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hp jetdirect
615n/610n/600n
Print Server

**hardware
installation
guide**

Hardware Installation Guide

This guide is provided in a PDF format that is compatible with screen readers used for accessibility.

HP Jetdirect 615N/610N/600N Print Server

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Applicable Products:

J3110A (600N)
J3111A (600N)
J4167A (610N)
J4169A (610N)
J6057A (615N)

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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.
WARNING	Denotes a hazard that can cause injury
CAUTION	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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Introduction

The HP Jetdirect 615N/610N/600N family of internal print servers are network interface cards for HP Enhanced I/O (EIO) printers and MFP (multifunction peripheral) products. 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 615N/610N/600N print server is illustrated below. The card must first be installed into the printer and connected to the network. Then, you must configure the card for network operation.

HP Jetdirect 615N/610N/600N
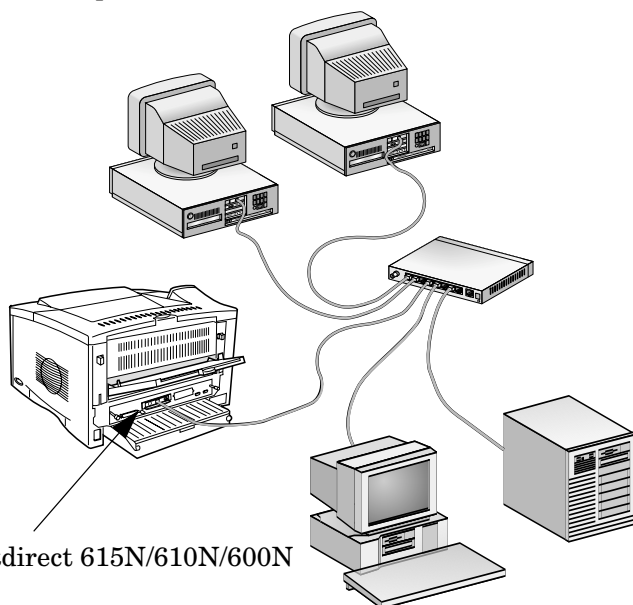
● To configure the card, you can use the HP Jetdirect printer installation and setup software. Refer to the HP Jetdirect software installation instructions included with this product.

● Alternatively, for printers equipped with a control panel, you can use the *printer's control panel* to configure basic network parameters. See Appendix A.

Supported Network Protocols

Supported Network Protocols	Network Printing Environments*	HP Jetdirect Product
TCP/IP	Microsoft Windows 95/98/Me/NT4.0/2000/XP Novell NetWare 5 via NDPS UNIX and Linux, including: Hewlett-Packard HP-UX, Sun Microsystems Solaris (Sun SPARCsystems only), IBM AIX**, HP MPE-iX**, RedHat Linux, SuSE Linux LPD (line printer daemon) IPP (Internet Printing Protocol)	J3110A J3111A J4167A J4169A J6057A
IPX/SPX and compatible	Novell NetWare Microsoft Windows 95/98/Me/NT4.0/2000/XP	J3110A J3111A J4167A J4169A J6057A
EtherTalk	Mac OS	J3110A J3111A J4169A J6057A
LocalTalk	Mac OS	J3111A
DLC/LLC	Microsoft Windows NT** Artisoft LANtastic**	J3110A J3111A J4167A J4169A J6057A
* 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 615N/610N/600N print servers are supported in all HP printers and multifunction peripheral devices (MFPs) with Enhanced Input/Output (EIO) slots, such as:

- HP LaserJet EIO printers and MFPs
- HP Color LaserJet EIO printers and MFPs
- HP DesignJet EIO large format printers
- HP Business InkJet EIO printers

For most of these printers, you can use the printer's control panel to configure basic network parameters on the HP Jetdirect 615N/610N/600N internal print server. Refer to Appendix A.

