



## **Multi-Protocol On-board Print/Scan Server**

# **Network User's Guide**

## **NC-110h**

Please read this manual thoroughly before using the machine. You can print or view this manual from the CD-ROM at any time, please keep the CD-ROM in a convenient place for quick and easy reference at all times.

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

Version B

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Product Name: Brother Network Interface (BR-net)  
Model Number: NC-110h

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Safety: EN 60950,  
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# 1 Introduction

## Computer Network Basics

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### Overview

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The network-connected Brother machine allows multiple computers to carry out several independent print jobs on one machine.

To use the Brother machine through a network, you need to select a protocol, configure the Print/Scan server, and set up the computers you use.

### Protocols

Protocols are the standardized sets of rules for transmitting data on a network. Protocols allow the users to gain access to network-connected resources.

#### ■ TCP/IP

This is the most popular set of protocols used for communication such as Internet and E-mail. This protocol can be used in almost all operating systems such as Windows®, Macintosh® and Linux. TCP/IP is suited to a large-scale network and is widely used for company networks.

TCP/IP is also widely used as the print protocol. The Brother machine can use the TCP/IP-based protocols such as LPR and NetBIOS Name Resolution.

# Protocol Configuration Items

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## TCP/IP Configuration

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

### ■ IP Address

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

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

192.168.1.1, 192.168.1.2, 192.168.1.3

### ■ Subnet mask

Subnet masks restrict network communication, see example below -

(Example) PC1 can talk to PC2

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

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

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

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



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

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

## ■ Gateway (and Router)

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



### **Node name**

Node name appears in current BRAdmin Professional or Printer configuration page. The default Node name is "BRN\_XXXXXX" ("XXXXXX" is the last six digits of Ethernet address.)

# Network Connection

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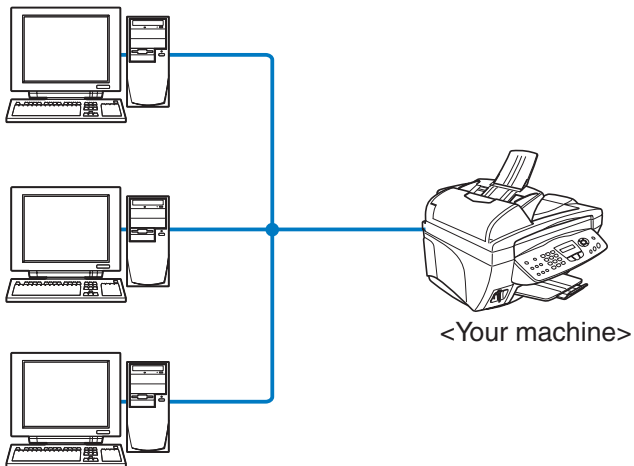
## Types of Network

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There are various ways to configure and arrange networks and network printing depending on the office environment and requirements. We recommend to use this product in a Peer to Peer environment in which each computer directly sends and receives data to and from the Brother machine.

### Peer-to-Peer Printing

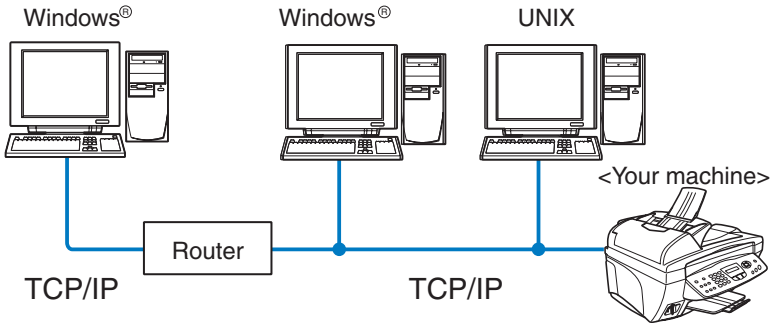
Each computer requires configuration of the printer port.



# Network Example

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## Example : Peer-to-Peer (TCP/IP)



- Each computer needs the TCP/IP and Print Protocol configured.
- The Brother machine needs to have an appropriate IP address configured.
- If a TCP/IP environment has already been established, we recommend using Peer-to-Peer.
- If routers are in use, then computers can access the Brother machine through the routers. (In this case, the Gateway address must be configured.)
- The Brother machine can also communicate with Macintosh® (TCP/IP compatible Operating Systems) devices.

# Features

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## Overview

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The Brother Network Print/Scan server allows your Brother machine to be shared on a 10/100Mbit Ethernet Network. Administration utilities provide easy configuration and management of your Brother machine. Once configured, it allows your machine to print, scan documents and PC-FAX over a network. This is supplied with Brother's Peer to Peer printing software allowing you to easily share the machine as a small workgroup printer.

### Network Printing

The Print/Scan server provides printing services for Windows® 98/Me, Windows® 2000/XP supporting the TCP/IP protocols and Macintosh® Networks supporting QuickDraw over TCP/IP. (See *chapter 5* for details)

### Network Scanning

You can scan documents over the network to your computer. (See chapter 7 of the Software User's Guide on the CD-ROM)

### Network PC-FAX

You can directly send a PC file as a PC-FAX on your Network. (See chapter 5 of the Software User's Guide on the CD-ROM for complete description)

### Network PhotoCapture Center (not available for MFC-5440CN)

You can view or retrieve data from the media card inserted into the Brother machine by double-clicking the Network PhotoCapture Center icon on the desktop of your PC. The software is automatically installed when you select network connection during the software installation.

## **Management Utilities**

The BRAdmin Professional utilities provide powerful, easy to use configuration and management of Fax and network settings.

### **Internet Fax / Scan to E-mail Server (Download only) (FAX-1940C/MFC-3340CN/MFC-5440CN/MFC-5840CN only)**

The Brother machine can be assigned an E-mail address allowing you to send, receive or forward documents over a Local Area Network or the Internet to PC's or other Internet Fax machines. In order to use this function, please download the necessary software from our web site -

The Brother Solutions Center (<http://solutions.brother.com>). Before using this function, you have to configure the necessary machine settings by using the machine's control panel. For details, please refer to the user's guide for Internet Fax on the web site listed above.

# 2 TCP/IP Configuration

## Assigning TCP/IP Information (Basic)

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### Overview

---

The TCP/IP protocol requires that each device on the network have its own unique IP address. Use the following information to learn about IP address configuration.

The Automatic Private IP Addressing (APIPA) protocol automatically assigns an IP address from the range: 169.254.1.0 to 169.254.254.255. If you want to disable the APIPA protocol, set APIPA to Off using the control panel. For more information, see page 3-9. If the APIPA protocol is disabled, the default IP address of a Brother Print/Scan server is 192.0.0.192.

However, you can easily change this IP address number to match with the IP address details of your network. This can be done in any of the following ways:

- From your machine's control panel settings.
- BRAdmin Professional utility (for Windows® 98/Me and Windows® 2000/XP).
- DHCP, APIPA, Reverse ARP (RARP) or BOOTP.
- Other SNMP based management utilities.

These configuration methods are described in the following paragraphs.



The IP address you assign to the Print/Scan server must be on the same logical network as your host computers. If it is not, you must properly configure the subnet mask and the router (gateway). (See page 1-2 for more details.)



# Using the machine's control panel to allocate an IP address

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Refer to *chapter 3* for details on how to configure the IP address information using the machine's control panel. By using the control panel on the machine, you can program the IP address details at the same time that other machine parameters are configured.

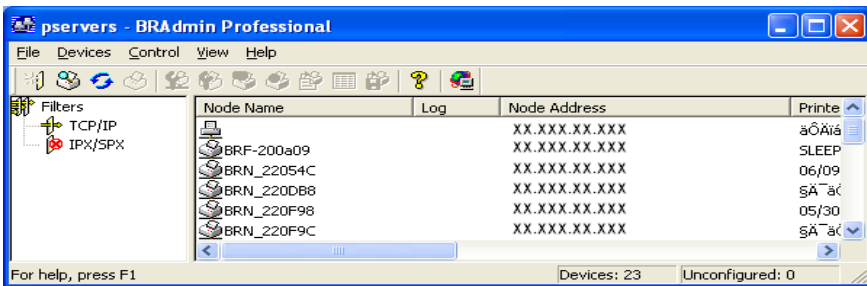
## Changing the IP Address using the BRAdmin Professional utility

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Please use the BRAdmin Professional utility version that was supplied on the CD-ROM with your Brother product. You can also download the latest Brother BRAdmin Professional utility version from <http://solutions.brother.com>. This utility is only available for Windows® users.

