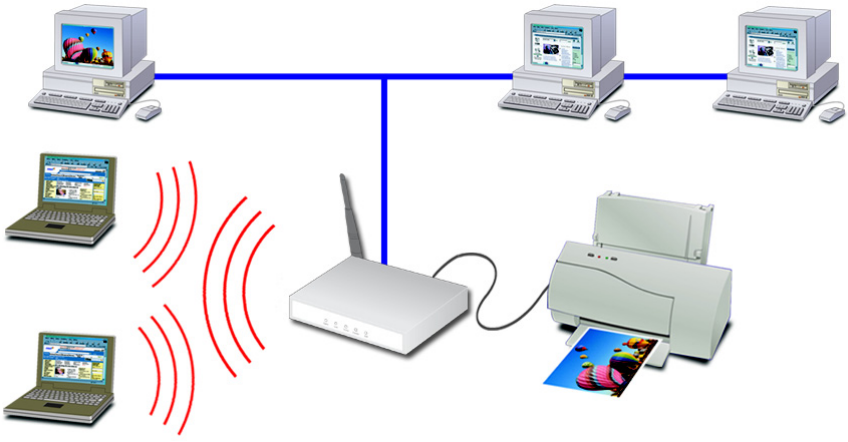
Wireless Print Server



User Guide

Copyright ©2003. ALL RIGHTS RESERVED

Document Version: 1.1
P/N: 9570F20201

All trademark and trade names are the properties of their respective owners.

Table of Contents

Chapter 1 Introduction **1**

Features 1

Safety Instructions 2

Package Contents 3

Models 3

LED Indicators 4

Diagnostic Push Button 5

Chapter 2 LAN Installation **6**

Procedure 6

Chapter 3 Wireless Print Server Configuration **8**

Overview 8

Using the Windows Wizard 8

Chapter 4 Client PC Configuration **11**

Overview 11

Windows Peer-to-peer Printing 13

Windows SMB Printing 20

Windows with Server-based Print Queues 21

Macintosh (AppleTalk) 22

Macintosh OS X 23

Chapter 5 BiAdmin Management Utility **24**

Requirements 24

Installation 24

Operation 24

Chapter 6 Web-Based Management **38**

Overview 38

Preparation 38

Connecting to the Wireless Print Server 39

Configuration Screens 39

Chapter 7 Special Features **47**

Overview 47

Internet Printing Protocol (IPP) 47

Internet Mail Printing 52

Printing through the Internet 56

SNMP 57

Chapter 8 Troubleshooting **58**

Overview 58

Hardware & LAN Problems 58
AppleTalk (Macintosh) 59
Windows Printing Problems 61
Unix Troubleshooting 66
Appendix A Specifications **67**
General Specifications 67
Protocol Support 68
Feature Support 68
Appendix B Windows Server Configuration **69**
Windows NT4.0 Server 69
Windows 2000/2003 Server 70
Appendix C Unix Systems **71**
Overview 71
Wireless Print Server IP Address Configuration 71
Other Wireless Print Server Configuration 71
LPD Configuration 72
Appendix D NetWare **77**
Overview 77
Creating an NDPS Manager Object 77
Creating an NDPS Printer Agent 78

Chapter 1

Introduction

1

This chapter provides an overview of your Wireless Print Server's features.

Features

Congratulations on the purchase of your new Wireless Print Server. Your Wireless Print Server was designed to provide a simple and efficient network printing solution. It is packed with features, including:

- ***Wireless LAN Support.*** Wireless stations supporting the IEEE 802.11b standard can interoperate with the Wireless Print Server. Both LAN and WLAN users can print to the attached printer or printers.
- ***Versatility.*** The Wireless Print Server supports up to four protocols: TCP/IP, SMB (Service Message Block), AppleTalk (EtherTalk), and NetBEUI. It features an Ethernet interface port and operating system support includes Unix, NetWare (NDPS LPR printing), and Microsoft Windows.
- ***Easy Installation.*** The Wireless Print Server makes adding printers or plotters to your network simple.
- ***Easy Setup.*** A number of utility programs are supplied to simplify setup. For Windows 95/98/Me/NT/2000/XP users, the BiAdmin program makes it easy to configure the Wireless Print Server for a variety of network and server configurations.
- ***Web-based Interface.*** The Web-based interface provides an easy method of configuration in TCP/IP networks to every model.
- ***Compact Size.*** This allows the Wireless Print Server to be used even where space is limited.
- ***Remote Management Tools.*** A variety of software tools are provided. In most environments, both the Wireless Print Server and attached bi-directional printers can be configured remotely.
- ***SNMP Support.*** The Wireless Print Server can act as a SNMP agent, with it own MIB. This allows TCP/IP users to monitor, configure and troubleshoot the Wireless Print Server using their existing SNMP management tools.
- ***Internet Printing Protocol (IPP) Support.*** The Wireless Print Server can act as an IPP (Internet Printing Protocol) Server, allowing clients, suppliers, colleagues and others to print to your printer from anywhere on the Internet. Windows IPP Client software is also supplied.

Refer to the "Protocol Support" and "Feature Support" tables in Appendix A for details of which models support the different features.

Safety Instructions

For your own safety, and to protect your Wireless Print Server, please observe the following safety advice.

1. Unplug this device from its power source before cleaning. Use only a slightly dampened cloth for cleaning. Do not use liquid or aerosol cleaners.
2. Avoid using this product near water. Exposure to water poses an electric-shock hazard.
3. Do not place the Wireless Print Server on an unstable surface. The device may fall causing serious damage to the device.
4. This device should only be used with the power supply type specified on the marking label. If you are not sure of type of your local power supply, consult your dealer or the local power company.
5. Do not pinch, crimp or otherwise damage the power cord. If exposed to foot traffic, ensures that the cable is properly shielded and does not pose a tripping hazard.
6. If using an extension cord, makes sure the total ampere rating of the products using the cord does not exceed the extension cord's ampere rating.
7. Do not attempt to service this device, as opening or removing casing may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.
8. The Wireless Print Server should be serviced by qualified service personnel under the following conditions:
   - The power cord is damaged or frayed.
   - Liquid has been spilled onto the product.
   - The product has been exposed to rain or water.
   - The product does not operate normally in accordance with the operating instructions.
   - The device has been dropped or the casing has been damaged.

Package Contents

You should find the following items packaged with your Wireless Print Server. If any items are missing, contact your dealer immediately.

- The Wireless Print Server
- Power Adapter
- One CD-ROM containing all support programs and this manual
- Quick Install Guide

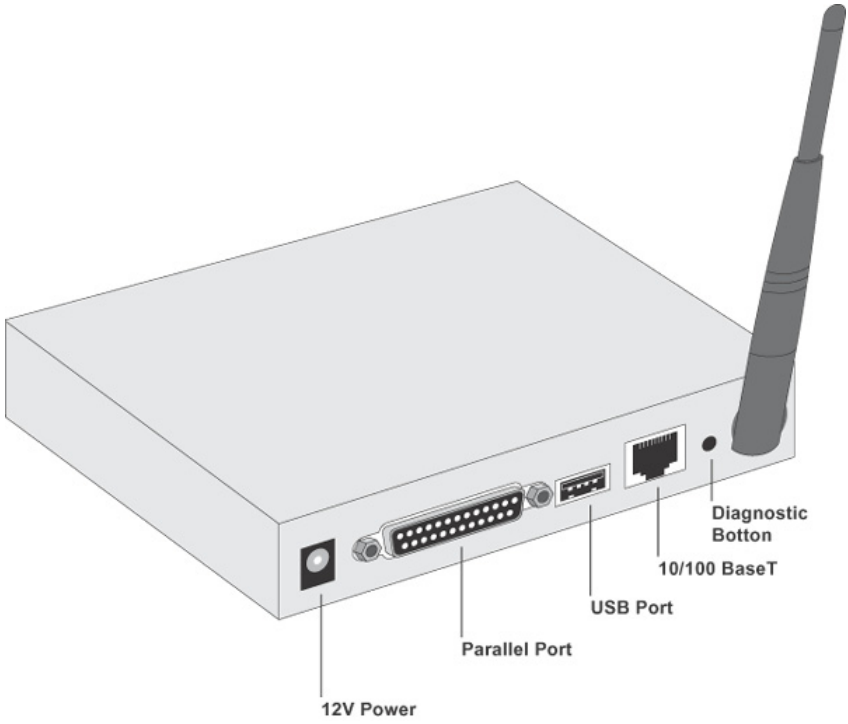
Models

This manual covers the following Wireless Print Server models. Details of the LEDs and connections are in this Chapter. Further details of each model are contained in *Appendix A - Specifications*.

WPS870G Wireless Print Server

- 1 USB Printer Port
- 1 Parallel Printer Port
- IEEE 802.11b Wireless Station
- 10/100BaseT LAN connection

Note: The parallel port is Port 1, the USB port is Port 2.



LED Indicators

All models have four LED indicators on the top. The Error LED is red. The ACT LED is green. The LED indicator modes are described in the following table.

LED	Color(s)	Activity	Desc.
Status	Green + Orange	Off	Power Off
		Green On	Device Ready
		Orange On	Error
Ethernet	Green + Orange	Off	No Ethernet Link
		Green On	Ethernet Link
		Green Blinking	Traffic
		Orange Blinking	Collision
Wireless-G	Green	Off	No Wireless Link. (if wireless initiate failed)
		Green On	802.11g module is functional.
		Green Blinking	Sending/Receiving
Parallel Port	Green + Orange	Off	No printer is connected
		Green On	Printer is connected.
		Green Blinking	Sending data
		Orange On	Problem on printer
USB Port	Green + Orange	Off	No printer is connected
		Green On	Printer is connected.
		Green Blinking	Sending data
		Orange On	Problem on printer

Diagnostic Push Button

The Wireless Print Server is fitted with a Diagnostic Push Button. The button is recessed; a pin or paper clip can be used to press it. This button has 2 functions:

- Restore the factory default settings
- Print a test page containing all current settings.

To restore the factory default settings:

1. Turn the Wireless Print Server OFF.
2. Press and hold the diagnostic button. While pressing the button, switch the Wireless Print Server ON.
3. If you continue pressing the button for 10 seconds, a diagnostic page will be printed, showing the new (default) settings.

To generate a Diagnostic print out

1. Ensure that both the Wireless Print Server and the printer attached to port 1 are ON.
2. Press the diagnostic button, and hold it in for 2 seconds.
3. The test page, containing the current settings, will be printed.

   Note:

   PostScript printers are unable to print this page. If you have a PostScript printer on Port 1, the test page will not be printed.

