



User's Guide

for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for
USB

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Installing the print server

for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Overview

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1. Install hardware

Summary: To connect the printer to the network using the 175x or 310x print server, you will:

- connect the print server to the network with a network cable,
- connect the print server to the printer with the included USB cable,
- plug in the power adapter, and
- print a configuration (self-test) page.

Here are the [detailed instructions](#).

2. Install software

- **For the basic procedure** to set up each Windows (95, 98, 2000, XP, ME, NT 4.0) computer for printing on the networked printer:

This default procedure involves installing printer drivers and other software and configuring network parameters. You will use the installation software on either the CD-ROM supplied with your printer or on the Jetdirect CD-ROM supplied with your print server, depending on your printer model.

Here are the [instructions](#).

- For the [LPR/LPD](#) (Line Printer Daemon) alternative printing method...
- For Macintosh setup (MacOS 8.6 or later), read the Jetdirect CD-ROM on a Macintosh system, select the file Network Printing.htm, and follow the instructions for setting up network printing.

Steps to install the print server hardware

1. Attach the print server to a 10Base-T (Ethernet) or 100Base-TX (Fast Ethernet) local area network by plugging a network cable into the RJ-45 connector on the rear end of the print server.



2. Attach the print server to the printer by plugging the Universal Serial Bus (USB) cable—shipped with the print server—into the USB connector on the front end of the print server and into the USB connector on the printer.



- **Caution!** Unsupported USB Devices:
 - HP 4135A Jetdirect Connectivity Card
 - any USB hub

- any USB-to-parallel converter
- any USB cable extender

3. Plug the DC power cord from the power module—shipped with the print server—into the power connector on the rear end of the print server . Plug the power module into a power outlet.




- **Caution!** Do not use the power module shipped with your print server with any *other* products!
4. Verify the print server's LEDs:
- The 10 or 100 LED on the rear end of the print server lights green to indicate the connection speed.




- The power/status LED ① on the top front begins blinking and within 15 seconds is solid green, to indicate the server passed its self test.



- A solid green USB LED  on the top front indicates a good USB-II connection, as illustrated above.

If your LEDs are *not* solid green, see [interpreting the LEDs and diagnosing problems](#)

5. Verify the connection with the printer by printing a configuration (test) page:

Briefly press and release the test button  on the rear end of the print server. The page should soon emerge from the attached printer.



[Interpreting the configuration page and diagnosing problems](#)

If the page does not appear on the printer, or if it is unreadable, [go to this Troubleshooting page](#), and then return to this User's Guide to continue with the installation.

6. You can use the clip attached to the bottom of the print server to mount it to the printer or to a table or wall. Use either the supplied sticky tape or the mounting screw holes. Or you can pull off the clip.

Next, [install software](#).

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Configuring and managing the print server on your network

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This section describes the tools you can use to configure and manage your print server, as well as the settings you can apply for various protocols. Use this page to link to topics of interest.

Easiest basic configuration



- Set up each Macintosh running MacOS (8.6 or later). Read the Jetdirect CD-ROM on a Macintosh system, select the file Network Printing.htm, and follow the instructions for setting up network printing.
- Set up each Windows computer for printing on the networked printer by using the *HP Install Network Printer Wizard*.

This basic procedure involves installing printer drivers and other software, configuring network parameters, and setting up the print path. You will use the installation software on either the CD-ROM supplied with your printer or on the HP Jetdirect CD-ROM supplied with your print server, depending on your printer model. This is explained in the software instructions on your *Quick Start Guide* poster—supplied with your print server—or see <http://www.hp.com/support/network-printer-CD>.

To use the wizard to install the networked printer on this computer, return to the initial screen for this CD, select the [Install] button, and follow the instructions there. Help is included. When finished there, this computer is ready to use the printer.

After using the wizard, you can use the additional tools listed below to make configuration changes and additions and to monitor the printer.

Note: Making network address changes might break the print path set up by the wizard.

To move a networked printer configured with an IP address, see [Moving the print server to another IP Network](#).

Default configuration: details of the print server's configuration as it comes from the factory, and how to reset to that configuration

Tools for changing configuration and for managing

Software tools summary: describes a variety of software tools that you can use to install, configure, and manage a network printer. These tools cover a variety of functions in a variety of operating environments. In general, they allow you to set parameters for the various [protocols listed below](#)...

Embedded web server: describes the web server contained within the print server. You can use this tool to configure and manage the print server.

HP Web Jetadmin: used to install, configure, and/or monitor the networked printer, this software is available at http://www.hp.com/support/net_printing.

Security for configuration: describes the security offered by the various ways of configuring and managing the print server.

Protocols

The following protocols, and protocol-specific configurations and tools, are supported by the print server.

- **TCP/IP:** includes an overview of TCP/IP, as well as information on these methods of applying TCP/IP parameters to the print server:
 - **DHCP:** a tool for autoconfiguration
 - **BOOTP:** a tool for autoconfiguration
 - **TFTP:** a tool for extended autoconfiguration
 - **RARP:** a tool on some systems for configuring an IP address
 - **Telnet:** a tool for configuration and monitoring the print server
 - **embedded web server:** a tool for configuration and management
 - ports for IP access reference summary
 - moving the print server to another IP network: notes

- **LPD** (line printer daemon) printing: can be set up using these [LPD instructions](#)

- **FTP** printing: [for 310x only, not for 175x] can be set up using

these [FTP instructions](#)

- **IPP** printing: [for 310x only, not for 175x] can be set up using the [Internet Printer Connection Software](#)
- **IPX/SPX**: in most cases, parameters do not need to be set on the print server.

Note: The print server supports both IPX/SPX direct mode (peer-to-peer) and [for 310x only, not for 175x] IPX/SPX in client/server mode with Novell NetWare servers.

- [NDPS](#) (Novell Distributed Print Services): HP IP/IPX Printer Gateway for NDPS, with Novell NetWare
- **DLC/LLC**: [for 310x only, not for 175x] can be enabled or disabled; otherwise there are no parameters to set on the Jetdirect module.
- **AppleTalk**: Printer Name and Printer Zone parameters can be set up using the [HP LaserJet Utility for MacOS](#).
- **SNMP**: (Simple Network Management Protocol) used with your configuration and management tools. The HP-Jetdirect-specific MIB (Management Information Base) is MIB-II compliant; it is available upon request to [HP support](#).

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Default configuration

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Fresh from the factory, before any configuration is changed by a user, the print server has a default configuration for TCP/IP and for IPX peer-to-peer printing (called IPX direct mode). When power is applied in this factory-default state:


- **TCP/IP:** The print server sends out several BOOTP requests and one RARP request. If there is no reply, the print server sends out several DHCP requests. If there is no reply, then the print server uses the default IP address of 192.0.0.192 to appear on the network ready for manual configuration by a user (using the Install Network Printer wizard or any of the other [configuration](#) methods).
- **IPX:** The print server tries to determine and use the IPX network number. It is then ready for further configuration by a user (using the Install Network Printer wizard or any of the other [configuration](#) methods).

When power is cycled thereafter, the configuration remains as set previously.

- For IPX, the network number is reassigned automatically.
- For TCP/IP, one of the following applies:
 - If a [BOOTP](#) reply set the print server's IP configuration previously, BOOTP replies continue to be sent when power is cycled. If no reply is received, factory default sequence continues, as [described above](#).
 - If a [DHCP](#) reply set the print server's IP configuration previously, DHCP requests continue to be sent indefinitely.
 - If any configuration changes were made manually by a user, then this manual configuration continues to be used.
 - If none of the above have been set, the factory default sequence is used, as [described above](#).

Resetting the print server to factory defaults (cold reset)

The factory-default reset procedure (described below) is sometimes called a “cold reset” or a “cold boot”. When done, the print server responds exactly like it was [fresh from the factory](#). To reset the print server configuration to factory defaults, follow these steps:

1. Unplug the power module from the back of the print server.
2. While holding down the test button  on the rear of the print server, plug the power module back into the print server and continue to hold down the test button for about five seconds. Any user-configured settings will be erased.

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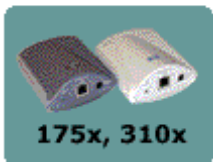
HP Jetdirect Software Solutions Summary



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HP provides a variety of software solutions to set up or manage your HP Jetdirect-connected network devices. Use this table to help you determine which software is best for you.

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Operating Environment	Function	Remarks
HP Install Network Printer Wizard (Windows)		
<ul style="list-style-type: none"> Windows 95, 98, Me, NT 4.0, 2000, XP NetWare 3.x, 4.x, 5.x TCP/IP IPX/SPX 	Install a single network printer on a peer-to-peer or client-server network	<ul style="list-style-type: none"> Simple printer installation, typically integrated with printer system software Runs from the HP Jetdirect CD-ROM An installable version that runs from your hard disk can be downloaded from HP's Web site http://www.hp.com/support/net_printing
HP Jetdirect Printer Installer for UNIX		
<ul style="list-style-type: none"> HP-UX 10.x–10.20, 11.x Solaris 2.5.x, 2.6, 7 <ul style="list-style-type: none"> (SPARCsystems only) TCP/IP 	Fast and easy installation of HP Jetdirect-connected printers	<ul style="list-style-type: none"> Installs, configures and provides diagnostics capabilities for HP printers connected to TCP/IP networks using HP Jetdirect print servers. Available from: <ul style="list-style-type: none"> On the HP Jetdirect CD-ROM provided with standalone HP Jetdirect print servers (Directory: /UNIX) Anonymous FTP site at ftp.hp.com (Directory: /pub/networking/software) HP's Web site http://www.hp.com/support/net_printing
HP Web Jetadmin		
<ul style="list-style-type: none"> Windows NT 4.0, 2000 HP-UX Solaris, Red Hat Linux, SuSE Linux NetWare* <p>*Supports queue creation (NetWare), and peripheral management from HP Web Jetadmin hosted on Windows NT 4.0, 2000</p> <ul style="list-style-type: none"> TCP/IP IPX/SPX 	<p>Remote installation, configuration, and management of HP Jetdirect-connected print servers, non-HP printers that support the standard MIBs, and printers with embedded web servers</p> <p>Alerts and consumables management</p> <p>Remote firmware upgrades for HP Jetdirect print servers</p> <p>Asset tracking and utilization analysis</p>	<ul style="list-style-type: none"> HP's preferred solution for ongoing management and installation of multiple printers anywhere on your intranet Browser-based management Available from HP's Web site http://www.hp.com/support/net_printing
IPP: Internet Printer Connection Software		

<p>[for 310x only, not for 175x]</p> <ul style="list-style-type: none"> ● Windows NT 4.0, Me, XP TCP/IP only <p><i>Note:</i> Microsoft Internet Printing software is also integrated with Windows 2000.</p>	<p>Printing via the Internet, to Internet Printing Protocol (IPP)-enabled HP Jetdirect-connected printers</p>	<ul style="list-style-type: none"> ● Allows economical distribution of high-quality hardcopy documents over the Internet, replacing fax, mail, and overnight services ● Requires HP Jetdirect print server firmware version x.07.17 or greater
<p>HP IP/IPX Printer Gateway for NDPS</p>		
<p>[for 310x only, not for 175x]</p> <ul style="list-style-type: none"> ● NetWare 4.11, 4.2, 5.x, 6.x 	<p>Simplified installation, printing, and bidirectional management of HP Jetdirect-connected printers under Novell Distributed Print Services (NDPS)</p> <p>Allows automatic discovery and installation of HP Jetdirect-connected printers into NDPS</p>	<ul style="list-style-type: none"> ● Frees up user license ● Allows disabling of SAPs to reduce network traffic ● Requires HP Jetdirect firmware version X.03.06 or greater
<p>HP LaserJet Utility for Mac OS</p>		
<ul style="list-style-type: none"> ● Mac OS 7.5 or greater 	<p>Installation and management of HP Jetdirect-connected printers</p>	

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IPP printing, using Internet Printer Connection Software

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Note: Not applicable to 175x

Using the appropriate software on your system, you can create an IPP print path from your system to any HP Jetdirect-connected printer over the Internet.

Note: For incoming print path requests, the network administrator must configure the firewall to accept incoming IPP requests. Security features available in the software are currently limited.

Features and benefits provided by Internet printing include:

- High-quality, time-sensitive documents.
- Full-color or black-and-white documents.
- A fraction of the cost of current methods (such as fax, mail, or overnight delivery services).
- Extends the traditional LAN printing model to that of an Internet Printing Model.
- IPP requests can be transmitted outbound through firewalls.

HP-Supplied Software

HP Internet Printer Connection software allows you to set up Internet printing from Windows NT 4.0 and Windows 2000 clients.

1. To obtain the software: Download the HP Internet Printer Connection software from HP's Web site http://www.hp.com/go/print_connect
2. To install the software and set up the print path to the printer, follow the instructions provided with the software. Contact your network administrator to get the IP address or URL of the printer to complete the setup.

System Requirements (HP software)

- Computer running Microsoft Windows NT 4.0 (Intel based), or Windows 2000

- TCP/IP
- HP Jetdirect 310x print server

Supported Proxies (HP software)

- Web proxy with support for HTTP v1.1 or greater (may not be needed if printing over an intranet)

Microsoft-Supplied Software

Note: Contact Microsoft Corp. for support of Windows IPP software

Windows 2000 Integrated Software

On Windows 2000 systems, an alternative to using the HP-supplied software is to use the IPP-client software integrated with Windows 2000. The IPP implementation on the HP Jetdirect print server is compatible with Windows 2000 IPP-client software.

To set up a print path to an HP Jetdirect-connected Internet printer using the Windows 2000 IPP-client software, proceed as follows:

1. Open the Printers folder (click **Start**, select **Settings**, and select **Printers**).
2. Run the Add Printer wizard (double-click **Add Printer**), then click **Next**.
3. Select **Network Printer** and click **Next**.
4. Select **Connect to a printer on the Internet** and enter the print server's URL:

```
http://IP_address[/ipp/port#]
```

where:

IP_address is the IP address configured on the HP Jetdirect print server

Example:

```
http://192.160.45.40
```

An IPP connection to the print server with IP address 192.160.45.40.

Then click **Next**.

5. You will be prompted for a printer driver (the HP Jetdirect print

server does not contain printer drivers, so your system cannot automatically obtain the driver). Click **OK** to install the printer driver onto your system and follow the instructions on the screen. (You may need your printer CD-ROM to install the driver.)

6. To complete the print path setup, follow the instructions on the screen.

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HP IP/IPX Printer Gateway for NDPS

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Note: Not applicable to 175x

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NDPS (Novell Distributed Print Services) is a printing architecture developed by Novell, in partnership with Hewlett-Packard. NDPS simplifies and streamlines the administration of network printing. It eliminates the need to set up and link print queues, printer objects, and print servers. Administrators can use NDPS to manage networked printers within the NetWare 4.11, 4.2, 5.x, and 6.x environments.

The HP IP/IPX Printer Gateway is an NLM developed by HP to provide functionality and compatibility with Novell's NDPS. It seamlessly integrates HP Jetdirect-attached printers into the NDPS environment. Using the HP Gateway, an administrator can view statistics, configure gateway settings, and configure printing for HP Jetdirect-connected printers.

Features

Features and benefits provided by the HP Gateway and NDPS are:

- Smart detection of printers in the NetWare 4.11, 4.2, 5.x, and 6.x environments
- Automatic installation of printers using IP/IPX
- Tight integration with Novell's NDS and NWAdmin
- Status updates from printers
- Simplified Automatic Driver Download
- Reduced SAP Traffic
- Reduces the number of required NetWare User Licenses
- Native TCP/IP printing with NetWare 5.x and 6.x

System Requirements

For the most recent information on system requirements and supported clients, visit HP support information at: <http://www.hp.com/go/ndpsgateway>

The HP IP/IPX Printer Gateway is included with all current versions of NDPS. Novell NetWare 5.x, and 6.x include NDPS.

Note: For more information (including access to the most recent HP IP/IPX Printer Gateway software and the User Guide), access HP support information at: http://www.hp.com/support/net_printing.

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HP LaserJet Utility for MacOS



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This section describes printer installation software for Mac OS-compatible computer systems. It also explains how to use the HP LaserJet Utility to configure HP printers connected to an AppleTalk network through an HP Jetdirect print server. This section also explains how to use the Chooser to select and set up a MacOS computer to print to your HP printer.

Installing the Printer Software

If the HP LaserJet Utility was included on your printer's CD-ROM, see your printer documentation for installation instructions, then skip to the next section to configure the printer.

If you are installing the HP LaserJet Utility from the *HP Jetdirect* CD-ROM, use the following installation instructions.

Note:

If you are installing the HP LaserJet Utility from a source other than the CD-ROM, see the README file that accompanies the software for installation instructions.

Automatic virus detection programs might interfere with the installation of this software. Turn off any such programs that are active on your Mac OS computer before proceeding with the installation process.

1. Insert the CD-ROM into the CD-ROM drive.
2. In the *HP Installer* window, double-click the installation icon for the software in the language you want.
3. Follow the instructions on the screen.

For more information about configuring your printer driver, see the online documentation provided on the CD-ROM that came with the printer.

Configuring the Printer

The HP LaserJet Utility allows printer settings such as printer name and preferred zone to be configured from your MacOS system. Hewlett-Packard recommends that only network administrators use the printer configuration capabilities of this utility.

If this printer is to be serviced by a print spooler, set up the printer's name and zone before configuring the spooler to capture the printer.

Running the HP LaserJet Utility

1. With the printer turned on and online, and the print server connected to the printer and to the network, double-click the **HP LaserJet Utility** icon.
2. If the printer's name is not listed as the target printer, click **Select Printer**. The *Select a Target Printer* window appears.

Select the zone, if necessary, from the *AppleTalk Zones* list in which the printer resides. The zone the printer is in is shown on the configuration page. See the hardware installation guide for your print server or your printer's getting started guide for instructions on printing a configuration page.

Select the printer from the *Available Printers* list and click **OK**.

Verifying Network Configuration

To verify your current network configuration, print a Jetdirect configuration page. If you have not printed a configuration page from your printer, see the hardware installation guide for your print server or your printer's getting started guide for instructions (see [Interpreting the configuration page](#) for more information). If your printer has a control panel, make sure a READY message appears on the control panel for at least 1 minute, then print the page. The current configuration is listed under "AppleTalk" on the configuration page.

Note: If you have multiple printers on your network, you need to print a configuration page to identify the printer's name and zone.

Renaming the Printer

The factory supplies a default name for your printer.

Hewlett-Packard highly recommends that you rename your printer to avoid having multiple printers with similar names on

your network. You can name your printer anything you like—for example, “Michael’s LaserJet 4000.” The HP LaserJet Utility has the ability to rename devices located in different zones, as well as the local zone (no zones need to be present in order to use the HP LaserJet Utility).

1. Select the **Settings** icon from the scrolling icon list. The *Please select a setting:* dialog appears.
2. Select **Printer Name** in the list.
3. Click **Edit**. The *Set Printer Name* dialog box appears.
4. Type the new name.

Note: The name may be up to 32 characters in length. A warning beep indicates that an illegal character was typed.

5. Click **OK**.

Note: If you try to name your printer the same name as another printer, an alert dialog box appears directing you to select another name. To select another name, repeat steps 4 and 5.

6. If your printer is on an EtherTalk network, continue with the next section, [Selecting a Zone](#).
7. To exit, select **Quit** from the *File* menu.
8. Notify everyone on your network of the new name for your printer so they can select the printer in the Chooser.

Selecting a Zone

The HP LaserJet Utility allows you to select a preferred zone for your printer on a Phase 2 EtherTalk network. Instead of your printer remaining on the default zone, which is set by the router, this utility lets you select the zone on which your printer appears. The zones on which your printer can reside are limited by your network configuration. **The HP LaserJet Utility only enables you to select a zone that is already configured for your network.**

Zones are groups of computers, printers, and other AppleTalk devices. They can be grouped by physical location (for example, Zone A may contain all the printers on the network in building A). They may also be grouped logically (for example, all printers used in the finance department).

1. Select the **Settings** icon from the scrolling icon list. The *Please Select a Setting:* dialog box appears.
2. Select **Printer Zone** in the list and click **Edit**. The *Select a Zone* dialog box appears.
3. Select your preferred network zone from the *Select a Zone:* list and click **Set Zone**.
4. To exit, select **Quit** from the *File* menu.
5. Notify everyone on your network of the new zone for your printer so they can select the printer in the Chooser.

Selecting Your Printer

1. Select the **Chooser** from the *Apple* menu.
2. Select the printer icon for use with your printer. If the appropriate printer icon does not appear in the Chooser, or you are not sure which icon to select for your printer, see [Installing the Printer Software](#) above.
3. If AppleTalk is not active, an alert dialog box appears on your screen. Select **OK**. The *Active* button turns on.

If your network is linked to other networks, the *AppleTalk Zones* list dialog box appears in the Chooser.

4. If applicable, select the zone in the *AppleTalk Zones* scrolling list where your printer is located.
5. Select the printer name you want to use from the list of printer names in the upper-right area of the Chooser.
 - If your printer is the only name listed in the dialog box, you must still select it. Your printer remains selected until you select a different printer with the Chooser.
 - If the printer's name does not appear in the list, make sure the following tasks have been performed:
 - The printer is turned on and is online.
 - The print server is connected to the printer and to the network.
 - The printer cable connections are secure.

A **READY** message should appear if the printer has a control panel display. See [troubleshooting](#) for more information.

6. Click **Setup** or **Create** in the Chooser; then, if prompted, select the appropriate PostScript Printer Description file (PPD) for the printer. For more information, see the online documentation (*HP LaserJet Printing Guide*).

7. Set **Background Printing** to **ON** or **OFF**.

If background printing is turned **OFF** when you send a print job to the printer, status messages appear on your screen and you have to wait until the messages clear before continuing your work. If background printing is turned **ON**, the messages are redirected to the PrintMonitor and you can continue working while the printer is printing your job.

8. Exit the Chooser.

To display your user name on the network when you are printing documents, go into the Control Panel on your MacOS computer, select **Sharing Setup**, then type your owner name.

Testing the Configuration

1. Select **Print Window** from the *File* menu, or if no window is open, select **Print Desktop**.

The *Print* dialog box appears.

2. Click **Print**.

If the printer prints the job, you have connected your printer to your network correctly. If your printer does not print, see [troubleshooting](#).

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TCP/IP Configuration

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- [Using RARP](#)
- [Using the arp and ping commands](#)
- [Using Telnet](#)
- [Using the embedded web server](#)
- [Using a syslog server](#)
- [Moving the networked printer to another network](#)
- [Ports for IP access to the HP Jetdirect print server](#)

Introduction

To operate properly on a TCP/IP network, the HP Jetdirect print server must be configured with valid TCP/IP network configuration parameters, such as an IP address. Depending on your printer and system, this can be done in the following ways:

Note: When shipped from the factory, the HP Jetdirect print server has no IP address. If the HP Jetdirect print server is not configured with a valid IP address within two minutes after power up, a factory default value of 192.0.0.192 will be automatically assigned. This address must be reconfigured with a valid address for use on your TCP/IP network. For more information on TCP/IP networks, see [TCP/IP overview](#).

- By using your printer installation software or the HP Jetdirect print server installation software on supported systems. For more information see the [software solutions summary](#).
- By downloading the data from a network-based server using BOOTP (Bootstrap Protocol) and TFTP (Trivial File Transfer Protocol) each time the printer is turned on. For more

information, see [BOOTP/TFTP](#).

- By using Dynamic Host Configuration Protocol (DHCP). This protocol is supported in HP-UX, Solaris, Red Hat Linux, SuSE Linux, Windows NT/2000, NetWare, and MacOS systems. (Refer to your network operating system manuals to verify that your operating system supports DHCP.) For more information, see [DHCP](#).

Note:

Linux and UNIX systems: For more information, see the `bootpd` man page.

On HP-UX systems, a sample DHCP configuration file (`dhcptab`) may be located in the `/etc` directory.

Since HP-UX presently does not provide Dynamic Domain Name Services (DDNS) for its DHCP implementations, HP recommends that you set all print server lease durations to infinite. This ensures that print server IP addresses remain static until such time as Dynamic Domain Name Services are provided.

- By a network-based server using RARP (Reverse Address Resolution Protocol) answering the print server's RARP request and supplying the print server with the IP address. The RARP method only allows you to configure the IP address. For more information, see [RARP](#).
- By using the `arp` and `ping` commands from your system. For more information, see [arp and ping commands](#).
- By setting configuration parameters using Telnet. In order to set configuration parameters, set up a Telnet connection from your system to the HP Jetdirect print server using the default IP address. The default IP address takes effect two minutes after the printer is turned on (if none of the other configuration methods have been used). The default IP address is 192.0.0.192. If Telnet is used, the print server saves the configuration over power cycles. For more information, see [Telnet](#).
- By browsing to the embedded Web server on the HP Jetdirect print server and setting the configuration parameters. For more

information, see the [embedded web server](#).

Overview of TCP/IP protocol

Information to help you gain a basic understanding of TCP/IP:

Similar to a common language that people use to communicate with each other, TCP/IP (Transmission Control Protocol/Internet Protocol) is a suite of protocols designed to define the way computers and other devices communicate with each other over a network.

TCP/IP is rapidly becoming the most used set of protocols. The main reason this is happening is the fact that the internet is based on TCP/IP. If you have a network that you wish to connect to the internet, you must be using TCP/IP to communicate.

Internet Protocol (IP)

When information is sent across the network, the data is broken down into small packets. Each packet is sent independently of one another. Each packet is encoded with IP information, such as the IP address of the sender and receiver. IP packets can be routed over routers and gateways, devices that connect a network with other networks.

IP communications is connectionless. When IP packets are sent, there is no guarantee that they arrive at their destination in the proper sequence. That task can be performed by higher level protocols and applications thereby allowing IP communications to be efficient.

Each node or device that will communicate directly onto the network requires an IP address, including HP Jetdirect-connected devices.

Transmission Control Protocol (TCP)

TCP handles breaking the data into packets and recombining the packets on the receiving end by providing a connection-oriented, reliable, and guaranteed delivery service to another node on the network. When data packets are received at their destination, TCP calculates a checksum for each packet to verify the data is not corrupt. If the data in the packet has been corrupted during transmission, TCP discards the packet and requests that the packet be resent.

User Datagram Protocol (UDP)

UDP provides similar services to TCP. However, UDP does not acknowledge data receipt and supports request/reply transactions with

no added reliability or guarantee of delivery. UDP is used when acknowledgment and reliability are not required, such as during a “discovery broadcast.”

IP Address

Every host (workstation or node) on an IP network requires a unique IP address for each network interface. This address is a software address that is used to identify both the network and specific hosts located on that network. Each IP address can be divided into two separate parts: the network portion and the host portion. It is possible for a host to query a server for a dynamic IP address each time the device boots up (see [Dynamic Host Configuration Protocol \(DHCP\)](#)).

Note: When assigning IP addresses, always consult the IP address administrator. Setting the wrong address can disable other equipment operating on the network or interfere with communications.

Network Portion

Network addresses are distributed to organizations that are in turn responsible for making sure all attached devices or hosts on the network are properly numbered.

Host Portion

Host addresses numerically identify specific network interfaces on an IP network. Usually a host has only one network interface; thus, only one IP address. Because no two devices can share the same number at the same time, administrators typically maintain address tables to assure correct assignment of addresses in the host network.

Subnets

When an IP network address for a particular network class is assigned to an organization, no provision is made for more than one network being present at that location. Local network administrators use subnets to partition a network into several different subnetworks. Splitting a network into subnets can result in better performance and improved use of limited network address space.

Subnet Mask

The subnet mask is a mechanism used to divide a single IP network into several different subnetworks. A subnet mask is applied to each IP address to specify the portion used for subnetworks, and the portion used to identify the node.

Gateways

Gateways (routers) are used to connect networks together. Gateways are devices that act as translators between systems that do not use the same communication protocols, data formatting, structures, languages, or architectures. Gateways repackage the data packets and change the syntax to match that of the destination system. When networks are divided into subnets, gateways are required to connect one subnet to another.

Default Gateway

The default gateway is the gateway or router that, if not specified, will be used to move packets between networks. It is specified by an IP address.

If multiple gateways or routers exist, then the default gateway is typically the address of the first, or nearest, gateway or router. If no gateways or routers exist, then the default gateway will typically assume the IP address of the network node (such as the workstation or HP Jetdirect print server).

DHCP or BOOTP for auto-configuration of TCP/IP services

These services are used to obtain IP configuration data to print servers on the network, partially or wholly replacing the manual configuration using wizards, utilities, and the other real-time tools described on this page.

Dynamic Host Configuration Protocol (DHCP)

DHCP allows a group of devices to use a set of IP addresses that are maintained by a DHCP server. The device or host sends a request to the server, and if an IP address is available, the server assigns it to that device.

BOOTP and TFTP

BOOTP is a bootstrap protocol used to download configuration parameters and host information from a network server. BOOTP uses UDP for its transport. In order for devices to boot and load configuration information into RAM, they must communicate through the bootstrap protocol BOOTP as a client with their server. The downloaded configuration data may also identify a file containing extended configuration data, to be downloaded by the print server using TFTP.

The installation sequence for DHCP or BOOTP/TFTP setup

1. Set up the DHCP or BOOTP service. [Refer to procedure.](#)
2. Install the hardware; power on the print server. [Refer to procedure.](#)
3. For Windows computers, run the Install Network Printer wizard on each client to load driver and set up the print path. Return to the initial screen for this CD, and select the [Install] button for the Install Network Printer wizard.

To configure the device, the client broadcasts a boot request packet containing at least the hardware address of the device (HP Jetdirect print server hardware address). The server answers with a boot reply packet containing the information the device needs to configure.

Syslog Server

A *syslog* server is a system on the network (typically a UNIX system) that can receive and log syslog messages from other devices on the network. *Syslog* messages allow administrators to monitor status or troubleshoot network devices.

A *syslog* server requires software that provides syslog capabilities running on the server. UNIX systems provide a daemon, *syslogd*, that monitors User Datagram Protocol (UDP) port 514 for incoming messages. The messages are processed depending their priority and on how *syslogd* is set up to operate.

You can configure the HP Jetdirect print server with the *syslog* server's IP address. When a *syslog* server is configured, both the HP Jetdirect print server and attached device (such as a printer or mopier) can send *syslog* messages using UDP.

The *syslog* server may not receive all *syslog* events from the HP Jetdirect print server:

- UDP does not guarantee delivery of messages.
- The HP Jetdirect print server attempts to eliminate duplicate messages (to minimize unnecessary network traffic).
- The volume of messages sent by the HP Jetdirect print server is configurable.

Methods to configure HP Jetdirect *syslog* parameters include BOOTP, DHCP, Telnet, the [embedded web server](#), and management software.

Selected *syslog* parameters on the HP Jetdirect print server:

Item	Description
Syslog Server IP address	IP address of a <i>syslog</i> server to send <i>syslog</i> messages to. If zero (0.0.0.0) or not specified, <i>syslog</i> messages are disabled.
Syslog Maximum Messages	The number of <i>syslog</i> messages that can be sent by the HP Jetdirect print server on a per-minute basis, from 0 to 1000. This parameter helps to control the <i>syslog</i> file size. The default is 10 messages per minute. If 0, the number of <i>syslog</i> messages is not restricted.
Syslog Priority	A method for filtering syslog messages that are sent to the <i>syslog</i> server. The range is 0 through 8, with 0 the most specific and 8 the most general. Only messages that are lower than the specified filter level (or higher in priority) are reported. The default is 8, messages of all priorities are sent. If 0, all <i>syslog</i> messages are disabled.
Syslog Facility	A code used to identify the source facility of a message (for example, to identify the source of selected messages during troubleshooting). By default, the HP Jetdirect print server uses LPR as the source facility code, but local user values of local0 through local7 can be used to isolate individual or groups of print servers.

Typical logfile entries of *syslog* messages:

```
Oct 22 08:10:33 jd08 printer: error cleared
Oct 22 15:06:07 jd04 printer: powered up
Oct 22 15:07:56 jd04 printer: offline or
intervention needed
Oct 22 15:08:58 jd04 printer: error cleared
Oct 24 17:52:27 jd37 printer: powered up
Oct 24 18:28:13 jd37 printer: printer is
disconnected
Oct 24 18:37:46 jd07 printer: error cleared
Oct 24 18:38:42 jd37 printer: powered up
Oct 25 07:50:16 jd04 printer: toner/ink low
```

Ways to configure an IP address on the print server

The HP Install Network Printer Wizard for Windows—the installation wizard supplied and recommended by HP—configures IP for you or lets you do it. [The wizard](#).

You can automatically configure IP over the network each time the print server is powered up by using BOOTP (Bootstrap Protocol) or DHCP (Dynamic Host Configuration Protocol). [Auto-configuration](#).

You can manually configure IP using various configuration and management tools, such as the embedded web server. [Configuration tools](#).

If the print server does not receive its IP configuration within a couple of minutes, a default IP address is automatically assigned (until changed by another method): 192.0.0.192. This address is not a valid IP address for your network but can be used to initially access the print server using the embedded web server. However, to access it by the default IP address, you must temporarily either isolate both your computer and the print server to the same hub, or establish a route to the print server and change the print server's configuration to one that matches your network. Then you can use the [embedded web server](#) on that computer to access the print server by the default IP address—and then reconfigure IP, or anything else.

Ports for IP access to the Jetdirect print server

BOOTP, DHCP	UDP port 67, 68
TFTP	UDP port 69
SNMP	UDP port 161
FTP	TCP port 20, 21
Telnet	TCP port 23
embedded web server	TCP port 80
LPD	TCP port 515
IPP	TCP port 631

Install Network Printer Wizard (raw IP printing)	TCP port 9100 (HP proprietary)
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Moving the print server to another IP network

When moving an HP Jetdirect print server configured with an IP address to a new network, ensure that the IP address does not conflict with addresses on the new network.