Start the BRAdmin Professional utility (from Windows® 98/Me and Windows® 2000/XP), by clicking **Start / Programs / Brother Administrator Utilities / Brother BRAdmin Professional Utilities / BRAdmin Professional**.



The BRAdmin Professional utility can use the TCP/IP protocols to communicate with the Brother Print/Scan server.

If you wish to use the TCP/IP protocol to manage the Print/Scan server make sure that the Print/Scan server has a valid IP address. If you are not using DHCP, BOOTP or RARP, you will want to change the IP address. This is how to change the IP address using the BRAdmin Professional utility:

- Use the TCP/IP protocol and let BRAdmin Professional utility find the Brother Print/Scan server as an unconfigured device.

## Using BRAdmin Professional utility and the TCP/IP Protocol to set the IP address

---

If your PC is using the TCP/IP protocol, do the following:

- 1 Select **TCP/IP filter** in the left frame of the main BRAdmin window.
- 2 Select the **Device** menu and choose the **Search Active Devices**.



If the Print/Scan server is set to its factory default settings without using a DHCP server, the device will appear as APIPA in the BRAdmin Professional utility screen.

- 3 Select the **Devices** menu and choose **Setup Unconfigured Devices**.
- 4 Select the MAC address of your Print/Scan server and click the **Configure** button.

You can find the node name and MAC address by printing out the machine configuration page. See page 3-11 for information on how to print the configuration page on your Print/Scan server.

- 5 Enter the **IP address**, **Subnet mask** and **Gateway** (if needed) of your Print/Scan server.
- 6 Click **OK** then select **Close**.
- 7 With the correctly programmed IP address, you will see the Brother Print/Scan server in the device list.

# Assigning TCP/IP Information Automatically (Advanced)

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## Using DHCP to Configure the IP address

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The Dynamic Host Configuration Protocol (DHCP) is one of several automated mechanisms for IP address allocation. If you have a DHCP Server in your network (typically a Unix/Linux or Windows® 2000, XP network) the Print/Scan server will automatically obtain its IP address from DHCP server and register its name with any RFC 1001 and 1002-compliant dynamic name services.



If you do not want your Print/Scan server configured via DHCP, BOOTP or RARP, you must set the BOOT METHOD to static so that the Print/Scan server has a static IP address. This will prevent the Print/Scan server from trying to obtain an IP address from any of these systems. To change the BOOT METHOD, use the machine's control panel or the BRAdmin Professional utility.

## Using APIPA to Configure the IP Address

---

With Automatic Private IP Addressing (APIPA), DHCP clients automatically configure an IP address and subnet mask when a DHCP server is not available. The device chooses its own IP address in the range 169.254.1.0 through to 169.254.254.255. The subnet mask is automatically set to 255.255.0.0 and the gateway address is set to 0.0.0.0.

By default, the APIPA protocol is enabled.



To disable APIPA, refer to page 3-9.

## Using RARP to Configure the IP Address

---

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

```
00:80:77:31:01:07    BRN_310107
```

Where the first entry is the Ethernet address of the Print/Scan server and the second entry is the name of the Print/Scan server (the name must be the same as the one you put in the `/etc/hosts` file).

If the `rarp` daemon is not already running, start it (depending on the system the command can be `rarpd`, `rarpd -a`, `in.rarpd -a` or something else; type `man rarpd` or refer to your system documentation for additional information). To verify that the `rarp` daemon is running on a Berkeley UNIX-based system, type the following command:

```
ps -ax | grep -v grep | grep rarpd
```

For AT&T UNIX-based systems, type:

```
ps -ef | grep -v grep | grep rarpd
```

The Brother Print/Scan server will get the IP address from the `rarp` daemon when the printer is powered on.

## Using BOOTP to Configure the IP Address

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BOOTP is an alternative to `rarp` that has the advantage of allowing configuration of the subnet mask and gateway. In order to use BOOTP to configure the IP address make sure that BOOTP is installed and running on your host computer (it should appear in the `/etc/services` file on your host as a real service; type `man bootpd` or refer to your system documentation for information). BOOTP is usually started up via the `/etc/inetd.conf` file, so you may need to enable it by removing the “#” in front of the `bootp` entry in that file. For example, a typical `bootp` entry in the `/etc/inetd.conf` file would be:

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

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



In order to enable BOOTP, simply use an editor to delete the “#” (if there is no “#”, then BOOTP is already enabled). Then edit the BOOTP configuration file (usually /etc/bootptab) and enter the name, network type (1 for Ethernet), Ethernet address and the IP address, subnet mask and gateway of the Print/Scan server. Unfortunately, the exact format for doing this is not standardized, so you will need to refer to your system documentation to determine how to enter this information (many UNIX systems also have template examples in the bootptab file that you can use for reference). Some examples of typical /etc/bootptab entries include:

```
BRN_310107 1 00:80:77:31:01:07 192.189.207.3
```

and:

```
BRN_310107:ht=ethernet:ha=008077310107:\  
ip=192.189.207.3:
```

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

As with rarp, the Print/Scan server will load its IP address from the BOOTP server when the machine is powered on.

# 3 Front Panel Setup

## LAN Main Setup Menu

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You can connect your machine into the network to use the Network Scanner, Network Printer and Network PhotoCapture Center.

To use all the network functions, you can set up your machine using the control panel LAN menu.



You can also set up the LAN settings using BRAdmin. (See *chapter 2* or visit at: <http://solutions.brother.com>)

The LAN menu selections allow you to setup the Brother machine for your network configuration. Press **Menu/Set**, then press the appropriate number, **5** for LAN for example. In the LAN Main Setup menu, there are two main selections: **Setup TCP/IP** and **Setup Misc**. Proceed to the menu selection you wish to configure. (See Appendix of the User's Guide for the LAN menu options.)

Please note that the machine is supplied with the BRAdmin Professional Windows® software, which can be used to configure many aspects of the network.

# Setup TCP/IP

---

This menu has nine sections: **BOOT Method**, **IP Address**, **Subnet Mask**, **Gateway**, **Host Name**, **WINS Config**, **WINS Server**, **DNS Server** and **APIPA**.

## BOOT Method

This selection controls how the machine obtains the IP address for itself. The default setting is `Auto`.

- 1 Press **Menu/Set**, **5**, **1**, **1**. (**4**, **1**, **1** for **MFC-5440CN**)
- 2 Press **▲** or **▼** to select `Auto`, `Static`, `RARP`, `BOOTP` or `DHCP`.
- 3 Press **Menu/Set**.
- 4 Press **Stop/Exit**.

## Static mode

In this mode the machine's IP address must be manually assigned. Once entered the IP address is locked to the assigned address.

## Auto mode

In this mode, the machine will scan the network for a DHCP server, if it can find one, and if the DHCP server is configured to allocate an IP address to the machine, then the IP address supplied by the DHCP server will be used. If no DHCP server is available, then the machine will scan for a BOOTP server. If a BOOTP server is available, and it is configured correctly, the machine will take its IP address from the BOOTP server. If a BOOTP server is not available, the machine will scan for a RARP server. If a RARP server also does not answer, the IP Address is scanned through APIPA facility, see page 2-1. After it is initially powered ON, it may take a few minutes for the machine to scan the network for a server.

## **RARP mode**

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

```
00:80:77:31:01:07    BRN_310107
```

Where the first entry is the Ethernet address of the Print/Scan server and the second entry is the name of the Print/Scan server (the name must be the same as the one you put in the `/etc/hosts` file).

If the `rarp` daemon is not already running, start it (depending on the system the command can be `rarpd`, `rarpd -a`, `in.rarpd -a` or something else; type `man rarpd` or refer to your system documentation for additional information). To verify that the `rarp` daemon is running on a Berkeley UNIX-based system, type the following command:

```
ps -ax | grep -v grep | grep rarpd
```

For AT&T UNIX-based systems, type:

```
ps -ef | grep -v grep | grep rarpd
```

The Brother Print/Scan server will get the IP address from the `rarp` daemon when it is powered on.



