

**HP****JetDirect****Print Servers**

*For HP Printers with EIO Slots*

# **HP JetDirect 600N Hardware Installation Guide**



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# **Hardware Installation Guide**

**HP JetDirect 600N Print Server**

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Applicable Products:

J3110A

J3111A

J3112A

J3113A

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For assistance, visit HP Customer Care Online at:

[www.hp.com/support/net\\_printing](http://www.hp.com/support/net_printing)

or refer to HP Customer Care By Phone described in the *Quick Start Guide* supplied with this product.

**Warranty and Service**

For product warranty and service information, refer to the Quick Start Guide supplied with this product.

A copy of the specific warranty terms applicable to your HP product and replacement parts can be obtained from your HP Sales and Service Office or Authorized dealer.

**Safety Considerations**

Prior to the installation and use of this product, review all safety markings and instructions.

|   |  |
|---|--|
|  | Instruction Manual Symbol. If the product is marked with this symbol, refer to the product manuals to protect the product from damage. |
| <b>WARNING</b>  | Denotes a hazard that can cause injury   |
| <b>CAUTION</b>  | Denotes a hazard that can damage equipment or data.  |

Do not proceed beyond a WARNING or Caution notice until you have understood the hazard and have taken appropriate steps.

**Grounding.** This product is installed in a safety class 1 product that has a protective earthing terminal. There must be an uninterrupted safety earth ground from the main power source to the product's input wiring terminals, power cord or supplied power cord set. Whenever it is likely that the protection has been impaired, disconnect the power cord until the ground has been restored.

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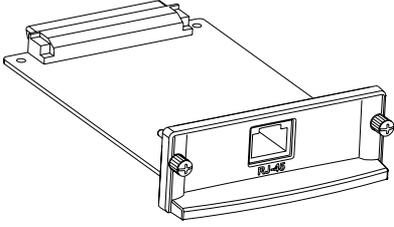
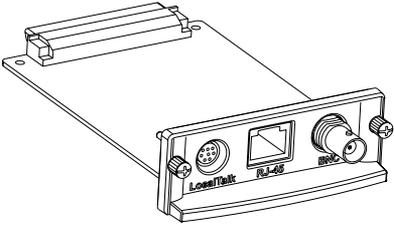
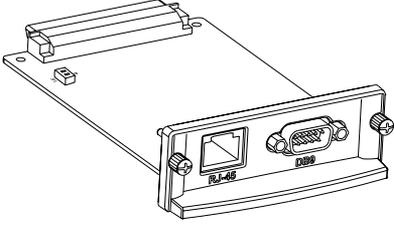
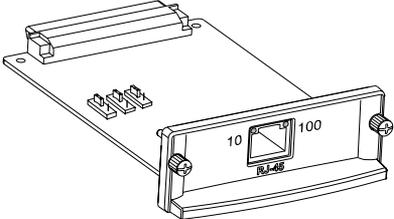
# Quick Installation

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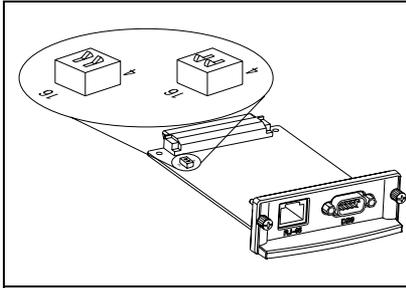
**Note** See chapter 2 for detailed information.

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## 1. Identify Your HP JetDirect 600N Internal Print Server

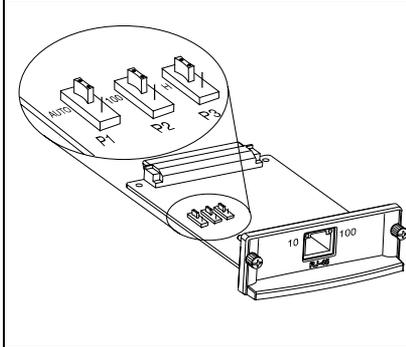
|   |   |
|---|---|
|    | <p><b>HP J3110A for Ethernet (10Base-T) networks</b></p> <p>Provides an RJ-45 connector (unshielded twisted-pair cable)</p>   |
|    | <p><b>HP J3111A for Ethernet (10Base-T, 10Base-2) and LocalTalk networks</b></p> <p>Provides an RJ-45 connector (unshielded twisted-pair cable), a BNC connector (coaxial ThinLAN cable) and Mini-DIN 8 connector (LocalTalk connector box)</p> |
|   | <p><b>HP J3112A for Token Ring (IEEE 802.5) networks</b></p> <p>Provides an RJ-45 connector (unshielded twisted-pair cable) and DB-9 connector (type 1, 2, or 6 shielded twisted-pair cable)</p>  |
|  | <p><b>HP J3113A for Fast Ethernet (10/100Base-TX) networks</b></p> <p>Provides an RJ-45 connector (unshielded twisted-pair cable). For 100Base-TX, use Category 5 cable.</p>  |

## 2. If Necessary, Set Switches or Jumpers on Your Card



### If You Have a Token Ring Card

Token Ring networks operate at 4 Mbps or 16 Mbps. You must set the Data Rate switch on the card to either 4 or 16, depending on your network. If you don't know, ask your network administrator. The factory default is 16 Mbps.



### If You Have a 10/100Base-TX Card

The 10/100TX card is preconfigured for Autonegotiation (jumper P1), which means the card will automatically attempt to connect to your network using the proper speed (10 or 100 Mbps) and duplex mode (Full or Half). *In most cases, you do not need to change the jumper settings.* Refer to Appendix A for more information.

## 3. Before Installing the Card, Verify That Your Printer Works.

### HP LaserJet 4000 series printers

**HEWLETT  
PACKARD**

**Configuration Page**

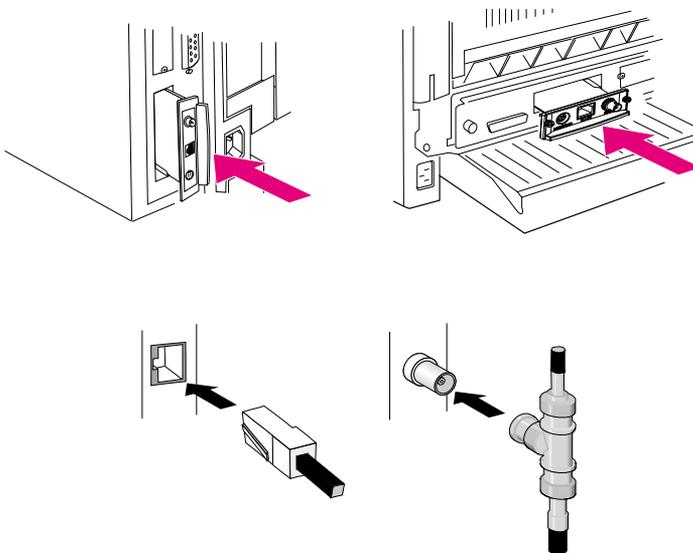
|  |   |
|--|---|
| <b>Printer Information</b><br>Product Name: HP LaserJet<br>Printer Name: HP LaserJet 5<br>Printer Number: 2<br>Formatter Number: 5400000000<br>Printer Model Number: 5400000000<br>Firmware: 10.001.000<br>Melt Time out: 45 seconds<br>Page Count: 0<br>Pages Since Last Maintenance: 0 | <b>Memory</b><br>Total Memory: 4 MBpsic<br>HD Size: 2.49<br>128 Buffer(s)<br>DRAM Type: AT (located of 1006 bytes Available)<br>Resource Status:<br>Additional Memory needed to Operate: 4 MBpsic |
| <b>Installed Personalities and Options</b><br>INL: 110952051<br>ALA: 110952051<br>PL: 110952051<br>OEM: 100.1: 8 MBpsic ROM DIMM<br>OEM: Slot 2: Empty<br>OEM: Slot 3: Empty<br>ESD: 1: Empty<br>ESD: 2: Unapproved (Class Code PR03C)   | <b>Security</b><br>Default Panel Lock: NONE<br>Control Panel Password: 00345678   |
| <b>Event Log</b><br>Number of Entries in Log: 0<br>Maximum Number of Entries: 30<br>Event Log is Empty   | <b>Paper Trays and Options</b><br>Default Paper Size: LETTER<br>Tray 2 (LETTER)   |