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

Related Documentation

Additional documentation for installation, configuration and management of HP Jetdirect EIO print servers are located on the HP Jetdirect CD-ROM:

- *HP Jetdirect Print Servers Administrator's Guide (Models 610N/615N)*

Note   This guide is provided in a PDF format that is compatible with screen readers used for accessibility.

- *HP Jetdirect Print Servers 600N/400N/500X/300X Administrator's Guide*

2

Installing the Print Server

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.

Step 1. Identify Your HP Jetdirect 615N/610N/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 (600N) 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.
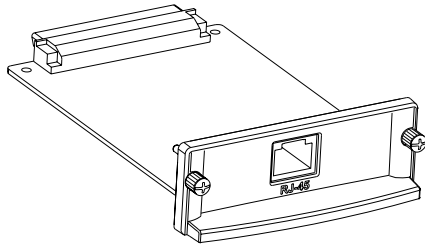
HP J3111A (600N) for Ethernet, IEEE 802.3 Type 10Base-T/10Base-2 networks (10 Mbps), and LocalTalk networks.

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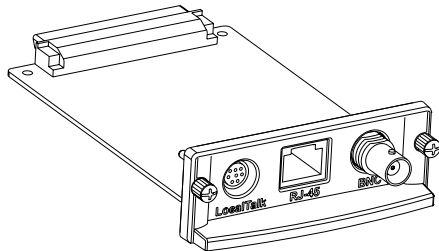
You can use the LocalTalk port and only one Ethernet port: RJ-45 or BNC.

HP J4167A (610N) 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.
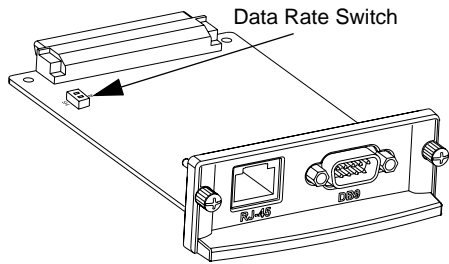
You can use only one Token Ring port: RJ-45 or DB 9.

HP J6057A (615N) or J4169A (610N) for Ethernet, IEEE 802.3 Type 10Base-T or IEEE 802.3u Type 100Base-TX networks. The card autonegotiates operation at 10 or 100 Mbps, full- or half-duplex mode, but can be manually set through the printers control panel.

This card provides a single RJ-45 connector for networks that use unshielded twisted-pair cables.
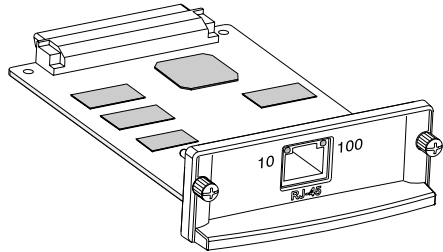
To manually set link operation, see Appendix A.

Step 2. (J4167A Only) If Necessary, Set the Token Ring Data Rate Switch

● **If you have an HP J4167A 610N 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.
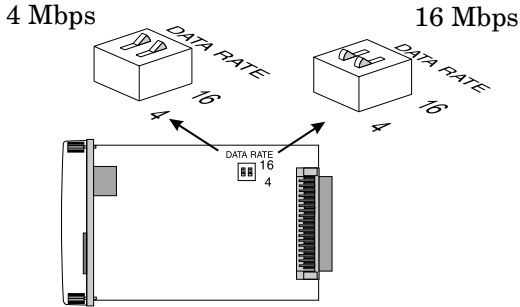
4 Mbps   16 Mbps

   a. Locate the Token Ring card Data Rate switches.

   b. Set the switches to 4 or 16 Mbps. The default is 16 Mbps.

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

To verify that your printer is working properly, print a Printer Configuration page. The Printer Configuration page will display the operating status of the printer.

The steps to print a Printer Configuration page varies with each printer. Some printers provide a menu map to help you navigate the printer's control panel to print a Printer Configuration page. See your printer documentation for specific instructions.

Note	The name of the Printer Configuration page may also vary by printer. For example, HP DesignJet printers provide a "Service Configuration print" that displays status information.