1. First, do one of the following:
 - Change the IP address to one usable on the new network.
 - Erase the current IP address and configure another address after you are installed on the new network.
2. Then reset the print server to factory defaults: [instructions](#)
3. Finally, do one of the following:
 - If the print server was configured using BOOTP or DHCP, edit the appropriate system files with updated settings. If the current BOOTP server is not reachable, you may need to locate and configure a different BOOTP server.
 - If the IP address and other parameters were manually set, then manually reconfigure them.

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Using BOOTP, TFTP, and DHCP



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

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You can have TCP/IP automatically configured on the print server using either BOOTP (Bootstrap Protocol), TFTP (Trivial File Transfer Protocol), or DHCP (Dynamic Host Configuration Protocol, RFC 2131/2132) services, on servers with certain operating systems. With either protocol, network configuration data is downloaded from that server over the network to the print server, so that the print server automatically obtains its IP address and other IP configuration.

For DHCP, the print server also registers its name with any RFC 1001 and 1002-compliant dynamic name services—as long as a WINS (Windows Internet Naming Service) server IP address has been specified.

For BOOTP, the downloaded configuration data may also identify a file containing extended configuration data. The HP Jetdirect print server downloads this file using TFTP. This TFTP configuration file may be located on the BOOTP server or on a separate TFTP server.

Automatically downloading configuration data has the following benefits:

- *Ease of HP Jetdirect print server configuration.* Complete network configuration can be automatically downloaded each time the print server is powered on.
- *Ease of configuration management.* Network configuration parameters for the entire network can be in one location.
- *Enhanced configuration control of the print server.* Configuration by other methods is limited to select parameters.

When the print server is powered on, it broadcasts requests that contains its hardware address. A server daemon searches servers for configuration data with a matching hardware address, and if successful, sends the corresponding configuration data to the print server as a reply.

The factory-default state of the HP Jetdirect print server is to request its configuration data using BOOTP requests first, and if no BOOTP reply is received, then to request its configuration data using DHCP requests.

Note: If the print server and the BOOTP, TFTP, or DHCP server are located on different subnets, IP configuration may fail unless the routing device supports “BOOTP Relay” (allows the transfer of requests between subnets).

Other ways to configure IP

Procedures

- [BOOTP](#) with optional TFTP:
 - [Setting up the BOOTP server](#) on specific operating systems
 - [bootptab file](#)
 - [TFTP configuration file](#)
 - [Configuring the print server for BOOTP auto-configuration](#)
- [DHCP](#):
 - [Setting up the DHCP server](#) on specific operating systems
 - [Configuring the print server for DHCP auto-configuration](#)
- [Changing the BOOTP/DHCP configuration method](#)

Setting up the BOOTP server

For systems using NIS (Network Information Service):

If your server uses NIS, you may need to rebuild the NIS map with the BOOTP service before performing the BOOTP configuration steps. Refer to your system documentation.

The procedure to set up the DHCP server depends on the operating system on that system. (It may be a system other than those using the HP Jetdirect print services.)

- **Windows 2000 or NT servers:**

On Windows NT or 2000 server systems, use the Microsoft DHCP utilities to set up print server configuration through BOOTP.

- When you use the [Windows NT DHCP procedure](#) (with the finite lease duration and adding a reservation in step 8), the resulting service will respond to a BOOTP requests as well as to DHCP requests from the print server.
- When you use the [Windows 2000 DHCP procedure](#), the resulting service will respond to BOOTP requests when you select **BOOTP only** or **Both** in step 11d.

These systems may require third-party software for TFTP support.

- **UNIX servers:**

A BOOTP server running UNIX must be set up with the BOOTP daemon `bootpd`, and must be set up with the `/etc/bootptab` configuration file. The configuration data in the `/etc/bootptab` file must be properly entered. See the [contents of the bootptab file](#) below.

TFTP is used to obtain additional configuration data from a configuration file on a TFTP server. This file is specified in the `bootptab` file; see the [T144 tag](#). See the [contents of the TFTP configuration file](#), as well as the [contents of the bootptab file](#), below.

- **NetWare BOOTP servers:**

For setup of NetWare BOOTP servers, refer to your NetWare documentation.

bootptab file

Example of a `/etc/bootptab` file entry for an HP Jetdirect print server:

```
picasso:\
:hn:\
:ht=ether:\
:vm=rfc1048:\
:ha=0001E6123456:\
:ip=192.168.45.39:\
:sm=255.255.255.0:\
:gw=192.168.40.1:\
:lg=192.168.40.3:\
:T144="hnp/picasso.cfg":
```

A colon (:) indicates the end of a field, and a backslash (\) indicates that the entry is continued on the next line. Spaces are not allowed between the characters on a line. Names, such as host names, must begin with a letter and can contain only letters, numbers, periods (for domain names only), and hyphens. The underline character (_) is not allowed. Refer to your systems documentation for more information.

bootptab file parameters (tags)

Note that the configuration data contains “tags” to identify the various HP Jetdirect parameters and their settings. The tags are identified in the table below.

Tag	RFC 2132 Option	Description
nodename	—	The name of the peripheral device. Identifies an entry point to a list of parameters for the specific peripheral device. Must be the first field in an entry. (In the example above, nodename is <code>picasso</code> .)
hn	12	The host name tag. This tag does not take a value but causes the BOOTP daemon to download the host name to the print server. The host name will be printed on the Jetdirect configuration page, or returned on an SNMP <code>sysName</code> request by a network application.
ht	—	The hardware type tag. For the HP Jetdirect print server, set this to <code>ether</code> (for Ethernet). Must precede the <code>ha</code> tag.
vm	—	The BOOTP report format tag (required). Set this to <code>rfc1048</code> .

ha	—	The hardware address tag. The hardware (MAC) address is the link-level or station address of the HP Jetdirect print server. It can be found on the Jetdirect configuration page as the Hardware Address, and also printed on a label attached to the print server.
ip	—	The IP address tag (required). This will be the print server's IP address.
sm	1	The subnet mask tag. The subnet mask will be used by the print server to identify the portions of an IP address that specify the network/subnetwork number and the host address.
gw	3	The gateway IP address tag. This address identifies the IP address of the default gateway (router) that the HP Jetdirect print server will use for communications with other subnets.
ds	6	DNS (Domain Name System) server's IP address tag. Only a single name server can be specified.
dn	15	Domain name tag. Specifies the domain name for the print server (for example, support.hp.com). It does not include the host name—it is not the Fully Qualified Domain Name (such as printer1.support.hp.com).
ef	18	Extensions file tag that specifies the relative path name of the TFTP configuration file. This tag is similar to the vendor-specific tag T144 .
na	44	Tag for IP addresses of the NetBIOS-over-TCP/IP Name Server (NBNS). A primary and secondary server may be specified in order of preference.
lease-time	51	DHCP IP address lease duration time (seconds).
tr	58	DHCP T1 timeout, specifying the DHCP lease renewal time (seconds).
tv	59	DHCP T2 timeout, specifying the DHCP lease rebind time (seconds).
lg	7	syslog server's IP address tag. It specifies the server to which the print server sends syslog messages. For more information, see syslog .
T69	69	The IP address (in hexadecimal) of the preferred outgoing e-mail SMTP (Simple Mail Transport Protocol) server, for use with supported scanning devices.
T144	—	An HP-proprietary tag that specifies the relative path name of the TFTP configuration file. Long path names may be truncated. The path name must be in double quotes ("pathname"). For file format information, refer to the TFTP file entries below. Note that standard BOOTP RFC-2132 option 18 (extensions file path) also allows the standard tag ef to specify the relative path name of the TFTP configuration file.
T145	—	Idle Timeout option. An HP-proprietary tag to set the idle timeout (seconds), which is the amount of time that a print data connection may remain idle before being closed. The range is 1–3600 seconds.
T146	—	Buffer Packing option. An HP-proprietary tag to set buffer packing for TCP/IP packets: 0: (default) Normal, data buffers are packed before sending to the printer. 1: Disable buffer packing, data is sent to the printer when received.
T147	—	Write Mode option. An HP-proprietary tag that controls the TCP PSH flag setting for device-to-client data transfers: 0: (default) Disables this option, flag not set. 1: All-push option. Push bit is set in all data packets. 2: EOI-push option. Push bit is set only for data packets that have an End-of-Information flag set.
T148	—	IP Gateway Disable option. An HP-proprietary tag to prevent configuration of a gateway IP address: 0: (default) Allows a gateway IP address. 1: Prevents a Gateway IP address from being configured.
T149	—	Interlock Mode option. An HP-proprietary tag that specifies whether an acknowledgement (ACK) on all TCP packets is required before the printer is allowed to close a Port 9100 print connection.
T150	—	TFTP server's IP address option. An HP-proprietary tag to specify the IP address of the server where the TFTP configuration file is located.
T151	—	Network configuration option. An HP-proprietary tag to ensure other dynamic configuration methods are not used: BOOTP-ONLY: Send BOOTP requests only, not DHCP. DHCP-ONLY: Send DHCP requests only, not BOOTP.

TFTP configuration file

To provide additional configuration parameters for your HP Jetdirect print server, such as SNMP (Simple Network Management Protocol) or non-default settings, an additional configuration file can be downloaded using TFTP. This TFTP configuration file's relative path name is specified in the BOOTP reply using the vendor-specific tag "T144" or the standard BOOTP tag "ef" in the /etc/bootptab file.

Example of a TFTP configuration file. Lines starting with "#" are remarks not included in the file.

```
#
# Example of an HP Jetdirect TFTP Configuration File
#
# Allow only Subnet 192.168.10 access to peripheral.
# Up to 10 "allow" entries can be written via TFTP.
# Up to 10 "allow" entries can be written via Telnet or embedded web server.
# "allow" may include single IP addresses.
#
allow: 192.168.10.0 255.255.255.0
#
#
# Disable Telnet.
#
telnet: 0
#
#
# Enable the embedded web server.
#
ews-config: 1
#
#
# Detect SNMP unauthorized usage.
#
authentication-trap: on
#
#
# Send Traps to 192.168.10.1.
#
trap-dest: 192.168.10.1
#
#
# Specify the Set Community Name.
#
set-community-name: lhomer2
#
# End of file
```

TFTP configuration file parameters

The following types of TFTP parameters are listed and described in tables below. You can click on a category below, to jump to the list.

- [General](#) parameters
- [TCP/IP: main](#) parameters
- [TCP/IP: print option](#) parameters
- [TCP/IP: raw print port](#) parameters
- [TCP/IP: access control](#) parameters
- [TCP/IP: other](#) parameters
- [SNMP](#) parameters
- [IPX/SPX](#) parameters
- [AppleTalk](#) parameters
- [DLC/LLC](#) parameters

- [Other](#) parameters
- [Support](#) parameters

Tables of TFTP parameters:

General parameters for TFTP

TFTP Parameter	Description
passwd:	The IP administrative password (up to 16 case-sensitive alphanumeric characters) that allows administrators to control changes of print server configuration parameters through Telnet or embedded web server.
sys-location:	Identifies the physical location of the printer (SNMP <code>sysLocation</code> object). Only printable ASCII characters are allowed. The maximum length is 64 characters. The default location is undefined. (Example: 1st floor, south wall)
sys-contact:	ASCII character string (up to 64 characters) that identifies the person who administers or services the printer (SNMP <code>sysContact</code> object). This may include how to contact this person. The default contact is undefined.

TCP/IP main parameters for TFTP

TFTP Parameter	Description
host-name:	Specifies the node name that will appear on the Jetdirect configuration page. Default is <code>NP1xxxxxx</code> , where <code>xxxxxx</code> is the last six digits of the print server's hardware address (MAC or LAN address).
domain-name:	The domain name for the device (for example, <code>support.hp.com</code>). It does not include the host name—it is not the Fully Qualified Domain Name (such as <code>printer1.support.hp.com</code>).
dns-svr:	IP address of the DNS (Domain Name System) server.
pri-wins-svr:	The IP address of the primary Windows Internet Name Service (WINS) server.
sec-winds-svr:	The IP address of the secondary Windows Internet Name Service (WINS) server.
smtp-svr:	The IP address of the outgoing e-mail Simple Mail Transport Protocol (SMTP) server, for use with supported scanning devices.

TCP/IP print option parameters for TFTP

TFTP Parameter	Description
9100-printing:	Enables or disables printing to TCP port 9100 on the print server. 0 Disables. 1 (default) Enables.
ftp-printing:	Enables or disables the ability to print via FTP: 0 Disables. 1 (default) Enables.
ipp-printing:	Enables or disables the ability to print via IPP: 0 Disables. 1 (default) Enables.
lpd-printing:	Enables or disables LPD (Line Printer Daemon) printing services on the print server: 0 Disables. 1 (default) Enables.
banner:	A port-specific parameter that specifies printing an LPD banner page: 0 Disables banner pages. 1 (default) Enables banner pages.
interlock:	Specifies whether an acknowledgement (ACK) on all TCP packets is required before the printer is allowed to close a Port 9100 print connection.

buffer-packing:	Enables or disables buffer packing for TCP/IP packets: 0 (default) Normal, data buffers are packed before sending to the printer. 1 Disable buffer packing, data is sent to the printer when received.
write-mode:	Controls the setting of the TCP PSH flag for device-to-client data transfers: 0 (default) Disables this option, flag not set. 1 All-push option. Push bit is set in all data packets. 2 EOI-push option. Push bit is set only for data packets that have an End-of-Information flag set.
mult-tcp-conn:	Enables or disables multiple TCP connections: 0 (default) Allows multiple connections. 1 Disables multiple connections.

TCP/IP raw print port parameters for TFTP

TFTP Parameter	Description
raw-port:	Specifies additional ports for printing to TCP port 9100. Valid ports are 3000 to 9000, which are application dependent.

TCP/IP access control parameters for TFTP

TFTP Parameter	Description
allow:	Makes an entry into the host access list stored on the print server. Each entry specifies a host or network of hosts that are allowed to connect to the printer. The format is: allow: netnum [mask] where: netnum is a network number or host IP address. mask (optional) is an address mask of bits applied to the network number and host address to verify access. Up to 10 access list entries are allowed. If there are no entries, all hosts are permitted access. For example: allow: 192.0.0.0 255.0.0.0 Allows hosts on network 192. allow: 192.168.1.2 Allows a single host. In this case, the default mask 255.255.255.255 is assumed and is not required. allow: Clears the host access list. For additional information, see security .

TCP/IP: other parameters for TFTP

TFTP Parameter	Description
syslog-config:	Enables or disables <i>syslog</i> server operation on the print server: 0 Disables. 1 (default) Enables. For more information, see syslog .
syslog-svr:	The <i>syslog</i> server's IP address. It specifies the server to which the print server sends <i>syslog</i> messages.
syslog-max:	Specifies the maximum number of <i>syslog</i> messages that can be sent by the print server on a per-minute basis. This setting allows administrators to control the log file size. The default is 10 per minute. If set to zero, the number of <i>syslog</i> messages is not restricted.
syslog-priority:	Controls the filtering of <i>syslog</i> messages sent to the <i>syslog</i> server. The filter range is 0 to 8, with 0 being the most specific and 8 the most general. Only messages that are lower than the filter level specified (or higher in priority) are reported. The default is 8, messages of all priorities are sent. If 0, all <i>syslog</i> messages are disabled.
syslog-facility:	A code used to identify the source facility of a message (for example, to identify the source of selected messages during troubleshooting). By default, the print server uses LPR as the source facility code, but local user values of local0 through local7 can be used to isolate individual or groups of print servers.

slp-config:	Enables or disables the Service Location Protocol (SLP) operation on the print server. SLP is used by selected HP software applications to automate device discovery. 0 Disables. 1 (default) Enables.
ttn-slp:	Specifies the IP multicast Time To Live (TTL) setting for Service Location Protocol (SLP) packets. The default value is 4 hops (the number of routers from the local network). The range is 1–15. When set to -1, multicast capability is disabled.
idle-timeout:	The number of seconds that an idle print data connection is allowed to remain open. Since the card supports only a single TCP connection, the idle timeout balances the opportunity of a host to recover or complete a print job against the ability of other hosts to access the printer. The acceptable values range from 0 to 3600 (1 hour). If set to 0, the timeout mechanism is disabled. The default is 270 seconds.
telnet-timeout:	An integer (1..3600) that specifies the number of seconds that your Telnet or FTP session can be idle before it will be automatically disconnected. The default is 900 seconds. 0 disables the timeout. <i>CAUTION:</i> small values, such as 1–5, may effectively disable the use of Telnet. A Telnet session may terminate before any changes can be made.
ews-config:	Enables or disables the embedded web server to view or change configuration values: 0 Disables. 1 (default) Enables.
tcp-mss:	Specifies the maximum segment size (MSS) that the print server will advertise for use when communicating with local subnets (Ethernet MSS=1460 bytes or more) or remote subnets (MSS=536 bytes): 0 (default) All networks are assumed to be local (Ethernet MSS=1460 bytes or more). 1 Use MSS=1460 bytes (or more) for subnets, and MSS=536 bytes for remote networks. 2 All networks are assumed to be remote (MSS=536 bytes), except the local subnet. MSS affects performance by helping to prevent IP fragmentation that may result in data retransmission.
tcp-ml:	Specifies the maximum segment life (MSL) in seconds. The range is 5–120 seconds. The default is 15 seconds.
telnet-config:	Enables or disables incoming Telnet connections: 0 Disallows them. (To regain access, change the setting in the TFTP configuration file and power cycle the print server, or cold-reset the print server to factory default settings.) 1 Allows them.

SNMP parameters for TFTP

TFTP Parameter	Description
snmp-config:	Enables or disables SNMP operation on the print server: 0 Disables. 1 (default) Enables.
get-community-name:	Specifies a password for SNMP GetRequests sent to the print server. This password is optional. If a user-specified get community name is set, the print server will respond to either a user-specified community name or the factory-default. The community name must be ASCII characters. The maximum length is 255 characters.
set-community-name:	Specifies a password that determines which SNMP SetRequests (control functions) the print server will respond to. The community name of an incoming SNMP SetRequest must match the print server's set community name for the print server to respond. SetRequests must come from hosts that are configured in the print server's host access list. Community names must be ASCII characters. The maximum length is 255 characters.
auth-trap:	Configures the print server to send (on) or not send (off) SNMP authentication traps. The default is on. Authentication traps indicate that an SNMP request was received, but the community name check failed.

trap-dest:	<p>Enters a host's IP address into the print server's SNMP trap destination list. The command format is:</p> <pre>trap-dest: ip-address [community name] [port number]</pre> <p><code>ip-address</code> is the host IP address.</p> <p><code>community name</code> is optional (the default community name will be used), except in two cases:</p> <ul style="list-style-type: none"> • when specifying the port number. If you do not specify a community name, the port number will become the community name. • when a <code>trap-community-name</code> entry precedes any <code>trap-dest</code> entry. If you do not specify a community name here, that trap community name will be assigned to this entry. <p><code>port number</code> is optional (the default SNMP port number 162 will be used).</p> <p>Setting <code>trap-dest: 0</code> deletes the trap destination list. If the list is empty, the print server does not send SNMP traps. The list may contain up to five entries. The default SNMP trap destination list is empty. To receive SNMP traps, the systems listed on the SNMP trap destination list must have a trap daemon to listen to those traps.</p>
trap-community-name:	<p>Community name (password) included with SNMP traps that are sent by the print server to a host computer. Community names must be ASCII characters. The maximum length is 255 characters.</p>

IPX/SPX parameters for TFTP

TFTP Parameter	Description
ipx-config:	Enables or disables IPX/SPX protocol operation on the print server: 0 Disables. 1 (default) Enables.
ipx-unit-name:	A user-assigned alphanumeric name assigned to the print server (31 characters maximum). By default, the name will be NPIxxxxxx, where xxxxxx are the last six digits of the hardware address (MAC or LAN address).
ipx-frametype:	Specifies the IPX frame type setting, one of the following: AUTO (default), EN_SNAP, EN_8022, EN_8023, EN_II, TR_8022, TR_SNAP.
ipx-sapinterval:	Specifies the time interval (1–3600 seconds) that the print server waits between Service Advertising Protocol (SAP) broadcasts on the network. The default is 60 seconds. 0 disables SAP broadcasts.
[not for 175x] ipx-nds-tree:	An alphanumeric string, up to 31 characters, that specifies the name of the Novell Directory Services (NDS) tree for this print server.
[not for 175x] ipx-nds-context:	An alphanumeric string, up to 256 characters, that specifies the NDS context for the print server.
[not for 175x] ipx-job-poll:	Specifies the time interval (1–255 seconds) that the print server will wait to check for print jobs in a print queue. The default is 2 seconds
ipx-banner:	Enables or disables printing an IPX banner page using the Printer Job Language (PJL): 0 Disables. 1 (default) Enables.
ipx-eoj:	Enables or disables IPX end-of-job notification using PJL: 0 Disables. 1 (default) Enables.
ipx-toner-low:	Enables or disables IPX toner-low notification using PJL: 0 Disables. 1 (default) Enables.

AppleTalk parameters for TFTP

TFTP Parameter	Description
appletalk:	Enables or disables AppleTalk (EtherTalk) protocol operation on the print server: 0 Disables. 1 (default) Enables.

DLC/LLC parameters for TFTP [not for 175x]

TFTP Parameter	Description
[not for 175x] dlc/llc:	Enables or disables DLC/LLC protocol operation on the print server: 0 Disables. 1 (default) Enables.

Other parameters for TFTP

TFTP Parameter	Description
scan-config:	Enables or disables the web scanning feature in the embedded web server, when connected to a supported device: 0 Disables. 1 (default) Enables.
scan-idle-timeout:	Specifies the number of seconds (1–3600) that an idle scan connection is allowed to remain open. 0 disables the timeout. The default is 300 seconds.
scan-email-config:	Enables or disables the scan-to-email feature in the embedded web server, when connected to a supported device: 0 Disables. 1 (default) Enables.
MFP-config:	Enables or disables print server support of the client software provided with your multifunction peripheral (MFP) or All-In-One: 0 (default) Disables (allows printing only). 1 Enables (allows printing, scanning, etc.).
usb-mode:	Specifies the communication mode over the USB port on the print server: Auto (default) Automatically negotiates and sets the the highest communication mode possible for the attached printer or device. MLC (Multiple Logical Channels) An HP-proprietary communication mode that allows multiple channels of simultaneous print, scan, and status communications. BIDIR A standard connection that supports bi-directional communications between the printer and print server. The print server sends print data and receives status from the printer. UNIDIR A standard connection in which data is transferred in one direction only (to the printer).
usb-statpg-lang:	Specifies the page description language (PDL) used by the print server to send the Jetdirect configuration page to the printer: Auto (default) The language is auto-detected when the print server is powered on or after a cold reset to factory defaults. PCL Hewlett-Packard Printer Control Language ASCII Standard ASCII characters HPGL2 Hewlett-Packard Graphics Language (v2) PS Adobe PostScript language

Support parameters for TFTP

TFTP Parameter	Description
support-name:	Typically used to identify the name of a person to contact for support of this device.
support-number:	Typically used to specify a phone or extension number to call for support of this device.
support-url:	A web URL address for product information on this device over the Internet or an intranet.
tech-support-url:	A web URL address for technical support over the Internet or an intranet.

Configuring the print server for BOOTP configuration

The factory-default state of the HP Jetdirect print server allows it to use BOOTP services automatically, so no further action is necessary.

How the default configuration works

[Changing the BOOTP/DHCP configuration method](#)

Setting up the DHCP server

The procedure to set up the DHCP server depends on the operating system on that system. (It may be a system other than those using the HP Jetdirect print services.)

- [UNIX](#)
- Windows [NT 4.0](#)
- Windows [2000](#)

UNIX servers:

For instructions on setting up DHCP on UNIX systems, see the `bootpd` man page.

On HP-UX systems, a sample DHCP configuration file `dhcptab` may be located in the `/etc` directory. Since HP-UX presently does not provide Dynamic Domain Name Services (DDNS) for its DHCP implementations, HP recommends that you set all print server lease durations to *infinite*. This ensures that the print server IP addresses remain static until dynamic name services are provided.

Windows NT 4.0 servers:

You will set up a pool--*scope*-- of IP addresses that the server can assign or lease to a requester.

Note: To avoid problems resulting from IP addresses that change, HP recommends that all print servers be assigned IP addresses with infinite leases or reserved IP addresses.

NT Procedure:

Note: In addition to the general steps provided here, see also the instructions supplied with your DHCP software.

1. On the Windows NT server, open the Program Manager window and double-click the Network Administrator icon.
2. Double-click the DHCP Manager icon to open this window.
3. Select Server and select Server Add.
4. Type the server IP address, then click [OK] to return to the DHCP Manager window.
5. In the list of DHCP servers, click on the server you have just added, then select Scope and select Create.
6. Select Set up the IP Address Pool. In the IP Address Pool section, set up the IP address range by entering the beginning IP address in the Start Address box and entering the ending IP address in the End Address box. Also enter the subnet mask for the subnet to which the IP address pool applies. The starting and ending IP addresses define the end points of the address pool assigned to this scope.

Note: If desired, you can exclude ranges of IP addresses within a scope.

7. In the Lease Duration section, select Unlimited, then select [OK].

HP recommends that all print servers be assigned *infinite* leases to avoid problems resulting from IP addresses that change. Be aware, however, that selecting an unlimited lease duration for the scope (as described above) causes all clients in that scope to have infinite leases.

If you want clients on your network to have *finite* leases, you can instead set the duration to a finite time, but you should configure all print servers as reserved clients for the scope.

8. **If** you have set Lease Duration to Unlimited in the previous step, then skip now to [the next step 9](#).

If you have set Lease Duration to a finite time, then continue with this step:

Select Scope and select Add Reservations to set up your print servers as reserved clients. For each print server, perform the following steps in the Add Reserved Clients window to set up a reservation for that print server:

- a. Type the selected IP address.
- b. Obtain the hardware (MAC) address from the [configuration page](#), and type this address in the Unique Identifier box.
- c. Input a client name.
- d. Select Add to add the reserved client. To delete a reservation, in the DHCP Manager window, select Scope and select Active Leases. In the Active Leases window, click on the reservation you want to delete and select [Delete].

9. Select Close to return to the DHCP Manager window.

10. **If** you do *not* plan to use WINS (Windows Internet Naming Service), then skip now to [the next step 11](#).

If you plan to use WINS (Windows Internet Naming Service), then continue with this step:

- a. From the DHCP Manager window, select DHCP Options and select one of the following:

Scope: if you want name services only for the selected scope.

Global: if you want name services for all scopes.

- b. Add the server to the Active Options list. In the DHCP Options window, select WINS/NBNS Servers (044) from the Unused Options list. Select [Add]; then select [OK].

A warning may appear requesting that you set the node type. You will do this in [step 10d below](#).

- c. Now provide the IP address of the WINS server as follows:

- i. Select Value, then Edit Array.

- ii. From the IP Address Array Editor, select Remove to delete any undesired addresses previously set. Then type in the IP address of the WINS server and select [Add].

- iii. Once the address appears in the list of IP addresses, select [OK]. This returns you to the DHCP Options window. If the address you have just added appears in the list of IP addresses (near the bottom of the window) continue to [step 10d below](#). Otherwise, retry [step 10c](#).

- d. In the DHCP Options window, select WINS/NBT Node Type (046) from the Unused Options list. Select [Add] to add the node type to the Active Options list. In the Byte box, input 0x4 to indicate a mixed node, and select [OK].

11. Click [Close] to exit to the Program Manager.

Windows 2000 servers:

You will set up a pool--*scope*-- of IP addresses that the server can assign or lease to a requester.

Note: To avoid problems resulting from IP addresses that change, HP recommends that all print servers be assigned IP addresses with infinite leases or reserved IP addresses.

2000 Procedure:

Note: In addition to the general steps provided here, see also the instructions supplied with your DHCP software.

1. Run the Windows 2000 DHCP manager utility: Click Start, Settings, Control Panel. Open the Administrative Tools folder and run the DHCP utility.
2. In the DHCP window, locate and select your Windows 2000 server in the DHCP tree.

If your server is *not* listed in the tree, select **DHCP** and click the **Action** menu to add the server.

3. After selecting your server in the DHCP tree, click the **Action** menu and select **New Scope**. This runs the **Add New Scope** wizard.
4. In the **Add New Scope** wizard, click **[Next]**.
5. Enter a name and description for this scope, then click **[Next]**.
6. Enter the range of IP addresses for this scope (beginning IP address and ending IP address). Also, enter the subnet mask. Then click **[Next]**.

Note: If subnetting is used, the subnet mask defines which portion of an IP address specifies the subnet and which portion specifies the client device. (See [overview of IP addresses](#).)

7. If applicable, enter the range of IP addresses within the scope to be excluded by the server. Then click **[Next]**.
8. Set the IP address lease duration for your DHCP clients. Then click **[Next]**.

HP recommends that all print servers be assigned reserved IP addresses. You can do this after you set up the scope, as [step 11 below](#).

9. HP recommends that you select **[No]** to configure DHCP options for this scope later, and then click **[Next]**.

If you want to configure DHCP options *now*:

- a. Select **[Yes]** and click **[Next]**.
 - b. If desired, specify the IP address of the router (or default gateway) to be used by clients. Then click **[Next]**.
 - c. If desired, specify the Domain Name and DNS (Domain Name System) servers for clients. Click **[Next]**.
 - d. If desired, specify WINS server names and IP addresses. Click **[Next]**.
 - e. Select **[Yes]** to activate the DHCP options now, and click **[Next]**.
10. You have successfully set up the DHCP scope on this server. Click **[Finish]** to close the wizard.
 11. To configure your print server with a reserved IP address within the DHCP scope:
 - a. In the DHCP tree, open the folder for your scope and select **Reservations**.
 - b. Click the **Action** menu and select **New Reservation**.
 - c. Enter the appropriate information in each field, including the reserved IP address for your print server. (Note: the hardware {MAC} address for your print server is available on the Jetdirect [configuration page](#).)
 - d. Under “Supported types”, select **DHCP only**, then click **[Add]**. This results in a DHCP configuration.

Note: Selecting **Both** or **BOOTP only** results in a BOOTP configuration due to the sequence in which HP Jetdirect print servers initiate configuration protocol requests.
 - e. Specify another reserved client, or click **[Close]**. The reserved clients added will be displayed in the **Reservations** folder for this scope.
 12. Close the DHCP manager utility.
-

Configuring the print server for DHCP configuration

Once a DHCP server is set up (according to the [previous section](#)), the factory-default state of the print server requires no further action for print server configuration.

[How the default configuration works](#)

Changing the BOOTP/DHCP configuration method

Other configuration tools that include IP configuration, such as the [embedded web server](#) or [Telnet](#), allow you to disable BOOTP and/or DHCP auto-configuration. In each of these tools, three possible settings for the configuration method are provided; each of the settings has the effect of disabling others, as follows:

- **BOOTP**

The print server automatically releases any names and IP addresses associated with the DHCP server and re-initializes the TCP/IP protocol for the print server (unless a BOOTP configuration is currently in effect). At this point, TCP/IP is unconfigured, and the print server begins to send—even before power is cycled—BOOTP requests to acquire new IP configuration information. If no BOOTP reply is received, the IP address remains at the factory default 192.0.0.192. DHCP is disabled.

After power to the print server is cycled, only BOOTP requests are sent and only BOOTP replies are processed. Any configuration of IP parameters done manually is ignored.

- **DHCP**

The print server automatically releases any names and IP addresses associated with the BOOTP server and re-initializes the TCP/IP protocol for the print server (unless a BOOTP configuration is currently in effect). At this point, TCP/IP is unconfigured, and the print server begins to send—even before power is cycled—DHCP requests to acquire new IP configuration information. If no DHCP reply is received, the IP address remains at the factory default 192.0.0.192. BOOTP is disabled.

After power to the print server is cycled, only DHCP requests are sent and only DHCP replies are processed. Any configuration of IP parameters done manually is ignored.

- **Manual**

BOOTP and DHCP are disabled.

You should proceed to manually set all of the IP configuration parameters, including IP address, subnet mask, default gateway, and idle timeout. You can use the settings available in the same tool you are using.

Caution:

If the print server is switched from using an address allocated by a DHCP server to using a manually assigned address, that manually assigned address should be outside any DHCP range used for other devices on the network. An alternative is to tell the DHCP server that the print server's address is fixed so that it will never be allocated to another client.

Returning to factory defaults

You can return the print server to its [factory-default state](#) (also called “cold reset”) by using the [factory-default reset procedure](#).



Using RARP

for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

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This subsection describes how to configure the print server using the Reverse Address Resolution Protocol (RARP) on UNIX and Linux systems.

This setup procedure enables the RARP daemon running on your system to respond to a RARP request from the print server and to supply the IP address to the print server.

1. Switch off the print server.
2. Log onto your UNIX or Linux system as a superuser.
3. Make sure the RARP daemon is running on your system by entering the following command at the system prompt:

```
ps -ef | grep rarpd (for Unix)
ps ax | grep rarpd (for BSD or Linux)
```

4. The system response should be similar to the following:

```
861 0.00.2 24 72 5 14:03 0:00 rarpd -a
860 0.00.5 36 140 5 14:03 0:00 rarpd -a
```

5. If the system does not display a process number for the RARP daemon, see the *rarpd* man page for instructions on starting the RARP daemon.

6. Edit the `/etc/hosts` file to add your designated IP address and node name for the print server. For example:

```
192.168.45.39 laserjet1
```

7. Edit the `/etc/ethers` file (`/etc/rarpd.conf` file in HP-UX 10.20) to add the LAN hardware address (MAC or station address), as shown on the [configuration page](#), and the node name for the print server. For example:

```
00:01:E6:a8:b0:00 laserjet1
```

Note: If your system uses Network Information Service (NIS), you need to incorporate changes to the NIS host and ethers databases

8. Switch on the print server.
9. To verify that the print server is configured with the correct IP address, use the *ping* utility. At the system prompt, enter:

```
ping <IP address>
```

where <IP address> is the assigned address from RARP. The default IP address is 192.0.0.192.

10. If ping does not respond, see the [Troubleshooting](#) section.

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Using the arp and ping commands

for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

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You can configure a print server with an IP address using an ARP (Address Resolution Protocol) command from a supported system. The protocol is not routable, that is, the workstation from which the configuration is made must be located on the same network segment as the print server.