### Print a Printer Configuration Page.

For instructions, see chapter 2 or refer to your printer manuals.

**4. Turn Off Your Printer and Insert the Card.** Then connect the network cables.

Some printers have multiple EIO (Enhanced I/O) slots. *You can install the HP JetDirect card into any EIO slot.*



**5. Verify That the Card Is Operating Properly.**

**HP LaserJet 4000 series printers** HEWLETT®  
PACKARD

**EIO 1 - JETDIRECT PAGE**

**JetDirect Configuration Page**

**GENERAL INFORMATION**

HP\_JETDIRECT: J0311A NETWORK STATISTICS: READY  
 STORAGE REVISION: Y.ES.11 UNFORMED PACKETS\_RECV: 6241099  
 LAN\_WA\_ADDRESS: 08D09C61085 TOTAL\_PACKETS\_RECV: 6378774  
 POST\_SELECT: 0000E7F.0E055 SNO\_PACKETS\_RECV: 0  
 I/O\_CARD\_SELECT: 37163716F0E510 FRAMING\_ERRORS\_RECV: 0  
 PACKETS\_TRANSMITTED: 4823005  
 UNRECOVERABLE\_PACKETS: 0  
 SMT\_CALLS\_LOCKED: 0  
 SMT\_LATE\_COLLECTIONS: 501694

**PROTOCOL INFORMATION**

TCPIP STATUS: READY  
 HOST NAME: km23  
 CONFIG BY: 0A89/000TP  
 IP ADDRESS: 19.29.42.70  
 SUBNET MASK: 255.0.0.0  
 GATEWAY: 19.29.42.100  
 DNS\_SERVER: NET\_SPECIFIED: 0  
 TTL\_TIMEOUT (#SECONDS): 60  
 SNMP SET ONLY NAME: NONE  
 BOOTSTRAP\_SERVER: 13.29.40.206  
 CONFIG FILE:

MEDIA SERVER:  
 NOVELL STATUS: READY  
 MODE: QUILC SERVER  
 MODE NAME: QUITD  
 SERVER NAME: ANTARES

ADSP/TALK STATUS: READY  
 TALK NET: 0 MODE: 128 72  
 TALK NET: 0 MODE: 182  
 QUILC/TALK NAME: HP\_LaserJet\_400  
 0 Series  
 EIO\_CARD: \*

QILC/LLC STATUS: READY

NOVELL RETRANS:  
 NETWORK: NONE TYPE: 25  
 CHANNEL: DC-302.2 1403017  
 UNKNOWN: UN\_009 2

**Turn on the printer and print another configuration page.**

Verify that a “JetDirect Configuration Page” also prints.

Check the JetDirect Configuration Page and verify that an “I/O CARD READY” message appears.

---

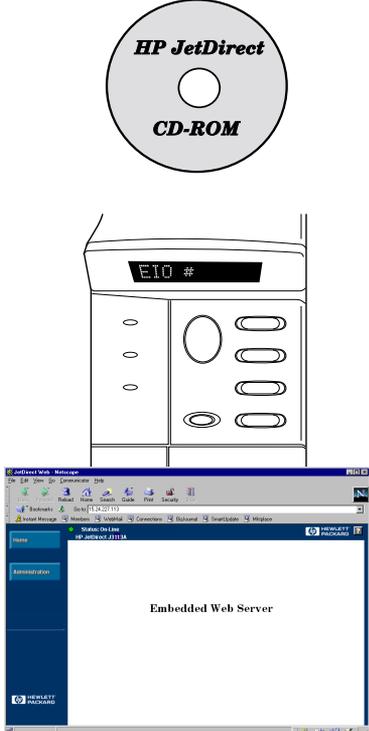
**Note**

If other messages appear, see the troubleshooting sections in the HP JetDirect administrator's guide provided on the HP JetDirect CD-ROM.

For HP J3113A 10/100Base-TX cards, see appendix [A](#) in this manual for special troubleshooting information.

---

## 6. Configure the Card for Network Operation.

|  |  |
|--|--|
|  <p>The diagram illustrates the components for configuring the HP JetDirect card. At the top is a CD-ROM labeled "HP JetDirect CD-ROM". Below it is a printer control panel with a display showing "EIO #". At the bottom is a screenshot of the Embedded Web Server interface, which includes a navigation menu with "Home" and "Administration" options, and the text "Embedded Web Server".</p> | <p><b>You can use the installation and configuration software on the HP JetDirect CD-ROM, or download it from the World Wide Web.</b></p> <p>Refer to the HP JetDirect administrator's guide (supplied electronically on the CD-ROM).</p> <p><b>For many HP printers, you can use the printer's control panel to configure basic network parameters.</b></p> <p>Refer to chapter <a href="#">3</a> in this guide.</p> <p><b>If the JetDirect card has been configured with an IP address, you can use a supported Web Browser for advanced configuration.</b></p> <p>Refer to chapter <a href="#">4</a> in this guide.</p> |
|--|--|

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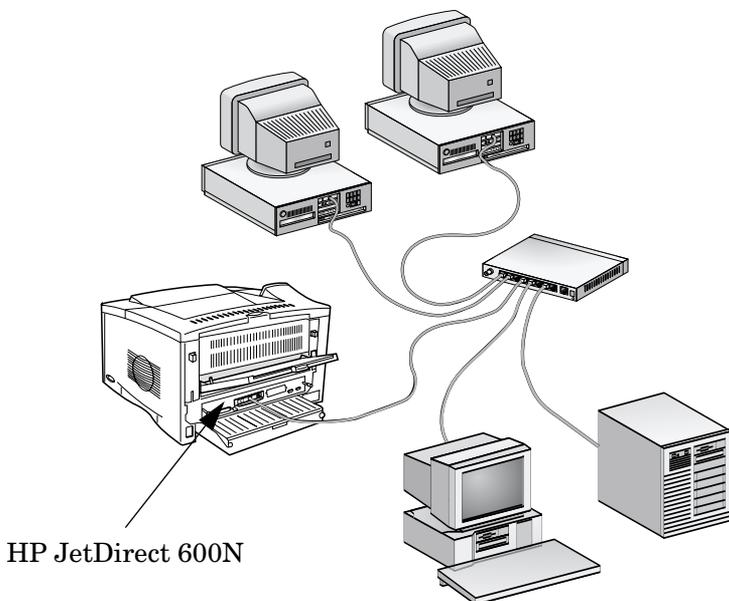
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## Introduction

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The HP JetDirect 600N family of internal print servers are network interface cards for HP Enhanced I/O (EIO) printers and mopiers. With an HP JetDirect print server, you can connect and share your printer anywhere on your network and print at network speeds.