Step 4. Turn Off Your Printer and Insert the Card

Figure 2-1   Typical Card Installation and Network Connection

RJ-45   BNC
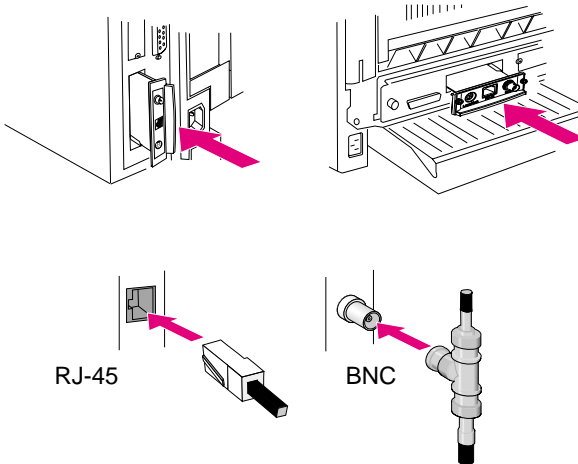
1. Turn off the printer.

2. Identify an available HP Enhanced I/O (EIO) slot (typically, in the back of the printer).

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

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 600N Ethernet card, you can
connect to the LocalTalk port and to only one of the
Ethernet ports (RJ-45 or BNC).

For the HP J4167A 610N Token Ring card, you can
connect to only one of the Token Ring ports
(RJ-45 or DB 9).

7. Turn on the printer.

Step 5. Verify That the HP Jetdirect Card is Operating Properly

1. Print another Printer Configuration Page (or Service Configuration print) as described previously in ([page 15](#)) 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.

   In HP DesignJet printers, Jetdirect configuration information will be included on the Service Configuration print.

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 applicable *HP Jetdirect Administrator's Guide* located on the HP Jetdirect CD-ROM.

Figure 2-2   Example of HP Jetdirect Configuration Page

(600N)
I/O CARD READY

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

EIO 1 - JETDIRECT PAGE   1

JetDirect Configuration Page

GENERAL INFORMATION

```
HP JETDIRECT        J3111A          NETWORK STATISTICS
FIRMWARE REVISION:  Y.LS.11         UNICAST PACKETS RCVD:    6741039
LAN HW ADDRESS:     08000965108C    TOTAL PACKETS RCVD:      6776774
PORT SELECT:        10BASE-T (RJ45) BAD PACKETS RCVD:              0
MFG ID:             3716371GF0LS10  FRAMING ERRORS RCVD:           0
                                    PACKETS TRANSMITTED:     4823005
   I/O CARD READY                   UNSENDABLE PACKETS:          179
                                    XMIT COLLISIONS:          591094
                                    XMIT LATE COLLISIONS:          0
```

PROTOCOL INFORMATION

```
TCP/IP STATUS:          READY       APPLETALK STATUS:        READY
                                    ETALK NET: 65281 NODE: 128  P2
                                    LTALK NET:     0 NODE: 182
                                    APPLETALK NAME:  HP LaserJet 400
                                    0 Series
```

