructure Mode`” using the ▲ or ▼ key and then press the **OK** or **Enter** key.

⑤ Place your Brother machine within range of your WPS access point/router. The range may differ depending on your environment. See the instructions provided with your access point/router.

⑥ Select “`Button Push`” using the ▲ or ▼ key and then press the **OK** or **Enter** key.

⑦ One or two messages are displayed before the message “`Start WPS on Your Wireless Access Point`”. Press the **OK** or **Enter** for each message.
The message “`Start WPS on Your Wireless Access Point`” is displayed.

⑧ Press the WPS button on your WLAN access point/router and the **OK** or **Enter** key on your Brother machine.

NOTE

Press the **Esc** key to return to the previous step.

⑨ “`Connecting…`” is displayed for a while, and then “`Connected!`” is displayed.

⑩ Press the **OK** or **Enter** key.
The screen returns to the text entry screen.
Depending on the strength of the wireless signal, the wireless connection indicator will be one of the following symbols:

NOTE

- Your Brother machine will try to connect using WPS for 2 minutes. If the **WiFi** key is pressed during that time, the machine will continue trying to connect for an additional 2 minutes starting from that point.
- If your Brother machine could not connect to the network, a message indicating that the connection failed is displayed.

Configuring by entering the PIN code

① Press the **Menu** key, select "`WLAN`" using the ▲ or ▼ key and then press the **OK** or **Enter** key.

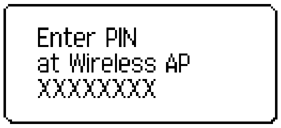
② Select "`Network Setting`" using the ▲ or ▼ key and then press the **OK** or **Enter** key.

③ Select "`Infrastructure Mode`" using the ▲ or ▼ key and then press the **OK** or **Enter** key.

④ Select "`PIN Code`" using the ▲ or ▼ key and then press the **OK** or **Enter** key.

⑤ If some messages are displayed, press the **OK** or **Enter** for each message.

⑥ Type the PIN code displayed on the screen into your access point/router and then press the **OK** or **Enter** key.



Enter PIN
at Wireless AP
XXXXXXXX

⑦ "`Connecting...`" is displayed for a while, and then "`Connected!`" is displayed.

⑧ Press the **OK** or **Enter** key.
The screen returns to the text entry screen.
Depending on the strength of the wireless signal, the wireless connection indicator will be one of the following symbols: 📶 📶 📶

Configuring using the setup wizard

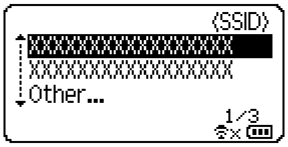
① Press the **Menu** key, select "`WLAN`" using the ▲ or ▼ key and then press the **OK** or **Enter** key.

② Select "`Network Setting`" using the ▲ or ▼ key and then press the **OK** or **Enter** key.

③ Select "`Infrastructure Mode`" using the ▲ or ▼ key and then press the **OK** or **Enter** key.

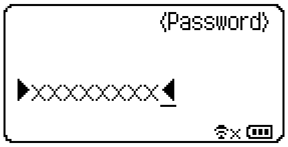
④ Select "`Setup Wizard`" using the ▲ or ▼ key and then press the **OK** or **Enter** key.

⑤ If some messages are displayed, press the **OK** or **Enter** for each message.
The SSIDs for the available networks are displayed.



<SSID>
XXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXX
Other...
1/3

⑥ Select the SSID using the ▲ or ▼ key, or select "`Other...`" and enter the SSID (from 1 to 32 characters), and then press the **OK** or **Enter** key.
The "`Password`" screen is displayed.



<Password>
XXXXXXXX

7. Enter the password (from 8 to 63 characters), and then press the **OK** or **Enter** key.
8. The screen returns to the text entry screen, and 📶 blinks while the connection is being established. After 90 seconds, the indicator will change to 📶×, but your Brother machine will continue trying to connect to the network.
9. When connected, depending on the strength of the wireless signal, the wireless connection indicator will be one of the following symbols: 📶 📶 📶

Turning the wireless function On or Off

To turn the wireless function on or off, press the **WiFi** key.
The default setting is “`Off`”.

1. Press the **WiFi** key.
2. Press the **WiFi** key again to turn the wireless function off.

NOTE

- If “`Off`” is selected in the “`Network Mode`” screen, the wireless function will remain off even if the **WiFi** key is pressed.
- When your Brother machine is powered by batteries, the battery power will decrease quickly when the wireless function is used. Therefore, a confirmation message is displayed when the **WiFi** key is pressed. If you want to use the wireless function, press the **OK** or **Enter** key. If you connect the AC adapter while the message is displayed, the power source will switch to the AC adapter.

6 Web Based Management

Overview

You can use a standard web browser to manage a machine on your network using HTTP. When using Web Based Management, the following are possible:

- Display your Brother machine status information
- Change network settings such as TCP/IP information
- Display software version information of the machine and print server
- Change network and printer configuration details

NOTE

We recommend Microsoft® Internet Explorer® 7.0 or later or Firefox® 25.0.1 or later for Windows®, Safari® 5.0.6 or later or Firefox® 26.0 or later for Macintosh.

Please make sure that JavaScript and cookies are always enabled in whichever browser you use.

In order to use Web Based Management, your network must use TCP/IP, and the machine and computer must have a valid IP address.

Configuring the printer settings using Web Based Management (web browser)

A standard web browser can be used to change your print server settings using the HTTP (Hyper Text Transfer Protocol).