## BOOTP mode

BOOTP is an alternative to rarp that has the advantage of allowing configuration of the subnet mask and gateway. In order to use BOOTP to configure the IP address make sure that BOOTP is installed and running on your host computer (it should appear in the /etc/services file on your host as a real service; type man bootpd or refer to your system documentation for information). BOOTP is usually started up via the /etc/inetd.conf file, so you may need to enable it by removing the “#” in front of the bootp entry in that file. For example, a typical bootp entry in the /etc/inetd.conf file would be:

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



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

In order to enable BOOTP, simply use an editor to delete the “#” (if there is no “#”, then BOOTP is already enabled). Then edit the BOOTP configuration file (usually /etc/bootptab) and enter the name, network type (1 for Ethernet), Ethernet address and the IP address, subnet mask and gateway of the Print/Scan server. Unfortunately, the exact format for doing this is not standardized, so you will need to refer to your system documentation to determine how to enter this information (many UNIX systems also have template examples in the bootptab file that you can use for reference). Some examples of typical /etc/bootptab entries include:

```
BRN_310107 1 00:80:77:31:01:07 192.189.207.3
```

and:

```
BRN_310107:ht=ethernet:ha=008077310107:\  
ip=192.189.207.3:
```

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

As with rarp, the Print/Scan server will load its IP address from the BOOTP server when the printer is powered on.

## DHCP mode

Dynamic Host Configuration Protocol (DHCP) is one of several automated mechanisms for IP address allocation. If you have DHCP server in your network (typically a Unix, Windows® 2000/XP network) the Print/Scan server will automatically obtains its IP address from DHCP server and register its name with any RFC 1001 and 1002-compliant dynamic name services.



If you do not want your Print/Scan server configured via DHCP, BOOTP or RARP, you must set the Boot Method to Static, this will prevent the Print/Scan server from trying to obtain an IP address from any of these systems. To change the Boot Method, you can use the front panel or the BRAdmin application.

## IP Address

This field displays the current IP address of the machine. If you have selected a BOOT Method of Static, enter the IP address that you wish to assign to the machine (check with your network manager for the IP address to use). If you have selected a method other than Static, the machine will attempt to determine its IP address using the DHCP or BOOTP protocols. The default IP address of your machine will probably be incompatible with the IP address numbering scheme of your network. We recommend that you contact your network manager for an IP address for the network the unit will be connected on.

- 1 Press **Menu/Set**, **5**, **1**, **2**. (**4**, **1**, **2** for **MFC-5440CN**)
- 2 Select **1** to change. Enter the IP address.
- 3 Press **Menu/Set**.
- 4 Press **Stop/Exit**.



When the Boot Method is set to “Auto”, the machine cannot receive an IP address from a BOOTP server in Windows® 2000. So please ensure that you use DHCP for Windows® 2000 server.

## Subnet Mask

This field displays the current subnet mask used by the machine. If you are not using DHCP or BOOTP to obtain the subnet mask, enter the desired subnet mask. Check with your network manager for the subnet mask to use.

- 1 Press **Menu/Set**, **5**, **1**, **3**. (**4**, **1**, **3** for **MFC-5440CN**)
- 2 Select **1** to change. Enter the Subnet Mask address.
- 3 Press **Menu/Set**.
- 4 Press **Stop/Exit**.

## Gateway

This field displays the current gateway or router address used by the machine. If you are not using DHCP or BOOTP to obtain the gateway or router address, enter the address you wish to assign. If you do not have a gateway or router, leave this field blank. Check with your network manager if you are unsure.

- 1 Press **Menu/Set**, **5**, **1**, **4**. (**4**, **1**, **4** for **MFC-5440CN**)
- 2 Select **1** to change. Enter the Gateway address.
- 3 Press **Menu/Set**.
- 4 Press **Stop/Exit**.

## Host Name

You can register the machine name on the Network. This name is often referred to as a NetBIOS name; it will be the name that is registered by the WINS server on your network. Brother recommends the name BRN\_XXXXXX (where XXXXXX is the last six digits of the Ethernet address) (up to 15 characters).

- 1 Press **Menu/Set**, **5**, **1**, **5**. (**4**, **1**, **5** for **MFC-5440CN**)
- 2 Select **1** to change. Enter the Host Name.
- 3 Press **Menu/Set**.
- 4 Press **Stop/Exit**.

## WINS Config

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

- 1 Press **Menu/Set**, **5**, **1**, **6**. (**4**, **1**, **6** for **MFC-5440CN**)
- 2 Press **▲** or **▼** to select *Auto* or *Static*.
- 3 Press **Menu/Set**.
- 4 Press **Stop/Exit**.

### **Auto**

Automatically uses a DHCP request to determine the IP addresses for the primary and secondary WINS servers. You must set the BOOT Method to Auto for this feature to work.

### **Static**

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

## WINS Server

- 1 Press **Menu/Set**, **5**, **1**, **7**. (**4**, **1**, **7** for **MFC-5440CN**)
- 2 Press **▲** or **▼** to select **Primary** or **Secondary**.
- 3 Press **Menu/Set**.
- 4 Enter the WINS Server address.
- 5 Press **Menu/Set**.
- 6 Press **Stop/Exit**.

### Primary WINS Server IP Address

This field specifies the IP address of the primary WINS (Windows® Internet Naming Service) server. If set to a non-zero value, the machine will contact this server to register its name with the Windows® Internet Name Service.

### Secondary WINS Server IP Address

This field specifies the IP address of the secondary WINS server. It is used as a backup to the Primary WINS server address. If the Primary server is unavailable, the machine still can register itself with a secondary server. If set to a non-zero value, the machine will contact this server to register its name with the Windows® Internet Name Service. If you have a primary WINS server, but no secondary WINS server, simply leave this field blank.

## DNS Server

- 1 Press **Menu/Set**, **5**, **1**, **8**. (**4**, **1**, **8** for **MFC-5440CN**)
- 2 Press **▲** or **▼** to select **Primary** or **Secondary**.
- 3 Press **Menu/Set**.
- 4 Enter the DNS Server address.
- 5 Press **Menu/Set**.
- 6 Press **Stop/Exit**.

### Primary DNS Server IP Address

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

### Secondary DNS Server IP Address

This field specifies the IP address of the secondary DNS server. It is used as a backup to the Primary DNS server address. If the Primary server is unavailable, the machine will contact the Secondary DNS server.

## APIPA

The setting of On will cause the print server to automatically allocate a Link-Local IP address in the range (169.254.1.0 - 169.254.254.255) when the Print/Scan server cannot obtain an IP address through the BOOT Method you have set (Menu, 5, 1, 1). Selecting Off means the IP address doesn't change, when the Print/Scan server cannot obtain an IP address through the BOOT Method you have set.

- 1 Press **Menu**, **5**, **1**, **9**. (**4**, **1**, **9** for **MFC-5440CN**)
- 2 Press **▲** or **▼** to select **On** or **Off**.
- 3 Press **Menu/Set**.
- 4 Press **Stop/Exit**.

## Setup Misc.

---

### Ethernet

Ethernet link mode. Auto allows the print server to operate in 100BaseTX full or half duplex, or in 10BaseT full or half duplex mode by auto negotiation.

100BaseTX Full Duplex (100B-FD) or Half Duplex (100B-HD) and 10BaseT Full Duplex (10B-FD) or Half Duplex (10B-HD) fix the print server link mode. This change is valid after the print server has been reset (default is `Auto`).



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

- 1 Press **Menu/Set**, **5**, **2**, **1**. (**4**, **2**, **1** for **MFC-5440CN**)
- 2 Press **▲** or **▼** to select `Auto/100B-FD/100B-HD/10B-FD/10B-HD`.
- 3 Press **Menu/Set**.
- 4 Press **Stop/Exit**.

## Time Zone

This field displays the time zone you can set for your country. The time is the difference between your location and Greenwich Mean Time. This time will be shown on documents received via the Internet. For example the Time Zone for Eastern Time in the USA and Canada is GMT-05:00.

- 1 Press **Menu/Set**, **5**, **2**, **2**. (**4**, **2**, **2** for **MFC-5440CN**)
- 2 Press **▲** or **▼** to enter the time.
- 3 Press **Menu/Set**.
- 4 Press **Stop/Exit**.

### Windows® Time Zone Setting

You can determine the time difference for your location by using the Time Zone setting in Windows®.

- 1 Click on **Start**.
- 2 Select **Settings / Control Panel**.
- 3 Double click on **Date/Time**.
- 4 Select **Time Zone**.

Verify your time zone setting from the pull-down menu (this menu displays the time difference from GMT).

## Network Configuration List

---

This feature prints a report listing all the current network Print/Scan server Settings.

