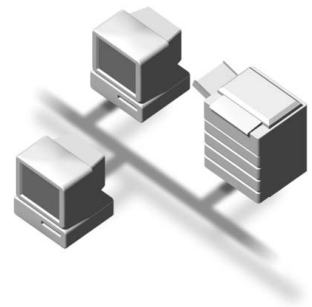# Network User's Guide

Definitions of warnings, cautions, and notes

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

Notes tell you how you should respond to a situation that may arise or give tips about how the operation works with other features.

Trademarks

UNIX is a registered trademark of The Open Group.

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Table of contents

1   Introduction

2   Configuring your network printer

3   Front Panel Setup

4   Network printing from Windows® basic TCP/IP Peer-to-Peer printing

5   Internet printing

6   Web Based Management

7   Internet FAX

8 Troubleshooting

A Appendix A

I Index

1 Introduction

Overview

The machine can be shared on a 10/100 MB wired Ethernet network using the internal network print server. The print server supports various functions and methods of connection depending on the operating system you are running on a network supporting TCP/IP. These functions include printing, scanning, PC-FAX send, and Status Monitor. The following chart shows what network features and connections are supported by each operating system.

Operating Systems	10/100 BASE-TX Wired Ethernet (TCP/IP)	Printing	Scanning	PC-Fax Send	Status Moitor
Windows® 98/98SE/Me/ 2000/XP	√	√	√	√	√
Windows NT® 4.0	√	√		√	√

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

In this chapter, you will learn the basic concept of the network function, connection and protocols. In Chapter 2, you will read information on network configuration. In Chapter 3, you will learn how to configure the print server using the control panel. Chapter 4 through Chapter 5 describe how to configure your print server with your operating system:

Chapter 2: Configuring your network printer

Chapter 3: Front Panel Setup

Chapter 4: Network printing from Windows® basic TCP/IP Peer-to-Peer printing

Chapter 5: Internet printing

Network function features

SP C210SF has the following basic network function.

Network printing

The print server provides printing services for Windows® 98/98SE/Me/NT®/2000/XP supporting the TCP/IP protocols.

Network scanning

You can scan documents over the network to your computer (See Chapter 4 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 6 of the Software User's Guide on the CD-ROM for complete description).

Management utility

BRAdmin Professional

The BRAdmin Professional utility provides powerful, easy to use configuration and management of fax and network settings.

Types of Network Connections

Generally speaking, there are two types of network: A Peer-to-Peer network and a shared Network.

Network Connection Example

Peer-to-Peer printing using TCP/IP

In a Peer-to-Peer environment, each computer directly sends and receives data to each device. There is no central server controlling File access or Printer sharing.
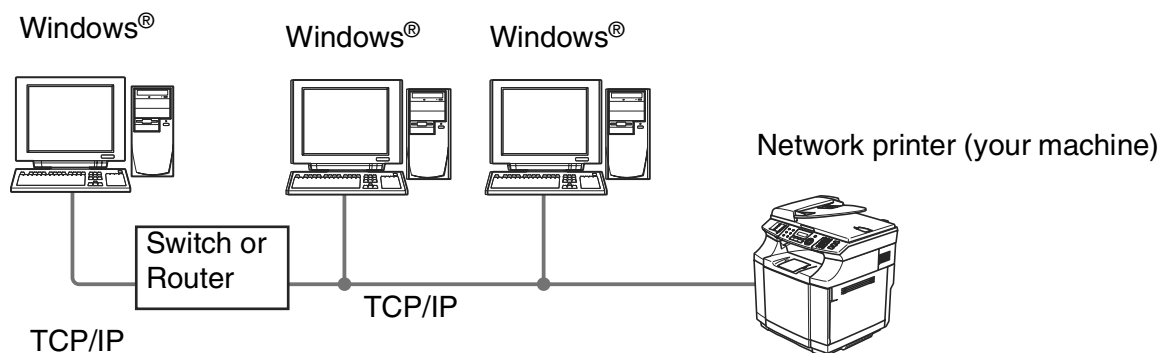
- In a smaller network of 2 or 3 computers, we recommend the Peer-to-Peer printing method as it is easier to configure than the Network Shared Printing method described on the following page. See *Network Shared Printing* on page 1-4.
- Each computer must use the TCP/IP Protocol.
- The machine needs an appropriate IP address configuration.
- If you are using a router, the Gateway address must be configured on the computers and the machine.

Network Shared Printing

In a Network Shared environment, each computer sends data via a centrally controlled computer. This type of computer is often called a "Server" or a "Print Server". Its job is to control the printing of all print jobs.
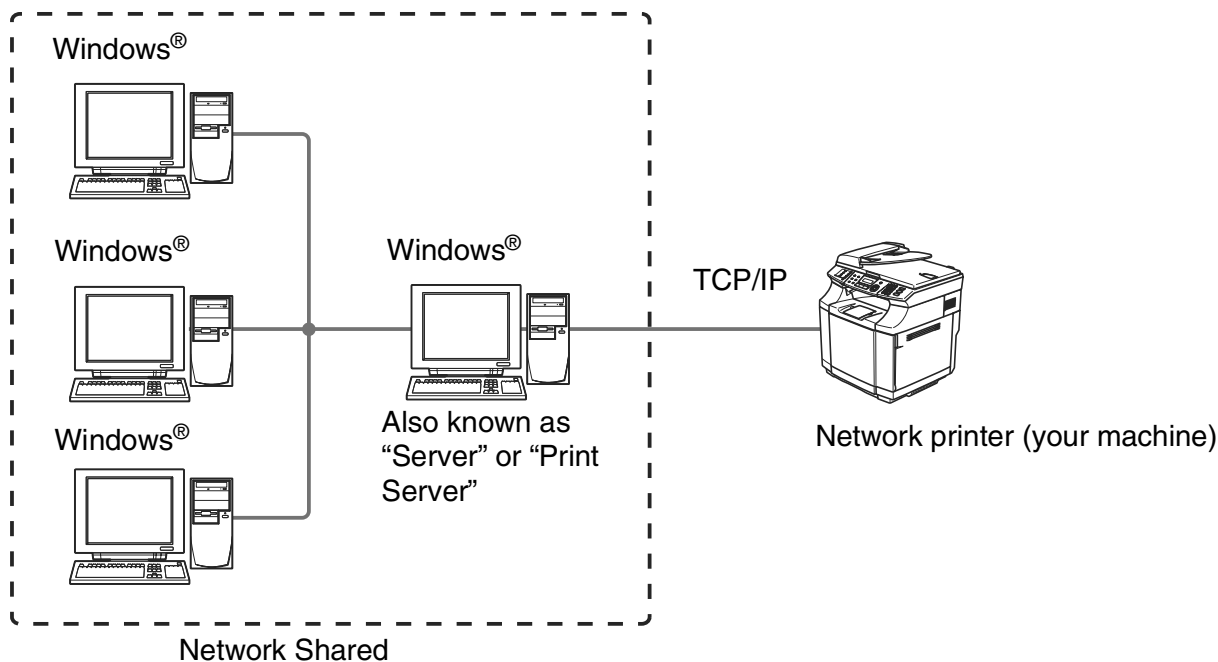
■ In a larger network, we recommend a Network Shared printing environment.

■ The "Server" or the "Print Server" must use the TCP/IP Print Protocol.

■ The machine needs an appropriate IP address configuration unless the machine is shared via the parallel port or USB port of the server.

Protocols

TCP/IP Protocols

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

The print server used on this product supports the TCP/IP (Transmission Control Protocol/Internet Protocol) protocols.

TCP/IP is the most popular set of protocols and can be used in almost all operating systems such as Windows® and Linux.

The following TCP/IP protocols are available on this product.

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 Multi-Function Suite Installation or BRAdmin software) or automatically (using a DHCP/BOOTP/RARP server), the Automatic Private IP Addressing (APIPA) protocol will automatically assign an IP address from the range 169.254.1.0 to 169.254.254.255.

DNS client

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

LPR/LPD

Commonly used printing protocol on a TCP/IP network.

Port 9100

Another commonly used printing protocol on a TCP/IP network.

1

SMTP client

The Simple Mail Transfer Protocol (SMTP) allows the machine to send and receive e-mails.

IPP

The Internet Printing Protocol (IPP Version 1.0) allows you to print documents via the internet.

TELNET

The print server supports TELNET server for command line configuration.

SNMP

Simple Network Management Protocol (SNMP) is used to manage network devices including computers, routers and network ready machines.

Web server (HTTP)

The print server is equipped with a built in web server that allows you to monitor its status or change of its configuration settings.

✎ **Note**

We recommend Internet Explorer 6.0 (or higher) or Netscape Navigator 7.1 (or higher). If a different web browser is used, make sure it is compatible with HTTP 1.0 and HTTP 1.1.

2

Configuring your network printer

Overview

Before you can use your machine on your network, you need to install the software and also configure the appropriate TCP/IP network settings on the machine itself. To do this, we recommend that you use the automatic installer on the CD-ROM as this will guide you through the software and network installation.

If you do not wish to use the automatic installer, or you do not understand some of the terms used by the automatic installer, refer to the remainder of this chapter for more information.