1. Type `http://printer_ip_address/` into your browser. (Where `printer_ip_address` is the IP address or the print server name.)
   - For example (if the printer's IP address is 192.168.1.2.):

     `http://192.168.1.2/`

NOTE

If you have edited the hosts file on your computer or are using a Domain Name System, you can also enter the DNS name of the print server. As the print server supports TCP/IP and NetBIOS, you can also enter the NetBIOS name of the print server. The NetBIOS name can be seen on the printer settings page. The NetBIOS name assigned is the first 15 characters of the node name and by default it will appear as "BRWxxxxxxxxxxxx" where "`xxxxxxxxxxxx`" is the Ethernet address.

2. Click [**Network Configuration**].
3. Enter a user name and a password. The User Name is "`admin`" and the default Password is "`access`".
4. Click [**OK**].
5. You can now change the print server settings.

NOTE

Setting a password

We recommend setting a login password to prevent unauthorized access to the Web Based Management.

① Click [**Administrator**].

② Enter the password you want to use (up to 32 characters).

③ Re-enter the password in [**Confirm new password**] box.

④ Click [**Submit**].
The next time you access Web Based Management, enter a password in the [**Login**] box, and then click →.
After configuring the settings, logout by clicking →.

You can also set a password by clicking [**Please configure the password.**] on the machine's web page if you are not setting a login password.

Section III

Communication Settings

Communication Settings (Windows® only) 21

7 Communication Settings (Windows® only)

With [Communication settings] in the Printer Setting Tool, the printer communication information can be specified or changed when connecting your Brother machine and computer with a USB cable. Not only can you change the communication settings for one printer, but you can also easily apply the same settings to multiple printers.

NOTE

The [Printer Setting Tool] is installed at the same time as the printer driver and other software. For more information about the installation procedure, see the Quick Setup Guide.

IMPORTANT

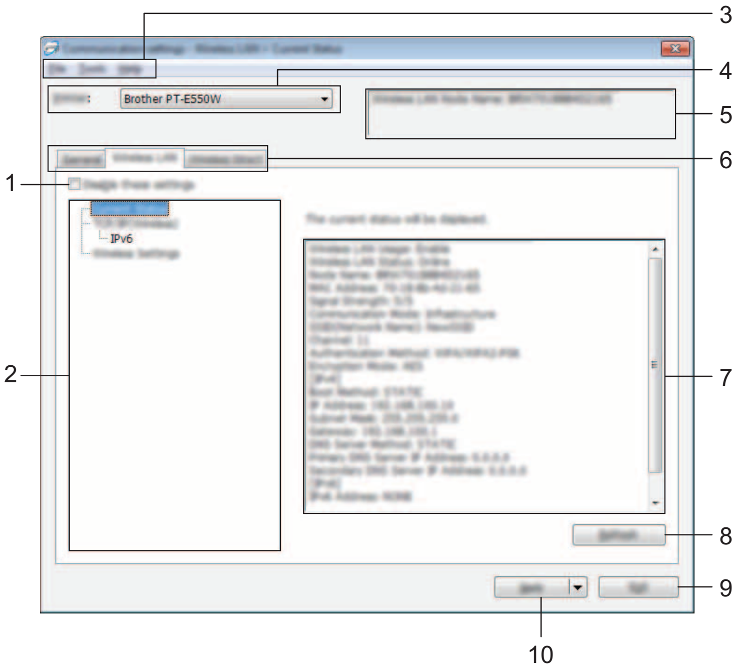
- The “Printer Setting Tool” is compatible only with your Brother machine.
- Make sure that the AC adapter is connected to an AC power outlet.
- Make sure that the printer driver has been installed and is functional.
- Connect this machine to a computer with a USB cable.
  With this tool, settings cannot be specified using a wireless LAN.

Using the Communication Settings

1. Connect your Brother machine to be configured to the computer.
2. For Windows Vista® / Windows® 7: From the Start menu, click [All Programs] - [Brother] - [Label & Mobile Printer] - [Printer Setting Tool].
   Windows® 8 / Windows® 8.1: On the [Apps] screen, click [Printer Setting Tool].

   The main window appears.
3. Select your Brother machine to be configured from the [Printer] drop-down list and then click [Communication settings]. The [Communication settings] window appears.
4. Specify or change the settings. (The following screens are from Windows®.)

Settings Dialog Box



1 Disable these settings

When this check box is selected, 🚫 appears in the tab, and the settings can no longer be specified or changed.

The settings in a tab where 🚫 appears will not be applied to the printer even if [Apply] is clicked. In addition, the settings in the tab will not be saved or exported when the [Save in Command File] or [Export] command is executed.

To apply the settings to the printer or save or export them, be sure to clear the check box.

2 Items

When [Current Status] is selected, the current settings appear in the settings display/change area.

Select the item for the settings that you want to change.

3 Menu Bar

Select a command contained in each menu from the list.

For details on the menu bar, see *Menu Bar* on page 23.

4 Printer

Selects the printer whose settings are to be changed.

If only one printer is connected, it is unnecessary to make a selection since only that printer will appear.

5 Node Name

Displays the node name. The node name can also be changed (see *Tools menu* on page 25).

6 **Settings Tabs**

Click the tab containing the settings to be specified or changed.

If 🚫 appears in the tab, the settings in that tab will not be applied to the printer.

7 **Settings Display/Change Area**

Displays the current settings for the selected item. Change the settings as necessary using the drop-down menus, direct entry or other appropriate methods.

8 **Refresh**

Click to update the displayed settings with the most recent information.

9 **Exit**

Exits [Communication settings], and returns to the main window of the [Printer Setting Tool].

IMPORTANT

Settings are not applied to printers if the [Exit] button is clicked without clicking the [Apply] button after changing settings.

10 **Apply**

Click [Apply] to apply the settings to the printer.

To save the specified settings in a command file, select [Save in Command File] from the drop-down menu.

IMPORTANT

Clicking [Apply] applies all settings in all tabs to the printer.
If the [Disable these settings] check box is selected, the settings in that tab are not applied.

Menu Bar

File menu

- **Apply Settings to the Printer**

  Applies the settings to the printer.

