

**Wireless Print
Server, Wireless
MFP Adapter**

PS801Hv2

User Guide

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Introduction

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

Features

Congratulations on the purchase of your new Print Server. Your 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 or IEEE 802.11g standard can interoperate with the Print Server. Both LAN and WLAN users can print to the attached printer.
- **Versatility.** The Wireless Print Server supports all functions of MFP (Multi-function Printer). It features a 10/100BaseT Ethernet interface port for connection to your LAN and operating system support includes Microsoft Windows 2000, XP and Vista.
- **Easy Installation.** The Print Server makes adding printers or plotters to your network simple.
- **Easy Setup.** A number of utility programs are supplied to simplify setup.
- **Web-based Interface.** The Web-based interface provides an easy method of configuration in TCP/IP networks regardless of your operating system.
- **Compact Size.** This allows the Print Server to be used even where space is limited.

Safety Instructions

For your own safety, and to protect your 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 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 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 Print Server. If any items are missing, contact your dealer immediately.

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

Physical Details

Details of the LEDs and connections are in this Chapter. Further details are contained in *Appendix A - Specifications*.

PS801Hv2

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

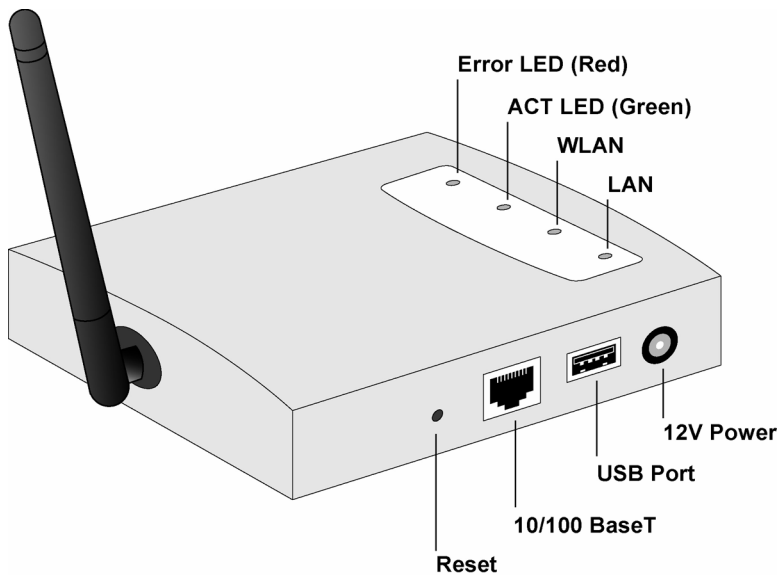


Figure 1: PS801Hv2

LED Indicators

The Print Servers have LED indicators on the top. The Error LED is red. The Status indicator LED is green. The LED indicator modes are described in the following table.

Status LED (Green)	Error LED (Red)	Status Description
Off	Off	No power.
On	Off	Normal operation - Idle.
Flashing	Off	Normal operation - transmitting or receiving packets from the network.
On	On	Hardware error.
Flashing	Flashing	Firmware upgrade in progress.

LED	Description
WLAN	Off - No Wireless connection available. On - Wireless connection available. Flashing - Transmitting or receiving data through the Wireless LAN.
LAN	Off - No LAN connection On - LAN connection available. Flashing - Transmitting or receiving data through the LAN.

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 Print Server OFF.
2. Press and hold the diagnostic button. While pressing the button, switch the 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 Print Server and the attached printer 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, the test page will not be printed.

LAN Installation

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

Procedure

1. Preparation

- Ensure the power is OFF. Do not connect the Print Server while power is On.
- Find the *Default Server Name* for your 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

Use the cable supplied with your printer to connect the printer to the USB port on the Print Server unit.

3. Connect the Network Cable

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



- To use the LAN interface, the LAN cable needs to be inserted BEFORE powering ON.
- The Wired (LAN) interface should be used for initial configuration.
- 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".

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 Print Server. Using a different Power Supply may cause damage.

5. Check the LEDs

- The Error LED should flash, then turn Off. When the Error LED goes off and the Status LED remains lit or flashes, the Print Server is ready.
- The Error LED will remain flashing if the Print Server can't connect to the USB printer.

MFP Configuration

This chapter provides an overview of the configuration process.

Overview

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

- The 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 Print Server always require configuration. See *Chapter 4 - Client Configuration* for details.

Configuration Methods

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

- **Windows-based Wizard** - see below for details.
- **Web-based setup** - see Chapter 4 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 to configure the 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 2: MFP Screen

3. Click *OK* or *Skip* if all the setup procedures listed on the first screen are checked.
4. Select your MFP Network Adapter, then click *Next* to continue.

