



HP JetDirect Software Product Update

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Introduction

This document provides updated information related to the HP JetDirect network interface.

This software product update includes the following:

- **Supported network operating systems**
- **Configuration instructions for Sun SPARCsystem users**
- **New features for Novell NetWare users**
- **System requirements for Novell NetWare users**
- **Additional Status/Error messages on Novell NetWare networks**
- **New configuration software for NetWare 4.0 users**
- **Windows NT networks**

Supported Operating Systems

HP JetDirect network interfaces are supported on the following network operating systems, network types, and protocols:

Supported Network Operating System	Network Type	Protocol
Novell NetWare (286) v 2.15c or later (386) v 3.11 or 4.0	Ethernet /IEEE 802.3 Token Ring (IEEE 802.5)	IPX/SPX
Apple EtherTalk Phase 1 and 2	Ethernet/IEEE 802.3	EtherTalk
IBM LAN Server v 1.3 (Token Ring) v 2.0 (IEEE 802.3)	Ethernet/IEEE 802.3 Token Ring (IEEE 802.5)	DLC/LLC
Microsoft LAN Manager v 2.1	Ethernet/IEEE 802.3 Token Ring (IEEE 802.5)	DLC/LLC
Microsoft Windows for Workgroups v 3.1	Ethernet/IEEE 802.3 Token Ring (IEEE 802.5)	DLC/LLC
Microsoft Windows NT v 3.1	Ethernet/IEEE 802.3 Token Ring (IEEE 802.5)	DLC/LLC
HP-UX v 8.0 and 9.0	Ethernet/IEEE 802.3	TCP/IP
SunOS v 4.1.1, 4.1.2, 4.1.3 (SPARCsystems only) Solaris v 2.1 (SPARCsystems only)	Ethernet/IEEE 802.3	TCP/IP

Configuration Instructions for Sun SPARCsystem Users

If you are configuring the host spooler on a Sun SPARCsystem running Solaris 2.1, do not follow the configuration instructions for "On a Sun SPARCsystem Host" in chapter 7 of the *HP JetDirect Network Interface Configuration Guide*. Instead, follow the instructions in the booklet supplied with the CD-ROM disk.

New Features for Novell NetWare Users

The new features described below are available for Novell NetWare users with the following HP JetDirect network interface products:

HP JetDirect product number	Firmware version number from self-test page	With SIMM* upgrade version number
J2371A	A.02.00	A.02.01
J2372A	A.02.00	A.02.01
J2373A	A.02.00	A.02.01
J2337	A.01.00	A.02.01

*SIMM: Simple In-Line Memory Module

New features include:

- 1000 User Support

The HP JetDirect network interface works with 1000-user versions of NetWare.

- Multiple File Server Support

The HP JetDirect interface supports up to 8 file servers and up to 32 queues in Queue Server mode on Novell NetWare networks.

- SAP Broadcasts

You can use a field on the JETADMIN **Advanced**. . . screen to set the rate for JetDirect SAP (Service Advertising Protocol) broadcasts.

You can set the rate from 1 to 3600 seconds or disable broadcasting by setting it at zero.

- Printer Language Choices for the Test Page

You can now print test pages for printers and plotters that do not use PCL (Printer Control Language). To print a test page, select the Test Page button on the JETADMIN **Configuration**. . . screen. This opens a smaller window containing a list of available printer languages (HP-PCL PostScript, HP-GL2, Text). To print the test page, select the appropriate language for your printer.

- **Expanded Diagnostic Capabilities**

The JETADMIN **Diagnostic** . . . screen now includes a broader range of diagnostic criteria separated into seven menus: *All*, *Printer*, *JetDirect*, *NetWare*, *TCP/IP*, *DLC/LLC*, and *EtherTalk*. In addition, the TCP/IP menu has been expanded to include more than 50 SNMP (Simple Network Management Protocol) statistics. To view diagnostic statistics, select one of the menu buttons displayed across the top of the screen.

- **Support for NCP Packet Signatures**

The HP JetDirect interface now supports signature levels 0-3 at the file server under Novell NetWare 3.11 and 4.0.

When the signature level has been set to 0 or 1 at the server, the printer does not sign packets. At levels 2 or 3, the printer does sign packets.

Note that NCP Packet Signatures can affect performance for both clients and servers.

- **Support for IPX Checksum**

The HP JetDirect interface now supports IPX checksums under Novell NetWare 4.0. This also is available as an add-on function for NetWare 3.11.