✎ **Note**

If you do not wish to, or are unable to use the automatic installer or any of software tools, you can also use the machine's control panel to change network settings. For more information, see *Front Panel Setup* on page 3-1.

IP addresses, subnet masks and gateways

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

IP address

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

Example: In a small network, you would normally change the final number.

192.168.1.<u>1</u>, 192.168.1.<u>2</u>, 192.168.1.<u>3</u>

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

✎ **Note**

On smaller networks, the DHCP server may be the Router.

Subnet mask

Subnet masks restrict network communication.

Example: PC1 can talk to PC2

        PC1 IP Address:192.168.1.2
        Subnet Mask: 255.255.255.0

        PC2 IP Address:192.168.1.3
        Subnet Mask: 255.255.255.0

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

For more information on DHCP, BOOTP and RARP, see *Using DHCP to configure the IP address* on page A-1, *Using BOOTP to configure the IP address* on page A-2 and *Using RARP to configure the IP address* on page A-2.

If you do not have a DHCP/BOOTP/RARP server, the Automatic Private IP Addressing (APIPA) protocol will automatically assign an IP address from the range 169.254.1.0 to 169.254.254.255. For more information on APIPA, see *Using APIPA to configure the IP address* on page A-3.

If the APIPA protocol is disabled, the default IP address of a print server is 192.0.0.192. However, you can easily change this IP address number to match with the IP address details of your network. For information on how to change the IP address, see *Setting the IP address and subnet mask* on page 2-3.

Setting the IP address and subnet mask

Using the BRAdmin Professional utility and the TCP/IP protocol to configure your network printer

BRAdmin Professional utility

The BRAdmin Professional utility is designed to allow you to manage your network connected machines in a TCP/IP environment.

How to configure your machine using the BRAdmin Professional utility

📝 **Note**

- Please use the BRAdmin Professional utility that was supplied on the CD-ROM of your product.
- If you are using Personal Firewall software (e.g. the Internet Connection Firewall available in Windows® XP), disable it. Once you are sure that you can print, re-start your Personal Firewall software.
- The default password for print servers is "**access**".

1 Start the BRAdmin Professional utility (from Windows® 98/98SE/Me, Windows NT® 4.0 and Windows® 2000/XP), by clicking **Start** / **Programs** / **Administrator Utilities** / **BRAdmin Professional Utilities** / **BRAdmin Professional**.

2 Select **TCP/IP** in the left frame of the main BRAdmin window.

3 Select **Search Active Devices** from the **Devices** menu. BRAdmin Professional will search for new devices automatically.
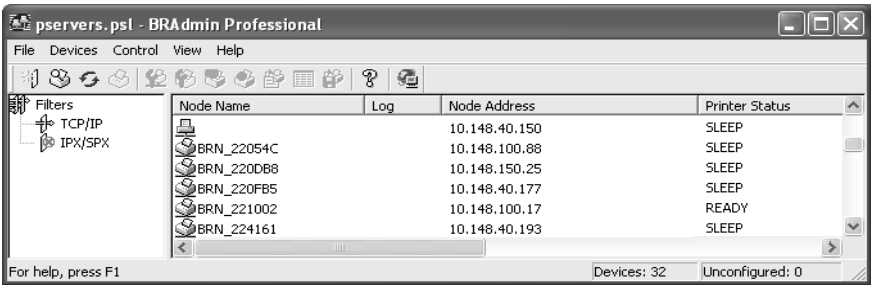
Note

- If the print server is set to its factory default settings without using a DHCP/BOOTP/RARP server, the device will appear as an APIPA device in the BRAdmin Professional utility screen.

- You can find the node name and Ethernet address by printing the Network Configuration List. See *Printing the Network Configuration List* on page 3-16 for information on how to print the Network Configuration List on your print server.

4 Double-click the unconfigured device.

5 Enter the **IP address**, **Subnet Mask** and **Gateway** (if needed) of your print server.

6 Click **OK**.

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

Using a web browser to change the print/scan settings

A standard web browser (we recommend Microsoft Internet Explorer® version 6.0 or later, or Netscape Navigator® version 7.1 or later) can be used to change your print server settings using the HTTP (Hyper Text Transfer Protocol). To use a web browser, you must have assigned an IP address to the print server.

1 Type `http://printer_ip_address/` into your browser. (Where `printer_ip_address` is the IP address or the print server name)

For example: http://192.168.1.2/ (if the printer's IP address is 192.168.1.2.)

Note

If you have edited the hosts file on your computer or are using Domain Name System, you can also enter the DNS name of the print server. As the print server supports TCP/IP and NetBIOS names, you can also enter the NetBIOS name of the print server. The NetBIOS name can be seen in the Network Configuration List. See *Printing the Network Configuration List* on page 3-16 for information on how to print the Network Configuration List on your print server. The NetBIOS name assigned is the first 15 characters of the node name and by default it will appear as `BRN_xxxxxx` where `xxxxxx` is the last six digits of 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 Click **Configure TCP/IP**.

6 You can now change the printer server settings.

3 Front Panel Setup

LAN Main Setup Menu

The control panel LAN menu section can be used to configure network settings.

Press **Menu/Set**, then press number, **6** for LAN and then proceed to the menu selection you wish to configure.

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

Setup TCP/IP

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

BOOT Method

1 Press **Menu/Set**, **6**, **1**, **1**.

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, 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 machine will use an APIPA address, see *Using APIPA to configure the IP address* on page A-3. This whole process can take 2 to 3 minutes so we recommend printing a Network Configuration List to confirm the network settings are set correctly.

RARP mode

The print 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 server and the second entry is the name of the print server (the name must be the same as the one you put in the /etc/hosts file).

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

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

For AT&T UNIX-based systems, type:

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

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

BOOTP mode

BOOTP is an alternative to RARP. However, unlike RARP, it is able to configure 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
```

✎ **Note**

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

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

```
BRN_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 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 server automatically obtains its IP address from 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 to be configured using DHCP, BOOTP or RARP, you must set the BOOT METHOD to static, 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 control panel, Web browser or by using the BRAdmin application.

IP Address

This field displays the current IP address of the machine. If the BOOT Method is set to 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, RARP 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 the correct IP address settings.

1 Press **Menu/Set**, **6**, **1**, **2**.

2 Select **1** to change. Enter the IP address.

3 Press **Menu/Set**.

4 Press **Stop/Exit**.

Subnet Mask

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

1 Press **Menu/Set**, **6**, **1**, **3**.

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**, **6**, **1**, **4**.

2 Enter the Gateway address.

3 Press **Menu/Set**.

4 Press **Stop/Exit**.

Node Name

You can register the machine name on the Network. This name is often referred to as a NetBIOS name; and is the name that is registered by the WINS server on your network. We recommend the name BRN_XXXXXX (where XXXXXX is the last six digits of the Ethernet address) (up to 15 characters).

1 Press **Menu/Set**, **6**, **1**, **5**.

2 Select **1** to change. Enter the Node Name.

3 Press **Menu/Set**.

4 Press **Stop/Exit**.

WINS Config

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

1 Press **Menu/Set**, **6**, **1**, **6**.

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**, **6**, **1**, **7**.

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.

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 you have a primary WINS server, but no secondary WINS server, simply leave this field blank.

3

DNS Server

1 Press **Menu/Set**, **6**, **1**, **8**.

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

When enabled, the print server will automatically allocate a IP address in the range (169.254.1.0 - 169.254.254.255) when the print server cannot obtain an IP address through the BOOT Method you have set (**Menu/Set**, **6**, **1**, **1**). Selecting Off means the IP address doesn't change, when the print server cannot obtain an IP address through the BOOT Method you have set.

1 Press **Menu/Set**, **6**, **1**, **9**.

2 Press ▲ or ▼ to select `On` or `Off`.

3 Press **Menu/Set**.

4 Press **Stop/Exit**.

Setup Internet

This menu has five selections: **Mail Address**, **SMTP Server**, **POP3 Server**, **Mailbox Name** and **Mailbox Pwd**. As this section requires you to enter a lot of text characters, you may find that it is more convenient to use your favorite web browser to configure these settings. (See *Web Based Management* on page 6-1. For more details about Internet Fax, see *Internet FAX* on page 7-1.)

Mail Address

1 Press **Menu/Set**, **6**, **2**, **1**.

2 Select **1** to change. Enter the mail address. Press **Menu/Set**.

3 Press **Stop/Exit**.

Entering text
You can access the character you want by repeatedly pressing the appropriate number key.

Key	Once	Twice	Three times	Four times
1	@	.	/	1
2	A	B	C	2
3	D	E	F	3
4	G	H	I	4
5	J	K	L	5
6	M	N	O	6
7	P	Q	R	S
8	T	U	V	8
9	W	X	Y	Z

To switch between upper and lower case, press **Shift** and **3**.

Making corrections:

If you entered a letter incorrectly and want to change it, use ◄ or ► to position the cursor under the character you want to change, and then type over it.

If you want to erase the whole number or whole name, press **Stop/Exit** when the cursor is under the first digit or letter. The characters above and to the right of the cursor will be deleted.

Repeating letters:

If you need to repeat a character, press ▶ move the cursor to the right.

As you enter the E-mail address, it will appear character by character on the LCD panel.

If you specify more than 16 characters, the LCD panel will scroll the name to the left, character by character. You can enter up to 60 characters.