Chapter 2

LAN Installation

2

This chapter describes how to install the Wireless Print Server in your Local Area Network.

Procedure

1. Preparation

- Ensure the power is OFF. Do not connect the Wireless Print Server while power is On.
- Find the *Default Server Name* for your Wireless Print Server. The *Default Server Name* is shown on a sticker on the base of the device. It consists of 8 letters and/or digits. Record this name; it may be needed during configuration.

2. Connect the Printer or Printers

Connect the printer or plotter cable(s) to the appropriate port(s) on the Wireless Print Server unit. Parallel port cables should be less than 3 meters long.

3. Connect to your Network

Wired Network Interface

Connect the network cable to the 10/100BaseT LAN connector on the Wireless Print Server.

Note!

- **To use the LAN interface, the LAN cable needs to be inserted BEFORE powering ON**
- **In the default Wireless "Infrastructure" mode, connecting a LAN cable will disable the Wireless interface. To use both the LAN and Wireless interfaces, the Wireless mode must be changed to "Ad-hoc".**

Wireless Network Interface

Ensure your Access Point is compatible with the Wireless Print Server's default settings:

- SSID: ANY
- WEP: Disabled

Note!

Because the default Wireless mode is "Infrastructure", you cannot configure the Wireless Print Server via the Wireless interface unless you have an Access Point.

4. Power Up

Plug in the power adapter cable and power up. Start-up will take only a few seconds.

Use only the Power Supply unit provided with the device. Power Supply units for different models are not interchangeable.

5. Check the LEDs

- The Red Error LED should flash, then turn Off. When the Error LED goes off and the ACT LED remains lit or flashes, the Wireless Print Server is ready.
- If using the LAN interface, the LAN LED should be ON.
  If using the Wireless interface, the WLAN LED should be ON.

Chapter 3

Wireless Print Server Configuration

3

This chapter provides an overview of the configuration process.

Overview

The Wireless Print Server is designed to support many different platforms, and the configuration required would depend upon the environment in which it is installed.

- The Wireless Print Server usually requires configuration, but if there's a DHCP server on your network, then the device is just plug-and-play. A Windows-based setup Wizard is also provided on the CD-ROM to simplify this task.
- PCs wishing to use the printer attached to the Wireless Print Server always require configuration. See *Chapter 4- Client Configuration* for details.
- If you wish to use a queue-based printing system using **Windows NT Server/Windows 2000/Windows XP**, the Network Server must be configured as detailed in *Appendix B - Windows Server Configuration*. However, it is not necessary to use a Network Server-based queue; client PCs can print directly to the Wireless Print Server using the *Peer-to-peer Printing* installed by the *User* setup option on the CD-ROM.

Configuration Methods

The following methods are available to perform the required Print Server configuration:

- **Windows-based Wizard** - see below for details.
- **BiAdmin** management utility program - see Chapter 5 for details.
- **Web-based setup** - see Chapter 6 for details.

Advanced Configuration and Management

The BiAdmin management utility is provided for advanced configuration and management. This program is installed by default when the ***Administrator*** install option is chosen. See Chapter 5 for details on using BiAdmin.

Using the Windows Wizard

The Windows-based Wizard is supplied on the CD-ROM, and runs on Windows 95, 98, NT4.0, ME, Windows 2000 and Windows XP.

Using this Wizard is the recommended method to configure the Print Server.

It can be used configure the Wireless Print Server for your Network environment, even if the Print Server does not have a valid IP address.

Procedure

1. Insert the supplied CD-ROM into your drive. If the setup program does not start automatically, run *SETUP.exe* in the root folder.
2. On the first screen, shown below, click *Setup Wizard*.

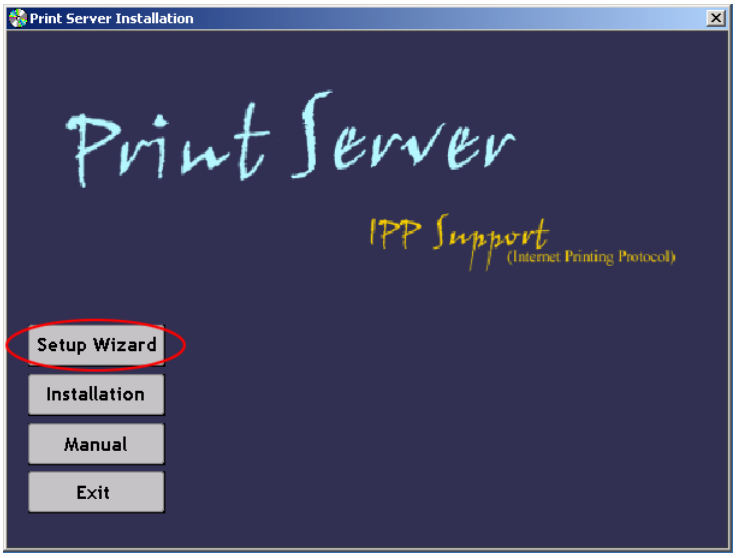


Figure 1: Wireless Print Server Screen

3. Click *Next* on the first screen of the Wizard, to view a list of Wireless Print Servers on your LAN.
4. Select your new Wireless Print Server, then click *Next* to continue.
5. Enter the required data on the following screen.
   - Name of the Print Server can be changed if you wish.
   - Comment is optional.
   - Select or enter the Workgroup name for this Wireless Print Server.
6. Click *Next* to configure the **TCP/IP Screen**:
   - Select *Obtain IP Address automatically* if your LAN has a DHCP Server, otherwise select *Fixed IP Address*.
   - For *Fixed IP Address*, enter an unused address from the range used on your LAN, or click the *Suggest New Values* Button.
     Use the same *Network Mask* and *Gateway* as PCs on your LAN.
7. On the **Wireless Screens**, the settings should be set to match your other Wireless Stations. For details about each setting, refer to the following section *Wireless Configuration*.
8. Click *Finish* to save the data to the Wireless Print Server.

Note: To install the Wizard on your PC, use the "Installation" option.

If the desired Wireless Print Server is not listed:

- Check all cables to the Wireless Print Server.
- Check the Wireless Print Server's LEDs:
  - The Error LED should be OFF and the ACT LED should be ON or flashing.
  - The LAN LED should be ON.
- Check that your PC and the Wireless Print Server are on the same LAN segment. (If you don't have a Router or Gateway on your LAN, you only have 1 segment.)
- Check that your PC has either the TCP/IP or NetBEUI network protocols installed. See *Checking your Network Protocols* on page 12 for details.

Wireless Configuration

Wireless Mode

The Wireless Print Server is a Wireless station, NOT an access point. Like other Wireless stations, they have 3 modes:

- **802.11 Ad Hoc mode -** no Access Point is used, Wireless stations communicate directly with each other. This is the current standard.
- **Ad Hoc mode -** no Access Point is used, Wireless stations communicate directly with each other. This is the older standard, and requires that each Wireless station is set to use the same Channel. (In *802.11 Ad-hoc* mode, a Wireless station will scan all channels to find compatible ad-hoc groups it can join.)

Note!

Of the two (2) Ad-hoc modes, "802.11 Ad Hoc" mode is recommended. If your Wireless LAN Card doesn't provide "802.11 Ad Hoc" mode, try "Ad Hoc" mode on the PC and "802.11 Ad Hoc" on the Wireless Print Server. If this fails, select "Ad-hoc" mode on the Wireless Print Server.

- **Infrastructure (Default)** - all Wireless stations connect to the Access Point. This allows connection to both other Wireless stations and the wired LAN.

Note!

To use both the LAN and Wireless interfaces, the Wireless mode must be set to "Ad-hoc".
In "Infrastructure" mode, connecting a LAN cable will disable the Wireless interface.

Required Configuration

	Ad-hoc Mode **802.11 Ad-hoc Mode**	**Infrastructure Mode**
SSID	If 802.11 Ad Hoc mode is configured, the Wireless Print Server will join any group with the same SSID. If there's no Ad Hoc group available on the environment, the Wireless Print Server will create the group by the SSID number value it configured.	Must match the Access Point.
Channel	In *Ad Hoc* mode, the Wireless Print Server will join any group with the same Channel number. In *802.11 Ad Hoc* mode, the Print Server will scan all Channels to look for compatible groups it can join. If there is no existing Hoc group available, the Wireless Print Server will create the group using its own Channel number.	Access Point sets the Channel used. Wireless stations automatically locate the correct channel.
WEP Settings	Must match the other Wireless stations.	Must match the Access Point.

Chapter 4

Client PC Configuration

4

The chapter details the client configuration required on LAN clients to use the printer or printers attached to the Wireless Print Server.

Overview

Before performing client configuration, the Wireless Print Server must be installed on your LAN, and configured as described in Chapter 3. Both the Wireless Print Server and the attached printer must be powered ON.

Printing Methods

The Wireless Print Server supports a number of printing methods:

- ***Peer-to-peer Printing*** means that the print jobs are stored (queued) on your PC, and sent directly to the Wireless Print Server when it is available.
- ***Server-based Print Queue*** means that all print jobs are stored (queued) on the Network Server (e.g. Windows NT/2000) and then sent to the Wireless Print Server. This allows the Network Administrator to modify the Print Queue. For example, an important job can be moved to the head of the queue.
- ***Windows SMB*** printing is a Microsoft standard for using a "Network Printer". No additional software needs to be installed on your Windows PC, and printing from MS-DOS programs is supported. However, because the Wireless Print Server can not store files, large print jobs may cause problems.
- ***AppleTalk*** is also supported, and normally no configuration of the Wireless Print Server is required. See the Macintosh section of this chapter for details of client configuration.

Which printing method should I use?

- If using Windows 95, 98, NT, Me, 2000, or XP, the easiest method to use is *Peer-to-peer Printing*.
- If using Windows, and you need to print from MS-DOS programs, or you don't wish to install additional software, use SMB.
  However, SMB is not suitable for large, complex documents, so if you need this as well as MS-DOS printing, you should install BOTH *Peer-to-peer Printing* and SMB printing. MS-DOS programs can use the SMB printer, Windows programs should use *Peer-to-peer Printing*.
- If your LAN has Network Servers (e.g. Windows NT, Windows 2000 Server) use the method advised by your Network Administrator. The Wireless Print Server can print via a queue located on a Network server, if desired.
- **Unix** users - refer to the ***Appendix C***.
- **Macintosh** users - refer to the Macintosh section of this chapter.

Checking your Network Protocols (Windows 9x)

Your PC must have EITHER the TCP/IP or NetBEUI protocols installed. (All versions of Windows after Windows 95 have TCP/IP installed by default.)