- 1 Press **Menu/Set**, **6**, **6**. (**5**, **6** for **MFC-5440CN**)
- 2 Press **Black Start** or **Color Start**.
- 3 Press **Stop/Exit**.



## **Restoring the Network Settings to Factory Default**

---

To restore all network settings of the internal Print/Scan server to factory default, please follow the steps below.

- 1** Make sure the machine is not operating, then disconnect all the cables from the machine (except power cable).
- 2** Press **Menu/Set, 5, 0.** (**4, 0** for **MFC-5440CN**)
- 3** Press **1** to select `Reset`.
- 4** Press **1** to select `Yes`.
- 5** The machine will re-start, re-connect cables once this is complete.

# 4 Network Printing from Windows® (Peer to Peer)

## For Windows® 2000/XP, LAN Server and Warp Server users

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### Overview

---

Windows® 2000/XP users are able to send print jobs directly to the printer without installing any additional software. Brother's print server also supports transparent printing from IBM LAN Server and OS/2 Warp Server file servers, as well as from OS/2 Warp Connect workstations using the TCP/IP protocol.

### Quick Tips:

- 1 The Automatic Private IP Addressing (APIPA) protocol automatically assigns an IP address from the range: 169.254.1.0 to 169.254.254.255. If you want to disable the APIPA protocol, set APIPA to Off using control panel. For more information, see page 3-9. If the APIPA protocol is disabled, the default IP address of a Brother Print/Scan server is 192.0.0.192. To change it, use the machine's control panel, the BRAdmin Professional utility software or let your DHCP server allocate an IP address to the printer.
- 2 The default password for Brother Print/Scan server is `access`.
- 3 Windows® 2000/XP users can print using TCP/IP with the standard Network Printing software.
- 4 The default name for a Brother Print/Scan server is usually `BRN_XXXXXX` (where `XXXXXX` is the last six digits of the Ethernet address of the Print/Scan server).

# Windows® 2000/XP (TCP/IP) Configuration

---

The default configuration of Windows® 2000/XP automatically installs the TCP/IP protocol. Refer to the appropriate section in this chapter for more information.

## Windows® 2000/XP Printing (Printer Driver not yet installed)

---

By default, Windows® 2000/XP systems install with all the necessary software required for you to be able to print. This chapter describes the most commonly used configurations, Standard TCP/IP Port printing. If you have already installed the printer driver, jump to the **printer driver already installed** section.

### Standard TCP/IP Port Printing



There may be differences on Windows® XP in some steps.

- 1 From the **Printers** folder select **Add Printer**. The **Add Printer Wizard** will now start. Click on **Next**.
- 2 Now select the **Local Printer** option and deselect the **Automatically detect and install my Plug and Play printer** option.
- 3 Click on **Next**.
- 4 You must now select the correct Network printing port. Select **Create a new port** and select **Standard TCP/IP Port** port from the pull-down window.
- 5 When you have done that click **Next**.
- 6 The **Add Standard TCP/IP Port Wizard** will now appear. Click the **Next** button.
- 7 Enter the IP address, or name of the printer you wish to configure. The Wizard will automatically enter the Port name information for you.
- 8 Click the **Next** button.

- 9 Windows® 2000/XP will now contact the printer that you specified. If you did not specify the correct IP address or name then you will receive an error message.
- 10 Click the **Finish** button to complete the Wizard.
- 11 Now that you have configured the port, you must specify which printer driver you wish to use. Select the appropriate driver from the list of supported printers. If you are using a driver supplied with the machine on CD-ROM then select the **Have Disk** option to browse to the CD-ROM.
- 12 Select the “X:\ENG\W2K\Addprt” folder (where X is your drive letter). Click on **Open**, then **OK**. Select your printer model, then click **Next** (example is for Windows® 2000).
- 13 When the driver is installed, click the **Next** button.
- 14 Specify a name and click the **Next** button.
- 15 Now specify if you wish to share the printer, enter the share name and click **Next**.
- 16 Continue through the Wizard clicking the **Finish** button when complete.

## Windows® 2000/XP Printing (Printer Driver already installed)

---

If you have already installed the printer driver and wish to configure it for network printing, follow these steps:

- 1 Select the printer driver you wish to configure.
- 2 Select **File** and then choose **Properties**.
- 3 Click the **Ports** tab of the driver and click **Add Port**.
- 4 Select the port that you wish to use. Typically this would be **Standard TCP/IP Port**. Then click the **New Port...** button.
- 5 The **standard TCP/IP Port Wizard** will start. Follow steps 6 to 10 of the “Standard TCP/IP Port Printing” section starting on the previous page.

# For Windows® 98/Me users

---

## Overview

---

Microsoft's Windows® 98/Me operating systems feature built-in networking capabilities. These capabilities allow a Windows® PC to be configured as a client workstation in a file server based network environment.

For smaller networks, Windows® 98/Me also allows the PC to operate in a peer-to-peer mode. In this mode, the PC can share resources with other PCs on the network without the need for a central file server.

### Quick Tips:

- 1 The Automatic Private IP Addressing (APIPA) protocol automatically assigns an IP address from the range: 169.254.1.0 to 169.254.254.255. If you want to disable the APIPA protocol, set APIPA to Off using control panel. For more information, see page 3-9. If the APIPA protocol is disabled, the default IP address of a Brother Print/Scan server is 192.0.0.192. To change it, use the machine's control panel, the BRAdmin Professional utility software or let your DHCP server allocate an IP address to the printer.
- 2 Refer to *chapter 2* of this user guide to learn how to configure the IP address on your machine.
- 3 The default password for Brother Print/Scan server is `access`.

### Driver Deployment Wizard

This installer includes the Windows driver and Brother network port driver (LPR).

If the administrator installs the printer driver and port driver using this software, they can save an executable file to the File server or send the file in an E-mail to other users. By simply running the attached executable file the user automatically installs and configures the printer driver, port driver and IP address to their PC.

## TCP/IP Printing

---

Brother's Peer to Peer printing software requires the TCP/IP protocol to be installed on your Windows® peer-to-peer computers and an IP Address has to be defined for the Print/Scan server. Refer to your Windows® documentation for more information on how to configure the TCP/IP protocol on your Windows® PC.

If you haven't already done so, configure the IP address of the machine, for more information on IP address configuration, refer to *chapter 2* of this user guide.

## Installing the Brother Peer to Peer Software

---



If you already installed the driver from the printer's CD-ROM Installer and you selected "Brother Peer-to-Peer Network Printer" during the installation then you do not need to install the Brother Network Print Software again.

- 1 Start the CD-ROM installation menu program according to the Quick Setup Guide.
- 2 Select the proper model and then the **Software Installation** menu. Then select the appropriate menu to start the **Brother Network Print Software** installation program.
- 3 Push the **Next** button in response to the Welcome message.
- 4 Select the **Brother Peer to Peer Print (LPR)** button.
- 5 Select the desired directory to install the **Brother Peer to Peer Print (LPR)** files and push **Next**. The installation program will create the directory for you if it does not already exist on your disk.
- 6 Enter the **Port name** that you wish to use and click **OK**. The default port name is BLP1. Whichever name you choose, it must be unique and it **MUST** begin with BLP.

- 7 You must now enter the actual IP address of the Print/Scan server in the **Printer name or IP address** field. If you have edited the hosts file on your computer or are using Domain Name System, you can also enter the name of the print server. As the Print/Scan server supports TCP/IP and NetBIOS names, you can also enter the NetBIOS name of the Print/Scan server. The NetBIOS name can be seen in your printer configuration page. By default the NetBIOS name will usually appear as BRN\_XXXXXXX where XXXXXXX is the last six digits of the Ethernet address.



Windows® 98/Me store the hosts file in the default Windows® directory. By default, the Windows® hosts file is called `hosts.sam`. If you wish to use the hosts file you must rename the file to `hosts` with no extension. The `.sam` extension stands for sample.

- 8 Click the **OK** button. When prompted you must re-boot your computer.

## Associating to the printer

---

You must now create a printer on your Windows® system using the standard Windows® printer setup procedure.

- 1 To do this, go the **Start** button, select **Settings** and then **Printers**.
- 2 Select **Add Printer** to begin the printer installation.
- 3 Click **Next** when you get the **Add Printer Wizard** window.
- 4 Select **Local Printer** when you are asked how the printers are connected to your computer, and then push **Next**.
- 5 Select the correct driver. Click **Next** when you are done.
- 6 If you have selected a printer driver that is already being used, you have the option of either keeping the existing driver (recommended) or replacing it. Select the desired option and press **Next**.