IMPORTANT

If the [Disable these settings] check box is selected, the settings in that tab are not saved.

- **Save Settings in Command File**

  Saves the specified settings in a command file.

  The file extension is “.bin”.

IMPORTANT

- If the [Disable these settings] check box is selected, the settings in that tab are not saved.
- The following information is not saved with the settings commands.
    - Node name.
    - IP address, subnet mask and default gateway (when the IP address is set to [STATIC]).
- The saved communication settings commands are only intended to be used for applying settings to a printer. The settings cannot be applied by importing this command file.
- Saved command files contain authentication keys and passwords.
  Take necessary measures to protect saved command files, such as by saving them in a location that cannot be accessed by other users.
- Do not send the command file to a printer whose model was not specified when the command file was exported.

- **Import**
    - Import from the current computer wireless settings.

      Imports the settings from the computer.

NOTE

- Only personal security authentication settings (open system, public key authentication and WPA/WPA2-PSK) can be imported. Enterprise security authentication (such as LEAP and EAP-FAST) and WPA2-PSK (TKIP), WPA-PSK (AES) settings cannot be imported.
- If multiple wireless LANs are enabled for the computer being used, the first wireless settings (only personal settings) that are detected will be considered for importing.
- Only settings (communication mode, SSID, authentication method, encryption mode and authentication key) from the [Wireless LAN] tab - [Wireless Settings] pane can be imported.

- Select a Profile to import.

  Imports the exported file and applies the settings to a printer.
  Click [Browse] to display a dialog box the file. Select the file to be imported. The settings in the selected file appear in the settings display/change area.

NOTE

- All settings, such as wireless settings or TCP/IP settings, can be imported. However, node names cannot be imported.
- Only profiles that are compatible with the selected printer can be imported.
- If the imported profile’s IP address is set to [STATIC], change the IP address of the imported profile, if necessary, so that it does not duplicate the IP address of an existing printer on the network whose settings have been completed.

- **Export**

  Saves the current settings in a file.

IMPORTANT

- If the [Disable these settings] check box is selected, the settings in that tab are not saved.
- Exported files are not encrypted.

Tools menu

- **Option Settings**
  - **Automatically restart the printer after applying new settings**

    If this check box is selected, the printer automatically restarts after communication settings are applied. If this check box is cleared, printers must be manually restarted.

NOTE

When configuring multiple printers, you can reduce the time required to change settings by clearing this check box. In this case, we recommend selecting this check box when configuring the first printer so that you can confirm that each setting is operating as intended.

  - **Automatically detects the connected printer, and retrieves the current settings.**

    If this check box is selected and a printer is connected to the computer, the printer is automatically detected and the printer's current settings are displayed in the [Current Status] page.

NOTE

If the model of the connected printer is different than that of the printer shown in the [Printer] drop-down list, the settings available on all tabs will change to match the connected printer.

- **Change Node Name**

  Allows each node name to be changed.

- **Reset to Default Communication Settings**

  Returns the communication settings to their factory defaults.

Help menu

- **Display Help**

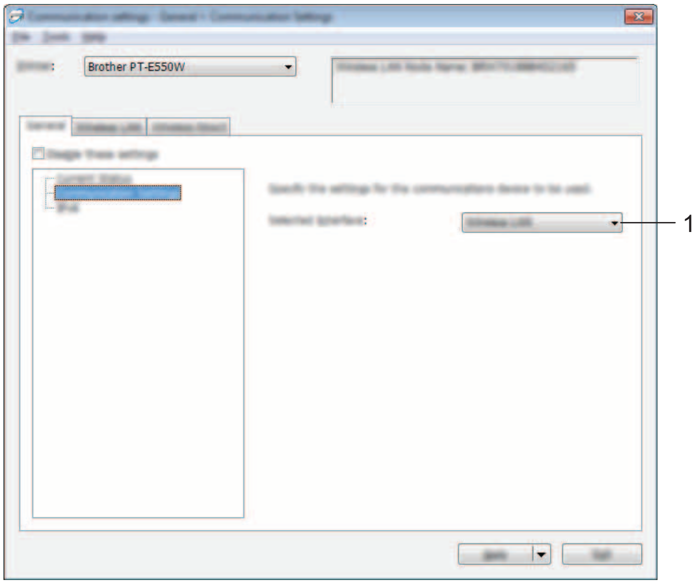
  Displays the Help.

- **About**

  Displays the version information.