Using the `arp` and `ping` commands with HP Jetdirect print servers requires the following:

- Windows NT/2000 or UNIX system configured for TCP/IP operation.
- HP Jetdirect firmware version x.08.03 or later.
- LAN hardware address (MAC or station address) of the server (specified on its [configuration page](#), or on a label attached to the back).
- Note that on *some* systems, superuser rights may be required for the `arp` command.

After an IP address is assigned via `arp` and `ping` commands, use other tools (such as [Telnet](#), [embedded web server](#), or HP Web Jetadmin software) to configure other IP parameters.

Procedure

Enter the following commands at the system prompt:

```
arp -s <IP address> <LAN hardware  
address>  
ping <IP address>
```

where:

<IP address> is the desired IP address to be assigned to the print server. The `arp` command writes the entries to the ARP cache on the workstation, and the `ping` command configures the IP address on the print server.

<LAN hardware address> may require a specific format for your system. For example:

- In Windows NT 4.0 or Windows 2000:

```
arp -s 192.168.45.39  
00-01-E6-a2-31-98  
ping 192.168.45.39
```

- In UNIX:

```
arp-s 192.168.45.39  
00:01:E6:a2:31:98  
ping 192.168.45.39
```

Note:

Once the IP address has been set on the print server, additional arp and ping commands will be ignored. Once the IP address is configured, arp and ping cannot be used unless the print server is reset to factory values (see [cold reset](#)).

On UNIX systems, the `arp -s` command may vary between different systems.

Some BSD-based systems expect the IP address (or host name) in reverse order. Other systems may require additional parameters. See your system documentation for specific command formats.

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Using Telnet



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

How to configure the print server using Telnet.

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Setting up an IP route

To use Telnet commands with the print server, a route must be available from your workstation to the print server. This means that there must be a match between the network identification of your system to that of the print server. (For example, if the print server is configured with a default IP address, a route may not exist.)

On Windows 95, 98, NT 4.0, 2000, Me, and XP systems, you can use the following route command at a DOS prompt to add a route to the print server:

```
route add <print server IP address> <system IP address>
```

where:

<print server IP address> is the IP address configured on the print server

<system IP address> is the IP address of the computer's network card that is attached to the same physical LAN as the print server

example:

```
route add 192.168.45.39 192.170.1.2
```

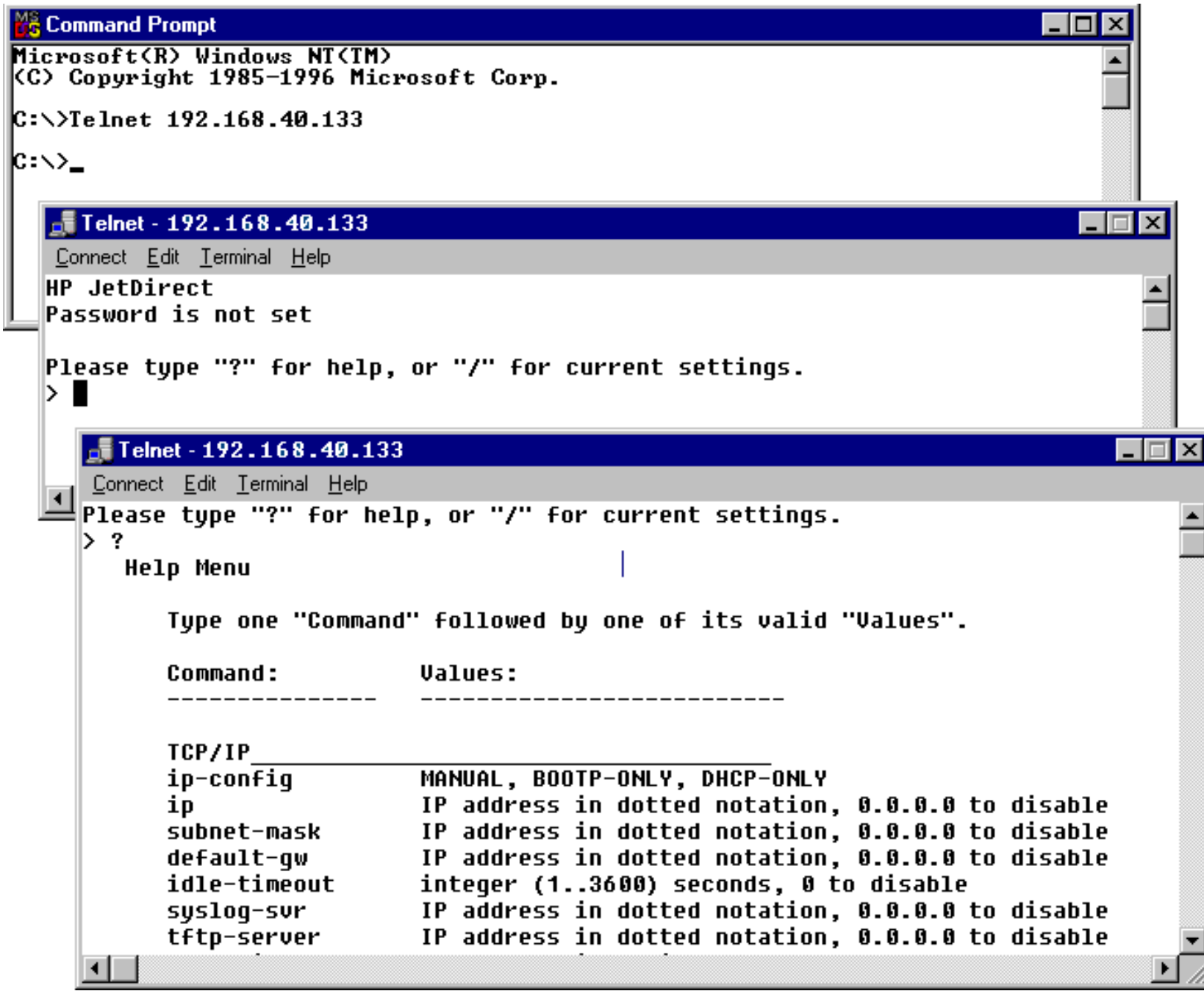
Note:

Using Telnet to manually set an IP address will override dynamic IP configuration (such as BOOTP, DHCP, or RARP), resulting in a static configuration. In a static configuration, the IP values are fixed and the operation of BOOTP, DHCP, RARP and other dynamic configuration methods may no longer function.

Whenever you are manually changing an IP address, you should also reconfigure the subnet mask and default gateway at the same time.

Typical Telnet session





Procedure

To set configuration parameters, you must set up a Telnet connection from your system to the HP Jetdirect print server.

1. Type the following at the DOS prompt:

```
telnet <IP address>
```

where:

<IP address> may be the print server's assigned address from BOOTP, RARP, DHCP, from the printer control panel, or the default IP address. The default IP address is 192.0.0.192. The IP address is listed on the [Jetdirect configuration page](#).

2. A connection to the print server will be displayed. If the server responds with "connected to IP address", press [Enter] twice to make sure that the Telnet connection is initialized.
3. If prompted for a user name and password, enter the correct values.

By default, the Telnet interface does not require a user name or password. If an administrative password has been set, you will be prompted for a user name and this password before you can enter and save Telnet commands.
4. By default, a *command line interface* is provided. For a list of supported commands and parameters, see the list of [Telnet commands and parameters](#) at the end of this section. To configure parameters using the *menu interface* instead, enter Menu. For more information, see [user interface options](#) below.

User interface options

The print server provides two interface options to enter Telnet commands, [command line interface](#), which is the default, and [menu](#).

Command line interface (default) procedure

Use the following procedure for Telnet's *command line interface* to change parameters:

1. At the Telnet prompt ">" enter:

```
<parameter>: <value>
```

where:

<parameter> is the string for the configuration parameter you are defining. Command strings are found in the first column of the [Telnet commands and parameters](#) list at the end

of this section.

<value> is the setting you are assigning to that parameter. Allowed values are described in the second column of the [Telnet commands and parameters](#) list at the end of this section.

At any time during a Telnet session, you can enter one of the following:

? to view available configuration parameters, the correct command format, and a list of commands.

advanced

? to list additional “advanced” commands.

/ to display the current configuration.

Caution: Parameter changes are not saved until step [4](#) below.

2. Repeat the previous step to set any additional configuration parameters.
3. When you have finished entering the configuration parameters, at the Telnet prompt enter one of the following commands, which depend on your system.

save

exit

quit

4. When prompted whether to save settings that you have changed, enter y for “yes”, or n for “no”.

Menu interface procedure

Use the following procedure for Telnet’s *menu interface* to change parameters. The menu interface eliminates the need to memorize commands, and provides structured menu lists for easy access to configuration parameters.

1. At the Telnet prompt “>” enter:

menu

The [menu interface example](#) below illustrates the menu interface, using the TCP/IP menus as an example.

2. From the Main Menu, select and enter a menu number. If there are submenus, select and enter a submenu number.
3. If you want to change a parameter setting, enter y (for “yes”) when prompted.

Changes to parameters are made by editing the setting through the use of the [Backspace] key. If an unrecognized value is entered, the correct entry options will be displayed. The values allowed for each parameter are

described in the second column of the [Telnet commands and parameters](#) list at the end of this section.

Caution: Parameter changes are not saved until step [6](#) below.

4. Repeat the previous step to set any additional configuration parameters.
5. When you have finished entering the configuration parameters, at the Telnet prompt enter one of the following commands, which depend on your system.

```
save  
exit  
quit
```

6. When prompted whether to save settings that you have changed, enter y for “yes”, or n for “no”.

Illustration of using the menu interface:

```
Main Menu
-----
1. General Menu
2. TCP/IP Menu...
3. SNMP Menu...
4. IPX/SPX Menu
5. AppleTalk Menu
6. DLC/LLC Menu
7. Other Settings
8. Support Settings
9. Help
0. Exit

Enter Selection => 2
```

For the 'TCP/IP Menu', select '2'.

```
TCP/IP Menu
-----
1. TCP/IP - Main Settings
2. TCP/IP - Print Options
3. TCP/IP - Raw Print Ports
4. TCP/IP - Access Control
5. TCP/IP - Other Settings
6. TCP/IP - Diagnostics
0. Return to Main Menu

Enter Selection => 1
```

For parameters listed in 'TCP/IP Main Settings', select '1'.

```
TCP/IP - Main Settings
-----

Host Name       : printer1
IP Config Method : USER SPECIFIED
IP Address      : 192.168.45.39
Subnet Mask     : 255.255.0.0
Default Gateway : 192.168.40.1
Config Server   : 192.168.2.21
TFTP Server     : 192.168.2.21
TFTP File Name  : hpnp/print.cfg
Domain Name     : Not Specified
DNS Server      : Not Specified
Pri WINS Server : Not Specified
Sec WINS Server : Not Specified
SMTP Mail Server : Not Specified

Would you like to change any of the settings? (Y/[N]):Y
```

To edit these parameters, enter 'Y'. Use the Backspace key to edit the parameters.

Changes are not saved until you save them when you exit the session.

Using Telnet to Erase the Existing IP Address

This procedure resets all TCP/IP parameters, but only affects the TCP/IP subsystem. After this has been done the print server should be power cycled. Parameters for other subsystems such as IPX/SPX (Novell NetWare) or AppleTalk are not affected.

(To reset *all* print server configuration parameters to factory default values, use the [hardware cold reset](#) procedure.)

1. Enter the Telnet command:

```
cold-reset
```

2. Exit Telnet using one of the following commands, depending on your system.

```
save  
exit  
quit
```

3. When prompted whether to save settings that you have changed, enter *y*.
-

Telnet Commands and Parameters

List of the available Telnet commands and parameters.

Note:

If a parameter is supplied dynamically (for example, from a BOOTP, TFTP, or DHCP server), its value cannot be changed using Telnet without first setting manual configuration, using the `ip-config` command).

Whenever you are manually changing an IP address, you should also reconfigure the subnet mask and default gateway at the same time.

User control commands in Telnet

Telnet Parameter	Description and Values
?	Displays the Telnet commands and help commands.
/	Displays current values.
menu	Displays the menu interface for further configuration entries.

advanced	Enables the advanced Telnet commands in addition to the ones generally available. Help will include the advanced and general commands.
general	Disables the advanced Telnet commands; only the general ones will be available. Help will exclude the advanced commands.
export	Exports the Telnet settings to a file for editing and importing via Telnet or TFTP. This command is only supported by systems such as UNIX that support input/output redirection.
save	Saves the Telnet settings and exits the Telnet session.
exit	Exits the Telnet session.

General settings for Telnet

Telnet Parameter	Description and Values
passwd	The administrative password (up to 16 alphanumeric characters) for both Telnet and the embedded web server). When initiating the next Telnet session, you will be prompted for a user name and this password. Enter the password twice for confirmation. For example: passwd jd1234 jd1234 sets the password to "jd1234". To clear the password, enter the command without the two password and confirmation entries.
sys-location	Identifies the physical location of the printer (SNMP sysLocation object). Only printable ASCII characters are allowed. The maximum length is 255 characters.
sys-contact	ASCII character string (up to 255 characters) that identifies the person who administers or services the printer (SNMP sysContact object). This may include how to contact this person.

TCP/IP main parameters for Telnet

Telnet Parameter	Description and Values
host-name	Specifies the node name (up to 32 alphanumeric characters) that will appear on the Jetdirect configuration page. Default is NP Ixxxxxxx, where xxxxxxx is the last six digits of the print server's hardware address (MAC or LAN address).

ip-config	<p>Selects the method for the print server to receive its IP configuration parameters: <code>bootp</code> (default), <code>dhcp</code>, or <code>manual</code>.</p> <p><code>bootp</code> or <code>dhcp</code> The IP parameters will be automatically configured by a BOOTP or DHCP server each time the print server is powered on.</p> <p><code>manual</code> The print server will wait for the basic IP parameters to be entered using manual tools, such as this Telnet or other available tools. The status will be “user specified”. See more info, including a caution.</p>
ip	<p>IP address for the print server, in dotted decimal notation. (See TCP/IP.) An example:</p> <p><code>ip-config manual</code> Specifies manual configuration.</p> <p><code>ip 192.168.45.39</code> Manually sets the IP address 192.168.45.39 on the print server.</p> <p><code>ip 0.0.0.0</code> Clears the IP address.</p> <p><i>Note:</i> If you exit and save a new IP address, it must be specified for the next Telnet connection.</p>
subnet-mask	<p>If subnetting is used, use this field to manually assign a subnet mask. A subnet mask is a 32-bit number that, when applied to an IP address, determines which bits specify the network and subnet, and which bits uniquely specify the node. (See TCP/IP.)</p> <p><code>ip 0.0.0.0</code> Disables the subnet mask.</p> <p><i>Note:</i> If the print server is configured by DHCP and you manually change the subnet mask or the default gateway address, you should manually change the IP address also. This will release the DHCP-assigned address back to the DHCP IP address pool.</p>
default-gw	<p>Identifies the IP address of a router or computer that is used to connect to other networks or subnetworks. (See TCP/IP.)</p> <p><i>Note:</i> If the print server is configured by DHCP and you manually change the subnet mask or the default gateway address, you should manually change the IP address also. This will release the DHCP-assigned address back to the DHCP IP address pool.</p>
Config Server	<p>(read-only parameter) Reads the IP address of the server (such as a BOOTP or DHCP server) that last configured the IP address on the print server.</p>
TFTP Server	<p>(read-only parameter) The IP address of the TFTP server that provided TFTP parameters to the print server.</p>
TFTP Filename	<p>(read-only parameter) The path and TFTP filename of the TFTP server, for example, <code>hpnpr1/cfg</code>.</p>

domain-name	The domain name for the device (for example, support.hp.com). It does not include the host name—it is not the Fully Qualified Domain Name (such as printer1.support.hp.com).
dns-svr	IP address of the DNS (Domain Name System) server.
pri-wins-svr	The IP address of the primary Windows Internet Name Service (WINS) server.
sec-winds-svr	The IP address of the secondary Windows Internet Name Service (WINS) server.
smtp-svr	The IP address of the outgoing e-mail Simple Mail Transport Protocol (SMTP) server, for use with supported scanning devices.

TCP/IP print option parameters for Telnet

Telnet Parameter	Description and Values
9100-printing	Enables or disables printing to TCP port 9100 on the print server. 0 Disables. 1 (default) Enables.
ftp-printing	Enables or disables the ability to print via FTP: 0 Disables. 1 (default) Enables.
ipp-printing	Enables or disables the ability to print via IPP: 0 Disables. 1 (default) Enables.
lpd-printing	Enables or disables LPD (Line Printer Daemon) printing services on the print server: 0 Disables. 1 (default) Enables.
banner	A port-specific parameter that specifies printing an LPD banner page: 0 Disables banner pages. 1 (default) Enables banner pages.
interlock	Specifies whether an acknowledgement (ACK) on all TCP packets is required before the printer is allowed to close a Port 9100 print connection.
buffer-packing	Enables or disables buffer packing for TCP/IP packets: 0 (default) Normal, data buffers are packed before sending to the printer. 1 Disable buffer packing, data is sent to the printer when received.

<code>write-mode</code>	Controls the setting of the TCP PSH flag for device-to-client data transfers: 0 (default) Disables this option, flag not set. 1 All-push option. Push bit is set in all data packets. 2 EOI-push option. Push bit is set only for data packets that have an End-of-Information flag set.
<code>mult-tcp-conn</code>	Enables or disables multiple TCP connections: 0 (default) Allows multiple connections. 1 Disables multiple connections.

TCP/IP raw print port parameters for Telnet

Telnet Parameter	Description and Values
<code>raw-port</code>	Specifies additional ports for printing to TCP port 9100. Valid ports are 3000 to 9000, which are application dependent.

TCP/IP access control parameters for Telnet

Telnet Parameter	Description and Values
<code>allow</code>	Makes an entry into the host access list stored on the print server. Each entry specifies a host or network of hosts that are allowed to connect to the printer. The format is: <code>allow netnum [mask]</code> where: <i>netnum</i> is a network number or host IP address. <i>mask</i> (optional) is an address mask of bits applied to the network number and host address to verify access. Up to 10 access list entries are allowed. If there are no entries, all hosts are permitted access. For example: <code>allow 192.0.0.0 255.0.0.0</code> Allows hosts on network 192. <code>allow 192.168.1.2</code> Allows a single host. In this case, the default mask 255.255.255.255 is assumed and is not required. <code>allow 0</code> Clears the host access list. For additional information, see security .

TCP/IP other parameters for Telnet

Telnet Parameter	Description and Values
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syslog-config	Enables or disables <i>syslog</i> server operation on the print server: 0 Disables. 1 (default) Enables. For more information, see syslog .
syslog-svr	The <i>syslog</i> server's IP address. It specifies the server to which the print server sends syslog messages.
syslog-max	Specifies the maximum number of syslog messages that can be sent by the print server on a per-minute basis. This setting allows administrators to control the log file size. The default is 10 per minute. If set to zero, the number of <i>syslog</i> messages is not restricted.
syslog-priority	Controls the filtering of <i>syslog</i> messages sent to the <i>syslog</i> server. The filter range is 0 to 8, with 0 being the most specific and 8 the most general. Only messages that are lower than the filter level specified (or higher in priority) are reported. The default is 8, messages of all priorities are sent. If 0, all syslog messages are disabled.
syslog-facility	A code used to identify the source facility of a message (for example, to identify the source of selected messages during troubleshooting). By default, the print server uses LPR as the source facility code, but local user values of <code>local0</code> through <code>local7</code> can be used to isolate individual or groups of print servers.
slp-config	Enables or disables the Service Location Protocol (SLP) operation on the print server. SLP is used by selected HP software applications to automate device discovery. 0 Disables. 1 (default) Enables.
ttl-slp	Specifies the IP multicast Time To Live (TTL) setting for Service Location Protocol (SLP) packets. The default value is 4 hops (the number of routers from the local network). The range is 1–15. When set to -1, multicast capability is disabled.
idle-timeout	The number of seconds that an idle print data connection is allowed to remain open. Since the card supports only a single TCP connection, the idle timeout balances the opportunity of a host to recover or complete a print job against the ability of other hosts to access the printer. The acceptable values range from 0 to 3600 (1 hour). If set to 0, the timeout mechanism is disabled. The default is 270 seconds.
telnet-timeout	An integer (1–3600) that specifies the number of seconds that your Telnet or FTP session can be idle before it will be automatically disconnected. The default is 900 seconds. 0 disables the timeout. CAUTION: small values, such as 1–5, may effectively disable the use of Telnet. A Telnet session may terminate before any changes can be made.

cold-reset	Sets TCP/IP factory defaults. After a cold reset, power cycle the print server. Parameters for other subsystems, such as IPX/SPX or AppleTalk, are not affected.
ews-config	Enables or disables the print server's embedded web server to view or change configuration values: 0 Disables. 1 (default) Enables.
tcp-mss	Specifies the maximum segment size (MSS) that the print server will advertise for use when communicating with local subnets (Ethernet MSS=1460 bytes or more) or remote subnets (MSS=536 bytes): 0 (default) All networks are assumed to be local (Ethernet MSS=1460 bytes or more). 1 Use MSS=1460 bytes (or more) for subnets, and MSS=536 bytes for remote networks. 2 All networks are assumed to be remote (MSS=536 bytes), except the local subnet. MSS affects performance by helping to prevent IP fragmentation that may result in data retransmission.
tcp-msl	Specifies the maximum segment life (MSL) in seconds. The range is 5–120 seconds. The default is 15 seconds.

TCP/IP diagnostics parameters for Telnet

Telnet Parameter	Description and Values
Last Config IP	(read-only parameter) The IP address of the system from which the print server's IP address was configured.
TCP Conns Refused	(read-only parameter) The number of client TCP connections that are refused by the print server.
TCP Access Denied	(read-only parameter) The number of times that client systems were denied access to the print server because there was no allowable entry in the print server's host access list.
DHCP Lease Time	(read-only parameter) The DHCP IP Address lease duration time in seconds.
DHCP Renew Time	(read-only parameter) The DHCP T1 timeout, specifying the DHCP lease renewal time in seconds.
DHCP Rebind Time	(read-only parameter) The DHCP T2 timeout, specifying the DHCP lease rebind time in seconds.

SNMP parameters for Telnet

Telnet Parameter	Description and Values
snmp-config	<p>Enables or disables SNMP operation on the print server:</p> <p>0 Disables.</p> <p>1 (default) Enables.</p>
get-community-name	<p>Specifies a password for SNMP GetRequests sent to the print server. This password is optional. If a user-specified get community name is set, the print server will respond to either a user-specified community name or the factory-default. The community name must be ASCII characters. The maximum length is 255 characters.</p>
set-community-name	<p>Specifies a password that determines which SNMP SetRequests (control functions) the print server will respond to. The community name of an incoming SNMP SetRequest must match the print server's set community name for the print server to respond. SetRequests must come from hosts that are configured in the print server's host access list. Community names must be ASCII characters. The maximum length is 255 characters.</p>
auth-trap	<p>Configures the print server to send (on) or not send (off) SNMP authentication traps. The default is on. Authentication traps indicate that an SNMP request was received, but the community name check failed.</p>
trap-dest	<p>Enters a host's IP address into the print server's SNMP trap destination list. The command format is:</p> <pre>trap-dest ip-address [community name] [port number]</pre> <p><code>ip-address</code> is the host IP address.</p> <p><code>community name</code> is optional (the default community name will be used), except in two cases:</p> <ul style="list-style-type: none"> ● when specifying the port number. If you do not specify a community name, the port number will become the community name. ● when a <code>trap-community-name</code> entry precedes any <code>trap-dest</code> entry. If you do not specify a community name here, that trap community name will be assigned to this entry. <p><code>port number</code> is optional (the default SNMP port number 162 will be used).</p> <p>Setting <code>trap-dest 0</code> deletes the trap destination list. If the list is empty, the print server does not send SNMP traps. The list may contain up to five entries. The default SNMP trap destination list is empty. To receive SNMP traps, the systems listed on the</p>

SNMP trap destination list must have a trap daemon to listen to those traps.

IPX/SPX parameters for Telnet

Telnet Parameter	Description and Values
ipx-config	Enables or disables IPX/SPX protocol operation on the print server: 0 Disables. 1 (default) Enables.
ipx-unitname	A user-assigned alphanumeric name assigned to the print server (31 characters maximum). By default, the name will be NP Ixxxxxxx, where xxxxxx are the last six digits of the hardware address (MAC or LAN address).
Address	(read-only parameter) Identifies the IPX network and node numbers detected on the network, in the form NNNNNNNN : hhhhhhhh (hexadecimal), where NNNNNNNN is the network number and hhhhhhhh is the hardware address (MAC or LAN address) of the print server.
ipx-frametype	Specifies the IPX frame type setting, one of the following: AUTO (default), EN_SNAP , EN_8022 , EN_8023 , EN_II , TR_8022 , TR_SNAP .
ipx-sapinterval	Specifies the time interval (1–3600 seconds) that the print server waits between Service Advertising Protocol (SAP) broadcasts on the network. The default is 60 seconds. 0 disables SAP broadcasts.
ipx-nds-tree	An alphanumeric string, up to 31 characters, that specifies the name of the Novell Directory Services (NDS) tree for this print server.
ipx-nds-context	An alphanumeric string, up to 256 characters, that specifies the NDS context for the print server.
ipx-job-poll	Specifies the time interval (1–255 seconds) that the print server will wait to check for print jobs in a print queue. The default is 2 seconds.
ipx-banner	Enables or disables printing an IPX banner page using the Printer Job Language (PJL): 0 Disables. 1 (default) Enables.
ipx-eoj	Enables or disables IPX end-of-job notification using PJL: 0 Disables. 1 (default) Enables.

ipx-toner-low	Enables or disables IPX toner-low notification using PJJ: 0 Disables. 1 (default) Enables.
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AppleTalk parameters for Telnet

Telnet Parameter	Description and Values
at-config	Enables or disables AppleTalk (EtherTalk) protocol operation on the print server: 0 Disables. 1 (default) Enables.
Device Name	(read-only parameter) The name of the printer on the AppleTalk network. A number n after the name indicates that there are multiple devices with this name, and this is the nth instance of the name.
Print Type	(read-only parameter) Specifies the AppleTalk network printer type reported by the print server.
Zone	(read-only parameter) The name of the AppleTalk network zone on which the printer is located.
Phase	(read-only parameter) Indicates whether AppleTalkPhase 2 (P2) is preconfigured on the print server.
Status	(read-only parameter) Indicates the current AppleTalk configuration status. READY Indicates the HP Jetdirect print server is awaiting data. DISABLED Indicates that AppleTalk was manually disabled. INITIALIZING Indicates that the print server is registering the node address or name. An additional status message may also be displayed

DLC/LLC parameters for Telnet

Telnet Parameter	Description and Values
dlc/llc-config	Enables or disables DLC/LLC protocol operation on the print server: 0 Disables. 1 (default) Enables.

Other parameters for Telnet

Telnet Parameter	Description and Values
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scan-config	Enables or disables the web scanning feature in the embedded web server, when connected to a supported device: 0 Disables. 1 (default) Enables.
scan-idle-timeout	Specifies the number of seconds (1–3600) that an idle scan connection is allowed to remain open. 0 disables the timeout. The default is 300 seconds.
scan-email-config	Enables or disables the scan-to-email feature in the embedded web server, when connected to a supported device: 0 Disables. 1 (default) Enables.
MFP-config	Enables or disables print server support of the client software provided with your multifunction peripheral (MFP) or All-In-One: 0 (default) Disables (allows printing only). 1 Enables (allows printing, scanning, etc.).
usb-mode	Specifies the communication mode over the USB port on the print server: Auto (default) Automatically negotiates and sets the the highest communication mode possible for the attached printer or device. MLC (Multiple Logical Channels) An HP-proprietary communication mode that allows multiple channels of simultaneous print, scan, and status communications. BIDIR A standard connection that supports bi-directional communications between the printer and print server. The print server sends print data and receives status from the printer. UNIDIR A standard connection in which data is transferred in one direction only (to the printer).

usb-statpg-lang	<p>Specifies the printer job language (PJM) used by the print server to send the Jetdirect configuration page to the printer:</p> <p>Auto (default) The language is auto-detected when the print server is powered on or after a cold reset to factory defaults.</p> <p>PCL Hewlett-Packard Printer Control Language</p> <p>ASCII Standard ASCII characters</p> <p>HPGL2 Hewlett-Packard Graphics Language (v2)</p> <p>PS Adobe PostScript language</p>
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Support parameters for Telnet

Telnet Parameter	Description and Values
Web Jetadmin URL	(read-only parameter) If HP Web Jetadmin discovers this device, the URL to access HP Web Jetadmin will be specified.
Web Jetadmin Name	(read-only parameter) If HP Web Jetadmin discovers this device, the name of the HP Web Jetadmin host will be specified if known.
support-name	Typically used to identify the name of a person to contact for support of this device.
support-number	Typically used to specify a phone or extension number to call for support of this device.
support-url	A web URL address for product information on this device over the Internet or an intranet.
tech-support-url	A web URL address for technical support over the Internet or an intranet.

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Using the embedded web server

for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Back to:

start of
User's Guide



HP Jetdirect print servers contain an embedded web server that can be accessed from a compatible web browser over an intranet. You can use any computer on the network to access the configuration and management pages for the print server and the attached network device—the printer or multifunction (MFP or All-in-One) device. The print server's embedded web server allows you to monitor server and device status, view and change print server configuration, and use basic scanning over the network if you have a multifunction (MFP or All-in-One) device.

- [Compatible versions](#) of web browsers (and HP Web Jetadmin)
- [Getting started](#) with the embedded web server
- [Directory of pages and features](#) in the embedded web server

Viewing the embedded web server

Before you can use the embedded web server, the HP Jetdirect print server must be configured with an IP address.

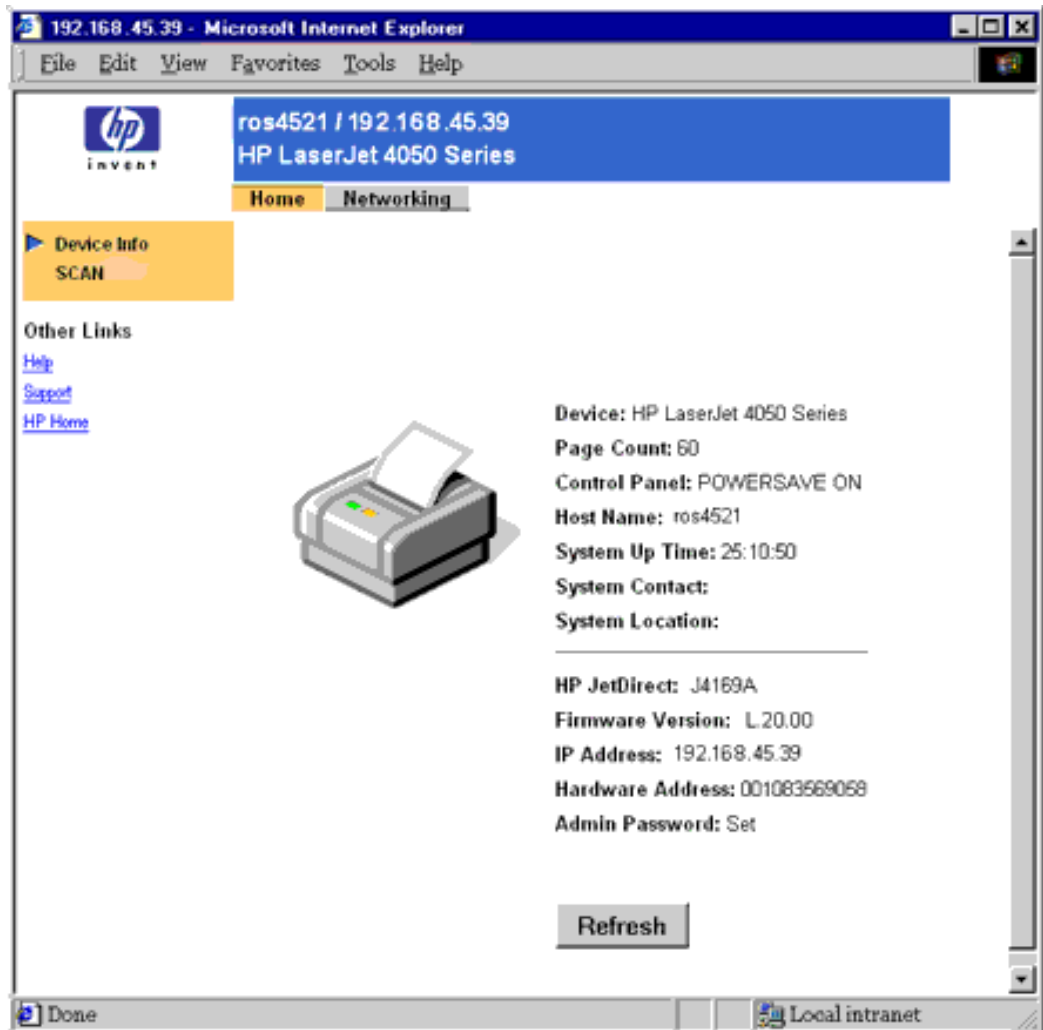
The print server may already be configured for IP as part of the software installation; check for its IP address on the [configuration page](#). If it is not configured, see ways to configure an IP address: [overview of IP and IP addressing](#).

After an IP address is established on the print server, perform the following steps.

1. Run a supported web browser.
2. Enter the IP address of the print server as the URL address.

For example: `http://192.168.45.39`

The Home page will be displayed, as illustrated below.



Which Home page is initially displayed by the browser will depend on the printer:

- If the printer (called the “device”) contains a supportable embedded web server, the printer’s Home page will be displayed.
- If the printer does not contain a supportable embedded web server, the Home page of the HP Jetdirect print server is displayed .