A typical network using an HP JetDirect 600N print server is illustrated below. The card must first be installed in the printer and connected to the network. Then, you must configure the card for network operation.



- You can use HP JetDirect printer installation or management software. Refer to the HP JetDirect software installation instructions included with this product.
- Alternatively, for printers equipped with a control panel, you can use the *printer's control panel* to configure basic network parameters. See chapter 3.

---

# Supported Network Protocols

| Supported Network Protocols | Supported Networks*   | HP JetDirect 600N Product            |
|-----------------------------|---|--------------------------------------|
| IPX/SPX and compatible      | Novell NetWare<br>Microsoft Windows 95/98/NT/2000   | J3110A<br>J3111A<br>J3112A<br>J3113A |
| EtherTalk                   | AppleTalk   | J3110A<br>J3111A<br>J3113A           |
| LocalTalk                   | AppleTalk   | J3111A                               |
| DLC/LLC                     | IBM OS/2 Warp**<br>Microsoft Windows NT<br>Artisoft LANtastic**   | J3110A<br>J3111A<br>J3112A<br>J3113A |
| TCP/IP                      | Microsoft Windows 95/98/NT/2000<br>Novell NetWare 5 via NDPS<br>IBM OS/2 Warp<br>LPD (line printer daemon)<br>IPP (Internet Printing Protocol)<br>UNIX and Linux, including:<br>Hewlett-Packard HP-UX, Sun<br>Microsystems Solaris (Sun<br>SPARCsystems only), SCO UNIX**,<br>IBM AIX**, HP MPE-iX**, RedHat<br>Linux, SuSE Linux | J3110A<br>J3111A<br>J3112A<br>J3113A |

\* Refer to the current HP JetDirect product data sheets for supported network versions. For other networks, consult your system vendor or authorized HP dealer.

\*\*Contact your network system vendor for software, documentation, and support.

---

# Supported Printers

The HP JetDirect 600N print servers are supported in all HP printers and mopiers with Enhanced Input/Output (EIO) slots, such as:

- HP LaserJet EIO printers
- HP Color LaserJet EIO printers
- HP Mopiers (EIO mopiers)
- HP DesignJet EIO large format printers

For most of these printers, you can use the printer's control panel to configure basic network parameters on the HP JetDirect 600N internal print server. Refer to chapter 3.

---

**Note**

For installation in peripheral devices not covered in this guide, refer to the manuals supplied with the peripheral device.

---



# Installing the Print Server

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## What You Need for Installation

- The proper HP JetDirect print server, documentation, and software for your network.
- The proper network cables and connectors for connecting the card and printer to your network.
- A static-safe environment for handling the card.

---

**CAUTION**

**HP JetDirect cards contain electronic components that can be damaged by static electricity through electrostatic discharge (ESD).** To prevent ESD damage, maintain frequent contact with any bare sheet metal surface on the printer. A grounding wrist strap (or similar device) is useful for this purpose. Handle the card carefully at all times. Avoid touching electronic components or circuit paths.

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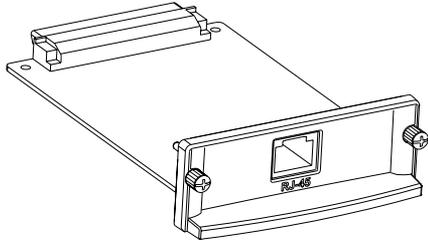
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## Step 1. Identify Your HP JetDirect 600N Internal Print Server

Remove the HP JetDirect card from its packaging and verify that you have the correct card for your network.

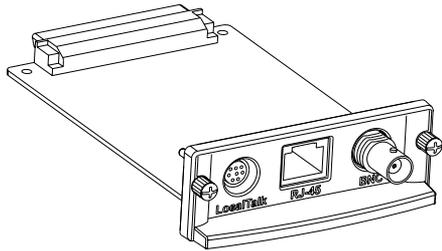
**HP J3110A** for Ethernet and IEEE 802.3 Type 10Base-T networks (10 Mbps).

This card provides a single RJ-45 connector for networks that use unshielded twisted-pair cables.



**HP J3111A** for Ethernet, IEEE 802.3 Type 10Base-T/10Base-2 networks (10 Mbps), and LocalTalk networks.

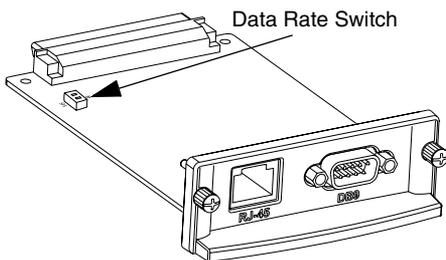
This card provides an RJ-45 connector for networks that use unshielded twisted-pair cables, a BNC connector for ThinLAN coaxial cables, and a Mini-DIN 8 connector for a LocalTalk connector box.



*You can use the LocalTalk port and only one Ethernet port: RJ-45 or BNC.*

**HP J3112A** for Token Ring (IEEE 802.5) networks. A Data Rate switch selects operation for 4-Mbps or 16-Mbps Token Ring networks.

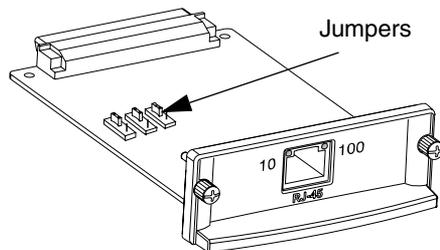
This card provides an RJ-45 connector for networks that use unshielded twisted-pair cables, and a DB 9 connector for Type 1, 2 or 6 shielded twisted-pair cables.



*You can use only one Token Ring port: RJ-45 or DB 9.*

**HP J3113A** for Ethernet, IEEE 802.3 Type 10Base-T or IEEE 802.3u Type 100Base-TX networks. Jumpers on the card allow autonegotiated or manual settings for 10 or 100 Mbps operation at full or half duplex.

This card provides a single RJ-45 connector for networks that use unshielded twisted-pair cables.

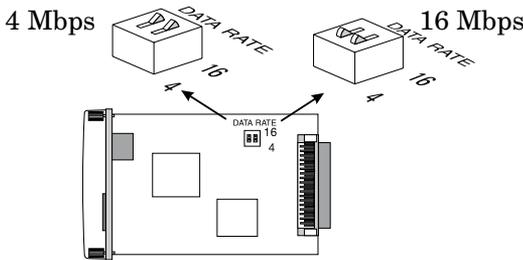


**In most cases, you do not need to change the jumpers.** See appendix A.

---

## Step 2. If Necessary, Set Switches or Jumpers on Your Card

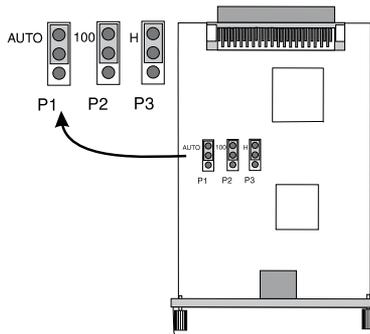
- **If you have an HP J3112A Token Ring print server**, you must set the Data Rate switches on the card to either 4 Mbps or 16 Mbps. The selection depends on the data rate of your Token Ring network.