When the checksum level is set to 0 or 1 at the server, the printer does not checksum IPX packets. At level 2, the printer will checksum IPX packets.

Note that using IPX checksums can affect performance for both clients and servers.

NOTE

Novell NetWare 4.0 does not support IPX checksums for frame type value EN_8023.

System Requirements for Novell NetWare Users

If you are using Novell configuration software with your HP JetDirect network interface, note the following requirements:

System Requirements	Novell NetWare Versions 2.15C, 2.2, 3.11, and 4.0
Running under DOS	
Versions	MS-DOS versions 3.3 through 6.0 or DR-DOS versions 5.0 and later or OS/2 version 2.1 and later (JETADMIN is supported only in DOS compatibility box)
Memory Requirements	500 Kbytes minimum (conventional memory)
Display Requirements	Text or VGA
Processor	Intel 80286 or later client processor
Running Under MS Windows	
Versions	MS Windows 3.1
Memory Requirements	2 Mbytes minimum
Display Requirements	VGA or higher resolution
NetWare Drivers	IPX 3.10 and later, NETX 3.26 and later Windows Standard mode requires that TBMI2 be loaded prior to loading MS Windows.
Additional Requirements for Queue Server Mode	None
Additional Requirements for Remote Printer Mode	NetWare Printer Server version 1.22 or later

NOTE

For maximum performance we recommend running JETADMIN under MS Windows 3.1 rather than under MS-DOS.

Additional HP JetDirect Status/Error Messages on Novell NetWare Networks

The following HP JetDirect status/error messages supplement the messages in the HP JetDirect Network Interface Configuration Guide:

Ethernet I/O CARD NOT READY Status Message (table 8-6)
03 OVERFLOW ERROR

Run the power-on self-test by switching off the printer and then switching it on again. If the error persists, replace the HP JetDirect interface.

Token Ring I/O CARD NOT READY Status Message (table 8-14)
29 UNABLE TO SENSE NET NUMBER

The HP JetDirect interface has been trying for longer than 3 minutes to determine the NetWare protocol used on the network. Verify that any file servers and routers are operating correctly and that the settings for frame type and source routing are correct.

NETWORK FRAME TYPE RCVD (table 8-19)

Indicates the protocol frame type for each network by listening to the NetWare data being transferred over the network, except when a specific frame type has been configured using JETADMIN or the printer's control panel.

If UNKNOWN is listed, the HP JetDirect interface is still trying to determine which network number to use.

If the network number is DISABLED, a specific frame type has been manually configured.

The Frame Type value can be EN_8023, EN_8022, EN_II, TR_8022 or TR_SNAP. The RCVD count indicates how many packets have been received for each frame type.

NOVELL RETRANS (table 8-21)

Number of retransmissions necessary because a remote node did not acknowledge receipt of a frame sent to it. Excessive retransmissions may degrade performance, cause error messages, or indicate developing problems with the network.

New configuration Software for NetWare 4.0 Users

The enclosed software disks for Novell NetWare networks upgrade your HP administration and printing utilities software, JETADMIN and JETPRINT, to function in a NetWare 4.0 environment.

Differences Between NetWare 3.11 and 4.0 Environments

Novell NetWare 3.11 uses a flat database called a bindery. NetWare 4.0, on the other hand, uses a hierarchical “tree structure” database called NetWare Directory Services (NDS). To provide compatibility with bindery-based applications, Novell uses “bindery emulation.” Bindery emulation creates a flat structure called a bindery context within the NDS structure. The HP JetDirect administration and printing utilities use the bindery context in Novell NetWare 4.0.

Creating Names in 4.0

You should follow the bindery naming conventions (which differ from the NDS naming conventions) when naming users, queues, print servers, and file servers in NetWare 4.0. This will ensure that the name is visible in both the bindery and NDS contexts.

The bindery naming guidelines allow you to use:

- letters A through Z, uppercase only
- numbers 0 through 9
- limited special characters, such as the underline, _; parentheses (); or hyphen, -
- no more than 47 characters total

A name created in the NDS structure can cause two problems when you are trying to view it in bindery context. The name may not appear or it may be changed when translated to bindery context.

Everyone Group

In NetWare 4.0, JETADMIN creates the Everyone group that JETPRINT uses to grant automatic access rights to the printer. In NetWare 3.11 this group was created by NetWare.