- If using the ***Peer-to-peer Printing***, the installation program will check this for you.
- If using other methods, you must check manually, as follows:

1. Select the *Settings* - *Control Panel* - *Network* option on the Start Menu. You should see a screen like the one following:

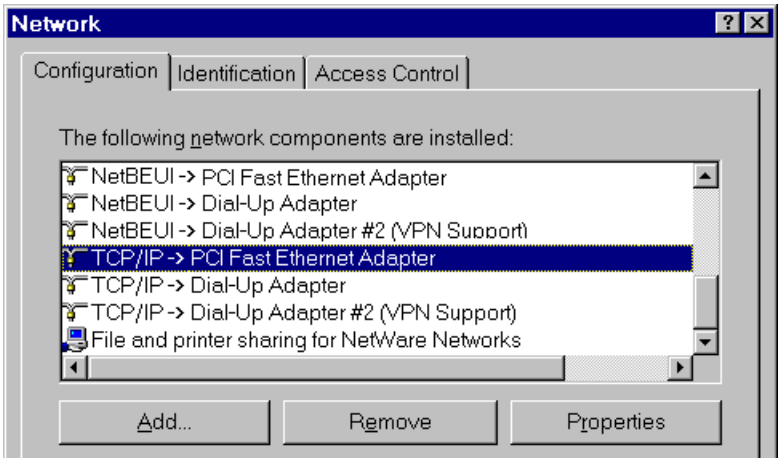


Figure 2: Network Configuration

   - The top line in the list (NetBEUI -> PCI Fast Ethernet Adapter) indicates that the NetBEUI protocol is installed on this PC. Your PC will show the name of the your Network card rather than "PCI Fast Ethernet Adapter".
   - The highlighted line (TCP/IP -> PCI Fast Ethernet Adapter) indicates that TCP/IP is installed. Your PC will show the name of the your Network card rather than "PCI Fast Ethernet Adapter".

2. If neither line is present:
   - Install the NetBEUI protocol by selecting *Add* - *Protocol* - *Microsoft* - *NetBEUI* - *OK*. You may be prompted for your Windows CD-ROM.
   - If required, you can also install TCP/IP. However, depending on your LAN environment, TCP/IP may require further configuration.
3. If either protocol is already installed, proceed with installation.

Windows Peer-to-peer Printing

With this printing method, print jobs are stored (queued) on your PC, and then sent to the Wireless Print Server when it is available.

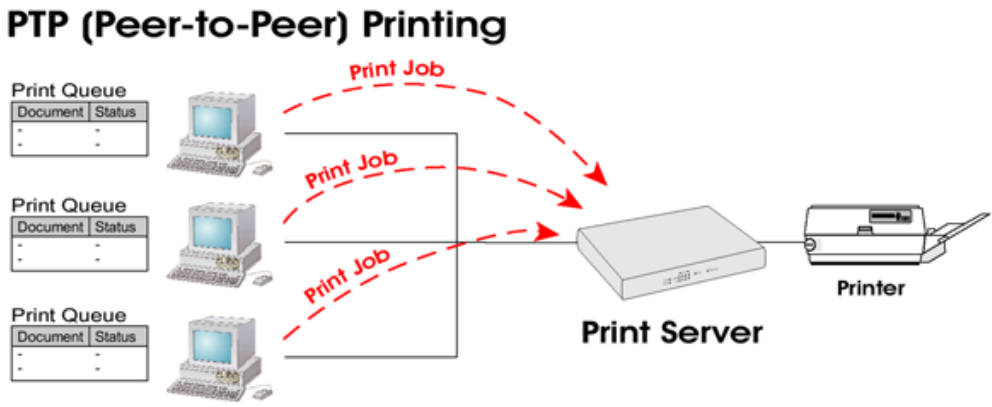


Figure 3: Peer-to-Peer Printing

Windows 2000 & XP require no additional software.

For other versions of Windows, the supplied PTP (Peer-to-Peer) Printer Port software must be installed on each PC.

Windows 2000/XP Setup

The recommended printing method is to use LPR, as follows:

1. Open your *Printers* folder, right-click the desired printer and select *Properties*.
2. Select the *Ports* tab and click the *Add Port* button.

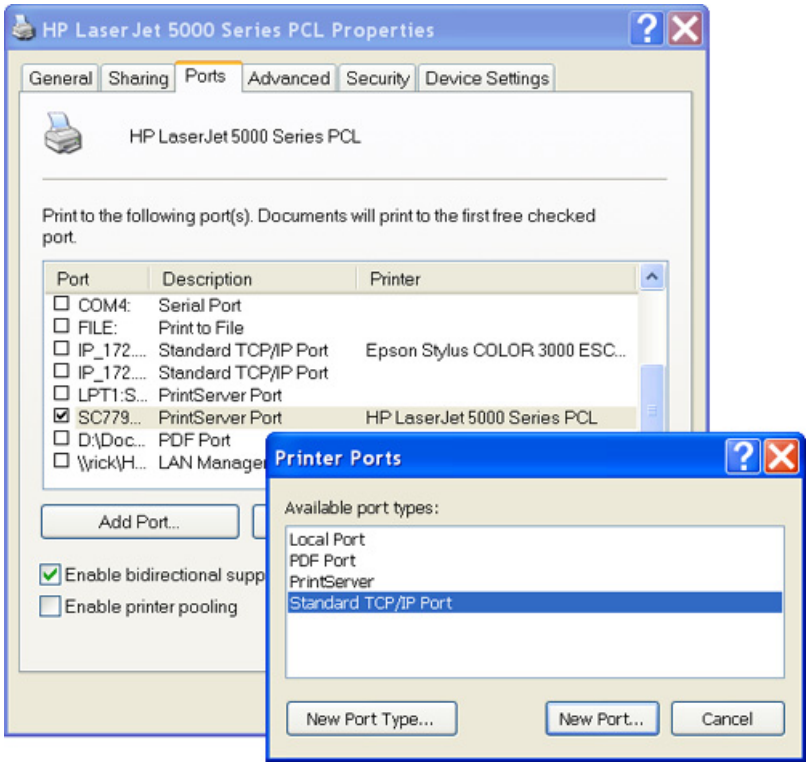


Figure 4: Printer Ports Screen

3. Choose Standard *TCP/IP Port*, then click *New Port*.

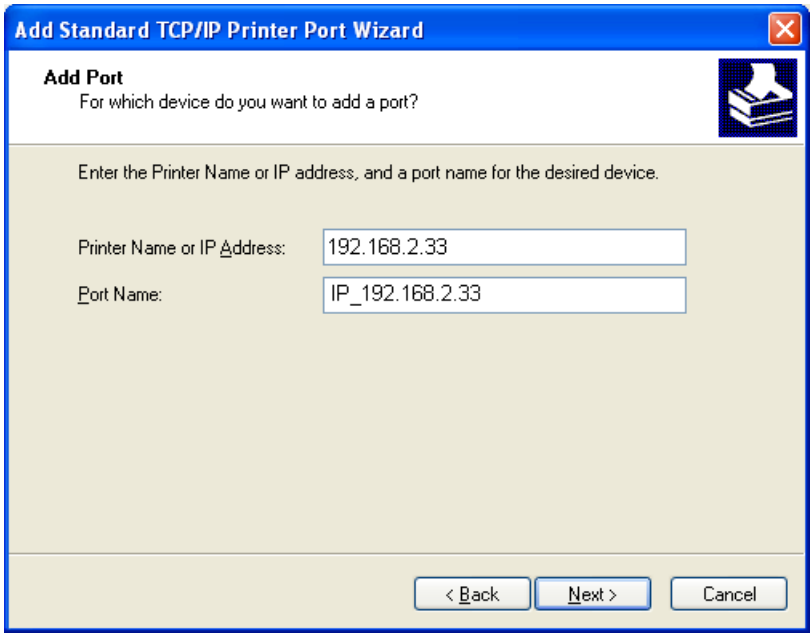


Figure 5: Add Port Screen

4. On the *Add Standard TCP/IP Printer Port* screen above, enter the *IP Address* of the Print Server in the *Printer Name or IP Address* field, then click *Next*.