SMTP Server

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

(Ex, mailhost.spmail.net -or- 192.000.000.001)

1 Press **Menu/Set**, **6**, **2**, **2**.

2 Press ▲ or ▼ to select `Name` or `IP Address`.

3 Enter the SMTP SERVER Address.

4 Press **Menu/Set**.

5 Press **Stop/Exit**.

POP3 Server

1 Press **Menu/Set 6**, **2**, **3**.

2 Press ▲ or ▼ to select `Name` or `IP Address`.

3 Enter the POP3 Server Address.

4 Press **Menu/Set**.

5 Press **Stop/Exit**.

POP3 Server address

This field displays the Node Name or IP address of the POP3 server (incoming E-mail server) used by the machine. This address is necessary for the Internet Fax features to function correctly.
(Ex, mailhost.spmail.net -or- 192.000.000.001)

Mailbox Name

1 Press **Menu/Set**, **6**, **2**, **4**.

2 Enter the user account name assigned to the machine that will login to the POP3 Server.

3 Press **Menu/Set**.

4 Press **Stop/Exit**.

Mailbox Pwd

1 Press **Menu/Set**, **6**, **2**, **5**.

2 Enter the user password assigned to the machine that will login to the POP3 Server. Please note that this password is case sensitive.

3 Press **Menu/Set**.

4 Press **Menu/Set** again to verify the password.

5 Press **Stop/Exit**.

Setup Mail RX

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

Auto Polling

When set to On the machine automatically checks the POP3 server for new messages. "No Mail" will be displayed if there are no E-mail messages when the POP3 server is polled.

1 Press **Menu/Set**, **6**, **3**, **1**.

2 Press ▲ or ▼ to select On or Off.

3 Press **Menu/Set**.

4 Press **Stop/Exit**.

Poll Frequency

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

1 Press **Menu/Set**, **6**, **3**, **2**.

2 Enter the polling frequency.

3 Press **Menu/Set**.

4 Press **Stop/Exit**.

Header

This selection allows the contents of the mail header to be printed when the received message is printed (Subject+From+To or All or None).

1 Press **Menu/Set**, **6**, **3**, **3**.

2 Press ▲ or ▼ to select All or Subject+From+To or None.

3 Press **Menu/Set**.

4 Press **Stop/Exit**.

Del Error Mail

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

1 Press **Menu/Set**, **6**, **3**, **4**.

2 Press ▲ or ▼ to select On or Off.

3 Press **Menu/Set**.

4 Press **Stop/Exit**.

Notification

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

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

1 Press **Menu/Set**, **6**, **3**, **5**.

2 Press ▲ or ▼ to select `On` or `MDN` or `Off`.

3 Press **Menu/Set**.

4 Press **Stop/Exit**.

Setup Mail TX

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

Sender Subject

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

1 Press **Menu/Set**, **6**, **4**, **1**.

2 Select **1** to change the Sender Subject—**OR**—**2** to exit.

3 Enter the subject information.

4 Press **Menu/Set**.

5 Press **Stop/Exit**.

Size Limit

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

1 Press **Menu/Set**, **6**, **4**, **2**.

2 Press ▲ or ▼ to select `On` or `Off`.

3 Press **Menu/Set**.

4 Press **Stop/Exit**.

Notification

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

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

1 Press **Menu/Set**, **6**, **4**, **3**.

2 Press ▲ or ▼ to select `On` or `Off`.

3 Press **Menu/Set**.

4 Press **Stop/Exit**.

Setup Relay

This menu has three selections **Rly Broadcast**, **Relay Domain** and **Relay Report**. For more information on Relay Broadcast, see *Relay Broadcasting* on page 7-5 of this User's Guide.

Rly Broadcast

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

1 Press **Menu/Set**, **6**, **5**, **1**.

2 Press ▲ or ▼ to select `On` or `Off`.

3 Press **Menu/Set**.

4 Press **Stop/Exit**.

Relay Domain

You can register the Domain Names (Max.10) that are allowed to request a Relay Broadcast.

1 Press **Menu/Set**, **6**, **5**, **2**.

2 Press ▲ or ▼ to select the `Relay` Domain (01 - 10).

3 Press **Menu/Set**.

4 Enter the Relay Domain name for the Domain that is being allowed to request a Relay Broadcast.

5 Press **Menu/Set**.

6 Press **Stop/Exit**.

Relay Report

A Relay Broadcast Report can be printed at the machine that will act as a Relay Station for all Relay Broadcasts. When the machine is used with the Network PC Fax software the machine is also acting as a Relay Station for fax transmissions from the network. This means that a Relay Report can also be printed for confirmation of sent network faxes. (For US / Canada only)

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

1 Press **Menu/Set**, **6**, **5**, **3**.

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.

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).

📝 **Note**

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

1 Press **Menu/Set**, **6**, **6**, **1**.

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

1 Press **Menu/Set**, **6**, **6**, **2**.

2 Press ▲ or ▼ to select the time.

3 Press **Menu/Set** to accept the selection.

4 Press **Stop/Exit** to exit the configuration menu.

Windows® Time Zone Setting

You can see the time difference for your country 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**. Change the date and time. Verify your time zone setting from the pull-down menu (this menu displays the time difference from GMT).

Scan to E-mail (E-mail server)

Black and White File Type for Scan to E-mail (E-mail server)

You can select the default Black and White file type for the Scan to E-mail (E-mail server) function.

1 Press **Menu/Set**, **6**, **7**, **1**.

2 Press ▲ or ▼ to select PDF or TIFF.

3 Press **Menu/Set**.

4 Press **Stop/Exit**.

Color File Type for Scan to E-mail (E-mail server)

You can select the default color file type for the Scan to E-mail (E-mail server) function.

1 Press **Menu/Set**, **6**, **7**, **2**.

2 Press ▲ or ▼ to select PDF or JPEG.

3 Press **Menu/Set**.

4 Press **Stop/Exit**.

Restoring the network settings to factory default

If you wish to reset the print server back to its default factory settings (resetting all information such as the password and IP address information), please follow these steps:

1 Make sure the machine is not operating, then disconnect all the cables from the machine (except power cable).

2 Press **Menu/Set**, **6**, **0**.

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.

Printing the Network Configuration List

> 📝 **Note**
>
> Node Name: Node Name appears in the Network Configuration List. The default Node Name is "`BRN_xxxxxx`" ("`xxxxxx`" is the last six digits of Ethernet address.).

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

1 Press **Menu/Set**, **5**, **6**.

2 Press **Black Start** or **Color Start**.

4 Network printing from Windows® basic TCP/IP Peer-to-Peer printing

Overview

If you are a Windows® user and want to print using the TCP/IP protocol in a Peer-to-Peer environment, please follow the instructions in this chapter. This chapter explains how to install the network software and the printer driver which you will need to be able to print using your network printer.

> **Note**
>
> - You must configure the IP address on your machine before you proceed with this chapter. If you have not configured the IP address, see *Configuring your network printer* on page 2-1 first.
> - Verify the host computer and print server are either on the same subnet, or that the router is properly configured to pass data between the two devices.
> - The default password for print servers is "**access**".
> - If you are connecting to a Nework Print Queue or Share (printing only), see *Installation when using a Network Print Queue or Share (printer driver only)* on page A-6 for installation details.

For Windows® 2000/XP users

By default, Windows® 2000/XP systems install with all the necessary software required for you to be able to print. This section describes the most commonly used configuration, Standard TCP/IP Port printing. Windows® 2000/XP users can also print via Internet using the IPP protocol. For more information, see *Internet printing* on page 5-1.

If you have already installed the printer driver, jump to *Printer driver already installed* on page 4-3.

Configuring the standard TCP/IP port

Printer driver not yet installed

1 For Windows® 2000: Go to the **Start** button, select **Settings** and then **Printers**.
For Windows® XP: Go to the **Start** button and select **Printers and Faxes**.

2 For Windows® 2000: Double click the **Add Printer** icon to get the **Add Printer Wizard**.
For Windows® XP: Double-click **Add a printer** to get the **Add Printer Wizard**.

3 Click **Next** when you see the **Welcome to the Add Printer Wizard** screen.

4 Select **Local printer** and deselect the **Automatically detect and install my Plug and Play printer** option.

5 Click **Next**.

6 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.

7 Click **Next**.

8 The **Add Standard TCP/IP Printer Port Wizard** will now appear. Click **Next**.

9 Enter the IP address, or the print server name you wish to configure. The Wizard will automatically enter the Port name information for you.

10 Click **Next**.

11 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.

12 Click **Finish** to complete the Wizard.

13 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.

14 For example, select the "X:\your language\W2K\Addprt" folder (where X is your drive letter). Click **Open**, and then **OK**. Select your printer, then click **Next**.

15 Specify a name and select **Yes** or **No** if you want this driver to be default printer, and then click **Next**.

16 Now specify if you wish to share the printer, enter the share name and click **Next**.

17 Select **Yes** and **Next** to print a test page.

18 Continue through the Wizard clicking **Finish** when complete.

Printer driver already installed

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

1 Select the printer driver you wish to configure.

2 Select **File** and then **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 8 to 12 of *Printer driver not yet installed* on page 4-2.