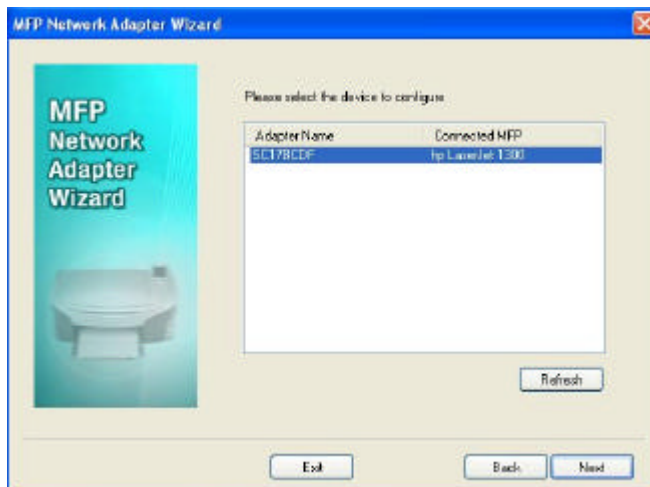


Figure 3: Adapter Screen

5. Click *Next* to configure the *IP Address* screen.
 - Select *Obtain IP Address automatically* if your LAN has a DHCP Server, otherwise select *Use following IP address*.
 - For *Use following IP address*, enter an unused address from the range used on your LAN.
Use the same *Subnet Mask* and *Default Gateway* as PCs on your LAN.
6. Click *Next* to see the following screen



Figure 4: Status Screen

7. Click *Next* and *Exit* to continue to the final screen
8. Click *Finish* to save the data to the MFP Network Adapter.

If the desired MFP is not listed:

- Check that both the MFP Network Adapter and the printer are properly connected, and powered on.
- Check that the proper Printer Driver has been installed.

Windows Setup

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 *PC Install* to install the utility and bus driver.



Figure 5: Main Screen

3. Follow the prompts to complete the installation.
4. The MFP Network Adapter Utility will then run.

MFP Network Adapter Utility Setup

1. The program will search for the MFP Printer Servers on the network, and the *MFP Network Adapter Utility* screen will be displayed.
 - The names of the attached printer servers will be displayed if possible.
 - If the MFP is occupied, the status field will display the information of the user and IP address. Otherwise the default status should be "Ready" if the MFP is available.

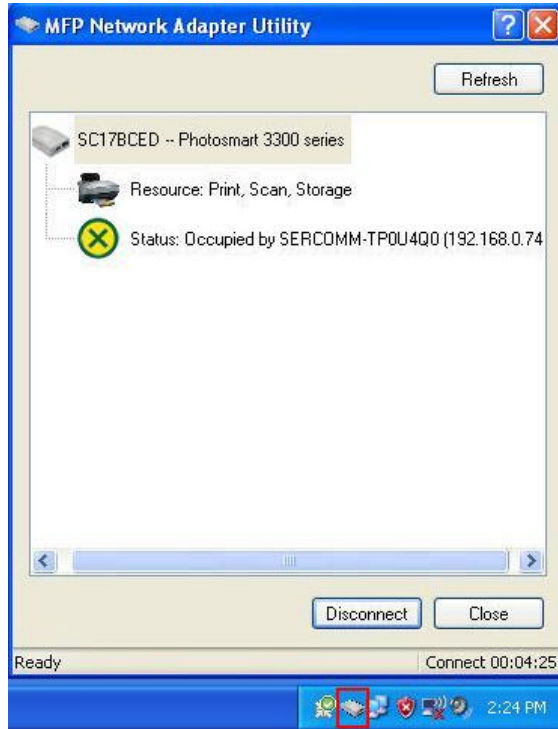


Figure 6: MFP Icon

If your MFP Network Adapter is not listed:

- Check that both the MFP Network Adapter and the printer are properly connected, and powered on.
- Check that the proper Printer Driver has been installed.

2. Click "Init MFP" button to configure the MFP for the first time. Normally, you only need to do the configuration once.
3. Once the MFP has been connected successfully, the button will show "Disconnect" instead of "Connect".