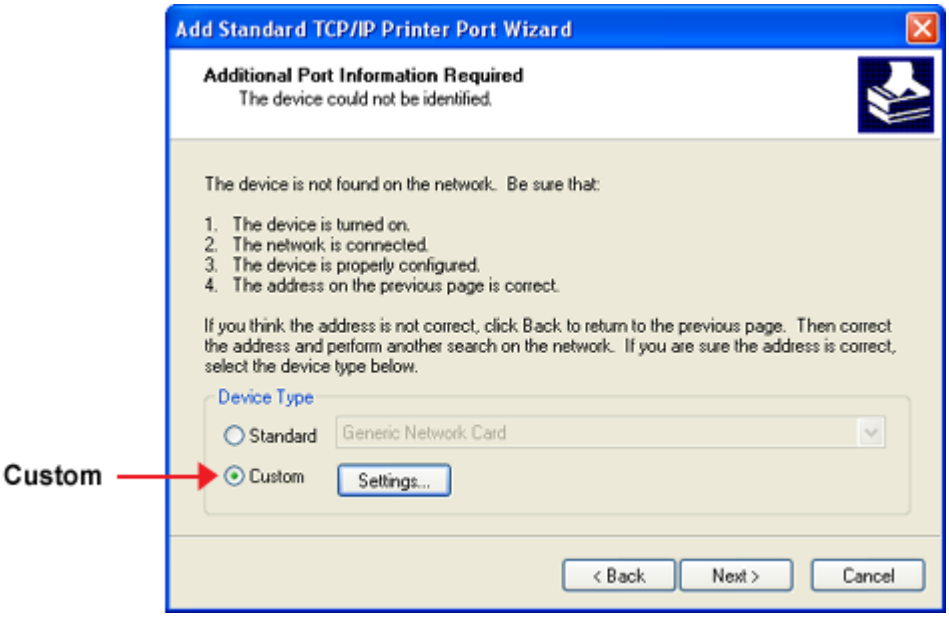


Figure 6: Additional Port Information Screen

5. On this screen, select *Custom*, and click the *Settings* button.

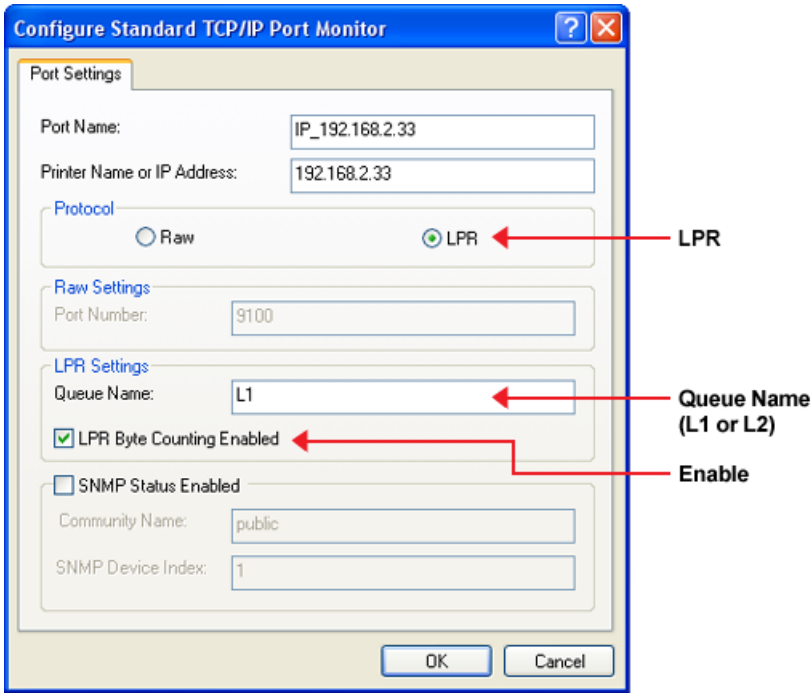


Figure 7: Port Settings Screen

6. On the *Port Settings* screen, shown above:
   - Select *LPR* in the *Protocol* section
   - Enter a *Queue name* (L1 for Port 1, L2 for Port 2 if the Wireless Print Server has 2 printer ports)
   - Ensure the *LPR Byte Counting Enabled* setting is **Enabled**.
   - Click OK to confirm your changes and close this screen.
7. Follow the prompts to complete the Wizard.

Windows 9x/ME Setup

Before performing the following procedure, the Wireless Print Server must be installed on your LAN, and configured as described in Chapter 3. Both the Wireless Print Server and the attached printer should be powered ON.

1. Insert the supplied CD-ROM into your drive. If the setup program does not start, run SETUP.exe in the root folder.
2. Click *Installation* button, then select the *User Install*.

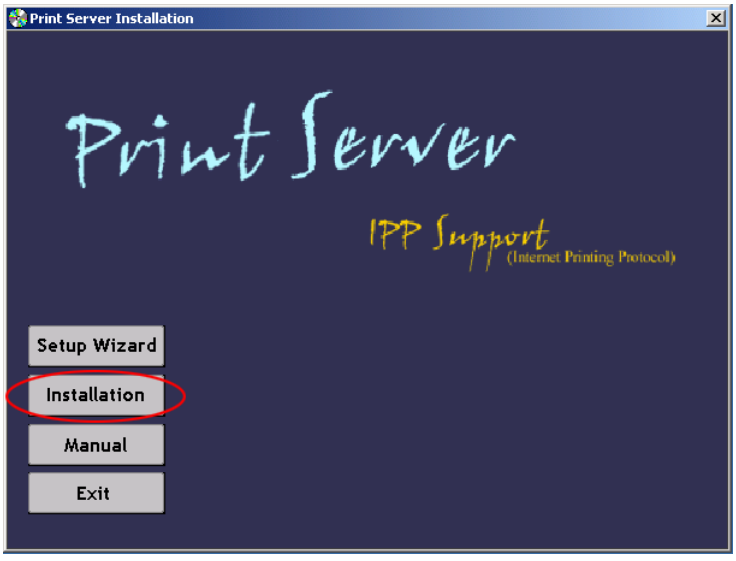


Figure 8: Installation Screen

3. Follow the prompts to complete the installation of the Peer-to-peer Printer Port Driver. (Refer to the *Windows* section of *Chapter 8 - Troubleshooting* if there is a problem with the installation.)
4. The *Print Driver Setup* will then run.

In future, you can use *Start - Programs - PrintServer Driver - Printer Port Setup* to run the program again.

PTP Printer Port Setup

1. The program will search for Printer Servers on the network, and a screen like the following will be displayed.
   - If desired, click *Refresh*.
   - The name of the attached printer will be displayed if possible. If "No printer" is displayed, check that the printer is properly connected and powered on.

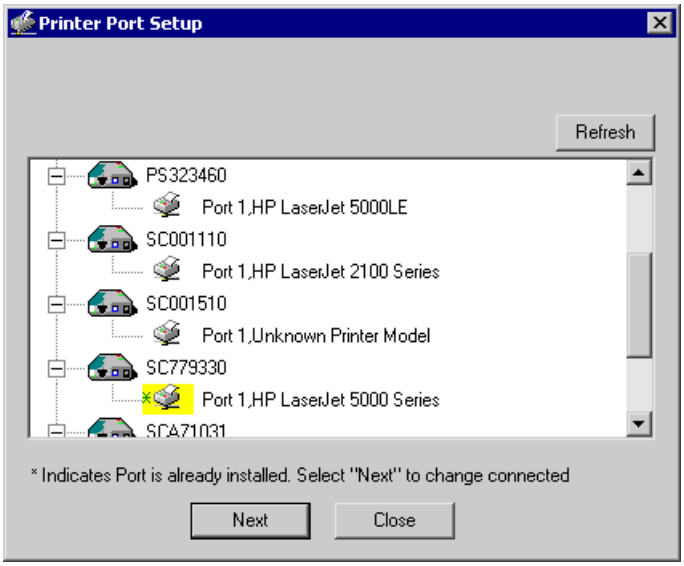


Figure 9: Print Port Setup (Peer-to-peer Printing)

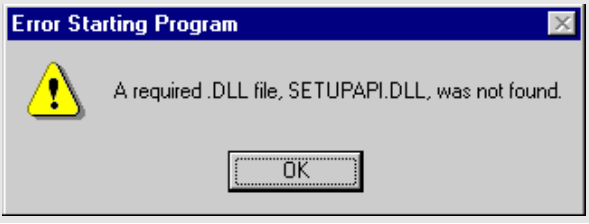
If your Wireless Print Server is not listed:

- Click the "Refresh" button.
- Check that both the Wireless Print Server and the printer are properly connected, and powered on.
- Check that the Wireless Print Server has been configured. (Use the ***Setup Wizard*** on the CD-ROM.)
- If using TCP/IP, try installing the NetBEUI protocol. (See the earlier section *Checking your Network Protocols* for details.). Then try again.

2. Select the desired port on a Wireless Print Server, then click *Next*. A pop-up message will inform you if the port has been created successfully.

Note!

If you see the following error message, either install Internet Explorer 4 or later, or follow the procedure in the "Trouble Shooting - Windows" section of Chapter 8.



3. The printer port will be created, then a screen like the following will be displayed.

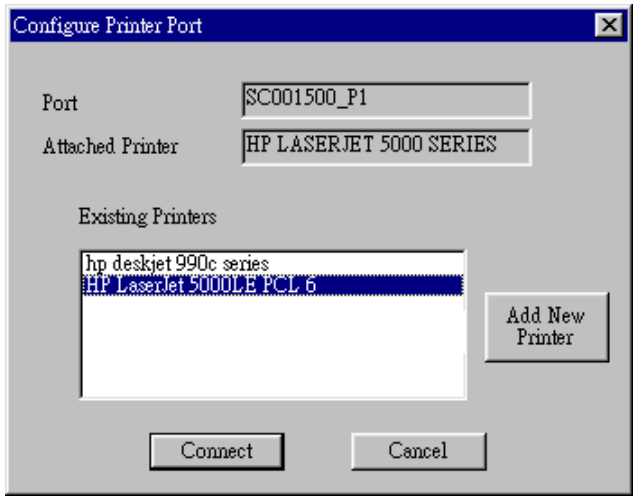


Figure 10: Configure Printer Port

4. Select the correct Windows printer in the *Existing Printers* list, and click the *Connect* button.

   If the correct printer type is not listed, click "Add New Printer" to run the Windows *Add Printer* wizard. Step through the Wizard and install the required printer:
   - Select the correct Printer Manufacturer and Model, or use the "Have Disk" option if appropriate.
   - We recommend changing the Printer name to indicate which device is on. (e.g. HP2100 on SCA43600_P1)
   - If prompted about Sharing the printer, do NOT enable Sharing.
   - When the Printer installation is finished, it will be listed in the *Configure Printer Port* screen above. Select it and click *Connect*.

5. Installation is now complete. You can now print using this printer.
   - To install additional Printers, repeat steps 4.
   - Use the ***Start*** menu to run this program in future. The default installation is *Start - Programs - PrintServer Driver - Print Driver Setup*.

Note:

If using the Epson Spooler Manager, this program must be disabled, as follows:

1. Run the Epson Spooler Manager.
2. Select "Queue Setup" from the menu.
3. Click "Use Print Manager for this port".
4. Click "OK" to exit.

Management

- Print jobs can be managed like any Windows printer. Open the *Printers* folder (*Start - Settings - Printers*) and double-click any printer to see the current print jobs.
- If the printer attached to the Wireless Print Server is changed, just run this program again, and select the correct printer.
- To delete a port created by this setup program, use the Windows *Delete Port* facility:
  - Right-click any printer in the *Printers* folder, and select *Properties*.

- Locate the *Delete Port* button. This button is on the *Details* or *Ports* tab, depending on your version or Windows.

- If the Wireless Print Server's IP Address is changed, and you can no longer print, delete the port (see procedure above) and re-install it.

Advanced Port Options

The options for the *Peer-to-peer Printing* are accessed via the *Port Settings* button.

Use *Start - Settings - Printers* to open the Printers folder, then right-click the Printer, and select *Properties*. The *Port Settings* button is on the *Details* or *Ports* tab, depending on your version of Windows.