6 Close **Add Port** and **Properties** dialog box.

For Windows NT® 4.0 users

Windows NT® 4.0 users can send print job using Peer-to-Peer Print software provided on the CD-ROM supplied with the machine.

Installing the TCP/IP protocol

If you did not install the TCP/IP protocol during the installation of your Windows NT® 4.0 system (either workstation or server) follow these steps. If you have already installed the TCP/IP protocol, proceed to the next section, *Installing the Peer-to-Peer software* on page 4-4.

1 Go to the **Start** button, select **Settings**, and then **Control Panel**.

2 Run the **Network** applet by double clicking the **Network** icon and then click the **Protocols** tab.

3 Select **Add**, and double click **TCP/IP Protocol**.

4 Insert the requested disk(s), or CD-ROM, to copy the required files.

5 Click **Close**. The Windows NT® 4.0 system will review protocol bindings and then you will see the **TCP/IP Properties** dialog.

6 Configure the host IP address, subnet mask, and gateway address in that dialog. Consult your system manager for these addresses.

7 Click **OK** to exit (your Windows NT® 4.0 workstation or server will need to be re-booted).

Installing the Peer-to-Peer software

1 Start the CD-ROM installation menu program according to the Quick Setup Guide.

2 Select the model name and your language (if necessary), and then click **Install Optional Applications**.

3 Click **Network Print Software**.

4 Click **Next** in response to the Welcome message. Follow the on-screen instructions.

5 Select **Peer-to-Peer Print (LPR)**.

6 Select the desired directory to install the **Peer-to-Peer Print (LPR)** files and click **Next**. The installation program will create the directory for you if it does not already exist on your disk.

7 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.

8 You must now enter the actual IP address of the print server and the print server name. If you have edited the hosts file on your computer or are using Domain Name System, you can also enter the DNS name of the print server. As the print server supports TCP/IP and NetBIOS names, you can also enter the NetBIOS name of the print server. The NetBIOS name can be seen in the Network Configuration List. The NetBIOS name assigned is the first 15 characters of the node name and by default it will appear as BRN_xxxxxx where xxxxxx is the last six digits of the Ethernet address.

📝 **Note**

- The node name and the NetBIOS name is printed on the Network Configuration List. To learn how to print the Network Configuration List, see *Printing the Network Configuration List* on page 3-16.
- You can use the **Browse** button to search for the print server in Step 8. Click **Browse** and then select the Node Name/IP Address from the list. If you search for the device using the **Browse** button in Step 8, temporarily disable any Personal Firewall software you may be using. Once you are sure that you can print, re-start your Personal Firewall software.

9 Click **OK**. 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 to the **Start** button, select **Settings** and then **Printers**.

2 Double click the **Add Printer** icon to get the **Add Printer Wizard**.

3 Select **My Computer** (not Network Printer) and click **Next**.

4 Select the LPR Port (the port name you assigned in step 7 of the "Installing Peer-to-Peer Software" section in this chapter) and click **Next**.

5 Select the desired printer model. If the correct model is not displayed, click the **Have Disk** option and insert the CD-ROM supplied with your machine.

6 If the driver already exists, select **Keep Existing Driver** (if it does not exist, this step will be skipped), and then click **Next**.

7 If desired, change the name of the printer and select **Yes** or **No** if you want this driver to be default printer, and then click **Next**.

8 If desired, make the printer shared (so other user can access it), and select the operating system(s) that these other computers will be running. Click **Next**.

9 Select **Yes** when you asked **Would you like to print a test page?**. Click **Finish** to complete the installation. You may now print to the printer as if it were a local printer.

Adding a second LPR port

You do not need to re-run the install program to add a new LPR port. Instead, go to the **Start** button, select **Settings**, and open the **Printers** window. Click the icon of the printer that you wish to configure, select **File** from the menu bar, and then **Properties**. Click the **Ports** tab and then the **Add Port** button. In the **Printer Ports** dialog, highlight **LPR Port**. Click the **New Port** button 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 **OK**. You will then see the **Port Settings** dialog.

Enter the IP address of the printer that you wish to print to and click **OK**. And then click **Close** in the **Printer Ports** dialog. You should now see the port that you have just created in the **Print to the following port(s)** setting of the printer driver.

For Windows® 98/Me users

Windows® 98/Me users can send print job using Peer-to-Peer Print software provided on the CD-ROM which we have supplied with the machine.

Installing the Peer-to-Peer software

> ✎ **Note**
>
> If you already installed the driver from the supplied CD-ROM with the machine Installer and you selected "Peer-to-Peer Network Printer" during the installation then you do not need to install the Network Print Software again.

1 Start the CD-ROM installation menu program according to the Quick Setup Guide.

2 Select the model name and your language (if necessary), and then click **Install Optional Applications**.

3 Click **Network Print Software**.

4 Click **Next** in response to the Welcome message. Follow the on-screen instructions.

5 Select **Peer-to-Peer Print (LPR)**.

6 Select the desired directory to install the **Peer-to-Peer Print (LPR)** files and click **Next**. The installation program will create the directory for you if it does not already exist on your disk.

7 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.

8 You must now enter the actual IP address of the print server and the print server name. If you have edited the hosts file on your computer or are using Domain Name System, you can also enter the DNS name of the print server. As the print server supports TCP/IP and NetBIOS names, you can also enter the NetBIOS name of the print server. The NetBIOS name can be seen in the Network Configuration List. The NetBIOS name assigned is the first 15 characters of the node name and by default it will appear as BRN_xxxxxx where xxxxxx is the last six digits of the Ethernet address.

📝 **Note**

- The node name and the NetBIOS name is printed on the Network Configuration List. To learn how to print the Network Configuration List, see *Printing the Network Configuration List* on page 3-16.

- You can use the **Browse** button to search for the print server in Step 8. Click **Browse** and then select the Node Name/IP Address from the list. If you search for the device using the **Browse** button in Step 8, temporarily disable any Personal Firewall software you may be using. Once you are sure that you can print, re-start your Personal Firewall software.

9 Click **OK**. 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 Double click the **Add Printer** icon to get the **Add Printer Wizard**.

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 click **Next**.

5 Select the desired printer model. If the correct model is not displayed, click the **Have Disk** option and insert the CD-ROM supplied with your machine.

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 click **Next**.

7 Select the LPR port (the port name you assigned in step 7 of the *Installing the Peer-to-Peer software* on page 4-6) and click **Next**.

8 Enter any desired name for the printer. For example, you could call the printer "Networked Printer". Select **Yes** or **No** if you want this driver to be default printer, and then click **Next**.

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 LPR port

You do not re-run the install program to add a new LPR port. Instead, go to the **Start** button, select **Settings**, and open the **Printers** window. Click the icon of the printer that you wish to configure, select **File** from the menu bar, and then **Properties**. Click the **Details** tab and then the **Add Port** button. In the **Add Port** dialog, select the **Other** radio button and then highlight **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 **OK**. 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

See *Configuring your network printer* on page 2-1 to learn how to configure the IP address of the printer.

5 Internet printing

Internet Printing Installation

Overview

Internet Print (BIP) software, for Windows® 98/Me and Windows NT® 4.0, allows a PC user at one location to send a print job to a printer at a remote location via the Internet. For example, a user on a PC in New York could print a document directly from their Microsoft Excel application program to a printer in Paris.

Windows® 2000/XP users can also use this BIP software, but are recommended to use the IPP protocol support that is part of the Windows® 2000/XP operating systems. Skip to the "Windows® 2000 IPP Printing" section of this document.

Quick Tips

1 Windows® 2000/XP users can print using TCP/IP using the standard Network Printing software and IPP protocol software built into any Windows® 2000/XP installation.

2 Windows® 98/Me users can send print jobs using the IPP protocol via a Windows® 2000 computer, provided that the Microsoft Internet Print Services software is installed on the client PC, Internet Information Server (IIS) is installed and running on the server and that the client PC is using version 4 or later of Microsoft Internet Explorer.

Internet Print General Information

The BIP software is installed using a standard Windows® 98/Me/2000/XP and Windows NT® 4.0 Installation Wizard. It creates a virtual port on the Windows® 98/Me/2000/XP and Windows NT® 4.0 PC that operates in a similar way to the standard LPT1 printer port from the application program point of view. The user can use the Windows® 98/Me/2000/XP and Windows NT® 4.0 Print Manager to create a printer that uses this port along with a standard Windows® 98/Me/2000/XP and Windows NT® 4.0-compatible printer. Any Windows® 98/Me/2000/XP and Windows NT® 4.0 applications program can therefore print to this printer (and hence to the virtual port) without modification or operational procedure.

When a job is printed to the BIP virtual port, it is actually MIME-encoded (converted to a standard Internet E-mail message) and sent out to a print server at the remote location. This means that BIP is compatible with most common E-mail software packages. The only requirement is that the E-mail server be capable of sending E-mail message over the Internet.

In more detail, the procedure works in the following way:

■ If you are connected to a Local Area Network, the E-mail message is passed to the E-mail server, which in turn transmits the message out over the Internet using the SMTP protocol (Simple Mail Transport Protocol) to the remote print server.

■ If you are connecting via a modem directly to an Internet Service Provider (ISP), the ISP handles the routing of the E-mail to the remote print server.