- a. Locate the Token Ring card Data Rate switches.
  - b. Set the switches to 4 or 16 Mbps. The default is 16 Mbps.
- **If you have an HP J3113A 10/100Base-TX print server**, verify that jumper P1 is in the “AUTO” (Autonegotiation) position. This is the default position. (In this position, the card will attempt to automatically connect to the network at the detected speed (10 or 100 Mbps) and communication mode (Full or Half Duplex).)

P1 = AUTO

10/100; Half/Full  
Autonegotiation



---

### Note

For the definition of other jumper settings on the 10/100Base-TX card, see appendix A.

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## Step 3. Before Installing the Card, Verify That Your Printer Works

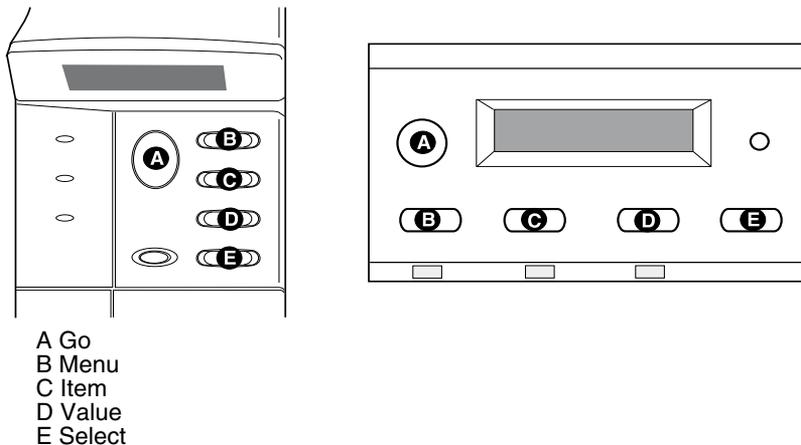
To verify that your printer is working properly, print a Printer Configuration page. Instructions for printing a configuration page on selected printers are provided below. (For other printers, refer to the manuals supplied with the printer.) If a Printer Configuration page will not print, refer to your printer manuals for troubleshooting instructions.

### HP LaserJet Printers and Mopiers

Perform the following steps using the printer control panel:

1. Make sure the printer is on and the `READY` message is displayed.
2. Press **Menu** until the display reads `INFORMATION MENU`.
3. Press **Item** until the display reads `PRINT CONFIGURATION` (or `PRINT CONFIG PAGE`).
4. Press **Select** to print. If necessary, press **Go** to bypass additional messages.
5. The Printer Configuration page(s) show how the printer is configured.

**Figure 2-1 Typical HP LaserJet Printer Control Panels**



## HP DesignJet Printers

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**Note** Refer to your HP DesignJet printer documentation for instructions on navigating through the printer's Front Panel menus.

---

1. With the printer status `Ready`, select the Printer Setup Menu icon on the front panel using the up or down arrow keys (↑/↓). Then press **Enter**.
2. To ensure that all Front Panel menu items are accessible, verify the Menu Mode is set to `Full` (`Utilities -> Menu Mode -> Full`✓).
3. Print a Service Configuration print (`Utilities -> Test prints -> Service Config`).

---

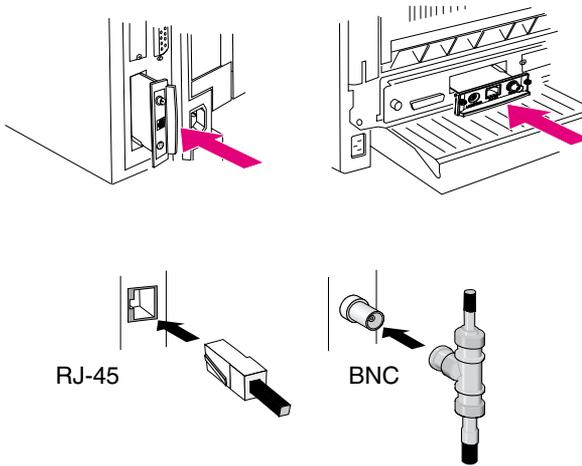
**Note** When an HP JetDirect print server is installed in the printer, HP JetDirect configuration information will be included with the printer's Service Configuration print.

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## Step 4. Turn Off Your Printer and Insert the Card

Figure 2-2 Typical Card Installation and Network Connection



1. Turn off the printer (or mopier).
2. Identify an available HP Enhanced I/O (EIO) slot in the back of the printer.

---

**Note** You can install the card into any EIO slot in the HP printer or mopier.

---

3. If the slot has a cover plate, remove it.
4. Insert the card. Align the card with the guide rails in the slot.
5. Press the card into the slot until firmly seated and tighten each retaining screw a little at a time until both screws are secure.
6. Connect the network cable to the card.

---

**Note**

For the HP J3111A Ethernet card, you can connect to the LocalTalk port and to only one of the Ethernet ports (RJ-45 or BNC).

For the HP J3112A Token Ring card, you can connect to only one of the Token Ring ports (RJ-45 or DB 9).

---

7. Turn on the printer (or mopier).
- 

## ***Step 5. Verify That the Card Was Installed Correctly***

1. Print another Printer Configuration Page (or Service Configuration print) as described previously in *Step 3* and verify that JetDirect Configuration Page information also prints.

In HP LaserJet printers, a JetDirect Configuration Page will print for each EIO slot that contains an HP JetDirect card.

2. In the General Information section of the JetDirect Configuration Page, locate the message "I/O CARD READY".

This section of the configuration page also contains product-specific information, such as:

- HP JetDirect product number
- Firmware revision number
- LAN Hardware (MAC) address
- Manufacturing identification number

---

**Note**

For a description of other messages that may appear on the JetDirect Configuration Page, refer to the HP JetDirect administrator's guide located on the HP JetDirect CD-ROM.

---



For persistent problems, refer to the troubleshooting sections in the HP JetDirect administrator's guide supplied electronically on the HP JetDirect CD-ROM.

---

## **Step 6. Configure the Card for Network Operation**

If the card has been successfully installed and is operating correctly, you are now ready to configure the card for network operation. You can configure the card using the following methods:

- Use the installation and configuration software on the HP JetDirect CD-ROM. On Microsoft Windows 95/98/NT/2000 systems (Microsoft or Novell NetWare networks), the CD-ROM installation utility will guide you through the entire printer setup process.
- Use HP printer management software (such as *HP Web JetAdmin*) or other network utilities. HP printer management software can be downloaded from HP's Customer Care Center ([www.hp.com/support/net\\_printing](http://www.hp.com/support/net_printing)). For additional information, see the HP JetDirect administrator's guide supplied electronically on the CD-ROM.
- Use the printer's control panel (for printers with a supported control panel) to configure basic network parameters on the card. See chapter 3 in this guide.
- Once the HP JetDirect card has been configured for TCP/IP operation, use a supported network browser to access the embedded web server on the HP JetDirect card. See chapter 4 in this guide.
- Once the HP JetDirect card has been configured for TCP/IP operation, use the Telnet services provided on the HP JetDirect card. See the HP JetDirect administrator's guide supplied electronically on the CD-ROM.