An example screen is shown below:

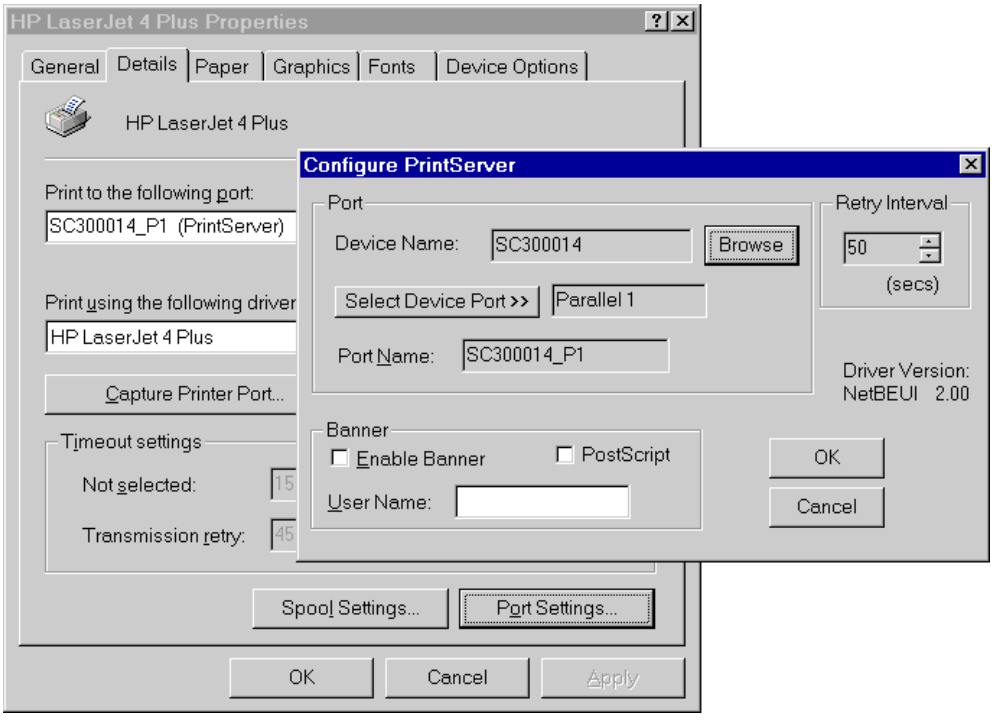


Figure 11: Port Settings (Peer-to-peer Driver)

Items shown on this screen are as follows:

Port	If desired, click *Browse* to select a different Wireless Print Server. If the selected device has multiple ports, the *Select Device Port* button can be used to select the port. The *Port Name* can not be changed after installation. This name is shown in the Printer's *Properties*.
Banner	Check this option to print a banner page before each print job. • If using a PostScript Printer, check the *PostScript* box. • The *User Name* will be printed on the banner page.
Retry Interval	Sets how often Windows will poll the Wireless Print Server to establish a connection when the printer is busy. Increase this value if you get too many warning messages.

Windows SMB Printing

This method requires no additional software to be installed, but the NetBEUI or TCP/IP protocol must be installed on your PC. Use the following procedure to install the Wireless Print Server's printer as a Windows SMB network printer:

1. Double-click the *Network Neighborhood* icon on the desktop.
2. On the *View* menu, select *Details*.
3. Locate the desired Wireless Print Server, as shown below:
   - If it is the same Workgroup as your PC, it will be listed on screen.
   - If it is in a different workgroup, double-click *Entire Network*, then double-click the appropriate Workgroup to open it.

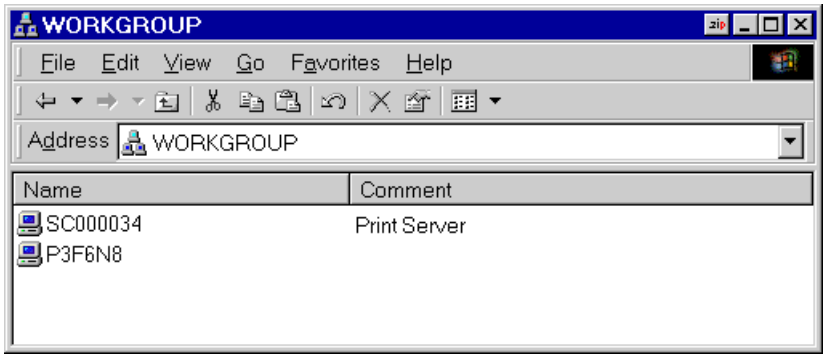


Figure 12: Network Neighborhood

4. Double-click the Wireless Print Server icon to view a Printer icon for each printer port. The "Comment" field may indicate what type of printer is connected to the port.
5. To install a printer, right-click the desired printer icon, and choose "Install", as shown below. This will start the *Add Printer* wizard.

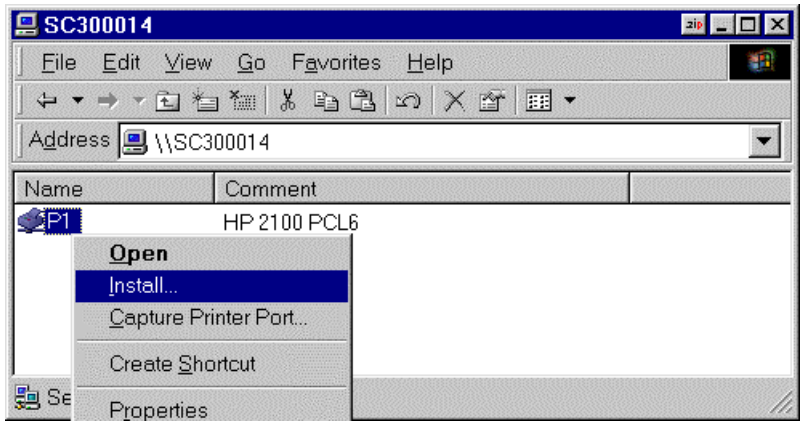


Figure 13: Install SMB Printer

6. Follow the prompts to complete the installation.
   - For information about the question "Do you print from MS-DOS programs?", see *Printing from MS-DOS Programs* below.
   - Select the Printer Manufacturer and Model to match the printer connected to this port on the Wireless Print Server, and complete the Wizard.
7. This printer will now appear in your *Printers* folder (*Start - Settings - Printers*) and can be used like any other printer. However, SMB printing is not suitable for large complex print jobs - you should use the *Peer-to-peer Printing* instead.

Windows with Server-based Print Queues

With a Server-based Print Queue, the Print Server is installed on an existing Network Server (Windows, Unix, or NetWare), rather than on your PC. If your Network Administrator uses this system, each Windows client must be set up as follows:

1. Open your *Printers* folder, and start the *Add Printer* Wizard.
2. When prompted, select *Network Printer*.
3. When prompted for *Network Path or Queue Name*:
   - On Windows 98/ME, click the *Browse* button
   - On Windows 2000/XP, leave the field blank and click *Next*

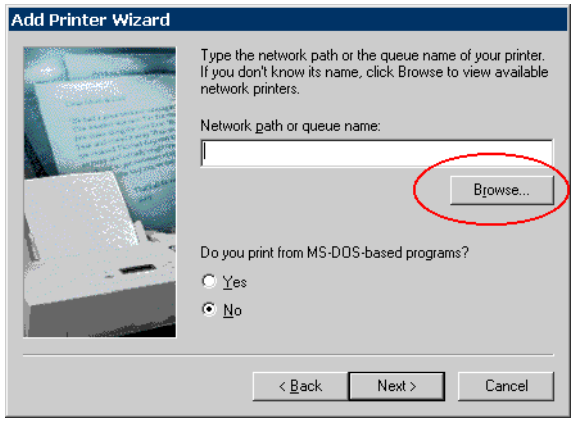


Figure 14: Network Path - Windows 98/ME

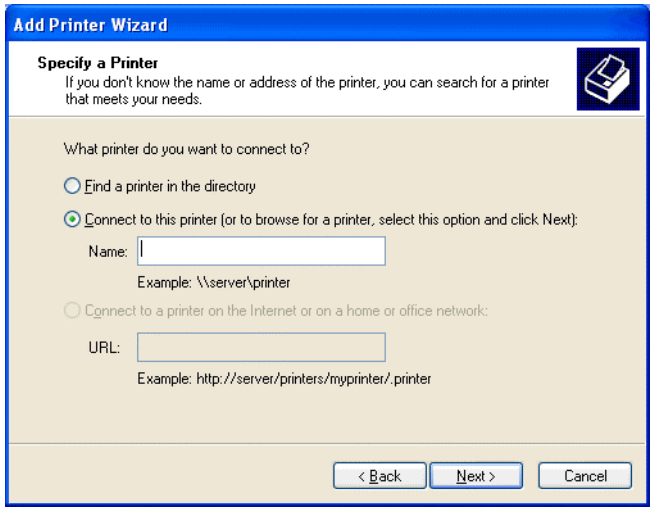


Figure 15: Network Path - Windows XP

4. Browse the network, and locate the Server and Printer (or Print Queue) which your Network Administrator advised you to use.
5. Click OK, then *Next*.
6. Select the correct printer Manufacturer and Model, as advised by your Network Administrator, and click *Next*.
7. Follow the prompts to complete the Wizard.

The new printer will be listed with any other installed printers, and may be selected when printing from any Windows application.

Macintosh (AppleTalk)

The Wireless Print Server supports AppleTalk (EtherTalk), PAP, ATP, NBP, ZIP and DDP protocols, enabling Macintosh computers on the network to view and use the Wireless Print Server as a regular AppleTalk printer.

Normally, no configuration is required.

Software Requirements

System 9.x OS or newer.

AppleTalk Setup

1. Click the apple icon and choose *Control Panel - AppleTalk*.
2. Ensure that *Ethernet* is selected under *AppleTalk Connection*.
3. Click *Chooser*. The Chooser panel will open.
4. Click on either the *LaserWriter 8* icon (recommended) or the *LaserWriter 7* icon. LaserWriter 8 makes use of the fonts installed in the printer itself, so the printing response time is quicker. LaserWriter 7 uses the fonts installed in the computer, which increases network traffic and takes more printing time.
5. Choose a PostScript printer from the list.
6. Click *Create* and it will search PPD automatically.
7. Select a printer description from the list.
8. Click *Select*.
   Configuration is now complete.

Printing

Printing with the Wireless Print Server installed in an AppleTalk network is identical to normal printing. Just select *File - Print* and choose the desired printer.

Advanced Setup and Management

In a mixed Windows PC/Macintosh environment, you can use BiAdmin to configure the Wireless Print Server. See Chapter 5 for details on installing and using BiAdmin.

Macintosh OS X

If using LPR printing, you need to ensure the Wireless Print Server has a valid IP address before configuring your Mac as follows.