HP LaserJet *4050 series printers*   **HEWLETT®PACKARD**

EIO 2 - JetDirect Page   1

```
----- HP JetDirect Configuration -------   -------------- IPX/SPX ---------------
Status:              I/O Card Ready        Status:                     Ready

Model Number:             J4169A           Primary Frame Type:    Auto Select
Hardware Address:    0001E63AA043
Firmware Version:        GAC18LU           Network  Frame Type          Rcvd
Port Config:        10BASE-T HALF          Unknown  EN_802.2              10
Auto Negotiation:            On
Manufacturing ID:    21214114202121G
Date Manufactured:        04/2001          ----------- Novell/NetWare ------------
                                           Status:                        16
-------- Security Settings ----------      NOT CONFIGURED
Admin Password:      Not Specified         Node Name:             NPI3AA043
SSL/TLS:                  Disabled
Cert Expires:        Not Applicable        NetWare Mode:          Queue Server
SNMP Versions:                1.2          NDS Tree Name:
SNMP Set Cmty Name:  Not Specified
Access List:         Not Specified         NDS Context:

-------- Network Statistics ----------     Attached Server:
Total Packets Received:       39
Unicast Packets Received:      4           SAP Interval:             60 sec
Bad Packets Received:          0
Framing Errors Received:       0
Total Packets Transmitted:    38
Unsendable Packets:            0           -------------- AppleTalk ---------------
Transmit Collisions:           0           Status:             Initializing
Transmit Late Collisions:      0
                                           Name:                          *
-------------- TCP/IP -----------------    Zone:
Status:                    Ready          Type 1:                HP LaserJet
                                           Type 2:                 LaserWriter
Host Name:            NPI3AA043            Network Number:             65281
IP Address:          192.168.2.116         Node Number:                    7
Subnet Mask:         255.255.255.0
Default Gateway:     192.168.2.1           --------------- DLC/LLC ----------------
Config By:                 BOOTP           Status:                    Ready
BOOTP Server:        192.168.2.2
TFTP Server:         Not Specified
Config File:         Not Specified
Domain Name:         cellar.hp.com
DNS Server:          192.168.2.4
WINS Server:         Not Specified
Syslog Server:       Not Specified
Idle Timeout:           270 sec
Web JetAdmin URL:    Not Specified
```

(615N/610N)
I/O CARD READY

3. If I/O CARD READY appears, the card has been installed successfully. Proceed to "Step 6. Configure the Card with Network Parameters Required for Your Network."

4. If I/O CARD READY does not appear, check that you have:

- Installed the card correctly and properly connected the card to the network

- Verified that the network is operating properly

- Turned the printer off and then on again

Note
For HP J6057A 615N or J4169A 610N 10/100Base-TX cards: See [Chapter 3](#) in this guide for link configuration and troubleshooting information.

For HP J3111A (600N) LocalTalk-Only Customers: If you are not connected to an Ethernet network, "I/O CARD NOT READY" and "LAN ERROR - EXTERNAL LOOPBACK" messages may appear. These messages should stop appearing after three minutes. To eliminate the messages, attach an Ethernet loopback connector to one of the Ethernet ports.

For persistent problems, refer to the troubleshooting sections in the applicable *HP Jetdirect Administrator's Guide* supplied electronically on the HP Jetdirect CD-ROM.

Step 6. Configure the Card with Network Parameters Required for Your Network

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/Me/NT/2000/XP systems (Microsoft or Novell NetWare networks), use the *Install Network Printer* wizard. This wizard will allow you to configure the required network parameters on the print server, and will also install the printer on your system.

   ■ On HP-UX and Sun Solaris systems, use the *HP Jetdirect Printer Installer for UNIX* in the UNIX subdirectory. For instructions, read the release notes and documentation provided with the software.

● Use a web browser to access the embedded web server on the HP Jetdirect print server. The web pages on the print server allow you to configure network parameters. For more information, see the applicable *HP Jetdirect Administrator's Guide* on the HP Jetdirect CD-ROM

● Use the printer's control panel (for printers with a supported control panel) to configure basic network parameters on the card. See HP Jetdirect EIO Menu in Appendix A for more information.

● For TCP/IP networks, use an advanced configuration method, such as BootP, DHCP, Telnet, or the "arp" and "ping" commands. For instructions, see the appplicable *HP Jetdirect Administrator's Guide* included on the HP Jetdirect CD-ROM.

● Use HP printer management software (such as *HP Web JetAdmin*) or other network utilities to configure network parameters. HP printer management software can be downloaded from HP's Customer Care Online at:

   http://www.hp.com/support/net_printing

Note   After the card is configured with network
parameters, the configuration values are saved and
maintained even after the printer is turned off and
back on again.

Step 7. Install the Printer On Your System (If Not Already Installed)

Depending on the method you use to configure the HP Jetdirect card
for network operation, you may still need to set up your computer
system for printing.