- 7 Select the Brother LPR port (the port name you assigned in step 6 of the “Installing the Brother Peer to Peer Software” on page 4-5) and press **Next**.
- 8 Enter any desired name for the Brother printer and press **Next**. For example, you could call the printer “Networked Brother Printer”.
- 9 Windows® will now ask you if you wish to print out a test page, select **Yes** and then select **Finish**.

You have now finished installing the Peer to Peer Print (LPR) software.

## **Adding a Second Brother LPR Port**

---

You do not re-run the install program to add a new Brother LPR port. Instead, press the **Start** button, select **Settings**, and open the **Printers** window. Click on the icon of the printer that you wish to configure, select **File** from the menu bar, and then choose **Properties**. Click on the **Details** tab and push the **Add Port** button. In the **Add Port** dialog, select the **Other** radio button and then highlight **Brother LPR port**. Click **OK** and enter the port name. The default port name is BLP1. If you have already used this name, you will get an error message if you try to use it again, in which case use BLP2, etc... Once you have specified the port name, click the **OK** button. You will then see the **Port Properties** dialog.

Enter the IP address of the printer that you wish to print to and click **OK**. You should now see the port that you have just created in the **Print to the following port** setting of the printer driver.

## **Other Sources of Information**

---

Refer to *chapter 2* of this user guide to learn how to configure the IP address of the machine.



# 5 Network Printing from Macintosh®

## TCP/IP Printing for Macintosh®

---

This chapter explains how to print from Macintosh® on a Network. For more information on how to configure the default Quick Draw driver on a Network, see the Quick Setup Guide included with the machine.

### **Printing from a Macintosh® using the Simple Network Configuration capabilities (Mac OS® X 10.2.4 or greater)**

---

The Simple Network Configuration capabilities let you create an instant network of computers and smart devices just by connecting them to each other.

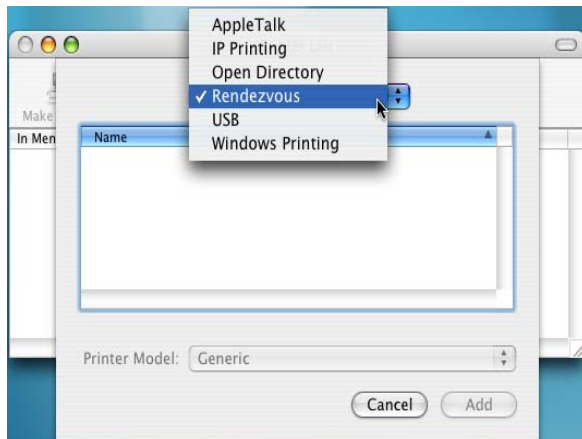
The Simple Network Configuration capabilities on a Macintosh® running OS® X allow your machine to automatically configure its IP address settings.

Refer to the information below if you wish to learn how to configure a Brother machine into a Mac OS® X Simple Network Configuration environment. Please note that you must use the version Mac OS® X 10.2.4 or greater.

- 1 Run the **Print Center** software and click **Add**.



- 2 Select Rendezvous (may be changed in the future version of the Mac OS® X) and any Simple Network Configuration compatible machines will be displayed.



3 Select the machine and click the **Add** button.



4 Click the machine and click the **Make Default** button to set the printer as the default printer. The machine is now ready to print.



# 6 Troubleshooting

## Overview

---

This chapter describes procedures for troubleshooting problems you may encounter with a Brother Print/Scan server, it is divided into the following sections:

- 1 Installation Problems
- 2 Intermittent Problems
- 3 Protocol-Specific Troubleshooting

## Installation problems

---

If you cannot print over the network, check the following:

- 1 Make sure that the machine is powered on, is on-line and ready to print.

Verify that the machine and the configuration are correct by printing the Network configuration page. Refer to page 3-11 of this user's guide. If the test fails, check:

- a If the LCD does not display "LAN Active" after being connected to the network, then the network firmware settings may be corrupted. Please refer to Step 3.
- b In this event, try to restore the factory default settings of the Print/Scan server from the menu. (See *Restoring the Network Settings to Factory Default*, page 3-12.) Once you have done that, switch the machine off then on again, then try to print out the Network configuration page. (See *Network Configuration List*, page 3-11.)

- 2 If the configuration page prints but you cannot print documents, try the following



If none of the following steps are successful, there is almost certainly a hardware or network problem!

**a If you are using TCP/IP:**

Try pinging the Print/Scan server from the host operating system command prompt with the command:

```
ping ipaddress
```

Where `ipaddress` is the Print/Scan server IP address (note that in some instances it can take up to two minutes for the Print/Scan server to load its IP address after setting the IP address). If a successful response is received, then proceed to the Windows®98/Me Peer to Peer (LPR) or Internet Printing troubleshooting section. Otherwise, proceed to step 3, and then go to TCP/IP Troubleshooting section.

**b If you are running Macintosh:**

If you are using the Quick Draw driver make sure that you can see the Print/Scan server name under the Brother Ink (IP) icon in the Chooser. If it is visible, then the connection is good, so proceed to the Macintosh Section. Otherwise, go to step 3. If you use the TCP/IP, please visit the Brother Solutions Center web site on: <http://solutions.brother.com>

- 3 If you cannot make any of the connections in step 2, check the following:

**a** Make sure the machine is powered on and on-line.

**b** Check the cabling, network connection, and print out a configuration page in the Network STATISTICS information to see if bytes are being transmitted and received.

- 4 If you are using a repeater or hub, make sure that SQE (heartbeat) is turned off at the hub (if applicable). Also, if you have a hub or multi-port repeater, verify that the hub or repeater port is good by trying the Print/Scan server on a different port or on the other hub or multi-port repeater.

- 5 If you have a bridge or router located between the Print/Scan server and host computer, make sure that the device is set up to allow the Print/Scan server to send and receive data from the host. For example, a bridge can be set up to only allow certain types of Ethernet addresses to pass through (a process known as filtering); therefore, such a bridge must be configured to allow Brother Print/Scan server addresses. Likewise, a router can be set up to pass only certain protocols, so be sure that the desired protocol can be passed through to the Print/Scan server.

## Intermittent Problems

---

If the Print/Scan server and machine start up OK, but you intermittently have problems printing, check the following:

- 1 If you can print small jobs but large graphics jobs are distorted or incomplete, make sure that you have adequate memory in your machine and the latest printer driver installed on your computer. The latest Brother printer drivers can be downloaded from <http://solutions.brother.com>
- 2 Check the individual protocol troubleshooting sections in this chapter for additional causes of intermittent printer problems.

## TCP/IP Troubleshooting

---

If you are using TCP/IP and cannot print to the Print/Scan server and you have checked the hardware and network as described in the previous steps, then check the following:



It is always a good idea to try the following in order to eliminate the possibility of setup errors.

Turning off the machine and then on again.  
To eliminate the possibility of setup errors, delete and recreate the print server, then create a new print queue.

- 1 The problem may be the result of mismatched or duplicate IP addresses. Verify that the IP address is correctly loaded into the Print/Scan server (via the configuration page. Make sure that no other nodes on the network have this address (DUPLICATE IP ADDRESSES ARE THE BIGGEST CAUSE OF TCP/IP PRINTING PROBLEMS).
- 2 Make sure that the TCP/IP protocol of the Print/Scan server is enabled.
- 3 If you used rarp, make sure that you started the rarp daemon on any workstation using the rarpd, rarpd-a, or equivalent command. Verify that the `/etc/ethers` file contains the correct Ethernet address and that the Print/Scan server name matches the name in the `/etc/hosts` file.
- 4 If you used bootp, make sure that you started the bootp daemon on any UNIX workstation and bootp is enabled (i.e., the “#” is removed from the bootp entry) in the `/etc/bootptab` file is correctly configured.
- 5 Also verify that host computer and the Print/Scan server are either on the same subnet, otherwise that the router is properly configured to pass data between the two devices.

## Windows® 98/Me Peer to Peer Print (LPR) Troubleshooting

---

If you are having trouble printing on a Windows® 98/Me Peer-to-Peer network (LPR method), check the following:

- 1 Make sure that the Brother LPR Port driver is correctly installed and configured according to the “TCP/IP Printing” on page 4-5.
- 2 Try to turn the **Byte Count** on in the **Configure port** area of printer driver properties.