LPR printing Setup

1. Select the *Printer List* icon.

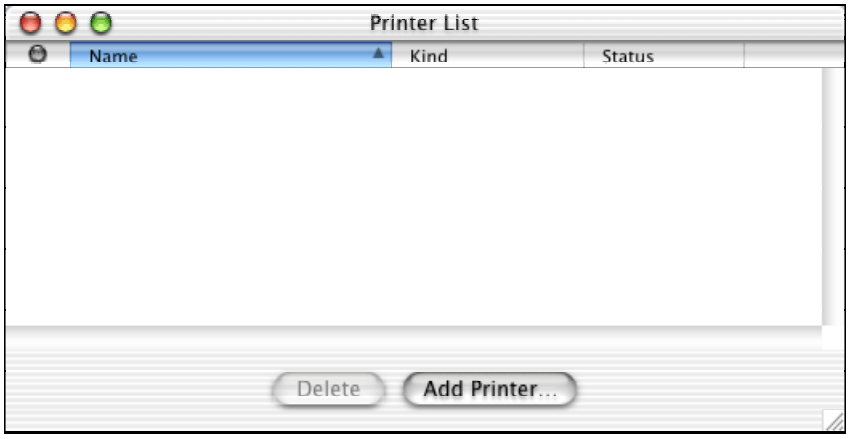


Figure 16: Printer List

2. Click the *Add Printer* button.
3. Choose *LPR Printers Using IP*.

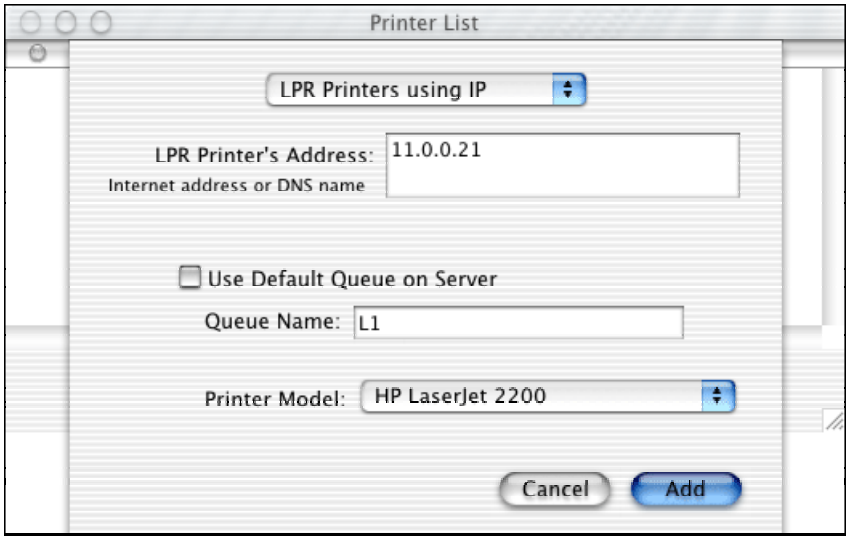


Figure 17: LPR Screen

4. Enter the IP address of the Print Server in the *LPR Printer's Address* field, and enter the *Queue Name* (L1 for port 1, L2 for port 2 if the Wireless Print Server has 2 printer ports.).
5. Select the *Printer Model* from the drop-down list.
6. Click *Add*.
   Configuration is now complete.

Chapter 5

BiAdmin Management Utility

5

This chapter describes the installation and operation of the BiAdmin Configuration & Management program.

Requirements

This program requires:

- Windows 95, Windows 98 or ME
- Windows NT 4.0, Windows 2000 or XP

Additional Recommendations:

- Screen resolution of 800 * 600 or greater.

Installation

Use the supplied CD-ROM. This CD-ROM will usually auto-run. If auto-run is disabled on your PC, run the SETUP.exe program in the root folder.

- Select ***Installation*** and this will give you the options for BiAdmin installation
  - BiAdmin is always installed if the ***Administrator*** option is chosen.
  - If using the ***Custom*** option on the CD-ROM, select *BiAdmin.*

Operation

- Start the program by using the icon created by the setup program.
- When run, the program searches the network for all active Wireless Print Servers, then lists them on screen, as shown by the example screen below.

Main Screen

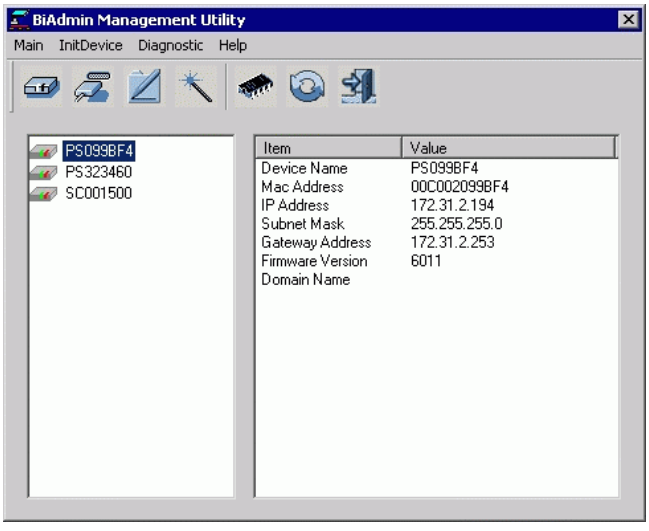


Figure 18: BiAdmin Main Screen

Device List

The left panel displays a list of all Wireless Print Servers found on the network. When a Wireless Print Server is selected from the list, its details are displayed in the right panel.

Note: If the IP address is "Null", please click the *Refresh* icon to get the value again.

If the desired Wireless Print Server is not listed, try the following:

- Check that the device is installed and ON, then *Refresh* the list.
- If the Wireless Print Server is on another LAN segment, use the *InitDevice - Attached Remote* menu option to locate and display the Wireless Print Server.

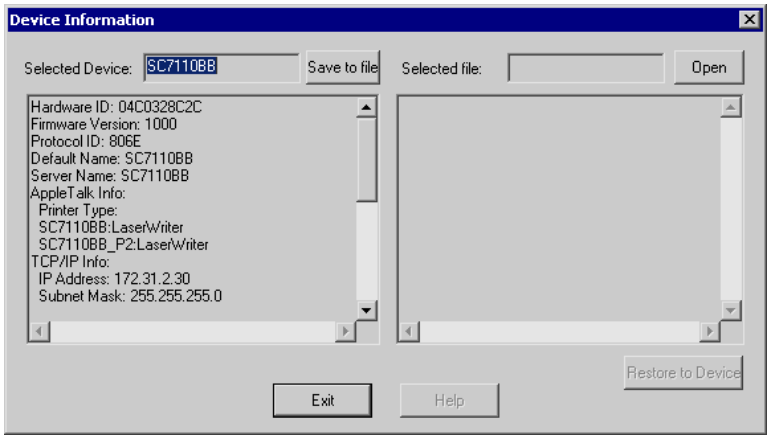
Icons

Device Status

Menu equivalent: ***Main - Device Status***

All of the settings for the current device are displayed in a read-only scrollable list in the left panel.

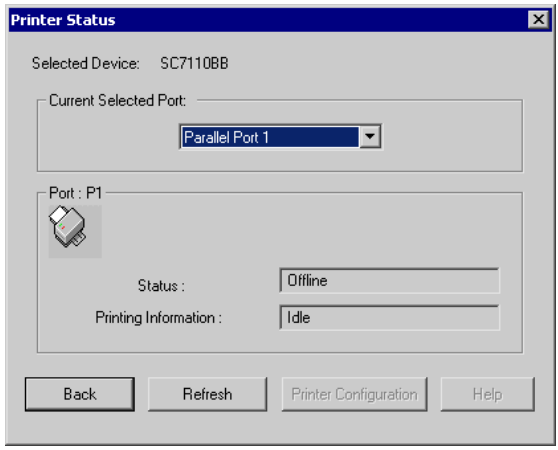
You can use the "Save to File" and "Restore to Device" buttons on this screen to save a copy of the selected device's CONFIG file to your PC, or restore a previously saved file to the selected Wireless Print Server.



Printer Status

Menu equivalent: ***Main - Printer Status***

After selecting this icon, a *Detail* button will be available to show more information about the printer.



Select the desired port from the drop-down list to display the current status of the printer attached to the port. Possible states are:

- **Status** - On-line, Off-line, or Out of Paper
- **Printing Information** - Idle, Printing

If the printer is Bi-directional, and is not busy, the **Configuration** button will be available, allowing you to change the configuration of the attached printer. This button will be grayed out if the printer does not support this option, or if the printer is busy printing.

Configuration

Menu Equivalent: ***Main - Configure***

This option allows you to configure the selected Wireless Print Server.
See the following section for details.

Wizard

This Wireless Print Server Wizard allows you to do the basic configuration for the selected device. The screens are similar to the Wizard run from the CD-ROM, as described in Chapter 3.

Upgrade

Menu Equivalent: ***Main - Upgrade***

This option allows you to upgrade the firmware for the selected Wireless Print Server. Before using this option, you need to obtain the .BIN file for the firmware upgrade, and copy it to the same directory as BiAdmin.

Refresh

Menu Equivalent: ***Main - Refresh***

Select this icon to update the Wireless Print Server device listing after changing the name or IP Address.

Exit

Menu Equivalent: ***Main - Exit***

Exit the BiAdmin program. This does not save any changes you have made; you must *Save to Device* on each screen.

Menus

Main Menu

Device Status	Same as *Device* Icon.
Printer Status	Same as *Printer Status* Icon.
Configure	Same as *Configure* Icon.
Upgrade	Same as *Upgrade* Icon.
Refresh	Same as *Refresh* Icon.
Exit	Same as *Exit* Icon.

InitDevice Menu

Reset Device	This will cause the device to reboot. This should be done after making any configuration changes, or if the device stops responding after some problems.
Restore to Factory Default	This will restore ALL device values to their factory defaults. To restore only the current screen, use the *Set to Default* button on the screen.
Attached Remote	This is used to connect to a Wireless Print Server device on another LAN segment. You need to know the IP address of the remote Wireless Print Server. If your LAN does not have a Router, you can ignore this option.
Connected Protocol	This option allows you to designate which LAN protocol will be used for communication between the selected device and this application. You should select ONE protocol only.

Diagnostics menu

Print Test Page	Use this option to print a test sheet from the selected Wireless Print Server port. The test print out will include status information.

Configuration

When the *Configuration* icon is clicked, or the *Configure* option on the **Main** menu is selected, a tabbed window will open. The tabs available will vary depending on the Wireless Print Server model selected. The possible tabs are:

- System
- TCP/IP
- AppleTalk
- NetBEUI
- Internet Printing
- Port
- Wireless
- SNMP

System Tab

This screen allows you to:

- Change the name of the Wireless Print Server.
- Change the "Password" for the Wireless Print Server.
- Set the Network Protocols used the selected Wireless Print Server. (Any protocols not used on your LAN may be disabled. This may improve performance.)