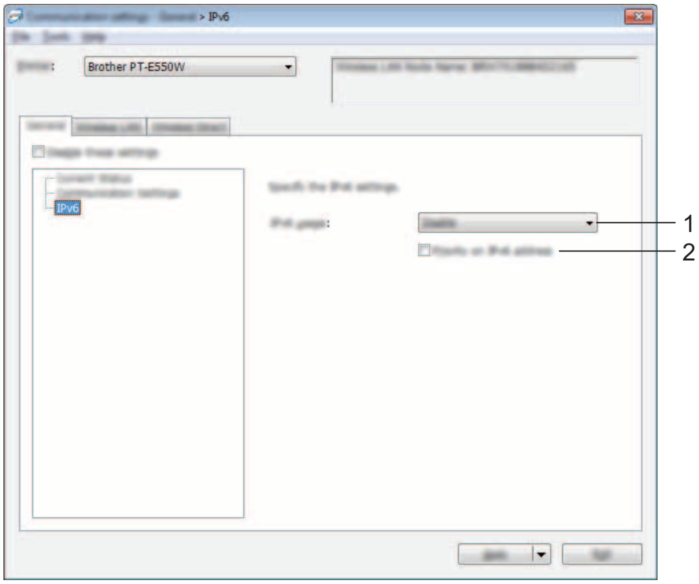
General Tab

Communication Settings


Brother PT-E550W

1 Selected Interface
Select [OFF], [Wireless LAN] or [Wireless Direct].

IPv6


> IPv6
Brother PT-E550W
IPv6
1
2

1 IPv6 Usage

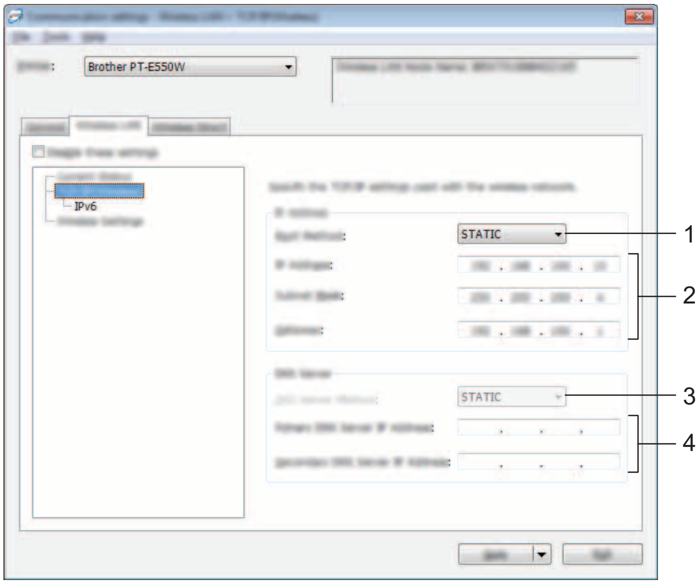
Select [Enable] or [Disable].

2 Priority on IPv6 address

Check to give priority to IPv6 addresses.

Wireless LAN Tab

TCP/IP (Wireless)



1 Boot Method

Select [STATIC], [AUTO], [BOOTP], [DHCP] or [RARP].

2 IP Address/Subnet Mask/Gateway

Specify the various values.
You can only enter settings when the IP address is set to [STATIC].

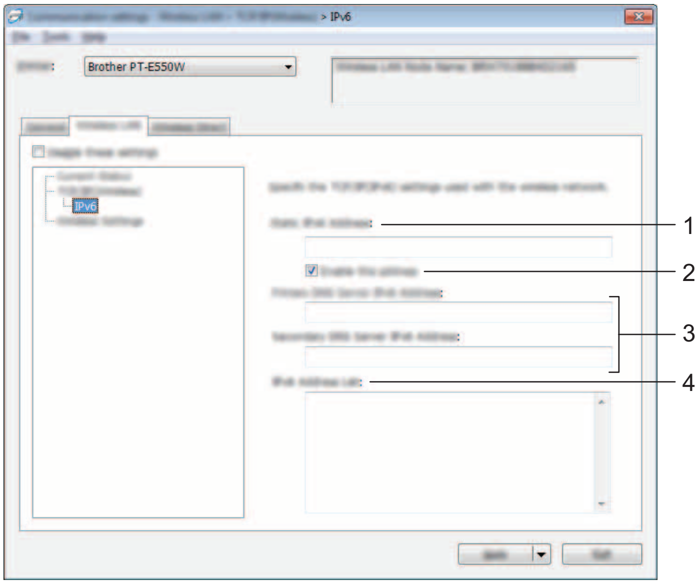
3 DNS Server Method

Select [STATIC] or [AUTO].

4 Primary DNS Server IP Address/Secondary DNS Server IP Address

You can only enter settings when the DNS server is set to [STATIC].

IPv6



1 Static IPv6 Address

Specify the value.

2 Enable this address

Check to make the specified static IPv6 address effective.

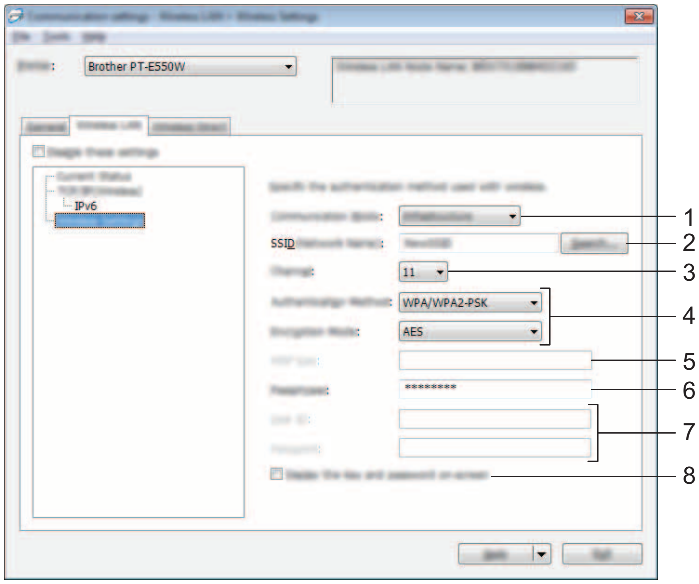
3 Primary DNS Server IPv6 Address/Secondary DNS Server IPv6 Address

Specify the values.

4 IPv6 Address List

Displays the list of IPv6 addresses.

Wireless Settings



1 Communication Mode

Select [Ad-hoc] or [Infrastructure].

2 SSID (Network Name)

Click the [Search] button to display the SSID selections in a separate dialog box.

3 Channel

Select from the displayed options.

4 Authentication Method/Encryption Mode

The supported encryption modes for the various authentication methods are as shown in *Communication Modes and Authentication Methods/Encryption Modes* on page 31.

5 WEP Key

You can only specify a setting when WEP is selected as the encryption mode.

6 Passphrase

You can only specify a setting when WPA2-PSK, or WPA/WPA2-PSK is selected as the authentication method.