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**Note**

Depending on the method you use to configure the HP JetDirect card for network operation, you may still need to set up your computers for printing. To add the printer to your system, or to enable printing from your system, refer to the Help system provided with your printer installation software and operating system. For more information, refer to the *HP JetDirect Administrator's Guide* provided on the HP JetDirect CD-ROM.

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# Control Panel Configuration

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## Introduction

In most cases, you will use HP software tools to configure your network printer. However, if your HP printer or Mopier has a control panel, you can configure basic network parameters through the printer's control panel. Printers with control panel support include:

- HP LaserJet 4000, 4050, 5000, 8000, and 8100 Series EIO printers
- HP Color LaserJet 4500, 8500, 8550 Series EIO printers
- HP Mopier 240 and 320 Series EIO Mopiers
- HP DesignJet 1050C and 1055CM Series EIO printers

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**Note**

To configure HP JetDirect parameters on HP DesignJet 1050C/1055CM Series printers through the printer's front control panel, see your HP DesignJet setup guide.

For printers without control panels (for example, HP LaserJet 2100 Series EIO printers), you must use HP software tools for configuration.

---

You can use the printer control panel to do the following:

- Enable or disable network protocols
- Configure IPX frame types
- Configure IPX source routing for Token Ring networks
- Configure TCP/IP parameters
- Configure Apple EtherTalk Phase parameters for Ethernet networks

After you have configured the HP JetDirect card through the control panel, you may still need to complete the configuration of your computer and network operating system for printing. For more information, see the HP JetDirect software installation instructions included with this product.

If you reconfigure the card—for example, you disable a network protocol—your configuration is saved on the card and is maintained even after the printer is turned off and back on again.

---

## To Restore Configuration Default Values

You can restore default values by performing a cold reset on your printer. *See your printer documentation for instructions.* (Note: To perform a cold reset on some HP LaserJet printers, turn off the printer and then hold down **Go** as you turn the printer back on.) *Resetting your printer restores both your printer and JetDirect configuration to their factory default values.* To verify HP JetDirect default values have been reset, print a JetDirect configuration page (see chapter 2).

---

## To Enable or Disable Network Protocols

When you first install the card from the factory, all supported network protocols are enabled (or turned on) when you turn the printer on. If a network protocol is enabled, the card may actively transmit on the network even when the protocol is not in use. This may increase network traffic slightly. To eliminate unnecessary traffic, you can disable unused protocols. Disabling unused protocols lets you:

- reduce network traffic by eliminating broadcast messages from unused protocols (for example, IPX/SPX and TCP/IP).
- provide better control over who prints to the printer by eliminating users from other networks who might accidentally route print jobs to this printer.

- eliminate unnecessary information on the JetDirect Configuration Page, which displays status information for all enabled protocols.
- display protocol-specific error conditions on the printer's control panel. These warning messages are displayed only if all enabled protocols are unable to print.

## To enable or disable network protocols

1. Take the printer offline by pressing **Go**. The "Ready" LED should be off.
2. Press **Menu** repeatedly until EIO # JETDIRECT MENU is displayed (# identifies the EIO slot number of the card).
3. Press **Item** until CFG NETWORK=NO\* appears.  
 NO\* indicates that access to the EIO JetDirect network menus will be bypassed. You must change this to CFG NETWORK=YES\* to access the EIO JetDirect menus:
  - a. Press **Value**. CFG NETWORK=YES appears.
  - b. Press **Select**. CFG NETWORK=YES\* appears.
4. Press **Item** to scroll through each network protocol until the one you want to change is displayed.

|  |  |
|--|--|
| IPX/SPX=ON*  | <ul style="list-style-type: none"> <li>● To change the protocol status, press <b>Value</b> and then press <b>Select</b>.</li> <li>● Press <b>Item</b> to continue to the next protocol.</li> </ul> |
| DLC/LLC=ON*  |  |
| TCP/IP=ON*   |  |
| ETALK=ON*  |  |
| <p>Note:</p> <p>ON* indicates the protocol is enabled.</p> <p>OFF* indicates the protocol is disabled.</p> <p>"ETALK" refers to the EtherTalk protocol (not available on Token Ring cards)</p> |  |

5. To activate the printer and save your changes, press **Go**.

---

# Configuring IPX Frame Types

On IPX/SPX protocol networks (for example, Novell NetWare), the format of network communication frames must be specified on the card. In most cases, you can keep the default Frame Type setting, which is AUTO (“Automatic”). However, you can manually set the frame type format if required.

Note that the IPX/SPX protocol must be enabled (IPX/SPX=ON\*) before you can configure frame types.

## IPX Frame Types on an HP JetDirect Ethernet Card

| Frame Type     | Description  |
|----------------|--|
| AUTO (default) | Automatically senses and limits the frame type to the first one detected.                                      |
| EN_8023        | Limits the frame type to IPX over IEEE 802.3 frames. All others will be counted and discarded.                 |
| EN_II          | Limits the frame type to IPX over Ethernet Frames. All others will be counted and discarded.                   |
| EN_8022        | 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.       |

## IPX Frame Types on an HP JetDirect Token Ring Card

| Frame Type     | Description  |
|----------------|--|
| AUTO (default) | Automatically senses and limits the frame type to the first one detected.  |
| TR_8022        | Limits the frame type to IPX over IEEE 802.2 LLC with IEEE 802.5 frames. All others will be counted and discarded. |
| TR_SNAP        | Limits the frame type to IPX over SNAP with IEEE 802.5 frames. All others will be counted and discarded.           |

## To configure an IPX frame type

If you have not already done so, enable the IPX/SPX protocol (IPX/SPX=ON\*) by following the instructions described in “To enable or disable network protocols” in this chapter.

1. Take the printer offline by pressing **Go**. The “Ready” LED should be off.
2. Press **Menu** repeatedly until EIO # JETDIRECT MENU is displayed (# identifies the EIO slot number of the card).
3. Press **Item** until CFG NETWORK=NO\* appears.

NO\* indicates that access to the EIO JetDirect network menus will be bypassed. You must change this to CFG NETWORK=YES\* to access the EIO JetDirect menus:

- a. Press **Value**. CFG NETWORK=YES appears.
  - b. Press **Select**. CFG NETWORK=YES\* appears.
4. Press **Item** to scroll through each network protocol until CFG IPX/SPX=NO\* is displayed.

To access the IPX/SPX configuration menu, press **Value** and then press **Select** to display CFG IPX/SPX=YES\*.

5. Press **Item** until FRAME=<Frame Type>\* appears.

|  |   |
|--|---|
| AUTO<br>EN_8023<br>EN_II<br>EN_8022<br>EN_SNAP<br>TR_8022<br>TR_SNAP | <ul style="list-style-type: none"><li>● To change the frame type, press <b>Value</b> until the desired option appears, and then press <b>Select</b>.</li><li>● Press <b>Item</b> to continue to the next parameter.</li></ul> |
|--|---|

Note:

An asterisk (\*) indicates the active frame type selected.

The available frame type options depend on whether you have an Ethernet or Token Ring card installed.