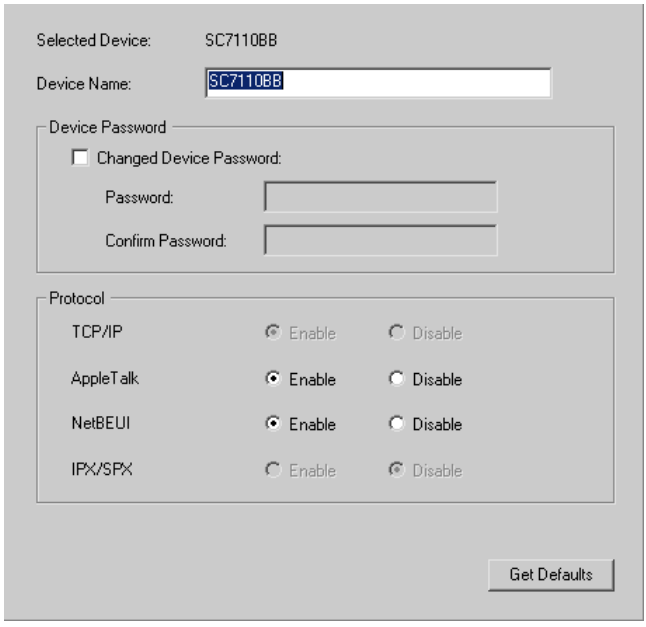


Figure 19: System Screen

TCP/IP Tab

Selecting this tab will allow configuration for the TCP/IP network protocol. The basic options are:

- **Dynamic IP Address** (DHCP) - The IP address is obtained automatically, from a DHCP Server on your network.
- **Fixed IP Address** - You must enter the IP address, Subnet Mask, and Gateway Address.
  - *IP Address* - Select an unused IP address from the address range used on your LAN.
  - *Subnet Mask* - Use the same values as PCs on your LAN (or on the same LAN segment, if you have a Router).
  - *Gateway* - Use the same values as PCs on your LAN (or on the same LAN segment, if you have a Router).

Some Wireless Print Server models also support the Auto-IP function. If the Wireless Print Server is set to *Dynamic IP Address*, but there's no DHCP server found on the network, the Wireless Print Server will get an IP from the range of 169.254.1.1 ~ 169.254.254.254 automatically. In this case, even though the Wireless Print Server was initialized with an Auto-IP, it will change to DHCP whenever a DHCP server is detected.

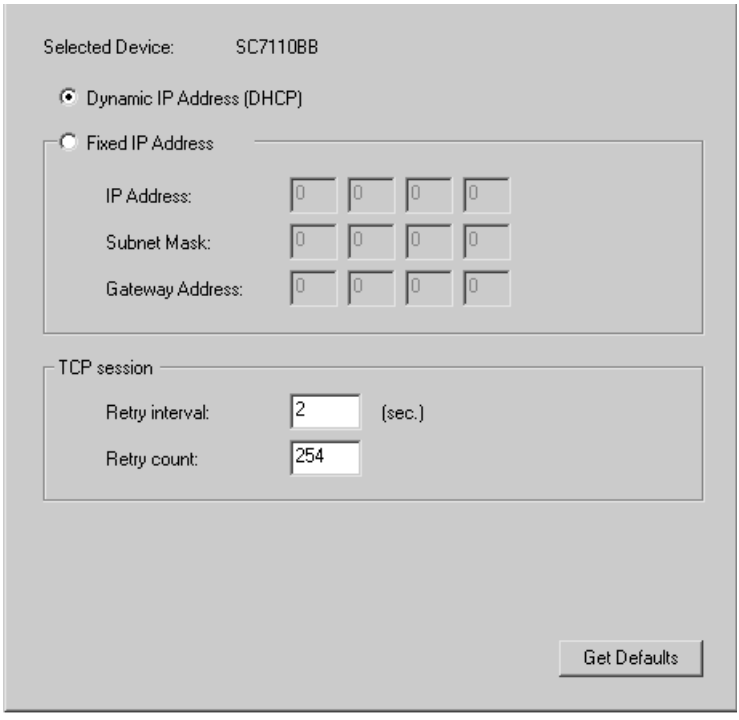


Figure 20: TCP/IP Screen

The *TCP session* parameters should only be changed if advised to do so by your Network Administrator or Print Server Technical Support.

AppleTalk Tab

Generally, no Wireless Print Server configuration is required in order to use AppleTalk.

This screen allows you to:

- Set the *Zone Name* field to determine which Apple systems can gain access to this printer.
- The *Printer Type* field is used to describe the printer driver used for each port.
- Set *Communication Protocol* to ASCII or Binary. This must match the setting on the Apple computer systems using the Wireless Print Server.

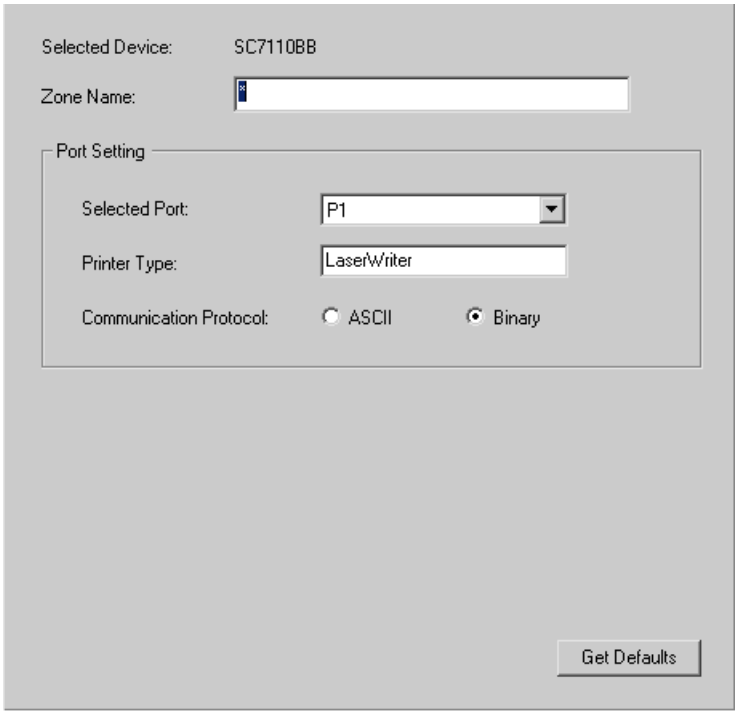


Figure 21: AppleTalk Screen

NetBEUI Tab

This screen allows you to:

- Choose the *Domain name* for the selected Wireless Print Server.
- Set how fast jobs are sent to the printer by using the *Response Time* field.
- Set the desired option for the *Abort Job if Error Occured* setting.
  - YES causes a print job to be terminated if a printing error occurs.
  - NO (default) will try to continue but may cause print errors.

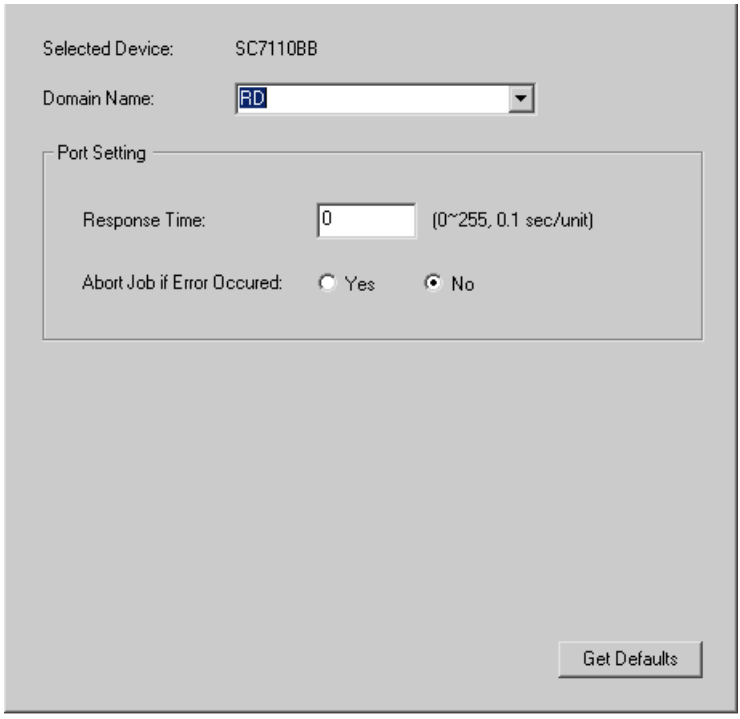


Figure 22: NetBEUI Screen

Internet Printing Tab

The Internet Printing feature available on some models, allows you to send print jobs to the Print Server using Internet E-mail.

Please see *Internet Mail Printing Configuration* for details of using this feature.

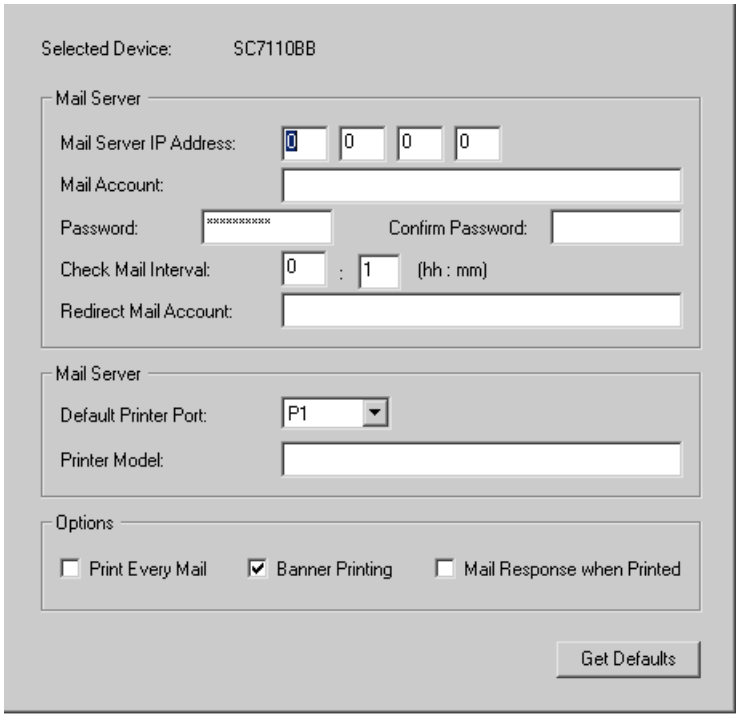


Figure 23: Internet Printing Screen

Port Tab

This screen has 2 panels - *Physical Port* and *Logical Port*.

Physical Port

The following settings are available:

- **Selected Physical Port** - Select the Physical Printer Port you wish to configure.
- **Handshake Signal** - Select *Busy Only* or *Busy & Ack* for the Physical Port.
- **Printer Type -** Select *High Speed* or *Low Speed* for the Printer Type.