NOTE

In order for the NDS user "Admin" to access the print queues, it must be added to the group Everyone.

Installing the Updated HP JetDirect Software

Make sure you have installed Novell NetWare 4.0 and verified that it operates correctly on your system before installing the updated software.

Follow the directions below.

1. Log into the server with supervisor privileges.
2. Insert the Novell NetWare Administration and Printing Utilities disk 1 into your floppy drive A (or B if that is your 3-1/2 inch drive).

3. Type A: \INSTALL

or

Type B: \INSTALL

4. Follow the directions on the screen.

Configuring the Software

Continue on with configuring the software according to whether you have previously installed the HP administration and printing utilities.

- For previously installed JETADMIN and JETPRINT

No additional configuration is needed. All printers and queues previously configured should appear in JETADMIN.

- For first-time installation

If this is a new installation of JETADMIN and JETPRINT, additional steps are required. Follow the configuration instructions in chapter 2, “Software Installation and Configuration for Novell NetWare Networks”, of the *HP JetDirect Network Interface Configuration Guide*.

NOTE

If you are installing the software for the first time in Remote Printer mode, you must run PCONSOLE in bindery context. To do this, log on as supervisor, run PCONSOLE, and select the function key that indicates bindery context. Then follow the configuration instructions for Remote Printer mode in chapter 2 of the *HP JetDirect Network Interface Configuration Guide*.

Windows NT Networks

The instructions that follow supersede instructions in chapter 6, "Software Installation and Configuration on Microsoft Windows Net Networks", in the *HP JetDirect Network Interface Configuration Guide*.

To Install the Software

All software necessary to support the HP JetDirect network interface is included with the Windows NT operating system. Follow the steps below to install the DLC Transport and Driver for the HP JetDirect Network Interface.

NOTE

You must be logged on with administrator privileges to perform the following procedure.

1. Run **Windows NT**.
2. Double-click the **Control Panel** icon.
3. Double-click the **Networks** icon.
4. Click **Add Software**.
5. Install the DLC Transport and Driver by choosing **DLC Protocol** in the *Add Networks Software* screen.
6. Reboot your system for the installation to take effect.
7. Verify that the DLC software is installed by making sure the DLC Protocol appears in the *Installed Network Software* list box of the *Network Settings* dialog box.

To Configure a Printer

1. Select **Print Manager** from the *Main* group.
2. Choose **Create Printer** from the *Printer* menu at the top of the screen.
The *Create Printer* dialog box appears.
3. Enter a name for the printer in the *Printer Name* field.
4. Select the printer's model from the *Driver* pull down menu.
5. Select **Network Printer** from the *Print To* pull down menu.
The *Print Destinations* dialog box appears.
6. Choose **Hewlett-Packard Network Port** from the *Available Print Destinations* list.
The *Add HP NetworkPeripheral Port* dialog box appears.

NOTE

If **Hewlett-Packard Network Port** does not appear as a choice in the dialog box, the DLC Transport and Driver are not installed. Refer to the previous section, "To Install the Software," for installation instructions.

7. Enter a name for the port in the *Name* field. (The name must *not* be the name of an existing port, such as LPT1, or an existing DOS device.)
8. Select the HP JetDirect address **LAN HARDWARE** from the *Card Address* pull down menu.
This address matches the one listed under "LAN HW ADDRESS" on the self-test page or configuration plot.
9. Click OK to exit the *Add a Network Peripheral Port* dialog box.
You may share the printer if you wish. To share the printer, check the **Share this Printer on the Network** check box. The share name defaults to the printer name, and can be changed if needed.
10. Click **OK** to exit the *Create Printer* dialog box.
A dialog box from the selected model's device driver appears.
11. Set any printer-specific options, and click **OK**.

To Verify the New Configuration

Print an appropriate file from the server to the printer:

- an ASCII file when printing PCL
- a PostScript file when printing PostScript
- an HP-GL/2 file when using an HP DesignJet plotter

This completes the installation and configuration process.

Replacing an HP JetDirect Interface for Windows NT Networks

Follow the instructions in chapter 6 of the *HP JetDirect Network Interface Configuration Guide*, for "Replacing an HP JetDirect Interface" with the following two exceptions:

- In step 5, the dialog box that will appear is called *Configure Hewlett-Packard Network Peripheral Port*.
- Omit step 6. (The *Name* field has no space for designating a new port.)