Pages and features

- [Home](#) tab
 - [Device Info](#)
 - [Scan](#)
- [Networking](#) tab
 - [Configuration:](#)
 - [Network Settings](#)
 - [Support Info](#)

- [USB Settings](#)
 - [Other Settings](#)
 - [Security:](#)
 - [Admin Password](#)
 - [Access Control](#)
 - [Diagnostics:](#)
 - [Network Statistics](#)
 - [Protocol Info](#)
 - [Configuration Page](#)
 - [Refresh Rate](#)
 - [Help](#) link
-

Home tab (Home page)

The Home page is initially displayed when entering the embedded web server. When it is *not* displayed, click on the Home tab at the top of the web page. The Home page displays a generic printer graphic to represent the attached printing device, and it provides status information for the HP Jetdirect print server (as illustrated [above](#)).

However, if your attached printer contains a compatible embedded web server of its own, status for both devices is displayed on printer home page.

Menu items in the left column:

- **Device Info**
Clicking **Device Info** in the left column identifies the printing device connected to the network through the HP Jetdirect print server. Other information that can be retrieved from the device are also displayed (such as page count).
- **Select Language** [not on 175x]
Clicking **Select Language** allows you to select another supported language in which the web pages will appear. Supported languages may also be selected through language preference settings in your browser (see your browser's Help).
- **Scan** (*Only for MFP or All-in-One devices*)
If the attached printer is a supported multifunction (MFP) or All-in-One device, you can click **Scan** in the left column to access the Scan page to do simple scanning over the network using the web browser. You can display the document, download it to a file, or e-mail it (if an e-mail server is configured). [Specific scanning capabilities](#).
- **Help** link
Click on the **Help** link to reach Online help for the current page. If Help doesn't answer your question, return to this documentation.

Specific Jetdirect status items on the Home page:

[\(Graphic of home page\)](#)

Jetdirect Home page parameters	
Host Name	Specifies the IP host name assigned to the device and stored on the print server. See TCP/IP settings .
System Up Time	The length of time since either the print server or the network device was last power cycled.
System Contact	A text string (stored on the print server) for the name of a person to contact for this device. See TCP/IP settings .
System Location	A text string (stored on the print server) that identifies the physical location of this device. See TCP/IP settings .
HP Jetdirect	The product number of the HP Jetdirect print server (for example HP J6035A).
Firmware Version	The version of the operating instructions installed on the HP Jetdirect print server.
IP Address	The Internet Protocol address configured on the HP Jetdirect print server. (See overview on Internet Protocol (IP) and IP addressing.)
Hardware Address	The hardware (LAN or MAC) address of the HP Jetdirect print server. This unique address is assigned by Hewlett-Packard.
Admin Password	Specifies whether or not an IP administrative password has been set. If an administrative password has been set, you will be prompted for the password to access networking parameters, such as on the Networking pages. You can configure or clear this password on the Admin Password page.

[Back to start of Home page](#)

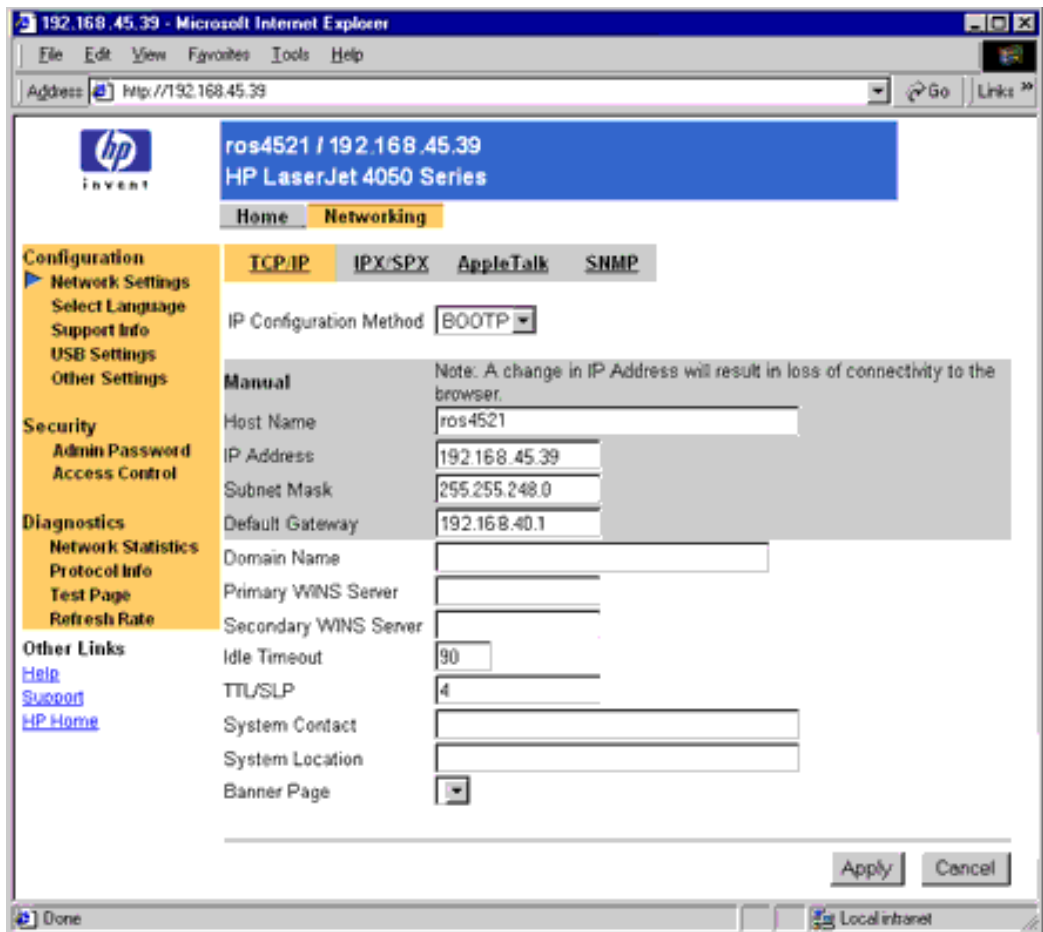
[Back to directory of all pages and features in embedded web server](#)

[Back to start of embedded web server](#)

Networking tab

Clicking on the Home tab at the top of the embedded web server page accesses network status, configuration parameters, security parameters, and diagnostic facilities for the HP Jetdirect print server.

The initial TCP/IP networking configuration page will be displayed, as illustrated below. Other tabs across the second row at the top and other menu items in the left column access other networking pages.



Menu items in the left column and tabs in the second row at the top are listed below. Use the links in the following lists to find the additional pages they access and all the specific items on each page.

- [Configuration:](#)
 - [Network Settings:](#)
 - [TCP/IP](#) tab
 - [IPX/SPX](#) tab
 - [AppleTalk](#) tab
 - [SNMP](#) tab
 - (For Advanced tab: see [Other Settings](#).)
 - [Support Info](#)
 - [USB Settings](#)
 - [Other Settings](#)
 - [LPD Queues](#) tab
 - [Miscellaneous](#) tab
- [Security:](#)
 - [Admin Password](#)
 - [Access Control](#)
- [Diagnostics:](#)

- [Network Statistics](#)
 - [Protocol Info](#)
 - [Configuration Page](#)
 - [Refresh Rate](#)
-

Configuration:

- [Network Settings](#)
 - [Support Info](#)
 - [USB Settings](#)
 - [Other Settings](#)
-

Network Settings

- [TCP/IP](#) tab
- [IPX/SPX](#) tab
- [AppleTalk](#) tab
- [DLC/LLC](#) tab
- [SNMP](#) tab

Click on the **Networking** tab at the top of the web page. (Make sure that beneath **Configuration** in the left column of the page, **Network Settings** is selected.) The **Network Settings** pages allow you to set or change configuration parameters for TCP/IP, IPX/SPX, AppleTalk, and SNMP protocols. To assign a parameter setting, enter the desired value and click **[Apply]**.

Notes

- If you enter or change a configuration parameter value, click **[Apply]** to enable your change, or click **[Cancel]** to erase your change.
 - Changes to the IP address will close the connection to the embedded web server. To re-establish a connection, use the new IP address.
-

TCP/IP settings

Click on the **Networking** tab. If the **TCP/IP** tab is not highlighted, then beneath **Configuration** in the left column of the page, select **Network Settings**, and then select the **TCP/IP** tab in the second row of tabs across the page. To assign a parameter setting, enter the desired value and click **[Apply]**.

TCP/IP Settings



IP Configuration Method	<p>Selects the method for the print server to receive its IP configuration parameters: BOOTP (default), DHCP, or Manual. BOOTP or DHCP: the IP parameters will be automatically configured by a BOOTP or DHCP server each time the print server is powered on.</p> <p>Manual: basic IP parameters can be manually entered using this web page, or using other available tools.</p> <p>A Caution! Configuration tools.</p>
Host Name	<p>Specifies a readable IP name (the SNMP SysName object) for the network device. The name may contain up to 32 characters including numbers, upper- and lower-case letters, and hyphen and underscore.</p>
IP Address	<p>Use this field to manually assign the Internet Protocol address on the print server. The IP address is a four byte (32-bit) address in the form “n.n.n.n”, where “n” is a number from 0 to 255. An IP address uniquely identifies a node on a TCP/IP network. Duplicate IP addresses on a TCP/IP network are not allowed. (See overview on IP addressing.)</p>
Subnet Mask	<p>If subnetting is used, use this field to manually assign a subnet mask. A subnet mask is a 32-bit number that, when applied to an IP address, determines which bits specify the network and subnet, and which bits uniquely specify the node. (See overview on IP addressing.)</p>
Default Gateway	<p>Identifies the IP address of a router or computer that is used to connect to other networks or subnetworks.</p>
Domain Name	<p>Specifies the name of the Domain Name System (DNS) domain that the print server resides in (for example, “support.hp.com”). It does not include the host name; it is not the Fully Qualified Domain Name (such as “printer1.support.hp.com”).</p>
Primary WINS Server	<p>Specifies the IP address of the primary Windows Internet Naming Service (WINS) server. The WINS server provides IP address and name resolution services for network computers and devices.</p>
Secondary WINS Server	<p>Specifies the IP address to be used for WINS if the primary WINS Server is unavailable.</p>
Syslog Server	<p>Specifies the IP address of a host computer that is configured to receive <i>syslog</i> messages from the print server. If a <i>syslog</i> server is not specified, <i>syslog</i> messages are disabled. See the syslog description. See also the Syslog Facility parameter in the Other Settings menu.</p>
Syslog Maximum Messages	<p>Specifies the maximum number of <i>syslog</i> messages that can be sent by the print server on a per-minute basis. This setting allows administrators to control the log file size. The default is 10 per minute. If set to zero, no maximum number is defined.</p>

Syslog Priority	Controls the filtering of <i>syslog</i> messages that are sent to the syslog server. The filter range is 0 to 8, with 0 being the most specific and 8 being the most general. Only messages that are lower than the filter level specified (that is, higher in priority) are reported. The default value is 8 which reports all <i>syslog</i> messages. A value of zero effectively disables <i>syslog</i> reporting.
Idle Timeout	Specifies the number of seconds that an idle print connection is allowed to remain open. Up to 3600 seconds can be set. 270 is the default value. If set to 0, the timeout is disabled and TCP/IP connections will remain open until closed by the device at the other end of the network (for example, a workstation).
TTL/SLP	Specifies the IP multicast Time To Live (TTL) discovery setting for Service Location Protocol (SLP) packets (used by the HP Jetdirect Install Network Printer Wizard). The default value is 4 hops (the number of routers from the local network). The range is 1-15. If set to -1, multicast capability is disabled.
System Contact	Identifies a person who is assigned to administer or service this device. This field may include a phone number or similar information. When configured, this parameter will be displayed on the HP Jetdirect Home page.
System Location	Specifies the physical location of the device or related information. Only printable ASCII characters are allowed, up to 64 characters. When configured, this parameter will be displayed on the HP Jetdirect Home page.
Banner Page	Specifies whether to enable or disable printing of an LPD banner page for print jobs.

IPX/SPX settings

Click on the **Networking** tab at the top of the web page. (Make sure that beneath **Configuration** in the left column of the page, **Network Settings** is selected.) Select the **IPX/SPX** tab in the second row of tabs across the page. To assign a parameter setting, enter the desired value and click **[Apply]**.

IPX/SPX Settings	
IPX/SPX Enable	Enables or disables the IPX/SPX protocols on the print server. If the checkbox is empty, IPX/SPX is disabled.

IPX/SPX Frame Type	<p>The frame type to be used by the print server on your network. After a frame type has been configured, all others will be counted and discarded.</p> <ul style="list-style-type: none"> ● AUTO (the default) senses all frame types and configures the first one detected. ● EN_8023 limits the frame type to IPX over IEEE 802.3 frames. ● EN_II limits the frame type to IPX over Ethernet frames. ● EN_8022 limits the frame type to IPX over IEEE 802.2 with IEEE 802.3 frames. ● EN_SNAP limits the frame type to IPX over SNAP with IEEE 802.3 frames.
Print Server Name	<p>The IPX/SPX name for the print server (alphanumeric characters only). The default name is NPIxxxxxx, where xxxxxx are the last six digits of the print server's LAN hardware (MAC) address.</p>
SAP Interval	<p>Specifies the time interval (in seconds) that the print server waits to send Service Advertising Protocol (SAP) messages, which are broadcast to advertise its service capabilities on a network. To disable SAP messages, use the value "0".</p>
NDS Tree Name [not on 175x]	<p>Specifies the name of the NDS tree for this device. The NDS (Novell Directory Services) tree name refers to the name of the organizational tree used by your network. To disable NDS support, leave this field blank.</p>
NDS Context [not on 175x]	<p>To disable NDS support, leave this field blank. The print server's NDS context refers to the NDS container or organizational unit that contains the print server object. Print queue and device objects can be located anywhere within the NDS tree, but the HP Jetdirect print server must be configured with the fully-qualified print server object name.</p> <p>For example, if the print server object is found in the container marketing.mytown.lj and the print server object name is lj_pserver, the fully qualified print server context name (CN) is CN=lj_pserver.OU=marketing.OU=mytown.O=lj (where OU is an Organization Unit container and O is an Organization container within the NDS tree).</p> <p><i>Note:</i> NDS objects cannot be created by the embedded web server.</p>
Job Poll Interval [not on 175x]	<p>Specifies the time interval (seconds) that the print server will wait to check for print jobs in a print queue.</p>

PJL Configuration [not on 175x]	For Printer Job Language (PJL) parameters, enable (check) or disable (clear) the parameters provided: <ul style="list-style-type: none"> ● Banner Pages (for printing separator pages between print jobs). ● End-Of-Job Notification (if received from the printer, an end-of-job message will be forwarded to a client application). ● Toner Low Notification (if received from the printer, the print server will forward a “toner low” message to a client application).
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AppleTalk settings

Click on the **Networking** tab at the top of the web page. (Make sure that beneath **Configuration** in the left column of the page, **Network Settings** is selected.) Select the **AppleTalk** tab in the second row of tabs across the page. To assign a parameter setting, enter the desired value and click **[Apply]**.

Using the checkbox provided, you can enable (check) or disable (clear) the AppleTalk protocol on the print server. If AppleTalk is enabled, AppleTalk parameter settings are displayed. To assign a parameter setting, enter the desired value and click **[Apply]**.

Notes:

- The HP Jetdirect print server supports AppleTalk Phase 2 only.
- Up to two types of printers can be advertised on the network.

DLC/LLC settings [not on 175x]

Click on the **Networking** tab at the top of the web page. (Make sure that beneath **Configuration** in the left column of the page, **Network Settings** is selected.) Select the **DLC/LLC** tab in the second row of tabs across the page.

Using the checkbox provided, you can enable (check) or disable (clear) the DLC/LLC (Data Link Control/Logical Link Control) protocols on the print server.

SNMP settings

Click on the **Networking** tab at the top of the web page. (Make sure that beneath **Configuration** in the left column of the page, **Network Settings** is selected.) Select the **SNMP** tab in the second row of tabs across the page. To assign a parameter setting, enter the desired value and click **[Apply]**.

These are parameters for SNMP (Simple Network Management Protocol) management of the print server.

SNMP Settings

Set Community Name	An SNMP Set Community Name is a password allowing access to configure (or “write”) SNMP control functions on the print server. An incoming SNMP SetRequest must contain a community name that matches the one stored on the print server before the print server will respond. The community name must be ASCII characters and can be up to 32 characters long. The default community name is “public”.
Get Community Name	An SNMP Get Community Name is a password that allows “read” access to SNMP information on the print server. The community name must be ASCII characters and can be up to 32 characters long. The default community name is “public”.

Select Language [not on 175x]

Clicking **Select Language** allows you to select another supported language in which the web pages will appear. Supported languages may also be selected through language preference settings in your browser (see your browser’s Help).

Support Info

Click on the **Networking** tab at the top of the web page. (Make sure that beneath **Configuration** in the left column of the page, **Support Info** is selected.)

Use this page to configure links for Support assistance. You can designate a Support person and phone number of an administrator for this device, as well as URL addresses for web-based product and technical support. To assign a parameter setting, enter the desired value and click **[Apply]**.

USB Settings

Click on the **Networking** tab at the top of the web page. (Make sure that beneath **Configuration** in the left column of the page, **USB Settings** is selected.)

Use this page to configure parameters used for the USB connection to the printer. To assign a parameter setting, enter the desired value and click **[Apply]**.

USB Settings

Communication Mode	<p>Sets the highest level of USB communication to be used when the print server tries to establish the best level with the printer.</p> <ul style="list-style-type: none"> ● Automatic is the default setting, allowing the print server to set the highest level it determines to function. The highest level it attempts is 1284.4, a IEEE standard protocol, a mode for printers and multi-function (All-in One) devices that allows multiple channels of simultaneous print, scan, and status communication. Otherwise it attempts, in turn, one of the other modes, as listed below. This parameter is used to limit the highest setting to one of those below. ● MLC is the next lower level, an HP-proprietary protocol for Multiple Logical Channels, a mode for printers and multi-function (All-in One) devices that allows multiple channels of simultaneous print, scan, and status communication. ● Bidirectional is the next lower level, two-way printer communication, sending print data to the printing device and returning status information from the printing device. ● Unidirectional is the lowest level, one-way printer communication from the computer to printing device. <p>Note that the current USB mode being used is reported on the Jetdirect configuration page. (How to see the configuration page)</p>
Status (Configuration) Page Language	<p>Sets the Page Description Language (PDL), the printer language of the data sent to the printer, for the configuration (test) page. Settings are: PCL, ASCII, PostScript, and HPGL2.</p>

Other Settings

- [LPD Queues](#) tab
- [Miscellaneous](#) tab

Click on the **Networking** tab at the top of the web page. In the left column of the page (in the Configuration list, select **Other Settings**). To assign a parameter setting, enter the desired value and click **[Apply]**.

LPD Queues

The LPD Queues parameters govern the operation of printing under the LPD (line printer daemon) application. (For additional information on LPD printing and use of the LPD queues, refer to the section on [LPD Printing](#).) Ten different named print queues are available under LPD. Four of these queues are configured automatically and their parameters can not be changed. The remaining six queues can be defined by the user.

The six user-definable queues can be set up with character strings—such as job

control commands—that are automatically added before or after the print job. You can define up to eight named strings, and you can set up each queue so that any of these named strings precedes the print data (“prepend string name”) or follows the print data (“append string name”).

LPD Queues	
Queue Name	Name of the user-defined queue. This name can be up to 32 characters long, and can consist of any displayable ASCII characters. You can define up to six user-defined queues.
Prepend String Name	Name of the string to be added before the print data (“prepended”). Type in a string name chosen from the table defined at the bottom of the window.
Append String Name	Name of the string to be added after the print data (“appended”). Type in a string name chosen from the table defined at the bottom of the window.
Queue Type	<p>Processing instruction for the queue:</p> <ul style="list-style-type: none"> ● RAW: No processing. The line printer daemon treats the data in a <i>raw</i> queue as a print job that has already been formatted in PCL, PostScript, or HP-GL/2, and sends it to the printer without modification. (Note that any user-defined prepend or append string will be added to the job in the appropriate position.) ● TEXT: Carriage return added. The line printer daemon treats data in the <i>text</i> queues as unformatted or ASCII text, and adds a carriage return to each line before sending it to the printer. ● AUTO: Automatic. The line printer daemon uses auto-sensing to determine whether the print data should be sent as <i>raw</i> or <i>text</i>. ● BINPS: Binary PostScript. This instructs the PostScript driver to generate the print data using all possible byte values, from 0 to 255. (Most printers using LPR printing use the standard ASCII range, from 0 to 127.)
Default Queue Name	Name of the queue to be used if the queue specified for a print job is unknown.
String Name	Name of a character string. You may define up to eight character strings for use in LPD queues; this parameter names the string, and the next parameter defines the content of the string. Prepend and append string names (specified in the table at the top of the window) must be chosen from the names specified here. The string name can be up to 32 characters long, and can consist of any displayable ASCII characters.

Value	<p>The content of the string. The previous parameter names the string; this parameter defines its content. When a string name is specified for a prepend or append string (in the table at the top of the window), the line printer daemon sends the <i>value</i> of that string to the printer before or after the print data (as appropriate).</p> <p>Character values can be anywhere in the extended ASCII range of 0 to 255 (hex 00 to FF). You can specify a non-printing character using its hexadecimal value, by entering a backslash followed by two hexadecimal characters. For example, to enter the escape character (hex 1B), you would type in \1B. If your string includes the backslash character itself, you can specify it as \5C. The maximum number of characters you can type into this field is 240. The characters in the field are checked for hexadecimal values, converted if necessary, and stored internally. The maximum number of characters stored internally in the string is 80; any characters that exceed this are discarded.</p>
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To set up a user-defined print queue, you first define the strings, assign them as prepend or append strings, and define the queue type. Once you have defined an LPD queue, you specify its use by setting up an LPD printer that uses that queue. For instance, if you set up string “a” with a value of “abc” and string “z” with a value of “xyz”, you can define print queue “az_queue” with a prepend string of “a”, an append string of “z”, and a queue type of “raw”. Then, when you send a print job consisting of <formatted_text> through queue “az_queue”, the job sent to the printer is “abc<formatted_text>xyz”.

Instructions for setting up an LPD printer are different for different operating systems; refer to the section on [LPD Printing](#) for details. LPD printing must be currently set to be enabled; refer to the [LPD Printing parameter](#) under the Miscellaneous tab within Other Settings

Example:

For example, if you had a network printer controlled by a Windows NT server and wanted to reset it at the start of each print job, you could set up a user-defined print queue named “clear_printer” that issues a PCL reset command (<ESC><e>) at the beginning of each job. You would set this up as follows:

First, set up the print queue:

1. Name a string: Type “reset_string” into the String Name field in row 1.
2. Define the string’s value: Type “\1BE” (<ESC><e>) into the Value field in row 1. (Alternatively, you could type “\1B\45”.)
3. Name the queue: Type “clear_printer” into the Queue Name field in row 5.
4. Set up the prepend string: Type “reset_string” into the Prepend String field in row 5.
5. Leave the Append String field in row 5 blank.
6. Set the queue type: Using the pull-down menu, set the Queue Type field in row 5 to “RAW”.

Then, set up the printer to use the queue, making sure to specify

“clear_printer” when asked for a queue name. (For details of setting up the printer, refer to [LPD Printing](#).) After that, any print jobs sent to the printer—either from the server or from a client computer that has set up that printer—will include a reset command at the beginning of the job.

Miscellaneous Settings

Click on the **Networking** tab. (Make sure that beneath **Configuration** in the left column of the page, **Other Settings** is selected.) Select the **Miscellaneous** tab in the second row of tabs across the page. To assign a parameter setting, enter the desired value and click **[Apply]**.

These settings are used to enable or disable some “advanced” TCP/IP protocols for management and printing, and some scanning settings for multi-function peripheral (MFP) or All-in-One devices.

Miscellaneous Settings	
SLP Config	Enable or disable SLP (Service Location Protocol), used by selected client application software to automatically discover and identify the print server.
Telnet Config	Enable or disable access to print server configuration parameters using Telnet. See Telnet . See security issues .
9100 Config	Enable or disable port 9100 services. Port 9100 is an HP-proprietary raw TCP/IP port on the print server and is the default port (the HP Standard Port) for printing. See port numbers.
FTP Config [not on 175x]	Enable or disable File Transfer Protocol services available on the print server for printing. See FTP printing
LPD Printing	Enable or disable the Line Printer Daemon services on the print server. LPD provides line printer spooling services for TCP/IP systems. See LPD .
IPP Printing [not on 175x]	Enable or disable the Internet Printing Protocol on the HP Jetdirect print server. If the printer is properly connected and accessible, IPP allows printing to this device over the Internet (or intranet). A properly configured IPP client system is also required (see IPP).
DNS Server	Specifies a Domain Name Server (DNS) , by IP address. Then, a name input for the parameter Email (SMTP) Server (see below) can be resolved to the IP address.

Link Settings	<p>Sets the network link speed (10- or 100-Mbps) and communication mode (full- or half-duplex) for the print server.</p> <p>Caution! If you change the link setting, network communications with the print server and the attached printer may be lost.</p> <ul style="list-style-type: none"> ● AUTO (the default) causes the print server to attempt to automatically configure its port to match the network's link speed and communication mode. If it fails, then 100-Mbps, half-duplex operation is set. ● 10TXFULL 10-Mbps, full-duplex operation ● 10TXHALF 10-Mbps, half-duplex operation ● 100TXFULL 100-Mbps, full-duplex operation ● 100TXHALF 100-Mbps, half-duplex operation
Syslog Facility	<p>Specifies the encoded source facility of a <i>syslog</i> message (for example, to identify the source of selected messages during troubleshooting). By default, the print server uses LPR as the source facility code, but local user values of local0 through local7 can be used to isolate individual or groups of print servers. See the syslog description. See also other syslog parameters in the TCP/IP Settings menu.</p>
Dynamic Raw Port Setting	<p>Allows additional ports to be specified for printing to TCP port 9100. Valid ports are 3000 to 9000, which are application dependent.</p>
Enable MFP and AIO software support	<p>Enable or disable the print server's support of the full-function scanning facility installed on the computers (the client software from the MFP's CD) for an HP multifunction (MFP or All-in-One) device. Disabling this causes the print server to disallow all functions other than printing over the network. (Support for basic scanning using the print server's Web Scan facility is separate; see following parameter.)</p>
Enable Web Scan	<p>Enable or disable use of the basic scanning facility provided by the print server's embedded web server Scan page (details). Availability of this facility is separate from support of the client's full-function scanning software (see preceding parameter).</p> <p>The features include displaying and downloading scanned files. Whether scanning to e-mail is also enabled with this facility is determined by the setting of the following parameter.</p>
Enable Scan-to-email	<p>Enable or disable use of the scanning to e-mail facility—sending the file—provided by the print server's embedded web server Scan page (see preceding parameter). When this parameter is enabled, scanning to email is available, in addition to displaying and downloading scanned files. The e-mail facility is accessible for users only when the mail server is set for the Email (SMTP) Server parameter (see following parameter).</p>

Email (SMTP) Server (for outgoing mail)	Specifies the outgoing email server (SMTP) for use of the scanning to email feature in the embedded web server. This mail server will be used when any user scans to email from the MFP (or All-in-One device) attached to the print server. <i>See also</i> DNS Server above .
Scan Idle Timeout	Specifies the number of seconds that an idle connection for scanning (either web scanning or the client's full-function scanning software) is allowed to remain open. If set to 0, the timeout is disabled and the connection will remain open until closed by the device at the other end.

Security

- [Admin Password](#)
- [Access Control](#) (host access list)

Admin Password setting

Click on the **Networking** tab at the top of the web page. In the left column of the page, beneath **Security**, select **Admin Password**. To assign a parameter setting, enter the desired value and click **[Apply]**.

For controlled access to configuration and status information through the embedded web server and Telnet, use this page to set or clear an administrative password. If a password is set, you will be prompted for this password to access these print server web pages.

Access Control (*host access list*)

Click on the **Networking** tab at the top of the web page. In the left column of the page, beneath **Security**, select **Access Control**.

This page allows you to create a host access list on the print server. A host access list specifies individual host systems, or networks of host systems, that will be allowed to access the print server and the attached network printing device. Up to 10 entries can be included on the host access list. If the list is empty (no hosts are listed), any supported system can access the print server.

Note: Use caution with this feature. You may lose your ability to communicate with the print server if your system is improperly specified in the list.

Host systems are specified by their IP addresses or network number. If the network contains subnets, a “mask” may be used to identify whether the IP address designates an individual host system or a group of host systems.

To clear all entries in the host access list, enable the **Clear Allow Table** checkbox and click **[Apply]**. To add an entry into the host access list, use the **IP address** and **Mask** fields to specify a host, then click **[Apply]**.

Sample entries		
IP Address	Mask	Description
192.0.0.0	255.0.0.0	Allow all hosts with network number 192.
192.1.0.0	255.1.0.0	Allow all hosts on network 192, subnet 1.
192.168.1.2		Allow the host with IP address 192.168.1.2. The mask 255.255.255.255 is assumed and is not required.

Diagnostics

- [Network Statistics](#)
- [Protocol Info](#)
- [Configuration Page](#)
- [Refresh Rate](#)

Network Statistics

Click on the **Networking** tab at the top of the web page. In the left column of the page, beneath **Diagnostics**, select **Network Statistics**.

This page is used to display counter values and other status information currently stored on the print server. This information is often useful to diagnose performance and operational problems associated with the network or the network device (the printer).

Protocol Info

Click on the **Networking** tab at the top of the web page. In the left column of the page, beneath **Diagnostics**, select **Protocol Info**.

This page provides a list of various network configuration settings on the print server for each protocol. Use these lists to validate your desired settings.

Configuration Page

To request to view the Jetdirect configuration (test) page, click on the **Networking** tab at the top of the web page. In the left column of the page, beneath **Diagnostics**, select **Configuration Page**.

This configuration page provides a summary of print server status and configuration information. The contents of this page are described in [interpreting the configuration page](#).

For another method of requesting the configuration page, see step 5 at the following [link](#).

Refresh Rate

Click on the **Networking** tab at the top of the web page. In the left column of the page, beneath **Diagnostics**, select **Refresh Rate**.

The refresh rate is the time period (in seconds) that the diagnostic pages will be automatically updated. To assign a parameter setting, enter the desired value and click **[Apply]**. The value "0" disables the refresh rate.

[Back to start of Networking tab](#)

[Back to directory of all pages and features in embedded web server](#)

[Back to start of embedded web server](#)

Web Scan

With HP's Web Scan, you can perform a simple scan from your supported networked multi-function peripheral (MFP) or All-in-One device, using a web browser on your computer! You do this using the embedded web server that is maintained for each HP Jetdirect print server. (Starting the embedded web server.)

Click **Scan** in the left column to access the Scan page to do simple scanning over the network using the web browser. You can display the document, download it to a file, or e-mail it (if an e-mail server is configured).

- [Using Web Scan](#)
 - Features:
 - [Preview image](#)
 - [Scan image](#)
 - [Scan to e-mail](#)
 - Reference topics:
 - [Scanner status messages](#)
 - [Document size settings](#)
 - [Image type settings](#)
 - [Image format settings](#)
 - [Troubleshooting Web Scan](#)
 - [Problems saving image formats](#)
 - [Problems using scan preview](#)
 - [Problems with availability of scanning and e-mail](#)
 - [An alternative to the basic scanning in the embedded web server](#)
-

Using Web Scan

Preview image

If you have a flatbed MFP or All-in-One, you may *preview* an image by clicking the

Preview button. The preview will be displayed in a small window on the Web Scan page.

For a flatbed with a multi-page document feeder (ADF):

You cannot preview an image from the feeder. Put the document on the glass flatbed instead.

Scan (download) the image

Follow these easy steps to scan the document placed in the scanner:

Note: Do **not** press the scan button on the MFP; use buttons on the screen as follows.

1. Select the type of image you are scanning using the **Image Type** buttons. [Available document settings.](#)
2. Select the file format you want using the **Image Format** buttons. [Available formats.](#)
3. Select your paper size in the **Document Size** list box. [Available document sizes.](#)
4. Click the **Scan** button to scan the document and download it to your computer. Depending on the image format, you may view the scanned image (in an appropriate plug-in or application, inside or outside of your browser) or save it to your hard disk.

For a multi-page document feeder (ADF):

Click **Scan** only once. (The same is true for **Email To...**; see [Email](#) below.) For a [PDF](#) image, one file will be created from all the pages in the feeder. For a [TIFF](#) or [JPEG](#) image, a separate file will be created for (and a separate window will be used to display) each page in the feeder.

Scan the image to e-mail

Instead of downloading the image to your computer or viewing it on your computer, you can e-mail the file containing the image as an attachment.

1. The network administrator must configure an outgoing e-mail server for the print server that connects the scanner, before any users can succeed at this procedure. You'll find out if this was done as soon as you do [step 5 below. How to configure the e-mail server.](#)
2. Select the type of image you are scanning using the **Image Type** buttons. [Available document settings.](#)
3. Select the file format you want using the **Image Format** buttons. [Available formats.](#)
4. Select your paper size in the **Document Size** list box. [Available document sizes.](#)
5. Click the **Email To...** button. The Email page will appear.

Problems:

[If the Email To... button does not appear...](#)

[If the Email To... button works, but then an error message appears...](#)

For a multi-page document feeder (ADF):

Click **Email To...** only once. For a [PDF](#) image, one file will be created from all the pages in the feeder. For a [TIFF](#) or [JPEG](#) image, separate files will be created for each page in the feeder. Each file will be contained in a separate attachment to the message.

6. Complete the form with the **From**, **To**, and **Subject** information. You also may enter a short message introducing the scanned image.
7. Click the **Send** button on the Email page.

[Back to start of Web Scan information](#)

Scanner status

You may see a status message appear on the Scan or Email window while the embedded web server is executing your operation (usually in a window overlaying the original Scan or Email window). The following table shows the status messages for the scanner and what they mean.