Logical Port

Logical Ports (printers) can be used in the Unix environment. The following settings are available:

- **Selected Logical Port** - Select the Logical Printer Port you wish to configure.
- **Map to Physical Port** - Select the physical Printer Port which the Logical printer will use.
- **Convert LF to LF+CR** - If checked, LF (line feed) characters are changed to CR+LF (carriage return + line feed).
- **Prefix of Job** - The printer control string (**in hex**) to be sent to the printer before each print job. This string cannot exceed 15 characters.
- **Suffix of Job** - The printer control string (**in hex**) to be sent to the printer after each print job. This string cannot exceed 15 characters.

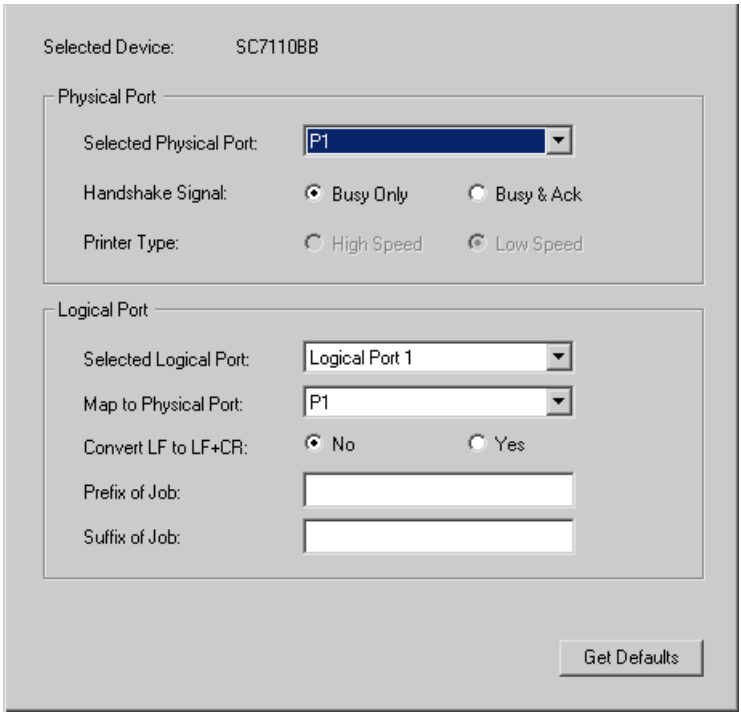


Figure 24: Port Screen

The *Get Defaults* button will reset all settings to their factory-default values.

Wireless Tab

This tab will be displayed if the selected device has the capability to serve as a Wireless Stations for your LAN.

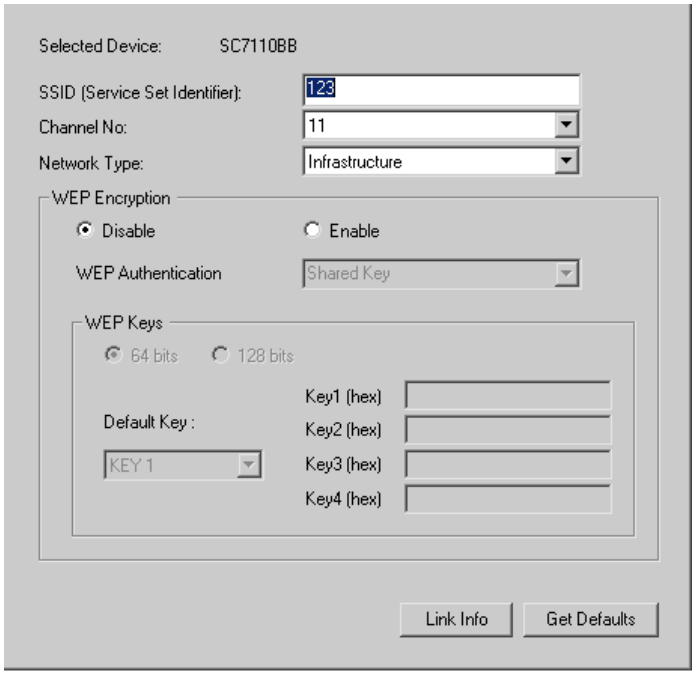


Figure 25: Wireless Screen

Change the settings to suit your environment. Generally, you must match the settings of other 'Wireless stations. The available settings are described below.

Selected Device	This shows the name of the Print Server.
SSID	• If using an ESS (Extended Service Set, with multiple access points) this ID is called an ESSID (Extended Service Set Identifier). • To communicate, all Wireless stations MUST use the same SSID/ESSID. Change this value, or change the other Wireless stations, to ensure each Wireless station has the same value. • The default value is "null", so the Wireless station can join any Ad-hoc group. **Note! The SSID is case sensitive.**
Channel No	The effect of this setting depends on the *Network Type* setting: • In **Infrastructure** mode, this setting has no effect. The Channel is selected automatically, to match the Channel used by the Access Point. • In **Ad hoc** mode, all Wireless stations MUST use the same Channel number. • In **802.11 Ad-hoc** mode, Wireless stations will scan all Channels looking for compatible groups to join. The Channel setting is used as a default Channel. If you experience interference (shown by lost connections and/or slow data transfers) you may need to experiment with different channels.

Network Type	Select the correct value for your Wireless LAN. • **802.11 Ad-hoc** mode is used when there is no Wireless Access Point, and each Wireless station communicates directly with other Wireless stations. This is the current standard, and should be used if possible. • **Ad-hoc** mode is used when there is no Wireless Access Point, and each Wireless station communicates directly with other Wireless stations. This is the older standard. • **Infrastructure** mode is used when each Wireless station connects to the Wireless Access point. This also provides access to the wired LAN.
WEP Encryption	
WEP Disable/ Enable	If Disabled (default), data is NOT encrypted before being transmitted. If Enabled, you must provide either the **64 Bit** key table or the **128 Bit** keys. The key is used to encrypt the data before transmission.
WEP Authentication	Options are "Open System" or "Shared Key". Select the method (Open System or Shared Key) used by other Wireless Stations. Shared Key is more secure than Open System.
64 Bits/128Bits	Select "64Bits" or "128Bits" as required to match other Wireless stations on your WLAN. Stations which do not have matching settings will be unable to communicate. 128 bit Keys are more secure than 64 bit Keys.
Key Table	Enter the key values to match other Wireless stations on your WLAN. This table is used when Encrypting and Decrypting data. All stations always transmit data encrypted using their default key (see below). The key number (1, 2, 3, 4) is also transmitted. The receiving station will use the key number (1, 2, 3, 4) to determine which key value to use for decryption. If the key value does not match the transmitting station, decryption will fail. The easiest way to ensure there are no problems is to have every Station, including the Access Point, use the same key table (all entries identical). Then, it does not matter which key is used as the default key.
Default Key	Select the key you wish to be the default. Transmitted data is ALWAYS encrypted using the Default Key; the other Keys are for decryption only.

Wireless Link Info Screen

After clicking the "Link Info" button on the Wireless Screen, a screen like the example below will be shown.

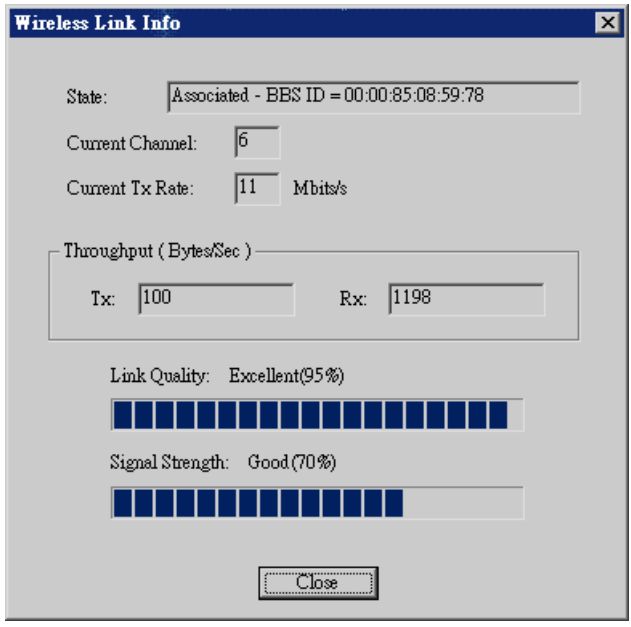


Figure 26:Link Info Screen

State	This indicates which access point is currently in use.
Current Channel	The current channel which has been used.
Current TX Rate	The current transmitting speed.
Throughput (Tx)	This will show how much data has been transmitted per second.
Throughput (Rx)	This will show how much data has been received per second.
Link Quality	This indicates the quality of the Wireless connection
Signal Strength	This indicates the strength of the Wireless signal being received.

Note!

The "Link Quality" and "Signal Strength" data is not available if using "Ad-hoc" or "802.11 Ad-hoc" mode.

SNMP Tab

Configuration is only required if using the Simple Network Management Protocol. Refer to *Configuring the Wireless Print Server for SNMP* in Chapter 7 for details.

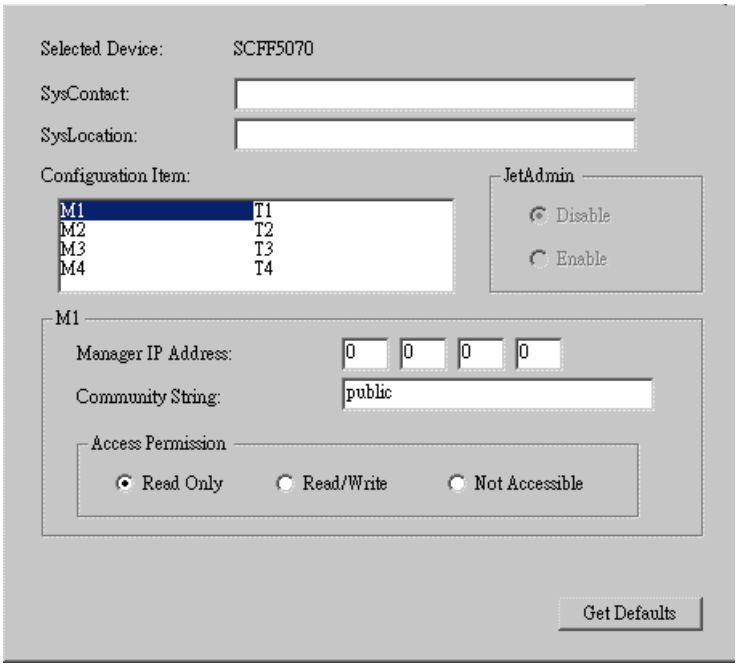


Figure 27: SNMP Screen