To add the printer and enable printing on your system, do one of
the following:

● Use the HP Jetdirect printer installation software supplied on
the HP Jetdirect CD-ROM (you will need your printer driver if it
is not already installed), or

● Use your HP printing system installation software that came
with your printer.

For optional printer installation methods, refer to the applicable
HP Jetdirect Administrator's Guide supplied on the HP Jetdirect
CD-ROM.

3

10/100Base-TX Link Configuration

Introduction

HP J6057A (615N) or J4169A (610N) 10/100Base-TX print servers support 10 or 100 Mbps operation using full-duplex or half-duplex transmission channels. By default, the print server will attempt to autonegotiate its link operation.
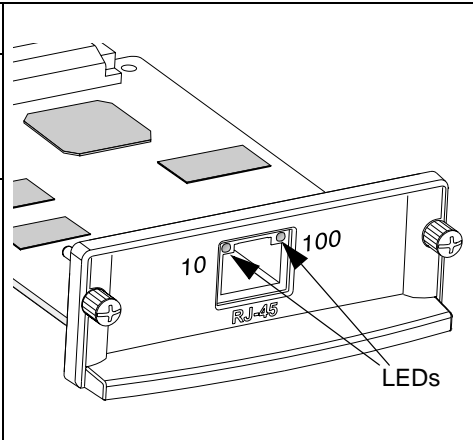
When connecting to network hubs and switches that do not support autonegotiation, the print server will configure itself for *10-Mbps* or *100-Mbps half-duplex* operation. For example, when connected to a non-negotiating 10 Mbps hub, the print server card will automatically set itself to operate at *10-Mbps half-duplex*.

If the card is not able to connect to the network through autonegotiation, you can manually set the link operating mode using one of the following methods:

● the printer's control panel (if it has one). See Appendix A for more information.

● the embedded web server running on the Jetdirect print server.

● accessing the Telnet interface on the Jetdirect print server.

● using a TFTP (Trivial File Transfer Protocol) file downloaded, for example, from a BootP or DHCP server.

Link-Speed LEDs

The HP J6057A/J4169A 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 Troubleshooting

If the HP J6057A/J4169A 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.

Note   The HP J6057A/J4169A 10/100Base-TX print server may require up to *10 seconds* to establish a connection on the network.

Try the following troubleshooting procedures:

- Verify cabling connections.

- Configure the print server's 10/100TX link setting directly (for example, using the EIO menu on the printer's control panel). 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. Power-cycle the printer to reinitialize the setting.

- 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, 10BASE-T HALF, 10BASE-T FULL
AUTONEGOTIATION:	ON (Autonegotiation is enabled), or OFF (Autonegotiation is disabled, 10/100TX configuration has been manually set)

For other configuration parameters and messages on the Jetdirect Configuration Page, refer to the applicable *HP Jetdirect Administrator's Guide* provided on the HP Jetdirect CD-ROM.

A

Network Configuration Notes

Introduction

The HP Jetdirect print server can simultaneously support multiple network communication protocols. This allows network computers that may be using different protocols to communicate with the same printer.

Each protocol on the print server may require some configuration before the printer can communicate on the network using that protocol. For some protocols, it's easy; as long as the protocol is enabled, required parameters are automatically sensed and user-specified settings are not needed. However, for other protocols, there may be many parameters to configure.

Enabling or Disabling Network Protocols

When you first install the Jetdirect print server from the factory, all supported network protocols are enabled (or turned on) whenever you turn the printer on.

If a network protocol is enabled, the card may actively transmit on the network even when there are no computers on the network that use the protocol. 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 Restore Factory Default Values

You can restore the Jetdirect print server to factory 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.)

CAUTION | *A cold reset of your printer may restore both your printer and Jetdirect print server to their factory default values*. (For Jetdirect factory default values, see the applicable *HP Jetdirect Administrator's Guide* supplied electronically on the HP Jetdirect CD-ROM.)