Status Message	Meaning
Scanner Ready	The scanner is ready to begin scanning.
Connecting	Connecting to the email server
Scanning page	You are currently scanning.
Scanner in use	Someone else is using the scanner. Try again later.

Image Type document settings

The document settings available depend on the specific peripheral pointed to by the embedded web server. They include:

- Color Picture for low-resolution color: 150 [DPI](#), 24-bit color. [DPI=dots per inch]
- Color Drawing for high-resolution color: 300 [DPI](#), 24-bit color.
- B/W Picture for monochrome graphics: 150 [DPI](#), gray-scale.
- Text: 300 [DPI](#), black and white.

Document Size settings

The following document sizes are available (in inches). The document size you select will contain only a portion of the entire scanned image if the document size is smaller than the image.

- Letter (8.5 by 11)
- Legal (8.5 by 14)
- Tabloid (11 by 17)

- A3 (11.69 by 16.54)
- A4 (8.3 by 11.7)
- Executive (7.25 by 10.5)
- 4X6 (4 by 6)
- 5X7 (5 by 7)
- 3X5 (3 by 5)
- 3X3 (3 by 3)

Image Format settings

The image format settings available depend on the capabilities of the scanner in the specific peripheral pointed to by the embedded web server. They include:

- **PDF** files for easy interchange with other people. When downloading, the browser typically will start the Adobe Acrobat Reader plug-in to view the file in a browser window.
- **JPEG** for compact, compressed files suitable for display in web browsers. When downloading, the image typically will be displayed in a browser window. The availability of JPEG format depends on the capabilities of the scanner.
- **TIFF** for files to be printed or to be manipulated as high-resolution images. When downloading, the browser will use a plug-in or external application for TIFF files, if one is loaded, or will prompt the user to view or save the image.

[Back to start of Web Scan information](#)

Troubleshooting web scanning

Problems using scan

- Unable to scan using PDF image format

Problem: After I click the Scan button, I get an error message that the scan is aborted. I am using Internet Explorer.

Resolution: This is a known issue with plug-ins (not external applications) and version 5.0 of Microsoft Internet Explorer. Configure your Internet Explorer browser to not use that specific plug-in for TIFF files.

- Unable to scan using TIFF image format

Problem: After I click the Scan button, the scanner begins to scan but never completes. I am using Internet Explorer.

Resolution: This is a known issue with various versions of Microsoft Internet Explorer and Windows 95, 98, and NT 4.0. A recommended work-around is to download the latest version of Internet Explorer, 5.0 or higher, and the latest version of Adobe Acrobat Reader, 4.0 or higher.

- Unable to use “Save” or “Save As” command in Adobe Acrobat Reader

Problem: After I click the Scan button, Adobe Acrobat Reader is launched. I

am unable to select “Save” or “Save As”.

Resolution: This is a known issue with various versions of Microsoft Internet Explorer and Windows 95, 98, and NT 4.0. A recommended work-around is to download the latest version of Adobe Acrobat Reader, 4.0 or higher.

- Not prompted to “Save File As” or “Open File”

Problem: After I click the Scan button, I am not prompted to “Save File As” or “Open File”. Instead, an application or plug-in is loaded and the scanned image is displayed.

Resolution: There are many different plug-in applications available for each of the [image format choices](#). If you do not want the plug-in to automatically load your scanned image, you can uninstall the plug-in associated with the image format you are using. Or, you can use the “Save” or “Save As” command located within the plug-in application.

- Scanned image does not display on the screen

Problem: After I click the Scan button, a plug-in is launched and tries to open either my [TIFF](#) or [PDF](#) image. Instead of the image displaying on the screen, I get a graphical icon (for example, a page with the left corner folded or a small image with a question mark in the center) or even a message stating that the browser could not load the image.

Resolution: Since a variety of plug-in applications exist, each plug-in exhibits a different behavior. You can uninstall the plug-in associated with the image format you are using. Or, you can change the association of the TIFF or PDF file type to a different application.

Problems using scan preview

- Preview option is missing with a sheet feed scanner or with a multi-page document feeder (ADF)

Problem: I want to preview the image before saving it, but the Preview button is missing.

Resolution: Sheet-feed MFPs (and All-in-Ones) do not support scan previews. Flatbed scanners do not support scan previews when using a multi-page document feeder (ADF) instead of the glass flatbed. In these cases, to preview the image before saving it, use the “Open it” option or allow the plug-in to open the scanned image. Once the scanned image is displayed, use the “Save” or “Save As” option in the application.

- Unable to “rubber band” or scan a small area from the preview

Problem: I clicked the Preview button and the image appeared in the preview window. I tried to select a small region, but this did not work.

Resolution: Rubber banding or selecting a portion of a document are not supported. However, it is possible to select a predefined [document size](#) that is smaller than the image size; the result will be a portion of the image.

Problems with availability of scan and e-mail

- Scan menu item is missing from the Home page.

Problem: On the Home page of my embedded web server the Scan item is missing from the left column.

Resolution 1: Only HP multifunction (MFP or All-in-One) devices can be used for scanning; check the type of printer attached to the print server.

Resolution 2: Web Scan has been disabled on the print server that networks the multifunction printer. Someone with configuration access to the print server should check the configuration of the Enable Web Scan parameter.

- Email To... button is missing from the Scan page.

Problem: I can reach the Scan page but no Email To... button appears next to Scan.

Resolution: Scanning to email has been disabled on the print server that networks the multifunction printer. Someone with configuration access to the print server should check the configuration of settings of the Enable Web Scan-to-email parameter. Both Enable Web Scan and Scan-to-email must be set for the Email To... button to appear.

- The Email To... button is available but I get an error message.

Problem 1: The Email To... button is available but the operation fails and an error message says “To use this feature, Email (SMTP Server) must be specified”. This means that no outgoing SMTP mail server was detected as configured for the print server.

Resolution 1: Someone with configuration access to the print server should configure the e-mail server, as follows: Click on the Networking tab at the top of the embedded web server page. In the left column of the page (in the Configuration list), select Other Settings. For the parameter Email (SMTP) Server (for outgoing mail), specify the e-mail server to be used when any user scans to email through this networked scanner. Click [Apply].

[Back to start of troubleshooting web scanning](#)

[Back to start of Web Scan information](#)

Disabling Web Scan and its alternative

You can disable and enable the availability of the web scanning facility in the embedded web server. You can also disable and enable the alternative to this basic scanning functionality.

The alternative: The print server may support (depending on installation methods) the full-function scanning facility residing on individual computers—acquired by installing the client software from the CD for the HP multifunction (MFP or All-in-One) device. The client user can use that software normally on printers networked through an HP Jetdirect print server, and it probably has more features than the simple scanning available available on the embedded web server through the client user's browser.

Enabling/disabling: Both alternatives—the print server's support of the full-function client scanning software and the print server's embedded web server Web Scan facility—are enabled by default and therefore available to the network clients. Either or both can be disabled (and then enabled again) in the print server's configuration. Methods for making these configuration changes:

- [Telnet](#)
- The embedded web server's Networking configuration facility:

Click on the Networking tab at the top of the web page. In the left column of the page (in the Configuration list, select Other Settings. To assign a parameter setting, enter the desired value and click [Apply]. [Networking configuration reference](#). The parameters are the following:

- **Enable Web Scan**
Enable Scan-to-email
are the parameters used to disable and enable Web Scan, with or without the e-mail capability, in the print server's embedded web server. Both are enabled by default. **Enable Web Scan** must be enabled if **Enable Scan-to-email** is enabled.
- **Enable MFP and AIO software support**
is the parameter used to disable and enable the print server's support of the full-function client scanning software. It is enabled by default.

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[Back to start of the embedded web server](#)

Compatible Web Browsers

The embedded web server has been tested with the following web browsers:

- Windows 95/98 and NT 4.0:
 - Microsoft Internet Explorer 5.0 , 5.01, 5.5
 - Netscape Navigator 4.6x, 4.7x, 6.0, 6.1
- Windows 2000:
 - Microsoft Internet Explorer 5.0 , 5.5
 - Netscape Navigator 4.6x, 4.7x, 6.0, 6.1
- Windows Millennium (ME):
 - Microsoft Internet Explorer 5.0, 5.5
 - Netscape Navigator 4.6x, 4.7x, 6.0, 6.1
- MacOS 8.6 and later, 9.0:
 - Microsoft Internet Explorer 5.01
 - Netscape Navigator 4.6x, 4.7x, 6.0, 6.1
- HP-UX 10.20:
 - Microsoft Internet Explorer 5.0 and later

- Netscape Navigator 4.7x, 6.0
- HP-UX 11.0:
 - Microsoft Internet Explorer 5.0 and later
 - Netscape Navigator 4.72–4.75, 6.0, 6.1
- Solaris 2.5x, 2.6, 7, 8:
 - Microsoft Internet Explorer 5.0 and later
 - Netscape Navigator 4.7x, 6.0
- Linux System:
 - Netscape Navigator 4.6x, 4.7x, 6.0, 6.1

For the latest list of compatible web browsers, visit HP's Customer Care Online at www.hp.com/support/net_printing.

If you use HP Web Jetadmin, a printer installation and management application for intranets, with the HP Jetdirect embedded web server, version 6.1 or greater is recommended. (HP Web Jetadmin is available from HP Customer Care Online at www.hp.com/support/net_printing.)

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Security



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

The print server provides security features that can help to minimize unauthorized access to network configuration parameters.

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Note:

Full security in printing environments consists of system authentication (for both servers and clients), data integrity and privacy, and printer access control. High levels of network printing security may require a coordinated implementation of network system applications, encryption, and infrastructure controls. The prevention of unauthorized access to HP Jetdirect print server configuration parameters cannot be guaranteed.

Security features

- **IP administrative password**

- Used by [Telnet](#) and the [embedded web server](#) to control access to print server configuration parameters.
- Up to 16 case-sensitive, alphanumeric characters may be used.
- Configured on the print server using the [embedded web server](#) ([Security, Admin Password menu item](#)), [TFTP](#), [Telnet](#), or optionally by changing the SNMP Set Community Name or the HP Web Jetadmin password.

Optionally, you can synchronize (set) the HP Web Jetadmin and the SNMP Set Community Name to the same password at the same time. This means that when HP Web Jetadmin sends an SNMP Set command to the print server, the command must include the IP administrative password as the community name for the print server to respond. If you do select such synchronization, changing either of those passwords in that location will also change

this IP administrative password.

- **IP host access list**

- Specifies up to 10 host systems, or networks of host systems, that are allowed access to the print server and the attached networked printing device.
- Access is generally limited to host systems specified in the list. However, if the list is empty, then all hosts are allowed access. Also, host systems that use HTTP (via the [embedded web server](#) or [IPP](#)) are not checked against entries in the access list and are allowed access.
- Configured on the print server using the [embedded web server](#) ([Security, Access Control menu item](#)), [TFTP](#), [Telnet](#), [SNMP](#), or management software.

- **SNMP v1/v2c — Set Community Name**

- Acts as a password on the print server to allow incoming [SNMP](#) Set commands (from management software, for example) to write (set) configuration parameters on the print server.
- Authentication of SNMP Set commands will require that they contain the user-assigned name.
- Authentication of SNMP Set commands are further restricted to systems identified on the [host access list](#).
- Configured on the print server using the [embedded web server](#) ([Network Settings, SNMP menu item](#)), [TFTP](#), [Telnet](#), the [IP administrative password](#) (with the optional synchronization), an [SNMP](#) application, or management application services.

- **Telnet**

- Telnet is enabled by default, to allow configuration changes to the print server using the [Telnet tool](#). You should disable Telnet access if relying on password protection.
- Configured on the print server using the [embedded web server](#) ([Network Settings, Other Settings, Misc.](#)

[Settings, Telnet Config parameter](#)).

- **HP Web Jetadmin password**

- Configured on the print server using HP Web Jetadmin and an HP-proprietary [SNMP](#) MIB (Management Information Base) object. For instructions, refer to your online help for HP Web Jetadmin.

Examples of Access Control Settings

Settings	Level of Access Control
<ul style="list-style-type: none">● Embedded web server , SNMP v1/v2c, or Telnet enabled● Administrative password not set● SNMP Set Community Name not specified● Host access list empty	<p>None.</p> <p>Any system can access the print server configuration parameters through the embedded web server, SNMP v1/v2c, or Telnet. No passwords are required.</p> <p>Best used for a trusted environment.</p>
<ul style="list-style-type: none">● Password(s) set: IP administrative password, HP Web Jetadmin password, SNMP Set Community Name● No encryption● Host access list empty	<p>Low.</p> <p>Any system can access the print server configuration parameters through the embedded web server, SNMP v1/v2c, or Telnet, but password(s) protect against unintentional configuration changes.</p> <p>Best used for a trusted environment.</p>

<ul style="list-style-type: none">● Password(s) set: IP administrative password, HP Web Jetadmin password, SNMP Set Community Name● Host access list contains entries● Telnet disabled	<p>Limited.</p> <p>If the password is known, access is limited to:</p> <ul style="list-style-type: none">● systems specified in the host access list, or● systems that use HTTP (embedded web server or IPP) <p>Best used for a non-trusted environment.</p>
--	--

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Setting up LPD (LPR) Printing

for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

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The HP Jetdirect print server contains an LPD (Line Printer Daemon) server module to support LPD printing. Other terms for these services are “LPR (Line Printer Request)”, from the perspective of the printing clients, “BSD printing”, and “Print Services for UNIX”. These refer to the protocol and programs associated with line-printer spooling services that may be installed on various TCP/IP systems. These systems include Windows NT 4.0, Windows 2000, and Mac OS.

The LPD programs include the following:

<u>Program Name</u>	<u>Purpose of Program</u>
lpr	<i>Line Printer Request</i> : Queues jobs for printing
lpq	<i>Line Printer Queues</i> : Displays print queues
lprm	<i>Line Printer Remove</i> : Removes jobs from print queues
lpc	<i>Line Printer Control</i> : Controls print queues
lpd	<i>Line Printer Daemon</i> : Scans and prints the files if the specified printer is connected to the system. If the specified printer is connected to another system, this process forwards the files to an lpd process on the remote system where the files are to be printed.

Prerequisites:

- An operating system that supports LPD printing—any host implementation of LPD that complies with the RFC 1179 document
- “Administrator” access to your system
- Printer properly connected to the network through the print server —*done in step [1](#) of the initial setup below*
- IP parameters configured on the print server —*done in step [2](#) of the initial setup below*
- Read the hardware address (also called MAC, LAN, or station address) of the print server, either from a label on the print server device or from the configuration page you print as the

last step in the hardware installation procedure—*done in step 1 of the initial setup below*

Setup sequence:

1. Install hardware; power on the print server. [Refer to procedure.](#)
2. Configure TCP/IP parameters on the print server. Refer to summary of methods.
3. Find the driver for your printer and install it.
4. Create a TCP/IP port and connect it to the driver. You can use Microsoft LPR port, for example.
5. Do LPD setup procedure for the Windows or Macintosh client:
 - [LPD on Windows NT or 2000 systems](#)
 - [LPD on Mac OS systems](#)

Setting up LPD on Windows NT/2000 systems

Note: Make sure you have done the [LPD prerequisites](#).

LPD (Line Printer Daemon) setup involves setting up the print queues, creating a port for printing, and verifying the setup on the system. The procedure depends on the operating system:

- [Windows NT 4.0 LPD setup procedure](#)
- [Windows 2000 LPD setup procedure](#)

Reference on queues

In the procedure below you will set up a print queue for each printer or printer personality (PCL or PostScript) used on each system. Also, different queues are required for formatted and unformatted files. You can use the queue names listed in the following table.

raw	no processing
text	carriage return added
auto	automatic
binps	binary Postscript
<user-defined>	defined by user; optionally including commend strings before and after the print data

Meaning of the queue names:

The line printer daemon treats data in an `text` queue as unformatted or ASCII text, and adds a carriage return to each line before sending it to the printer. (Note that the actual observed behavior is that a PCL line termination command (value of 2) is issued at the beginning of the job.)

The line printer daemon treats data in an `raw` queue as formatted files in PCL, PostScript, or HP-GL/2 languages and sends the data without change to the printer.

Data in an `auto` queue will be automatically processed as `text` or `raw`, as appropriate.

For the `binps` queue, the line printer daemon requests the PostScript printer driver to output print data in 8-bit binary form (byte values in the range of 0 to 255, instead of the standard ASCII values in the range of 0 to 127).

For user-defined queue names, the line printer daemon adds user-defined strings before and/or after the print data. ([Click here](#) for details on setting up user-defined print queues using the print server's embedded Web server.).

If the queue name is not one of the above, the HP Jetdirect print server assumes it to be `raw1`.

The procedure depends on whether the system runs [Windows NT 4.0](#) or [Windows 2000](#).

Windows NT 4.0 LPD setup procedure

Along with these general instructions, see your system documentation for information on configuring these systems.

The process consists of these parts:

- A. Installing TCP/IP software if not already installed
- B. Configuring the networked printer with the queue and port
- C. Verifying the configuration

A. Installing TCP/IP software

This procedure lets you check whether you have TCP/IP installed on your Windows NT system, and to install the software if necessary.

Note: You may need your Windows System distribution files or CD-ROMs to install TCP/IP components.

1. Check whether you have Microsoft TCP/IP Printing protocol and TCP/IP printing support. Click **Start, Settings, Control Panel**. Double-click **Network**. In the resulting **Network** dialog box, check under the **Protocols** tab for **TCP/IP Protocol** and under the **Services** tab for **Microsoft TCP/IP Printing**.

If both are listed, the necessary software is already installed. (Skip to "[B. Configuring the networked printer](#)").

If not, continue to the next step.

2. To install the software, click the **[Add]** button for each tab and install the **TCP/IP Protocol** and the **Microsoft TCP/IP Printing** service. Follow the instructions on the screen. When prompted, type the full path to the Windows NT distribution files (you may need your Windows NT workstation or server CD-ROM).
3. You may be automatically prompted for the TCP/IP configuration values. If not, select the **Protocols** tab in the **Networks** window and select **TCP/IP Protocol**. Then click **[Properties]**.
 - If you are configuring a Windows server, type the IP address, default gateway address, and subnet mask in the appropriate spaces.
 - If you are configuring a client, check with your network administrator to learn whether you should enable automatic TCP/IP configuration or whether you should type a static IP address, default gateway address, and subnet mask in the appropriate spaces.

4. Click **[OK]** to exit.

5. If prompted, exit Windows and restart your computer for the changes to take effect.

B. Configuring the networked printer

Set up the default printer by performing the following steps.

1. Click **Start, Settings, Printer**. The **Printers** window opens.
2. Double-click **Add Printer**.
3. Select **My Computer**, then click **[Next]**.

4. Click Add Port.
5. Select LPR Port, and click New Port.
6. In the Name or address of server providing lpd box, enter the IP address or name of the HP Jetdirect print server.
Note: NT clients can enter the IP address or name of the NT server that is configured for LPD printing.
7. In the Name of printer or print queue on that server box, enter the queue name in lower case (raw, text, auto, binps, or the user-defined queue). Then click [OK]. (See the [description of queues above](#).)
8. Ensure that the port is selected in the Add Printer list of the available ports, then click [Next].
9. Follow the remaining instructions on the screen to complete the configuration.

Installation note: If the LPD printer on the NT server is shared, Windows clients can connect to the printer on the NT server using the Windows Add Printer utility in the Printers folder.

C. Verifying the configuration

From within Windows NT, print a file from any application. If the file prints correctly, the configuration was successful. If the print job is not successful, try printing directly from DOS using the following syntax:

```
lpr -S<ipaddress> -P<queuename>  
filename
```

where:

<ipaddress> is the IP address of the print server,
<queuename> is the name raw or text,
<filename> is the file you wish to print.

If the file prints correctly, the configuration was successful. If the file does not print, or prints incorrectly, see [Troubleshooting](#).

[Back to start of NT 4.0 setup procedure](#)

[Back to start of entire LPD setup](#)

Windows 2000 LPD setup procedure

Along with these general instructions, see your system documentation for information on configuring these systems.

The process consists of these parts:

- A. Installing TCP/IP software if not already installed
- B. Configuring the networked printer with the queue and port

A. Installing TCP/IP software

This procedure lets you check whether you have TCP/IP installed on your Windows 2000 system, and to install the software if necessary.

Note: You may need your Windows System distribution files or CD-ROMs to install TCP/IP components.

1. Check whether you have Microsoft TCP/IP Printing protocol and TCP/IP printing support. Click **Start, Settings, Control Panel**. Double-click the **Network and Dial-up Connections** folder. Select the **Local Area Connection** for your network, then click the **File** menu and select **[Properties]**.

If Internet Protocol (TCP/IP) is listed and enabled in the list of components used by this connection, the necessary software is already installed. (Skip to "[B. Configuring the networked printer](#)").

If not, continue to the next step.

2. To install the software, in the **Local Area Connection Properties** window, click **Install**. In the **Select Network Component Type** window, select **Protocol** and click **[Add]** to add the **Internet Protocol (TCP/IP)**.

Follow the instructions on the screen.

3. Enter TCP/IP configuration values for the computer: On the **General** tab in the **Local Area Connection Properties** window, select **Internet Protocol (TCP/IP)** and click **[Properties]**.
 - If you are configuring a Windows server, type the IP address, default gateway address, and subnet mask in the appropriate spaces.
 - If you are configuring a client, check with your network administrator to learn whether you should enable automatic TCP/IP configuration or whether you should type a static IP address, default gateway address, and

subnet mask in the appropriate spaces.

4. Click [OK] to exit.
5. If prompted, exit Windows and restart your computer for the changes to take effect.

B. Configuring the networked printer

Set up the default printer by performing the following steps.

1. Verify that Print Services for Unix is installed, since it is required for LPR port availability:
 - a. Click **Start, Setup, and Control Panel**. Double-click the **Network and Dial-up Connections** folder.
 - b. Click the **Advanced** menu and select **Optional Networking Components**.
 - c. Select and enable **Other Network File and Print Services**.
 - d. Click [Details], and verify that **Print Services for Unix** is enabled. If not, enable it.
 - e. Click [OK], and then [Next].
2. Open the **Printers** folder (from the desktop, click **Start, Settings, and Printers**).
3. Double-click **Add Printer**. From the **Add Printer Wizard's** welcome screen, click [Next].
4. Select **Local printer**, and disable automatic detection for **Plug and Play** printer installation. Click [Next].
5. Choose **Create a new port**, and select **LPR Port**. Click [Next].
6. In the **Add LPR compatible printer** window, enter the DNS name or IP address of the HP Jetdirect print server.
7. Still in the **Add LPR compatible printer** window, enter in lower case raw, text, auto, binsps, or the user-defined queue. Then click [OK]. (See the [description of queues above](#).)

Then click [OK].

8. Select the **Manufacturer and Printer model**. (If necessary, click **Have Disk** and follow the instructions to install the printer driver.) Click [Next].

9. Choose to keep the existing driver, if prompted. Click [Next].
10. Enter a printer name, and choose whether this printer will be the default printer. Click [Next].
11. Choose whether this printer will be available to other computers. If shared, enter a share name that identifies the printer to other users. Click [Next].
12. If desired, enter a location and other information for this printer. Click [Next].
13. Choose whether to print a test page, and click [Next].
14. Click [Finish] to close the wizard.

Installation note: If the LPD printer on the Windows 2000 server is shared, Windows clients can connect to the printer on the 2000 server using the Windows Add Printer utility in the Printers folder.

[Back to start of Windows 2000 setup procedure](#)

[Back to start of entire LPD setup](#)

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Setting up LPR/LPD on Macintosh systems

for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

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The setup for LPD (Line Printer Daemon), also known as LPR (Line Printer Request), involves setting up the print queues and creating a port for printing.

Prerequisites:

- Mac OS v.8.6 or higher
- LaserWriter 8, version 8.5.1 or higher
- Desktop Printer Utility 1.0 or higher
- Also verify the general [LPD prerequisites](#).

Reference on queues

In the procedure below you will set up a print queue for each printer or printer personality (PCL or PostScript) used on each system. Also, different queues are required for formatted and unformatted files. You can use the queue names listed in the following table.

raw	no processing
text	carriage return added
auto	automatic
binps	binary Postscript
<user-defined>	defined by user; optionally including commend strings before and after the print data

Meaning of the queue names:

The line printer daemon treats data in an `text` queue as unformatted or ASCII text, and adds a carriage return to each line before sending it to the printer. (Note that the actual observed behavior is that a PCL line termination command (value of 2) is issued at the beginning of the job.)

The line printer daemon treats data in an `raw` queue as formatted files in PCL, PostScript, or HP-GL/2 languages and sends the data without change to the printer.

Data in an `auto` queue will be automatically processed as `text` or `raw`, as appropriate.

For the `binsps` queue, the line printer daemon requests the PostScript printer driver to output print data in 8-bit binary form (byte values in the range of 0 to 255, instead of the standard ASCII values in the range of 0 to 127).

For `user-defined` queue names, the line printer daemon adds user-defined strings before and/or after the print data. ([Click here](#) for details on setting up user-defined print queues using the print server's embedded Web server.).

If the queue name is not one of the above, the HP Jetdirect print server assumes it to be `raw1`.

Setup procedure

Along with these general instructions, see your system documentation. Also search for “LPR printing” at Apple Computer’s Tech Info Library web site at <http://til.info.apple.com>.

The process consists of these parts:

- A. Assigning an IP address to the printer networked via the print server
- B. Configuring the Mac OS system for LPR printing

A. Assigning an IP address

Before you can set up a printer for LPR printing, you must assign an IP address to the printer networked via the print server, as follows.

1. Double-click **HP LaserJet Utility** in the **HP LaserJet** folder.
2. Click the **[Settings]** button.
3. Select **TCP/IP** from the scrolling list and then click **[Edit]**.
4. Select the desired option. You can automatically obtain the TCP/IP configuration from either the DHCP server or the BOOTP server, or you can manually specify the TCP/IP configuration.

B. Configuring the Mac OS system

1. Launch the Desktop Printer Utility.
2. Select Printer (LPR) and click [OK].
3. In the PostScript Printer Description (PPD) File section, click [Change...] and select the PPD for your printer.
4. In the Internet Printer or the LPR Printer section, depending on your version of the Desktop Printer Utility, click [Change...].
5. Enter the printer server's IP address or domain name for Printer Address.
6. Enter the queue name, if used. Otherwise, leave it blank.

Note: The queue name is typically raw. Other valid queue names are `text`, `binps`, `auto`, or a user-defined queue name. ([Click here](#) for details on setting up a user-defined print queue using the print server's embedded Web server. See the [description of queues above](#).)

7. Click [Verify] to verify that the printer was found.
8. Click [OK] or [Create], depending on your version of the Desktop Printer Utility.
9. Go to the File menu and select Save or use the resulting save dialog, depending on your version of the Desktop Printer Utility.
10. Enter a name and location for the desktop printer icon and click OK. The default name is the print server's IP address, and the default location is on the desktop.
11. Exit the program.

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FTP Printing

for HP Jetdirect 310x external print server/Internet connector for USB

Note: Not applicable to 175x

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Introduction

FTP (File Transfer Protocol) is a basic TCP/IP connectivity utility to transfer data between systems. FTP printing is a way to use FTP to send print files from a client system to an HP Jetdirect-connected printer. In an FTP printing session, the client connects and sends a print file to the HP Jetdirect FTP server which in turn passes the print file to the printer.

The HP Jetdirect FTP server can be enabled or disabled through a configuration tool, such as [Telnet](#) or the [embedded web server](#).



Requirements

FTP printing described here requires the following:

- HP 310x print server
- TCP/IP client systems with FTP that complies with RFC 959.

For the most recent list of tested systems: http://www.hp.com/support/net_printing

Print Files

The HP Jetdirect FTP server transfers print files to the printer but does not interpret them. For proper printing, print files must be in a language recognized by the printer (such as PostScript, PCL, or unformatted text). For formatted print jobs, you must first print to a file from your application using the driver for the selected printer, then transfer the print file to the printer through an FTP session. For formatted print files, use binary (image) type transfers.

Using FTP Printing

FTP Connections

Similar to standard FTP file transfers, FTP printing uses two TCP connections: a control connection and a data connection.

Once an FTP session is opened, it remains active until either the client closes the connection or the data and control connections are idle for a time that exceeds the idle timeout period (default is 270 seconds). The idle timeout can be set through various TCP/IP configuration tools, such as BOOTP/TFTP, Telnet, printer's control panel, the embedded web server (see [TCP/IP Configuration](#)), or management software.

Control Connection

Using standard FTP, a control connection is opened by the client to the FTP server on the HP Jetdirect print server. FTP control connections are used to exchange commands between the client and the FTP server. The HP Jetdirect print server supports up to four control connections (or FTP sessions) simultaneously. If the number of allowed connections is exceeded, a message indicating that service is not available will be displayed.

FTP control connections use TCP port 21.

Data Connection

A second connection, a data connection, is created each time a file is transferred between the client and the FTP server. The client controls the creation of a data connection by issuing the commands that require a data connection (such as FTP `ls`, `dir` or `put` commands).

Although the `ls` and `dir` commands are always accepted, the HP Jetdirect FTP server supports a single data connection for printing at a time.

The transmission mode for an FTP data connection with the HP Jetdirect print server is always in stream mode, which marks the end-of-file by closing the data connection.

Once a data connection is established, the file transfer type (ASCII or binary) can be specified. Clients may attempt to autonegotiate a transfer type, and the default transfer type depends on the client system (for example, Windows NT may default to ASCII, while UNIX may default to binary). To specify the transfer type, enter the `bin` or `ascii` command at the FTP prompt.

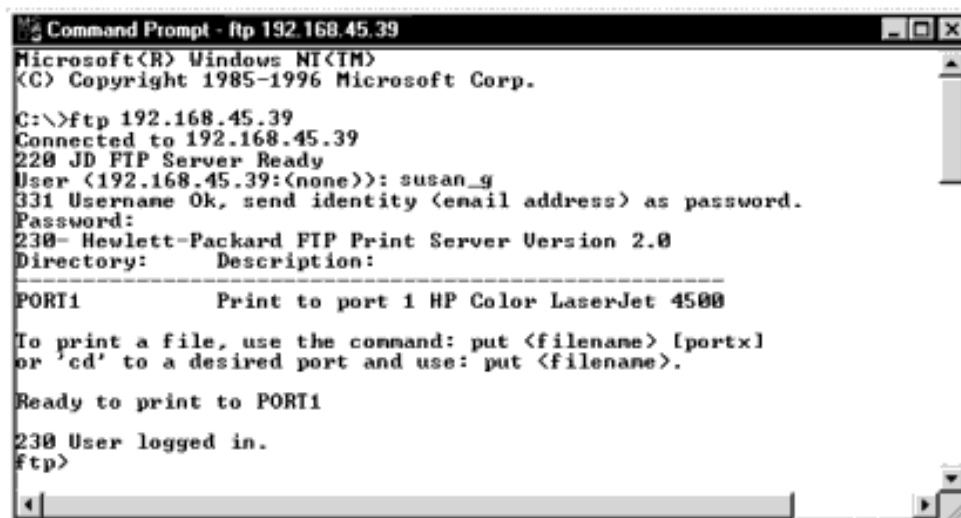
FTP Login

To start an FTP session, enter the following command from a MS-DOS or UNIX command prompt:

```
ftp <IP address>
```

where <IP address> is the valid IP address or node name configured for the HP Jetdirect print server.

FTP Login Example



```
Command Prompt - ftp 192.168.45.39
Microsoft(R) Windows NT(TM)
(C) Copyright 1985-1996 Microsoft Corp.

C:\>ftp 192.168.45.39
Connected to 192.168.45.39
220 JD FTP Server Ready
User (192.168.45.39:(none)): susan_g
331 Username Ok, send identity (email address) as password.
Password:
230- Hewlett-Packard FTP Print Server Version 2.0
Directory:      Description:
-----
PORT1          Print to port 1 HP Color LaserJet 4500
To print a file, use the command: put <filename> [portx]
or 'cd' to a desired port and use: put <filename>.
Ready to print to PORT1
230 User logged in.
ftp>
```

If the connection is successful, a Ready message will be displayed.

After a successful connection, the user is prompted for a login name and password. The default is the client's login name. The Jetdirect FTP server will allow any user name. Passwords are ignored.

If login is successful, a message "230" will be displayed on the client system. In addition, the available HP Jetdirect ports for printing will be displayed. HP Jetdirect internal print server cards provide a single port (Port 1). HP Jetdirect external print servers with multiple ports will display all available ports, with Port1 the default port. To change ports, use the FTP `cd` (change directory) command. For a typical FTP printing session, see [Example of an FTP Session](#).

Ending the FTP Session

To end an FTP session, type `quit` or `bye`.

Note: Prior to ending an FTP session, a [Ctrl-C] command is recommended to ensure the data connection is closed

Commands

Summary of commands available to the user during an FTP printing session:

Command	Description
<code>user <username></code>	<code><username></code> specifies a user. Any user will be accepted and can print to the selected port.
<code>cd <port#></code>	<code><port#></code> selects a port number for printing. For this HP Jetdirect print server, only <code>port1</code> is available.
<code>cd /</code>	<code>/</code> specifies the root directory of the HP Jetdirect FTP server.
<code>quit</code>	<code>quit</code> or <code>bye</code> terminates the FTP session with the HP Jetdirect print server.
<code>bye</code>	
<code>dir</code>	<code>dir</code> or <code>ls</code> displays the contents of the current directory. If this command is typed in the root directory, a list of available ports for printing is displayed.
<code>ls</code>	
<code>pwd</code>	Displays the current directory or the current Jetdirect printing port.
<code>put <filename></code>	<code><filename></code> specifies the file to send to the selected HP Jetdirect print server port. For multiport print servers, a different port can be specified in the command: <code>put <filename> <port#></code>
<code>bin</code>	Configures an FTP binary (image) file transfer.

ascii	Configures an FTP ASCII file transfer. HP Jetdirect print servers support only non-print format control for character transfers (standard values for spacing and margins are used).
[Ctrl-C]	Press the [Ctrl] and [C] keyboard keys simultaneously to abort the FTP service command and any transfer of data. The data connection is closed.
rhelph or remotehelp	This command depends on your client system (use rhelph on UNIX, or remotehelp on Windows NT/2000) and displays a list of FTP system commands supported by the print server. (Note: the commands displayed are <i>not</i> user commands. User-accessible commands depend on the client's FTP system.)