You may find that during the installation of BLP software, the screen that prompts you for a Port name is not displayed. This may happen on some Windows® 98/Me computers. Press the ALT and TAB keys to make it appear.

# 7

# Brother Internet Fax Printing Software (FAX-1940C/MFC-3340CN/ MFC-5440CN/MFC-5840CN only)

## Overview

---

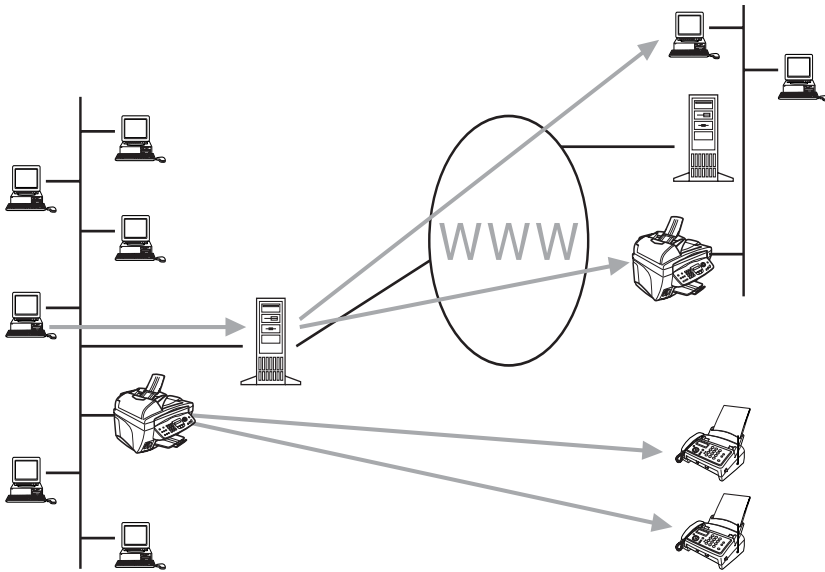
Depending on your network configuration and application requirements for sending faxes via a network, you can choose between Brother Network PC FAX Software or Brother Internet Fax Printing Software. With either software, viewable document such as web pages, word documents, PDF documents can be sent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

Brother Internet Fax Printing Software (BFP) is a Windows® 98/Me and Windows® 2000/XP software utility that gives network PC Fax and Internet Fax functionality from the desktop to users on your network or over the Internet.

BFP utilizes SMTP as the transport for sending documents from your PC. This allows any PC supported by a SMTP mail server to send an Internet FAX even if that PC does not have direct access to the networked machine.

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





## Installing Brother Internet Fax Printing Driver

---

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



If the installer screen does not appear automatically select

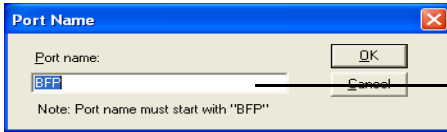
**Start | Run** and type **X:/setup.exe**

(**X:/** should be the drive letter of your CD ROM drive on your PC)

- 1 Select Install Optional Applications.**
- 2 Select Brother Internet Fax Printing (BFP) Driver.**

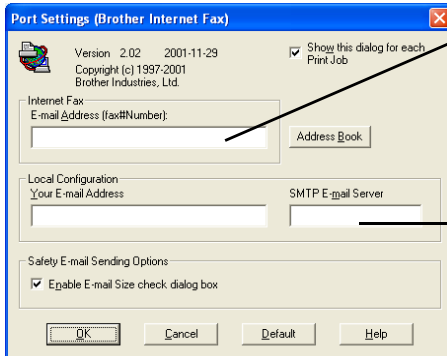
Next you will be presented with the licensing agreement, please carefully read the agreement and make the necessary choice.

During the installation you are presented with the following screen, select the default unless you have previously installed this software. If this is the case use a port number that has not been previously configured. Example BFP2



When Installing BFP on Windows® 2000 and XP operating systems we recommend that you add a “:” to the end of the port name, so BFP = BFP1:

You also need to enter certain information into the printer driver dialog screen as illustrated below.



Here you can enter the default E-mail address or you can leave it blank.  
\* If an address is specified here this will always be used as default sending address.

This can be the host name or IP address of the E-mail server

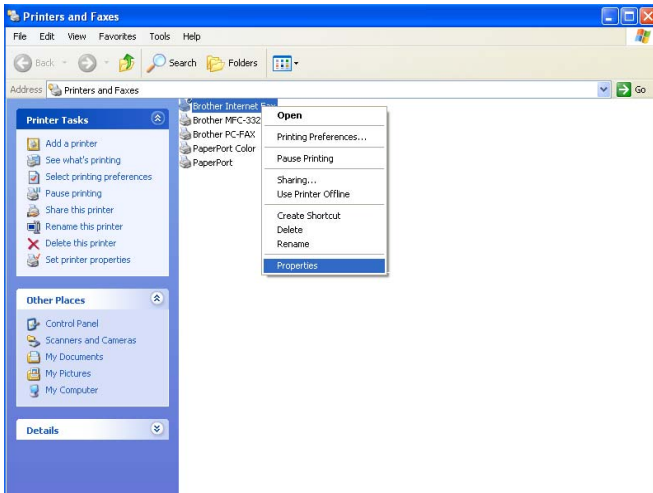
It is very important that you enter your own E-mail address. You also need to configure the SMTP mail server IP address or host name as illustrated above.

**If in any doubt contact your Network Administrator for assistance**

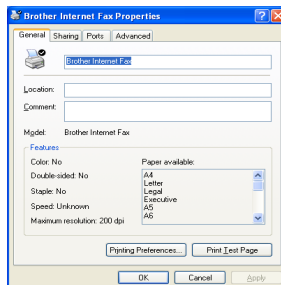
# Changing the BFP Port Settings

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

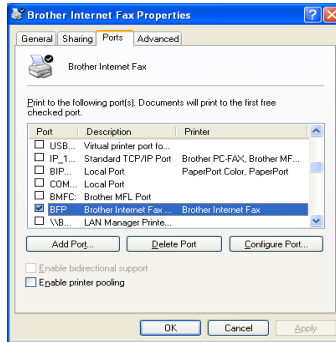
To alter BFP settings, select **Start | Printers and Faxes** to open the Printers dialogue box. From the Printers windows illustrated below highlight the **Brother Internet Fax** and right click the mouse. From the list presented select **Properties**.



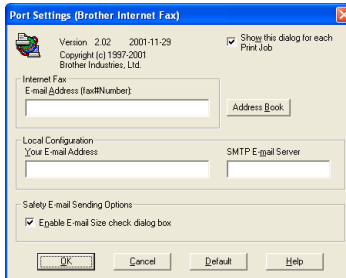
You are now presented with the screen below, which allows you to configure the BFP settings. To change the details of the print server, select the Ports tab.



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



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



## Relay Broadcast Function

---

Before you can successfully use this machine as a network fax solution you need to switch the feature “Relay Broadcasting” ON at the machine. In addition you also need to set a “Trusted Domain” at the machine.

In order for the machine to receive data and then send this information (network fax) to other fax machines the “Relay Broadcast Function” must be switched “ON”. Also you must tell the networked machine which networks can relay faxes through your machine. This

is known as setting the “Trusted Domain”. For instance, if a network machine has an E-mail address of fax@brother.com and users of this machine also have E-mail addresses with the same domain name then the machine must be told to allow these users to send network faxes through the machine. This is known as the “Relay Function” and “Trusted Domains”. So we set the trusted domain as brother.com.



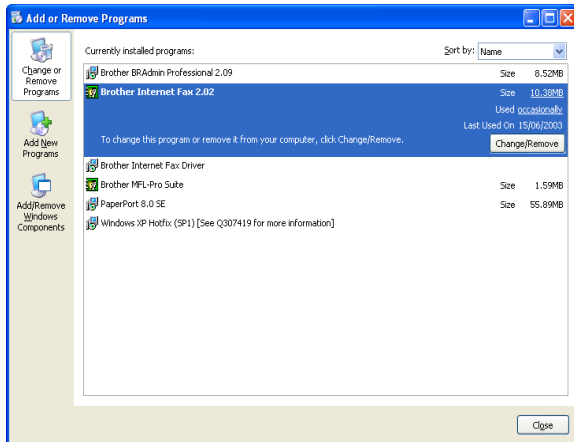
“Trusted Domains” Provide security for your machine. In that only users from a particular domain can send faxes through your network connected machine.