6. To activate the printer and save your changes, press **Go**.

---

# Configuring IPX Source Routing (Token Ring Cards Only)

On an IPX/SPX network, the HP JetDirect Token Ring print server must be configured with the type of Token Ring source routing used on the network. In most cases, you can keep the default setting, which is AUTO (“Automatic”). However, you can manually set source routing if required.

Note that the IPX/SPX protocol must be enabled (IPX/SPX=ON#) before you can configure source routing.

The possible routing selections are:

| Source Routing | Description  |
|----------------|--|
| AUTO (default) | The type of source routing required by the network environment will be automatically sensed.                                   |
| OFF            | All packets are sent without source routing. The JetDirect card will only respond to stations that are on the same ring.       |
| SINGLE R       | All packets are sent with source routing. The <i>Single Route</i> method is used for broadcasts and when the route is unknown. |
| ALL RT         | All packets are sent with source routing. The <i>All Routes</i> method is used for broadcasts and when the route is unknown.   |

## To configure IPX source routing

1. Take the printer offline by pressing **Go**. The “Ready” LED should be off.
2. Press **Menu** repeatedly until EIO # JETDIRECT MENU is displayed (# identifies the EIO slot number of the card).

3. Press **Item** until CFG NETWORK=NO\* appears.

NO\* indicates that access to the EIO JetDirect network menus will be bypassed. You must change this to CFG NETWORK=YES\* to access the EIO JetDirect menus:

- a. Press **Value**. CFG NETWORK=YES appears.
  - b. Press **Select**. CFG NETWORK=YES\* appears.
4. Press **Item** to scroll through each network protocol until CFG IPX/SPX=NO\* is displayed.

To access the IPX/SPX configuration menu, press **Value** and then press **Select** to display CFG IPX/SPX=YES\*.

5. Press **Item** until SRC RC=<Source Routing>\* appears.

|   |  |
|---|--|
| AUTO<br>OFF<br>SINGLE R<br>ALL RT                                       | <ul style="list-style-type: none"><li>● To change the selection, press <b>Value</b> until the desired option appears, and then press <b>Select</b>.</li><li>● Press <b>Item</b> to continue to the next parameter.</li></ul> |
| Note:<br>An asterisk (*) indicates the active source-routing selection. |  |

6. To activate the printer and save your changes, press **Go**.

---

# Configuring TCP/IP Parameters

Using the control panel of your printer, you can manually configure these TCP/IP parameters:

| Parameter                | Description   |
|--------------------------|---|
| BOOTP                    | <p>YES (default) enables TCP/IP configuration automatically from the network using BOOTP/TFTP, DHCP, or RARP.</p> <p>If BOOTP=YES*, none of the remaining parameters can be configured from the control panel.</p> <p>NO disables BOOTP, and allows you to configure the remaining parameters from the printer's control panel.</p> |
| IP Address               | <p>The JetDirect card's unique TCP/IP network address, consisting of 4 bytes:<br/>IP BYTE1.IP BYTE2.IP BYTE3.IP BYTE4<br/>(example: 015.024.227.113).</p>   |
| Subnet Mask              | <p>A bit mask filter used to identify the subnet of the JetDirect card if subnetting is used, consisting of 4 bytes:<br/>SM BYTE1.SM BYTE2.SM BYTE3.SM BYTE4<br/>(example: 255.255.248.0)</p>   |
| Syslog Server IP Address | <p>The IP address of the log server to be used by the JetDirect card consisting of 4 bytes:<br/>LG BYTE1.LG BYTE2. LG BYTE3.LG BYTE4</p>  |
| Default Gateway          | <p>The IP address of the gateway used to communicate with stations outside the local subnet consisting of 4 bytes:<br/>GW BYTE1.GW BYTE2.GW BYTE3.GW BYTE4</p>  |
| Timeout                  | <p>The TCP/IP idle time-out period (in seconds). The value can range from 0 to 3600. The default is 90.</p> <p>If set to "0", the timeout feature of the HP JetDirect card is disabled—TCP/IP connections will remain open until closed by the server.</p>  |

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**Note** The card must be configured with a valid IP address to operate on a TCP/IP network.

For DHCP (Dynamic Host Configuration Protocol) operation, BOOTP must be enabled.

If an IP address is configured through DHCP and is subsequently changed through the control panel, the DHCP assigned address is released.

If a printer is configured through DHCP, and you manually change the subnet mask or default gateway through the control panel, you should also change the IP address.

---

## To configure TCP/IP parameters

If you have not already done so, enable TCP/IP (TCP/IP=ON\*) by following the instructions described in “To Enable or Disable Network Protocols” earlier in this chapter.

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**Note** Enter data carefully. If you make an incorrect entry, you cannot change it without starting again from step 1.

---

1. Take the printer offline by pressing **Go**. The “Ready” LED should be off.
2. Press **Menu** repeatedly until EIO # JETDIRECT MENU is displayed (# identifies the EIO slot number of the card).
3. Press **Item** until CFG NETWORK=NO\* appears.

NO\* indicates that access to the EIO JetDirect network menus will be bypassed. You must change this to CFG NETWORK=YES\* to access the EIO JetDirect menus:

- a. Press **Value**. CFG NETWORK=YES appears.
- b. Press **Select**. CFG NETWORK=YES\* appears.

4. Press **Item** to scroll through each network protocol until `CFG TCP/IP=NO*` is displayed.

To access the TCP/IP configuration menu, press **Value** and then press **Select** to display `CFG TCP/IP=YES*`.

5. Press **Item** until `BOOTP=YES*` or `BOOTP=NO*` appears.
  - The asterisk (\*) indicates the active selection.
  - To change the BOOTP setting, press **Value**. Then press **Select**. Be sure “\*” appears alongside your selection.
6. If `BOOTP=YES*`, the printer is configured to retrieve its TCP/IP parameters over the network using BOOTP or DHCP. No other TCP/IP prompts will be displayed on the printer's control panel. To activate the printer and save your changes, press **Go**.

You have completed TCP/IP configuration on the card. You must now configure your BOOTP or DHCP server. Refer to your system manuals for instructions.

7. If `BOOTP=NO*`, the printer is configured to accept TCP/IP parameters from the printer's control panel. Press **Item** to configure each TCP/IP parameter.
  - a. `IP BYTE 1=<value>*` should appear on the control panel first. To enter the first byte of the IP address, press **Value** until the desired value appears. (If you press and hold **Value**, the values scroll rapidly.)
  - b. To save the value, press **Select**. Press **Item** to continue.
  - c. Configure the remaining bytes of the IP address in the same manner.
8. You can configure the subnet mask bytes (SM), syslog server IP address (LG), default gateway (GW), and timeout (TIMEOUT) in the same manner.
9. To activate the printer and save your changes, press **Go**.

---

# Configuring Apple EtherTalk Phase Parameters (Ethernet Cards Only)

You can configure Apple EtherTalk parameters if the Apple EtherTalk protocol is enabled (ETALK=ON\*), and the PostScript printer language is enabled.

To ensure the PostScript printer language is enabled, check the printer's CONFIGURATION MENU. PERSONALTY=PS\* or PERSONALTY=AUTO\* should be set.

## To configure EtherTalk parameters

If you haven't already done so, enable EtherTalk by following the instructions described in "To Enable or Disable Network Protocols" in this chapter.