Example of an FTP Session

```
C:\> ftp 192.168.45.39
```

```
Connected to 192.168.45.39.
```

```
220 JD FTP Server Ready
```

```
User <192.168.45.39:<none>>: susan_g
```

```
001 Username Ok, send identity <email address> as password
```

```
Password:
```

```
230- Hewlett-Packard FTP Print Server Version 2.0
```

```
Directory: Description:
```

```
-----
```

```
PORT1 Print to port 1 HP color LaserJet 4500
```

```
To print a file, use the command: put <filename> [portx]
```

```
or cd to a desired port and use: put <filename>.
```

```
Ready to print to PORT1
```

```
230 User logged in.
```

```
ftp> pwd
```

```
257 "/" is current directory. <"default port is : /PORT1> HP  
Color LaserJet 4500"
```

```
ftp> cd port1
```

```
250 Changed directory to "/PORT1"
```

```
ftp> pwd
```



```
257 "/PORT1" is current directory. "HP Color LaserJet 4500"  
ftp> bin  
200 Type set to I. Using binary mode to transfer files.  
ftp> put d:\atlas\temp\ftp_test.ps  
200 PORT command successful.  
150 Opening BINARY mode data connection  
226- Ready  
226- Processing job  
226 Transfer complete  
31534 bytes sent in 0.04 seconds <788.35 Kbytes/sec>  
ftp> quit  
221 Goodbye  
C:\>
```

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Interpreting the configuration page



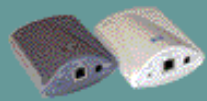
for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x

The configuration page (also called a self-test page or configuration plot) for a print server displays [messages](#), network statistics, and status for the print server. To print a configuration page, press the Test button on the print server.

An HP Jetdirect configuration page can also be viewed over the network from a management utility (such as HP Web Jetadmin), or by accessing the embedded web server on the HP Jetdirect print server.



175x, 310x

Just click on any section of the configuration page below for detailed description of that section. This is a sample for the 310x print server. The page for the 175x is similar; a few sections do not apply (as noted in the descriptions).

HP JetDirect Configuration Page (English - HPGL2)

```
***** General Information *****
Status:                               I/O Card Ready

Model Number:                         J6038A
Hardware Address:                     0001E6123456
Firmware Version:                     L.21.05
Port Config:                          100TX HALP
Auto Negotiation:                     On
Manufacturing ID:                     40194019F090F
Date Manufactured:                    02/2002

USB Printer 1 *****
Device Name:                          LaserJet 3320
Manufacturer:                         Hewlett-Packard
Serial Number:                        US16SK0KD
Communication Mode:                   1284.4

***** Security Settings *****
Admin Password:                       Not Set
SSL/TLS:                              CN:mfg48.corp.com
Cert Expires:                         2002-07-09 13:44 UTC
SNMP Versions:                        1,2
SNMP Set Cnty Name:                  Not Specified
Access List:                          Not Specified

***** Network Statistics *****
Total Packets Received:                12345678
Unicast Packets Received:              15001
Bad Packets Received:                  40
Framing Errors Received:                0
Total Packets Transmitted:             50114
Unsendable Packets:                   13
Transmit Collisions:                   1003
Transmit Late Collisions:              0

***** TCP/IP *****
Status:                               Ready

Host Name:                             NPI39BEB2
IP Address:                            192.168.0.6
Subnet Mask:                           255.255.255.0
Default Gateway:                       192.168.0.1
Config By:                             DHCP/TFTP
DHCP Server:                           192.168.0.1
TFTP Server:                            Not Specified
Config File: ..client/stand/uxboot/jumb.cfg
Domain Name:                            Not Specified
DNS Server:                             192.168.0.2
WINS Server:                            192.168.0.1
Syslog Server:                          Not Specified
Idle Timeout:                           270 sec

***** IPX/SPX *****
Status:                               Ready

Primary Frame Type:                    Auto Select

Network  Frame Type  Rcvd
Unknown  EN II      2
0000C400 EN 802.2   31903
Unknown  EN SNAP    2
Unknown  EN 802.3   2

***** Novell/NetWare *****
Status:                               Ready

Node Name:                             NPI12345
NetWare Mode:                           Queue Server
NDS Tree Name:                           YES-TREE

NDS Context:                             0-HP

Attached Server:                         N1[NSQ]

SAP Interval:                            60 sec

Server 1 [nds]                            N4
Server 2 [nds]                            N5

***** AppleTalk *****
Status:                               Ready

Name:                                    HP LaserJet 3300 Series
Zone:                                    Saturn Zone
Type 1:                                  LaserWriter
Type 2:                                  HP LaserJet
Network Number:                          65281
Node Number:                              4

***** DLC/LLC *****
Status:                               Ready
```

General Jetdirect Information

Provides general print server status and identification information.

Message	Description
Status	<p>Current state of the print server.</p> <ul style="list-style-type: none"> ● I/O Card Ready the print server has successfully connected to the network and is awaiting data. ● I/O Card Initializing the print server is initializing the network protocols. For more information, see the status line for each protocol on the configuration page. ● I/O Card Not Ready there is a problem with the print server or its configuration. <p>An error code and message are displayed if the print server is not ready.</p>
Model Number	The model number of the HP print server (for example, J6035A or J6038A).
Hardware Address	The 12-digit hexadecimal LAN hardware (MAC) address of the print server installed in or attached to the printing device. This address is assigned by the manufacturer.
Firmware Version	The firmware revision number of the print server currently installed in the printer. The format is X.NN.NN, where X is a letter that depends on the HP print server model.
Port Config	<p>Identifies the link configuration of the RJ-45 LAN port on the print server:</p> <ul style="list-style-type: none"> ● 10BASE-T HALF 10 Mbps, half-duplex ● 10BASE-T FULL 10 Mbps, full-duplex ● 100TX HALF 100 Mbps, half-duplex ● 100TX FULL 100 Mbps, full-duplex ● Unknown the print server is in an initialization state. ● Disconnected a network connection has not been detected. Check network cables.
Auto Negotiation	<p>Identifies whether IEEE 802.3u Autonegotiation on the 10/100TX port is enabled (on) or disabled (off).</p> <p>On the print server will attempt to automatically configure itself onto the network at the proper speed (10 or 100 Mbps) and mode (half or full duplex).</p>
Manufacturing ID	The manufacturing identification code for use by HP support personnel.
Date Manufactured	Identifies the date of manufacture of the HP Jetdirect print server.

USB Printer 1	Heads the section for the USB printer class descriptor information supplied by the manufacturer of the printing device. The number 1 indicates that the configuration and diagnostic pages will be printed on the printing device attached to print server port 1. See USB Port Information .
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USB Port Information

Provides the USB printer class descriptors for the device connected to the port.

Message	Description
Device Name	Name of the attached USB printing device, supplied by the manufacturer.
Manufacturer	Manufacturer of the attached printing device.
Serial Number	Serial number of the attached printing device.
Communication Mode	<p>Current USB communication mode:</p> <ul style="list-style-type: none"> ● 1284.4 IEEE standard protocol, a mode for printers and multi-function (All-in-One) devices that allows multiple channels of simultaneous print, scan, and status communication. ● MLC HP-proprietary protocol for Multiple Logical Channels, a mode for printers and multi-function (All-in-One) devices that allows multiple channels of simultaneous print, scan, and status communication. ● Bidirectional two-way printer communication, sending print data to the printing device and returning status information from the printing device. ● Unidirectional one-way printer communication from computer to printing device. ● Device not found connection of a printing device has not been detected. Check device and cable. ● Device not supported the device connected is not a printer (for example, a camera).

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Security Settings

Provides the current values for various security and access control parameters for the print server.

Message	Description
Admin Password	<p>Specifies whether an IP administrative password has been configured on the print server. It is used by the the embedded web server and Telnet interfaces to control access to print server configuration parameters. Up to 16 case-sensitive, alphanumeric characters can be used.</p> <ul style="list-style-type: none"> ● Not Set an IP administrative password has not been set. ● Set a specific IP administrative password has been set.

SSL/TLS	<p>For 310x only.</p> <p>(Secure Sockets Layer, Transport Layer Security)</p> <p>Specifies whether IP communication with the print server's embedded web server is encrypted and secured with an X.509 certificate. A string of the format CN:common-name specifies the common name (CN) of the digital certificate installed.</p> <ul style="list-style-type: none"> ● Disabled a digital certificate has not been installed.
Cert Expires	<p>For 310x only, specifies the expiration date of the digital certificate for SSL/TLS encrypted security, if it is enabled (see SSL/TLS above). The date is in UTC format, for example: 2002-10-02 12:45 UTC</p> <ul style="list-style-type: none"> ● Not Applicable SSL/TLS is not enabled, or not supported (on the 175x), so this entry is inapplicable.
SNMP Versions	<p>Specifies the SNMP versions enabled on the print server.</p> <ul style="list-style-type: none"> ● Disabled All SNMP versions are disabled on the print server. No SNMP access is allowed. ● 1,2 SNMP v.1 and SNMP v.2c are supported, and SNMP v.3 is disabled, or not supported (on the 175x). ● 1,2,3-na/np SNMP v.1, v.2c, and v.3 are enabled. v.3 is enabled with the minimum security of no authentication ("na") and no privacy ("np") enabled. (Only for 310x.) ● 1,2,3-a/np SNMP v.1, v.2c, and v.3 are enabled. v.3 is enabled with the minimum security of authentication enabled ("a") but no privacy ("np") enabled. (Only for 310x.) ● 1,2,3-a/p SNMP v.1, v.2c, and v.3 are enabled. v.3 is enabled with the minimum security of authentication ("a") with privacy ("p") enabled. (Only for 310x.) ● 3-na/np SNMP v.1 and v.2c are disabled. SNMP v.3 is enabled with the minimum security of no authentication ("na") and no privacy ("np") enabled. (Only for 310x.) ● 3-a/np SNMP v.1 and v.2c are disabled. SNMP v.3 is enabled with the minimum security of authentication enabled ("a") but no privacy ("np") enabled. (Only for 310x.) ● 3-a/p SNMP v.1 and v.2c are disabled. SNMP v.3 is enabled with the minimum security of authentication ("a") with privacy ("p") enabled. (Only for 310x.)
SNMP Set Cnty Name	<p>Specifies whether an SNMP set community name has been configured on the print server. An SNMP set community name is a password for "write" access to SNMP control functions (SNMP SetRequests) on the print server.</p> <ul style="list-style-type: none"> ● Not Specified an SNMP set community name has not been set. ● Specified a specific SNMP set community name has been set.
Access List	<p>Identifies whether a host access control list is configured on the print server. A host access control list specifies the IP address of individual systems, or IP network of systems, that are allowed access to the print server and device.</p> <ul style="list-style-type: none"> ● Not Specified a host access list is not configured on the print server. All systems are allowed access. ● Specified a host access list is configured on the print server.

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Network Statistics

Provides the current values for various network parameters monitored by the print server.

Message	Description
Total Packets Received	Total number of frames (packets) received by the print server without error. This includes broadcast, multicast packets, and packets specifically addressed to the print server. This number does not include packets specifically addressed to other nodes.
Unicast Packets Received	Number of frames specifically addressed to this print server. This does not include broadcasts or multicasts.
Bad Packets Received	Total number of frames (packets) received with errors by the print server.
Framing Errors Received	Maximum of CRC (Cyclic Redundancy Check) errors and framing errors. CRC errors are frames received with CRC errors. Framing errors are frames received with alignment errors. A large number of framing errors could indicate a cabling problem with your network.
Total Packets Transmitted	Total number of frames (packets) transmitted without error.
Unsendable Packets	Total number of frames (packets) not successfully transmitted because of errors.
Transmit Collisions	Number of frames not transmitted because of repeated collisions.
Transmit Late Collisions	Total number of frames not transmitted because a late collision occurred. A large number may indicate a cabling problem on the network.

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TCP/IP Protocol Information

Provides the current status and parameter values for the TCP/IP network protocols.

Message	Description
Status	<p>Current TCP status:</p> <ul style="list-style-type: none">● Ready the print server is awaiting data over TCP/IP.● Disabled TCP/IP was manually disabled.● Initializing the print server is searching for the BOOTP server, or trying to get the configuration file through TFTP. An additional status message may also be displayed. <p>An error code and message are displayed if the print server is not ready.</p>

Host Name	<p>The host name configured on the print server. It may be truncated.</p> <ul style="list-style-type: none"> ● Not Specified no host name was specified in a BOOTP response or TFTP configuration file. ● NPIxxxxxx the default name is NPIxxxxxx, where xxxxxx represents the last six digits of the LAN hardware (MAC) address.
IP Address	<p>The Internet Protocol (IP) address assigned to the print server. This is a required entry for its operation on a TCP/IP network. During initialization, a temporary value 0.0.0.0 is displayed. After two minutes, a default IP address 192.0.0.192 is assigned, which may not be a valid IP address for your network.</p> <ul style="list-style-type: none"> ● Not Specified an IP address is not assigned or the value is zero.
Subnet Mask	<p>The IP subnet mask configured on the print server. During initialization, a temporary value 0.0.0.0 is displayed. Depending on configuration parameters, the print server may automatically assign a usable default value.</p> <ul style="list-style-type: none"> ● Not Specified a subnet mask is not configured.
Default Gateway	<p>The IP address of the gateway used when sending packets off the local network. Only one default gateway may be configured. During initialization, a temporary value 0.0.0.0 is displayed. If not provided, the IP address of the print server is used.</p> <ul style="list-style-type: none"> ● Not Specified a default gateway is not configured.
Config By	<p>Identifies how the print server obtained its IP configuration.</p> <ul style="list-style-type: none"> ● Not Configured the print server was not configured with IP parameters. Verify that TCP/IP is enabled, or check for error status. ● BOOTP automatic configuration via a BOOTP server. ● BOOTP/TFTP automatic configuration via a BOOTP server and TFTP configuration file. ● DHCP automatic configuration via a DHCP server. ● DHCP/TFTP automatic configuration via a DHCP server and TFTP configuration file. ● RARP automatic configuration via the Reverse Address Resolution Protocol. ● User Specified manual configuration via Telnet, the printer's control panel, HP Web Jetadmin, embedded web server, or other method. ● Default IP the default IP address was assigned. This address may not be a valid address for your network.
BOOTP Server or DHCP Server or RARP Server	<p>Displayed if BOOTP, DHCP, or RARP is used for TCP/IP configuration. It specifies the IP address of the system that responds to the print server's request for automatic TCP/IP configuration over the network.</p> <ul style="list-style-type: none"> ● Not Specified the configuration server's IP address could not be determined or was set to zero in the response packet.

BOOTP/DHCP Server	<p>Displayed during initialization while the print server attempts to obtain its TCP/IP configuration from a BOOTP or DHCP server. The temporary address displayed is 0.0.0.0.</p> <ul style="list-style-type: none"> ● Not Specified the configuration server's IP address could not be determined or was set to zero in the response packet.
TFTP Server	<p>The IP address of the system where the TFTP configuration file is located. During initialization, the temporary address 0.0.0.0 is displayed.</p> <ul style="list-style-type: none"> ● Not Specified a TFTP server has not been set.
Config File	<p>The name of the print server's configuration file. The file pathname may be truncated to fit on rest of the one line allocated.</p> <ul style="list-style-type: none"> ● Not Specified a file was not specified in the BOOTP reply from the host.
Domain Name	<p>The Domain Name System (DNS) name of the domain in which the print server resides (for example, support.company.com). It is not the fully qualified DNS name because the host printer name is not included (for example: printer1.support.company.com).</p> <ul style="list-style-type: none"> ● Not Specified a domain name has not been configured on the print server.
DNS Server	<p>The IP address of the Domain Name System (DNS) server.</p> <ul style="list-style-type: none"> ● Not Specified a DNS server's IP address has not been configured on the print server.
WINS Server	<p>The IP address of the Windows Internet Name Service (WINS) server.</p> <ul style="list-style-type: none"> ● Not Specified a WINS server's IP address has not been configured on the print server.
Syslog Server	<p>The IP address of the syslog server configured on the print server.</p> <ul style="list-style-type: none"> ● Not Specified a syslog server has not been configured.
Idle Timeout	<p>The timeout value expressed in seconds after which the print server closes an idle TCP print data connection. Acceptable values are integers between 0 and 3600 seconds. A value of zero turns off the timeout mechanism. The default value is 270 seconds.</p>
Web Jetadmin URL	<p>If the print server is found on the network by HP Web Jetadmin, the URL of the host system used for HP Web Jetadmin services is displayed. The URL is limited to two lines and may be truncated.</p> <ul style="list-style-type: none"> ● Not Specified the URL of the HP Web Jetadmin host system could not be identified or is not configured.

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IPX/SPX Protocol Information

Provides the current status and parameter values for the IPX/SPX network protocols.

Message	Description

Status	<p>Indicates the current IPX/SPX protocol status.</p> <ul style="list-style-type: none"> ● Ready the print server is awaiting data over IPX/SPX. ● Disabled IPX/SPX was manually disabled. ● Initializing the print server is registering the node address or name. An additional status message may also be displayed. <p>An error code and message are displayed if the print server is not ready.</p>
Node Name	<p>[This line appears here only for the 175x For the 310x, this line appears in the Novell/NetWare section instead.]</p> <p>The IPX/SPX name of the print server. The default name is NPIxxxxxxx, where xxxxxx is the last six digits of the LAN hardware (MAC) address.</p>
Primary Frame Type	<p>Specifies the frame type selection on the print server.</p> <ul style="list-style-type: none"> ● Auto Select the print server automatically senses and limits the frame type to the first one detected. ● EN_II limits the frame type to IPX over Ethernet frames. All others will be counted and discarded. ● EN_802.2 limits the frame type to IPX over IEEE 802.2 with IEEE 802.3 frames. All others will be counted and discarded. ● EN_SNAP limits the frame type to IPX over SNAP with IEEE 802.3 frames. All others will be counted and discarded. ● EN_802.3 limits the frame type to IPX over IEEE 802.3 frames. All others will be counted and discarded.
Network	<p>The first column “Network” indicates the network number associated with each protocol frame type used for communication between a server and the print server.</p> <ul style="list-style-type: none"> ● Unknown the print server is still trying to determine which network number to use.
Frame Type <i>EN_II</i> <i>EN_802.2</i> <i>EN_SNAP</i> <i>EN_802.3</i>	<p>The second column “Frame Type” identifies the frame type associated with each network number.</p> <p>Unless a specific frame type has been manually configured, the print server automatically determines the protocol frame type by listening to the network data being transferred over the network.</p> <ul style="list-style-type: none"> ● Disabled a specific frame type for that network has been manually configured.
Rcvd	<p>The third column “Rcvd” indicates how many packets have been received for each frame type.</p>

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Novell/NetWare Protocol Information

Provides the current status and parameter values for the Novell NetWare network protocol.

This section appears only for the 310x.

Message	Description

Status	<p>Indicates the current NetWare configuration status.</p> <ul style="list-style-type: none"> ● Ready the print server is awaiting data. ● Disabled IPX/SPX was manually disabled. ● Initializing the print server is registering the node address or name. An additional status message may also be displayed. <p>An error code and message are displayed if the print server is not ready.</p>
Node Name	<p>[This line appears here only for the 310x For the 175x, this line appears in the IPX/SPX section instead.]</p> <p>In Queue Server Mode (see below), this is the IPX/SPX name of the print server. It must match a valid print server on the appropriate NetWare file server. The default name is NP1xxxxxx, where xxxxxx is the last six digits of the LAN hardware (MAC) address.</p> <p>In Remote Printer Mode (see below), this is the name specified when you configured the networked printer. The default name is NP1xxxxxx, where xxxxxx is the last six digits of the LAN hardware (MAC) address.</p>
NetWare Mode	<p>The NetWare mode used by the print server:</p> <ul style="list-style-type: none"> ● Queue Server indicates that the print server receives data directly from the queue. It is also used when the printer is not configured. ● Remote Printer with the printer number following it, indicates that the print server emulates a Novell NetWare remote printer.
NDS Tree Name	<p>Displays the name of the Novell Directory Services (NDS) tree for this printer. NDS is a database of objects on a NetWare network, organized in a hierarchical tree structure.</p> <ul style="list-style-type: none"> ● Not Specified or missing: NDS is disabled.
NDS Context>	<p>Displays the fully qualified NDS name where the print server object resides in the NDS tree. For example: CN=lj_pserver.OU=support.OU=mycity.OU=mycompany</p> <ul style="list-style-type: none"> ● Not Specified or missing: NDS is disabled.
Attached Server	<p>Identifies the Jetdirect discovery method NSQ (Nearest Service Query) or GSQ (General Service Query) and the name of the proxy file server used to locate the configured bindery servers.</p> <ul style="list-style-type: none"> ● Not Specified or missing: A NetWare server has not been configured.
SAP Interval	<p>Specifies the time interval (in seconds) that the print server waits between Service Advertising Protocol (SAP) broadcasts on the network. The default is 60 seconds.</p>
Server x	<p>x identifies a NetWare file server to which the print server is attached.</p>

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AppleTalk Protocol Information

Provides the current status and parameter values for the AppleTalk network protocols.

Message	Description
---------	-------------

Status	<p>Indicates the current AppleTalk configuration status.</p> <ul style="list-style-type: none"> ● Ready the print server is awaiting data. ● Disabled AppleTalk was manually disabled. ● Initializing the print server is registering the node address or name. An additional status message may also be displayed. <p>An error code and message are displayed if the print server is not ready.</p>
Name	The name of the printer on the AppleTalk network. A number n after the name indicates that there are multiple devices with this name, and this is the nth instance of the name.
Zone	The name of the AppleTalk network zone on which the printer is located.
Type 1: Type 2:	The type of the printer being advertised on the network. Two types can be displayed.
Network Number	The AppleTalk Network Number on which the print server is currently operating.
Node Number	<p>The AppleTalk Node Number that the print server chose for itself as part of its initialization sequence.</p> <p><i>Note:</i> The AppleTalk phase 2 (P2) parameter is preconfigured on the print server.</p>

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DLC/LLC Protocol Information

Provides the current status and parameter values for the DLC/LLC network protocol.

This section appears only for the 310x.

Message	Description
Status	<p>Indicates the current DLC/LLC configuration status.</p> <ul style="list-style-type: none"> ● Ready the print server is awaiting data. ● Disabled DLC/LLC was manually disabled. ● Initializing the print server is registering the node address or name. An additional status message may also be displayed. <p>An error code and message are displayed if the print server is not ready.</p>

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Error Messages

Error Code and Message	Description
02 LAN ERROR- INTERNAL LOOPBACK	During self-test, the print server detected an internal loopback test error. The print server may be faulty. If the error persists, replace the print server.



03 LAN ERROR- EXTERNAL LOOPBACK	The print server is incorrectly connected to your network or is defective. Make sure your print server is correctly attached to your network. In addition, check the cabling and connectors.
07 LAN ERROR- CONTROLLER CHIP	Check the network connections. If the connections are intact, run the power-on self-test: turn the printer off, then on again. If the error persists, replace the print server.
08 LAN ERROR- INFINITE DEFERRAL	There is a network congestion problem. <i>Note:</i> If the print server is not connected to the network, this error cannot occur.
09 LAN ERROR- BABBLE	Check the network connections. If the connections are intact, run the power-on self-test: turn the printer off, then on again. If the error persists, replace the print server.
0A LAN ERROR- NOSQE	Check the network connections. If the connections are intact, run the power-on self-test: turn the printer off, then on again. If the error persists, replace the print server.
0C LAN ERROR- RECEIVER OFF	There may be a problem with your network cabling or the print server. Check the cabling and connectors on your Ethernet network. If you cannot find a problem with your network cabling, run the power-on self-test: remove and re-attach the power module connector on the print server. If the error persists, there is a problem with the print server.
0D LAN ERROR- TRANSMITTER OFF	There may be a problem with your network cabling or the print server. Check the cabling and connectors on your Ethernet network. If you cannot find a problem with your network cabling, run the power-on self-test: remove and re-attach the power module connector on the print server. If the error persists, there is a problem with the print server.
0E LAN ERROR- LOSS OF CARRIER	Check the network connections. If the connections are intact, run the power-on self-test: remove and re-attach the power module connector on the print server. If the error persists, replace the print server.
10 LAN ERROR- UNDERFLOW	There may be a problem with your network cabling or the print server. Check the cabling and connectors on your network. If you cannot find a problem with your network cabling, run the power-on self-test: remove and re-attach the power module connector on the print server. If the error persists, there is a problem with the print server.
11 LAN ERROR- RETRY FAULTS	There is a problem with your network cabling or external network configuration. Verify operation of the hub or switch port.
12 LAN ERROR- NO LINKBEAT	With a 10Base-T or 100Base-TX port connected, Link Beat is not sensed. Check the network cable, and verify that the concentrator or hub is providing Link Beat.

13 NETWORK RECONFIG- MUST REBOOT	Reset or power cycle the print server to enable the new configuration values.
15 CONFIGURATION ERROR	The configuration information for the NetWare functions is not stored correctly on the print server. Use the installation software, embedded web server, or other tools to reconfigure the print server. If this error persists, there may be a problem with the print server.
16 NOT CONFIGURED	The print server has not been configured for NetWare. Use the installation software, embedded web server, or other tools to configure the print server for NetWare networks.
17 UNABLE TO FIND SERVER	<p>The print server was unable to find the NetWare print server (in Remote Printer mode) or file server (in Queue Server mode). There was no response to service queries for advertising print servers or file servers that matched the configured print server or file server name.</p> <p>Make sure that the print server or file server is running and that the print server or file server name configured on the print server matches the actual name used by the print server or file server. Also make sure that all cables and routers are functioning correctly.</p>
18 PASSWORD ERROR	<p>The print server detected that the password for the NetWare print server object is wrong. Use a NetWare utility (such as PCONSOLE) to erase the password for the print server object. When the print server logs on again, it sets a new password.</p> <p><i>Note:</i> When multiple file servers are configured, the error is only displayed on the configuration page if none of the file servers are connected.</p>
19 NO QUEUE ASSIGNED	<p>The HP Jetdirect print server detected that the print server object has not been assigned any queues to service. Assign queues to the print server object using printer installation or NetWare utilities.</p> <p><i>Note:</i> When multiple file servers are configured, the error is only displayed on the configuration page if none of the file servers was successfully connected.</p>
1A PRINTER NUMBER NOT DEFINED	A NetWare printer number for this printer has not been configured. Assign a valid printer number to the print server. Use a NetWare utility (such as PCONSOLE), the Jetdirect embedded web server, or another tool to assign a printer number.
1B PRINTER NUMBER IN USE	The NetWare printer number assigned to the printer is already in use by another printer. Assign an unused printer number. This may also occur when a printer is power cycled, in which case the error goes away after the print server times out and detects the lost connection.

<p>1C PRINT SERVER NO DEFINED</p>	<p>The file server does not have a print server object that corresponds to the specified NetWare node name. Use printer installation software, a NetWare utility (such as PCONSOLE), or another tool to create the print server object.</p> <p><i>Note:</i> When the print server is configured for multiple file servers, the error is only displayed on the configuration page if none of the file servers was successfully connected.</p>
<p>1D UNABLE TO CONNECT TO SERVER</p>	<p>Remote Printer mode error. The print server was unable to establish an SPX connection with the NetWare print server. Make sure that the NetWare print server is running and that all cables and routers are functioning correctly.</p>
<p>1E FAIL RESERVING PRINTER NUM</p>	<p>The SPX connection to the print server was lost when the print server attempted to reserve the printer number. This indicates a possible network problem, or a problem with the print server. Make sure all cables and routers are functioning correctly. Try restarting the print server.</p>
<p>1F ERR NEGOTIATING BUFFER SIZE</p>	<p>A failure was detected when selecting the buffer size to be used when reading print data from the file server. This may indicate a network problem.</p> <p><i>Note:</i> When the print server is configured for multiple file servers, the error is only displayed on the configuration page if none of the file servers was successfully connected.</p>
<p>20 UNABLE TO LOGIN</p>	<p>A failure was detected when the print server tried to log onto the file server. This could be caused by the print server object not existing on the file server, or by a security check that prevents the print server from logging in. Make sure the file server name and print server object name are correct. Use PCONSOLE to erase the password for the print server object. Create a new print server object.</p> <p><i>Note:</i> When the print server is configured for multiple file servers, the error is only displayed on the configuration page if none of the file servers was successfully connected.</p>
<p>21 UNABLE TO SET PASSWORD</p>	<p>A failure was detected when the print server tried to set the password for the print server object. (Whenever the print server is able to log in without a password, it sets the password automatically.) This indicates a networking or security problem. Create a new print server object.</p> <p><i>Note:</i> When the print server is configured for multiple file servers, the error is only displayed on the configuration page if none of the file servers was successfully connected.</p>
<p>22 UNABLE TO CONNECT TO SERVER</p>	<p>Queue Server mode error. The print server could not establish an NCP connection to the file server. Make sure that the correct file servers are connected.</p> <p><i>Note:</i> When the print server is configured for multiple file servers, the error is only displayed on the configuration page if none of the file servers was successfully connected.</p>

<p>23 UNABLE TO ATTACH TO QUEUE</p>	<p>A failure was detected when the print server tried to attach to one of the queues assigned to the print server object. This may be because no servers are allowed to attach to this queue. There may also be a networking or security problem. Use PCONSOLE to make sure that servers are allowed to attach to the queue, to delete the print server object from the list of queue servers if you want the print server to service other queues, or to delete the queue and create a new one (the print server object must be added to the list of queue servers).</p> <p><i>Note:</i> When the print server is configured for multiple file servers, the error is only displayed on the configuration page if none of the file servers was successfully connected.</p>
<p>24 PSEVER CLOSED CONNECTION</p>	<p>The NetWare print server requested a termination of the connection with the print server. No error exists or is indicated. Make sure the NetWare print server is running, and restart it if necessary.</p>
<p>25 DISCONNECTING- SPX TIMEOUT</p>	<p>The SPX connection to the print server was lost after the connection had been made. This indicates a possible network problem, or a problem with the print server. Make sure all cables and routers are functioning correctly. Try restarting the print server.</p>
<p>26 UNKNOWN NCP RETURN CODE</p>	<p>The print server encountered an unexpected fatal error after it had successfully connected to the file server. A wide variety of failures could produce this error message, including a downed file server or a network router failure.</p>
<p>27 UNEXPECTED PSEVER DATA RCVD</p>	<p>The print server sent some data when the print server had not given its permission to do so. This indicates a possible print server problem, possibly a software problem.</p>
<p>28 OUT OF BUFFERS</p>	<p>The print server was unable to allocate a buffer from its internal memory. This indicates all buffers are busy due possibly to heavy broadcast traffic or large amounts of network traffic directed to the print server.</p>
<p>29 UNABLE TO SENSE NET NUMBER</p>	<p>The print server has been trying for over 3 minutes to determine the NetWare protocol used on the network. Make sure that any file servers and routers are operating correctly. Make sure that the settings for NetWare frame type and source routing are correct.</p>
<p>2A NDS ERR : EXCEEDS MAX SERVERS</p>	<p>More queues were assigned than the print server can handle. Remove one or more print queues from the list to be serviced by Queue Server mode.</p>
<p>2B NDS ERR : UNABLE TO LOGIN</p>	<p>Unable to log onto the NetWare directory tree. Make sure that the print server object is defined in the directory at the correct context. Clear the print server password using NWADMIN or similar NetWare tool.</p>
<p>2C AUTHENTICATION ERROR</p>	<p>Unable to log onto the NetWare directory tree. Make sure that the print server object is defined in the directory at the correct context.</p>

2D NDS ERR : CHANGE PSSWRD FAILED	Cannot modify the print server password to the value expected by the print server.
2E NDS SERVER PUBLIC KEY ERROR	Print Server Object Name mismatch. Unable to read the file server's public key. Verify object names, or contact the NDS administrator.
2F NDS ERR : SRVR NAME UNRESOLVD	The file server on the network cannot be located. The server may not be running at this time or a communications problem may exist.
30 NDS PRINT SERVER NAME ERROR	The print server object cannot be located in the specified NDS context.
31 NDS PS PRINTER LIST ERROR	Cannot locate a list of printers objects that should be assigned to the print server object.
32 NDS PRINTER OBJ NOTIFY ERR	The list of notification objects assigned to the printer object cannot be located.
33 NDS PRINT OBJ QUEUE LIST ERR	The list of print queues assigned to the printer objects cannot be located.
34 NDS ERR : UNRESOLVD PRNTR OBJ	The printer object cannot be located in the NDS directory.
35 NDS ERR : INVALID SRVR VERS	The current version of the NetWare file server is not supported.
36 NDS ERR : NO PRINTER OBJECTS	No printer objects are assigned to the print server object configured to this print server.
37 NDS ERR : MAX PRINT OBJECTS	Too many printer objects are assigned to the print server object. Using NetWare utilities (such as NWADMIN), reduce the number of printer objects assigned to the print server.
38 NDS ERR : NO QUEUE OBJECTS	No print queue objects are assigned to the printer objects located in the NDS directory.
39 NDS ERR : MAX QUEUE OBJECTS	Too many print queue objects are assigned to the printer. Reduce the number of queues assigned.