■ At the remote site, an E-mail server receives the E-mail message. The remote Print/Fax server, which has its own E-mail address, uses the POP3 protocol (Post Office Protocol 3) to download the E-mail message from the E-mail server. It then decodes the attachment and prints it out on the printer.

📝 **Note**

If an E-mail is received that has not been configured to use the BIP virtual port driver, the printer will print the E-mail out as a text document.

Internet Print: Configuring the Print Server

The print server can be configured using BRAdmin Professional utility, the Web BRAdmin software or by using a web browser.

Print Server Configuration Checklist

📝 **Note**

Before configuring the print server to receive BIP jobs, be sure that the E-mail server at the remote site (the receiving end) is configured to handle the TCP/IP POP3, and SMTP protocols (SMTP is only required if the notification feature is enabled).

1 Configure the POP3 server on the E-mail server at the remote site with a mail account (Mailbox name) and password for the print server (generally, the mail account name will be the first part of the Email address; for example, if you assign the E-mail address emailprinter@xyz.com, then the mail account name would be emailprinter).

2 Make sure that the print server is installed and running with TCP/IP enabled and has a valid IP address assigned to it.

Because access to the E-mail server on most networks is usually restricted, you may need to have your Network Administrator check the configuration and add the mail account.

Internet Print: Using the BRAdmin Professional utility to Configure the Print Server

📝 **Note**

Skip this section if you wish to use the Web Browser to configure the print server.

Using the BRAdmin Professional utility, you can configure the print server using the TCP/IP protocol.

The steps required to configure the print server to receive print jobs from a Windows® 98/Me/2000/XP and Windows NT® 4.0 PC running the BIP software are as follows.

1 Start the BRAdmin Professional utility.

2 Select the **Node Name** of the desired print server from the list and double click on it. (the default node name is usually BRN_xxxxxx, where xxxxxx is the last six digits of the Ethernet address (MAC address)). You will be prompted for a password; the default password is "**access**".

📝 **Note**

You can find the node name and MAC address by printing out the machine configuration page. For information on how to print the configuration page on your print server, see *Printing the Network Configuration List* on page 3-16.

3 Click on the **POP3/SMTP** tab.

4 Enter the address of the POP3 server (consult your Network Administrator if you do not know this address).

5 Enter the **POP3 Account Name** for the remote print server. Usually this will be the first part of the E-mail address (for example, if the E-mail address of the print server is emailprinter@xyz.com, then the **POP3 Account Name** would be emailprinter).

6 Enter the password for the mailbox, if any.

7 The print server is configured by default to poll the POP3 server every 10 minutes. You may change this value, if desired.

8 If you have enabled notification, enter the address of your SMTP server (consult your Network Administrator if you do not know this address).

9 Press the **OK** button and save the changes. Now exit the BRAdmin Professional utility. You have now configured the print server to receive print jobs.

Internet Print: Using a Web Browser to Configure the Print Server

1 Connect to the printer server IP address using your web browser.

2 When you reach the **Network Configuration** screen, you will be prompted for a User name and a password. The default settings are User name "**admin**" and the password "**access**".

3 Select the **Configure POP3/SMTP** option. Enter the address of the POP3 server (consult your Network Administrator if you do not know this address). For more information, see *Internet Print: Using the BRAdmin Professional utility to Configure the Print Server* on page 5-3.

4 You should see a **Segmented Message Timeout** option. If a print job is separated into multiple E-mail messages using the Partial E-mail Print feature of the BIP, this value indicates how long the print server will wait for all of the segments of the message to arrive.

5 Select **Submit** to save the changes. Exit from the web browser. You have now configured the print server to receive print jobs.

Internet Print: Installing the BIP software on Windows® 98/Me/2000/XP and Windows NT® 4.0

To install the BIP software on a Windows® 98/2000/XP and Windows NT® 4.0 PC, execute the following steps:

📝 **Note**

Be sure that the PC is running an E-mail program (for example, Microsoft Outlook) that is capable of sending E-mail message using Winsock.

Be sure that your E-mail server is capable of sending messages across the Internet.

Setup from CD-ROM

1 Start the CD-ROM installation menu program according to the Quick Setup Guide.

2 Select the proper model and **Install Optional Applications** menu. Then select **Network Print Software** installation program.

3 Click the **Next** button in response to the Welcome message.

4 Select the **Internet Print** button.

5 Select the desired directory to install the BIP files and then click **Next**. The installation program will create the directory for you if it does not already exist.

6 You will then be asked for a port name. Enter the name of the port. The port name must begin with the BIP and end with a number, for example, BIP1.

7 Press **OK** to continue.

8 You will then be asked to enter the port settings for the remote print server:

Enter any unique legal Internet E-mail address for the remote print server (for example emailprinter@xyz.com). Note that Internet E-mail addresses cannot have spaces in them.

Enter your E-mail address and the IP address of your SMTP E-mail server (consult your Network Administrator if you do not know this address). Also specify if you are going to use the **Partial E-mail Print** option and the **Notification** type.

9 Press **OK** to continue. You will then be asked to re-start your computer.

10 Once your computer has re-started you must create a printer on your Windows® 98/Me/2000/XP and Windows NT® 4.0 system using the standard Windows® 98/Me/2000/XP and Windows NT® 4.0 printer setup procedure. To do this, go the **Start** button, select **Settings** and then **Printers** (Windows® 98/Me/2000 and Windows NT® 4.0). For Windows® XP users, go to the **Start** button, select **Printers and Faxes**.

11 Select **Add Printer** (or **Add a Printer** for Windows® XP) to begin the printer installation.

12 Click **Next** when you get the **Add Printer Wizard** window.

<For Windows® 98/Me users>

13 Select **Local Printer** when you are asked how the printers are connected to your computer and click **Next**.

<For Windows NT® 4.0 users>

13 Select **My Computer**, and then Click Next.

<For Windows® 2000/XP users>

13 Select **Local Printer**, and delete the check mark in **Plug and Play** check box. Then click **Next**.

<For Windows® 98/Me users>

14 Select the desired model of the remote printer. If necessary, click **Have Disk** to load the driver from the CD-ROM. Click **Next** when you are done.

15 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**.

16 Select the **Internet port** (BIP...) which you selected in step 6 and press **Next**.

<For Windows NT® 4.0 and Windows® 2000/XP users>

14 Select the **Internet port** (BIP...) which you selected in step 6 and press **Next**.

15 Select the desired model of the remote printer. If necessary, click **Have Disk** to load the driver from the CD-ROM. Click **Next** when you are done.

16 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**.

17 Enter any desired name for the BIP remote printer and press **Next**. Note that this name does not need to match the port name that you assigned in step 6, or E-mail address that you assigned in step 9.

18 Select **No** when asked if you want to print a test page, unless you have already configured the remote print server to receive BIP print jobs.

You have now finished installing the BIP software. If you need to configure another remote print server, go to the next section, "Adding a Second Internet Port".

Adding a Second Internet Port

You should not re-run the install program to add a new Internet Port. Instead, press the **Start** button, select **Settings**, and open the **Printers** window. Click on the icon of a printer that is using BIP, select **File** from the menu bar, and then choose **Properties**. Click on the **Details** (**Ports** on Windows® 2000/XP and Windows NT® 4.0) tab and click the **Add Port** button.

In the **Add Port** dialog, select the **Other** radio button (Windows® 98/Me only) and then **Internet Port**. Click **OK** (**New Port** on Windows® 2000/XP and Windows NT® 4.0) and it will give you the **Port Name** text box. Any unique name can be given here as long as it starts with "BIP" and another port does not already exist with the same name.

Windows® 2000/XP IPP printing

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

✎ **Note**

- You must configure the IP address on your machine before you proceed with this section. If you have not configured the IP address, see *Configuring your network printer* on page 2-1 first.
- Verify the host computer and print server are either on the same subnet, or that the router is properly configured to pass data between the two devices.
- The default password for print servers is "**access**".

1 For Windows® 2000: Go to the **Start** button, select **Settings** and then **Printers**.
For Windows® XP: Go to the **Start** button and select **Printers and Faxes**.

2 For Windows® 2000: Double click the **Add Printer** icon to get the **Add Printer Wizard.**
For Windows® XP: Double-click **Add a printer** to get the **Add Printer Wizard**.

3 Click **Next** when you see the **Welcome to the Add Printer Wizard** screen.

4 Select **Local printer** or **Network printer**. For Windows® 2000: Make sure that you select **Network Printer**.
For Windows® XP: Make sure that you select **A network printer, or a printer attached to another computer**.

5 Click **Next**.

6 For Windows® 2000: Select **Connect to a printer on the Internet or on your intranet** and then enter the following in the URL field: `http://printer_ipaddress:631/ipp` (Where `printer_ipaddress` is the IP address or the print server name).

For Windows® XP: Select **Connect to a printer on the Internet or on a home or office network** and then enter the following in the URL field: `http://printer_ipaddress:631/ipp` (Where `printer_ipaddress` is the IP address or the print server name).

Note

If you have edited the hosts file on your computer or are using Domain Name System, you can also enter the DNS name of the print server. As the print server supports TCP/IP and NetBIOS names, you can also enter the NetBIOS name of the print server. The NetBIOS name can be seen in the Network Configuration List. The NetBIOS name assigned is the first 15 characters of the node name and by default it will appear as BRN_xxxxxx where xxxxxx is the last six digits of the Ethernet address.