To verify HP Jetdirect default values have been reset, print a Jetdirect configuration page (see Chapter 2).

HP Jetdirect EIO Menu

If your HP EIO printer or multifunction periperhal (MFP) device has a control panel, you can configure basic network parameters through the Jetdirect EIO menu on the printer's control panel. Printers with control panel support include:

● HP LaserJet 4000, 4050, 4100, 5000, 8000, 8100, 8150, 9000 Series EIO printers and MFPs
● HP Color LaserJet 4500, 4550, 8500, 8550 Series EIO printers and MFPs
● HP Business InkJet 2200/2250 Series EIO printers
● HP DesignJet EIO printers

Note   To configure HP Jetdirect parameters on HP DesignJet printers through the printer's front control panel, see your HP DesignJet setup guide.

For printers without control panels (for example, HP LaserJet 2200 Series EIO printers), you must use HP software or other tools for configuration.

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

● Enable or disable network protocols (TCP/IP, IPX/SPX, DLC/LLC, AppleTalk)
● Configure TCP/IP parameters
● Configure IPX frame types
● Configure IPX source routing for Token Ring networks
● Configure Apple EtherTalk Phase parameters for Ethernet networks (600N only)
● Configure 10/100Base-TX link operation (610N/615N only)

The keystrokes to access the Jetdirect EIO menu from the printer control panel depends on the printer. Refer to the printer manuals for instructions to navigate the printer control panel.

The HP Jetdirect internal print servers support the following printer control panels:

● Classic Control Panel display with menu and parameter selection buttons

● Graphical Control Panel display with navigation and numeric keypads (available on newer HP LaserJet printer models)

Classic Control Panel

As described in [Table A.1](#), the HP Jetdirect EIO control panel menu allows you to enable or disable network protocols, and configure selected network parameters. On the control panel display, an asterisk (*) is used to identify the selected value.

Table A.1   HP Jetdirect EIO Classic Control Panel Menu (1 of 2)

Menu Item	Description
CFG NETWORK=NO*	Selects whether or not you want to access the Jetdirect menu.
	NO* (default): Bypass the HP Jetdirect menu.
	YES*: Access the HP Jetdirect menu. You must change this to YES* each time you want to access the menu.
IPX/SPX=ON* DLC/LLC=ON* TCP/IP=ON* ATALK=ON*	Identifies whether the protocol stack is enabled or disabled. ON* (default). The protocol is enabled. OFF*: The protocol is disabled.
CFG IPX/SPX=NO*	Selects whether you want to access the IPX/SPX menu and set IPX/SPX protocol parameters.
	NO* (default): Bypass the IPX/SPX menu items.
	YES*: Access the IPX/SPX menu items.
	In the IPX/SPX menu, you can specify the *Frame Type* parameter used on your network.
	AUTO (default) will automatically set and limit the frame type to the first one detected.
	For Ethernet cards, frame type selections include EN_8023, EN_II, EN_8022, EN_SNAP.
	For Token Ring cards, frame type selections include TR_8022, TR_SNAP.
	In the IPX/SPX menu for Token Ring cards, you can also specify *NetWare Source Routing* parameters, which include SRC RT=AUTO (default), OFF, SINGLE R, or ALL RT.

Table A.1 HP Jetdirect EIO Classic Control Panel Menu (2 of 2)