3A UND ERR : UNABLE TO FIND TREE	The NDS tree cannot be located. The message may occur when the file server is not running or when a network communications problem exists.
3B NDS CONNECTION STATE ERROR	The print server cannot change the NDS connection state. Check licenses on the spooling server.
3C NDS ERR : UNRESOLVED QUEUE	The print queue object cannot be located in the specified NDS context.
3D NDS ERR : CANNOT READ Q HOST	Cannot locate the file server on the network. The server may not be running at this time or a communications problem may exist.
3E NDS PRNT SRVR PUBLIC KEY ERR	Print Server Object Name mismatch. Unable to read the print server's public key. Verify object names. Verify that the object key assigned to the print server is a print server object and not a printer or other object.
3F UNABLE TO GET NDS SRVR ADDR	The NDS server address cannot be located or accessed.
40 ARP DUPLICATE IP ADDRESS	The ARP layer has detected another node on the network using the same IP address as the print server. Extended error information below this message shows the hardware address of the other node.
41 NOVRAM ERROR	The print server cannot read the contents of its NOVRAM. Cycle power on the print server by unplugging its power cable and plugging it back in. If the problem persists, perform a cold reset on the print server (while holding down the test  button on the back of the print server, plug the power module back into the print server and continue to hold down the test  button for about five seconds. Any user-configured settings will be erased.) If the problem still persists, call HP technical support for help.
42 INVALID IP ADDRESS	The IP address specified for the print server (through BOOTP) is an invalid IP address for specifying a single node. Check your Bootptab file for proper entries.
43 INVALID SUBNET MASK	The IP subnet mask specified for the print server (through BOOTP) is an invalid subnet mask. Check your Bootptab file for proper entries.
44 INVALID GATEWAY ADDRESS	The default gateway IP address specified for the print server (through BOOTP) is an invalid IP address for specifying a single node. Check your Bootptab file for proper entries.
45 INVALID SYSLOG ADDRESS	The syslog server IP address specified for the print server (through BOOTP) is an invalid IP address for specifying a single node. Check your Bootptab file for proper entries.

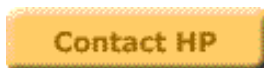
46 INVALID SERVER ADDRESS	The TFTP server IP address specified for the print server (through BOOTP) is an invalid IP address for specifying a single node. Check your Bootptab file for proper entries.
47 INVALID TRAP DEST ADDRESS	One of the SNMP trap (Trap PDU) destination IP addresses specified for the print server (through TFTP) is an invalid IP address for specifying a single node. Check your TFTP configuration file.
48 CF ERR- FILE INCOMPLETE	The TFTP configuration file contained an incomplete last line that did not end in a new line character.
49 CF ERR- LINE TOO LONG	A line being processed in the TFTP configuration file was longer than the print server could accept.
4A CF ERR- UNKNOWN KEYWORD	A TFTP configuration file line contained an unknown keyword.
4B CF ERR- MISSING PARAMETER	A line in the TFTP configuration file was missing a required parameter.
4C CF ERR- INVALID PARAMETER	A line in the TFTP configuration file contained an invalid value for one of the parameters on that line.
4D CF ERR- ACCESS LIST EXCEEDED	The TFTP configuration file specified too many access list entries using the "allow:" keyword.
4E CF ERR - TRAP LIST EXCEEDED	The TFTP configuration file specified too many trap destination list entries using the "trap-destination:" keyword.
4F TFTP REMOTE ERROR	The TFTP transfer of the configuration file from the host to the print server failed with the remote host sending a TFTP ERROR packet to the print server.
50 TFTP LOCAL ERROR	The TFTP transfer of the configuration file from the host to the print server failed with the local print server encountering some form of inactivity timeout or excessive retransmissions situation.
51 TFTP RETRIES EXCEEDED	The overall retrying of the TFTP transfer of the configuration file from the host to the print server has exceeded a retry limit.
52 BAD BOOTP/DHCP REPLY	An error was detected in the BOOTP or DHCP reply that the print server received. The reply either had insufficient data in the UDP datagram to contain the minimum BOOTP/DHCP header of 236 bytes, had an operation field that was not BOOTPREPLY(0X02), had a header field that did not match the print servers hardware address, or had a UDP source port that was not the BOOTP/DHCP server port (67/udp).

53 BAD BOOTP TAG SIZE	The tagsize in a vendor specific field in the BOOTP reply is either 0, or greater than the remaining number of unprocessed bytes in the vendor specified area.
54 BOOTP/RARP IN PROGRESS	The print server is currently in the process of obtaining its basic IP configuration information through BOOTP/RARP.
55 BOOTP/DHCP IN PROGRESS	The print server is currently in the process of obtaining its basic IP configuration information through BOOTP/DHCP, and has not detected any errors.
56 DHCP NAK	The print server received a negative acknowledgment message from the DHCP server in response to a configuration request.
57 UNABLE TO CONNECT DHCP SVR	The print server had received IP parameters from a DHCP server, but communication with the DHCP server has been lost. Check status of the DHCP server. If an infinite lease was assigned, the print server will use the IP address of the most recent DHCP server used, but operation may be degraded until a DHCP server responds.
58 POSTSCRIPT MODE NOT SELECTED	The printer does not support AppleTalk or AppleTalk extensions.
59 INCOMPLETE F/W- MUST DOWNLOAD	Firmware download message. Currently downloading firmware to the print server, or the download did not complete properly.
5A TURN PRINTER OFF/ON	Firmware download message. Download of firmware is complete. Power cycle the print server.
83 DISCONNECTING FROM SERVER	The server has been shut down because of a configuration change or reset request. This message automatically clears after a few seconds, unless the printer is off line, is in an error state, or is servicing another I/O port or another network protocol.

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End of troubleshooting

If you have not been able to correct your print server problem using this troubleshooting procedure, you will need to contact HP technical support for further assistance. Click on the button below for details.





Interpreting the lights on the print server

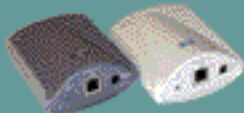
for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

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HP Jetdirect 175x, 310x

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start of *User's Guide*



175x, 310x

[Power/Status light](#)
[10 or 100 Link lights](#)
[USB light](#)



Power/Status Light

Light Behavior	Description
Off	Print server is not receiving power.
On solid green	Print server is on and ready.
Blinking slowly (green)	Print server receiving power but not ready; self-test may still be in process. Or, no network connection; check the 10 and 100 Link lights .
Blinking slowly (amber)	Fault occurred during self-test or operation. Contact HP .
Blinking quickly (green)	Print server is processing the configuration page .



10 or 100 Link Lights

Light Behavior	Description
Off	No network connection.
On solid green	Network connection is established at 10 Mb/s or at 100Mb/s.



USB Light

Light Behavior	Description
Off	USB is not operational. This is OK before the print server finishes starting up. After startup completes, this could indicate a faulty print server.
On solid green	USB is enabled and ready for use. This begins before the USB cable is connected.
Blinking (green)	Software fault occurred for the firmware. There is a valid USB device and connections, but the device is not supported. Make sure the attached device is a printer.
Blinking (amber)	<p>Might be a hardware fault (for example, a short-circuit, faulty cable, or a printer drawing too much power).</p> <p>To verify, disconnect the USB cable at the print server. Switch on the printer if it is off. Power cycle the print server (unplug it and plug it back in). Then reconnect the USB cable. If the USB light is now green and steady, then no problem remains.</p> <p>Otherwise, if the USB light is still blinking amber, then there may be a faulty component. Try these steps to determine which component might be causing the problem:</p>

- Detach the USB cable and power cycle the print server (unplug it and plug it back in). If the USB LED is green and steady, then the print server is OK. If it is blinking amber, then the print server is faulty.
- Try reconnecting the USB cable to the print server only, and power cycle the print server (unplug it and plug it back in). If the USB LED is green and steady, then the cable is also OK. If it is blinking amber, then the cable may be faulty.
- Power cycle the printer and reconnect the USB cable to the printer. If the USB LED is green and steady, then the printer is also OK. If it is blinking amber, then the printer may be faulty.

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Troubleshooting Overview



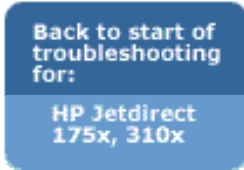
for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

The questions below will help you troubleshoot your print server quickly. Just answer each question in turn. For each question:

- If your answer is Yes, go on to the next question.
- If your answer is No, there is a problem. Click on the No button for a procedure to solve the problem. After you've solved the problem, the troubleshooting procedure may bring you back to this page.
- If you're not sure of the answer, or if you don't understand the question, click on the ??? button for more detailed information about the question.

At the bottom of this page are links to some additional topics related to troubleshooting the print server.

If you wish to change an answer, you can click on this Reset button to return the page to its original state. (The Reset button stays inactive until you have clicked on at least one No or ??? button.)

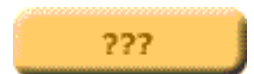


Please answer the questions below in the order listed.



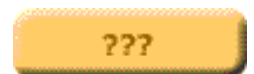
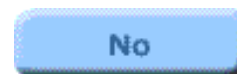
1 Is your printer ON and ONLINE?

If Yes, continue with the next question.



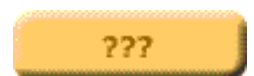
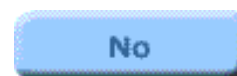
2 Is your print server's USB light ON (solid green)?

If Yes, continue with the next question.



3 Is your print server's Power/Status light ON (solid green)?

If Yes, continue with the next question.



4 Is one of the print server's 10/100 link lights ON (solid green)?



If **Yes**, continue with the next question.

No

???



5 Can you print a Jetdirect configuration page?

Yes

No

???

Related topics:

[Interpreting the configuration page](#)

[Interpreting the lights on the print server](#)

[Resetting the print server to factory defaults \(cold reset\)](#)

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Is your printer ON and ONLINE?



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

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Check the following items to make sure that your printer is online and ready to print.

- **Is the printer plugged in and switched on?** Make sure that the printer is plugged in and switched on. If your printer has a front panel display, it should not be blank. If you have checked these items and the printer still shows no sign of being on, you may have a defective power cable, power source, or printer.
- **Is the printer online?** The ONLINE light should be lit. If it is not, press the appropriate key (such as ON LINE or GO) to place the printer online. If your printer has a front panel display, check that it says “Online” or “Ready”.
- **Is the FORM FEED light on?** If your printer has a FORM FEED light and it is on, it may indicate that a print job is waiting to be printed. Take the printer offline (if necessary), press the FORM FEED key, and then put the printer back online. If a print job starts (or continues) to print, wait for it to complete.

After looking through the list above and making any necessary changes, is your printer online now?

Yes

No

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ON and ONLINE?



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

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HP Jetdirect
175x, 310x

The first step in troubleshooting your print server is to make sure that the attached printer is ready to receive a print job from the print server. To do this, you check the printer's lights or control panel to see whether it is ON and ONLINE.

If your printer's power is switched on and the printer is ready to print, click on the Yes button below to return to the Troubleshooting Overview page and continue with the next step in the troubleshooting procedure.

If the printer is not ready to print, or if you are not sure what to look for, click on the No button below to start evaluating the printer.



Yes

No

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Does your printer have a control panel display?

for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

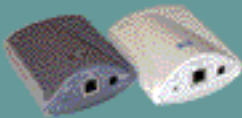
Back to start of troubleshooting for:

HP Jetdirect 175x, 310x

Is there a display panel on the front of your printer that provides messages about the printer's status?

Yes

No



175x, 310x

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Check your printer manual.



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

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There appears to be a printer error. Please refer to your printer manual for further information on how to correct the error, or for information on how to contact Hewlett-Packard technical support if you can't correct the error. (Note that your printer manual may be either printed on paper or stored electronically on a CD-ROM.)

After you have resolved the printer error, if you still have problems connecting the printer to the network you can restart this troubleshooting utility. Click on the button below to return to the beginning of troubleshooting for the print server.



Continue

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Does the control panel display on your printer show an error message?

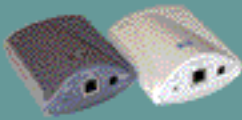
for HP Jetdirect 175x external print server/Internet connector for USB and HP Jetdirect 310x external print server/Internet connector for USB

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HP Jetdirect 175x, 310x

Yes

No



175x, 310x

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Check your printer manual.



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for
USB

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Please refer to your printer manual for further information on what the error means and how to correct it. (Note that your printer manual may be either printed on paper or stored electronically on a CD-ROM.)

After you have resolved the printer error, if you still have problems connecting the printer to the network you can restart this troubleshooting utility. Click on the button below to return to the beginning of troubleshooting for the print server.



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Check your printer manual.



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There appears to be a printer error. If the printer is still not online and does not show an error message on the control panel display, please refer to your printer manual for further information on how to correct the error, or for information on how to contact Hewlett-Packard technical support if you can't correct the error. (Note that your printer manual may be either printed on paper or stored electronically on a CD-ROM.)



After you have resolved the printer error, if you still have problems connecting the printer to the network you can restart this troubleshooting utility. Click on the button below to return to the beginning of troubleshooting for the print server.

Continue

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Is the USB light ON solid green?




for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

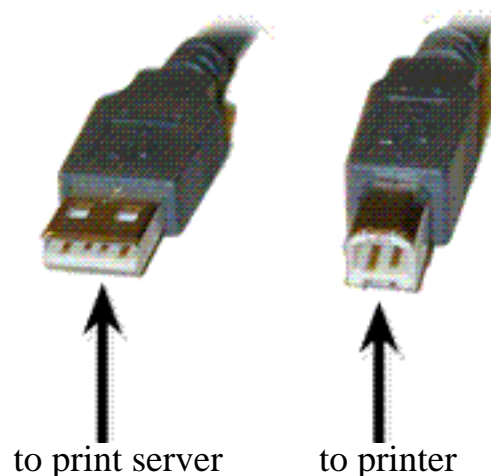
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175x, 310x



Check the USB  light on your print server. It should be ON solid green (bright green in color and glowing continuously, not blinking). If it is not ON solid green, please follow the troubleshooting steps below.


1. Make sure that you have a USB cable connected between your printer and the USB port on the print server. It should be a standard USB A-to-B cable, like this:



Note that the print server does not support parallel-to-USB converters (for connecting a parallel printer to a USB host) -- it

works with USB printers only. Make sure that the cable is connected firmly to both the printer and the print server.

2. Check that both the printer and the print server are powered on.

After checking the items above and making any necessary changes, is the USB  light now ON solid green?

Yes

No

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USB OK? (USB light ON solid green?)


for HP Jetdirect 175x external print server/Internet connector for USB and HP Jetdirect 310x external print server/Internet connector for USB



Back to start of troubleshooting for:

HP Jetdirect 175x, 310x

The print server connects to its printer via a USB cable. If the USB connection is working correctly, the USB light on the print server will be ON solid green (bright green in color and glowing continuously, not blinking). If the USB connection is not working correctly, the USB  light may be off, blinking green, or blinking amber.



If your print server's USB  light is ON solid green, click on the Yes button below to return to the Troubleshooting Overview page and continue with the next step in the troubleshooting procedure.

If your print server's USB  light is not ON solid green, or if you are not sure what to look for, click on the No button below to start evaluating the USB connection. Clicking the No button will also give you information on where to find the USB  light, what it looks like, and what the correct USB cable looks like.

Yes

No

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What is the state of the USB light?



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x

The behavior of the USB  light indicates the status of the USB connection. If the USB  light on your print server is not ON solid green, find its state in the list below and click on it to continue troubleshooting.



[OFF](#)



[Blinking green](#)



[Blinking amber](#)



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USB light OFF




for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x

If the USB  light is OFF, it means that the print server's USB connection is not operational. This is OK before the print server finishes starting up (whether or not a USB cable is attached). If the light remains OFF after startup, then the print server may be faulty.

Please restart the print server by detaching the power cable and re-attaching it. Wait for the power/status  light to stop blinking (when the self-test finishes).

Is the USB  light now ON solid green?

If yes, click on the Yes button to return to the Troubleshooting Overview page and continue with the next step of the troubleshooting procedure.

If no, your print server has a problem that requires assistance from HP Jetdirect technical support; click on the No button for information on contacting HP.

Yes

No

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USB light blinking green



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x

If the USB  light is blinking green, it indicates that the print server has detected a good connection to a valid USB device, but the print server does not support the device. For example, this would happen if you connected a USB digital camera to the print server.

This is not a fault, but rather an incompatibility between the print server and the connected device. The print server supports only USB printers (including USB multifunction printers and All-in-One devices). It does not support non-printer USB devices, nor does it support USB cable extenders, USB-to-parallel converters, or USB hubs.

Please check that your print server is connected to a USB printer. If your printer is not a USB printer, you will need to substitute a USB printer or use a different model of HP Jetdirect print server (for instance, one suitable for use with parallel printers).

Is the USB  light now ON solid green?

If yes, click on the Yes button to return to the Troubleshooting Overview page and continue with the next step of the troubleshooting procedure.

If no, but you *are* connected to a USB printer, your print server has a problem that requires assistance from HP Jetdirect technical support; click on the No button for information on contacting HP.

Yes

No

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USB light blinking amber


for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB


Back to start of
troubleshooting
for:




HP Jetdirect
175x, 310x



If the USB  light is blinking amber, there might be a hardware fault (for example, a short-circuit, faulty cable, or a printer drawing too much power).

To verify, disconnect the USB cable at the print server. Switch on the printer if it is off. Power cycle the print server (unplug it and plug it back in). Then reconnect the USB cable. If the USB  light is now green and steady, then no problem remains.

Otherwise, if the USB  light is still blinking amber, then there may be a faulty component. Try these steps to determine which component might be causing the problem:

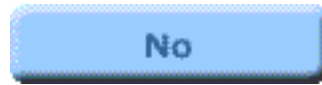
- Detach the USB cable and power cycle the print server (unplug it and plug it back in). If the USB  light is green and steady, then the print server is OK. If it is blinking amber, then the print server is faulty.
- Try reconnecting the USB cable to the print server only, and power cycle the print server (unplug it and plug it back in). If the USB  light is green and steady, then the cable is also OK. If it is blinking amber, then the cable may be faulty.
- Power cycle the printer and reconnect the USB cable to the printer. If the USB  light is green and steady, then the printer is also OK. If it is blinking amber, then the printer may be faulty.

Is the USB  light now ON solid green?

If yes, click on the Yes button to return to the Troubleshooting Overview page and continue with the next step of the troubleshooting procedure.

If no, you may need to replace the component indicated at fault. If the fault is with the print server or the USB cable (provided with the print

server), get assistance from HP Jetdirect technical support; click on the No button for information on contacting HP.



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Is the Power/Status light ON solid green?

for HP Jetdirect 175x external print server/Internet connector for USB and HP Jetdirect 310x external print server/Internet connector for USB


Back to start of troubleshooting for:


HP Jetdirect 175x, 310x



power/status  light

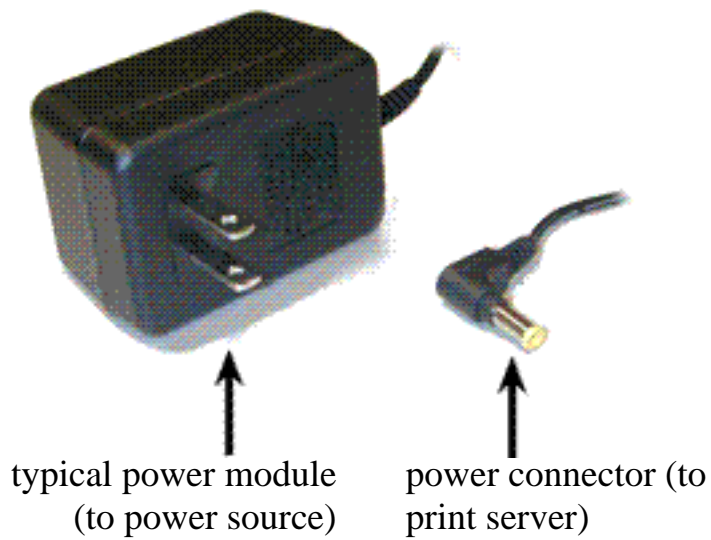
power receptacle

Check the power/status  light on your print server. It should be ON solid green (bright green in color and glowing continuously, not blinking). If it is not ON solid green, please follow the troubleshooting steps below.

For all of the steps below, note that when you first apply power to a normally operating print server, the power/status  light will slowly blink green for several seconds during self-test, and then go ON solid green when the unit is ready for operation.

1. Check that the Jetdirect power module is plugged into a suitable power source (typically a wall outlet), and that the power connector is plugged into the print server.

Note: The power module shown below is the North American version. The plug pattern may be different in other regions of the world.



2. If necessary, try plugging the power module into a different power source.
3. Try a different power module/cable if one is available.

After checking the items above and making any necessary changes, is the Power/Status light now ON solid green?

Yes

No

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Power/Status OK? (Power/Status light ON solid green?)


for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB



Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x



The power/status  light provides information on the state of the print server's power connection and on its physical connection to the network. If connections are working correctly, the power/status  light should be ON solid green (bright green in color and glowing continuously, not blinking). If the connections are not working correctly, the Power/Status light may be off, blinking green, or blinking amber.

If your print server's power/status  light is ON solid green, click on the Yes button below to return to the Troubleshooting Overview page and continue with the next step in the troubleshooting procedure.

If your print server's power/status  light is not ON solid green, or if you are not sure what to look for, click on the No button below to start evaluating the status of the print server. Clicking the No button will also give you information on where to find the power/status  light, what it looks like, and what the correct power connection looks like.

Yes

No

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What is the state of the Power/Status light?

for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of troubleshooting for:

HP Jetdirect 175x, 310x



The behavior of the power/status  light indicates the status of the print server's power connection and its physical connection to the network. If the power/status  light on your print server is not ON solid green, find its state in the list below and click on it to continue troubleshooting.



[OFF](#)



[Blinking green](#)



[Blinking amber](#)

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Power/Status light OFF



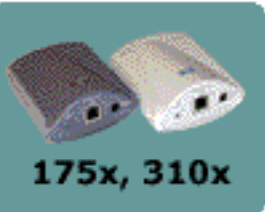
for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x

If the power/status ⓘ light is OFF, your power module may be faulty. Fixing this fault requires assistance from HP Jetdirect technical support; click on the button below for information on contacting HP.

Contact HP



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Power/Status light blinking green

for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

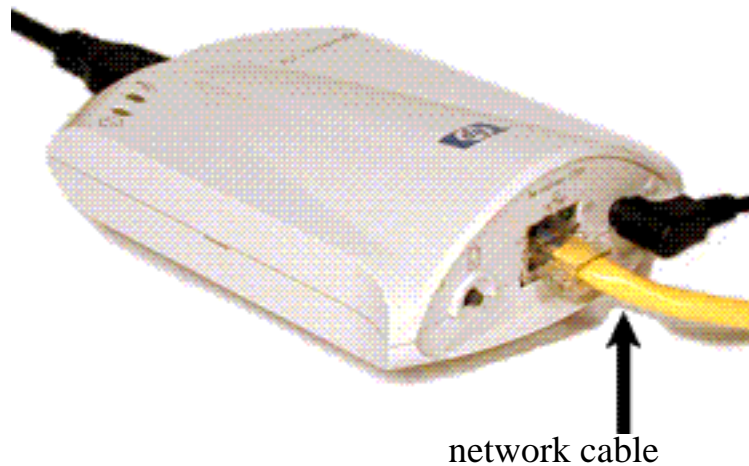
Back to start of troubleshooting for:

HP Jetdirect 175x, 310x



The power/status ① light should be ON solid green to indicate that print server power is OK and that the network cable is connected properly to the print server. If the power/status ① light is blinking green, please try the steps below and make changes as necessary.

1. Make sure that the network cable is connected securely to the print server.

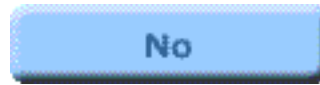


2. Check that the network cable is plugged securely into the hub/switch/router, and that the connection is set to the correct network speed.
3. Check that the LINK light is ON for the port on the hub/switch/router to which the print server is connected.
4. Your network cable may be faulty. Try a different cable.
5. If the light still does not come on, try a different port on the hub/switch/router.

Is the power/status ① light now ON solid green?

If yes, click the Yes button to return to the Troubleshooting Overview page and continue with the next step of the troubleshooting procedure. If no, your print server has a problem that requires assistance from HP

Jetdirect technical support; click on the No button for information on contacting HP.



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Power/Status light blinking amber



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for
USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x

Your print server has developed a fault. Fixing this fault requires assistance from HP Jetdirect technical support; click the Contact HP button for information on contacting HP.

[Contact HP](#)



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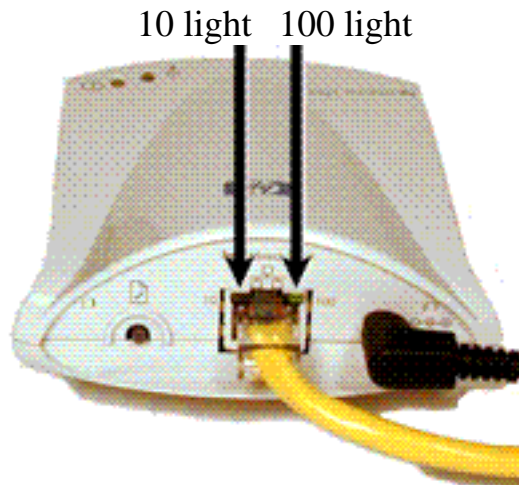


Is one of the link lights ON (solid green)?

for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for
USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x



Check the link lights on your print server; these lights are built into the network connector. One of the link lights -- either the 10 light or the 100 light, but not both -- should be ON solid green, to indicate a valid network connection.

Is either the 10 light or the 100 light ON solid green?

Yes

No

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10/100 link OK? (10 light or 100 light ON solid green?)

for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x



The link lights -- the 10 light and the 100 light -- indicate whether the print server can initiate a network link at the right speed with your hub, switch, or router. One of the link lights -- either the 10 light or the 100 light -- should be ON solid green (bright green in color and glowing continuously, not blinking) to indicate a valid link with the hub/switch/router. If there is not a valid link, then both the 10 and 100 lights will be off.

If one of the print server's link lights is ON solid green, click on the Yes button below to return to the Troubleshooting Overview page and continue with the next step in the troubleshooting procedure.

If neither of the print server's link lights is ON solid green, or if you are not sure what to look for, click on the No button below to start evaluating the link status of the print server. Clicking the No button will also give you information on where to find the link lights, what they look like, and what the correct network connection looks like.

Yes

No

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Check the print server's I/O status.




for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Check the I/O status of the print server by following these steps:

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x

1. Print a Jetdirect configuration page. To print the page, press the test button  on the print server.



test button

If the configuration page does not print, [click here](#) for help in getting it to print.

2. On the configuration page, check that the print server reports its status as “I/O Card Ready”. The Status entry is the first entry in the General Information section, in the upper left portion of the page.

Status entry

HP JetDirect Configuration Page (English - HPGL2)

```
***** General Information *****
Status: I/O Card Ready

Model Number: J6038A
Hardware Address: 0001B6123456
Firmware Version: L.21.05
Port Config: 160TX HALF
Auto Negotiation: On
Manufacturing ID: 40194019F090F
Date Manufactured: 02/2002

USB Printer 1 *****
Device Name: LaserJet 3320
Manufacturer: Hewlett-Packard
Serial Number: US16SK0KD
Communication Mode: 1284.4

***** Security Settings *****
Admin Password: Not Set
SSL/TLS: CN:mfg48.cosp.com
Cert Expires: 2002-07-09 13:44 UTC
SMBP Versions: 1,2
SMBP Set Cmty Name: Not Specified
Access List: Not Specified

***** Network Statistics *****
Total Packets Received: 12345678
Unicast Packets Received: 15001
Bad Packets Received: 40
Framing Errors Received: 0
Total Packets Transmitted: 50114
Unsendable Packets: 13
Transmit Collisions: 1003
Transmit Late Collisions: 0

***** TCP/IP *****
Status: Ready

Host Name: NP1398E2
IP Address: 192.168.0.6
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.0.1
Config By: DHCP/TPP
DHCP Server: 192.168.0.1
TFTP Server: Not Specified
Config File: ..client/stand/uxboot/jumb.cfg
Domain Name: Not Specified
DNS Server: 192.168.0.2
WINS Server: 192.168.0.1
Syslog Server: Not Specified
Idle Timeout: 270 sec
Web JetAdmin URL: Not Specified

***** IPX/SPX *****
Status: Ready

Primary Frame Type: Auto Select

Network Frame Type Rcvd
Unknown EN II 2
0000C400 EN 802.2 31903
Unknown EN SNAP 2
Unknown EN 802.3 2

***** Novell/NetWare *****
Status: Ready

Node Name: NP112345
NetWare Node: Queue Server
NDG Tree Name: YES-TREE

NDG Context: 0-KP

Attached Server: N1[NSQ]

SAP Interval: 60 sec

Server 1 [nds] N4
Server 2 [nds] N5

***** AppleTalk *****
Status: Ready

Name: HP LaserJet 3300 Series
Zone: Saturn Zone
Type 1: LaserWriter
Type 2: HP LaserJet
Network Number: 65281
Node Number: 4

***** DLC/LLC *****
Status: Ready
```

Does the page indicate “I/O Card Ready”?

Yes

No

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I/O card not ready



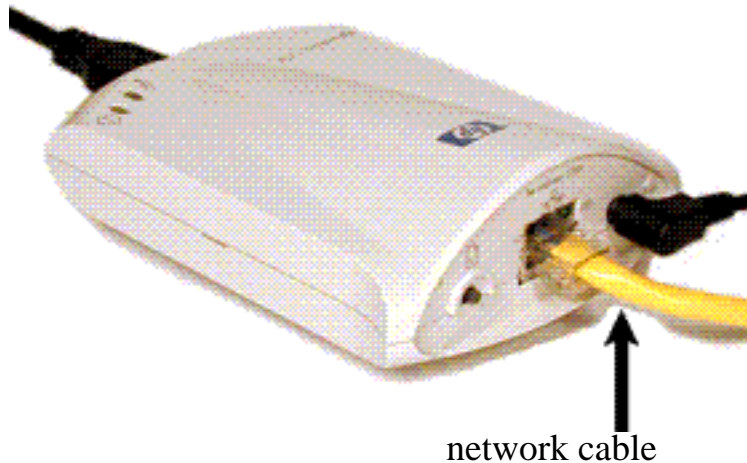
for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x

Check the following items to see whether you can correct the “I/O Card Not Ready” situation. (If you have already performed these steps earlier in the troubleshooting process, you can skip them and go directly to answering the question at the end of the steps.)

1. Make sure that the network cable is connected securely to the print server.



2. Check that the network cable is plugged securely into the hub/switch/router, and that the connection is set to the correct network speed.
3. Check that the LINK light is ON for the port on the hub/switch/router to which the print server is connected.
4. Your network cable may be faulty. Try a different cable.
5. If the light still does not come on, try a different port on the hub/switch/router.

**If you made any changes, please print another configuration page.
Does the page show “I/O Card Ready” now?**

Yes

No

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Error messages



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x

If your configuration page shows a status of “I/O Card Not Ready”, you will see a specific error message just below the status line. This error message indicates what is preventing the print server from functioning correctly.

From the list below, please click on the error message that you see on the configuration page. This will take you to a fuller explanation of the error.

- [03 LAN Error: EXTERNAL LOOPBACK](#)
- [08 LAN Error: INFINITE DEFERRAL](#)
- [11 LAN Error: RETRY FAULTS](#)
- [12 LAN Error: NO LINKBEAT](#)
- [Other Error:](#) If the error that you see on the configuration page is not listed above, your problem requires assistance from HP Jetdirect technical support. Click on this entry for information on contacting HP.



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03 LAN Error: EXTERNAL LOOPBACK

for HP Jetdirect 175x external print server/Internet connector for USB and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of troubleshooting for:

HP Jetdirect 175x, 310x

The print server is incorrectly connected to the network or is defective.

Make sure that your print server is correctly attached to your network. In addition, check all other cabling and connectors.

For help in correcting this error, please check your print server documentation (the welcome mat or the User's Guide on the Jetdirect CD-ROM), or contact HP Jetdirect technical support. Click on the button below for information on contacting HP.



Contact HP

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08 LAN Error: INFINITE DEFERRAL

for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x

There is a network congestion problem.

For help in correcting this error, please check your print server documentation or contact HP Jetdirect technical support. Click on the button below for information on contacting HP.

Contact HP



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11 LAN Error: RETRY FAULTS



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for
USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x

There is a problem with your network cabling or with your external network configuration.

Verify that your hub/switch/router port is operating correctly.

For help in correcting this error, please check your print server documentation or contact HP Jetdirect technical support. Click on the button below information on contacting HP.



Contact HP

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12 LAN Error: NO LINKBEAT



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for
USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x

When the print server is connected to a 10/100 Base-TX port, this message is displayed if the Link Beat signal is not sensed.

Check the network cable, and verify that the hub/switch/router is providing Link Beat.

For help in correcting this error, please check your print server documentation or contact HP Jetdirect technical support. Click on the button below for information on contacting HP.



Contact HP

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Print server OK



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x

At this point in the troubleshooting procedure, it appears that:

- your print server hardware is functioning correctly
- your physical network connection is functioning correctly
- the print server and the printer are connected correctly

Click on the Continue button below to return to the Troubleshooting Overview page and continue with the next step of the troubleshooting procedure.



Continue

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Link lights OFF



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x



Try the steps below and make any necessary corrections.

1. Make sure that the network cable is connected securely to the print server.



network cable

2. Check that the network cable is plugged securely into the hub/switch/router, and that the connection is set to the correct network speed. (If your hub/switch/router is set to configure its link speed automatically, try to configure it manually for 10 Mbps or 100 Mbps only. After changing this setting, you may need to cycle power to the print server -- unplug the print server's power cable and then plug it in again.)
3. Check that the LINK light is ON for the port on the hub/switch/router to which the print server is connected.
4. Your network cable may be faulty. Try a different cable.
5. If the light still does not come on, try a different port on the hub/switch/router.

Did these steps turn ON one of the link lights?

If yes, click on the Yes button to continue the troubleshooting procedure.

If no, your print server has a problem that requires assistance from HP Jetdirect technical support; click on the No button for a list of

technical support telephone numbers.