7 User ID/Password

You can only specify settings when LEAP, EAP-FAST, EAP-TTLS or EAP-TLS is selected as the authentication method. In addition, with EAP-TLS, it is not necessary to register a password, but a client certificate must be registered. To register a certificate, connect to the printer from a web browser, and then specify the certificate. For details on using a web browser, see *Web Based Management* on page 18.

8 Display the key and password on-screen

If this check box is selected, keys and passwords will be displayed in plain text (non-encrypted text).

Communication Modes and Authentication Methods/Encryption Modes

- When [Communication Mode] is set to [Ad-hoc]

Authentication Method	Encryption Mode
Open System	None / WEP

- When [Communication Mode] is set to [Infrastructure]

Authentication Method	Encryption Mode
Open System	None / WEP
Shared Key	WEP
WPA2-PSK	AES
WPA/WPA2-PSK	TKIP+AES/AES
LEAP	CKIP
EAP-FAST/NONE	TKIP / AES
EAP-FAST/MS-CHAPv2	TKIP / AES
EAP-FAST/GTC	TKIP / AES
PEAP/MS-CHAPv2	TKIP / AES
PEAP/GTC	TKIP / AES
EAP-TTLS/CHAP	TKIP / AES
EAP-TTLS/MS-CHAP	TKIP / AES
EAP-TTLS/MS-CHAPv2	TKIP / AES
EAP-TTLS/PAP	TKIP / AES
EAP-TLS	TKIP / AES

IMPORTANT

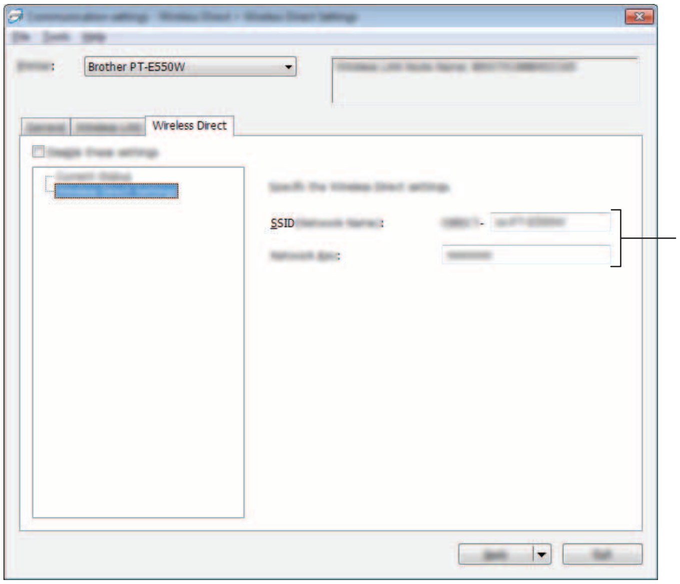
To perform higher level security settings:

When performing certificate verification with EAP-FAST, PEAP, EAP-TTLS or EAP-TLS authentication methods, the certificate cannot be specified from the [Printer Setting Tool]. After the printer has been set so that it can connect to the network, specify the certificate by accessing the printer from a web browser.

For details on using a web browser, see *Web Based Management* on page 18.

Wireless Direct Tab

Wireless Direct Settings



1 SSID (Network Name)/Network Key

Enter the SSID (25 ASCII characters or less) and the network key (63 characters or less) to be used in the Wireless Direct mode.

You can only specify a setting when [STATIC] is selected as [SSID/Network Key Generation].

Applying Setting Changes to Multiple Printers

① After applying settings to the first printer, disconnect the printer from the computer, and then connect the second printer to the computer.

② Select the newly connected printer from the [Printer] drop-down box.

NOTE

If the [Automatically detects the connected printer, and retrieves the current settings.] check box in the [Option Settings] dialog box is selected, the printer connected with the USB cable is automatically selected.

For details, see *File menu* on page 23.

③ Click the [Apply] button.
The same settings that were applied to the first printer are applied to the second printer.

NOTE

If the [Automatically restart the printer after applying new settings] check box is cleared, the printers will not be restarted after the settings are changed, reducing the time required to configure the printers.
However, we recommend selecting the [Automatically restart the printer after applying new settings] check box when configuring the first printer, so that you can confirm that a connection with the access point can be correctly established with the settings. For details, see *File menu* on page 23.

---

④ Repeat steps ❶ - ❸ for all the printers whose settings you wish to change.

IMPORTANT

If the IP address is set to [STATIC], the printer's IP address will also be changed to the same address as the first printer.
Change the IP address if necessary.

NOTE

To save the current settings in a file, click [File] - [Export].
The same settings can be applied to another printer by clicking [File] - [Import], then selecting the exported settings file. (See *File menu* on page 23.)

Appendix

Troubleshooting 35
Protocols 39
Glossary 40

8 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/

For details, go to 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 first 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 access point (for wireless), router or hub is turned on and its link light is blinking.
The rear cover is fully closed.
The tape is inserted correctly in the tape cassette compartment.

Go to the page for your solution from the lists below

Problem	**See page**
I see error messages when configuring Wi-Fi settings from the machine	35
I cannot complete the Wi-Fi settings network setup configuration	36
I want to make sure that my network devices are working correctly	38

Error messages when configuring Wi-Fi settings from the machine

Error Message	**Cause/Remedy**
`Connection Unsuccessful! Please Try Again.`	■ No available WPS access point was found. ■ Received incorrect packet data when trying to connect using WPS.
`Unsuccessful! 2 or More Devices Found.`	2 or more WPS access points were found when trying to connect using WPS.
`Another Device is Already Connected!`	Cannot establish the wireless connection in Direct Mode, because another device is already connected to your Brother machine.
`Cannot Receive the Files for Other Products!`	Cannot transfer files (templates, databases or images) which are designed for other products.
`Need at least 8 Characters!`	When the network settings were configured using the Direct Mode, the **OK** or **Enter** key was pressed even though the entered password contained less than 8 characters.
`Need at least 1 Character!`	When the Wi-Fi settings were configured, the **OK** or **Enter** key was pressed even though the entered SSID contained 0 characters.