1. Take the printer offline by pressing **Go**. The "Ready" LED should be off.
2. Press **Menu** repeatedly until EIO # JETDIRECT MENU is displayed (# identifies the EIO slot number of the card).
3. Press **Item** until CFG NETWORK=NO\* appears.

NO\* indicates that access to the EIO JetDirect network menus will be bypassed. You must change this to CFG NETWORK=YES\* to access the EIO JetDirect menus:

- a. Press **Value**. CFG NETWORK=YES appears.
  - b. Press **Select**. CFG NETWORK=YES\* appears.
4. Press **Item** to scroll through each network protocol until CFG ETALK=NO\* is displayed.

To access the EtherTalk configuration menu, press **Value** and then press **Select** to display CFG ETALK=YES\*.

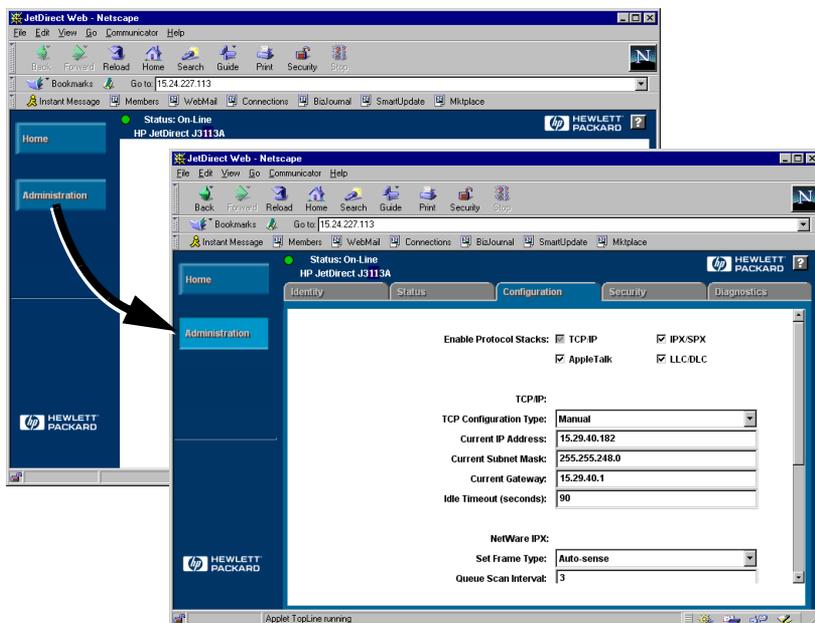
5. Press **Item**. ETALK PHASE=1\* or ETALK PHASE=2\* appears.
  - The asterisk (\*) indicates the active phase setting.
  - To change the phase setting, press **Value** until the phase setting that you desire appears, then press **Select**. Be sure "\*" appears alongside your selection.
6. To activate the printer and save your changes, press **Go**.



## Using the Embedded Web Server

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Each HP JetDirect 600N print server contains an embedded web server that can be accessed through a supported web browser on an intranet. The embedded web server provides access to configuration and management pages for the HP JetDirect print server and the attached peripheral device.



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## Supported Web Browsers

The following web browsers are supported:

- Windows 95/98 and NT 4.0:
  - Netscape Navigator 4.01, 4.02, 4.03, and 4.05
  - Microsoft Internet Explorer 4.0 with update version SP1
- Windows 2000:
  - Microsoft Internet Explorer 5.0
- HP-UX and Solaris
  - Netscape Navigator 4.01, 4.02, 4.03, and 4.05
- Linux
  - Netscape Navigator 4.03, 4.05

For the latest information, visit our HP Customer Care Center web site ([www.hp.com/go/support](http://www.hp.com/go/support)).

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## HP Web JetAdmin Compatibility

HP Web JetAdmin is a printer installation and management application for intranets and is available from the HP Customer Care Center web site ([www.hp.com/support/net\\_printing](http://www.hp.com/support/net_printing)).

HP Web JetAdmin version 5.6 or later is recommended for operation with the HP JetDirect embedded web server.

If your printer has been discovered through HP Web JetAdmin 5.6 (or later), the embedded web server on the JetDirect print server will provide a link to HP Web JetAdmin for management of this and other JetDirect devices on the network.

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# 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.

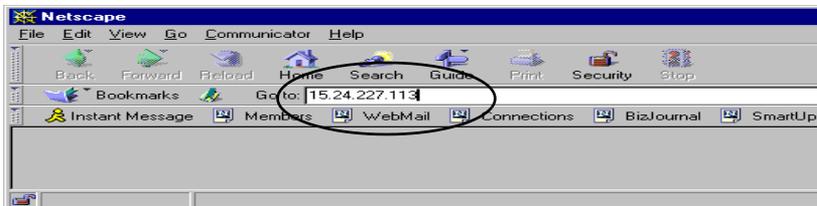
There are many ways to configure an IP address on the print server. For example, you can *automatically* configure IP parameters over the network using BootP (Bootstrap Protocol) or DHCP (Dynamic Host Configuration Protocol) each time the printer is turned on. Or, you can *manually* configure IP parameters using one of the following methods:

- the *Install Network Printer* wizard on the HP JetDirect CD-ROM
- the printer’s control panel (see chapter 3),
- Telnet (see the HP JetDirect administrator’s guide supplied electronically on the HP JetDirect CD-ROM),
- Using the TCP/IP “arp -s” command,
- HP Web JetAdmin or other management software.

If the HP JetDirect print server does not receive its IP configuration within two minutes after power up, a default IP address is automatically assigned: 192.0.0.192. This address is not a valid IP address for your network but can be used to initially access the JetDirect print server. However, to use the default IP address, you must temporarily set up your system with the same IP *network number* or establish a route to it.

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

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



The HP JetDirect main web page will be displayed.

Click the “?” icon on the web page for more information.

---

# Operating Notes

- Changes to the IP address and other parameters will close the connection to the embedded web server. To re-establish a connection, use the new IP address.
- The HP JetDirect 600N print server supports the Internet Printing Protocol (IPP). For Windows NT 4.0 and 2000 systems, HP provides software (the HP Internet Printer Connection software) to configure the system for internet printing. To automatically install the software and set up your system for printing to this printer, click **Internet Printing Install Wizard**.
- A link to HP's web site is provided by clicking on the HP logo.

# HP J3113A 10/100Base-TX Print Server

## Supported Links

HP J3113A 10/100 Base-TX print servers support 10 or 100 Mbps operation using full-duplex or half-duplex transmission channels.

When connecting to network devices that do not support autonegotiation, the print server will configure itself for *10-Mbps* or *100-Mbps half-duplex* operation. For example, when connected to a non-negotiating 10 Mbps hub, the print server card will automatically set itself to operate at *10-Mbps half-duplex*.

If the card is not able to connect to the network through autonegotiation, you can manually set the link operating mode using *link configuration jumpers (P1, P2, and P3)* on the card.