7 When you click **Next**, Windows® 2000/XP will make a connection with the URL that you specified.

If the printer driver has already been installed:

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

If the printer driver has NOT been installed:

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

8 Click **OK**. You will then see the printer selection screen in the **Add Printer Wizard**.

9 If your printer is not in the list of supported printers, click **Have Disk**. You will then be asked to insert the driver disk.

10 Click **Browse** and select the CD-ROM or network share that contains the appropriate printer driver.

11 Now specify the model name of the printer.

12 If the printer driver that you are installing does not have a Digital Certificate you will see a warning message. Click **Yes** to continue with the installation. The **Add Printer Wizard** will then complete.

13 Click the **Finish** button and the printer is now configured and ready to print. To test the printer connection, print a test page.

Specifying a different URL

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

http://ipaddress:631/ipp

This is the default URL and we recommend that you use this URL. Please note the **Get More Info** option will not display any printer data.

http://ipaddress:631/ipp/port1

This is for HP® Jetdirect® compatibility. Please note the **Get More Info** option will not display any printer data.

http://ipaddress:631/

If you forget the URL details, you can simply enter the above text and the printer will still receive and process data. please note the **Get More Info** option will not display any printer data.

If you are using the built in service names that the print server supports, you can also use the following: (However, please note the **Get More Info** option will not display any printer data).

http://ipaddress:631/brn_xxxxxx_p1

http://ipaddress:631/binary_p1

http://ipaddress:631/text_p1

http://ipaddress:631/filter1_p1

http:/ipaddress:631/filter2_p1

http://ipaddress:631/brn_xxxxxx_p1_at

Where ipaddress is the IP address or the print server name.

Other sources of information

See *Configuring your network printer* on page 2-1 to learn how to configure the IP address of the printer.

6 Web Based Management

How to use a Web Browser to manage your Device

Overview

A standard Web Browser (we recommend Microsoft Internet Explorer® version 6.0 or later, or Netscape Navigator® version 7.1 or later) can be used to manage your machine using the HTTP (Hyper Text Transfer Protocol). You can get the following information from a printer on your network using a web browser:

■ Printer status information.
■ Change Fax configuration items, such as General Setup. Quick-Dial settings and Remote Fax.
■ You can also change network settings such as TCP/IP information.
■ Software version information of the machine and print server.
■ Change network and machine configuration details.

You must use the TCP/IP protocol on your network and have a valid IP address programmed into the print server and your computer.

1 To learn how to configure the IP address on your machine, see *Configuring your network printer* on page 2-1.

2 The default password for print servers is "**access**".

3 You can use a web browser on most computing platforms, for example, UNIX® users are also able to connect to the machine and manage it.

4 You can also use the BRAdmin Professional or the BRAdmin Light utilities to manage the printer and its network configuration.

How to connect to your machine using a Browser

Type `http://printer's IP Address /` into your browser (you can also use the NetBIOS name of the print server, if you are in a Microsoft Windows domain/Workgroup environment). Enter the DNS name of the machine if connecting to a network that uses the DNS protocol.

Password Information

Web Based Management offers two levels of password access. Users are able to access to the General Setup, Fax settings and Lists and Reports. The default user name for Users is "**user**" (case sensitive) and the default password is "**access**".

Administrators are able to access all settings. The login name for the Administrator is "**admin**" (case sensitive) and the default password is "**access**".

7 Internet FAX

Overview

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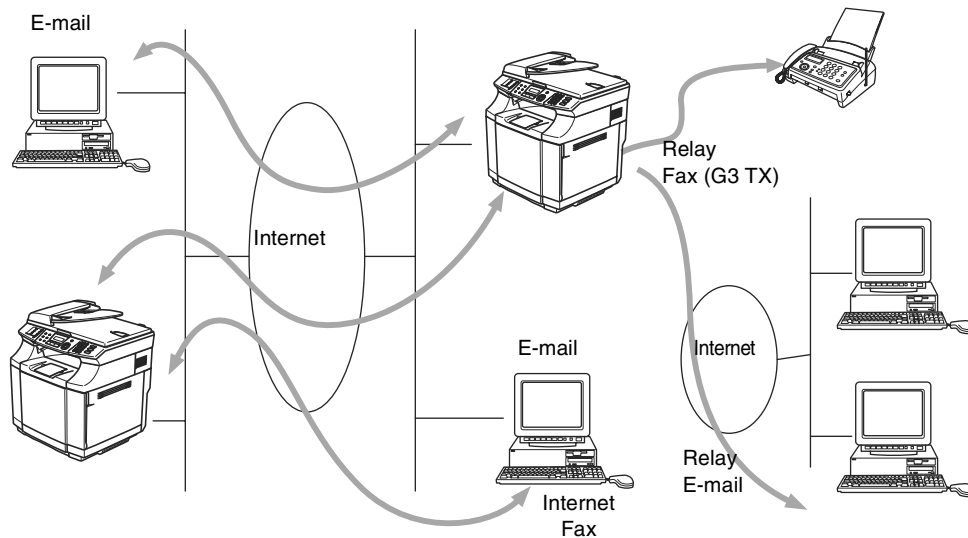
Getting Connected

Before sending or receiving an Internet Fax you must configure your machine to communicate with your network and mail server. You must ensure the following: a correctly configured IP address for your machine, an E-mail address for your machine, the mail server(s) IP address, mailbox name and password for your machine. If you are unsure of any of these items, please contact your systems Administrator. For details of how to configure this information, see *Web Based Management* on page 6-1.

Front Panel Key Functions

Shift + 1
Used to change input mode. You can use Dial Pad keys as Standard alphabet character keys.

Dial Pad
Used to enter Standard Alpha characters (28 letters), as well as @ . space ! " # % & ' () + / : ; < > = ? [ ] ^ - $, * _ € and Numbers.

Shift + 3
To change between upper case and lower case when entering the e-mail / I-Fax address.

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

Menu/Set
Used to store multiple numbers.

Black Start

Begins transmitting the document.

Stop/Exit
Deletes entered data and stops the scanning or transmitting process.

Search / Speed-Dial
These functions work the same way as with conventional machine's.

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

Shift + Black Start
Used to receive E-mail from the POP3 server manually.

Sending an Internet Fax

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

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

To manually enter the Internet Fax address, see *Manually Entering Text* on page 7-3.

7

Manually Entering Text

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

You can now use the Dial Pad to dial the E-mail address. Refer to the following table: Most number keys have three or four letters printed above them. The keys for 0, #, * don't have printed letters because they are used for special characters.

By pressing the appropriate number key the correct number of times, you can access the character you want.

Key	Once	Twice	Three times	Four times
1	@	.	/	1
2	A	B	C	2
3	D	E	F	3
4	G	H	I	4
5	J	K	L	5
6	M	N	O	6
7	P	Q	R	S
8	T	U	V	8
9	W	X	Y	Z

If you want to enter a blank space, press ▶ twice.

If you specify more than 16 characters, the LCD panel will scroll the name to the left character by character. You can enter up to 60 characters.

Making corrections:

If you entered a letter incorrectly and want to change it, use ◀ or ▶ to position the cursor under the character you want to change, and then type over it.

If you want to erase the whole number or whole name, press **Stop/Exit** when the cursor is under the first digit or letter. The characters above and to the right of the cursor will be deleted.

Repeating letters:

If you need to enter a character assigned to the same key as the previous character, press ▶ move the cursor to the right.

As you enter the E-mail address, it will appear character by character on the LCD panel.

If you specify more than 16 characters, the LCD panel will scroll the name to the left, character by character. You can enter up to 60 characters.

Please note that also you can connect to the machine using a web browser and specify the E-mail address information through Web Based Management. See *Web Based Management* on page 6-1 for more information.

Special characters and symbols

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

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

Press Ø for   É À È Ê Î Ç Ë Ö 0 (For US and Canada users)

                     Ä Ë Ö Ü À Ç È E 0 (For other users)

As you enter the Internet Fax address, the address will appear character by character on the LCD panel. If you specify more than 16 characters, the LCD panel will scroll the name to the left character by character. You can enter up to 60 characters.

1 Press **Black Start** to send the document.

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

Some E-mail servers do not allow you to send large E-mail documents (the System Administrator will often place a limit on the maximum E-mail size). You can enable the Limit Size of the Sent Mail feature. The machine will display `Out of Memory` when trying to send E-mail documents over 1Mbyte in size. The document will not be sent and an error report will be printed. The document you are sending should be separated into smaller documents that will be accepted by the mail server. You can enable this feature through the Web Management utility or the LAN function mode.

Receiving E-mail or Internet Fax

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

■ POP3 receiving at regular intervals

■ POP3 receiving (manually initiated)

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

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

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

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

Receiving an Internet Fax to a PC

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

If the PC to which you wish to send a document is not running Windows® 98/98SE/Me/2000/XP or Windows NT® 4.0 operating system, please inform the PC's owner that they must install some software that can view TIFF-F files.

You can use "Microsoft® Imaging" that is supplied with Windows® 98/Me/2000/XP and Windows NT® 4.0.