Menu Item	Description
CFG TCP/IP=NO*	Selects whether you want to access the TCP/IP menu and set TCP/IP protocol parameters.
	NO* (default): Bypass the TCP/IP menu items.
	YES*: Access the TCP/IP menu items.
	In the TCP/IP menu, you can specify BOOTP=YES* or DHCP=YES* for TCP/IP parameters to be automatically configured by a BootP or DHCP server when the printer is turned on.
	If you specify BOOTP=NO* and DHCP=NO*, you can manually set the following TCP/IP parameters from the control panel:
	Each byte of the IP address (IP)
	Subnet Mask (SM)
	Syslog Server (LG)
	Default Gateway (GW)
	Idle Timeout period (default is 270 seconds, 0 disables the timeout)
	Print a Jetdirect configuration page to verify your settings. However, note that the print server may overwrite selected parameters with values that ensure proper operation.
CFG LINK=NO*	Selects whether you want to manually configure the HP Jetdirect 10/100Base-TX print server's network link speed and communication mode. The Jetdirect settings must match the network.
	NO* (default): Bypass the link configuration menu items.
	YES*: Access the link configuration menu items.
	One of the following link configuration can be set:
	AUTO* (default): The print server will automatically configure itself to match the network's link speed and communication mode.
	10T HALF*: 10Mbps, half-duplex operation.
	10T FULL*: 10 Mbps, full-duplex operation.
	100T HALF*: 100 Mbps, half-duplex operation
	100T FULL*: 100 Mbps, full-duplex operation

Graphical Control Panel

On graphical control panels, a numeric keypad and navigation buttons are used to access HP Jetdirect EIO menu items. For a description of menu items and options, see Table A.2.

Table A.2   HP Jetdirect EIO Graphical Control Panel Menu (1 of 2)

Menu Item	Options	Description of settings
TCP/IP	ENABLE	ON: Enable the TCP/IP protocol
		OFF: Disable the TCP/IP protocol
	CONFIG METHOD	Specifies the method that TCP/IP parameters will be configured on the Jetdirect print server.
		BOOTP: Use BootP (Bootstrap Protocol) for automatic configuration from a BootP server.
		DHCP: Use DHCP (Dynamic Host Configuration Protocol) for automatic configuration from a DHCP server.
		MANUAL: Use the Manual Settings option to configure TCP/IP parameters
	MANUAL SETTINGS	Configure parameters directly from the printer control panel:
		IP ADDRESS n.n.n.n: The unique IP address of the printer, where n is a value from 0 to 255.
		SUBNET MASK m.m.m.m: The subnet mask for the printer, where m is a value from 0 to 255.
		SYSLOG SERVER n.n.n.n: The IP address of the syslog server used to receive and log syslog messages.
		DEFAULT GATEWAY n.n.n.n: The IP address of the gateway or router used for communications with other networks.
		IDLE TIMEOUT: The time period, in seconds, after which an idle TCP print data connection is closed (default is 270 seconds, 0 disables the timeout).

Table A.2   HP Jetdirect EIO Graphical Control Panel Menu (2 of 2)

Menu Item	Options	Description of settings
IPX/SPX	ENABLE	ON: Enable the IPX/SPX protocol
		OFF: Disable the IPX/SPX protocol
	FRAME TYPE	Selects the frame type setting for your network.
		AUTO: (Default) automatically sets and limits the frame type to the first one detected.
		EN_8023, EN_II, EN_8022, EN_SNAP are frame type selections for Ethernet networks.
		TR_8022, TR_SNAP are frame type selections for Token Ring networks.
	SOURCE ROUTING	(Token Ring only) Specify the *NetWare Source Routing* parameter
		AUTO: (Default) The type of source routing required on the network is automatically sensed
		OFF: All packets are sent without source routing, and only packets from the same ring are received.
		ALL ROUTES and SINGLE ROUTES: All packets are sent with source routing (broadcasts, and when the route is unknown)
ATALK	ENABLE	(Ethernet/Fast Ethernet only)
		ON: Enable the AppleTalk protocol
		OFF: Disable the AppleTalk protocol
DLC/LLC	ENABLE	ON: Enable the DLC/LLC protocol
		OFF: Disable the DLC/LLC protocol
LINK SPEED		Selects the network link speed and communication mode for the 10/100TX print server. For proper communications, the Jetdirect settings must match the network.
		AUTO: (Default) The print server will automatically configure itself to match the network's link speed and communication mode.
		10T HALF: 10Mbps, half-duplex operation.
		10T FULL: 10 Mbps, full-duplex operation.
		100T HALF: 100 Mbps, half-duplex operation
		100T FULL: 100 Mbps, full-duplex operation

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 set the frame type format if required.