Error messages when configuring Wi-Fi settings from the machine (continued)

Error Message	Cause/Remedy
`Incorrect Pin Code!`	When the Pin Code was configured, the **OK** or **Enter** key was pressed even though the entered PIN code contained more or less than 8 characters.
`Incorrect Password!`	When the network settings were configured using the Infrastructure Mode, the **OK** or **Enter** key was pressed even though the entered password contained less than 8 characters.

I cannot complete the Wi-Fi settings network setup configuration.

Question	Solution
Are you using security software?	■ Confirm your settings in the installer dialog box. ■ Allow access when the security software alert message appears during the printer installation.
Are your security settings (SSID/Network Key) correct?	■ Reconfirm and choose the correct security settings. • The manufacturer's name or model number of the WLAN access point/router may be used as the default security settings. • See the instructions supplied with your WLAN access point/router for information on how to find the security settings. • Ask the manufacturer of your WLAN access point/router or ask your Internet provider or network administrator. ■ For details on the SSID name, see *SSID* on page 49.
Is your Brother machine placed too far from your mobile device?	Move your Brother machine within about 1 meter of the mobile device when you configure the Wi-Fi 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, microwave oven or digital cordless phone near the Brother machine?	Move other devices away from the Brother machine.
I have checked and tried all of the above, but still cannot complete the wireless configuration. Is there anything else I can do?	Turn your Brother machine Off and back On. Then try and configure the Wi-Fi settings again.
Are you using MAC Address filtering?	Confirm that the MAC Address of your Brother machine is allowed in the filter. You can find the MAC Address in [**Communication settings**] of the Printer Setting Tool. See *Communication Settings (Windows® only)* on page 21.
Is your WLAN access point/router in stealth mode (not broadcasting the SSID?)	■ You should enter the correct SSID name during the installation or when using [**Communication settings**] in the Printer Setting Tool. ■ Check the SSID name in the instructions supplied with your WLAN access point/router and reconfigure the wireless network setup.

I cannot complete the Wi-Fi settings network setup configuration. (continued)

Question	Solution
Is your Brother machine correctly connected to the network?	Check the wireless communication indicator on the LCD display. 📶 📶 📶 : the network is correctly connected. 📶× : the network is not connected correctly, and the wireless network setup must be reconfigured. 📶D : the network is connected/disconnected in Direct mode.

Your Brother machine cannot print over the network.
Your Brother machine is not found on the network even after successful installation.

Question	Solution
Are you using security software?	See *I'm using security software.* on page 38.
Is your Brother machine assigned with an available IP address?	■ Confirm the IP address and the Subnet Mask. Verify that both the IP addresses and Subnet Masks of your computer and your Brother machine are correct and located on the same network. For more information on how to verify the IP address and the Subnet Mask, ask the network administrator. ■ (Windows®) Confirm your IP address, Subnet Mask and other network settings with [**Communication settings**] in the Printer Setting Tool. See *Communication Settings (Windows® only)* on page 21.
Did your previous printing job fail?	■ If the failed printing job is still in your computer's print queue, delete it. Double-click your machine's icon in the following folder and then choose [**Cancel All Documents**] in the [**Printer**] menu: (Windows Vista® / Windows Server® 2008) , [**Control Panel**], [**Hardware and Sound**] and then [**Printers**]. (Windows® 7 / Windows Server® 2008 R2) , [**Devices and Printers**] and select your machine from [**Printers and Faxes**]. (Windows® 8 / Windows® 8.1/ Windows Server® 2012 / Windows Server® 2012 R2) [**Apps**] screen, [**Control Panel**], [**Hardware and Sound**], [**Devices and Printers**] and select your machine from [**Printers and Faxes**].
Is your Brother machine correctly connected to the network?	Check the wireless communication indicator on the LCD display. 📶 📶 📶 : the network is correctly connected. 📶× : the network is not connected correctly, and the wireless network setup must be reconfigured. 📶D : the network is connected/disconnected in Direct mode.
I have checked and tried all the above, however my Brother machine does not print. Is there anything else I can do?	Uninstall the printer driver and the software, and then reinstall them.

I’m using security software.

Question	Solution
Did you choose to accept the security alert dialog box during the standard installation or BRAdmin Light installation or when using the printing features?	If you did not choose to accept the security alert dialog box, the firewall function of your security software may be rejecting access. Some security software might block access without showing a security alert dialog box. To allow access, see the instructions of your security software or ask the manufacturer.
What port numbers are required for the Brother network features?	The following port numbers are used for Brother network features: ■ BRAdmin Light → Port number 161/Protocol UDP For details on how to open the port, see the instructions for the security software or ask the manufacturer.

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

Question	Solution
Are your Brother machine, access point/router or network hub turned on?	Make sure you have confirmed all instructions in *Make sure you have first checked the following:* on page 35.
Where can I find my Brother machine’s network settings, such as IP address?	Check [**Communication settings**] in the [**Printer Setting Tool**]. See *Communication Settings (Windows® only)* on page 21.
Can you ping your Brother machine from your computer?	Ping your Brother machine from your computer using the IP address or the node name. ■ Successful → Your Brother machine is working correctly and connected to the same network as your computer. ■ Unsuccessful → Your Brother machine is not connected to the same network as your computer. Ask the network administrator. [**Communication settings**] in the Printer Setting Tool can be used to change the network settings. See *Communication Settings (Windows® only)* on page 21.
Is your Brother machine correctly connected to the network?	Check the wireless communication indicator on the LCD display. 📶 📶 📶 : the network is correctly connected. 📶x : the network is not connected correctly, and the wireless network setup must be reconfigured. 📶D : the network is connected/disconnected in Direct mode.