Forwarding Received E-mail and Fax Messages

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

The setting can be enabled using the Web browsers or through the machine front panel. The steps for configuring Fax Forward can be found in the User's Guide supplied with your machine.

Please see the User's Guide included with the machine to check that this feature is supported. This function is not available for color fax documents.

Relay Broadcasting

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

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

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

Use care in selecting a trusted domain since any user on a trusted domain will be able to send a Relay Broadcast. You can register up to 10 domain names.
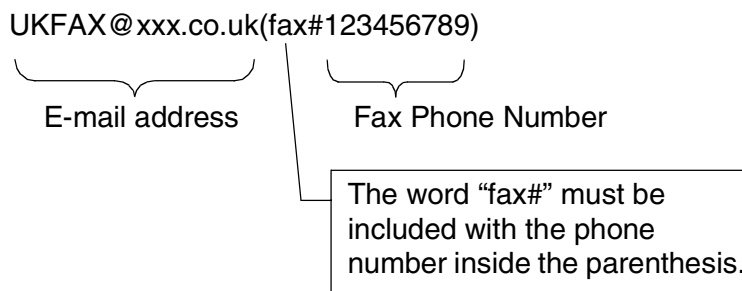
Relay Broadcast can support the relay of a document up to a maximum of 48 fax machines through conventional telephone lines.

Relay Broadcast from a machine

FAX@xxx.com   UKFAX@xxx.co.uk   123456789

INTERNET

UKFAX@xxx.co.uk (fax#123456789)
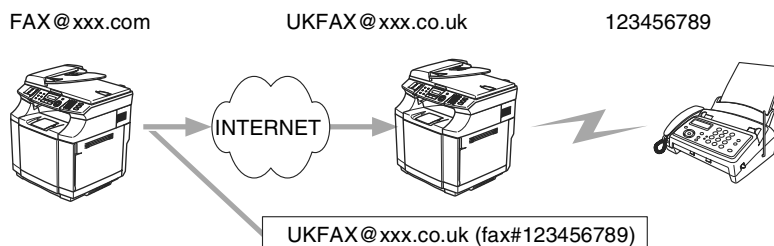
In this example, your machine has an E-mail address of FAX@xxx.com, you wish to send a document from this machine to another machine in England with an E-mail address of UKFAX@xxx.co.uk, this machine will then forward the document to a standard fax machine using a conventional telephone line. If your E-mail address is FAX@xxx.com, you must configure a trusted domain name of xxx.com on the machine in England that will broadcast the document to the conventional fax machine. If you do not enter the domain name information, then the machine in the middle (the machine that will broadcast the document) will not trust any internet jobs that it receives from the machine in the @xxx.com domain.

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

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

E-mail address   Fax Phone Number

The word "fax#" must be included with the phone number inside the parenthesis.

Sending to multiple phone numbers:

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

1 Enter the phone number of the first Fax machine UKFAX@xxx.co.uk(Fax#123).

2 Press **Menu/Set**.

3 Enter the phone number of the second Fax machine UKFAX@xxx.co.uk(Fax#456).

4 Press **Black Start**.

7

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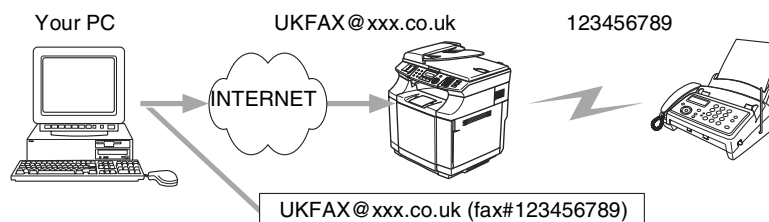
You can also send E-mail from your PC and have it relayed to a conventional FAX machine. The method of entering the phone number of the conventional FAX machine that will receive the relayed E-mail will vary depending on the mail application you are using. The following are some examples of different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

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

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

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

Outlook 97/98/2000/2002/2003:

For Outlook 97/98/2000/2002 and 2003 the address information must be entered into the address book as follows:
Name: fax#123456789
E-mail Address: UKFAX@xxx.co.uk

TX Verification Mail

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

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

Setup Mail (TX)

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

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

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

Setup Mail (RX)

There are three possible settings for this option ON/MDN/OFF.
Receive Notification "ON"
When switched to "ON" a fixed message is sent back to the sending station to indicate successful reception and processing of the message. These fixed messages depend on the operation requested by the sending station.

Report messages consist of

```
SUCCESS : Received From <mail address>
```

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

Receive Notification "OFF"
OFF - Switches all forms of receive notification OFF, no messages are send back to the sending station regardless of the request.

Error mail

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

Important information on Internet Fax

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

■ Factors such as the receiver's location, structure of the LAN system, and how busy the circuit (such as the internet) is, may cause the system to take a long time to send back an error mail. (normally 20 sec. to 30 sec.).

■ In the case of transmission through the Internet, due to its low level of security, we recommend that you use standard phone lines to send confidential documents.

■ If the receiver's mail system is not compatible with the MIME format, you cannot transmit a document to the receiver. Depending on receiver's server, there may be some cases in which the error mail will not be sent back.

■ If the size of a document's image data is huge, there is a possibility of unsuccessful transmission.

■ You cannot change font and character size of Internet mail that you received.

8 Troubleshooting

Overview

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

- General problems
- Network print software installation problems
- Printing problems
- Protocol-specific troubleshooting

General problems

CD-ROM is inserted, but does not start automatically

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

How to reset the print server to factory default

You can reset the print server back to its default factory settings (resetting all information such as the password and IP address information). See *Restoring the network settings to factory default* on page 3-15.

Network print software installation problems

The print server is not found during setup of the network print software installation or from the printer driver of the machine in Windows®.

Make sure you have completed the IP address setting of the print server according to *Chapter 2* or *Chapter 3* of this User's Guide before installing the network print software or printer driver. Check the following:

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

2 Check to see if there is any LED activity. The print servers have two LEDs on the back panel of the machine. The upper green LED shows Link/Activity (Received/Transmit) status. The lower orange LED shows Speed status.

- No light: If the upper LED is off, then the print server is not connected to the network.
- The upper LED is green: The Link/Activity LED will be green if the print server is connected to a Ethernet network.
- The lower LED is orange: The Speed LED will be orange if the print server is connected to a 100 Base TX Fast Ethernet network.
- The lower LED is off: The Speed LED will be off if the print server is connected to a 10 Base T Ethernet network.

3 Print the Network Configuration List and check if the settings such as IP address settings are correct for your network. The problem may be the result of mismatched or duplicate IP address. Verify that the IP address is correctly loaded into the print server. And make sure that no other nodes on the network have this IP address. For information on how to print the Network Configuration List, see *Printing the Network Configuration List* on page 3-16.

4 Verify that the print server is on your network as follows:

Try pinging the print server from the host operating system command prompt with the command:

`ping ipaddress`

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

Printing problems

Print job is not printed

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

1 Make sure that the machine is powered on, is on-line and ready to print. Print the Network Configuration List of the machine and check if the settings such as IP address settings are correct for your network. See *Printing the Network Configuration List* on page 3-16 for information on how to print the Network Configuration List on your print server.

2 The problem may be the result of mismatched or duplicate IP address. Verify that the IP address is correctly loaded into the print server. And make sure that no other nodes on the network have this IP address.

3 Verify that the print server is on your network as follows:

(1) Try pinging the print server from the host operating system command prompt with the command:

```
ping ipaddress
```

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

(2) If a successful response is received, then proceed to *Windows® 98/98SE/Me and Windows NT® 4.0 Peer-to-Peer print (LPR) troubleshooting* on page 8-3, and *Windows® 2000/XP IPP troubleshooting* on page 8-4. Otherwise, proceed to Step 4.

Protocol-specific troubleshooting

Windows® 98/98SE/Me and Windows NT® 4.0 Peer-to-Peer print (LPR) troubleshooting

If you are having trouble printing on a Windows® 98/98SE/Me, Windows NT® 4.0 or later Peer-to-Peer network (LPR method), check the following:

1 Make sure that the LPR Port driver is correctly installed and configured according to the Windows® 98/98SE/Me or Windows NT® 4.0 Peer-to-Peer chapters.

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® 98/98SE/Me and Windows NT® 4.0 computers. Press the ALT and TAB keys to make it appear.

Windows® 2000/XP IPP troubleshooting

Want to use a different Port number other than 631.

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

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

```
http://ipaddress/ipp
```

Get More Info option in Windows® 2000 not working

If you are using a URL of:

```
http://ipaddress:631 or http://ipaddress:631/ipp,
```

the **Get More Info** option in Windows® 2000 will not function. If you wish to use the **Get More Info** option, use the following URL:

http://ipaddress

This will then force Windows® 2000/XP to use Port 80 to communicate with the print server.

Web browser troubleshooting (TCP/IP)

1 If you can not connect to the print server using your web browser it may be worth checking the Proxy Settings of your browser. Look in the Exceptions setting and if necessary, type in the IP address of the print server. This will stop your PC from trying to connect to your ISP or proxy server every time you wish to look at the printer server.

2 Make sure that you are using the proper web browser, we recommend Netscape Navigator® version 7.1 or later/ Microsoft Internet Explorer® version 6.0 or later.