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

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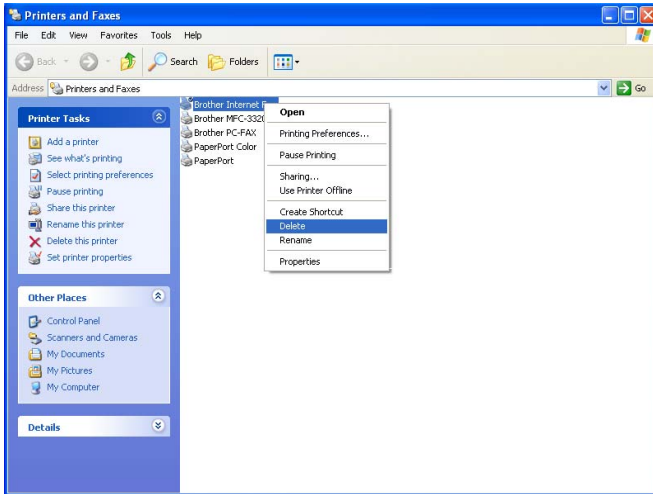
Select **Start | Control Panel** and then double click the **Add or Remove programs** icon. From the list of installed programs select the Brother Internet Fax Vx.xx as shown below then click the **Add/Remove** button.

In the case of Windows® 2000/XP you also need to remove the Brother Internet Fax Driver from the **Start | Control Panel | Add or Remove Programs** properties.



In addition to this you also need to manually remove the Brother Internet Fax Driver from the printers list.

To do this select **Start | Printers and Faxes** you are then presented with the Window illustrated below.



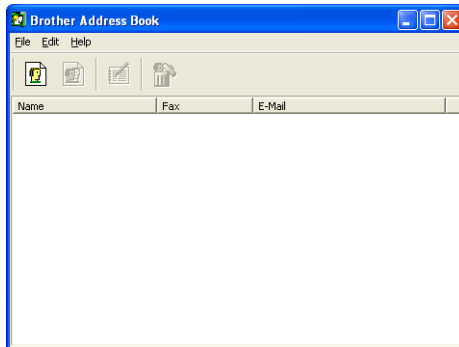
Right click the **Brother Internet Fax**, from the list click **Delete**. Accept the confirmation and the driver will be deleted.

## Using the BFP Address Book

---

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


From the **Start** menu, select **Programs, Brother, Brother MFL Pro Suite, Internet Fax** and then click **Brother Address Book**. The **Brother Address Book** dialog box will appear:





## Setting Up a Member in the Address Book

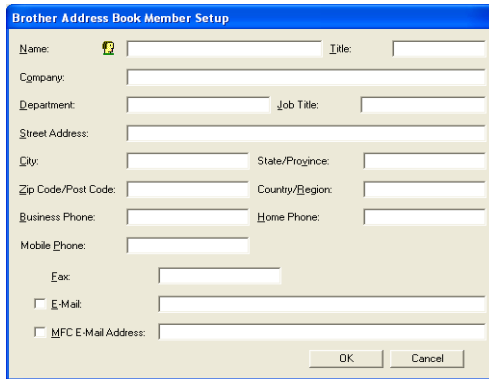
In the **Brother Address Book** dialog box you can add, edit and delete stored information for members and groups.

- 1 In the Address Book dialog box, click the  icon to add a member.

The **Brother Address Book Member Setup** dialog box will appear:



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



**Brother Address Book Member Setup**

Name:  Title:

Company:

Department:  Job Title:

Street Address:

City:  State/Province:

Zip Code/Post Code:  Country/Region:

Business Phone:  Home Phone:

Mobile Phone:

Fax:

E-Mail:

MFC E-Mail Address:

OK Cancel


- 2 In the Brother Address Book Member Setup dialog box, type the member's information.

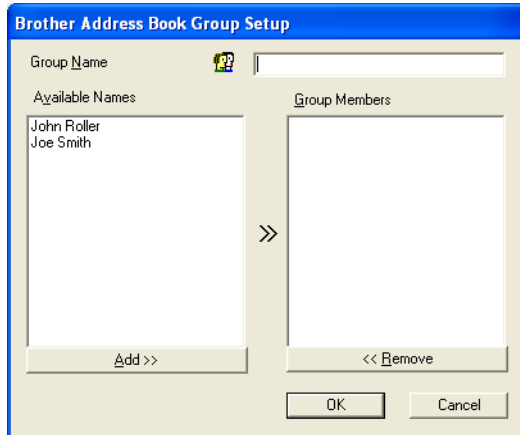
**Name** is a required field. You can also enter the an E-mail contact address and machine address for the address book member. Click the **OK** button to save the member's information.

## Setting Up a Group for Broadcasting

---

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


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



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


## Editing Member Information

### To edit a Member or Group:

- 1 Select the Member or Group you want to edit.
- 2 Click the  Edit icon.
- 3 Edit the Member or Group information.
- 4 Click **OK** to save your changes.

### Deleting a Member or Group

#### To delete a Member or Group:

- 1 Select the Member of Group you want to delete.
- 2 Click the  Delete icon.
- 3 Click **OK** when the **Delete OK?** dialog appears.

## Exporting the Address Book

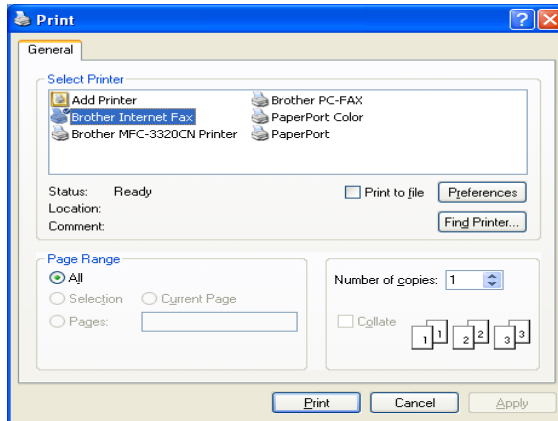
You can export the address book to an ASCII text file (\*.csv).

### To export the current telephone book:

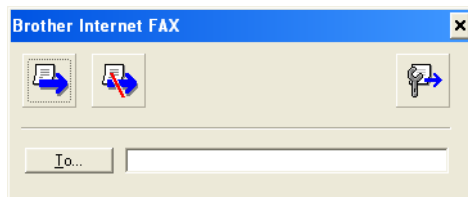
- 1 From the Address Book select **File**, point to **Export**, and then click **Text**—**OR**—Click **Vcard** and go to Step 5.
- 2 Select the data fields you wish to Export from the **Available Items** column, and then click **Add>>**.
- 3 If you are exporting to an ASCII file, select **Divide Character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

## Sending a Network Fax with BFP

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



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



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

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

# A Appendix

## Appendix A

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### General Information

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You can change the configuration of your Print/Scan server using any of the following methods.

- Brother BRAdmin Professional utility for Windows® 98/Me and Windows® 2000/XP
- Brother Web BRAdmin Professional utility for IIS\*

#### **BRAdmin Professional utility (Recommended)**

The Brother BRAdmin Professional utility can use the TCP/IP protocol. This utility allows you to graphically manage aspects of the network and printer.

#### **Web BRAdmin**

The Web BRAdmin software is designed to manage all LAN/WAN Brother network connected devices. By installing the Web BRAdmin server software on a computer running IIS\*, Administrators with a Web browser can connect to the Web BRAdmin server, which then communicates with the device itself. Unlike the BRAdmin Professional utility - which is designed for Windows® systems only - the Web BRAdmin server software can be accessed from any client computer with a web browser that supports Java.

Please note this software is not included on the CD-ROM that was supplied with your Brother product.

Please visit <http://solutions.brother.com/webbradmin> to learn more about this software and to download it.

IIS\* = Internet Information Server 4.0

or

Internet Information Services 5.0, 5.1

# Using Services

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## General

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

Service (Example)	Definition
BINARY_P1	TCP/IP binary, NetBIOS service.
TEXT_P1	TCP/IP text service (adds carriage return after each line feed).
BRN_XXXXXX_P1	Quickdraw Driver for Mac OS® 8.6 - 9.2, Mac OS® X 10.2.4 or greater.

Where `XXXXXX` is the last six digits of the Ethernet address (for example, BRN\_310107\_P1).