Figure 7: Utility Screen

4. Configuration is now complete.

Note: If MFP has been idled for 5 minutes after connected, you will see the following message

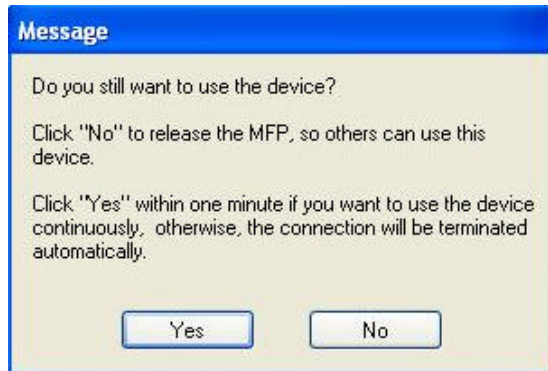


Figure 8: Idle Message

The MFP will be disconnected automatically if you don't respond to the message within 1 minute.

Chapter 4

4

Web-Based Management

This chapter explains how to use your Web Browser to configure the Print Server.

Overview

The Print Server incorporates the HTTP server. This allows you to connect to the Print Server and configure it using your Web Browser. Most browsers should work, provided they support tables and forms.

Preparation

Because it supports dynamic IP Address allocation using DHCP, BOOTP, or RARP, the Print Server ships with an IP Address of 0.0.0.0.

This is NOT a valid IP Address.

Therefore, you must do ONE of the following:

- Check your **DHCP server** (if you have one), and determine the IP Address allocated to the Print Server.
- Use the **Diagnostic Button** (if fitted) to print a report which includes the current IP address. (Press the Diagnostic Button, and hold it for 2 seconds.)
- Use the **Setup Wizard** or another Print Server utility to allocate a valid IP Address to the Print Server.

Connecting to the Print Server

1. Start your Web Browser.
2. In the *Address* box, enter *HTTP://* followed by the IP Address of the Print Server.
e.g.
`http://192.168.0.100`
3. You will then be prompted for the password. If no password has been set, just press ENTER.
4. Use the menu bar to move from one screen to another. Remember to save each screen before changing to a different screen.

Configuration Screens

The following configuration screens are available.

TCP/IP

Figure 9: TCP/IP Screen

IP Address	
DHCP Client	Select this if your LAN has a DHCP Server. The Print Server will then automatically obtain an IP address from the DHCP Server.
Fixed IP Address	Select this to assign a fixed IP address to the Print Server. If selected, you must enter a the Device IP Address, Subnet Mask, and Gateway.
Device IP Address	IP Address assigned to the Print Server. Enter 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 Address	Use the same values as PCs on your LAN (or on the same LAN segment, if you have a Router).

Connection	
Delay before reconnection attempt	Sets how long the Print Server should wait before retrying a TCP/IP connection which is lost. Allowable values are from 0 to 255 seconds, with 2 as the default.
Number of reconnection attempts	Set how many attempts at reconnection will be made. After that, the TCP/IP session will be terminated. Allowable values are from 0 to 255, with 254 as the default.

Wireless Configuration

There are 2 options on the menu for Wireless configuration - **Basic** and **Security**.

Wireless - Basic

The settings on this screen must match the other Wireless stations in order for communication to occur.

Wireless	
SSID must match the other Wireless stations.	
Configuration:	<p>Region or Domain: <input type="text" value="USA"/></p> <p>Station Name: 00-14-C1-17-BC-ED</p> <p>Network Type: <input type="text" value="Infrastructure"/></p> <p>SSID: <input type="text" value="Net999"/></p> <p>Channel No: <input type="text" value="Auto"/></p> <p style="text-align: right;"><input type="button" value="Link Info"/></p> <p style="text-align: center;"> <input type="button" value="Get Defaults"/> <input type="button" value="Save"/> <input type="button" value="Cancel"/> </p>

Figure 10: Wireless Screen

Configuration	
Region or Domain	<p>Select your region from the drop-down list.</p> <p>This field displays the region of operation for which the wireless interface is intended. It may not be legal to operate the router in a region other than the region shown here. If your country or region is not listed, please check with your local government agency for more information on which channels you are allowed to use, and select a region, which allows those channels. (The channel list changes according to the selected region.)</p>
Station name	<p>This is the same as the <i>Device (Host) Name</i> on the WAN screen. On your PC, some Wireless status screens may display this name as the Access Point in use.</p>
Network Type	<p>Select the correct value for your Wireless LAN.</p> <ul style="list-style-type: none"> • Ad-hoc mode is used when there is no Wireless Access Point, and each Wireless station communicates directly with other Wireless stations. • Infrastructure mode is used when each Wireless station connects to the Wireless Access point. This also provides access to the wired LAN.
SSID (ESSID)	<p>To communicate, all Wireless stations MUST use the same SSID/ESSID.</p> <p>The default value is blank (null).</p> <p>Note! The SSID is case sensitive.</p>

Channel No.	In Infrastructure mode, this setting has not effect – the Access Point determines the Channel used. For Ad-hoc mode, select the value you wish to use on your Wireless LAN. If you experience lost connections and/or slow data transfers you may need to experiment with different channels to see which is the best.
Link Info Button	Click this button to open a sub screen displaying link information.