9 Protocols

Supported protocols and security features

Interface	Wireless	IEEE 802.11b/g/n (Infrastructure Mode)
		IEEE 802.11b (Ad-hoc Mode)
Network (common)	Protocol (IPv4)	ARP, RARP, BOOTP, DHCP, APIPA (Auto IP), mDNS, WINS, NetBIOS name resolution, DNS Resolver, LPR/LPD, Custom Raw Port/Port9100, FTP Server, TFTP client and server, ICMP, LLMNR responder, SNMPv1/v2c
	Protocol (IPv6)	NDP, RA, DNS Resolver, LPR/LPD, mDNS, Custom Raw Port/Port9100, FTP Server, SNMPv1, TFTP client and server, ICMP, LLMNR responder, SNMPv1/v2c
Network (Security)	Wireless	SSID (32 chr), WEP 64/128 bit, WPA2-PSK (AES), LEAP, EAP-FAST, PEAP, EAP-TLS, EAP-TTLS

10 Glossary

Protocols

The supported protocols differ depending on the model you are using.

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 the Brother printer supports the TCP/IP (Transmission Control Protocol/Internet Protocol) protocol.

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®, Windows Server®, Mac OS X and Linux®.

NOTE

- You can configure the protocol settings by using the HTTP interface (web browser). (See *Configuring the printer settings using Web Based Management (web browser)* on page 18.)
- To find what protocols your Brother printer supports, see *Supported protocols and security features* on page 39.

The following TCP/IP protocols are available on the Brother printer:

DHCP/BOOTP/RARP

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

NOTE

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

APIPA

If you do not assign an IP address manually (using the 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 169.254.0.1 to 169.254.254.254.

ARP

Address Resolution Protocol performs mapping of an IP address to a MAC Address in a TCP/IP network.

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.

NetBIOS name resolution

Network Basic Input/Output System name resolution enables you to obtain the IP address of the other device using its NetBIOS name during the network connection.

WINS

Windows® Internet Name Service is a service providing information for NetBIOS name resolution, by consolidating an IP address and a NetBIOS name that is on the local network.

LPR/LPD

Commonly used printing protocols on a TCP/IP network.

Custom Raw Port (Default is Port 9100)

Another commonly used printing protocol on a TCP/IP network. It enables interactive data transmission.

mDNS

mDNS allows the Brother print server to automatically configure itself to work on a Mac OS X Simple Network Configured system.

SNMP

The Simple Network Management Protocol (SNMP) is used to manage network devices including computers, routers and Brother network ready printers. The Brother print server supports SNMPv1 and SNMPv2.

LLMNR

The Link-Local Multicast Name Resolution protocol (LLMNR) resolves the names of neighboring computers if the network does not have a Domain Name System (DNS) server. The LLMNR Responder function works in both the IPv4 or IPv6 environment, when using an operating system that has the LLMNR Sender function such as Windows® 7, Windows® 8 and Windows® 8.1.

Configuring your Brother machine for a network

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 correctly 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 254.

- For example in a small network, you would normally change the final number:
  - `192.168.1.1`
  - `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 on your network, the print server will automatically obtain its IP address from that server.

NOTE

On smaller networks, the DHCP server may also be the router.

For more information on DHCP, BOOTP and RARP, see:
Using DHCP to configure the IP address on page 50.
Using BOOTP to configure the IP address on page 51.
Using RARP to configure the IP address on page 50.

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 169.254.0.1 to 169.254.254.254. For more information on APIPA, see *Using APIPA to configure the IP address* on page 51.

Subnet mask

Subnet masks restrict network communication.

- For example, Computer 1 can talk to Computer 2
    - Computer 1

      IP Address: 192.168.1.2

      Subnet Mask: 255.255.255.0
    - Computer 2

      IP Address: 192.168.1.3

      Subnet Mask: 255.255.255.0

The 0 in the Subnet mask signifies that there is no limit to communication at this part of the address. In the above example, this means, we can communicate with any device with an IP address that begins with 192.168.1.x. (where x is a number between 0 and 254).

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 on 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 contact your Network Administrator.

Wireless network terms and concepts

Specifying your 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 which is technically referred to as an SSID (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 with 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 wireless networks that are close enough to connect to.

- 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 running a wireless network. However, in many countries the number of available channels is restricted.

Security terms

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 machine, it will not be able to connect to the wireless network.** Therefore care must be taken when configuring these options.

Authentication and Encryption methods for a personal wireless network

A personal wireless network is a small network, for example using your machine in a wireless network at home, without IEEE 802.1x support.

If you want to use your machine in an IEEE 802.1x supported wireless network, see *Authentication and Encryption methods for an enterprise wireless network* on page 47.

Authentication 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 printer uses a WEP key as the pre-determined key.

- WPA-PSK

  Enables a Wi-Fi Protected Access Pre-shared key (WPA-PSK), which enables the Brother wireless printer to associate with access points using TKIP for WPA-PSK.

- WPA2-PSK

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

- WPA-PSK/WPA2-PSK

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

Encryption methods

- None

  No encryption method is used.

- WEP

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

- TKIP

  TKIP (Temporal Key Integrity Protocol) provides per-packet key mixing, a message integrity check and rekeying mechanism.

- AES

  Advanced Encryption Standard (AES) provides stronger data protection by using a symmetric-key encryption.

Network key

- 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, WPA2 with AES

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

Authentication and Encryption methods for an enterprise wireless network

An enterprise wireless network is a large network, for example using your machine in a business enterprise wireless network with IEEE 802.1x support. If you configure your machine in an IEEE 802.1x supported wireless network, you can use the following authentication and encryption methods:

Authentication methods

- LEAP (For wireless network)

  Cisco LEAP (Light Extensible Authentication Protocol) has been developed by Cisco Systems, Inc. which uses a user ID and password for authentication.