Yes

No

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Configuration page does not print, or is unreadable

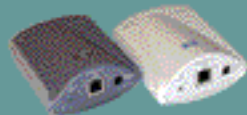
for HP Jetdirect 175x external print server/Internet connector for
USB
and HP Jetdirect 310x external print server/Internet connector for
USB

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User's Guide

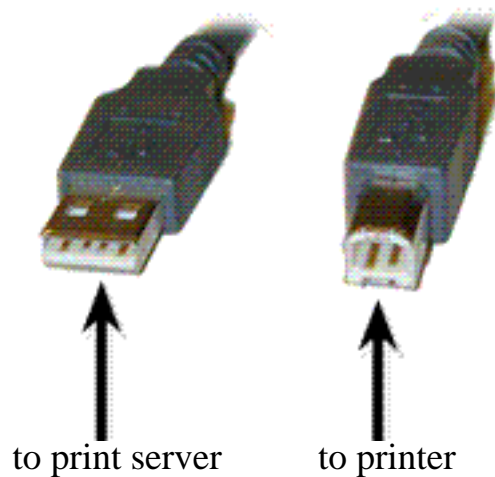


175x, 310x

If the configuration page does not print, try these steps.

If the configuration page prints but is unreadable, skip to [step 4](#).

1. Make sure your printer is connected to your print server by a USB A-to-B cable. (This is the standard USB cable.)







Note that the Jetdirect print server does not support parallel-to-USB converters (for connecting a parallel printer to a USB host) -- it works with USB printers only. Make sure that the cable is connected firmly to both the printer and the print server. Fully inserting the plug takes more force than most USB connections.

2. Make sure that the printer and the print server are powered on.
3. Make sure that the printer is Online or Ready.
4. You can check whether the print server is sending the page in a printer language (PDL) that the printer supports. If the language is not supported by the printer, the page will not

print or will be unreadable if it does print.

By default, the print server is configured to determine the appropriate printer language automatically. It is possible that the print server is not able to determine automatically which language it should use for your printer.

You can cycle through the 4 printer languages using the following procedure:

- a. Press and hold the print server's test  button.
After about 3 seconds, the power/status LED  changes to amber. Continue to hold the button until the power/status LED  is flashing green. Then release the button.
- b. Briefly press and release the test  button once again to request the configuration page in the next language.
- c. Verify that a readable page is printed. Repeat these steps up to four times if necessary to receive a configuration page you can read.

If you still cannot read the page, refer to your printer documentation to find out which of the following 4 printer languages are supported by your printer:

- ASCII
 - PCL
 - PostScript
 - HP/GL-2
5. It may be necessary to re-initialize the connection between the printer and the print server by cycling power on the print server. (Unplug the power cable from the print server; then plug it back in.) Do this with the printer switched ON.

Can you now print a Jetdirect configuration page?

If yes, click on the Yes button. This returns you to the page in the troubleshooting procedure where you check the I/O status of the print server. Continue with step 2 on that page.

If no, your print server has a problem that requires assistance from HP Jetdirect technical support; click on the No button for

information on contacting HP.

Yes

No

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Resetting print server to factory defaults (cold reset)

for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of troubleshooting for:

HP Jetdirect 175x, 310x



Back to:

start of *User's Guide*



Once you configure the HP print server, the configuration settings are retained in memory unless you manually reset them to factory defaults.

To reset the print server configuration to factory defaults, follow these steps:

1. Unplug the power module from the back of the print server.
2. While holding down the test button  on the back of the print server, plug the power module back into the print server and continue to hold down the test button  button for about five seconds. Any user-configured settings will be erased.

When the procedure is done, the print server responds exactly like it was fresh from the factory. [See a description of this default configuration.](#)

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Browse HP



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

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Back to:

start of
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[General Information \(http://www.hp.com/support/net_printing\)](http://www.hp.com/support/net_printing)

(The central location on HP's web site for the HP Jetdirect print servers and similar products)

[Online Customer Forum \(http://www.hp.com/go/forums\)](http://www.hp.com/go/forums)

(The central location on HP's web site for the HP Jetdirect print servers and similar products)

[Customer Support \(http://www.hp.com/support/support_assistance\)](http://www.hp.com/support/support_assistance)

(Lists all of the support options offered by HP and contact information such as phone numbers and e-mail addresses)

Call HP.



[Asia Pacific](#)

[North America](#)

[Latin America](#)

[Europe, Middle East, and Africa](#)

HP Call Centers

Argentina (inside Argentina)	Denmark	Japan	Singapore
Argentina (outside Argentina)	English International	Korea, Republic of	South Africa
Australia	Finland	Malaysia	Spain
Austria	France	Mexico	Sweden
Belgium	Germany	Netherlands	Switzerland
Brazil (Great Sao Paulo)	Greece	New Zealand	Taiwan
Brazil (outside Great Sao Paulo)	Hungary	Norway	Thailand
Canada	India	Peru	Turkey
Chile	Indonesia	Philippines	Ukraine
China	Ireland	Poland	United Arab Emirates (UAE)

Colombia	Israel	Portugal	United Kingdom
Czech Republic	Italy	Russian Federation	US
			Viet Nam

Asia Pacific

Australia	(03) 8877 8000 Hours of operation: 9:00 a.m. to 5:00 p.m. Monday through Friday For all spare parts including technical reference manuals, call: 1800 670 054 Hours of operation: 9:00 a.m. to 5:00 p.m. Monday through Friday
China	+ 86 (0)10 6564 5959 Hours of operation: 8:30 a.m. to 5:30 p.m. Monday through Friday
India	+ 91 11 682 6035 Hours of operation: 9:30 a.m. to 5:30 p.m. Monday through Friday
Indonesia	+62 (21) 350 3408 Hours of operation: 8:00 a.m. to 5:00 p.m. Monday through Friday
Japan	+ 81 3 3335 8333 Hours of operation: 9:00 a.m. to 12:00 p.m. and 1:00 p.m. to 5:00 p.m. Monday through Friday
Korea, Republic of	+82 (2) 3270 0700 Hours of operation: 9:00 a.m. to 6:00 p.m. Monday through Friday; 9:00 a.m. to 1:00 p.m. on Saturdays Outside Seoul only: 080 999 0700 Hours of operation: 9:00 a.m. to 6:00 p.m. Monday through Friday 9:00 a.m. to 1:00 p.m. on Saturdays
Malaysia	+60 (3) 295 2566 Hours of operation: 8:30 a.m. to 5:30 p.m. Monday through Friday Penang 1 300 88 00 28 Hours of operation: 8:30 a.m. to 5:30 p.m. Monday through Friday
New Zealand	+64 (9) 356 6640 Hours of operation: 9:00 a.m. to 5:00 p.m. Monday through Friday
Philippines	+ 63 (2) 867 3551 Hours of operation: 8:30 a.m. to 5:30 p.m. Monday through Friday
Singapore	+65 272 5300 Hours of operation: 8:30 a.m. to 5:30 p.m. Monday through Friday
Taiwan	+ 886 (2) 2717 0055 Hours of operation: 8:30 a.m. to 6:00 p.m. Monday through Friday

Thailand	+66 (2) 661 4000 Hours of operation: 8:30 a.m. to 5:30 p.m. Monday through Friday
Viet Nam	+84 (0) 8 823 4530 Hours of operation: 8:00 a.m. to 5:00 p.m. Monday through Friday and from 8:00 a.m. to 12.00 p.m on Saturday

North America

Canada	905-206-4663 or (800) 387-3867 Hours of operation: 8:00 a.m. to 8:00 p.m. Monday through Friday
US	208-323-2551 Hours of Operation: 6:00 a.m. to 6:00 p.m. MST Monday though Friday

Latin America

Argentina	(from inside Argentina) 0810-555-5520 Hours of operation: 8:30 a.m. to 7:30 p.m. Monday through Friday
Argentina	(from outside Argentina) (5411)4778 8380 Hours of operation: 8:30 a.m. to 7:30 p.m. Monday through Friday
Brazil	Great Sao Paulo (support-HelpPhone) Phone: + 55 (11) 3747-7799 Fax : + 55 (11) 3747-7765 Hours of operation: 8:00 a.m. to 7:00 p.m. Monday through Friday Call Centralization (Hardware Support) + 55 (11) 7297-4998 Hours of operation: 8:00 a.m. to 7:00 p.m Monday through Friday Other Information Phone Phone: + 55 (11) 3747-7799 Fax : + 55 (11) 3747-7765 Hours of operation: 8:00 a.m. to 10:00 p.m. Monday through Friday; 9:00 a.m. to 6:00 p.m. on Saturday
Brazil	Outside Great Sao Paulo Call Centralization - Hardware Support 0800 130 999 Hours of operation: 8:00 a.m. to 7:00 p.m Monday through Friday Call Centralization 0800 130 999 Hours of operation: 8:00 a.m. to 7:00 p.m Monday through Friday Other information: Phone : 0800 157 751 Fax : + 55 (11) 3747-7765 Hours of operation: 8:00 a.m. to 10:00 p.m. Monday through Friday

	<p>9:00 a.m. to 6:00 p.m. on Saturday</p> <p>Support - HelpPhone : Phone: 0800 157 751 Fax: + 55 (11) 3747-7765 Hours of operation: 8:00 a.m. to 7:00 p.m. Monday through Friday</p>
Chile	<p>Post-sales Business Computing 800-22-5547</p> <p>Post-sales Home Office Computing Phone : 800-360-999</p> <p>Pre-sales 123-800-360-999 Hours of operation: 9:00 a.m. to 6:00 p.m. Monday through Friday</p>
Colombia	<p>9-800-91477 Hours of operation: 8:00 a.m. to 6:00 p.m. Monday through Friday</p>
Mexico	<p>Mexico City +52 (5) 258 99 22 Hours of operation: 8:30 a.m. to 10:00 p.m. Monday through Friday; 9:00 a.m. to 2:00 p.m. on Saturday</p> <p>Outside Mexico City 01-800-472 6684 Hours of operation: 8:30 a.m. to 10:00 p.m. Monday through Friday; 9:00 a.m. to 2:00 p.m. on Saturday.</p>
Peru	<p>0-800-10111 Hours of operation: 9:00 a.m. to 6:00 p.m. Monday through Friday</p>
Venezuela	<p>Post-sales 800 47 777 (Caracas 207 8488) Hours of operation: 8:00 a.m. to 8:00 p.m. Monday through Friday</p>

Europe, Middle East, and Africa

Hours of operation for HP Jetdirect products are: Monday to Friday from 8:30 a.m. until 6:00 p.m. (CET). Please note that support in your language or your country might not be available for all products.

Austria	+43 (0) 810 00 6080
Belgium	+ 32 (0) 2 626 8807
Czech Republic	+42 0 (0) 2 6130 7310 Hours of operation: 8:00 a.m. to 6:00 p.m. Monday through Thursday; 8:00 a.m. to 4:30 p.m. on Friday
Denmark	+ 45 39 29 4099
English International	+ 44 (0)207 512 52 02
Finland	+ 358 (0)203 47 288

France	+ 33 (0)1 43 62 34 34
Germany	+ 49 (0)180 52 58 143 (24PF/min)
Greece	+30 (0) 1 60 73 603 Hours of operation: 9:00 a.m. to 5:00 p.m. Monday through Friday
Hungary	+36 (0)1 382 1111 Hours of operation: 8:30 a.m. to 6:00 p.m. Monday through Friday
Ireland	+ 353 (0)1 662 5525
Israel	Phone: + 972 (0)9 9524848 Fax : + 972 (0)9 9524849 Hours of operation: 9:00 a.m. to 6:00 p.m. Sunday through Thursday
Italy	+ 39 02 264 10350
Netherlands	+ 31 (0)20 606 8751
Norway	+ 47 22 11 6299
Poland	Phone: +48 (22) 865 98 00 Fax : + 48 (22) 519 06 01 Hours of operation: 8:00 a.m. to 5:00 p.m. Monday through Friday
Portugal	+ 351 21 3176333
Russian Federation	Moscow + 7 095 797 3520 Hours of operation: 9:00 a.m. to 6:00 p.m. Monday through Friday St Petersburg +7 812 346 7997 Hours of operation: 9:00 a.m. to 6:00 p.m. Monday through Friday
South Africa	086 000 1030 inside RSA +27-11 258 9301 outside RSA Hours of operation: 8:00 a.m. to 5:00 p.m. Monday through Friday
Spain	+ 34 902 321 123
Sweden	+ 46 (0)8 619 2170
Switzerland	+ 41 (0)848 80 11 11
Turkey	+90 (216) 579 71 71 Hours of operation: 8:30 a.m. to 6:00 p.m. Monday through Friday
Ukraine	+7 (380-44) 490-3520 Hours of operation: 9:00 a.m. to 6:00 p.m. Monday through Friday

United Arab Emirates	Customer Care Reception & Technical Support Phone : 971 4 883 8454 Fax : 971 4 883 9495 This Call Center will answer customer queries from UAE, but also Bahrain, Qatar, Saudi Arabia, Jordan, Palestine, Egypt, Yemen, Lebanon, Kuwait & Oman. The languages supported are English & Arabic.
United Kingdom	+ 44 (0)207 512 52 02

End of troubleshooting.

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Can you print a Jetdirect configuration page?

for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for
USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x

To print a configuration page, press the test button  on the print server.



test button

A configuration page should print on the connected printer. This page displays information about the print server hardware, the firmware version, the hardware (MAC) address, the connected printer, network connectivity, network traffic, and network protocols.

Did the configuration page print successfully? (If the configuration page printed but is unreadable, click on the No button.)

Yes

No

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Configuration page prints?



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of
troubleshooting
for:

HP Jetdirect
175x, 310x

The Jetdirect configuration page is a page that the print server sends to the attached printer, both as a test of the connection between the print server and the printer, and as a display of the status of the print server's functions.

If you are able to print a Jetdirect configuration page on your printer, click on the Yes button below to continue with the troubleshooting procedure. This takes you to information about interpreting the results contained on the configuration page.

If you are not able to print a Jetdirect configuration page on your printer, or if you don't know how to print one, click on the No button below to start evaluating the print server's ability to print a configuration page. Clicking on the No button will also give you information on how to print a test page.



Yes

No

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Configuration page does not print, or is unreadable.

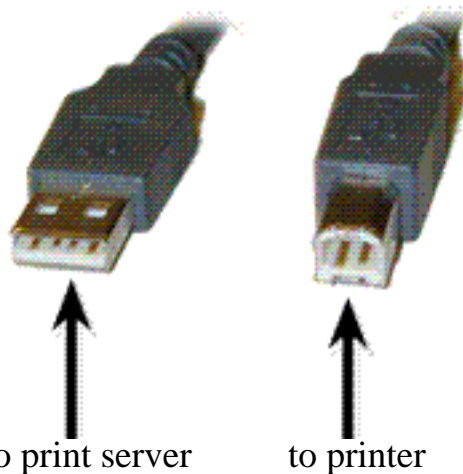
for HP Jetdirect 175x external print server/Internet connector for USB and HP Jetdirect 310x external print server/Internet connector for USB

Back to start of troubleshooting for:

HP Jetdirect 175x, 310x

If the configuration page does not print successfully, try the steps below. If the page prints but is unreadable, note step 4 particularly.

1. Make sure your printer is connected to your print server by a USB A-to-B cable. (This is the standard USB cable.)



Note that the print server does not support parallel-to-USB converters (for connecting a parallel printer to a USB host) -- it works with USB printers only. Make sure that the cable is connected firmly to both the printer and the print server.

2. Make sure that the printer and the print server are powered on.
3. Make sure that the printer is Online or Ready.
4. Make sure that the printer supports one of these printer languages:
 - ASCII
 - PCL
 - PostScript
 - HP/GL-2

The print server can print a configuration page in any of these languages. By default, the print server is configured to

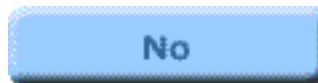
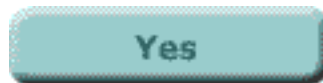
determine the appropriate printer language automatically. It is possible that the print server is not able to determine automatically which language it should use for your printer. Please refer to your printer documentation to find out which printer languages are supported by your printer. Then check the electronic documentation on the Jetdirect CD-ROM for information on setting a specific printer language for the configuration page, to match one of the languages supported by your printer.

5. It may be necessary to re-initialize the connection between the printer and the print server by cycling power on the print server. (Unplug the power cable from the print server; then plug it back in.) Do this with the printer switched ON.

Can you now print a Jetdirect configuration page?

If yes, click on the Yes button for information on interpreting the configuration page.

If no, your print server has a problem that requires assistance from HP Jetdirect technical support; click on the No button for information on contacting HP.



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Getting Support and Service

- Getting support:
 - [Telephone support](#)
 - [WWW: HP Web support pages](#)
 - [HP forums](#)
 - [Getting warranty service](#)
-

HP support by phone

Highly trained technicians are ready to take your call.

Note: Telephone fees are the responsibility of the caller. Rates may vary. Contact your local telephone company for current rates.

For the most recent HP Customer Care telephone numbers worldwide, visit

http://www.hp.com/support/support_assistance to access a list of regional telephone numbers. In the USA, the support telephone number for HP Jetdirect products is: **208-323-2551**.

WWW: HP support online

Our support pages on the HP Web site www.hp.com/support/net_printing are a collection of information to help solve your issues and answer your questions about your HP Jetdirect print server, 24 hours a day, 7 days a week.

Also: [Software, driver, and firmware image upgrades](#)

WWW: HP user forums

Go online, anytime, and you'll also find helpful user forums—a great source of ideas and suggestions for using your HP

Jetdirect print server. You can access the user forum for network printing from <http://www.hp.com/go/forums>.

Getting Warranty Service

[Warranty service for HP Jetdirect 175x and 310x print servers](#)

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Software, Driver, and Firmware Image Upgrades

HP Jetdirect Print Servers

Hewlett-Packard offers downloadable electronic upgrades for HP Jetdirect print servers with internal Flash memory. The electronic upgrades are available on the Web and various online services.

Current information about drivers, software versions, and HP Jetdirect firmware images are available from the following:

World Wide Web	Access HP's online support at http://www.hp.com/support/net_printing
America Online	Receive drivers and upgrades by downloading them to your computer from the HP Forum.
HP Distribution Center	Order drivers and upgrades for HP printers by calling the HP Distribution Center at 805-257-5565 (USA only).
FTP Site	Download printer drivers and upgrades from HP's anonymous FTP site at ftp://ftp.hp.com/pub/networking/software

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Limited Global Warranty Statement and Service

for HP Jetdirect 175x external print server/Internet connector for USB and HP Jetdirect 310x external print server/Internet connector for USB

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- [Getting warranty service](#)
- [Your warranty period](#)
- [Limited Warranty Statement](#)



HEWLETT-PACKARD LIMITED GLOBAL WARRANTY STATEMENT

HP Product	Duration of Warranty
HP Jetdirect 175x external print server/Internet Connector for USB	One (1) year
HP Jetdirect 310x external print server/Internet Connector for USB	Three (3) years

1. HP warrants to you, the end-user customer, that HP hardware, accessories and supplies will be free from defects in materials and workmanship after the date of purchase, for the period specified above. If HP receives notice of such defects during the warranty period, HP will, at its option, either repair or replace products that prove to be defective. Replacement products may be either new or equivalent in performance to new.
2. HP warrants to you that HP software will not fail to execute its programming instructions after the date of purchase, for a period of NINETY (90) DAYS, due to defects in material and workmanship when properly installed and used. If HP receives notice of such defects during the NINETY (90) day period, HP will replace software that does not execute its programming instructions due to such defects.
3. HP does not warrant that the operation of HP products will be uninterrupted or error free. If HP is unable, within a reasonable

time, to repair or replace any product to a condition as warranted, you will be entitled to a refund of the purchase price upon prompt return of the product.

4. HP products may contain remanufactured parts equivalent to new in performance or may have been subject to incidental use.
5. Warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts or supplies not supplied by HP, (c) unauthorized modification or misuse, (d) operation outside of the published environmental specifications for the product, or (e) improper site preparation or maintenance.
6. HP's limited warranty is valid in any country or locality where HP has a support presence for this product and where HP has marketed this product. The level of warranty service you receive may vary according to local standards. HP will not alter form, fit or function of the product to make it operate in a country for which it was never intended to function for legal or regulatory reasons.
7. TO THE EXTENT ALLOWED BY LOCAL LAW, THE ABOVE WARRANTIES ARE EXCLUSIVE AND NO OTHER WARRANTY OR CONDITION, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED AND HP SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE. Some countries, states or provinces do not allow limitations on the duration of an implied warranty, so the above limitation or exclusion might not apply to you. This warranty gives you specific legal rights and you might also have other rights that vary from country to country, state to state, or province to province.
8. HP will be liable for damage to tangible property per incident up to the greater of \$300,000 or the actual amount paid for the product that is the subject of the claim, and for damages for bodily injury or death, to the extent that all such damages are determined by a court of competent jurisdiction to have been directly caused by a defective HP product.
9. TO THE EXTENT ALLOWED BY LOCAL LAW, THE REMEDIES IN THIS WARRANTY STATEMENT ARE YOUR SOLE AND EXCLUSIVE REMEDIES. EXCEPT AS INDICATED ABOVE, IN NO EVENT WILL HP OR ITS

SUPPLIERS BE LIABLE FOR LOSS OF DATA OR FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. Some countries, states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

Local warranty statements

Australia and New Zealand

For consumer transactions in Australia and New Zealand: The warranty terms contained herein except to the extent lawfully permitted, do not exclude, restrict, or modify and are in addition to the mandatory statutory rights applicable to the sale of this product to you.

Argentina

Certificado de Garantía: vea el folleto de garantía que acompaña al paquete del producto.

México

Póliza de Garantía: vea el folleto de garantía que acompaña al paquete del producto.

Getting warranty service

For your records, please retain your original proof of purchase. Record the product number and serial number. Your product number is on a label on the bottom of the print server, for example, "J6035A". The serial number is on the same label.

Your authorized dealer

If you encounter difficulty, begin by contacting the person who sold you the HP Jetdirect print server to you. Your HP Authorized Dealer will be familiar with your requirements and can provide assistance.

HP support for warranty service

For warranty service on HP Jetdirect products, call HP support. See [phone numbers](#) or visit http://www.hp.com/support/support_assistance. The HP support representative will help you with troubleshooting, and advise you on warranty service. When calling, please have the following information ready:

- HP Jetdirect product you are calling about, for example, “J6035A”.
- Model number of the product, for example, “Jetdirect 175X”.
- Serial number of the product.
- Complete description of the problem.
- Proof of purchase of your product.
- Your shipping address.

Service billing (out of warranty)

When ordering a replacement unit for out-of-warranty service, you may be charged a repair cost. See your HP Authorized Dealer or your local HP Sales and Service Office representative. Or, you can call HP at (800) 227-8164 (USA only); prepare to supply shipping and billing addresses and payment information.

Service outside the USA

Customers outside the USA should contact their HP Authorized Dealer or HP Sales and Service Office to obtain information on prices, exchange unit availability, and instructions.

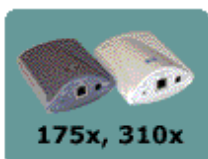
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Specifications



for HP Jetdirect 175x external print server/Internet connector for USB
and HP Jetdirect 310x external print server/Internet connector for USB

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User's Guide



- [Networking specs](#)
- [Physical specs](#)
- [Environmental specs](#)
- [Electrical specs](#)
- [Electromagnetic specs](#)
- [Safety statements](#)
- [Regulatory statements](#)

Supported networking

Physical

- Supports unshielded or shielded twisted-pair cabling, using an RJ-45 connector, for:
 - IEEE 802.3i 10Base-T (Ethernet)
 - IEEE 802.3u 100Base-TX (Fast Ethernet)
- Requires a 10Base-T or 100Base-T network hub or concentrator that supports link beat (link test pulse) signals.

Supported network operating systems and protocols

Microsoft Windows 95, 98, 2000, ME, XP	TCP/IP IPX/SPX direct mode
Microsoft Windows NT 4.0 and later	TCP/IP IPX/SPX direct mode DLC/LLC
Apple Macintosh OS 8.6 and later	EtherTalk
<i>[310x only; not 175x]</i> Novell NetWare v 3.2, 4.x, 5.x, 6.0 NDS NDPS	<i>[310x only; not 175x]</i> IPX/SPX; IPX/SPX; TCP/IP and IPX/SPX
<i>[310x only; not 175x]</i> IBM OS/2 Warp v 3.0, 4.0	<i>[310x only; not 175x]</i> TCP/IP
<i>[310x only; not 175x]</i> HP-UX 10.x, 11.x Solaris v2.5x, 2.6, 7, 8 (SPARC systems only) SCO UNIX v86, 3.2, 4.2, 5.0 IBM AIX v3.2.5 and later MPE-ix v5.5	<i>[310x only; not 175x]</i> TCP/IP
<i>[310x only; not 175x]</i> Artisoft LANtastic 7.0	<i>[310x only; not 175x]</i> DLC/LLC
Line Printer Daemon	LPD

Physical specifications

Interfaces

Port	Specification
------	---------------

Network	See network specifications above .
USB	Female “A” connector, complies with USB version 1.1 specifications

Physical dimensions

	With clip attached	Excluding any protrusions for connectors, clips, and so on
Width	97 mm (3.8 in)	92 mm (3.6 in)
Length	129 mm (5.1 in)	129 mm (5.1 in)
Height	45 mm (1.8 in)	36 mm (1.4 in)

Weight

Weight	108 g (3.9 oz)
--------	----------------

Environmental specifications

	Operating environment	Storage environment
Temperature	0° C to 55° C (32° F to 131° F)	-40° C to 70° C (-6° F to 158° F)
Relative humidity	15% to 95% at 40° C (104° F)	90% at 65° C (149° F)
Altitude	4.6 km	4.6 km

Acoustic Noise: Not applicable

Electrical specifications

Power requirements

	Print server	Power module	
Input voltage	13 Vdc	See “input rating” for power modules below	
Nominal output voltage	n/a	13 Vdc	
Input current	140 mA @ 13 V	100 mA	Depends on particular power module
Max. output current	n/a	300 mA	
Frequency range	dc	50/60 Hz	Depends on particular power module
Power consumption	1.8 W	1.2 W	

Power modules

Regions	Part num.	Input rating	Output rating
Australia, New Zealand, Argentina	0950-3172	240 Vac 50 Hz	13 Vdc @ 300 mA
	0950-3358	240 Vac 50 Hz	13 Vdc @ 800 mA
China	0950-2806	220 Vac 50 Hz	13 Vdc @ 300 mA
	0950-3347	220 Vac 50 Hz	13 Vdc @ 800 mA
	0950-3170	230 Vac 50 Hz	13 Vdc @ 300 mA

Continental Europe	0950-3349	230 Vac 50 Hz	13 Vdc @ 800 mA
Japan	0950-3173	100 Vac 50 Hz	13 Vdc @ 300 mA
	0950-3352	100 Vac 50 Hz	13 Vdc @ 800 mA
South Korea	9100-5168	220–240 Vac 50 Hz	13 Vdc @ 625 mA
	0950-3351	220 Vac 50 Hz	13 Vdc @ 800 mA
South Africa, India	9100-5171	220–250 Vac 50 Hz	13 Vdc @ 625 mA
	0950-3354	220–250 Vac 50 Hz	13 Vdc @ 800 mA
United Kingdom, Singapore, Ireland, Hong Kong	0950-3171	220–240 Vac 50 Hz	13 Vdc @ 300 mA
	0950-3350	220–240 Vac 50 Hz	13 Vdc @ 800 mA
USA, Canada, Latin American, Taiwan	0950-3169	110–127 Vac 60 Hz	13 Vdc @ 300 mA
	0950-3348	110–127 Vac 60 Hz	13 Vdc @ 800 mA
Note: If two parts are listed for one region, either part can be used regardless of output rating.			

USB: Downstream power supplied

Complies with USB 1.1 specifications

Electromagnetic specifications

Electromagnetic immunity

See the [Declaration of Conformity](#).

Electromagnetic emissions

- *USA:* FCC part 15 Class B
 - *Canada:* ICES-003 (B)
 - *Japan:* VCCI Class 1, 2
 - *Europe:* CISPR-22/EN55022 Class B
 - *Australia/New Zealand:* AS/NZA 3548
 - *Russia:* GOST 292116
 - *Taiwan:* BSMI Class A
-

Safety statements

Product complies with:

- IEC 950: (1991)+A1, A2, A3, A4 / EN60950 (1992)+A1, A2, A3, A4, A11
 - UL 1950
 - CSA 950
 - NOM-019-SCIFI-1994, NOM-001-SCFI-1993
-

Regulatory statements

USA: FCC Class B Statement (U.S.A)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause interference to

radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined 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 and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Declaration of Conformity

The Declaration of Conformity complies with ISO/IEC Guide 22 and EN45014. It identifies the product, manufacturer's name and address, and applicable specifications recognized in the European community:

[HP Jetdirect 175x external print server DOC](#)

[HP Jetdirect 310x external print server DOC](#)

Australia



This equipment complies with Australian EMC requirements.

Canada

This equipment complies with Canadian EMC Class B requirements.

Japan: VCCI Class B

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると受信障害を引き起こすことがあります。
取り扱い説明書に従って正しい取り扱いをして下さい。

Korea: EMI

사용자 안내문 (한국 기기)

이 기기는 비업무용이고 전자파장해극정을 받은 기기로서, 주거지역에서는 물론 모든 지역에서 사용될 수 없습니다.

Taiwan: Class A

警告使用者：這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

China: Chinese Safety Statement

See [Chinese Safety Statement](#).

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DECLARATION OF CONFORMITY

according to ISO/IEC Guide 22 and EN45014

Manufacturer's Name: Hewlett-Packard Company

Manufacturer's Address: 8000 Foothills Blvd.
Roseville, CA 95747-5677
U.S.A.

declares that the product:

Product Name: JetDirect 175X External Print Server

Model Number: J6035A

conforms to the following Product Specifications:

Safety: EN60950 (1992) +A1,A2,A3,A4,AII / IEC 950 (1991) +A1,A2,A3,A4
EN60825-1 (1994) / IEC 825-1 (1993), Class 1
GB 4943 (1995)

EMC: EN 55022 (1998) / CISPR-22 (1997) Class B
GB 9254 (1988)
EN 55024 (1998)
IEC 61000-4-2 (1995); EN 61000-4-2 (1995)
IEC 61000-4-3 (1995); EN 61000-4-3 (1996)
IEC 61000-4-4 (1995); EN 61000-4-4 (1995)
IEC 61000-4-5 (1995); EN 61000-4-5 (1995)
IEC 61000-4-6 (1996); EN 61000-4-6 (1996)
IEC 61000-4-8 (1993); EN 61000-4-8 (1993)
IEC 61000-4-11 (1994); EN 61000-4-11 (1994)
EN61000-3-2 (1995)
EN61000-3-3 (1995)
FCC Title 47 CFR, Part 15 Class B

Supplementary Information:

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC and carries the CE marking accordingly.

This product was tested in a typical configurations with Hewlett-Packard Co. products.

Roseville, May 8, 2001



Mark Vigeant, Product Regulations Manager

European Contact: Your local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH,
Department TRE, Herrenberger Strasse 130, D-71034 Böblingen (FAX:+49-7031-14-3143).

DECLARATION OF CONFORMITY

according to ISO/IEC Guide 22 and EN45014

Manufacturer's Name: Hewlett-Packard Company

Manufacturer's Address: 8000 Foothills Blvd.
Roseville, CA 95747-5677
U.S.A.

declares that the product:

Product Name: HP Jetdirect 310x
Model Number: J6038A
Product Options: All

conforms to the following Product Specifications:

Safety: EN60950 (1992) +A1,A2,A3,A4,AII / IEC 950 (1991) +A1,A2,A3,A4
EN60825-1 (1994) / IEC 825-1 (1993), Class 1 (Laser/LED)
GB 4943 (1995)

EMC: EN 55022 (1998) / CISPR-22 (1997) Class B
GB 9254 (1988)
EN 55024 (1998)
IEC 61000-4-2 (1995); EN 61000-4-2 (1995)
IEC 61000-4-3 (1995); EN 61000-4-3 (1996)
IEC 61000-4-4 (1995); EN 61000-4-4 (1995)
IEC 61000-4-5 (1995); EN 61000-4-5 (1995)
IEC 61000-4-6 (1996); EN 61000-4-6 (1996)
IEC 61000-4-8 (1993); EN 61000-4-8 (1993)
IEC 61000-4-11 (1994); EN 61000-4-11 (1994)
IEC 61000-3-2:1995 / EN61000-3-2 (1995)+A14
IEC 61000-3-3:1994 / EN61000-3-3 (1995)
FCC Title 47 CFR, Part 15 Class B

Supplementary Information:

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC and carries the CE marking accordingly.

This product was tested in a typical configurations with Hewlett-Packard Co. products.

Roseville, June 18th, 2001



Mark Vigeant, Product Regulations Manager

European Contact: Your local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH,
Department TRE, Herrenberger Strasse 130, D-71034 Böblingen (FAX:+49-7031-14-3143).

HP 网络产品使用安全手册

使用须知

欢迎使用惠普网络产品，为了您及仪器的安全，请您务必注意如下事项：

1. 仪器要和地线相接，要使用有正确接地插头的电源线，使用中国国家规定的220V电源。
2. 避免高温和尘土多的地方，否则易引起仪器内部部件的损坏。
3. 避免接近高温，避免接近直接热源，如直射太阳光、暖气等其它发热体。
4. 不要有异物或液体落入机内，以免部件短路。
5. 不要将磁体放置于仪器附近。

警告

为防止火灾或触电事故，请不要将该机放置于淋雨或潮湿处。

安装

安装辅助管理模块，请参看安装指南。

保修及技术支持

如果您按照以上步骤操作时遇到了困难，或想了解其它产品性能，请按以下方式与我们联络。

如是硬件故障：

1. 与售出单位或当地维修机构联系。
2. 中国惠普有限公司维修中心地址：
北京市海淀区知春路49号希格玛大厦
联系电话：010-62623888 转 6101
邮政编码：100080

如是软件问题：

1. 惠普用户响应中心热线电话：010-65645959
2. 传真自动回复系统：010-65645735

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