Note that the IPX/SPX protocol must be enabled before you can configure frame types.

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 set the source routing if required.

Note that the IPX/SPX protocol must be enabled before you can configure source routing.

Configuring TCP/IP Parameters

The card must be configured with a valid IP address to operate on a TCP/IP network. If not configured, a default value 192.0.0.192 will be automatically assigned two minutes after the card is turned on.

BOOTP (Bootstrap Protocol) or DHCP (Dynamic Host Configuration Protocol) operation depends on the print server model:

● 615N/610N: You can enable either BOOTP or DHCP. Enabling BOOTP results in BOOTP-only operation, while enabling DHCP results in DHCP-only operation.

● 600N: Enabling BOOTP allows BOOTP or DHCP operation.

If an IP address is configured through DHCP and is subsequently changed through the control panel, the DHCP assigned address is released. In this case, you should also manually reconfigure other TCP/IP parameters as well (such the subnet mask, default gateway and idle timeout) to ensure a proper configuration.

Configuring Apple EtherTalk Phase Parameters (600N Ethernet Cards Only)

Note   For HP J6057A 615N or J4169A 610N print servers, the AppleTalk phase parameter is set to phase 2 and is not configurable.

You can configure Apple EtherTalk parameters if the Apple EtherTalk protocol is enabled, and the PostScript printer language is enabled.

To ensure the PostScript printer language is enabled, check the printer's configuration. The printer personality should be set to PostScript or Auto.

B

Specifications and Regulatory Statements

Specifications

HP Jetdirect 615N/610N/600N Internal Print Server

● HP J3110A (600N)	Ethernet, IEEE 802.3 Type 10Base-T (RJ-45)
● HP J3111A (600N)	Ethernet, IEEE 802.3 Type 10Base-T (RJ-45), Type 10Base2 (BNC), and LocalTalk (Mini-DIN 8)
● HP J4167A (610N)	Token Ring/IEEE 802.5 (RJ-45 or DB-9)
● HP J4169A (610N) ● HP J6057A (615N)	Ethernet/Fast Ethernet, IEEE 802.3 and IEEE 802.3u 10/100Base-TX (RJ-45)

Electrical

1.25 A maximum @ 3.3 V nominal

Environmental

	Operating	Non-Operating
Temperature	0°C to 55°C (32°F to 131°F)	-40°C to 70°C (-40°F to 158°F)
Relative Humidity (non-condensing)	15% to 95% at 40°C (104°F)	15% to 90% at 65°C (149°F)
Maximum altitude	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 .)

HP Jetdirect J4167A Token Ring Print Server: a DB-9 connector for Type 1, 2, or 6 shielded twisted-pair cables is provided. Use shielded cable for compliance with electromagnetic emission standards when operating at 16 Mbps.

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 J4167A Token Ring, and HP J3110A, J3111A, J4169A, J6057A 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 Declarations of Conformity comply with ISO/IEC Guide 22 and EN45014. They identify the products, the manufacturer's name and address, and the applicable specifications that are recognized in the European community.

HP Jetdirect 600N/610N/615N Print Servers

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 600N,610N,615N

Model Number: J3110A, J3111A, J4167A, J4169A, J6057A

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 (1994)+A1,A2 / CISPR-22 (1993)+A1,A2   Class A
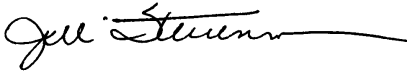GB 9254 (1988)
EN 55024 (1998)

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 A

Supplementary Information:
The product herewith complies with the requirements of 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, September 25, 2001

Jill Stevenson, 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).

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

이기기는 업무용으로 전자파 적합등록을 받은 기기
이오니, 판매자 또는 사용자는 이점을 주의하시기
바라며, 만약 잘못 구입하셨을 때에는 구입한 곳에
서 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。

Chinese Safety Statement

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