- EAP-FAST

  EAP-FAST (Extensible Authentication Protocol-Flexible Authentication via Secured Tunnel) has been developed by Cisco Systems, Inc. which uses a user ID and password for authentication, and symmetric key algorithms to achieve a tunnelled authentication process.

  The Brother machine supports the following inner authentication methods:

  - EAP-FAST/NONE
  - EAP-FAST/MS-CHAPv2
  - EAP-FAST/GTC

- PEAP

  PEAP (Protected Extensible Authentication Protocol) has been developed by Microsoft Corporation, Cisco Systems and RSA Security. PEAP creates an encrypted SSL (Secure Sockets Layer)/ TLS (Transport Layer Security) tunnel between a client and an authentication server, for sending a user ID and password. PEAP provides mutual authentication between the server and the client.

  The Brother machine supports the following inner authentication methods:

  - PEAP/MS-CHAPv2
  - PEAP/GTC

- EAP-TTLS

  EAP-TTLS (Extensible Authentication Protocol Tunnelled Transport Layer Security) has been developed by Funk Software and Certicom. EAP-TTLS creates a similar encrypt SSL tunnel to PEAP, between a client and an authentication server, for sending a user ID and password. EAP-TTLS provides mutual authentication between the server and the client.

  The Brother machine supports the following inner authentication methods:

  - EAP-TTLS/CHAP
  - EAP-TTLS/MS-CHAP
  - EAP-TTLS/MS-CHAPv2
  - EAP-TTLS/PAP

- EAP-TLS

  EAP-TLS (Extensible Authentication Protocol Transport Layer Security) requires digital certificate authentication both at a client and an authentication server.

Encryption methods

- TKIP

  TKIP (Temporal Key Integrity Protocol) provides a per-packet key mixing a message integrity check and rekeying mechanism.

- AES

  Advanced Encryption Standard (AES) provides stronger data protection by using a symmetric-key encryption.

- CKIP

  The original Key Integrity Protocol for LEAP by Cisco Systems, Inc.

When [Communication Mode] is set to [Infrastructure]

Authentication Method	Encryption Mode
LEAP	CKIP
EAP-FAST/NONE	TKIP
	AES
EAP-FAST/MS-CHAPv2	TKIP
	AES
EAP-FAST/GTC	TKIP
	AES
PEAP/MS-CHAPv2	TKIP
	AES
PEAP/GTC	TKIP
	AES
EAP-TTLS/CHAP	TKIP
	AES
EAP-TTLS/MS-CHAP	TKIP
	AES
EAP-TTLS/MS-CHAPv2	TKIP
	AES
EAP-TTLS/PAP	TKIP
	AES
EAP-TLS	TKIP
	AES

User ID and password

The following security methods support a user ID less than 64 characters and a password less than 32 characters in length.

- LEAP
- EAP-FAST
- PEAP
- EAP-TTLS
- EAP-TLS (For user ID)

Wireless Direct network terms

Device Information

Device Name

You can check the device name of the Brother machine in the Wireless Direct network environment. The device name will be shown as PT-xxxx (where xxxx is your model name).

SSID

This field displays the current Wireless 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.

Status Information

Signal

This field displays the current Wireless Direct network signal strength.

Channel

This field displays the current Wireless Direct network channel.

Speed

This field displays the current Wireless Direct network speed.

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

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 on your network, the print server will automatically obtain its IP address from the DHCP server and register its name with any RFC 1001 and 1002-compliant dynamic name services.

NOTE

If you do not want your print server configured via DHCP, BOOTP or RARP, you must set the Boot Method to static so that the print server has a static IP address. This will prevent the print server from trying to obtain an IP address from any of these systems. To change the Boot Method, use the BRAdmin applications, or Web Based Management via your web browser.

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 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 MAC Address (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 see your system documentation for additional information).

The Brother print server will get the IP address from the RARP daemon when the printer is powered on.

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 see your system documentation for information). BOOTP is usually started up via the `/etc/inetd.conf` file, so you may need to enable it by removing the “#” in front of the bootp entry in that file. For example, a typical bootp entry in the /etc/inetd.conf file would be:

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

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

NOTE

In order to enable BOOTP, simply use an editor to delete the “#” (if there is no “#”, then BOOTP is already enabled). Then edit the BOOTP configuration file (usually `/etc/bootptab`) and enter the name, network type (1 for Ethernet), MAC Address (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 see your system documentation to determine how to enter this information. Some examples of typical `/etc/bootptab` entries include:

```
BRN310107 1  00:80:77:31:01:07 192.168.1.2
```

and:

```
BRN310107:ht=ethernet:ha=008077310107:\ip=192.168.1.2:
```

“BRN” will be replaced with “BRW” for a wireless network.

Certain BOOTP host software implementations will not respond to BOOTP requests if you have not included a download filename in the configuration file. If this is the case, simply create a null file on the host and specify the name of this file and its path in the configuration file.

As with RARP, the print server will load its IP address from the BOOTP server when the printer is powered on.

Using 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 169.254.0.1 through to 169.254.254.254. 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 BRAdmin Light or Web Based Management (web browser).

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 use the ARP command instead. The ARP command is available on Windows® systems that have TCP/IP installed. To use ARP enter the following command at the command prompt:

```
arp -s ipaddress ethernetaddress
```

```
ping ipaddress
```

Where `ethernetaddress` is the MAC Address (Ethernet Address) of the print server and `ipaddress` is the IP address of the print server. For example:

- **Windows® systems**

  Windows® systems require the dash "-" character between each digit of the MAC Address (Ethernet Address).

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

  ```
  ping 192.168.1.2
  ```

NOTE

You must be on the same Ethernet segment (that is, without 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 Web Based Management via the web browser, or factory reset the print server (which will then allow you to use the ARP command again).

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