A Appendix A

Using services

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

Service (Example)	Definition
BINARY_P1	TCP/IP binary, NetBIOS service
TEXT_P1	TCP/IP text service (adds carriage return after each line feed)
BRN_xxxxxx_P1	TCP/IP binary

Where `xxxxxx` is the last six digits of the Ethernet address (for example, BRN_310107_P1).

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

For information on how to configure your network printer using the BRAdmin Professional utility or a web browser, see *Setting the IP address and subnet mask* on page 2-3.

Using DHCP to configure the IP address

The Dynamic Host Configuration Protocol (DHCP) is one of several automated mechanisms for IP address allocation. If you have a DHCP server in your network, the print server will automatically obtain its IP address from DHCP server and register its name with any RFC 1001 and 1002-compliant dynamic name services.

📝 **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 Professional utility.

Using BOOTP to configure the IP address

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

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

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

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), Ethernet address and the IP address, subnet mask and gateway of the print server. Unfortunately, the exact format for doing this is not standardized, so you will need to refer to your system documentation to determine how to enter this information (many UNIX® systems also have template examples in the bootptab file that you can use for reference). Some examples of typical /etc/bootptab entries include:

```
BRN_310107 1  00:80:77:31:01:07 192.168.1.2
```
and:
```
BRN_310107:ht=ethernet:ha=008077310107:\
ip=192.168.1.2:
```

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 RARP to configure the IP address

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

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

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

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

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

For AT&T UNIX®-based systems, type:

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

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

Using APIPA to configure the IP address

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

By default, the APIPA protocol is enabled. If you want to disable the APIPA protocol, you can disable it using control panel of the machine. For more information, see *APIPA* on page 3-6.

If the APIPA protocol is disabled, the default IP address of a print server is 192.0.0.192. However, you can easily change this IP address number to match with the IP address details of your network.

Using ARP to configure the IP address

If you are unable to use the BRAdmin application and your network does not use a DHCP server, you can also use the ARP command. The ARP command is available on Windows® systems that have TCP/IP installed as well as UNIX® systems. To use arp enter the following command at the command prompt:

```
arp -s ipaddress ethernetaddress
```

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

Windows® systems

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

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

UNIX®/Linux systems

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

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

📝 **Note**

You must be on the same Ethernet segment (that is, there cannot be a router between the print server and operating system) to use the arp -s command.

If there is a router, you may use BOOTP or other methods described in this chapter to enter the IP address. If your Administrator has configured the system to deliver IP addresses using BOOTP, DHCP or RARP your 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 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 a web browser, TELNET (using the SET IP ADDRESS command) or factory reset the print server (which will then allow you to use the ARP command again).

To configure the print server and to verify the connection, enter the following command `ping ipaddress` where `ipaddress` is the IP address of the print server. For example, `ping 192.189.207.2.`

Using the TELNET console to configure the IP address

You can also use the TELNET command to change the IP address.

Using TELNET is effective way, when you change the IP address. But a valid IP address must already be programmed into the print server.

Type `TELNET` ipaddress at the command prompt of the system prompt, where ipaddress is the IP address of the print server. When you are connected, push the Return or Enter key to get the "#" prompt, enter the password "**access**" (the password will not appear on the screen).

You will be prompted for a user name. Enter anything in response to this prompt.

You will then get the `Local>` prompt. Type `SET IP ADDRESS ipaddress`, where `ipaddress` is the desired IP address you wish to assign to the print server (check with your network manager for the IP address to use). For example:

```
Local> SET IP ADDRESS 192.168.1.3
```

You will now need to set the subnet mask by typing `SET IP SUBNET subnet mask`, where `subnet mask` is the desired subnet mask you wish to assign to the print server (check with your network manager for the subnet mask to use). For example:

A

```
Local> SET IP SUBNET 255.255.255.0
```

If you do not have any subnets, use one of the following default subnet masks:

255.0.0.0 for class A networks

255.255.0.0 for class B networks

255.255.255.0 for class C networks

The leftmost group of digits in your IP address can identify the type of network you have. The value of this group ranges from 1 through 127 for Class A networks (e.g., 13.27.7.1), 128 through 191 for Class B networks (e.g.,128.10.1.30), and 192 through 223 for Class C networks (e.g., 192.168.1.4).

If you have a gateway (router), enter its address with the command `SET IP ROUTER routeraddress`, where `routeraddress` is the desired IP address of the gateway you wish to assign to the print server. For example:

```
Local> SET IP ROUTER 192.168.1.4
```

Type `SET IP METHOD STATIC` to set the method of IP access configuration to static.

To verify that you have entered the IP information correctly, type `SHOW IP`.

Type `EXIT` or Ctrl-D (i.e., hold down the control key and type "D") to end the remote console session.

Installation when using a Network Print Queue or Share (printer driver only)

📝 **Note**

- You must configure the IP address on your machine before you proceed with this chapter. If you have not configured the IP address, see *Chapter 2* first.
- Verify the host computer and print server are either on the same subnet, or that the router is properly configured to pass data between the two devices.
- Before installation, if you are using Personal Firewall software (e.g. the Internet Connection Firewall available in Windows XP), disable it. Once you are sure that you can print, re-start your Personal Firewall software.

1 Start the CD-ROM installation menu program according to the Quick Setup Guide.

2 Select the model name and your language (if necessary), and then click **Install Optional Applications**.

3 Click **Printer Driver (Only)**.

4 Click **Next** in response to the Welcome message. Follow the on-screen instructions.

5 Select **Standard Installation** and click **Next**.

6 Select **Network Shared Printer**, and then click **Next**.

7 Select your printer's queue, and then click **OK**.

📝 **Note**

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

8 Click **Finish**.

Multi-function Print Server specifications

Operating system support	Windows® 98/98SE/Me, Windows NT® 4.0, Windows® 2000/XP	
Protocol support	TCP/IP	ARP, RARP, BOOTP, DHCP, APIPA (Auto IP), NetBIOS Name Resolution, WINS, DNS Resolver, LPR/LPD, Custom Raw Port/Port9100, SMTP Client, POP3, IPP, FTP Server, mDNS, TELNET, SNMP, HTTP
Network type	10/100BASE-TX Ethernet network	
Network printing	Windows® 98/98SE/Me Peer-to-Peer printing Windows NT® 4.0 and Windows® 2000/XP TCP/IP printing	
Computer requirements (for drivers, BRAdmin Professional, Peer-to-Peer software, etc.)	Processor Minimum Speed	Intel® Pentium® II or equivalent for Windows® 98/98SE/Me/2000 Professional/XP and Windows NT® 4.0
	Minimum RAM	32MB for Windows® 98/98SE/Me 64MB for Windows® 2000 Professional and Windows NT® 4.0 128MB for Windows® XP
	Recommended RAM	64MB for Windows® 98/98SE/Me 128MB for Windows® 2000 Professional and Windows NT® 4.0 256MB for Windows® XP

Function Table and Default Factory Settings

LEVEL ONE	LEVEL TWO	LEVEL THREE	OPTIONS	OPTIONS	FACTORY SETTING
6.LAN	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].[001-254].[000-255] *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.Node Name	BRN_XXXXXX=(last 6 figures of Ethernet address) (up to 15 characters)	BRN_XXXXXX	BRN_XXXXXX
		6.WINS Config	Auto/ Static		Auto
		7.WINS Server	(Primary) [000-255].[000-255].[000-255].[000-255]	(Secondary) [000-255].[000-255].[000-255].[000-255]	000.000.000.000
		8.DNS Server	(Primary) [000-255].[000-255].[000-255].[000-255]	(Secondary) [000-255].[000-255].[000-255].[000-255]	000.000.000.000
		9.APIPA	On/Off		On
	2.Setup Internet	1.Mail Address	(60 characters)		
		2.SMTP Server	[000-255].[000-255].[000-255].[000-255]	Name (up to 30 characters)	000.000.000.000
		3.POP3 Server	[000-255].[000-255].[000-255].[000-255]	Name (up to 30 characters)	000.000.000.000
		4.Mailbox Name	(up to 20 characters)		
		5.Mailbox Pwd	Password:******	Verify:******	
	3.Setup Mail RX	1.Auto Polling	On/ Off		
		2.Poll Frequency	xxMin		On/ 10 Min
		3.Header	All/ Suject+From+To/ None		None
		4.Del Error Mail	On/ Off		On
		5.Notification	On/ MDN/ Off		Off
	4.Setup Mail TX	1.Sender Subject			Internet Fax Job
		2.Size Limit	On/ Off		Off
		3.Notification	On/ Off		Off
	5.Setup Relay	1.Rly Broadcast	On/ Off		Off
		2.Relay Domain	RelayXX:	Relay01*YYYYY	XX=01-10 YYYYY=(up to 30 characters)
		3.Relay Report	On/ Off		Off
	6. Setup Misc.	1.Ethernet	Auto/ 100B-FD/ 100B-HD/ 10B-FD/ 10B-HD		Auto
		2.Time Zone	GMTXXX:XX		GMT-5:00

	7.Scan to E-mail	1.B/W File Type	TIFF/PDF		TIFF
		2.ColorFile Type	PDF/JPEG		JPEG
	0.Factory Reset	-			

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

I Index

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Network User's Guide