# Appendix B

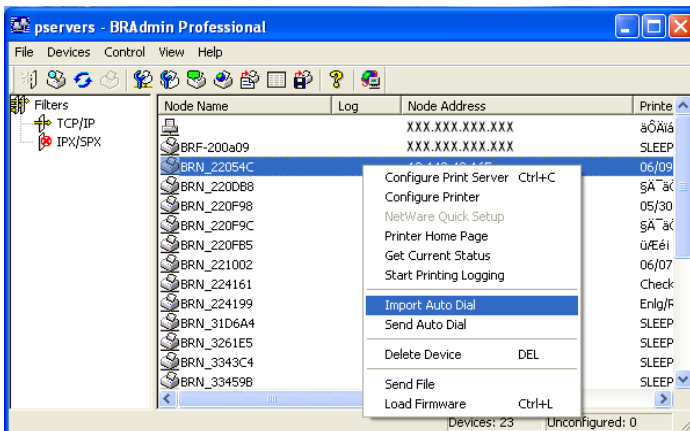
## Updating other machines through the Network (Windows® only)

It is possible to program a Brother machine on the network with either settings from an already programmed machine or with data from the Brother PC-FAX Address Book. (See Software User's Guide chapter 5)

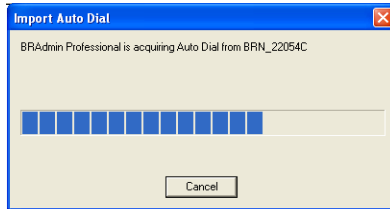
When Brother PC-FAX is used from a PC that has BRAdmin Professional installed, an extra option appears in BRAdmin Professional. By selecting a networked machine in the BRAdmin main window and right clicking it you will be presented with an extra option, **Import Auto Dial**.



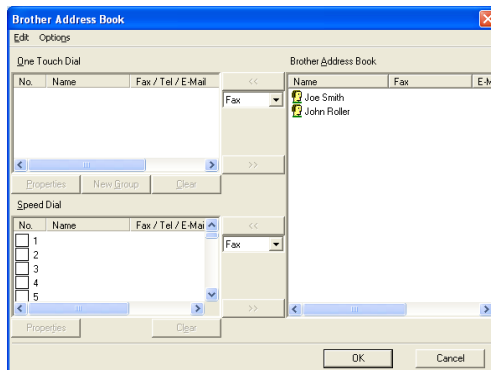
If the import Auto Dial option does not appear, open the Brother PC-FAX address book by selecting **Start, Programs, Brother, MFL-Pro Suite, PC-FAX Address Book**. It is necessary to run the address book utility to create an address book file.



When you select this option BRAdmin reads the telephone settings from that machine (if there are any programmed) into Brother PC-FAX Address Book.



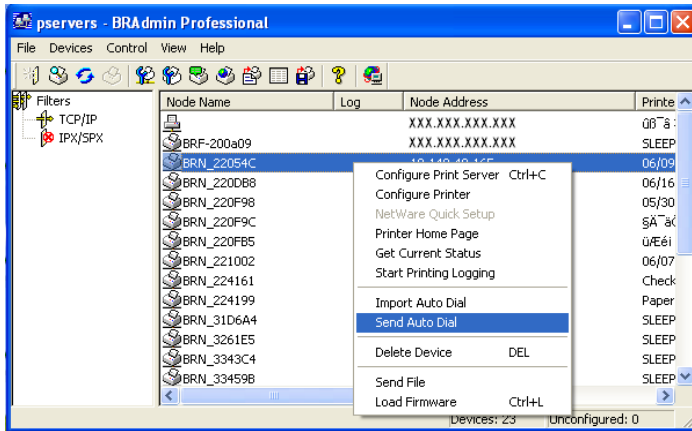
Illustrated below is a screenshot of the Brother PC-FAX Address Book dialog box. The left side of the dialog box displays the One-Touch / Speed-Dial numbers read from the machine. The right side displays a list of Brother Address Book members. You can add One-Touch / Speed-Dial numbers from the machine to this list or send members from the Address Book list to the machine.



This data is then stored in the Windows® Temp Folder and can be used to update singular or multiple machines on the network.

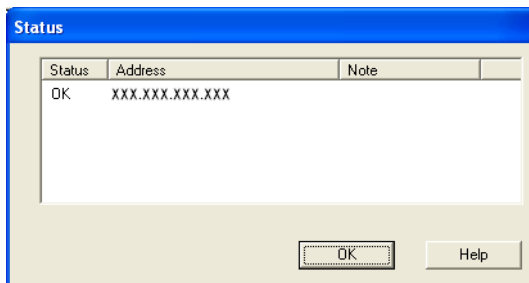
Highlight singular or multiple networked Brother machines in the main BRAdmin window by highlighting and pressing the shift key on your keyboard. Right click the highlighted machine and press **Send Auto Dial**. The new data is then sent to all highlighted machines.





A dialog box is displayed showing the upload status of the current machine and beneath this the whole progress is displayed if updating multiple machines.

When the process is finished a dialog box is displayed showing which machine on the network has been updated.



# Appendix C

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## Specifications

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### Operating System Support

Windows® 98/98SE/Me and Windows® 2000/XP

Mac OS® 8.6-9.2 / Mac OS® 10.2.4 or greater

### Protocol Support

TCP/IP (including the following)

- RARP, BOOTP, DHCP, APIPA, NetBIOS Name Resolution, WINS, DNS Resolver, LPR/LPD, Port9100, mDNS, TELNET, SNMP, TFTP

### Network

10/100Base-TX Ethernet Network

### Network Printing

Windows® 98/Me Peer-to-Peer Printing

Windows® 2000/XP TCP/IP Printing

Macintosh® Printing (Quick Draw over TCP/IP)

### Network PC Fax send

Windows® 98/98SE/Me and Windows® 2000/XP

Mac OS® 8.6-9.2 / Mac OS® 10.2.4 or greater

## Network Scanning



Windows® 98/98SE/Me and Windows® 2000/XP



Up to 25 clients can be connected to one machine at a time.

## Computer Requirements (for drivers, BRAdmin Professional, Peer-to-Peer software, etc.)

### CPU

- Pentium 75MHz or Higher for Windows® 98/98SE
- Pentium 150MHz or Higher for Windows® Me
- Pentium 133MHz or Higher for Windows® 2000
- Pentium 233MHz or Higher for Windows® XP

### RAM

- 24MB or greater (32MB recommended) for Windows® 98/98SE
- 32MB or greater (64MB recommended) for Windows® Me
- 64MB or greater (128MB recommended) for Windows® 2000/XP

## **For Macintosh® connection**

### **Computer**

- Ethernet ready Power Macintosh®

### **RAM**

- 32MB or more (64MB or more recommended) for Mac OS® 8.6-9.2
- 128MB or more (160MB or more recommended) for Mac OS® X 10.2.4 or greater

### **OS**

- Mac OS® 8.6-9.2 / Mac OS® X 10.2.4 or greater

## **Management Utilities**

### **BRAdmin Professional utility**

- Windows® 98/98SE/Me and Windows® 2000/XP

### **Web BRAdmin**

- Windows® 2000 Professional/Server/Advanced Server/XP Professional

# Function Table and Factory Default Settings

LEVEL ONE	LEVEL TWO	LEVEL THREE	OPTIONS	OPTIONS	FACTORY DEFAULT
5.LAN (4.LAN for MFC- 5440CN)	1.Setup TCP/IP	1.BOOT Method	Auto/ Static/ RARP/ BOOTP/ DHCP		Auto
		2.IP Address	[000-255].[000-255].[000- 255].[000-255]		169.254.X.X *1
		3.Subnet Mask	[000-255].[000-255].[000- 255].[000-255]		255.255.0.0 *1
		4.Gateway	[000-255].[000-255].[000- 255].[000-255]		000.000.000.000
		5.Host Name	BRN_XXXXXX=(last 6 fig- ures of Ethernet address) (up to 15 characters)	BRN_XXXXXX	BRN_XXXXXX
		6.WINS Config	Auto/ Static		Auto
		7.WINS Server	(Primary) 000.000.000.000	(Secondary) 000.000.000.000	000.000.000.000
		8.DNS Server	(Primary) 000.000.000.000	(Secondary) 000.000.000.000	000.000.000.000
		9.APIPA	On/Off		On
	2.Setup Misc.	1.Ethernet	Auto/ 100B-FD/ 100B-HD/ 10B-FD/ 10B-HD		Auto
		2.Time Zone	GMTXXX:XX		GMT-00:00
	0.Factory Reset				

\*1: The factory setting for the 'IP Address' and 'Subnet Mask' setting may be changed by the APIPA setting.

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