Wireless Security Screen

There are 3 options for Wireless security:

- **Disabled** - no data encryption is used.
- **WEP** - data is encrypted using the WEP standard.
- **WPA-PSK** - data is encrypted using the WPA-PSK standard. This is a later standard than WEP, and provides much better security than WEP. Use this if possible.
- **WPA2-PSK** - this is a further development of WPA-PSK, and offers even greater security, using the AES (Advanced Encryption Standard) method of encryption.

Wireless Security - WEP

If "WEP" is selected, the screen will look like the following example.

Figure 11: WEP Screen

Security System	WEP The 802.11b standard. Data is encrypted before transmission, but the encryption system is not very strong.
Authentication	Select the appropriate value, as used on your Wireless LAN - "Open System" or "Shared Key."

Key Size	<p>Select the WEP Encryption level:</p> <ul style="list-style-type: none"> • 64-bit (sometimes called 40-bit) encryption • 128-bit encryption (sometimes called 104 bit encryption) <p>This selection also allows you to choose the input type for the keys – Hex or ASCII.</p>
Keys	<ul style="list-style-type: none"> • Use the radio buttons to select the default key. • Enter the key value(s) you wish to use. Other stations must have the same key values. • Keys can be entered in Hex or ASCII, according to your <i>Key Size</i> selection. Hex characters are the digits (0 ~ 9) and the letters A ~ F.
Passphrase	<p>Enter some printable characters in the Passphrase field and click the "Generate Keys" button to automatically configure the WEP Key(s). For 64 bit keys, four keys fields will be generated. For 128 bit keys, only the selected WEP key will be generated.</p>

Wireless Security - WPA-PSK

If "WPA-PSK" is selected, the screen will look like the following example.

Figure 12: WPA-PSK Screen

Security System	<p>WPA-PSK</p> <p>Like WEP, data is encrypted before transmission. WPA is more secure than WEP, and should be used if possible. WPA-PSK is the version of WPA, which does NOT require a Radius Server on your LAN.</p>
Passphrase	<p>Enter the Keyword key value. Data is encrypted using a key derived from the PSK. Other Wireless Stations must use the same PSK. The PSK must be from 8 to 63 characters in length.</p>
Encryption	<p>Other Wireless Stations must use the TKIP method.</p>

Wireless Security - WPA2-PSK

If "WPA2-PSK" is selected, the screen will look like the following example.

Wireless Security	WPA-PSK is not available with Ad-hoc networks.
Security System:	WPA2 - PSK <input type="button" value="v"/>
WPA-PSK Settings:	Passphrase : <input style="width: 150px;" type="text"/> Encryption: AES
<input type="button" value="Get Defaults"/> <input type="button" value="Save"/> <input type="button" value="Cancel"/>	

Figure 13: WPA2-PSK Screen

Security System	WPA2-PSK This is a further development of WPA-PSK, and offers even greater security, using the AES (Advanced Encryption Standard) method of encryption.
Passphrase	Enter the Keyword key value. Data is encrypted using a key derived from the PSK. Other Wireless Stations must use the same PSK. The PSK must be from 8 to 63 characters in length.
Encryption	Other Wireless Stations must use the AES method.

Other Screens

Server Status

This screen shows server system data and the current settings for all of the other screens. It is read-only; no data can be input on this screen.

Printer Status

This screen displays the current status of each port. For each port, the following data is listed:

- **Connected Printer**- the model name of the printer connected to the port, if the printer name is known. (If the printer is not bi-directional, this information is unavailable.)
- **Status** - the current status of the printer (On-line, Off-line, Out of paper)
- **Printing Information** - this will show either *Idle* or *Printing*.

Specifications

General Specifications

PS801Hv2 Print Server	
Power Consumption	5.5w max.
External Power Adapter	5V DC
LEDs	4
USB 2.0 Port	1
Ethernet Connector	10/100BaseT
FCC / CE	FCC, CE. Class B

Environmental Specifications	
Operating Temperature	0 ~ 40° C
Storage Temperature	-10 ~ 70° C
Shipping Temperature	-40 ~ 70° C
Operating Humidity	10 ~ 80%
Storage Humidity	5 ~ 90%
Shipping Humidity	5 ~ 100%

FCC STATEMENT

This product has been tested and complies with the specifications for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used according to the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which is found by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna

Increase the separation between the equipment or devices

Connect the equipment to an outlet other than the receiver's

Consult a dealer or an experienced radio/TV technician for assistance

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.