## Link-Speed LEDs

The HP J3113A print server provides 2 light-emitting diodes (LEDs) near the RJ-45 connector. These LEDs indicate the operating link speed of the print server.

| LED State | Description                                    |  |
|-----------|--|--|
| Off       | Not linked                                     |  |
| On        | Link established at either 10 Mbps or 100 Mbps |  |

# Link Configuration Jumper Settings

Link configuration jumpers (P1, P2, and P3) can be used to configure the card. These jumpers should be used if the card is unable to establish a network link through autonegotiation. If P1 is changed to the AUTO=OFF position, then P2 selects the link speed (10 or 100 Mbps) and P3 selects the communication mode (Half duplex or Full duplex). If you manually configure the card using jumpers P2 and P3, you must match the configuration of the connecting device, such as the network hub or switch.

| Jumper Setting Descriptions             |      |       | Jumper Location |   |
|---|------|-------|-----------------|---|
| AUTO = ON<br>(Default)*                 | AUTO | 100 H |                 | <p>(*Note: If the jumper on P1 is removed or lost, the card defaults to the AUTO=ON state.)</p> |
| 100 Mbps<br>Half-Duplex<br>(AUTO = OFF) | AUTO | 100 H |                 |   |
| 100 Mbps<br>Full-Duplex<br>(AUTO = OFF) | AUTO | 100 H |                 |   |
| 10 Mbps<br>Half-Duplex<br>(AUTO = OFF)  | AUTO | 100 H |                 |   |
| 10 Mbps<br>Full-Duplex<br>(AUTO = OFF)  | AUTO | 100 H |                 |   |

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# Link Troubleshooting

If the HP J3113A print server does not successfully connect to the network:

- both link speed LEDs (10 and 100) will be off
- a “LOSS OF CARRIER ERROR” will be indicated on the JetDirect Configuration Page.

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**Note** The HP J3113A 10/100Base-TX print server may require up to *10 seconds* to establish a connection on the network.

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Try the following troubleshooting procedures:

- Verify cabling connections.
- Use jumpers P1, P2, and P3 to manually configure the print server. Verify that the configuration of the connecting network device (such as a network switch) matches. For example, if you set the print server for 100Base-TX Full-Duplex operation, the port on the network switch must also be set to 100Base-TX Full-Duplex operation. Be sure to power-cycle the printer.
- On the JetDirect Configuration Page, compare your configuration for the following parameters:

| Parameter    | Expected Messages for 10/100TX Cards                                       |
|--------------|--|
| PORT SELECT: | RJ-45  |
| PORT CONFIG: | 100TX HALF, 100TX FULL,<br>10BASE-T HALF, 10BASE-T FULL                    |
| AUTONEG:     | ON (Jumper P1 set to AUTO)<br>OFF (Jumper P1 set for manual configuration) |

For other configuration parameters and messages on the JetDirect Configuration Page, refer to the troubleshooting chapters in the HP JetDirect administrator’s guide provided on the HP JetDirect CD-ROM.



## Specifications and Regulatory Statements

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### Specifications

#### HP JetDirect 600N Internal Print Server

- HP J3110A Ethernet, IEEE 802.3 Type 10Base-T (RJ-45)
- HP J3111A Ethernet, IEEE 802.3 Type 10Base-T (RJ-45), Type 10Base2 (BNC), and LocalTalk (Mini-DIN 8)
- HP J3112A Token Ring/IEEE 802.5 (RJ-45 or DB-9)
- HP J3113A Ethernet, IEEE 802.3 and IEEE 802.3u 10/100Base-TX (RJ-45)

#### Electrical

1.25 A maximum @ 3.3 V nominal

#### Environmental

|   | <b>Operating</b>               | <b>Non-Operating</b>              |
|---|--------------------------------|-----------------------------------|
| <b>Temperature</b>                            | 0°C to 55°C<br>(32°F to 131°F) | -40°C to 70°C<br>(-40°F to 158°F) |
| <b>Relative Humidity<br/>(non-condensing)</b> | 15% to 95% at<br>40°C (104°F)  | 15% to 90% at<br>65°C (149°F)     |
| <b>Maximum altitude</b>                       | 4.6 km (15,000 ft.)            | 4.6 km (15,000 ft.)               |

## Electromagnetic

- FCC Title 47 CFR Part 15 Class A for Ethernet (Class B if LocalTalk only) (USA)
- ICES-003 Class A (Canada)
- VCCI Class A (Japan)
- AS/NZS3548 Class A (Australia, New Zealand)
- CISPR-22 Class A (1993)\* for Ethernet (Class B if LocalTalk only) (International, Europe)
- CNS 13438 Class A (Taiwan)
- Korean EMI Law, No. 1996-98 Class A (Korea)

(\*For EU immunity compliance, see the Declaration of Conformity on page [B-3](#).)

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# Regulatory Statements

## FCC Statements

**General Information.** This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Pursuant to Part 15.21 of the FCC Rules, any changes or modifications to this equipment not expressly approved by the Hewlett-Packard Company may cause interference and void the FCC authorization to operate this equipment.

The Federal Communications Commission has prepared a booklet titled *Interference Handbook* (1986), which may be helpful to you. This booklet (stock number 004-000-004505-7) may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

**FCC Class A for HP J3112A Token Ring, and HP J3110A, J3111A, J3113A Ethernet or IEEE 802.3/802.3u.** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against interference in a *commercial* environment. 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.

Installing this equipment in an FCC Level B product results in an FCC Level A Composite System (as defined in the FCC Rules and Regulations) when attached to an Ethernet (IEEE 802.3/802.3u) or Token Ring (IEEE 802.5) network.

**FCC Class B for HP J3111A with LocalTalk Only.** 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 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:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

## European Community

When used with Ethernet, IEEE 802.3/802.3u 10/100Base-TX, or Token Ring configurations, this equipment complies with EN55022 Class A.

This is a class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

**Declaration of Conformity.** The following Declaration of Conformity complies with ISO/IEC Guide 22 and EN45014. It identifies the product, the manufacturer's name and address, and the applicable specifications that are recognized in the European community.

## 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  
U.S.A.

**declares that the product:**

**Product Name:** HP JetDirect 600N Print Servers

**Model Number:** HP J3110A, J3111A, J3112A, J3113A

**conforms to the following Product Specifications:**

**Safety:** IEC 950:1991+A1,A2 / EN60950 (1992)+A1,A2

**EMC:** EN 55022 (1994) / CISPR-22 (1993) class B  
EN 55022 (1994) / CISPR-22 (1993) class A \*  
EN50082-1 (1992)  
prEN 55024-2 (1992) / IEC 801-2 (1991) 4 kV CD, 8 kV AD  
prEN 55024-3 (1991) / IEC 801-3 (1984), 3 V/m  
prEN 55024-4 (1992) / IEC 801-4 (1988): 1 kV-(power line)  
0.5 kV-(signal line)

**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.

\* The J3110A, J3111A, J3112A, and J3113A with Ethernet/IEEE 802.3/802.3u cables or Token Ring/IEEE 802.5 cables attached are Class-A

Roseville, May 9, 1997



Karen Dorchak, Quality 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)

## Australia



This equipment complies with Australian EMC requirements.

## Canada

This equipment complies with Canadian EMC Class-A requirements.

## VCCI Class A (Japan)

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A情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

## RRL Statement (Korea)

사용자 안내문 : A 급기기

이 기기는 업무용으로 전자파 적합등록을 받은 기기 이오니, 판매자 또는 사용자는 이점을 주의하시기 바라며, 만약 잘못 구입하셨을 때에는 구입한 곳에서 비업무용으로 교환하시기 바랍니다.

## 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。

## 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系。

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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